Revised Final Integrated Fidalgo Bay-Wide Plan & EIS

Adopted January 18, 2000
ORDINANCE NO. 2520

ADOPTING THE FIDALGO BAY PLAN,
A SUB-AREA PLAN TO THE CITY COMPREHENSIVE PLAN

WHEREAS, the City of Anacortes has prepared a Sub-Area Plan to the Comprehensive Plan, the Fidalgo Bay Plan;

WHEREAS, this Sub-Area Plan has been the subject of public hearings and SEPA review; and

WHEREAS, notice of its possible adoption, with modifications has been provided to the State pursuant to RCW 36.70A.130 and 36.70A.106.

NOW, THEREFORE BE IT ORDAINED that the above referenced document be adopted as set forth in Attachment A, with the stipulation that the proposed zoning ordinance and shoreline management regulations set forth in this Plan will require additional action to have the force of law.

Effective Date. This Ordinance shall take effect from and after five (5) days after its passage and publication, as required by law.

PASSED and APPROVED this 18th day of January, 2000.

CITY OF ANACORTES

By H. Dean Maxwell, Mayor

ATTEST:

George Khtian, City Clerk

APPROVED AS TO FORM:

Stephen E. Mansfield, City Attorney
Revised Final Fidalgo Bay-Wide Plan & Integrated Supplemental EIS (RFEIS)

Fact Sheet

Proposed Action
The proposal is adoption of a sub-area plan and implementing regulations for the Fidalgo Bay planning area by the Anacortes City Council. The plan will supplement the Anacortes Comprehensive Plan and provide guidance for future development activities and conservation of resources in the sub-area. The general purpose of the plan is to accommodate development consistent with conservation of the sub-area’s resources.

Proposal Sponsor
City of Anacortes.

Location of Proposal
The Fidalgo Bay sub-area is located in and adjacent to the City of Anacortes, in Skagit County. The planning area generally encompasses the southern one-half of Guemes channel and the shoreline from Shannon Point around Cap Sante head, and all waters and shorelines of Fidalgo Bay to the north tip of March Point. Upland areas (generally lands within 200 feet of the OHWM plus approximately 3 city blocks landward) are also included to help describe land use relationships. Five subareas within the larger planning area are also defined to help describe impacts and mitigation measures.

Plan/SEPA Integration
This document has been prepared pursuant to the SEPA rules for plan/EIS integration (WAC 197-11-210 et seq). The city has been following a process that integrates consideration of environmental issues with development of plan alternatives.

Alternative Development Scenarios
Four development alternatives (scenarios) are described in the RFEIS document. The scenarios emphasize different types, amounts and intensities of development in various locations within the planning area. All development is assumed to occur on vacant land.

- **Scenario 1** contains a focus on marina, marine commercial and industrial development.
- **Scenario 2** focuses on mixed-use development (residential and commercial) and industrial development.
- **Scenario 3** considers a lower intensity of development generally with a focus on residential and recreational activities and a de-emphasis on industrial uses.
Scenario 4 posits build-out of land uses according to existing zoning. It is intended to provide a “no action” scenario, i.e., the City would not adopt a sub-area plan and the existing Comprehensive Plan and Zoning Map would determine the location and intensity of development.

The preferred alternative is identified at this time focused around Scenario 1.

Lead Agency
City of Anacortes
Department of Planning & Community Development
P.O. Box 547
Anacortes, WA 98221

Responsible Official & Contact Person
Ian Munce
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City of Anacortes
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Required Approvals
Adoption by the City Council of a sub-area plan, which will amend the City’s Comprehensive Plan. Implementing regulations will also be adopted at the same time or thereafter.

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City Hall  
Planning & Community Development Department |
|-------------------------------|--------------------------------------------------|
| **Huckell/Weinman Associates** | 205 Lake Street South  
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| **Date of Issuance** | March 26, 1999 |
| **Comments Due By** | April 26, 1999 |
| **Fidalgo Bay Planning Committee Meeting** | April 20, 1999 |
| **Public Hearings** | Planning Commission:  
May 12, 1999  
May 19, 1999  
June 9, 1999  
September 1, 1999 |
| **Cost of Plan/EIS Document** | $20.00 |
Plan Summary
Environmental Summary
Fidalgo Bay-Wide Plan
Plan Summary

The Fidalgo Bay-Wide Plan is based on direction provided by the City of Anacortes with input from the Fidalgo Bay Planning Committee (FBPC) – consisting of representatives of federal, state, tribal, local and regional agencies -- as well as existing policy established by the City of Anacortes Comprehensive Plan and Shoreline Master Program. The plan was developed through a process that uses environmental review to develop and refine plan alternatives and mitigation approaches. This “integrated” approach (as it is known in state law) is reflected in the combination of planning and environmental information in this document; it is a combined plan and SEPA document.

The overall purpose of the plan is to articulate a vision for the Fidalgo Bay sub-area that recognizes the need for growth and economic development and the presence of valuable environmental resources. The compilation of existing environmental information about the bay included in the plan will provide a common foundation for evaluating the bay’s opportunities and constraints. The planning process is intended to lead to consensus on how to accommodate these multiple needs. Adoption of goals and policies for development and resource protection will provide guidance to property owners and agencies regarding the anticipated type, intensities and location of future land, water and shoreline uses and expectations regarding protection of resources. Adoption and use of the sub-area plan will, it is hoped, provide greater predictability for all affected parties and greater efficiency in review of proposed projects.

The goals and policies are intended to establish a policy framework and broad policy direction, tailored to a specific land use pattern and approach to mitigation.

The draft plan establishes policy direction in five broad areas, including:

- Land and Shoreline Use
- Economic Development/Commerce and Navigation
- Recreation/Public Access
- Marine Resources
- Project Planning and Permitting

Goals and policy recommendation for each of these areas is summarized below.

Land and Shoreline Use

The overall land and shoreline use goal is to establish a balance between the needs of development and conservation of natural resources in the study area. Supporting objectives and policies address the need for a well balanced mix of land uses in the study area, providing for the use and protection of the shoreline and marine environment as valuable economic and environmental resources, and providing for the preservation of historic and cultural features in private and public development plans. Water-dependent
and/or water-related uses should be emphasized in the marine and shoreline area, with compatible and supporting uses in the adjacent upland area; water-related uses are not preferred uses in state-owned harbor areas. Development standards that preserve and protect the environmental value of Fidalgo Bay’s natural environment should be developed.

**Economic Development/Commerce and Navigation**

The overall goal of this section is to ensure that the potential for water-related economic development in the study area is fully realized. Supporting objectives and policies include measures to encourage water-related economic development in the shoreline area and water-dependent uses in the marine area; water-related uses are not preferred uses in state-owned harbor areas. This section also addresses the need to increase shoreline and marine-related tourism. Policies recommend the creation of new commercial marine classification in the Anacortes Zoning Code and identification and provision for future water-dependent and water-related uses in the shoreline and marine areas.

**Recreation/Public Access**

This section addresses measures to maintain, enhance and increase public access to shorelines and tidelands. Objectives and policies address the need to preserve and expand opportunities for public access to the shoreline area, provide for consideration of public health and safety in public access areas, establish the need to preserve and protect the natural environment in public access areas and recognize the value of scenic vistas as a form of public access. Policies recommend that public access opportunities include passive and active areas, encourage the use of street-ends for public access and promote continuous walkway access along the waterfront area.

**Marine Resources**

The goal of the marine resources section is to conserve, protect and restore marine resources in the Fidalgo Bay study area. Supporting objectives and policies address measures to improve water quality, protect shoreline resources, and provide for enhancement of fisheries resources and aquatic habitat in the study area. As discussed in the Mitigation Framework (Chapter VIII), policies establish that significant habitat areas, such as eelgrass beds and fish spawning beaches, should be protected on a bay-wide basis. Bay-wide planning should follow an established priority for mitigating impacts that includes (1) avoidance of impacts; (2) minimization of impacts and (3) compensatory mitigation for any remaining impacts. Policies call for consideration of innovative approaches to mitigation, including a Fidalgo Bay study area mitigation bank.

**Planning and Permitting**

The goals, policies and objectives in this section are intended to promote consistency and predictability among local, state, tribal and federal plans and policies. These multiple and overlapping interests can be addressed through measures designed to ensure continued
consistency and compatibility between jurisdictions. Policies also address measures to simplify the permitting process, such as advance clarification of regulatory concerns and mitigation requirements.

**Bay-Wide Mitigation Framework**

An important aspect of the sub-area plan is identification of a bay-wide approach to mitigation. Elements of the bay-wide mitigation framework include:

- the purpose and definition of bay-wide mitigation;
- mitigation sequencing;
- goal of no net loss;
- approaches to compensatory mitigation;
- in-kind and out-of-kind mitigation;
- location of mitigation;¹
- mitigation banking;
- contingency planning; and
- performance bonding.

**Listing of Puget Sound Chinook as a Threatened Species under the Endangered Species Act**

The FBP will need to be updated within the next 24 months to address the issues and concerns that have been raised through the recent listing of Puget Sound Chinook as a Threatened Species under the Endangered Species Act. This work will, at a minimum, need to address the following:

- a clear strategy for addressing historical and future impacts to the near shore juvenile salmon mitigation corridor

- Shoreline Master Plan updates that address the new WSDOE regulations currently under development and include the annexed areas of Whistle Lake, Heart Lake, and Lake Erie and South Fidalgo Bay

- a detailed restoration program that implements the restoration goal set forth in V-5.

¹ WDNR has not formulated a policy on Mitigation Banking and any proposal for banking on SOAL or any banking proposal due to projects on SOAL, will need to go through a process for Department approval.
Fidalgo Bay-Wide Plan/EIS
Environmental Summary

SEPA/GMA Integration. This “integrated” plan/EIS document was prepared consistent with SEPA and WAC 197-11-235. Integration is intended to encourage use of environmental information to develop plans for Growth Management Act Actions (GMA), such as adoption of sub-area plans, and to lead to informed decisions on those actions.

Proposed Action & Alternatives. The proposed action is adoption by the Anacortes City Council of a sub-area plan for the Fidalgo Bay sub-area. The sub-area plan will be an element of the City’s Comprehensive Plan, adopted pursuant to the GMA (RCW 36.70A). Development regulations necessary to implement the plan, which consists of revisions to the zoning code and shoreline regulations, accompany the plan. The overall objective of the sub-area plan is to accommodate future economic growth within the City while protecting important wildlife resources and habitat.

Other objectives of the plan include the following:

- Compile and document information about the resources of the planning area;
- Provide programmatic environmental analysis that can be incorporated or referenced in future development proposals, sub-area plans and future land use and development decisions to facilitate project-level environmental review;
- Provide information for local, state and federal permitting and environmental review to help guide the Fidalgo Bay Plan and make future land use and development decisions more predictable;
- Provide an ecosystem-based, bay-wide context for development;
- Provide guidance for public and private planning so it is effectively integrated with bay-wide planning issues, guidelines and regulations; and
- Provide greater certainty and predictability for bay-wide development and resource protection.
- Provide a decision/approval framework which increases the predictability and shortens the process of obtaining local, federal and state permits for activities which meet Fidalgo Bay-Wide Plan policies, conclusions, standards and mitigation requirements.

The Draft Plan/EIS issued on March 21, 1997 did not contain a specific proposal. Citizens, elected officials and interested agencies, along with members of the Fidalgo Bay
Planning Committee, used the information in this document to help identify and refine this plan.

The Draft Plan/EIS evaluated the environmental impacts of four development scenarios. The scenarios reflect emphasis on different types, intensities, amounts and locations of activities within the planning area's marine, shoreline and upland areas.

- **Scenario 1** contains a focus on marina, marine commercial and industrial development.
- **Scenario 2** focuses on mixed-use development (residential and commercial) and industrial development.
- **Scenario 3** contains a lower intensity of development overall, with an emphasis on residential and recreational activities and a de-emphasis on industrial activities.
- **Scenario 4** assumes buildout of land uses according to existing plans and zoning. It provides a no action scenario and assumes that a sub-area plan would not be adopted.

The plan ultimately developed by the City combines different elements of these scenarios into Alternative 1A (Appendix A).

**Location of Proposal.** The Fidalgo Bay planning area (shown in Figure 1) is located in and adjacent to the City of Anacortes. It generally encompasses the southern one-half of Guemes channel and the shoreline from Shannon Point around Cap Sante head, and all waters and shorelines of Fidalgo Bay to March Point. Upland areas (outside shoreline jurisdiction but within approximately 3 city blocks) are also included to help describe land use relationships.

**Environmental Issues & Conflicts to be Resolved.** The planning area is, historically, the primary location of industrial development and marine-related commercial activities in the City of Anacortes. Existing activity includes marinas operated by the Port of Anacortes and private property owners. Significant commercial and industrial growth, some involving in-water construction, is forecast to locate in this area or is currently proposed. The planning area also contains sensitive environmental resources, including but not limited to species of vegetation, fisheries and spawning habitat for fish. These and other resources could be adversely affected by future development activities.

The basic conflict being addressed in the Fidalgo Bay-Wide Plan is that between economic growth, which the City is mandated to accommodate by the GMA, and the protection of environmental resources, which the City and affected federal, state and tribal agencies are required to protect and conserve. The plan is attempting to address and reconcile issues relating to conservation and development within the bay.

The summary of applicable plans and regulations in this Draft Plan/EIS (Chapter IV) identifies a number of conflicts between the mandates or regulations of different agencies (e.g. local and state), as well as conflicts between the regulations of some agencies.
**Significant Areas of Uncertainty and Controversy.** The bay-wide planning process has included an identification, compilation and mapping of existing information about the study area’s land use, historical and biological resources (Chapter III). While sufficient for planning purposes, the data collection effort revealed that some information is generalized or fragmented. Some data is incomplete or inconclusive. Additional data will be compiled as resources become available or through studies undertaken for specific development proposals. At a minimum, the functional equivalent of a Remedial Investigation/Feasibility Study (RI/FS) may be needed on a project specific basis to deal both with sediment contamination and source control issues and habitat issues.

Substantial controversy exists at this time regarding the degree of flexibility that can be incorporated into the plan regarding mitigation for impacts relating to marine development and the effects on some planning area resources, particularly eelgrass and herring spawning habitat. The degree of compensatory mitigation (i.e., compensating for impacts that cannot be avoided) that will be permitted within the planning area is uncertain. The uncertainty exists both because of scientific questions about the effectiveness of eelgrass replacement in areas greater than ¼ acre, and uncertainty about the degree of flexibility permitted by existing agency regulations.

**Potential Impacts of Future Development.** Impacts to planning area resources associated with the four development scenarios (bay-wide and for individual sub-areas) are summarized in Table S-1. Numbers included represent orders of magnitude and not precise calculations.

**Mitigation Issues.** The Plan/EIS contains a mitigation framework that comprises the mitigation element of the Fidalgo Bay sub-area plan. Key mitigation issues addressed in the framework (contained in Chapter IX) include:

- purpose and definition of bay-wide mitigation;
- mitigation sequencing (avoidance, minimization, compensation);
- mitigation goal of “no net loss”;
- approaches to compensatory mitigation (including establishing a baseline for compensatory mitigation, steps in impact assessment, priority habitats, types of compensatory mitigation actions, screening and implementation criteria, mitigation timing and ratios, and monitoring);
- preference for in-kind mitigation, and conditions for out-of-kind mitigation;
- location of mitigation (generally within the planning area, but possibly outside the affected sub-area, and potentially outside the planning area subject to numerous conditions);
- support for a mitigation banking program;
- contents for mitigation and contingency plans; and
- performance bonding.
Table S-1. Summary of Impacts

<table>
<thead>
<tr>
<th>Element/Impact</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
<th>Scenario 4</th>
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<tbody>
<tr>
<td><strong>BIOLOGICAL RESOURCES</strong></td>
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<tr>
<td>Impacts to Eelgrass and Macroalgae</td>
<td>48 acres of eelgrass habitat may be impacted (3.4% of total bay-wide resource)</td>
<td>16 acres of eelgrass habitat may be impacted (1% of total bay-wide resource)</td>
<td>4 acres of eelgrass habitat may be impacted (&lt; 1% of total bay-wide resource)</td>
<td>48 acres of eelgrass habitat may be impacted (3.4% of total bay-wide resource)</td>
</tr>
<tr>
<td></td>
<td>Impacts considered high for marine environment bay-wide because of resource value</td>
<td>Impacts considered medium for marine environment bay-wide</td>
<td>Same as Scenario 2</td>
<td>Impacts considered high for marine environment bay-wide because of resource value</td>
</tr>
<tr>
<td></td>
<td>Impacts considered high for Sub-area 3 marine environment because of marina construction (42 acres may be impacted); impacts low for all other subareas</td>
<td>Impacts considered low for all subareas</td>
<td>Same as Scenario 2</td>
<td>Impacts considered high for Sub-area 3 marine environment because of marina construction (42 acres may be impacted); impacts low for all other subareas</td>
</tr>
<tr>
<td><strong>Impacts to Fish Spawning Habitat</strong></td>
<td>31 acres of herring spawning habitat may be impacted (2.3% of total bay-wide resource)</td>
<td>7 acres of herring spawning habitat may be impacted (0.5% of total bay-wide resource)</td>
<td>0.5 acres of herring spawning habitat may be impacted (0.04% of total bay-wide resource)</td>
<td>31 acres of herring spawning habitat may be impacted (2.3% of total bay-wide resource)</td>
</tr>
</tbody>
</table>

* Eelgrass and macroalgae mapped in Environmental Profile were estimated by AutoCAD at 1,398 acres. This estimate will be further clarified prior to Final EIS. See detail in Appendix F.

Mitigation sequencing is projected to reduce acreages impacted to those shown in the summary tables.
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<tr>
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<tr>
<td>BILOGICAL RESOURCES (Con’t)</td>
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<tr>
<td>Impacts to Fish Spawning Habitat</td>
<td>• Impacts considered high for marine environment bay-wide because of resource value</td>
<td>• Impacts considered medium for marine environment bay-wide</td>
<td>• Same as Scenario 2</td>
<td>• Same as Scenario 1</td>
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<tr>
<td></td>
<td>• Impacts considered high for Sub-area 3 marine environment because of marina construction (30 acres of herring spawning habitat may be impacted); impacts low to medium for all other sub-areas</td>
<td>• Impacts considered low for all sub-areas</td>
<td>• Same as Scenario 2</td>
<td>• Same as Scenario 1</td>
</tr>
<tr>
<td>Impacts to Water Quality &amp; Sediment</td>
<td>• Dredging, shoreline &amp; upland construction activity have the potential to introduce water-borne sediment &amp; silt into water</td>
<td>• Less potential for impacts from water-borne sediment &amp; silt because less construction activity assumed, particularly in shoreline environment</td>
<td>• Same as Scenario 2</td>
<td>• Same as Scenario 1</td>
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<td>Element/Impact</td>
<td>Development Scenarios</td>
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<td><strong>Scenario 1</strong></td>
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<td><strong>Scenario 4</strong></td>
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<td><strong>BIOLOGICAL RESOURCES (Cont’d)</strong></td>
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<tr>
<td>Impacts to Water Quality/Sediment</td>
<td>• With assumed mitigation, bay-wide impacts to water quality would generally be minor</td>
<td>• Same as Scenario 1</td>
<td>• Same as Scenario 1</td>
<td>• Same as Scenario 1</td>
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<tr>
<td></td>
<td>• Moderate impacts could occur in Sub-area 3 marine environment because of large volumes of dredging</td>
<td>• Impacts considered low for all sub-areas</td>
<td>• Same as Scenario 2</td>
<td>• Same as Scenario 1</td>
</tr>
<tr>
<td>Impacts to Aquatic Mammals &amp; Birds</td>
<td>• Impacts to aquatic mammals and birds considered low bay-wide &amp; for all sub-areas</td>
<td>• Same as Scenario 1</td>
<td>• Same as Scenario 1</td>
<td>• Same as Scenario 1</td>
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<tr>
<td>Impacts to Juvenile Salmonid Habitat</td>
<td>• Impacts to juvenile salmonid habitat considered high bay-wide</td>
<td>• Same as Scenario</td>
<td>• Same as Scenario 1</td>
<td>• Same as Scenario 1</td>
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Table S-1. Summary of Impacts

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<tbody>
<tr>
<td><strong>BIOLOGICAL RESOURCES (Con’t)</strong></td>
<td>• Impacts considered moderate in Sub-area 3 shoreline &amp; marine environments because of scale of marine construction; impacts low for all other sub-areas</td>
<td>• Impacts considered low for all sub-areas</td>
<td>• Same as Scenario 2</td>
<td>• Same as Scenario 1</td>
</tr>
<tr>
<td>Impacts to Juvenile Salmonid Habitat</td>
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<tr>
<td><strong>LAND USE</strong></td>
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<tr>
<td>Conflicts with Type, Intensity &amp; Character of Adjacent Existing &amp; Proposed Land Uses Within Subarea</td>
<td>• Conflicts with type, intensity &amp; character of adjacent land uses considered low to medium</td>
<td>• Conflicts considered high in Sub-area 1 upland environment due to amount of commercial-industrial development close to residential development; conflicts low to medium for all other sub-areas</td>
<td>• Same as Scenario 2</td>
<td>• Same as Scenario 1</td>
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Table S-1. Summary of Impacts

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<tr>
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<tr>
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<td>Scenario 1</td>
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<tr>
<td>LAND USE (Con't)</td>
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<tr>
<td>Conflicts with Overall Land Use Pattern</td>
<td>• Potential conflicts considered low in all sub-areas due to similarity of proposed uses to surrounding area; topographic breaks separating incompatible uses; &amp; distance between incompatible uses</td>
</tr>
<tr>
<td>Conflicts with Existing Downtown Land Uses</td>
<td>• Minimal conflicts anticipated from proposed development • Additional marina development under this scenario considered to be supportive of downtown uses</td>
</tr>
<tr>
<td></td>
<td>• Mixed-use development proposed in Sub-area 3 could compete with downtown uses</td>
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<tr>
<td>Element/Impact</td>
<td>Scenario 1</td>
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<td>--------------------------------------</td>
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<tr>
<td>POPULATION &amp; EMPLOYMENT</td>
<td>• Estimated new population of 432 bay-wide (2% of City projection)</td>
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<tr>
<td></td>
<td>• All of the new population would be located in the upland environment</td>
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<tr>
<td>Estimated New Population/Percent of City Population Projections</td>
<td>• Estimated 2,142 new employees bay-wide (63% of City projection)</td>
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<tr>
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<td>• The majority of new employees would work in the upland environment (45%); 16% would work in the shoreline environment</td>
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<tr>
<td>Element/Impact</td>
<td>Scenario 1</td>
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<tr>
<td>PARKS &amp; RECREATION</td>
<td>• Conflicts with public access to shoreline bay-wide considered high due to intensive shoreline &amp; marine commercial/industrial development &amp; number of marina slips</td>
</tr>
<tr>
<td>Conflicts with Public to Shoreline</td>
<td>• Conflicts considered high in Sub-area 3 &amp; low to moderate in all other sub-areas</td>
</tr>
<tr>
<td>Contributes to Need for Open Space &amp; Recreation Facilities</td>
<td>• Need for open space &amp; recreation facilities considered low bay-wide</td>
</tr>
<tr>
<td>Element/Impact</td>
<td>Scenario 1</td>
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<tr>
<td>PARKS &amp; RECREATION (Con’t)</td>
<td>- Minimal decrease in opportunity for public &amp; private tourism &amp; recreation bay-wide because of marina development &amp; open space</td>
</tr>
<tr>
<td>Decreases Opportunity for Public &amp; Private Tourism &amp; Recreation</td>
<td></td>
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<tr>
<td>ARCHAEOLOGICAL &amp; HISTORIC RESOURCES</td>
<td></td>
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<tr>
<td>Impacts to Identified Archaeological &amp; Historic Resources</td>
<td>- Impacts to possible archaeological &amp; historic resources considered low to medium bay-wide because of intensive development proposed along shoreline</td>
</tr>
<tr>
<td></td>
<td>- No identified archaeological or historic resources would be impacted</td>
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Chapter I.
Introduction
I. Introduction

A. Fidalgo Bay Study Area

The Fidalgo Bay planning area consists of marine and shoreline areas in and adjacent to the City of Anacortes. The planning area is shown in Figure 1; sub-areas defined for planning purposes are also shown. It includes the southern half of Guemes Channel and the shoreline from Shannon Point around Cap Sante head, and all water and shorelines of Fidalgo Bay to the north tip of March Point. Upland areas are also included to help describe relations between land use and natural resources. Upland areas included all lands within 200 feet of the OHWM plus an approximate an area extending approximately 3 city blocks land-ward.

B. Plan Overview

The Fidalgo planning process was initiated in 1994 by Governor Lowry, with the goal of developing a conservation and development plan for the bay. A multi-agency planning committee has been working since that time to develop information about the bay’s history, land use and environmental resources; to identify anticipated growth and potential impacts associated with that growth; and to develop framework for mitigating identified impacts.

The Fidalgo Bay-Wide Plan articulates goals, objectives and policies for an area in and adjacent to the City of Anacortes. Overall, the plan is intended to provide a guide for future growth and for management of the area’s environmental resources. It attempts to balance objectives related to accommodating local/regional economic development and protecting important habitat and resources. The Fidalgo Bay-Wide Plan will be a sub-area element of the City’s Comprehensive Plan, adopted pursuant to the Growth Management Act. As such, it will provide more detailed and specific direction for future growth in the City’s Fidalgo Bay sub-area. Implementation of the Plan will require changes to the City’s Shoreline Master Program.

The bay-wide planning process consisted of two primary phases. Phase I of the project, which occurred in the fall 1996 consisted of a compilation and synthesis of existing data concerning the study area’s current conditions, including the built environment and natural resources. This baseline information provided a foundation for subsequent environmental planning. Phase I was funded by the City of Anacortes, Port of Anacortes and a private property owner (MJB Properties).

Phase II of the plan, was guided and funded by a Planning & Environmental Review Fund (PERF) grant, received by the City of Anacortes from the Washington Department of Community, Trade & Economic Development (CTED). The project was structured to be an integrated plan/environmental process and document. Integration is consistent with long-standing attempts to make better use of environmental information in planning decisions. Recent changes to the State Environmental Policy Act (SEPA) rules support and provide the legal and policy underpinnings for integration.
The planning process relied heavily on the input of an appointed Fidalgo Bay Planning Committee (FBPC), comprised of representatives of federal, state, tribal, regional and local agencies. A consultant team worked collaboratively with the Committee, to help structure the planning process, facilitate discussions and provide information about planning issues. This Plan/SEPA document contains four different development scenarios, along with goals, objectives and policies for the sub-area. The environmental information in this document was used by the public, interested agencies and local decision makers, to help identify environmental trade-offs and to frame a sub-area plan that meets identified objectives for development and conservation. Following public review and comment, the plan was refined and presented in this Final Plan/EIS document. The Plan was adopted by the Anacortes City Council as a sub-area element of the City’s Comprehensive Plan. Consistent with the requirements of the Growth Management Act, development regulations necessary to implement the plan, e.g., Shoreline Master Program amendments, were also considered and adopted; some regulations are considered in the context of this plan/EIS document (see Appendices A and B).

The plan is intended to be a dynamic, living document that will provide guidance to future public and private actions. Like the Comprehensive Plan, it will be subject to regular review and possible revision to reflect new information or changed conditions.

C. Purpose & Use of the Bay-Wide Plan

The Fidalgo Bay area is rich in natural resources. It is also the location of commercial, industrial and recreational activities which are a significant source of city and regional jobs and revenues. Projected growth in the City of Anacortes and Skagit County, which must be accommodated pursuant to requirements of the Growth Management Act, will increase pressure on the bay’s resources.

The purpose of the Fidalgo Bay-Wide Plan, as articulated by the FBPC, is to embody consensus on bay-wide development and conservation issues and to thereby facilitate environmentally appropriate development in the study area. Practical uses, objectives and elements of the plan include the following:

- Compile and document information about the resources of the planning area;

- Provide programmatic environmental analysis that can be incorporated or referenced in future development proposals, sub-area plans and future land use and development decisions to facilitate project-level environmental review;

- Provide information for local, state and federal permitting and environmental review to help guide the Fidalgo Bay Plan and make future land use and development decisions more predictable;

- Provide an ecosystem-based, bay-wide context for development;
- Provide guidance for public and private planning so it is effectively integrated with bay-wide planning issues, guidelines and regulations; and

- Provide greater certainty and predictability for bay-wide development and resource protection.

- Provide a decision/approval framework which increases the predictability and shortens the process of obtaining local, federal and state permits for activities which meet Fidalgo Bay-Wide Plan policies, conclusions, standards and mitigation requirements.

This general statement of purpose was agreed upon by the FBPC committee early in its discussions. It was used to help guide and frame the plan’s direction. Additionally, a key purpose of the FBP is to provide an ecosystem based, bay-wide context for mitigation.

Different agencies and entities may use the plan in somewhat different ways. For all interested parties, the plan articulates a set of expectations and guidelines for future development and conservation activities. For private applicants and property owners, the plan will provide a statement of the location, type and amount of development the City of Anacortes anticipates within the planning area and direction as to how the City will guide this growth. It also indicates the standards the City will apply to development in the sub-area; new and/or revised regulations will help implement the plan. A clear understanding of these expectations can help shape planning for individual properties so project proposals are consistent with the sub-area plan’s goals, objectives and policies.

Federal and state resource agencies will also use the plan in their review of project applications. The plan will help reviewing agencies determine how well proposals meet their standards for mitigation of impacts and consideration of alternatives. Individual agencies may also establish agreements with the City regarding project review and application of the plan’s standards.

It is hoped that agreement on and communication of a vision for the Fidalgo Bay sub-area will bring greater certainty and predictability to the development review process.

D. Acknowledgments

The Draft Plan reflects the hard work and dedication of the Fidalgo Bay Planning Committee, which included participants from federal, state, tribal, regional and local agencies.
Appointed members of the Fidalgo Bay Planning Committee included the following agencies and individuals:

| City of Anacortes                              | Jeanne Robinette, Anacortes City Council, (Committee Chair) |
|                                               | Ken Brown, Anacortes City Council               |
|                                               | Terry Christiansen, Anacortes City Council      |
|                                               | Ian Munce, Director of Planning                 |
| Skagit County                                | Zoe Johnson                                     |
| Port of Anacortes                             | Port Commissioner Stan Kurowski                 |
|                                               | Sandy Everett                                   |
| Skagit System Cooperative                     | Larry Wasserman                                 |
| Department of Ecology                          | Alice Schisel                                   |
|                                               | Mike Rundlett                                   |
| Department of Fisheries & Wildlife            | Bob Everett                                     |
|                                               | Brian Williams                                  |
|                                               | Ted Muller                                      |
| Department of Natural Resources                | Mike Naylor                                     |
| Army Corps of Engineers                        | Cindy Barger                                    |
| Environmental Protection Agency                | Steve Roy                                       |
| National Marine Fisheries Service              | Bob Vreeland                                    |

Numerous other agency staff and private citizens also contributed significant time and ideas to the planning process; all members of the committee and the consultant team express their thanks for this input. Thanks also to Peter Riley, CTED’s project manager for his direction.

The consultant team for the project included Huckell/Weinman Associates, Pentec Environmental, EnvirolIssues Management, Historic Resources Associates and Evans Hamilton. The consultant team particularly appreciates the Planning Committee’s patience with sometimes abstract planning concepts and an iterative (i.e., repetitious) process.

E. Contents and Organization of Draft Plan/EIS Document

This document is a combined or “integrated” Plan and EIS, prepared pursuant to the State Environmental Policy Act rules (WAC 197-11-210 et seq). As such it contains parts of a plan document and the environmental document that was used to help make decisions. It’s organization also reflects the sequence and substance of Fidalgo Bay Planning Committee discussions and decisions. The plan/EIS document will change over time to reflect ongoing decision making and public input.

This Introduction (Chapter I) provides a brief overview of the plan’s purpose and the process for its development. It also acknowledges participants in the Fidalgo bay planning process.
Chapter II describes the steps in Fidalgo Bay planning process in greater detail.

Chapter III is an Environmental Profile of the planning area’s characteristics, including its natural resources, land uses and history. This information is being used by the committee to help understand the planning area’s resources. In terms of SEPA documentation, it also serves as the “affected environment” or existing conditions section of the integrated plan/EIS.

Chapter IV, after identifying a number of issues relating to existing data, describes the general types of impacts associated with different types of development and a range of approaches to mitigation. These environmental issues were considered early and continuously in the process. This chapter also summarizes the major federal, state and local policies and regulations affecting agencies participating in the study. Conflicts and overlaps in these regulations will be discussed further and resolved, if possible, in the process of selecting a plan alternative and mitigation approach.

Chapter V contains an initial draft of goals, objectives and policies for the bay-wide plan. This framework will be refined as a result of public and City review and input and ongoing FBPC discussion.

Chapter VI describes four possible development scenarios. These reflect different emphases on types and intensities of future land and shoreline use, and different locations for this growth. These scenarios were used to identify development impacts, to test mitigation approaches, and to establish a preferred Alternative, Alternative 1A (Appendix A).

Chapter VII identifies the environmental impacts of the development scenarios; bay-wide and sub-area impacts are considered. Impacts are identified as “high”, “medium”, or “low” in relative terms to facilitate comparisons. This chapter provides the “concise analysis of impacts” required by WAC 197-11-235(6).

Chapter VIII describes an emerging framework for mitigating impacts associated with anticipated development in the planning area.

Chapter IX sets forth the special bay-wide development scenario adopted by the City Council.

Chapter X outlines an overall program that will be adopted and used to implement the sub-area plan. It consists of a combination of regulatory changes, mitigation project and agreements.

The Appendices, in addition to extensive annotated references to technical studies, contain a variety of information that documents the committee process, steps in the SEPA process, and some supplemental environmental information.
Chapter II.
Fidalgo Bay Planning Process & Plan/SEPA Integration
II. Fidalgo Bay Planning Process & Plan/SEPA Integration

As noted in the *Introduction*, this project is being funded by a Department of Community, Trade & Economic Development (DCTED) Planning & Environmental Review Fund (PERF) grant. The Fidalgo Bay-Wide Plan is intended to explore the extent to which early assessment of environmental information can influence a planning effort, as well as how a plan and SEPA evaluation can be combined in a single document. These concerns are at the heart of the notion of “plan/SEPA integration,” which is a key objective of this project. The Fidalgo Bay-Wide Plan document, therefore, combines elements of both a plan and an EIS, and attempts to provide a road map of how the committee progressed from issue to issue.

Key elements of the project include the following:

- providing structure for and facilitating the Fidalgo Bay Planning Committee's (FBPC’s) planning & decision making process;
- compiling and evaluating technical information for use in planning decisions;
- using an iterative process to identify alternatives, environmental impacts and mitigation measures;
- documenting the bay-wide planning process in an integrated SEPA/planning document (consistent with the SEPA Rules); and
- creating a framework for review and permitting of future projects consistent with the plan (per HB 1724 provisions for regulatory reform).

Major project steps and work products in the project are summarized graphically in Figure 2 below. Some steps (and the project schedule) were adapted to reflect committee members concerns and their readiness to proceed to subsequent steps.

The planning process was generally iterative in nature. Preliminary decisions about a particular issue (mitigation, for example) were often revisited (several times in some instances) and modified based on discussion and new information. In addition, some issues were divided into component pieces and discussed over the course of several months. While this non-linear and sometimes fragmented approach was frustrating for some committee members, it was intended to reflect the principle that “the easiest way to eat an elephant is one piece at a time.”
Figure 2. Fidalgo Bay-Wide Planning Process

Compile Background Data
- *Fidalgo Bay Profile*

Committee Organization
- Plan/Process Goals & Objectives
- Operating Procedures

Identify Issues of Concern/Conflicts
- SEPA Scoping Process
- Assess Policies & Regulations

Identify Conservation & Development Alternatives
- SEPA Scoping
- Development Scenarios
- Mitigation Definition & Framework

Evaluate/Revise Alternatives
- Impact Matrix
- Mitigation Matrix

Draft Integrated Plan/SEPA Document
- Public Review & Comment
- Initial CAC, Planning Commission & City Council Consideration

Final Plan/SEPA Document
- Development of Preferred Alternative
- City Hearings
- Adoption
- Memos of Agreement
Committee Organization/Process

The initial committee meetings addressed and reconfirmed the committee’s direction, structure, procedures, tasks and schedule for decision making. Steps included:

- adopting rules of procedure and an approach to decision making;
- articulating FBPC members goals for the project and the purposes and use of the plan;
- reviewing available information about Fidalgo Bay & determining how to proceed if gaps in data are encountered;
- identifying how participants will use the plan to make future decisions;
- reviewing general issues of SEPA/plan integration, and possible timing of SEPA scoping; and
- outlining plan format and contents.

Issue Identification/Alternatives Analysis

1. Identify Issues of Concern & Conflicts.

Data Issues. Existing data about Fidalgo Bay’s resources and current land and shoreline uses was compiled and incorporated into an environmental profile, consisting of CAD-generated maps and summary narratives. This body of information provides the existing conditions information for the integrated plan/EIS. Using this information, the FBPC and consultants identified data gaps and/or issues. This helped to determine the level of detail for the EIS, and suggests the types of data that will need to be generated in future studies, in the context of project review or otherwise.

Environmental Issues. Significant environmental issues or conflicts (i.e., between resources and development) were identified through the SEPA scoping process and committee discussion. Conflicts were prioritized by the Committee based on review of data and the known sensitivity of particular resources. Planning sub-areas were also identified based on historical and observed patterns of land use and resources.

2. Identify/Analyze Alternatives

A number of scenarios for potential amounts, types and locations of development in Fidalgo Bay (and in individual sub-areas) were developed for evaluation. A preferred plan is being developed through several iterations of scenario building, evaluation, discussion and refinement. At each step, preliminary impact analysis and discussion of implementation and avoidance/mitigation strategies was and will be used to further refine scenarios for additional consideration and analysis. Matrices were used to summarize working conclusions and to screen or focus on particular scenarios (or specific elements of scenarios).
Draft Plan/EIS Preparation

This step was reflected in a draft integrated plan and SEPA document, that was published for public review and comment on March 21, 1997. The data and discussion produced in prior steps of the project have provided the framework for the environmental analysis and the basis for some of the content of the SEPA document.

SEPA scoping occurred early in the planning process. As part of its public involvement program, the City of Anacortes also appointed a Citizens Advisory Committee (CAC) to provide input, to help review and comment on plan issues and documents, and to work on implementation issues including revisions of the City’s Shoreline Master Program.

The SEPA document follows the format identified in the recently adopted SEPA rules for integrated plan/EIS documents (WAC 197-11-200 et seq). The basic components consist of an environmental summary and fact sheet; a comparative evaluation of alternatives; supporting technical information; and comments and responses (for the final integrated document). The integration rules emphasize brevity and use of summary information.

It was recognized in the original scope of work that, depending on the status of committee consensus, the draft plan/SEPA document might or might not contain a preferred plan alternative. The draft plan document presented four development scenarios as a means to test impacts, identify mitigation measures and to gain the benefit of public review and comment before moving forward to selection of the preferred Alternative, Alternative 1A, Appendix A.

Final Plan/SEPA Document

This final integrated plan/SEPA document contains a preferred or proposed bay-wide plan alternative -- including goals, objectives and policies – and preferred locations for land and shoreline activities. The preferred alternative is a hybrid or refinement of the development scenarios considered in the draft plan/SEPA document. The final plan also includes a refined and expanded mitigation approach that is tailored to the selected development scenario and addresses the mitigation issues still outstanding at the time of the issuance of the Draft plan and EIS.

The final plan/SEPA document also responds to comments on the draft plan document from the public and interested agencies. Following public hearings and legislative adoption of the sub-area plan, the City will pursue formal agreements with state and federal agencies regarding implementation of the plan.
Chapter III.

Environmental Profile: Land & Shoreline Use, & Natural Resources
III. Fidalgo Bay Environmental Profile: Land & Shoreline Use, & Natural Resources

[Note: The information contained in the Environmental Profile was developed as part of Phase I of the bay-wide planning process. It reflects the May 9, 1996 (4th) version of the Environmental Profile. No further edits or substantive changes to the text of the Environmental Profile have occurred. Italicized text represents new information or unresolved issues. Figure numbers have been changed, however, to fit with the format of the Plan/EIS. Some figures originally referenced in the May 9th version have been deleted based on committee agreement. A few graphics not originally contained in the May 9th version (e.g., current land use, historical dredge and fill) were completed subsequently and are included in the current document. Supplemental information identified since the May 9th version is identified in the Plan/EIS Appendices, including the bibliography and reports/comments relating to eelgrass and historic resources.]

A. Land & Shoreline Use

This portion of the Fidalgo Bay Environmental Profile describes the general character of existing and historical land uses within the study area, summarizes the policy and regulatory framework for land use, and identifies current and proposed development plans. Land uses within each of the study sub-areas are described in greater detail.

The principal focus of this section of the inventory is on land uses on and adjacent to the shorelines of Fidalgo Bay. Sources of data for the land use inventory include historical information on land use and settlement of the Anacortes area; existing plans, maps and studies prepared by the City of Anacortes, Skagit County, the Port of Anacortes; a "windshield survey" to verify and quantify existing land uses; and information on proposed or planned uses from a survey of property owners.

For purposes of analysis, the Fidalgo Bay study area (Figure 1) was divided into 5 subareas: (1) the majority of Guemes Channel, generally from the Washington State Ferry Terminal to the Guemes Island ferry terminal, just north of downtown Anacortes; (2) the balance of Guemes Channel, from the Guemes Island ferry terminal to the outer Fidalgo Bay, including Cap Sante head; (3) from Cap Sante Marina to 35th Street (the site of the burned plywood mill); (4) south Fidalgo Bay, from 35th Street to the southern tip of the bay); and (5) eastern Fidalgo Bay to March Point. These generally correspond to subareas used to inventory and describe natural resources.
1. Historical Land Use Activities

Research Methodology

Historic Resource Associates (HRA) reviewed cultural resources and ethnohistorical literature on file at the University of Washington Libraries, Special Collections Division. Archaeological survey and site records at the Washington State Office of Archaeology and Historic Preservation in Olympia were not examined. However, the State Office of Archaeological and Historic Preservation did conduct a survey of historic properties in 1987. No field survey was conducted in the project area. A request for information and consultation on cultural and historical issues has been communicated to the Samish and Swinomish tribes.

Primary sources of information included Sanborn Fire Insurance Maps of Anacortes, historical maps, aerial photographs, and a number of historical documents from University of Washington Libraries, Special Collections Division; secondary historical sources such as county histories and general history monographs were also examined.

Additional primary source materials -- including permit records, engineering feasibility studies, and facilities reports, on dredging and land-filling -- were obtained from U.S. Army Corps of Engineers (COE), Seattle District. Further information on dredging and land-filling was derived from a series of historical and contemporary maps at the University of Washington Libraries and aerial photographs. Additional information was obtained from telephone interviews conducted with local residents of Fidalgo Island and the COE.

a. Potential Archaeological Resources

Much of the archaeological research completed in the northern Puget Sound region to date has focused on coastal and lowland zones. In the course of 73 archaeological surveys conducted in Skagit County as of 1987, archaeologists recorded 47 prehistoric sites in coastal areas (Blukis Onat 1987). These are categorized into two descriptive types, based on their content and geological context: shell middens and non-shell sites (Blukis Onat 1987:22-16). Shell middens are the most common type of coastal site.

Non-shell sites comprise two percent of the recorded prehistoric cultural properties. The paucity of occupation-related remains at these sites limits archaeological knowledge of subsistence patterns and development of a cultural chronology. Archaeologists have nevertheless produced a general chronological sequence for the northern Puget Sound region that ranges from the late Pleistocene/early Holocene through historic times. A summary of this sequence follows:

- **Generalized Resource Development--Post-Glacial Settlement (13,000-6,000 years Before Present [BP]):** Sites located on river terraces or in inland areas above modern sea level, lanceolate projectile points, basalt knives, cobble tools, use of terrestrial and littoral environments, possible harvest of anadromous fish.
- **Specialized Resource Development--Developmental Salish (6,000-2,500 BP):** Sites located along coastlines and in inland areas; use of groundstone tools and projectile points, basalt projectile points, microblades and cores, obsidian, bone and antler tools, harpoons; use of terrestrial, littoral, and marine resources. Shell middens develop around 4,000 BP.

- **Specialized Resource Management--Established Coast Salish (2,500-250 BP):** Sites located along coastlines, in inland areas, and along drainages; developed land mammal and marine resource use, and upriver fishing areas.

- **Cultural Conflict--Euroamerican Contact (250-150 BP):** Use of European trade goods, prehistoric artifact assemblage types dominate.

**Ethnographic Identity and Territory of the Swinomish and Samish**

During late historic times, the study area and vicinity was occupied by two Coast Salish Lushootseed-speaking groups (Spier 1936:42; Suttles 1990:456; Thompson and Kinkade 1990:32). The Swinomish territory encompassed the northern part of Whidbey Island, portions of Fidalgo Island, all of the islands in Similk Bay and northern Skagit Bay, and Smith and Hat Islands (Eells 1985:19; Gibbs 1877:180; Ruby and Brown 1986:230; Swanton 1978:49). Samish territory included Samish, Guemes, and Cypress Islands, the northwest portion of Fidalgo Island, and the lands adjacent to Samish Bay (Hansen 1983:16; Ruby and Brown 1986:178; Sampson 1938:13; Swanton 1978:40).

The Swinomish and Samish oriented their settlement-subistence systems toward the saltwater, riverine, and inland environments in their territories (Haeberlin and Gunther 1930:26). As with other groups in western Washington, the Swinomish and Samish relied on salmon as a staple resource (Haeberlin and Gunther 1930:21). They used nets, traps, weirs, and hook and line with which they harvested various species, including coho, Chinook, pink, and chum salmon; ling cod; flounder; herring; smelt; and trout (Haeberlin and Gunther 1930:21,27). These groups gathered a number of shellfish species including clams, cockles, oysters, saltwater snails, barnacles, crab, and mussels (Belcher 1985:36; Blukis Onat 1993:50-53; Haeberlin and Gunther 1930:).

Plant and terrestrial animal resources supplied a similar portion of the food supply. Vegetable foods, consisting primarily of roots and bulbs supplemented by berries, nuts, and greens, were gathered throughout the year. Hunting animals provided a large share of food for these groups; they trapped waterfowl in nets, and hunted deer and elk. While Puget Sound area groups depended on stores of dried foods throughout the winter, hunting seals and ducks contributed fresh meat during this season (Haeberlin and Gunther 1930:20; Suttles 1987:234).

The focus of the Samish and Swinomish yearly cycle was the permanent winter village, which consisted of one or more cedar plank longhouses in which several related families resided (Haeberlin and Gunther 1930:15; Roberts 1975:37,41). At other times of the
year, they used temporary pole and mat structures that were easily transported. Winter villages may not have been completely abandoned during the warmer months, as family groups moved to various environmental zones seasonally to harvest abundant resources, process them for storage, and then transport the supplies to the permanent village (Haeberlin and Gunther 1930; Roberts 1975:38,42).

Several researchers have documented Samish and Swinomish villages and toponyms (place names) in the vicinity of Fidalgo Bay (Figure 1). Winter villages were recorded on the western and southwestern shores of Guemes Island (Gunguna'la and Sxwameli, respectively), on the north shore of Fidalgo Island (Qelecicic), at the present site of Anacortes (Hwaibathl), and on the east shore of Fidalgo Bay (Kwalo'l). Similk Bay was named Q'eqlala'xud, meaning "where the clams abound." March Point was called Ta'Exbe'qad, and Fidalgo Bay was known as Dugwa'tc, which meant "protected place where there is calm water," (Roberts 1975:48-52; Swanton 1978:40; Waterman 1920:n.p.). A study entitled "Prehistoric Places on the Southern NW Coast by the Thomas Burke Memorial Washington State Museum contains a document dated 1983, written by Jacqueline Grebmeier entitled "Inundated Prehistoric Maritime Sites." The document makes two very clear points: (1) Filling of sediments can preserve a site and the fact that an area has been filled or dredged, does not mean that there isn't Archaeological potential in the area; and (2) Padilla Bay, which neighbors Fidalgo Bay and contains some of the same substrate as Fidalgo Bay, may likely have buried Archaeological sites.

b. Study Area History

The first Europeans to explore Puget Sound and its shorelines were members of Captain George Vancouver's voyage of discovery up the western coastline of what is today known as the Pacific Northwest. In 1792, after two months exploration in Puget Sound, Vancouver stepped ashore in the vicinity of present-day Everett, Washington, to claim the land for King George III (Johansen and Gates 1967:46-47).

Early in the nineteenth century, Puget Sound and its environs received little attention from EuroAmericans who were contesting ownership of a larger area that is now the states of Oregon, Washington and Idaho, called the "Oregon country." It was not until 1841 that Lt. Charles Wilkes, an American naval officer exploring the entire western seaboard, officially recorded his observations of Puget Sound and urged that it not be surrendered during boundary negotiations (Johansen and Gates 1967:200).

In 1853, the Washington Territory was established, and Isaac I. Stevens was appointed the first governor. Congress enacted the Donation Land Law of 1850 which provided the opportunity for settlers to acquire homesteads. The exploitation of the region's natural resources later became the driving force behind the influx of settlers into the region (Schwantes 1989:104).

One of the earliest settlers in the Anacortes area, Amos Bowman, is generally credited with the establishment of Anacortes. As one source notes, Bowman "toiled early and late
... until success finally crowned his efforts and a tide of population was turned to his chosen site in 1889." Anacortes was "formally ushered into the world in June 1890" (Sebring 1902:17).

Anacortes' founding and the arrival of the Great Northern Railroad in the early 1890s seemed to guarantee success for many different business ventures. However, Anacortes fell victim to the national economic depression that swept the country in 1893. In spite of this business down-turn and a disastrous series of fires, Anacortes was in the process of developing a strong base of employment in the fish processing/canning and wood-products industries that would become the mainstay of Fidalgo Island's economy for many decades (Willis 1975:115).

Owing in part to the protection afforded by the hills around Fidalgo Bay, the local wood-products industry developed along the western shoreline of the bay. In 1902, by one reckoning, Anacortes had three sawmills, three shingle mills, a wood pipe factory, and a wood-working factory. Contemporary written accounts and historical photographs from the early twentieth century describe a large complex of factory buildings along the western shoreline from Cap Sante to Weaverling Spit. In photographs in Skagit Settlers, lumber and shingle mills line the western shoreline of the bay. In one photograph, rafted logs are stored along the western shoreline and extend out into bay (Willis 1975:119; Funk 1996).

The wood-products industry continued to grow along the western shoreline of the bay; in 1914, a newspaper reported "nine shingle mills, three lumber mills, and two cedar-siding factories," along with other wood-products factories, such as box and door manufacturers (Dwellley 1979:160; Willis 1975:117). A 1925 historical map of Anacortes shows 12 manufacturers involved in the wood-products industry (Sanborn Map 1925). As late as 1948, a COE report concerning dredging a channel along the western shoreline of the bay listed nine wharves committed to the receipt and storage of rafted logs for local manufacturers (COE 1948:12).

The second major element in Anacortes' history of industrial development is fish canning and fish-products manufacturing that made use of the offal that resulted from the canning process. Similar to the one-location aspect of wood-products manufacturing, the fish industry evolved along the northern shoreline of Fidalgo Island. Ready access to deep water in the Guemes Channel influenced the location of the fish canneries and fish-product factories. The landward side of most of the cannery locations (which were built on pilings) gave immediate access to the tracks of the Great Northern Railroad (Sanborn Maps 1892 and 1925).

In 1902, Anacortes boasted "six salmon canneries, a codfish packing house, a cold storage plant for handling fresh fish, and factory producing fish fertilizer and fish oil" (Sebring 1902:17). By 1925, Anacortes had 14 establishments involved in the fish-products industry (Sanborn Map 1925). As with the wood-products industry, the fisheries industry did not maintain this level of activity; nor could it sustain a steady employment for the local fishermen. The number of canneries slowly diminished as a
result of declining catches by local fishermen and rising costs of fishing operations. Even so, a 1953-54 report on industry in Anacortes includes six businesses involved in canning salmon and manufacturing fish-products (Anacortes Community Study 1954:Part III).

The existing railroad trestle between south Fidalgo Bay and March Point was originally constructed in the in the late 1890's or early 1900's Anacortes American, Pioneer Edition, August 6, 1959). The trestle was reconstructed several times in the 1940's and 1950's; some untreated wood sections were treated with osmose in 1980. A wooden wagon bridge was constructed shortly afterwards from Munk's landing to the east shore of Weaivering Spit, and served as the "chief line of communication" between the the City and March's Point.

c. Historical Dredging & Filling in Fidalgo Bay

Since completion of the 4th version of the Environmental Profile, the City of Anacortes has mapped the locations of historic dredge and fill activities (see Figure 3) and estimated the amounts of such activity using historic maps and AutoCAD measurements. Historical dredging and historical filling (including over-water structures) are estimated to total approximately 60 acres.

Table 1-A
Dredging and Over-Water Structures: Acres Impacted

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Estimated Vegetated Acres Impacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Ferry Terminal</td>
<td>Ship Harbor</td>
<td>.5</td>
</tr>
<tr>
<td>Lovric's Marina</td>
<td>Guemes Channel</td>
<td>2.0</td>
</tr>
<tr>
<td>Paulsen's Dock</td>
<td>Guemes Channel</td>
<td>.4</td>
</tr>
<tr>
<td>Shannon Point Seafoods</td>
<td>Guemes Channel</td>
<td>.6</td>
</tr>
<tr>
<td>Guemes Ferry Terminal</td>
<td>Guemes Channel</td>
<td>.4</td>
</tr>
<tr>
<td>Anchor Cove Marina</td>
<td>Guemes Channel</td>
<td>1.0</td>
</tr>
<tr>
<td>Trident Seafoods</td>
<td>Guemes Channel</td>
<td>.4</td>
</tr>
<tr>
<td>Curtis Wharf</td>
<td>Guemes Channel</td>
<td>.3</td>
</tr>
<tr>
<td>Port Terminal I</td>
<td>Guemes Channel</td>
<td>.7</td>
</tr>
<tr>
<td>Dakota Creek</td>
<td>Guemes Channel</td>
<td>.2</td>
</tr>
<tr>
<td>Port Terminal II</td>
<td>Guemes Channel</td>
<td>.0</td>
</tr>
<tr>
<td>Cap Sante Marina</td>
<td>Fidalgo Bay</td>
<td>12.0</td>
</tr>
<tr>
<td>Navigation Channels</td>
<td>Fidalgo Bay</td>
<td>19.5</td>
</tr>
<tr>
<td>Anacortes Marina</td>
<td>Fidalgo Bay</td>
<td>12.0</td>
</tr>
<tr>
<td>Fidalgo Marina</td>
<td>Fidalgo Bay</td>
<td>.0</td>
</tr>
<tr>
<td>Plywood Mill</td>
<td>Fidalgo Bay</td>
<td>10.0</td>
</tr>
</tbody>
</table>

Source: City of Anacortes, 1997
A review of permitting records maintained at Seattle District Corps of Engineers revealed no information on dredging operations in the Guemes Channel portion of the project area. However, the Cardex File, which is a visible filing system that contains cards with the permit information on them, includes only dredging and land-filling permits from 1965 to 1988. The information on the waterways is highly variable and locations are given in general terms (i.e., near Anacortes or near Burrows Bay). Permits for dredging or land-filling that may have been in the project area were cross-referenced with information in the COE database. The cross-reference verification did not reveal any permits for the Guemes Channel portion of the project area (COE Cardex File 1965-1988).

An additional brief review of COE historical records was conducted at the National Archives, Pacific Northwest Region. These files contained a 1949-50 report on the renovation of the Anacortes port area that included some dredging, limited land-filling, and the construction of a breakwater to protect boats in the marina. A telephone interview with a COE representative confirmed that the marina was completed in the early 1950s, and when questioned further, he also confirmed the construction (dredging) date for the Cap Sante Waterway as the mid-1930s (Arden 1996).

In 1949-50, the Corps evaluated a plan to dredge a navigation channel along the western shoreline of the bay. Various studies were made over the ensuing years to determine the feasibility of such a project. In the mid-1970s, a navigation channel was dredged, under COE supervision, that parallels the western shoreline of the bay. The channel enters Fidalgo Bay near Cap Sante at an angle to the shoreline and then turns generally south to parallel the shoreline (COE Study 1948; Parry 1996). During the period 1935-1950 a small navigation channel was dredged in the lower bay south of Weaverling Spit; the channel divides into an East and West Arm (Metsker 1935, 1950).

A comparison of historical and current maps of the Fidalgo Bay area indicates there have been land-fill operations along the western shoreline of the bay. Large-scale land-fill has occurred in three distinct areas of the western shoreline: in the Cap Sante Marina area between 8th and 13th Streets; in the area of the shoreline in and around the old Skagit Mill/Morrison Mill/Coos Bay Pulp Company, et al., location between 14th and 17th Streets; and further south in the vicinity of 27th Street (Figure 2) (Sanborn Maps 1892, 1925; Metsker Maps 1982, 1995; COE Aerial photographs 1980, 1985). Each area is described further below.

The land-fill in the Cap Sante Marina area probably began in conjunction with the COE approval of the project in the early 1950s, and has progressed since that time to encompass the western shoreline of the basin as it appears today (COE Study 1948; n.p.; Metsker Maps 1950, 1982, 1995). Further research has identified that much of this fill occurred prior to 1918.

The second area of major land-fill began with the dumping of refuse and sawdust from the milling operations that occupied the area from 1892 and through most of the twentieth century (Sanborn Map 1892). The area has had multiple ownerships over the years with the Scott Paper Company being one of the most recent. A series of aerial photographs from the early 1970s through 1985 show a steady progression of land-fill in the area. The
Port of Anacortes now owns the northern-most portion of this filled area (Metsker Maps 1982, 1995; COE Aerial Photographs 1974, 1985).

The third area of major land-fill occurs between 25th and 27th Streets and is the result of a hydraulic dredging operation that occurred in the mid-1970s. This may be some of the spoil from the dredging of the navigation channel by the COE at about the same time (COE Aerial Photographs 1980, 1985).

2. General Land Use Pattern of the Fidalgo Bay Study Area

Current land use in the study area is depicted in Figure 4. In general, land uses on the shorelines of Fidalgo Bay and adjacent uplands are urban in character and intensity. Land uses include a variety of urban-level activities, including industrial, marine, commercial, transportation, residential and recreational. The City of Anacortes occupies the major portion of the shoreline within the study area. The commercial and industrial center of the city, as well as facilities owned and operated by the Port of Anacortes, are located along the western shores of Fidalgo Bay. This land use pattern generally reflects the importance of the waterfront in the early days of the community.

Major industrial and marine commercial areas are located along the eastern portion of Guemes Channel, along the northeast shoreline of Fidalgo Bay (central bay), at March Point, and adjacent to Shannon Point. Waterfront industrial uses along the western shoreline of the bay have declined over the years and facilities and services for recreational boating have increased. Much of the shoreline previously used for more intensive industrial uses is now relatively under-developed.

Tourism is increasingly important to the area. A major link in the Washington State ferry system is located at the western edge of the study area with ferry services to the San Juan Islands and British Columbia. Low density residential uses are prevalent on the western portions of the study area as well as on Cap Sante, and the unincorporated area south of the present city limits. Major city parks are located on Cap Sante head and adjacent to the Shannon Point Marine Lab.

Those portions of the study area located within Skagit County are principally occupied by the industrial concentration of oil refineries on March Point; the balance of the arch Point area is characterized by agricultural uses (hay and pasture). Other uses include an RV park on the spit extending from the west side of the southern portion of the bay.
A more detailed description of existing land use by sub-area is provided below.

3. Land Use Plans, Policies and Regulations

a. Anacortes Comprehensive Plan

*Land Use Designations*

The City of Anacortes Comprehensive Plan, adopted in 1993, generally reflects the existing urban land use pattern of the city, including its concentration of industrial and commercial uses along the shorelines of Fidalgo Bay. The City's Urban Growth Area as defined by the Plan, encompasses the southern end of the bay and includes the March Point Industrial area. In general, existing zoning embodies and reflects the land use designations of the Comprehensive Plan.

Comprehensive Plan land use designations are shown in Figure 5-A. Uses along the central portion of Fidalgo Bay include medium density residential and heavy manufacturing. Further to the north, on and adjacent to Cap Sante head along the outer bay, planned uses include commercial marine, commercial, high density residential, and a park. Along the eastern portion of Guemes Channel, shoreline uses are primarily light manufacturing; adjacent upland uses include the Anacortes Central Business District, and medium and low density residential. Along the western portion of Guemes Channel (to Shannon Point), uses are primarily low density residential, with some commercial marine.

The comprehensive plan generally describes major commercial and industrial land uses as follows:

*Manufacturing*: industrial or manufacturing activities engaged in production of articles/products from raw or prepared materials giving them new forms and qualities. Heavy manufacturing creates potential hazards or nuisances in the production process. Intensive uses are not permitted in light manufacturing.

*Commercial*: commercial activities include retail, marina-related businesses.

*Commercial Marine*: commercial enterprises oriented to the waterfront and waterway areas, and tourist developments, including marina, boat repair facilities, hotel/motel/boatel, recreation equipment rentals and sales, specialty shops and restaurants.
**Comprehensive Plan Goals & Policies & Implementing Regulations**

The plan's *General Goals* address a wide variety of subjects, ranging from issues addressed in the GMA to those reflecting priority concerns of the City. The principle goals relevant to the Fidalgo Bay plan are paraphrased below:

- Create a healthy, aesthetically pleasing high quality environment that maximizes opportunities to share the social, psychological, physical and economic benefits of Anacortes/Fidalgo Island (Goal 1)
- Improve the City's marine-oriented image by protecting and enhancing marine views, access, resources and by encouraging marine dependent and related activities (Goal 2)
- Promote compatible land use (Goal 3).
- Encourage manufacturing growth that is consistent with the community's interests and the Comprehensive Plan (Goal 4).
- Encourage development of a balanced and adequate employment and tax base (Goal 6)
- Encourage continued and improved interaction with other agencies to better coordinate area-wide activities (Goal 7).

These general goals are the basis for Comprehensive Plan goals and policies that address more specific issues, which are summarized below.

**Manufacturing.** The plan notes that Anacortes/Fidalgo Island are the source of 70 percent of manufacturing jobs in Skagit County. Manufacturing goals and policies are intended to maintain and provide continued opportunities for these uses consistent with other Comprehensive Plan goals. Policies are intended to contain heavy manufacturing in areas presently zoned for that use in the zoning ordinance; maintaining flexibility to respond to need for light manufacturing space requirements, insuring that development is compatible with surrounding uses; allowing light manufacturing (LM) to locate in heavy manufacturing (HM) areas if suitable LM land is not available and if proposed LM uses provide financial and employment benefits; and provide facilities to support manufacturing needs outside of existing heavy manufacturing areas.

The plan also encourages water oriented manufacturing, including shipbuilding, in shoreline areas. Policies include giving priority to desirable manufacturing uses for shoreline manufacturing sites; encouraging expansion of Cap Sante Boat haven for commercial fishing, commercial businesses and recreational moorage; encouraging Port development of marine oriented activities; and supporting water oriented manufacturing in the urban renewal area through establishment of a manufacturing use corridor to the fill and dredged berthing area at the inner harbor line.

To provide a more stable and diverse economic base, plan policies also suggests using incentives, preferences, land use performance standards and economic analysis as possible means to encourage multiple manufacturing enterprises as opposed to a single large industry. Development of mixed-use (residential/retail and retail/light
manufacturing) development is encouraged. Manufacturing uses should be designed to minimize adverse impacts to surrounding areas and the community.

Zoning regulations for the heavy manufacturing (HM), Industrial (I) and light manufacturing (LM) districts establish permitted uses and development controls. I and HM uses include industrial, research and developments, office parks, warehousing, processing, shipbuilding and repair, and shipping terminals. Accessory and conditional uses include restaurants, marinas, RV parks and commercial parking. The LM classification generally permits uses that are less intensive than those permitted in HM and I but more intensive than what is permitted in the central business district. Conditional uses include residences (single family and multi-family) and motels.

**Commercial.** The City's goal is to increase its retail sales trade. A number of policies are intended to make the downtown core more attractive, functional and pedestrian-friendly for retail development. Marina related business activity is also encouraged; policies address improved pedestrian and vehicular circulation and a "commercial marine" zoning classification.

The plan states that additional areas for large-scale commercial development should not be rezoned until existing commercial areas are fully developed or shown to be inadequate for proposed needs. Policies that address this goal include avoiding competition with the downtown; discouraging strip development along Commercial Avenue, on east-west routes or facing on R Avenue; and designing commercial areas to minimize adverse impacts to surrounding areas.

Zoning regulations for the commercial (C) district allow a wide range of retail and service uses, including retail and wholesale sales, auto and boat sales and service, restaurants, overnight lodging, churches and libraries, finance and real estate services, apartments, and small scale manufacturing or assemble operations.

A Central Business District (CBD) is defined between 10th Street and the waterfront, from R Avenue to O Avenue. Pedestrian-oriented uses are encouraged in this area, as are renovation of historic structures and orientation to waterfront commerce.

**Commercial Marine.** Goals for commercial marine (CM) areas include preserving them for commercial uses that need to be oriented to the waterfront; encouraging public access in development plans; using the zoning ordinance to encourage water dependent and water view dependent marine, tourist and commercial activities (including marinas with boat and marine equipment, boatel/hotel/motel accommodations, recreational equipment sales and rentals, specialty shops and eating establishments, and transient moorage); developing performance standards for CM areas that assure economic benefits, adequate parking and circulation, adequate buffers/screening, and minimize adverse environmental impacts. City-wide land use should also be reviewed to identify other areas of the City that may be appropriate for the CM designation.
Zoning regulations for the CM district permit boat moorage, marinas, small boat repair, boat and marine equipment sales and services, small scale retail sales and specialty shops, offices, hotels/motels/boatels, parks and recreation facilities. Conditional uses include RV parks, residences, storage of goods and shipping and terminal facilities serving marine oriented activity.

**Housing/Residential.** Housing goals are intended to achieve a balance of housing types (attached and detached) and sizes to meet the needs of all citizens. Residential densities include low (up to 4 d.u./acre), medium (5-9 d.u./acre), and high (10-28 d.u./acre).

**Recreation & Tourism.** The plan notes marina businesses are a locally important and growing economic sector, with demand for space and services growing steadily. Policies are intended to increase the attractiveness of the City to increase its appeal to visitors and residents; encouraging development that includes year-round visitor attractions and recreational activities, such as boating facilities, hiking trails, a convention center or resort facility, RV parks and special events; using the City's shoreline and marine resources to increase tourism while maintaining the quality of resources, through giving preference to development plans that enhance the City's marine heritage and waterfront; improving public access to and enjoyment of the City's shorelines, in part through working with the Port to develop the Cap Sante Marina and surrounding areas.

**Conservation.** Goals for conserving the City's natural resources include identifying and protecting areas with aesthetic, educational, historical, cultural and biological significance; maintaining and enhancing public access to shorelines and tidelands, including preserving access to Class I (i.e., dry) beaches and creating a recreational corridor along the south shore of Guemes Channel; maintaining and improving the functional integrity of wetlands, water bodies and water courses, including restrictions on dredging, filling and clearing.

**b. Anacortes Shoreline Master Program**

The Anacortes Shoreline Master Program designates most lands within shoreline jurisdiction for a range of urban uses. As shown in Figure 5, shorelines adjacent to the central portion of Fidalgo Bay are within Urban I and Urban II shoreline designations. The southern portion of Cap Sante head is within the Conservancy environment, while the northern portion is Urban Residential. Shorelines along Guemes Channel are generally Urban I and Urban II, while Shannon Point is designated Conservancy.

The purposes of the City's shoreline environments are as follows:

**Urban I:** applied to areas heavily developed for industrial purposes. Intended to provide suitable areas for water dependent commerce and industry. Shoreline uses include port facilities; tug and barge companies; ship construction and repair; pulp and paper, lumber and plywood mills and other manufacturing facilities requiring water transport and effluent/intake; fish processing; petroleum

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*Revised Final Fidalgo Bay-Wide Plan/EIS*
handling and processing requiring water transport; and sand and gravel operations requiring water transport.

_Urban II:_ applied to areas with a mixture of commercial, light manufacturing, and high density residential. Intended to maintain existing shoreline character (without substantially increasing development bulk or scale) and to encourage location of water dependent or water related uses. Uses include ferry terminals; urban parks and recreation facilities; restaurants; resorts, convention centers and hotels; marina; shops and markets.

_Urban Residential:_ applied to areas that are or are intended to be primarily residential in character. Existing character is to be maintained consistent with residential zoning standards for density, bulk, scale and open space.

_Conservancy:_ applied to areas where biological and physical limitations and desired shoreline character are incompatible with intense development. Appropriate uses include low intensity water dependent recreation; parks; water dependent scientific research; and single family residences.

c. **Fidalgo Bay Waterfront Revitalization Plan**

**Background.** In 1994, the City prepared a zoning study of the area along Fidalgo Bay. Most of this area is now zoned for Industrial use and was also designated for “urban renewal” in the 1960’s. The study noted that despite the HM zoning designation, most intensive industrial uses had disappeared due to economic changes, fires and other causes. While some new uses had located in the urban renewal area, much of the waterfront remained vacant or underutilized. The study estimates that, based on recent development (i.e., development of about 11 acres of industrial land per year) and land market factors (e.g. vacancy rates, land supply discounts), the City’s supply of vacant industrial land could be developed within approximately 8 years. The study notes that environmental clean up requirements and the presence of eelgrass could constrain future development.

Future opportunities for the area are framed by continued demand for maritime-related uses; the presence of relatively large parcels in single ownership; good access; proximity to downtown; and generally positive economic conditions and growth projections. Among its conclusions, the study noted that the City and state will need to work together to address conflicting objectives for the waterfront. The study recommended modifying zoning regulations (uses, standards, etc.) to provide better guidance for future development.

**Zoning Ordinance Amendment.** In 1995, the City changed its heavy manufacturing zoning district to Industrial, implementing some of the recommendations of the study. Changes were focused primarily on design issues, including building height and the addition of “basic design standards” addressing creation of a waterfront esplanade, the railroad corridor trail, sidewalks and vegetation.
d. Skagit County


Skagit County is preparing a Comprehensive Plan consistent with the Growth Management Act; adoption is anticipated in Fall, 1996. The following summary is based on a 1995 draft version of the plan.

**Land Use Designations.** The Comprehensive Plan land use map designates the March Point area and the uplands west of the bay up to SR 20 as within an Urban Growth Area. The inner bay itself (south of Weaverling Spit) is designated as a potential open space area. The unincorporated areas south and west of SR 20 are designated Rural Intermediate (2.5 acres per dwelling unit).

**Land Use Element.** The plan's goal for the Urban Growth Area is to support land use patterns which guide development into concentrated urban growth areas where adequate public facilities, utilities and services can be provided; protect and conserve long-term commercially viable forest, agricultural and mineral resource lands; retain rural landscape features; maintain open space benefits; and enhance the County's character, natural beauty and environmental quality. The plan establishes criteria for designating Urban Growth Areas which, as noted above, includes the March Point area.

**Urban Growth Area.** The plan's goals for Urban Growth Areas include:

- providing efficient urban services;
- reducing the inappropriate conversion of undeveloped land into sprawling, low density development;
- providing for orderly and progressive change from rural to urban density and land uses in the Urban Growth Areas;
- ensuring coordination and delivery of urban public facilities and services;
- coordinating planning; and
- providing a range and scale of land uses.

The latter goal would be accomplished by encouraging commercial and industrial development to locate in well-defined centers suitable to their type of business and the population served. An adequate supply of commercial and industrial land, with adequate services and facilities, should be provided to attract these uses.
Economic Development Element. Relevant economic development goals, objectives and policies include the following:

- create diverse employment opportunities that meet residents needs;
- sustain economic utilization of natural resources and attract a more diversified base of non-resource industries; related objectives and policies to meet this goal include:
  - planning to meet projected demand for industrial land, and maintaining a five-year inventory of ready-to-build industrial sites,
  - encouraging re-use and redevelopment of existing underutilized industrial sites, and
  - designating industrial sites that are served with infrastructure and free of major environmental constraints;
- encouraging the state ferry system to maintain service from Anacortes to the San Juan Islands to provide for commerce and tourist trade; and
- encouraging economic development that creates a positive fiscal impact

Environment Element. The Environment Element Plan contains goals, objectives and policies intended to prevent development that is incompatible with critical areas. Skagit County will identify, classify, designate and map critical areas to protect and conserve them. The draft plan's goal for fish and wildlife habitat conservation areas is to protect, restore where practical and enhance fish and wildlife populations and their associated habitats. Habitat conservation areas will be identified in accordance with state priority habitat species, stream types and other state programs. Classified areas potentially relevant to Fidalgo Bay include: those associated with threatened, endangered and sensitive species; habitats and species of local importance; kelp and eelgrass beds; herring and smelt spawning areas; and waters of the state.

Policies related to these objectives include:

- using interagency agreements for conservation and protection;
- protecting important wildlife areas, open space and corridors that form a continuous habitat network;
- use regulation, acquisition and incentive techniques to preserve priority species and habitats;
- protect habitat conservation areas at levels commensurate with the resource population status and management objectives;
- protect against habitat degradation;
- site urban development so that habitat conservation area functions and values are protected;
- incorporate design elements that protect wildlife habitat values into projects;
- require mitigation plans for significant adverse impacts;
- manage stormwater to limit detrimental effects to water resources; and
- on-site, in-kind replacement of functions and values is preferred where feasible and practical; off-site, out-of-kind replacement may be permitted.
2. Skagit County Shoreline Master Program

Shoreline environment designations applicable to the study area are “urban” and “aquatic.” The purposes and uses permitted within these environments are summarized below.

**Urban:** The urban designation applies to the portion of the shoreline from March Point south. It applies to shoreline areas that are intensively developed for residential, commercial or industrial use. The objective is to ensure optimum utilization of shorelines within urbanized areas.

Management policies recognize urban shorelines as a limited resource and direct new development to underutilized areas. Water/shoreline dependent uses are preferred, as is development that provides visual and physical access to the shoreline. All forms of urban development should meet performance to minimize environmental impacts.

Permitted uses include agriculture and aquaculture, commercial development, dredging, marinas, piers and docks, ports and industry, residential, transportation facilities and utilities.

**Aquatic:** The aquatic shoreline designation applies to shorelines within Skagit County south of Weaverling spit, along inner Fidalgo Bay. The objective of the designation is to encourage and protect multiple or single purpose uses; to manage and protect water surfaces and foreshores from inappropriate activities; and to preserve and wisely use the area’s natural features and resources.

Management policies give a preference to shoreline/water dependent uses and to activities that create the least environmental impacts; these should not conflict with natural processes and features. Port and water related industrial and commercial uses should locate in appropriate existing/designated areas. Public access opportunities should be provided. Areas for deep draft uses should not require extensive dredging.

Permitted uses include aquaculture, commercial development, dredging, marinas, piers and docks, ports and industry, transportation facilities and utilities.
e. Port of Anacortes Comprehensive Plan & Mission Statement

1984 Comprehensive Plan. The Port of Anacortes adopted its existing Master Plan in 1984. The plan is based on an analysis of economic and demographic trends and conditions for a range of uses and activities. The development program recommended in the plan is intended to provide services to the community and employment for local residents. The overall objective of the development program include providing adequate and expanded facilities for the transshipment and storage of commodities, for boat building, and for boat moorage, storage, launch and support facilities for pleasure and commercial vessels. The plan is also intended to help increase the amount, stability and diversity of local employment within the Port district. The range of actions that could help implement this objective include developing new industries; encouraging additional marine industries; assisting commercial fishing; supporting shippers and manufacturers needing deep water docks; and sponsoring attractions and businesses that reinforce the role of Anacortes as a destination point.

Major areas encompassed by the plan include the Guemes Channel and the Cap Sante Basin. Development planned for the channel pursues industrial development, consistent with the area’s character. The Cap Sante Basin, because of its varied character and proximity to downtown Anacortes, is recommended for activities that will attract tourists and residents and strengthen linkages to downtown, including an esplanade, retail shops, restaurants, a park, the marina; and expanded facilities for commercial fishing, marina operations, boat repair/building/sales, and other commercial waterfront operations. Quality restaurants and a hotel are seen as anchors or magnets for the area.

The Port’s development program is divided into three phases covering the years 1984 through 2003. Planned projects have been incorporated into Figure 4.

1990 Cap Sante Boat Haven Comprehensive Plan. The Port’s Comprehensive Plan was revised in 1990 in response to the growth of the marina and revised thinking about some projects identified in the earlier plan. For planning purposes, the Cap Sante area was divided into three basins (north, south and west) and development projects were identified for the years 1995 to 2010. Many of the identified projects have been completed; those yet to be undertaken are included on the Figure 4, showing planned projects within the study area.

1996 Comprehensive Plan Update. The Port recently selected a consultant team to undertake an update to its Comprehensive Plan. This update, now underway, will be coordinated with development of the Fidalgo Bay-wide Plan; Port representatives are actively participating in the bay-wide planning process.

Port of Anacortes Mission Statement. The Port of Anacortes’ mission statement, adopted in 1993, articulates the overall philosophy and fundamental principles guiding Port activities. Its basic mission is to develop and manage facilities and services which stimulate private job creation and commerce, while protecting the quality of life, needs
and desires of area residents. Relevant purposes, goals and strategies addressing this mission include the following:

**Port-wide Goals:**

*Goal 6* - Protect and enhance the existing natural environment through implementation of a pro-active environmental program of prevention, remediation and education.

**Marine Terminal Goals:**

*Goal 1* - Determine and attain the best use of Marine Terminal facilities, properties and income.

*Goal 2* - maintain a high level of profitable marine terminal activities.

**Marina Purpose & Goals:**

*Purpose* - to provide quality facilities and maximum user service while maintaining safe, profitable and efficient operations.

*Goal 3* - Manage land and facilities to stimulate balanced economic development and job creation.

**f. Tribal Coordination**

The Swinomish tribes' lands are adjacent to but not within the study area. Nevertheless, it is recognized that the tribe is likely to be interested in planning of adjacent areas. Although it does not have staff available to participate in the bay-wide planning process, the tribe will be provided with regular information updates so it can follow progress of the plan and comment on plan alternatives. In addition, a letter was sent to the Swinomish and Samish tribes asking for information about areas/sites of concern for cultural, religious or other reasons. The Skagit System Cooperative represented the fisheries interests of the Sauk-Suattle, Upper Skagit and Swinomish Tribes, participated in the FBP meetings, and submitted detailed written comments.

**Draft Swinomish Comprehensive Plan (1990)**

The Swinomish Comprehensive Plan, which was jointly developed by the Tribal Community and Skagit County, contains goals and policies for stewardship of the land and resources of the Swinomish Indian Reservation; it also promotes integration of land use and capital facility decisions.

General goals of the plan include: promoting the welfare of Reservation residents; preserving areas of historic, archaeological and cultural significance; attaining the widest range of beneficial uses of the environment without risk of degradation; promoting maximum fulfillment of traditional cultural and religious values, and heritage; comprehensively managing natural resources and utilizing them for the long term benefit of the Reservation; and committing use of resources to economic development which result in positive long-term economic benefits.
Policies for the Natural Environment address a variety of natural resources. Selected policies are summarized below.

**Water**
- protect and preserve the quality of surface and ground water; protecting ground water recharge areas;
- adopt standards for upland development that protect ground, surface and marine waters;
- maintain habitat, water quality and stream flow for hunting, fishing and salmon rearing;
- maintain estuaries as productive, natural environments;
- and regulate direct outfall into marine waters.

**Marine Plants**
- protect and enhance kelp and eelgrass beds and other marine plants surrounding the Reservation.

**Vegetation & Wildlife**
- maintain productivity and species diversity within the coastal zone;
- protect natural habitat from development;
- mitigate, compensate for or prohibit habitat disruption and pollution of areas of existing or potential high biotic productivity.

**Unique Wildlife Species**
- preserve and protect critical habitat of threatened, rare and endangered species;
- restrict public access to critical wildlife habitat.

**Tidelands, Fisheries & Aquaculture**
- restore and enhance Reservation shellfish resources;
- improve dredging operations to minimize impacts to habitat;
- provide shoreline access for shellfish harvest and beach/drift net activities;
- require fisheries enhancement and/or mitigation if development within the coastal zone negatively impacts fisheries habitat;
- avoid development activities that impede mating, brooding, nursery and feeding areas of value to the coastal resource;
- activities should not significantly interfere with natural fish migrations and/or fishery resources;
- insulate coastal fishery areas from secondary impacts of upland development;
- prohibit or effectively mitigate impacts of land and water activities that are incompatible with fish and shellfish production;
- promote regional pollution abatement programs to provide opportunities for long-term aquatic resource utilization; and
- promote shellfish aquaculture on Tribal tidelands.

Policies for *Land and Shoreline Use* include prohibiting or designing development to mitigate or compensate for significant impacts to productive resource areas; and using
shoreline regulatory and management programs to identify and protect vital ecosystems, including promotion of compatible, shore dependent economic development. Industrial and Commercial Development policies include: locating and developing industrial areas near or adjacent to established industrial development of Marches Point; clustering development in industrial parks; buffering industrial uses to prevent conflicts with adjacent uses; directing commercial development away from productive resource areas; and clustering commercial uses with design standards.

The plan includes maps identifying land use, significant cultural resources, sensitive environmental areas (including wetlands, eelgrass, kelp beds, smelt/herring runs, salmon migration routes, and shellfish areas. The Reservation is generally located south of Highway 20, south of the Fidalgo Bay study area; none of the resources identified in the plan, therefore, are located in or along Fidalgo Bay.

4. Fidalgo Bay Sub-Area Land Uses

The study area is divided into 5 subareas (Figure 1) which generally reflect the intensity and predominant character of land uses in each. The land use pattern of each subarea is described; approximate acreage of each type of land use is provided. Land uses were visually observed and documented through a windshield survey conducted in January, 1995; city parcel maps were used to record survey information. The upland boundary for the survey generally extended three-to-four city blocks landward from the shoreline (measured 200 feet from the OHWM) adjacent to Guemes Channel, and Commercial Avenue along the central portion of Fidalgo Bay. This expanded upland area is included to provide a more complete picture of the mix and extent of existing land use and indicate any relationships between shoreline and upland land uses.

The approximate distribution of existing land uses within the major portion of the study area is shown in Table 1; more detailed information is provided in the discussion of each sub-area. For purposes of the survey, "vacant land" includes parcels that presently contain no structures or apparent use, or on which structures are dilapidated or abandoned. The Vacant category also includes parcels that are affected by critical areas (such as wetlands or steep slopes), regulated by City ordinances, and which may be undevelopable due to the presence of the constraints. Acreage for land uses along south Fidalgo Bay and March Point are not included in the estimates. The estimates should be used primarily as a general indicator of the relative proportion of land uses within the area surveyed, rather than as a precise calculation of land area.
Table 1-B Summary of Land Uses in Survey Area

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Acres¹</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial</td>
<td>121</td>
<td>16%</td>
</tr>
<tr>
<td>Commercial</td>
<td>52</td>
<td>6%</td>
</tr>
<tr>
<td>Commercial Marine</td>
<td>99</td>
<td>11%</td>
</tr>
<tr>
<td>Transportation (ferry terminals)</td>
<td>19</td>
<td>2%</td>
</tr>
<tr>
<td>Residential</td>
<td>200</td>
<td>23%</td>
</tr>
<tr>
<td>Public/Government ²</td>
<td>45</td>
<td>5%</td>
</tr>
<tr>
<td>Vacant Land ³</td>
<td>244</td>
<td>28%</td>
</tr>
<tr>
<td>Total Area</td>
<td>870</td>
<td></td>
</tr>
</tbody>
</table>

1. Numbers rounded
2. Public/government uses includes public facilities such as City buildings, utilities (sewage treatment plant) and parks (but not the park at Shannon Point),
3. See definition of vacant land above; number includes designated critical areas which may be undevelopable.

- **Subarea 1: Guemes Channel (from the Washington State Ferry Terminal to Guemes Island ferry, north and west of downtown)**

This subarea, with approximately 2.5 miles of shoreline, is bounded on the west by the Washington State Ferry terminal at Shannon Point, and on the east by the Guemes Island ferry dock. There are approximately 230 acres of land north of Oakes Avenue in this subarea. Shorelines in this subarea are generally undeveloped, except for three commercial marine activities.

**Transportation.** The Washington State Ferry terminal, located in the small bay known as Ship Harbor, is the dominant shoreline land use in this area. The terminal is accessed by a spur road from Oakes Avenue, which parallels the shoreline through this subarea. Public shoreline access is available near the ferry docks. Terminal facilities include approximately 18 acres of parking lots and waiting areas. Adjacent areas remain in a natural condition including the wetlands to the east. These wetlands contain numerous old wood pilings, indicating past commercial use.

The Guemes Island ferry dock, located at I Avenue near 6th Avenue, primarily serves residents of Guemes Island. The terminal consists of an approximately one-acre dock and waiting area adjacent to the Anchor Cove Marina.

**Commercial.** Commercial land uses, consisting of approximately 3.25 acres, are primarily oriented toward serving users of the ferry service. Two restaurants and one motel are located along the ferry terminal access road in the Ship Harbor vicinity. A tourist information hut is also present in one of the restaurant's parking lots.

**Industrial.** Industrial land uses are limited to two piers containing seafood processing buildings and one commercial marine complex located on the shoreline east of the ferry terminal. Shannon Point Seafoods occupies 1.5 acres at 7th Street and G Avenue and contains a pier with two structures for seafood processing. Scan-Am Fish Farms occupies
a 2-acre site containing two wood structures on a pier at 9th Street and D Avenue. Both of these uses are located at the base of 40-to-50 foot bluffs and are accessed through single-family neighborhoods. The Scan-Am Fish Farms buildings are not actively used for seafood processing, but are used for occasional loading/unloading of goods. The Shannon Point Seafood facility is in active seafood processing use.

Lovric Sea Crafts occupies a 16-acre site near Dakota Avenue and Oakes Avenue. This facility contains three warehouse/industrial structures, a breakwater and moorage docks. An artificial harbor approximately 9 acres in area is defined by the breakwater to the west and docks to the north. Uses at this location include boat maintenance and repair, salvage, naval architect, commercial shipyard, and moorage for yachts and fishing vessels.

Residential. Single-family residential uses are the dominant land use in the upland portion of this subarea. Older homes are located nearer downtown and newer homes nearer the ferry terminal. Single-family residences are relatively close to shoreline areas in the eastern half of this subarea, although 40-to-50-foot bluffs separate the homes from the immediate shoreline. There are approximately 60 acres of developed residential uses in this subarea. A 30-unit mobile home park is located in the Ship Harbor vicinity near the motel. South of the ferry terminal, a large newer residential area is centered around Flounder Bay which also features a marina.

Vacant Land. Approximately 127 acres, or 55 percent of this subarea, is currently undeveloped including wetlands and steep slopes along the shoreline. As noted above, regulated critical areas may be undevelopable.

Table 2 summarizes the approximate acreage of land uses inventoried in this subarea.
### Table 2. Sub-Area 1 Land Use

<table>
<thead>
<tr>
<th>Type of Land Use</th>
<th>Area</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Industrial Uses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seafood Processing/Warehouse¹ (approx. 0.75 upland ac.)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Ship Maintenance/Repair, Design &amp; Moorage² (appx. 7 upland ac.)</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Subtotal</td>
<td>20</td>
<td>9%</td>
</tr>
<tr>
<td><strong>Commercial Uses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transportation Uses -- Wash. St. Ferry and Guemes Island Ferry</td>
<td>3.25</td>
<td>2%</td>
</tr>
<tr>
<td>Residential Uses²</td>
<td>19</td>
<td>9%</td>
</tr>
<tr>
<td>Public/Governmental Uses - Parks³</td>
<td>60</td>
<td>26%</td>
</tr>
<tr>
<td>Vacant⁴</td>
<td>0.25</td>
<td>.1%</td>
</tr>
<tr>
<td>TOTAL SUBAREA ACREAGE</td>
<td>127</td>
<td>55%</td>
</tr>
<tr>
<td></td>
<td>230</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
1. Includes area on piers and within breakwater.
2. Includes area within residential blocks, but not local streets
3. Roadside Park, located along Oakes Avenue.
4. Includes marshland, steep slopes, and shoreline areas that are regulated by the City as critical areas and which may be undevelopable.

### Sub-Area 2. Balance of Guemes Channel and Cap Sante Head (from the Guemes Island ferry to the central portion of Fidalgo Bay)

**Industrial and Commercial.** Water-oriented industrial uses are the predominant use in the northern portion of downtown Anacortes. These industrial activities are located in the 210 acres extending from the Guemes Island ferry terminal (I Avenue) on the west to Wyman’s Marina (V Avenue) on the east. Dominant land uses include Anchor Cove Marina, Trident Seafoods, Dakota Creek Shipyard, and a multipurpose bulk shipping facility. Other uses include a small seafood processing facility, Port of Anacortes offices, Boomer’s Landing restaurant and Wyman’s Marina.

A large variety of industrial and other commercial uses are located within two blocks of the shoreline including warehouse/storage facilities; suppliers or manufacturers of goods such as oil, lubricants, rope, marine equipment, and hardware; other small commercial uses such as auto transmission repair, junkyard, electrical shop, and woodworking shop; offices for Dakota Creek Industries, a marine surveyor and an architect. A large unfinished metal-sided structure south of the log sorting facility at R Avenue and 4th Street is planned for use by Dakota Creek Industries. The City’s wastewater treatment plant is located at T Avenue and 4th Street.

**Central Business District.** The central business district, located along Commercial Avenue between approximately 3rd Street and 12th Street, contains a mixture of retail establishments, personal and professional services, restaurants, banks, hotels and institutional uses such as City Hall, the post office, tourism office, and fraternal organizations. Most of the buildings along the northern portion of Commercial Avenue are older 2-4 story structures, with commercial storefronts at street level. Several of the...
blocks in this area are not exclusively commercial in nature, but contain older single-family or multi-family housing.

**Public/Governmental.** Approximately 37 acres are occupied by public or governmental facilities. Cap Sante Park, located directly east of the marina, comprises the major portion of this acreage. The park includes scenic viewpoints and walking paths near the shoreline. The Port of Anacortes uses an office/warehouse facility at 2nd Street and Commercial Avenue, and owns the pier to the north that is available for docking and public fishing access. City Hall, the post office, a tourism office and a museum occupy approximately 1.75 acres in or near the central business district.

**Residential.** Residential land uses occupy approximately 77 acres, or 36 percent of the sub-area. Single-family residences and a few multi-family residences are interspersed among commercial uses in several blocks. Residential uses comprise the majority of land use west of N Street, and along Q and R Avenues between 4th and 9th Streets. Also, east of T Avenue, land uses are predominantly residential except for the cluster of Wyman's marina, Boomer's restaurant, and an indoor storage building.

**Vacant Land.** Little vacant land remains in this sub-area. Approximately 7 acres of vacant land are interspersed in this sub-area with the largest parcel (approximately 4 acres) located north of Cap Sante marina. Another area is located near Anchor Cove Marina and a few vacant parcels occur within the central business district.

Table 3 summarizes the approximate acreage of land uses inventoried in this subarea.
## Table 3. Sub-Area 2 Land Uses

<table>
<thead>
<tr>
<th>Type of Land Use</th>
<th>Area</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Industrial Uses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shipping Terminal -- Log Yard, Multipurpose Bulk Facility</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Marine Shipyard -- Dakota Creek Industries</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Seafood Processing (approximately 14.5 upland acres)</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>Warehouse, including mini-storage and unspecified industrial structures</td>
<td>3.5</td>
<td></td>
</tr>
<tr>
<td>Marine Product Suppliers/Manufacturers</td>
<td>4.5</td>
<td></td>
</tr>
<tr>
<td>Boat Storage (not including marina)</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>Outdoor Storage</td>
<td>0.5</td>
<td></td>
</tr>
<tr>
<td>Subtotal</td>
<td>60</td>
<td>28%</td>
</tr>
<tr>
<td><strong>Commercial Marine Uses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anchor Cove Marina(^1) (approximately 2.5 upland acres and 8.5 tideland acres)</td>
<td>11</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Other Commercial Uses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central Business District Commercial/Retail, Office and Services</td>
<td>11.5</td>
<td></td>
</tr>
<tr>
<td>Waterfront Restaurant, Yacht Club(^2)</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>Subtotal</td>
<td>14</td>
<td>7%</td>
</tr>
<tr>
<td><strong>Public/Governmental Uses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Park/Recreation(^3)</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>Governmental Facilities(^4)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Utilities (Wastewater Treatment Plant)</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Subtotal</td>
<td>44</td>
<td>21%</td>
</tr>
<tr>
<td><strong>Residential Uses(^5)</strong></td>
<td>77</td>
<td>36%</td>
</tr>
<tr>
<td><strong>Vacant Land (^6)</strong></td>
<td>7</td>
<td>3%</td>
</tr>
<tr>
<td><strong>TOTAL SUBAREA ACREAGE</strong></td>
<td>213</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. Includes area on piers and within breakwater.
2. Does not include restaurants in central business district.
3. Includes Cap Sante Park and public fishing pier.
4. Includes City Hall, post office, Port office and tourism office.
5. Includes area within residential blocks, but not local streets.
6. Includes portions of lots south of marina, between Dakota Creek & the sewage treatment plant, and adjacent to the community center. Estimates also includes lands that may be undevelopable due to presence of critical areas.
Sub-Area 3. Fidalgo Bay — Cap Sante Marina to 35th Street

This sub-area, approximately 340 acres in area and containing 1.5 miles of shoreline, lies in the heart of the waterfront along the western shoreline of Fidalgo Bay. It includes land between Commercial Avenue to the west, Fidalgo Bay to the east, Cap Sante Marina to the north and SR 20 to the south. The predominant land use is the marinas including the Cap Sante Marina, Anacortes Marina, and Fidalgo Marina. There are also a number of industrial uses based on water-related activities including the Fidalgo Boat Yard.

Industrial. Industrial facilities and land within this subarea are located within the area east of Q Avenue (north of 22nd Street) and R Avenue (south of 22nd Avenue) to 34th Street. A variety of land uses include marine-related sales, services or products, two seafood processing facilities; boat repair/maintenance; and suppliers of fuels, lubricants, canvas, fiberglass, electrical and other boat-related products. Other businesses include a construction company, plumbing company, wood products supplier, American Red Cross office, outdoor storage yards, and decorative product manufacturing company (Bunnies by the Bay). There are also a few industrial/warehouse structures in this subarea that are vacant or have unidentified uses.

Commercial Marine. The Cap Sante Marina, owned by the Port of Anacortes, provides moorage for approximately 1,150 boats in a 40-acre basin, with approximately 15 acres of on-shore facilities, mostly in parking areas. A relatively new marina headquarters building contains a deli, printing business, laundry, and yacht- and diving-related businesses. South of the marina headquarters, an 8-acre area contains boat storage, fishing equipment storage, marine equipment and service businesses a restaurant, and a Coast Guard building.

The Anacortes Marina, located approximately 0.5 mile south of Cap Sante Marina at 22nd Street and T Avenue, provides moorage for approximately 466 boats in a 16-acre basin, with approximately 7 acres of on-shore facilities, mostly in parking areas. The marina office building contains facilities for yacht sales and charters, boat detailing, a fuel supplier, and a commercial fishing company (Alyeska).

The Fidalgo Marina, located approximately 0.3 mile south of Anacortes Marina at 31st Street, provides moorage for approximately 55 boats in an 8-acre basin, with approximately 2 acres of parking and marina office use. Adjacent to the marina are a boat maintenance/repair business, Fidalgo boat storage yard and additional parking, totaling approximately 4 acres.

Other Commercial Uses. Land uses along the 1.5-mile segment of Commercial Avenue south of the central business district include numerous retail and commercial establishments, automobile-related businesses, restaurants, motels, and professional service offices. Between 10th and 20th Streets, each block between Commercial Avenue and Q Avenue is entirely devoted to retail/commercial uses, including grocery stores, fast food restaurants and a lumber store. South of 20th Street, nearly all blocks contain
commercial uses bordering Commercial Avenue, but residential uses in the rest of the blocks.

**Public/Governmental.** A small Coast Guard office is located near Cap Sante Marina, using 0.25 acres or less. The Port of Anacortes owns Cap Sante Marina and land adjacent to the marina.

**Residential.** Approximately 63 acres of residential uses occur predominantly between Commercial Avenue and R Avenue, from 20th Street to 35th Street. These residences are a mixture of older single-family residences and newer multi-family residences. This is consistent with the Comprehensive Plan's designation of this area as "Residential High Density." Between 34th Street and SR 20, south of the industrial land, is a residential area with single-family and a few multifamily residences, designated "Residential Medium Density."

**Vacant Land.** This sub-area contains approximately 110 acres of vacant industrial-zoned land; approximately 75 acres has shoreline access. The northernmost vacant area south of the Cap Sante Marina was used for log storage in the past but is currently vacant. The southernmost portion of this subarea is the former site of a wood products mill.

- **Sub-Area 4. South Fidalgo Bay**

This subarea includes the area bounded by SR 20 south of approximately 35th Street to the southern tip of the bay. Fidalgo Bay Road, between SR 20 and the bay, provides to access to approximately ten single-family residences, and the 12-acre Fidalgo Bay RV Resort. Shorelines at the resort are used for recreational purposes.

- **Sub-Area 5. Eastern Fidalgo Bay — March Point**

March Point is predominantly occupied by oil refineries operated by Texaco and Shell Oil. These facilities include refinery process units, numerous storage tanks, wharves in Fidalgo Bay and administration/support facilities. Most of the area not being actively used by the refineries is used for hay and pasture. Farm acreage and at least two residences are located near the east edge of Fidalgo Bay where the railroad trestle crosses the bay.
Table 4. Sub-Area 3 Land Uses

<table>
<thead>
<tr>
<th>Type of Land Use</th>
<th>Area</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Industrial Uses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seafood Processing</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Marine Product Suppliers/Manufacturers</td>
<td>14.5</td>
<td></td>
</tr>
<tr>
<td>Other Product Suppliers or Manufacturers</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Boat Storage/Repair (not including marina)</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Warehouse, including mini-storage and unspecified industrial structures</td>
<td>5.5</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>44</td>
<td>13%</td>
</tr>
<tr>
<td><strong>Commercial Marine Uses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marina(^1) (approx. 24 upland acres and 64 tideland acres)</td>
<td>88</td>
<td>26%</td>
</tr>
<tr>
<td><strong>Other Commercial Uses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outdoor Storage (not including boat storage)</td>
<td>4.5</td>
<td></td>
</tr>
<tr>
<td>Retail/Commercial – Commercial Avenue(^2)</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>Services/Office Uses – Commercial Avenue(^2)</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>Office/Institutional (American Red Cross)</td>
<td>2.0</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>35</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Public/Governmental Uses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coast Guard office</td>
<td>0.25</td>
<td>.07%</td>
</tr>
<tr>
<td><strong>Residential Uses</strong>(^3)</td>
<td>63</td>
<td>19%</td>
</tr>
<tr>
<td><strong>Vacant Land (including dilapidated structures)</strong></td>
<td>110</td>
<td>32%</td>
</tr>
<tr>
<td><strong>TOTAL SUBAREA ACREAGE</strong></td>
<td>340</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. Includes area on piers and within breakwater.
2. Includes only the area on the east side of Commercial Avenue.
3. Includes area within residential blocks, but not local streets

5. Public and Private Development Plans & Proposals

A survey of major businesses and Fidalgo Bay property owners was conducted in March, 1996 to obtain information on planned projects. The Port’s adopted Comprehensive Plan was also reviewed. Sixteen proposed/pipeline projects/groups of projects were identified and are shown on Figure 4 (pg III-9). Projects are in various stages of planning or permitting; timing is uncertain.

1. **Washington State Ferry Terminal.** Proposed expansion of the existing ferry terminal by WSDOT/State Ferry System to meet projected demand. Project elements include construction of a new terminal building, a fixed passenger walkway, additional and relocated slips and parking lots. (1999 Note: Active Proposal)
2. **Port of Anacortes/Leeward Development.** 70-acre proposal at the Ship Harbor site. Proposed uses include mixed-use marina, resort and residential. (1999 Note: Active Proposal)

3. **Lovric Seacraft.** (1999 Note: Minor Modifications Proposed)

4. **Samsung/Shannon Point Seafoods.** Reconstruct 1 20,000 square-foot building. Based on recent City information, project may not be pursued. (1999 Note: Project Dropped)

5. **Trident Seafood.** (1999 Note: New Docks Proposed)

6. **Wooding.** Redevelopment of Curtis Wharf (approx. 1 acre). (1999 Note: Complete)

7. **Dakota Creek Industries.** 16 acre site. Project involves facility upgrades and rearrangement of activities on existing shipyard and office site; dredging to maintain and enhance deep water port facility; and replacement of pilings. (1999 Note: Active Proposal)

8. **Port of Anacortes, Cap Sante Marina.** Various projects in the 80-acre Cap Sante Marina area, as identified in the Port’s 1984/1990 Comprehensive Plan:
   - **south basin:** industrial building, parking expansion, storage, boat building and repair yard, and dock improvements; (1999 Note: Sun Healthcare Systems Research and Development facility under construction)
   - **west basin:** parking expansion, passenger terminal dock improvements;
   - **north basin:** parking expansion, dock improvements

9. **Port of Anacortes, South Basin.** Future redevelopment on 20 acres. (1999 Note: Sun Healthcare Systems Research and Development facility under construction)

10. **MJB Properties.** Proposed Fidalgo Landing development on 70 acre (upland and marine) site. Uses include a marina and mixed-use commercial and residential upland component. (1999 Note: Uses addressed in this Plan)

11. **City of Anacortes, Public Open Space.** Two-acre open space project. (1999 Note: Active Proposal)

12. **Brent Homes, Shipyard Site.** Plans for the 50-acre site include a shipyard and industrial redevelopment, including a proposed access channel. (1999 Note: Active Proposal)

13. **Andrews/Gillespie/Jermyn.** Residential units and docks on a 3-acre site (zoned LM); would require in-water work and dredging. (1999 Note: Proposal Dropped)
14. **Fidalgo Bay Resort.** Proposed 18-acre marina. (1999 Note: The right of way has been sold to the City of Anacortes and the City of Anacortes is extending sanitary sewers along the remaining western portion and the southern portion of Fidalgo Bay)

15. **Public Project.** Pedestrian and possible scenic rail line along south shoreline of Fidalgo Bay and across trestle. (1999 Note: Active Proposal)

16. **Refining, March Point.** Equilon’s future long-term development plans on its 713-acre March Point site include expansion and/or modification of refineries, which could include additional refinery process units, tanks, and other utility modifications. Possible future options identified by Equilon include wharf expansion/modification, dredging at wharves, and a "marine vapor recovery facility" (Texaco Refining and Marketing, 1996). [Note that Tesoro has not identified specific development plans at this time.]

6. **Population & Employment**

**Population**

Historical and projected population for the City of Anacortes and Skagit County are provided in Table 5. Both jurisdictions are projected to experience steady growth, at a rate of approximately two percent per year. Currently, the City of Anacortes represents approximately 14 percent of county-wide population; this relative proportion is projected to continue over the next twenty years.

No discrete population data is available for the study area.

**Demographic Characteristics.**

Skagit County residents are, on average, somewhat older than residents of the state as a whole. In 1990, for example, approximately 15 percent of the County’s population was 65 years of age or older, compared to about 12 percent for the state as a whole (Anacortes Comprehensive Plan Amendment/Rezone Draft EIS, 1996). The proportion of people aged 45 to 64 (20 percent) are also somewhat higher than Skagit County (19 percent) and the state as a whole (18 percent). In general, proportions of population in younger age categories (0-17, 18-24 and 25-44) are approximately 2-5 percent lower than the County and state as a whole.
Table 5. Population Growth

<table>
<thead>
<tr>
<th>Year</th>
<th>City of Anacortes</th>
<th>Change ¹</th>
<th>Skagit County</th>
<th>Change ¹</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Historical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1980</td>
<td>9,013</td>
<td>64,138</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>11,451</td>
<td>79,545</td>
<td>15,407</td>
<td>24%</td>
</tr>
<tr>
<td>1995</td>
<td>12,820</td>
<td>93,100</td>
<td>13,555</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>Projected</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>14,190</td>
<td>103,478</td>
<td>23,933</td>
<td>30%</td>
</tr>
<tr>
<td>2010</td>
<td>16,930</td>
<td>125,508</td>
<td>22,030</td>
<td>21%</td>
</tr>
<tr>
<td>2015</td>
<td>18,300</td>
<td>137,714</td>
<td>12,206</td>
<td>10%</td>
</tr>
</tbody>
</table>

Sources: U.S. Census; Washington State Office of Financial Management
1. Change from prior 10 years except 1995 and 2015 which is for prior 5 years
2. Forecasts based on OFM December, 1995, Population Projections, medium series

Household median income in the City is slightly higher than that in Skagit County but lower than the state as a whole. In 1989, median household income in the City was $28,919, compared to $28,319 in the County and $31,183 state-wide. Proportions of households with incomes less than $10,000 is somewhat higher than the state-wide average, while those with incomes $50,000 and over is lower.

Employment

Table 6 shows 1990 labor force characteristic for Anacortes, Skagit County and Washington state as a whole. In 1990, Anacortes contained approximately 13% of county-wide jobs in 1990. Washington Employment Security data for 1994 indicates that the number of jobs in the Anacortes Area (including the city and Fidalgo Island, by place of work) were 6,706, with the largest number of jobs in manufacturing (1,816/27), government (1,169/17%), retail trade (1,146/17%), and services (1,099/16%). Skagit County data for 1994 (by place of work) indicates 35,826 jobs, with the greatest numbers in retail trade (8,242/23%), government (7,036/20%), services (6,345/18%) and manufacturing (4,460/12%). Over the 1989 to 1994 period, jobs grew by almost 26 percent with the greatest growth in wholesale and retail trade, construction, government and services.

No separate data is available for the study area.

Employment forecasts for the 1994-2014 period, contained in the Overall Economic Development Plan for Skagit County (1994), indicate an increase of 26,241 jobs (E.D. Hovee, 1994). The largest growth is forecast in the categories of services (7,747), retail trade (6,847), government (3,953), construction (3,293) and manufacturing (2,730). Categorized by land use type, approximately one-third of future jobs will occur in industrial zones and one-third in commercial zones; the balance includes public sector jobs, which could occur in a variety of zones.
No separate projections are available for the City of Anacortes or the study area. Based on Anacortes’ present proportion of county-wide jobs, however, the forecasts imply an increase of 3,411.

Table 6. 1990 Employment Characteristics

<table>
<thead>
<tr>
<th>Job Category</th>
<th>City of Anacortes</th>
<th>Skagit County</th>
<th>Washington State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of Labor Force</td>
<td>4,680</td>
<td>36,438</td>
<td>2,487,073</td>
</tr>
<tr>
<td>Percent Unemployed</td>
<td>8.0%</td>
<td>5.8%</td>
<td>5.6%</td>
</tr>
<tr>
<td>Total Persons Employed</td>
<td>4,242</td>
<td>34,121</td>
<td>2,293,961</td>
</tr>
<tr>
<td>Industry of Employed Persons:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Agriculture, Forestry, Fishing</td>
<td>5.7%</td>
<td>7.1%</td>
<td>3.7%</td>
</tr>
<tr>
<td>- Mining &amp; Construction</td>
<td>8.0%</td>
<td>8.0%</td>
<td>6.5%</td>
</tr>
<tr>
<td>- Manufacturing</td>
<td>18.9%</td>
<td>17.4%</td>
<td>17.5%</td>
</tr>
<tr>
<td>- TCPU *</td>
<td>6.7%</td>
<td>5.9%</td>
<td>7.3%</td>
</tr>
<tr>
<td>- Wholesale &amp; Retail Trade</td>
<td>23.4%</td>
<td>24.2%</td>
<td>21.9%</td>
</tr>
<tr>
<td>- FIRE **</td>
<td>5.2%</td>
<td>4.1%</td>
<td>6.4%</td>
</tr>
<tr>
<td>- Services</td>
<td>28.4%</td>
<td>29.5%</td>
<td>31.8%</td>
</tr>
<tr>
<td>- Public Administration</td>
<td>3.9%</td>
<td>3.7%</td>
<td>4.9%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Sources: U.S. Census Bureau, City of Anacortes
* TCPU = transportation, communication, & public utilities
** FIRE = finance, insurance & real estate

Land Supply & Demand for Economic Growth

Supply. The Overall Economic Development Plan (1995) includes an inventory of industrial and commercial sites and categorizes how much of the land supply is undeveloped and underutilized (defined as properties where building valuation is less than 10 percent of property valuation). The updated inventory identifies 2,256 acres of commercial and industrial zoned land in Skagit County’s Urban Growth Area (incorporated and unincorporated portions of UGA). The March Point area (unincorporated UGA/Annexation Area) is estimated to contains approximately 335 acres of vacant & underutilized land industrial. Data for the City of Anacortes (including March Point) indicates a total of 525 acres of developable commercial and industrial land. (The 1994 version of the survey notes that almost all of the commercial land is zoned ‘commercial marine” which places significant limits on permitted uses; therefore, it not considered available with respect to commercial uses providing goods and services.)

According to recent City analyses, there is estimated to be approximately 60 acres of developable or redevelopable commercial/industrial land in the CBD, commercial and waterfront light industrial zones, plus 80 acres commercial marine (CM) at Ship Harbor. (Comp Plan Amend/Rezone DEIS, 1996). The amount of vacant, developable land
within the Fidalgo Bay study area (including the expanded upland area identified for the land use survey) is estimated to be approximately 244 acres.

Demand. The updated 1995 Overall Economic Development Plan analysis indicates that there is a rough balance between anticipated demand and supply of developable commercial and industrial land over the next 20 years, based on a range of current forecasts.

Economic Development Policies

Economic development policies recommended in the Overall Economic Development Plan are contained in the 1995 draft Skagit County Comprehensive Plan, summarized above.

7. Fidalgo Bay Marine Facilities and Commercial Activity

A recent report prepared by BST Associates for the Skagit County Sub-regional Transportation Planning Organization summarizes marine facilities and activities in Skagit County and Fidalgo Bay. Unless noted otherwise, all references in this subsection are to this County-wide Air, Rail, Water and Port Transportation Study (1996 Final Draft), which is summarized in part below.

Port Marine Terminals. Based on Corps of Engineers records, 23 commercial piers, wharves and docks are located in the Anacortes area. The Port of Anacortes is the primary public cargo port in Skagit County. The Port operates two marine terminals (Piers 1 and 2) which handle a variety of commodities, including crude oil, petroleum products, seafood, coke, logs and timber. In 1993 and 1994, the Port’s marine terminals handled approximately 360,000 metric tons of cargo (a reduction from the previous four years).

Dakota Creek Shipyards, a Port tenant, operates a shipbuilding and repair facility specializing in repair and construction of steel and aluminum vessels up to 400 feet, including fishing vessels, ferries, oil recovery vessels and barges. The company has been a Port tenant since 1975.

Oil Refinery Terminals. Shell Oil and Texaco each operate an offshore wharf on March Point. Inbound crude oil, primarily from Alaska and overseas, averaged approximately 9.6 million metric tons during the last three years. The refineries also receive and ship approximately 2 million tons of chemical and petroleum by water annually. Together, the refineries have upland storage tank capacity for approximately 3.4 barrels of petroleum and 3.5 million barrels of crude oil.
Other public and private marine terminal facilities in and adjacent to Fidalgo Bay includes the City of Anacortes – a barge dock, boat launch/ramp – and the Swinomish Tribe, which has an Industrial District pier on the Swinomish Channel north of Highway 20.

**Waterborne Commerce.** In 1992, according to Corps of Engineers data, Anacortes terminals accounted for approximately 12.6 percent of total Washington state waterborne commerce, about 37 percent of coastwise receipts and 22 percent of coastwise shipments. In 1990-1992, more than 300 vessels annually (excluding barges) arrived in Anacortes; this decreased to approximately 225 vessels in 1994. An additional 18-20 barges were also handled at Port of Anacortes terminals.

The BST study forecasts that by 2014, almost 13 percent of total volume of commercial freight tonnage will be carried by water. The oil refineries are expected to generate more than 50 percent of the total tonnage (20.3 of 38 million metric tons).

**Marinas.** There are four marinas in the City of Anacortes containing a total of 2,376 boat slips; this represents approximately 70 percent of slips in Skagit County. Three marinas are located in the Fidalgo Bay study area – Anacortes, Anchor Cove, and Cap Sante Boat Haven; these contain a total of 1,776 slips. The marinas serve a large number of recreational and commercial boaters, a growing number of tour and charter boats, and freight needs for area businesses. It is estimated that the Port's Cap Sante Boat Haven serves approximately 12,000 transient recreational boats during the summer season.

Estimates of future marina slip demand vary widely in recent studies. Year 2000 estimates range from 2,100 slips in the northern Puget Sound region (including Skagit and Whatcom Counties) to 2,800 slips in Puget Sound overall (City of Anacortes, Comprehensive Plan Amendment/Rezone Draft EIS, 1996). Growth in population and in boat ownership (estimated to be 1 percent greater than population growth) will fuel demand for wet moorage.

**Ferry Facilities.** The Washington State Ferry System terminal is located in Anacortes at Shannon Point, along Guemes Channel. The system provides ferry service to the San Juan Islands and to Sydney, B.C. In the 1991-1992 fiscal year, these routes carried more than 1 million passengers and almost 800,000 vehicles. Most traffic is recreational in nature and occurs on the weekend and during the summer.

The Guemes Island ferry, operated by Skagit County, carried (in 1995) about 188,000 passengers and 96,000 vehicles per year. Recent growth in ridership has exceeded 5 percent per year.
II. Regional Resource Profile

A. Regional Setting

1. Climate

**Winds.** The Fidalgo Bay planning area is located in a divergence zone of the local wind patterns since it lies essentially at the eastern end of the Strait of Juan de Fuca. The seasonal progression of prevailing winds for this region has been developed by Harris and Rattray (1954). Atmospheric conditions creating the major wind patterns over northwestern Washington are described by Overland et. al. (1978) and Pease et al. (1979), and have also been summarized by Cannon (1978).

During the winter, winds throughout the area are typically from the south, especially during storms arriving from the Pacific Ocean. When arctic air enters the area from the north, northerly winds will occur, but are generally of short duration, and weaker than southerly winds. In spring and summer, winds often are directed eastward along the Strait of Juan de Fuca. These winds diverge into north and south winds over Whidbey Island, causing southerly winds to predominate over Fidalgo Bay.

**Air Temperature.** Mean monthly air temperatures at Anacortes and Bellingham (Figure 3) were computed by the University of Washington (1953) based upon 18 years of data at Bellingham and 25 years of data at Anacortes. The air temperature pattern, if averaged through recent years, is anticipated to be similar to that shown, although any one year may vary significantly.

**Precipitation and Runoff.** The mean monthly precipitation at Anacortes and Bellingham were computed by the University of Washington (1953) based upon data from 1910-1940. The pattern, if averaged through recent years, is anticipated to be similar, although any one year may vary significantly from the means shown.

No major streams enter Fidalgo Bay. Runoff into the bay is predominantly from non-point sources, small creeks, and outfalls. The dominant sources of freshwater in the marine waters of the bay therefore likely come from major rivers discharging into Bellingham, Samish, and Padilla bays. Rivers anticipated to influence the areas waters include the Nooksack River entering Bellingham Bay, Samish River entering Samish Bay, the Skagit River via the Swinomish Channel, and the Fraser River entering the Strait of Georgia at Vancouver, B.C.

While the Fraser River has one dominant high runoff season, May -July, the Skagit and Nooksack have two peaks, May-July, and October-February, as they are also heavily influenced by rainfall in the lower elevations, as well as the winter snowpack melt in May-July. These periods are expected to correlate with periods of lowest salinity and greatest stratification of the water column in the planning area.
2. Geography and Oceanography

**Bathymetry.** Generalized bathymetry in the planning area consists of a fairly deep channel reaching over 10 fathoms (60 feet) within Guemes channel and extending eastward to Hat Island, where the deep channel turns northward (Figure 6). The oil docks at March Point have been built out to reach this deep water and dredging has been accomplished to maintain a clear channel of at least 40 ft depth to the berths. The south shoreline of Guemes Channel typically has a rather steep upper beach flattening to a broad shallow lower intertidal zone that is continuous subtidally. The width of this band of shallow water decreases towards the ferry terminal at Shannon Point and towards the Port of Anacortes berths at the eastern end of the channel.

Fidalgo Bay proper occupies an ancient delta of the Skagit River consisting of generally shallow mudflats dropping off steeply in an arc south and east from Cap Sante head. Mudflats are mostly subtidal with depths shallower than -12 ft MLLW north of the railroad crossing. Extensive intertidal mudflats occupy nearly all of the area south of the railroad trestle. Two channels have been dredged across the northern portion of the bay to allow medium and shallow draft ship navigation to marinas and industrial properties along the eastern shoreline.

Characteristic dimensions of Fidalgo Bay south of a line drawn from Cap Sante to March Point, are:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Length at MHW</td>
<td>3.7 km</td>
</tr>
<tr>
<td>Cross sectional area at entrance</td>
<td>(0.8 \times 10^6) m²</td>
</tr>
<tr>
<td>Surface area at MLLW</td>
<td>(4.89 \times 10^6) m²</td>
</tr>
<tr>
<td>Surface area at MHW</td>
<td>(7.78 \times 10^6) m²</td>
</tr>
<tr>
<td>Mean tide height</td>
<td>1.52 m</td>
</tr>
<tr>
<td>Volume below MLLW</td>
<td>(8.37 \times 10^6) m³</td>
</tr>
<tr>
<td>Volume between MLLW and MHW (tidal prism)</td>
<td>(9.63 \times 10^6) m³</td>
</tr>
<tr>
<td>Mean depth at MLLW (Volume/Surface area)</td>
<td>(1.71) m</td>
</tr>
<tr>
<td>Tidal flushing time (Volume MLLW/Volume tidal prism)*</td>
<td>0.87 tidal cycles</td>
</tr>
<tr>
<td>Mean tidal transport (Volume tidal prism/0.25 tidal day)</td>
<td>(0.043 \times 10^4) m³ s⁻¹</td>
</tr>
<tr>
<td>Average tidal speed (Volume tidal prism/cross sectional area/0.25 tidal day)</td>
<td>(5.4) cm s⁻¹ (0.1 knots)</td>
</tr>
</tbody>
</table>

* Assumes complete replacement of existing bay water with incoming tidal prism water, which will not occur in deeper parts of the bay. Note that more water enters the bay each flood tide cycle than actually exists in the bay when the tide is at MLLW (0.0).
ANACORTES HARBOR
WASHINGTON

Triangulation created in 1892
Topography between 1885 and 1892
Hydrography between 1887 and 1892

Published at Washington, D.C.
June 1902

BY THE U.S. COAST AND GEODETIC SURVEY

Figure 6-A

Soundings are in fathoms except on the dotted surfaces where they are in feet below a few lower low waters.
Coastal Drift Sectors. The present source of net shore-drift information recommended by the Washington State Department of Ecology's (Ecology) Shorelands and Coastal Zone Management Program is a set of reports created by Western Washington University, and published by Ecology (1991). No net drift direction is indicated along the southern shoreline of Guemes Channel because of armoring of the shoreline, except around Shannon Point, where it is eastward. South of Cap Sante, the net shore-drift is depicted as southward towards Weaverling Spit. South of Weaverling Spit and the railroad trestle, no net drift is indicated. North of the railroad trestle on the eastern shoreline, net shore-drift is northward towards Crandall Spit and drift from the tip of March Point is southward towards Crandall Spit.

Geomorphology. Several existing maps represent shoreline geomorphological conditions for this area. These include the Coastal Zone Atlas and several environmental sensitivity maps related to responding to oil spills. In general, Guemes Channel has rocky, gravel, or cobble open shorelines, except where armor (riprap) has been placed to limit coastal erosion. The rapid currents within the channel remove most fine grained materials, unless they become trapped behind piers or other structures.

Within Fidalgo Bay, finer silty sand sediments exist, with very fine grained material (mud) dominating south of the railroad trestle within the Inner Bay subarea. Some bluffs of unconsolidated materials are located just north of Weaverling Spit and sand/gravel shorelines are found along the west side of March Point including Crandall Spit.

Oceanography

Tides. Tides within the Fidalgo Bay planning area are semi-diurnal in nature, having two highs and two low tides daily. At Anacortes, the mean tide range, defined as the average difference in height between Mean High Water (MHW) and Mean Low Water (MLW), is 1.5 meters (National Ocean Survey Tide Tables 1980). The diurnal tide range, defined as the average difference in height between Mean Higher High Water (MHHW) and Mean Lower Low Water (MLLW) is 2.6 meters.

Tidal elevation data for Anacortes (based on Canning, 1994) is shown below (all heights are in feet based upon MLLW as 0.0 datum):

| Highest Recorded Tide (estimated) | 11.00 |
| Mean Higher High Water           | 8.20 |
| Mean High Water                  | 7.40 |
| Mean (half) Tide level           | 5.00 |
| Mean Sea Level: 1921-1934        | 4.42 |
| Mean Low Water                   | 2.60 |
| Mean Lower Low Water             | 0.00 |
| Lowest Recorded Tide (estimated) | -4.50 |

The difference he presents between MLLW and Mean Sea Level, which is used as the 0.0 datum (N.G.D.V.) in topographic mapping, is 4.42 ft.

Currents. Due to its shallow depth and large tide ranges (often 7 to 8 ft change), tidal currents dominate the movement of water into and out of Guemes Channel and Fidalgo
Bay. The tidally induced currents are affected to some extent by winds, which generally would help push water out of the bay (south wind) or push extra water into the bay (north winds). Freshwater within the system also modifies the tidal circulation slightly. As freshwater enters nearshore areas, it begins moving seaward over several tidal cycles. In return, more saline waters at depth are drawn landward. This net movement of near surface waters moving seaward, and deeper waters moving landward over several tidal cycles is called estuarine circulation. Studies by many investigators over the years have documented the estuarine circulation within the Strait of Juan de Fuca and Puget Sound.

In most locations, the seaward moving surface layer and landward moving deeper waters generally do not mix, except in regions of shallow bathymetry, called sill zones, or narrow channels such as Deception Pass. Such sill zones exist also at the south end of Rosario Strait and the west end of Guemes Channel.

A number of current meter records are available throughout Rosario Strait and its attached bays including Guemes Channel and Fidalgo Bay. The net current vectors indicate the direction and strength of the net water transport at three depths. Measurements within Rosario Strait have shown it is shallow enough to not have normal landward movement of deeper waters, but instead is dominated by southward net movement at all depths. The apparent net flow within Guemes Channel is westward into Rosario Strait at all depths. Typical net flow velocities are from approximately 5 to 30 cm s\(^{-1}\) (0.1 to 0.6 knots). The deeper ocean water entering the Fidalgo Bay region probably does so via Haro Strait and then returns southward either via Rosario Strait or Samish Bay.

The volume of water associated with the net seaward flow has been calculated from the current meter records within Guemes Channel and the mouth of Fidalgo Bay, and the cross channel sectional areas at the measurement sites. The net seaward transport volume through Guemes Channel is approximately 2,050 m\(^3\) s\(^{-1}\) (ref).

Tidal currents within Guemes Channel are strong, reaching average speeds of 0.9 and 2.1 knots on flood and ebb tides, respectively (National Ocean Survey Tidal Current Tables 1995). Maximum current speeds may reach close to 4 knots in the middle of the channel during large tide ranges.

Insufficient measurements are reported from within Fidalgo Bay to assess either the net circulation or tidal current strengths. Visual observations, plus drift stick and drogue trajectories presented in Sylvester (1958) and Consultative Marine Research and Development Company (1980) provide some insight to movement of water within the bay.

In general, strong flood tides passing through Guemes Channel begin to spread out after passing Cap Sante. Those headed east split when reaching Hat Island, heading either north or southwest into Padilla Bay. Deeper waters stay within the deep channel headed north. After passing Cap Sante, a portion of the surface flow rotates southward into
Fidalgo Bay. A large clockwise rotating eddy is formed to the east and south of Cap Sante during floods, causing a northward directed current along its eastern face.

Ebb currents leaving Fidalgo and Padilla bays, and headed south from Samish Bay, join west of Hat Island. A convergence zone where surface debris collects is often located south to southwest of Hat Island during ebb. A small counterclockwise eddy probably exists during ebb just north of Cap Sante due to the water leaving Fidalgo Bay. A much larger clockwise rotating eddy probably exists west of Southeast Point on Guemes Island during ebb, as well. On both strong flood and ebb currents, back eddies along both shorelines have been noted, especially shoreside of piers.

Drogue trajectories have shown movement of water during ebb from the March Point piers almost directly northwestward toward Cap Sante; however, the current is normally swift enough to preclude grounding of the drogues on Cap Sante. Drogue and drift stick observations available within the bay (e.g., Collias and Loehr 19xx) are of such short duration and areal extent, that they do not contribute greatly to an understanding of tidal circulation patterns within the bay. In general, due to the bay's very shallow depths, water entering and exiting the bay will first follow or be drawn to the deeper channels. Once filled, and during slack tides, surface water movement will be primarily wind driven, with northerly winds tending to push the surface waters towards the shorelines.

The recorded movement of oil spilled at the Texaco refinery pier on April 26, 1971 can assist in understanding how floatable pollutants might move through the study area. The oil moved northward around Guemes Island, then via Bellingham Channel into Rosario Strait, as well as westward through Guemes Channel directly. It was not recorded as having entered Fidalgo Bay significantly. Within one day it had reached to west of Smith Island and into San Juan Channel between San Juan and Lopez Islands.

Waves. Fidalgo Bay is open primarily to north winds, and to southerly winds which first travel up Skagit Bay and over land. Guemes Channel is protected by land from the north and south, but open to westerly winds in particular. Fetch distances in Fidalgo Bay are generally short for either westerly, easterly, or southerly winds, so wave heights in general should be largest from northerly winds. Ocean swells passing through the Strait of Juan de Fuca generally do not reach into Guemes Channel due to the offset of the channel northward from the end of the strait.

Water Quality

Previous measurements of water properties in Guemes Channel and Fidalgo Bay are limited, especially within the bay. Those data reviewed showed the bay to have vertically well mixed water with typical Puget Sound temperatures, salinity, pH, and dissolved oxygen. Because of the large tidal exchange of water, low dissolved oxygen conditions are not likely to occur.

Additional water quality type measurements -- such as for fecal coliform (on beaches) and paralytic shellfish poisoning (PSP or red tide) -- have not been obtained or reviewed.
at this time; additional contact with the appropriate agencies is planned to identify relevant data.

**Sediment Quality**

Sediment chemistry data for the area in and around Fidalgo Bay were obtained from the Department of Ecology's (Ecology) SEDQUAL database. Of the 49 samples retrieved from the database, 48 samples reported values for chemical compounds that could be compared to the Sediment Management Standards (SMS, WAC 173-204). Six of the samples are reported to be intertidal and 42 are subtidal (Figure 5). All sediment samples appear to be surface grabs. Ten additional surface grab samples were taken across the Fidalgo Marina and southeast across the face of the former plywood mill by Hart Crowser, Inc. (1996). Results from sediment surveys are described in Appendix D. Sampling locations are shown on Figure 7.

Sediment quality throughout the majority of the planning area appears to be relatively good compared to many developed areas. However, some exceedences of SMS and/or Puget Sound Dredged Disposal Analysis (PSDDA) screening levels occur in surface sediments in the vicinity of current or former industrial or maritime activities. The recent testing by Hart Crowser off the old plywood mill and the Fidalgo Marina found no exceedences of the SMS sediment quality standards. Detailed testing under PSDDA protocols is required for any project proposing to dredge material for open-water disposal.

A number of oil spills have occurred over the last 30 years that have affected shorelines of the planning area. Some of these spills occurring in or near the planning area have been carried largely out of the study area by wind and currents. The most significant recent spill impacting shorelines of the Inner Bay subarea and the Southeast Shoreline subarea was the spill originating from a Texaco pump failure on February 22, 1991 (Hoff 1995). Containment of the oil in booms to protect the eelgrass meadow and herring spawning habitat in the northern portion of the Inner Bay led to severe oiling of the saltmarsh fringing the southeast corner of the Inner Bay. Portions of the western shoreline of March Point, including historic surf smelt spawning beaches were also heavily oiled (Penttila 1995). The response to the cleanup of the oiled saltmarsh appeared to have been effective at oil removal with a low level of impact to existing vegetation (Hoff 1995). Hoff reports a rapid weathering of oil from the marsh sediments. The area along March Point where oiled sediment was removed from the upper beach and replaced with clean sand has yet to demonstrate pre-spill levels of surf smelt spawning, however (Penttila 1995).
B. Regional Biological Resources

Biological Habitat Types

The distribution and abundance of biological resources in the Fidalgo Bay planning area are the result of the interactions of the physical, chemical, and biological conditions that define the range of biological habitats present. Habitats in the area range from the deep water habitats of outer Fidalgo Bay and the central portion of Guemes Channel to the salt marsh habitats of the southern fringe of the inner bay that are only inundated by the highest of tides. In between these extremes lie a number of relatively distinct intertidal and shallow subtidal habitat types. Subtidal habitats include mud bottoms with varying amounts of sand (in low energy areas), gravel or cobble substrates (in high energy areas), and hard bottom areas, both natural and man-made.

Large areas of mud and sand bottom between the lower intertidal zone (+1 or +2 ft MLLW) and about -18 ft MLLW (in the channel) to -12 ft MLLW (in the bay) support often lush growths of eelgrass (Zostera marina and Z. japonica). Often a variety of macroalgae grow in close association with the eelgrass. Other areas in the same depth range but with at least scattered hard substrates support dense growths of macroalgae, often dominated by laminarian kelps. Known distribution of eelgrass, macroalgae, and salt marsh habitats are shown on Figure 8.

Intertidal habitats in the planning area also include mud, sand, and gravel/cobble substrates as well as limited areas of natural bedrock (e.g., Cap Sante head) and artificial hard substrates such as pilings and riprap. Hard substrates below about +6 ft MLLW often support dense growths of macroalgae dominated by the perennial rockweed Fucus gardneri and unconsolidated sand and mud habitats support annual growths of green algae such as Ulva spp. and Enteromorpha spp.

The following sections summarize known information on the distribution and abundance of habitat types in the planning area, and on use of these habitats by species of interest. Species of interest are those generally recognized to be of greatest commercial, recreational, aesthetic and ecological interest in the area.

1. Eelgrass

Eelgrass is instrumental in creating one of the most widespread and ecologically important habitats in the planning area. The many ecological functions of eelgrass, recently summarized by Simenstad (1994), include the following:

- *organic carbon production* for local consumption by grazers (e.g., brandt, pintail, gadwall; Phillips 1984).

- *organic carbon export* to adjacent, mostly subtidal habitats.
Note: This map needed to be reviewed in conjunction with the accompanying text.
A field survey was done in the area outlined.

All other areas were mapped by aerial photo interpretation. The probability of correct assignment by cover type (vegetation vs. non-vegetation) is about 95%.

The probability of correct assignment by target (eelgrass vs. mud) is about 90%.

The probability of correct assignment by density is also about 90%. Density classes are based solely on photo interpretation.

Marine Vegetation in Fidalgo Bay
- **substrate** for growth of diatoms and epiphytic algae that in turn support a variety of crustacean and molluscan grazers; substrate for spawning of Pacific herring.

- **shelter** from predation for small fish and invertebrates; combination of shelter and abundance of prey creates high quality rearing habitat for many species including juvenile salmon and crab; and

- **amelioration of habitat conditions**, e.g., higher dissolved oxygen, cooler water temperatures and shading by blades may improve physiological conditions for eelgrass associated species, especially during summer low tides.

Eelgrass within the Fidalgo Bay planning area provides these functions and is a major contributor to the overall productivity of the area's marine ecosystem. As noted in a recent symposium (Wyllie-Echeverria et al. 1994), much remains to be learned about the factors affecting the contribution and full significance of eelgrass to regional ecosystems.

In the Fidalgo Bay planning area, eelgrass is found over a well defined depth range with the lower limit dictated by the penetration of light and the upper limit dictated by thermal stress or desiccation during low tide. In some areas, the upper limit is also influenced by a change in beach slope and substrate from sand or mud to a coarser gravel/cobble beach as often occurs in the Puget Sound region. In the clearer waters of Guemes Channel, eelgrass can be found as deep as -18 ft MLLW (Mangrove Systems 1984, Pentec 1992) while in the more turbid waters of Fidalgo Bay, the lower limit of eelgrass growth is about -12 ft MLLW (Pentec 1994a, b).

The potential upper limit of eelgrass growth is similar throughout the planning area; local upper limits are typically set by changes in substrate with growth higher on the moist mudflats of the Inner Bay than on the coarser beaches along the east side of the bay. Partial shading actually seems to allow eelgrass to survive at higher elevations (e.g., to +2 ft MLLW) on some beaches along Guemes Channel than would be expected in full sunlight. Often, the introduced species, _Z. japonica_, occurs at higher elevations on beaches than does the native _Z. marina_.

No complete surveys of eelgrass distribution have been conducted along Guemes Channel. However, a series of independent studies conducted over the last decade confirm the general pattern shown on Figure 8. Prior to disturbance by human activities, the entire south shoreline of the channel between the rock outcrops at Cap Sante and at Shannon Point may have had a near-continuous band of eelgrass between about +1 ft and -18 ft MLLW. Today, that band is broken intermittently where disturbed by shading from overwater structures, filling or dredging to unsuitable depths, or other physical changes or repeated disturbance (e.g., by propeller scour).

In Fidalgo Bay, eelgrass forms more or less continuous meadows over the broad flats of the central and inner bay. These meadows are interrupted by the natural drainage channel that winds from the inner bay to deep water near the Texaco dock and by dredged channels to the Cap Sante, Anacortes and Fidalgo Bay marinas. Other areas lacking
eelgrass include deeper areas of historic log raft storage in the central bay, a short dredged channel into the MJB property south of South Park, and some disturbed areas adjacent to the dredged channels and in the vicinity of two former forest products mills (Figure 5). Eelgrass has not been documented in the dredged areas within the marinas but has been delineated in the undredged eastern portions of Cap Sante Marina (Pentec 1994b).

In some portions of the Fidalgo Bay eelgrass meadows, plants are distributed more or less continuously with few breaks in the continuity of the patches; this condition seems to occur primarily in areas of better water circulation. In a majority of the bay, the eelgrass meadow is broken into a series of more or less distinct patches or consists of relatively lower plant densities (shown on Figure 8). Based on classical “edge effect” theory (e.g., Aldo and Leopold 1933), these latter areas may actually have greater ecological value for many functions than do the continuous meadow areas; motile organisms can benefit by moving into and out of the eelgrass to fulfill their various ecological needs for food, reproduction, and shelter.

2. Macroalgae

Like eelgrass, macroalgae are widely distributed throughout the planning area and are of major importance in structuring biological habitats and contributing to the high biological productivity of the area. Macroalgae provide all of the ecological functions listed above for eelgrass (carbon production and export, substrate, shelter, and habitat amelioration). The assemblage of macroalgae present in the study area is composed of many species and types adapted to a variety of habitats and depth ranges; as a result, macroalgae are more broadly distributed both vertically and laterally than eelgrass which is represented by only two species in the planning area.

Annual macroalgae (Enteromorpha, Bangia, Prasiola spp.) can be found on natural rock or riprap as high as about +7 or +8 ft MLLW during late winter and spring. Desiccation during the late spring and summer places the upper limits of algal distribution somewhat lower on the beach. On hard substrates such as rock or pilings, the most visible upper intertidal species is rockweed (Fucus gardneri), a perennial that modifies the microhabitat to support a variety of small invertebrates, some of which (e.g., amphipods) are important contributors to the prey base available for fish foraging in the intertidal zone during high tides. On sand or mud beaches that retain moisture during low tides, the uppermost zones may be occupied by annual green algae, primarily the sea lettuce, Ulva spp., and Enteromorpha spp. Mats of these species extend down slope through the eelgrass beds; fall storms often create thick deposits of these species (along with eelgrass) at the upper intertidal drift zone where their decay releases carbon and nutrients back to the marine environment.

Hard substrates in the lower intertidal and shallow subtidal zone support considerable growths of brown algae (predominantly the kelps, Laminaria spp.) and a number of species of red algae. In Fidalgo Bay, the red alga Gracilaria pacifica is frequently found
in and adjacent to the eelgrass beds and, along with eelgrass, is widely used as a substrate for spawn deposition by herring (WDFW 1995, Pentec 1993).

Photosynthetic pigments in red algae utilize light more efficiently than do pigments on other marine plants; thus, red algae are commonly found at greater depths than eelgrass or other macroalgae. AquaTec (1993) reported Laminaria and Botryoglossum (a red alga) to depths in excess of -20 ft MLLW at the Shannon Point Facility in central Guemes Channel.

No complete surveys of macroalgal distribution have been conducted along Guemes Channel or in Fidalgo Bay. A series of independent studies conducted over the last decade confirm the general pattern indicated on Figure 5; this distribution must be considered less certain, especially in Fidalgo Bay, than the eelgrass distribution shown in Figure 5. Prior to disturbance by human activities, gravel and cobble beach areas along the south shoreline of Guemes Channel may have supported a band of rockweed below about +6 ft MLLW. Today, that band is broken intermittently where disturbed by shading from overwater structures, filling or dredging to unsuitable depths. Artificial substrates placed in the water typically support rockweed dominated assemblages in this depth range, however.

Subtidally, areas with natural cobble or rock substrates support laminarian kelps and associated red and green algal understory species. Limited beds of bull kelp, Nereocystis leutkeana, are reported on rocky bottoms just east of Wyman’s Marina in the eastern channel (Pentec 1994b), and are probable elsewhere around Cap Sante Head and along the rocky shores of Shannon Point.

In Fidalgo Bay, algae occur both above, in, and below the eelgrass meadows. In addition to the green algae described above growing on the upper beaches, lower intertidal areas with gravel or cobble substrates support beds of the kelp Laminaria saccharina. Along the upper margin of the eelgrass distribution, there is often an intermingling of eelgrass, kelp, and sea lettuce leading to the uncertainty in the distribution depicted based on aerial photography in Figure 8.

3. Saltmarsh

Although the planning area lacks larger expanses of tidal saltmarsh similar to those found at the heads of Padilla and Skagit Bays, a few limited areas of marsh occur around the head of the Inner Bay and along the west side of March Point at Crandall Spit. The marsh at the head of Fidalgo Bay is dominated by pickleweed and saltgrass (see Inner Bay subarea description below) and was affected by the 1991 Texaco oil spill.

4. Invertebrates

There are literally hundreds of species of macroinvertebrates that contribute to the overall productivity of the planning area (e.g., Sylvester and Clogston 1958) and nearby areas with similar habitat types (e.g., Houghton 1973). It can be assumed that each of these
species is involved in some way in the complex trophic pathways by which energy is converted from the primary producers to higher organisms including those species consumed by, or otherwise important to humans. Only this latter category of invertebrates (those of direct importance to humans) is considered in this subsection. However, epibenthic crustacea species such as harpacticoid copepods, gammarid amphipods, tanaids and cumaceans are important prey for many juvenile marine fish species including but not limited to juvenile salmonids, herring, smelt, sand lance, rock fish, lingcod and flatfish species.

**Dungeness Crab**

Dungeness crab, *Cancer magister*, are widespread throughout the planning area and are expected to use all habitats below about +2 ft MLLW except perhaps for bedrock outcrops and other hard bottom areas where the red rock crab (*C. productus*) is expected to be more abundant. (Because of this widespread distribution and because there has been no area-wide survey, no mapping is provided for crab.)

Dungeness crab reportedly mate in shallow waters in the spring and early summer and (Hoopes 1973). At Ship Harbor ovigerous (egg-bearing) females were very abundant from December through March (Armstrong et al. 1986). Juvenile crab settle from their planktonic larval form in the summer in Puget Sound and typically take up residence in areas providing some shelter. Preferred areas for settlement can include eelgrass beds, macroalgal beds, and areas with an abundance of broken shell material (such as around pilings; e.g., Dumbauld 1994). Young-of-the-year crab were very abundant in intertidal and shallow subtidal eelgrass beds around March Point in surveys by Armstrong et al. (1986). Armstrong et al. found that older crab, which are less dependent on the protection from predation offered by the eelgrass, tended to be more abundant in the deeper channels where infaunal prey may be more abundant.

**Hardshelled Clams**

Several species of hardshelled clams, including the butter clam, *Saxidomus giganteus*, native littleneck *Protothaca staminea*, Japanese littleneck *Tapes philippinarum*, horse clam, *Tresus* spp., and the cockle, *Clinocardium nuttali* are common along the lower shorelines of the planning area, especially those containing a significant amount of gravel mixed with silt and mud (Sylvester and Clogston 1958). This habitat type is common along Guemes Channel, Weaverling Spit and the western shore of March Point. See Figure 9. The softshelled clam, *Mya arenaria*, was also found at higher intertidal elevations. In deeper waters, the geoduck, *Panope generosa*, is probably present in some areas but none were taken in rock dredge sampling at several stations by Sylvester and Clogston.
No comprehensive studies of hardshelled clam distribution or abundance in the planning area were found in the literature search. The Puget Sound Environmental Atlas (PSEP, 1992) shows the distribution of hardshelled clam areas in Fidalgo Bay (Figure 9).

**Oysters**

Fidalgo Bay and Padilla Bay both supported extensive oyster (*Crassostrea gigas*) culture operations in the 1950s (Sylvester and Clogston 1958). These operations died out or moved to more favorable grounds to the north in Samish Bay in the 1960s, and oysters are no longer consistently found in the planning area. However, Penttila (1995) reports that a large spat-fall (recruitment) of oysters occurred in the early 1990s that has again made oysters available on hard substrates in many parts of the bay.

5. **Fish**

Significant fish resources in the Fidalgo Bay planning area include a number of species of salmonids and three species of baitfish. Other species present in the bay, generally of lower concern during permitting decisions, are not discussed in this report.

**Salmon**

One of the most important perceived values of shallow water habitats in the greater Puget Sound area is as a nursery area and migration pathway for juvenile salmonids (trout, salmon, and char) leaving their natal streams. Eelgrass is often cited (e.g., Simenstad et al. 1988) as an especially important habitat feature for providing both shelter and an abundant food supply for smaller juvenile salmon (*Oncorhynchus gorbuscha, O. keta*). Other intertidal and shallow subtidal habitats found in the study area that are likely of great value to juvenile salmon include kelp beds and low energy mixed gravel and cobble beaches, both of which also offer high productivity and shelter from predation. Broader mud or muddy sand flats without eelgrass may also support an abundant prey base but seem to be less directly utilized by juvenile salmon since they lack cover. Juvenile salmon seem to follow the water’s edge in such areas and are less likely to be found in the middle of the flats (Pentec 1996).

As juvenile salmon grow, they become less dependent on shoreline areas and are more likely to be found in open water habitats, especially over eelgrass beds. Thus, the importance of shoreline habitats for juvenile salmon is thought to decrease with distance from river mouths.

There have been no studies of juvenile salmonid distribution and abundance in the study area. However, it may be assumed, based on studies in Skagit Bay and the Swinomish Channel (Stober et al. 1973) and elsewhere throughout the greater Puget Sound region (e.g., Miller et al. 1976), that salmon will be present during the major spring outmigrations from the Skagit and Samish rivers. Peak abundances are expected from April through June but some salmon may remain in the planning area throughout the year.
Some adult salmon returning to the Skagit and Samish rivers may pass through the study area but little sport or commercial harvest occurs there.

**Pacific Herring**

Pacific herring, *Clupea pallasi*, is an important baitfish and commercial fish in the northern Puget Sound region. The life history of herring in the Fidalgo Bay planning area has been the subject of study by the WDFW Baitfish Unit since the early 1970s. The recent summary of this work and the general state of knowledge of planning area herring stocks by Penttila (1995) is the source of information provided in this section, unless otherwise referenced.

Adult herring are reported to congregate in the area to the east of Guemes and Hat Island before spawning. See Figure 10. Small groups apparently move south into Fidalgo Bay intermittently as each group matures. Spawning is more or less continuous from early February into April and deposition of spawn is consistently reported as “very light” to “trace” in the WDFW rating system. Penttila (1995) maintains that this low intensity of spawning activity is common to other spawning stocks in the Puget Sound basin and does not connote a lesser quality or importance of this spawning habitat on a per acre basis; no data are available to support this contention.

Herring deposit eggs somewhat indiscriminately on eelgrass or algae (predominantly the red alga *Gracilaria pacifica*) in Fidalgo Bay. In other parts of the species range, a wide variety of other algal species and substrates, including some artificially introduced materials, are used (ref). Deposition occurs throughout the bay at depths between about -12 ft MLLW and MLLW. No spawning is reported from Guemes Channel and none is reported in the large eelgrass beds of central and eastern Padilla Bay.

Eggs hatch in about 2 weeks and many larvae appear to remain in Fidalgo Bay for several months. After their first summer, it is uncertain where the maturing herring go to complete their growth and maturation before returning to spawn 3 to 4 years later.

Penttila (1995) notes the significant loss of eelgrass and of herring spawning habitat over the last century that has resulted primarily from dredging and filling of shoreline areas of Fidalgo Bay, especially the Northwest Fidalgo Bay shoreline, over the last century. Lesser areas of eelgrass and algae have been eliminated by shading from overwater structures such as the March Point piers and the Fidalgo Bay railroad trestle. Because of these past losses and because of the uncertainty regarding factors limiting the Fidalgo Bay herring population, Penttila (1995) and the WDFW consider protection of herring spawning habitat to be a critical resource issue statewide and in Fidalgo Bay.
Surf Smelt

Like herring, surf smelt, Hypomesus pretiosus, is an important forage fish in the greater Puget Sound area. The life history of surf smelt in the Fidalgo Bay planning area has been the subject of considerable study by the WDFW Baitfish Unit since the early 1970s. The recent summary of this work and the general state of knowledge of planning area smelt stocks by Penttila (1995) is the source of information provided in this section, unless otherwise referenced.

Surf smelt, possibly from Fidalgo Bay spawning populations, are the subject of a vigorous recreational jig fishery in La Conner during the winter months and a dipnet fishery has recently developed on summer spawners along the March Point shoreline (Penttila 1995).

Surf smelt spawn at middle to upper intertidal elevations on coarse sandy beaches. See Figure 11. Eggs are most often found in or near high tide swash lines of pea gravel, coarse sand, and shell fragments. Spawning was once thought to occur primarily in late fall and winter but has recently been shown in some areas, including Fidalgo Bay, to occur year round. As with the herring little is known of the larval and post larval life history of surf smelt in Fidalgo Bay. Juvenile surf smelt were abundant in the ichyoplankton of Skagit Bay during the spring and early summer (Blackburn 1973) and were the most abundant species taken (47 mm average length) on sandy beaches adjacent to broad eelgrass beds in Port Gardner in April and May beach seine sampling (Pentec 1994c).

Penttila (1995) presents evidence that shading of the high intertidal zone as occurs along many undisturbed shorelines around Puget Sound is important for prevention of desiccation of surf smelt spawn, especially during the late spring and summer. In addition to the loss of this shading as a result of shoreline development, Penttilla notes the loss of the upper intertidal surf smelt spawning zone that results from armoring of the upper shoreline as has occurred along much of the Northwest shoreline of Fidalgo Bay and the eastern shoreline of Guemes Channel. Historic and recently documented areas of surf smelt spawning in the planning area (Figure 7) include most beach segments in Fidalgo Bay that retain the preferred sand, fine gravel, and shell habitat type at upper intertidal levels. Isolated spawning areas remain along the northeast shore of Fidalgo Bay (including some shorelines of artificial fills) and along the south shore of Guemes Channel.

Construction of marina breakwaters, although not directly destroying spawning habitat, is considered to alter the wave energy regime along inner shorelines to the point where surf smelt spawning habitat will probably be compromised (Pentilla, 1995).
Sand Lance

The Pacific sand lance, *Ammodytes hexapteris*, has recently (1989) been discovered by WDFW to spawn on upper intertidal beaches (from about +5 ft MLLW to mean higher high water, MHHW) in much the same manner and in many of the same areas and times as surf smelt (Penttila 1995). In addition to the pea gravel, sand, and shell habitat used by surf smelt, sand lance also spawn in pure soft sand; in Fidalgo Bay spawning is reported primarily in the former habitat type. Spawning has been documented at March Point east of the Shell dock, on the inside of Crandall spit near the base of the Texaco dock, at the eastern end of the railroad trestle, and at the eastern tip of Weaverling Spit (Figure 12). Spawning occurs from early November through mid-February with eggs present into March. Large numbers of sand lance larvae are present in the plankton through Fidalgo Bay and adjacent waters in late winter (Penttila 1995). Young-of-the-year remain in Fidalgo Bay throughout the summer but the remainder of their life history is unknown. Sand lance were one of the most abundant species of ichthyoplankton in Skagit Bay in the winter (Blackburn 1973).

Sand lance spawning habitat in Fidalgo Bay is vulnerable to the same habitat disturbances as is surf smelt habitat.

6. Birds and Mammals

Several bald eagle nesting territories occur within the planning area, primarily near Fidalgo Bay and West Guemes Channel. See Figure 13. There is a great blue heron nesting colony on March Point. Several osprey nesting territories also occur in the Anacortes area, but these are located more than one mile inland. Pigeon guillemots are reported to nest in the east littoral section of Guemes Channel along the Anacortes waterfront as well as on Huckleberry and Saddlebag islands, outside the study area (Speich and Wahl 1987). Numerous waterfowl and shorebirds use the area, primarily in the winter and during migration. The area supports abundant brant, which feed on the eelgrass.

Harbor seals are common in the study area, and haul out on log rafts as well as on the southwest shoreline of Fidalgo Bay. See Figure 13.

7. Commercial, Recreational and Treaty Fisheries

Commercial fisheries in the Fidalgo Bay planning area are limited to Dungeness crab harvest, primarily in the channel areas of Fidalgo Bay and occasional openings of a salmon fishery in the western end of Guemes Channel.

Recreational fisheries are somewhat more diverse than commercial activity in the planning area with intensive Dungeness crab fisheries throughout Fidalgo Bay, clam and perhaps oyster harvesting along the shorelines of March Point, smelt dip netting along
March Point and near the old plywood mill on the west shoreline of the bay, and limited salmon and bottom fishing throughout the area.

The Skagit System Cooperative (Wasserman 1996) has noted treaty commercial and subsistence harvests of herring in the extreme eastern portions of the planning area and extending north to the holding areas for pre-spawning herring east of Guemes Island. Treaty harvests of clams and oysters also occur along the eastern shoreline of Fidalgo Bay and a pot fishery for Dungeness crab is practiced throughout deeper waters of the central and outer Fidalgo Bay subareas.

8. Upland Wetlands

Identified wetlands in the planning area are shown on maps on file with the City of Anacortes. Most are located adjacent more than 200 feet from the shoreline adjacent to Guemes channel.

C. Sub-Area Descriptions of Resources

For the purpose of description, and to assist in defining conservation and development scenarios later in the bay-wide planning process, the Fidalgo Bay planning area has been divided into nine subareas on the basis of physical, hydrographic, biological, and land use characteristics. (Subareas are shown on Figure 1.) The distinguishing resource characteristics of these subareas are described below.

1. Guemes Channel

Central Channel

The Central Channel portion of Guemes Channel is defined as the waters with depths greater than -20 ft MLLW. Currents are swift and water quality is generally good. This area is an important migratory pathway for salmon, perhaps for herring and other forage fish, and for Dungeness crab. Armstrong (1986) has shown high densities of Dungeness crab in the deeper waters of Guemes Channel although ovigerous females were mostly found in water shallower than -12 ft.

West Channel Littoral

The West Channel Littoral subarea includes areas shallower than -20 ft MLLW and west of the Shannon Point Marine facility. This subarea is characterized by relatively large areas of undeveloped shorelines interspersed with a limited number of industrial sites that have altered habitats by dredging, filling or overwater structures. Largest of these is the Washington State Ferries terminal at the western end of the area.

In this subarea, the pre-development band of eelgrass between about MLLW and -18 ft is relatively intact and macroalgal beds are widespread. Bull kelp beds are found just offshore along the extreme western portion of the area, west of the ferry dock. The most
unique and critical resource use known in this subarea is the large concentration of fertile female Dungeness crab documented by Armstrong et al. (1984, 1985, 1986) in the area just east of the ferry dock (see species description above). This concentration is of a magnitude not documented anywhere else in Puget Sound and may represent a large proportion of the crab recruitment to the planning area and adjacent waters. The shoreline of this subarea is expected to be used to some degree as a migratory pathway for juvenile salmonids en route to the ocean from the Skagit and Samish rivers.

**East Channel Littoral**

The East Channel Littoral subarea was probably similar to the West Channel subarea in its pre-development state. However, this subarea has been modified significantly to provide for much of the maritime commercial development of the City of Anacortes and the deep-water berths of the Port of Anacortes and Dakota Creek Shipyards. Modifications in the form of dredging, filling, and shading by overwater structures have resulted in several interruptions in the band of eelgrass between MLLW and -18 ft MLLW. Industrial structures and shoreline protection features (riprap and bulkheads) have created significant surface areas of artificial hard substrates that would otherwise be rare in this subarea. These hard substrates are colonized by a wide range of algae and invertebrates that increase local productivity and diversity (Kozloff 1975). Barnacle (Balanomorpha) and mussel (*Mytilus trossulus*) shells sloughed from these structures may enhance conditions for settlement of Dungeness crab larvae (e.g., Dumbauld 1994) and the structures themselves harbor a unique assemblage of algae, fish, and invertebrates.

Eelgrass is present in virtually all undisturbed areas within the MLLW to -18 ft MLLW depth range. No studies have been found of juvenile salmon use of shorelines in this subarea.

2. **Outer Fidalgo Bay**

**Deep Water**

The Outer Fidalgo Bay (deep-water) subarea is characterized by waters deeper than about -12 ft MLLW, the lower limit of growth of eelgrass in Fidalgo Bay. Industrial development is limited to the outer portions of the Texaco and Shell Oil docks associated upland facilities. Limited dredging has occurred around the oil docks.

Ecological functions provided in this subarea include migrations of salmon, herring, surf smelt, and sand lance to and from spawning areas and extensive rearing of Dungeness crab. Surface waters are also used for resting by large numbers of waterfowl during the winter, especially during low tides when more protected waters of Fidalgo and Padilla bays are not available.
Cap Sante Littoral

The shoreline of Cap Sante Head, roughly from Wyman's Marina to the Cap Sante Marina north breakwater, is predominantly native bedrock and supports an intertidal and shallow subtidal community that differs greatly from that at similar elevations inside Fidalgo Bay. Attached macroalgal communities are well developed and bull kelp beds occur in somewhat deeper water offshore. Shorelines in this subarea have not been altered significantly by development to date.

3. Fidalgo Bay

Central Bay

The Central Bay subarea includes the shallow subtidal waters of the central portion of Fidalgo Bay. Depths are relatively uniform and gradients are low except where cut by dredged channels and the natural drainage of the bay. The boundary of the west side of the Central Bay subarea is set by the outer harbor line. On the east side of the Central Bay subarea, the boundary is approximately set by level of extreme low water. Thus, the Central Bay subarea includes the natural channel draining the Inner Bay but not the shallow areas to the east.

Virtually all of this subarea -- with the exception of the channels and several spots in the east-central portion -- supports eelgrass meadows with associated macroalgae and is utilized for herring spawning.

Other resources in the Central Bay include an abundance of waterfowl of many species and a wide variety of fish and invertebrates, including Dungeness crab rearing (e.g., Armstrong 1986).

Dredging of channels through the western portion of the Central Bay subarea was cited by Penttila (1995) as resulting in the loss of eelgrass and herring spawning habitat.

Northwest Littoral

The Northwest Littoral portion of Fidalgo Bay, like the eastern shoreline of Guemes Channel, has been greatly altered by dredging, filling, and by overwater construction that supports much of the medium and small boat activity for which Anacortes is known. Filling of shorelines and dredging of channels and marinas over the years has resulted in loss of nearshore habitat for a variety of species including eelgrass, herring, surf smelt, juvenile salmon, and Dungeness crab.

Some eelgrass and macroalgae grows in areas inside the Cap Sante Marina (Pentec 1994b) but herring spawn deposition within the marina has not been documented. The marinas likely support a significant numbers of Dungeness crab.
Eelgrass and macroalgae in areas close to the shoreline both north and south of the Anacortes Marina support herring spawning similar in timing and intensity to that elsewhere in the bay (Figure 6 and Pentec 1993). This suggests that spawning also once occurred in the area now occupied by the marina. Penttila (1995) also suggests that the natural shoreline would have supported surf smelt spawning; most of this spawning area has been destroyed by marina and breakwater construction and limited pockets of remaining sand and gravel beach still support surf smelt spawning (Figure 11).

**Southwest Littoral**

The Southwest Littoral subarea has been relatively unaffected by development to date except for some shoreline protection of upper beaches. Lower intertidal shores in this subarea support eelgrass (Figure 8) and herring spawning activity (Figure 10). The north shore of Weaverling Spit has a gravel sand mid beach that supports some of the better hardshelled clam populations in the bay. The upper beach along the spit and northward along the entire subarea is a documented surf smelt spawning area (Figure 11). Finally, the tip of Weaverling Spit is one of the few documented areas of sand lance spawning in the planning area (Figure 12).

**Southeast Littoral**

Like the Southwest Littoral subarea, the Southeast Littoral subarea is relatively unaffected by development except for armoring of the upper intertidal zone, except on Crandall Spit. The intertidal portion of the subarea is also spanned by the Texaco and Shell docks which shade intertidal and subtidal vegetation. An additional resource and habitat in this subarea is the salt marsh area on Crandall Spit. This subarea is also rich in all the same resources identified in the Southwest subarea. Historically, a portion of the shoreline was used for oyster culture (Sylvester and Clogston 1958). An area of former oyster culture (from pictures in ref Stockdale) remains visible in the 1993 photograph that was used as a basis for much of the eelgrass map provided in Figure 8.

Some of this subarea, including known surf smelt spawning habitat just north of the east end of the railroad grade was oiled during the 1991 Texaco oil spill. Remediation involved removal of oiled sediments and replacement with similar sized materials. Successful use of these replaced materials by spawning surf smelt has not yet been documented.

**Inner Bay**

The Inner Bay subarea includes all of the southern portion of the bay south of the railroad grade and trestle. Only a limited portion of this channel draining this subarea is subtidal and the majority of the subarea is comprised of broad mudflats crossed by shallow meandering drainage channels. Lower elevations in the northern portion of the subarea support eelgrass and herring spawning (Figures 8 and 10). The middle intertidal elevations support annual growths of green algae (primarily sea lettuce) and the upper intertidal fringe along the southern and western shore is a salt marsh dominated by
pickleweed, *Salicornia pacifica* and a saltgrass, *Distichlis spicata*. The eastern shore has a narrow fringe of salt marsh vegetation in some areas but is mostly riprapped along the road. The eastern and southern shoreline of the subarea, including the salt marsh in the southeast corner of the bay were heavily oiled during the 1991 spill. Cleanup measures taken were relatively non-invasive (hydraulic flushing and suction pumping to trucks) and recovery of the salt marsh vegetation has been relatively good (Hoff et al. 1995).

Except for the railroad crossing, the riprapping on the east side and the oil spill, this subarea has been relatively unaffected by development. Penttila (1995) notes that there are no significant sources of sediment entering the subarea; reduced wave and current energy could allow a greater proportion of the water born sediment entering the subarea from the Central Bay subarea to settle out of the water column.

In addition to the herring spawning on eelgrass in the northern portion of the subarea, the major resource use of the area may be by shorebirds and waterfowl especially during the fall through spring period. Ghost shrimp, *Callianassa* spp., and soft shelled clams, *Mya arenaria*, may be abundant on the mudflats at middle intertidal elevations but no data are available to confirm this.
C. Sediment Quality

The earliest survey included in the SEDQUAL database was the 1988 sediment monitoring survey for Texaco Inc.'s Anacortes Refinery Class 2 permit. All sampling sites were subtidal. Two sampling sites were located near the Texaco tanker berth and one sample site was located near Hat Island. The samples did not show any exceedences of the SMS levels, but detection limits for the chlorinated hydrocarbons, butyl benzyl phthalate, several of the phenol compounds, and several of the miscellaneous extractables were above the SMS levels.

The Port Townsend & Cap Sante Marinas Study conducted in 1988 by the Environmental Protection Agency (EPA) collected subtidal grab samples from within the marina and the area outside of the marina breakwater. Two stations within the marina contained levels of fluoranthene in excess of the SMS levels. Three stations within the marina and one located near the breakwater exceeded the SMS level for chrysene. One station located outside of the marina exceeded the SMS level for dibenzo(a,h)anthracene and benzo(g,h,i)perylene.

A single subtidal station sampled during the Swinomish Channel Maintenance dredging in 1988 was located within the study area. The sample site was within the Swinomish channel in Padilla Bay. No chemistry exceedences were found, but detection limits for the chlorinated hydrocarbons, butyl benzyl phthalate, and benzyl alcohol were above the SMS levels.

A sediment monitoring survey for Shell Oil Inc.'s Anacortes Refinery Class 2 permit was conducted in 1989. The sample station was located off the former Shell Oil refinery tanker berth. The samples did not show any exceedences of the SMS levels, but detection limits for the chlorinated hydrocarbons, butyl benzyl phthalate, benzyl alcohol, and hexachlorobutadiene were above the SMS levels.

The Puget Sound Ambient Monitoring Program conducted sampling at Station 71 in the middle of Fidalgo Bay in 1990 and 1991. No chemistry exceedences of the SMS levels were found, but detection limits for 1,2,4-trichlorobenzene, hexachlorobenzene, and benzyl alcohol were above the SMS levels.

In 1990 sampling was done for the Anchor Cove Marina dredging project on the south side of Guemes Channel. The sample site was identified as an intertidal station but the elevation was reported in the SEDQUAL database as -7 ft. Chemistry showed no exceedence of the SMS level, but the detection limit for hexachlorobenzene was above the SMS level.

The Washington Department of Natural Resources (DNR) Aquatic Lands Sediment Quality Reconnaissance Survey in 1991 sampled two sites along the south side of the Guemes Channel, one site within Cap Sante Marina, and one site south of the marina. All sample sites were subtidal. The sample sites in Guemes Channel showed all chemical levels below the Sediment Management Standards. The detection levels for
hexachlorobenzene reported for the sample sites in Guemes Channel were equal to or above the SMS levels. The station within the marina showed no exceedences of the SMS chemical levels. The sample site south of the marina showed elevated levels of several chemicals. Levels of fluoranthene, benzo(a)anthracene, chrysene, and total HPAH were above the SMS levels. Detection limits for the chlorinated hydrocarbons were also above the SMS levels.

In 1992 Texaco Anacortes conducted a National Pollution Discharge Elimination System (NPDES) sediment survey at subtidal sample sites near its tanker berth. No chemistry exceedences were found, but detection limits for cadmium, chlorinated hydrocarbons, butyl benzyl phthalate, 2,4-dimethylphenol, and hexachlorobutadiene were above the SMS levels.

In 1995 sediment sampling was done at five intertidal and seven subtidal stations off the Custom Plywood Mill property. All sample sites showed chemical levels below the SMS levels.

Additional chemical data from sources not included in the SEDQUAL database are available (Anvil 1979 and 1982, Hart Crowser 1989, Parametrix 1977, Laucks 1978 and 1980). Surface grabs and core samples were collected from sample sites within the intertidal and subtidal areas of the Cap Sante Marina, the nearby bay, and from test pits on the upland sites south of the marina. The utility of these reports is questionable based on the testing methods used and problems with the station location control.

Samples collected in 1977 (Parametrix 1977), 1978 (Laucks 1978), and 1980 (Laucks 1980) were tested for the conventional sediment parameters of total solids, chemical oxygen demand, total volatile solids, oil and grease, and sulfide. Accurate site locations are not available. Additional tests included elutriate tests for zinc, mercury, lead, and copper. Boring logs from a subsurface soils investigation conducted by Anvil Corporation (1979) from the area around the Scott Paper property are available.

In 1982 Anvil Corporation (1982) dug test pits in the upland areas south of the Cap Sante Marina and did test borings in the offshore areas southwest of the marina. Boring logs are available for the test pits and offshore boreholes. Conventional sediment parameters were measured for samples from some sites. Elutriate tests for metals were run on surface and subsurface core segments. EP toxicity testing for metals and some pesticides was run on composited surface cores.

Hart Crowser (1989), collected soil and sediment samples from the Scott Paper property and the bay offshore of the property. Surface samples were collected from the intertidal zone and from approximately 100 ft offshore of the site and composited. Accurate site locations are not available. Comparison of the sediment chemistry results with the Puget Sound Dredge Disposal Analysis (PSDDA) sediment standards is presented in Table 1-2. The composite contained levels of several metals and polycyclic aromatic hydrocarbons (PAHs) in excess of PSDDA screening levels (SL) but no exceedences of maximum levels (ML). Detection levels for several of the PAH compounds were above the
screening levels. Levels of bis(2-ethylhexyl)phthalate were above the SL. Most of the remaining organic compounds had detection levels above the screening levels and in some cases above the MLs.

Hart Crowser (1995) took surface grabs from 10 stations in lease areas in a band extending southeast from the Fidalgo Marina and offshore in front of the old plywood mill site and in to the central part of Fidalgo Bay. Sampling and analysis were in accordance with Puget Sound Estuary Program protocols and included the top 10 cm of sediment. There were no exceedences of any SMS criteria and no detections of guaiacols or PCBs.
D. SUPPLEMENTAL ENVIRONMENTAL INFORMATION

FIDALGO BAY ENVIRONMENTAL PROFILE MAP AREA CALCULATIONS

Habitat areas mapped by Pentec for inclusion in the Fidalgo Bay Environmental Profile have been read by the City to determine estimated areas (acres) of habitat types within the Fidalgo Bay Plan area. It is recognized that these are estimates, for general planning purposes, since:

- The data gathered as basis for the maps was a combination of aerial photography and direct survey over a number of years;
- The square foot acreage, linear foot measurements were derived from the CAD maps, using AutoCAD.

Given all of the above here is what measurements of the CAD Map data showed for Plan Area (Study Areas 1 - 5 inclusive).

<table>
<thead>
<tr>
<th>Habitat Type</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Marine Vegetation</strong></td>
<td></td>
</tr>
<tr>
<td>Eelgrass/macroalgae mix</td>
<td>60,915,779 sq. ft.</td>
</tr>
<tr>
<td></td>
<td>1,398 acres</td>
</tr>
<tr>
<td>(Includes the eelgrass/macroalgae in sub-area 1 along Guemes Channel and does not include the 55.9 acres of deep spots, north central Fidalgo Bay.)</td>
<td></td>
</tr>
<tr>
<td><strong>Bare Mud, Sand or Sparsely Vegetated or Salt Marsh</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>23,444,734 sq. ft.</td>
</tr>
<tr>
<td></td>
<td>538 acres</td>
</tr>
<tr>
<td><strong>3-Deep, Spots North-Central Fidalgo Bay</strong></td>
<td>2,435,891 sq. ft.</td>
</tr>
<tr>
<td>(assumed not vegetated)</td>
<td>55.92 acres</td>
</tr>
<tr>
<td><strong>Eelgrass along S. Shore of Guemes Channel</strong></td>
<td>1,721,562 sq. ft.</td>
</tr>
<tr>
<td></td>
<td>39.5 acres</td>
</tr>
<tr>
<td><strong>Intertidal area between Eelgrass and Shoreline, S. Shore Guemes Channel</strong></td>
<td>2,704,350 sq. ft.</td>
</tr>
<tr>
<td>(Not included in 538 acre mud/sand above.)</td>
<td>62.08 acres</td>
</tr>
<tr>
<td><strong>Herring Spawn Habitat</strong> *</td>
<td>1,594 - 1,359 acres</td>
</tr>
<tr>
<td><strong>Surf Smelt Beaches</strong></td>
<td>18,877.83 linear ft.</td>
</tr>
<tr>
<td>Subareas 1, 2, 3 = 1,551 linear ft.</td>
<td>3.57 miles</td>
</tr>
<tr>
<td>Subareas 4, 5 = 17,326.8 linear ft. (92%)</td>
<td></td>
</tr>
<tr>
<td>**Sand Lance Beaches **</td>
<td>4,000 linear ft.</td>
</tr>
</tbody>
</table>
FIDALGO BAY ENVIRONMENTAL PROFILE MAP AREA CALCULATIONS

*The Herring Spawning Habitat CAD Map, generated, I believe, by WDFW, showed an estimated area larger than the above Marine Vegetation minus 1,721,562 sq.ft. eelgrass along Guemes where Herring spawn is not documented (1,594 vs 1,359 acres), as it encompassed the subtidal bare spots mid-bay and overlapped mud flats and channel areas in many places. Estimated Herring Spawn Habitat Area needs to be clarified prior to Final EIS. For purposes of the Draft EISr the more conservative number has been used (59,194,217 sq. ft.: 1,359 acres).

** Linear feet of Sand Lance Beaches were estimated from CAD maps by ruler. Other estimates were measured from CAD data by AutoCAD.
Chapter IV.
Issues & Conflicts
IV. Issues & Conflicts

A. Data Gaps & Issues

The *Fidalgo Bay Environmental Profile (Chapter III)* compiles and summarizes available information about the planning area’s conditions and resources. Compilation of the *Profile*, conducted in Phase I of the project, has yielded a significant body of information about the bay. Copies of all identified studies and references are now on file with the City. A comprehensive, annotated bibliography was also a product of this exercise. Significant data was also mapped using a CAD system.

Available information is felt to be reliable for making area-wide generalizations and provides adequate support for development of a sub-area plan. There are, however, some gaps in the data and/or issues raised by the generality of some information. For example, information characterizing sediment quality is spotty or incomplete. Data about some resources, such as eelgrass density for example, is general in nature; in some cases, it is based on aerial photo interpretation rather than on physical surveys. It may be difficult, therefore, to rely exclusively on such “plan level” information to make site-specific decisions. It is envisioned that these and similar data issues will be resolved through technical studies performed for future project proposals or as part of scientific studies.

B. Impact Issues

*Natural Resource Impacts*

To aid the committee in its discussions, the consultant team initially identified the general types of impacts to identified natural resources associated with different types of development activity. Impacts were discussed and supplemented based on the committee’s input. They are summarized in Table 7. This early identification and discussion of impacts and mitigation was also a key element of the project’s integrated planning/SEPA approach.

The types of potential activities generating impacts to resources include dredging and filling; construction of over-water structures, shoreline protection and wave abatement structures; increased on-water activity, vessel traffic and moorage; and upland construction and structures. The range of possible impacts associated with identified activities include:

- direct loss of habitat (during construction and/or operation);
- indirect loss of habitat (e.g. from shading);
- short term siltation and turbidity from runoff;
- losses in feeding, migration and spawning habitat;
- increases and reductions in shoreline erosion;
- contamination of sediments or disturbance of contaminated sediments;
- reduced productivity of eelgrass;

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interference with long-shore transport
- discharges of contaminants; and
- disturbance by marine traffic.

Fish, wildlife, and habitat within the planning area, identified in the *Environmental Profile*, include eelgrass and macroalgae; herring and associated spawning habitat; surf smelt and sand lance and associated spawning habitat; salmon; Dungeness crab; hardshelled clams; waterfowl; and marine mammals. The committee generally agreed that prioritizing the planning area's habitat and species in terms of their sensitivity to disturbance and their overall value would help it to evaluate the trade-offs involved in accommodating development in Fidalgo Bay. While all resources are important, the most sensitive resources include eelgrass, herring spawning habitat, surf smelt spawning habitat and sand lance spawning habitat.

*Policy Issues*

The committee acknowledged the important relationship of plan impacts and mitigation to government policies and regulations. Consideration of this relationship is also required by SEPA. The potential for conflicts between the regulations of different levels of government (e.g. state and local) was recognized. Similarly, there may be conflicts implicit in competing goals of a single agency (e.g. encouraging harbor development and protecting resources).

Table 8, below, summarizes the major federal, state and local regulations and programs affecting development in Fidalgo Bay and preparation of sub-area plans. The initial focus was on identifying relevant policies and regulations. While they have not been evaluated in detail at this point, they are presented here as a future touchstone for evaluating a proposed plan alternative. The "Issues" column of the table will be completed (in the Final Plan/EIS) to indicate whether the proposed plan alternative raises a potential “policy” issue (P), “implementation” issues (I), or project specific “application” issue (A).

A few generalizations are appropriate, however, and can help to frame the question of consistency for the reader. Laws affecting local agencies and sub-area planning -- such as the Growth Management Act and Anacortes Comprehensive Plan -- generally require the City to accommodate population and employment growth. Accommodation of growth is an overt value that must be balanced by the City’s legislative authorize along with environmental protection and numerous other objectives. Since a sub-area plan must be consistent with the Comprehensive Plan, it can generally be expected that any such conflicts will be successfully resolved (for example, by creating an alternative that optimizes the balance between competing objectives).
### Table 7 – Potential Impacts of Enhancements from Development Activity

<table>
<thead>
<tr>
<th>Resource</th>
<th>Dredging</th>
<th>Filling</th>
<th>Overwater structures (below MHW)</th>
<th>Shoreline protection (include boat ramps)</th>
<th>Wave abatement structures</th>
<th>Increased on-water activity</th>
<th>Upland construction and structures (above MHW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water quality</td>
<td>Short-term turbidity</td>
<td>Short-term turbidity</td>
<td>Potential for contaminant release from treated piles</td>
<td>Reduced shoreline erosion</td>
<td>Reduced shoreline erosion</td>
<td>Discharges can include toxic materials and wood debris</td>
<td>Runoff can lead to turbidity and sedimentation</td>
</tr>
<tr>
<td>Eelgrass and macroalgae</td>
<td>Direct loss</td>
<td>Direct loss of eelgrass and macroalgae</td>
<td>Loss from shading under footprint</td>
<td>Reduced eelgrass productivity at base of structures due to wave refraction</td>
<td>Direct loss in footprint on bottom</td>
<td>Propeller scarring, weeds, and anchors can dislodge vegetation</td>
<td>Possible shading effects from adjacent structures (may be positive)</td>
</tr>
<tr>
<td></td>
<td>Deepening below compensation depth</td>
<td>Lost productivity in adjacent areas</td>
<td>Increased algal growth on hard structures</td>
<td>Reduced eelgrass productivity at base of structures due to wave refraction</td>
<td>Direct loss in footprint on bottom</td>
<td>Propeller scarring, weeds, and anchors can dislodge vegetation</td>
<td>Possible shading effects from adjacent structures (may be positive)</td>
</tr>
<tr>
<td></td>
<td>Short-term algalation</td>
<td>Increased growth of macroalgae</td>
<td>Increased algal growth on hard structures</td>
<td>Reduced eelgrass productivity at base of structures due to wave refraction</td>
<td>Direct loss in footprint on bottom</td>
<td>Propeller scarring, weeds, and anchors can dislodge vegetation</td>
<td>Possible shading effects from adjacent structures (may be positive)</td>
</tr>
<tr>
<td>Herring</td>
<td>Loss of spawning habitat from changes in macrovegetation abundance due to removal or deepening</td>
<td>Loss of spawning habitat from changes in macrovegetation abundance due to removal or deepening</td>
<td>Loss of spawning habitat from changes in macrovegetation abundance due to removal or deepening</td>
<td>Loss of spawning habitat from changes in macrovegetation abundance due to removal or deepening</td>
<td>Loss of spawning habitat from changes in macrovegetation abundance due to removal or deepening</td>
<td>Loss of spawning habitat from changes in macrovegetation abundance due to removal or deepening</td>
<td>Vegetation loss can reduce available spawning habitat</td>
</tr>
<tr>
<td>Surf smelt and sand lance</td>
<td>Loss of spawning habitat if shorelines are affected or elevations changed</td>
<td>Loss of spawning habitat if shorelines are affected or elevations changed</td>
<td>Loss of spawning habitat if shorelines are affected or elevations changed</td>
<td>Loss of spawning habitat if shorelines are affected or elevations changed</td>
<td>Loss of spawning habitat if shorelines are affected or elevations changed</td>
<td>Loss of spawning habitat if shorelines are affected or elevations changed</td>
<td>Wave action can disrupt eggs in estuaries</td>
</tr>
<tr>
<td>Salmon</td>
<td>Loss of littoral feeding and migration habitat</td>
<td>Direct loss during construction</td>
<td>Loss of littoral feeding and migration</td>
<td>Shading may reduce prey base</td>
<td>Reduced energy alters shoreline substrate and reduces long-shore transport</td>
<td>Shading may reduce prey base</td>
<td>Runoff can lead to turbidity and sedimentation</td>
</tr>
<tr>
<td></td>
<td>- Loss of littoral feeding and migration habitat</td>
<td>Loss of littoral feeding and migration</td>
<td>Shading may reduce prey base</td>
<td>Reduced energy alters shoreline substrate and reduces long-shore transport</td>
<td>Shading may reduce prey base</td>
<td>Reduced littoral productivity (e.g., from wave action or prop wash) can reduce available prey</td>
<td>Runoff can lead to turbidity and sedimentation</td>
</tr>
<tr>
<td>Dungeness crab</td>
<td>Direct loss during construction</td>
<td>Direct loss during construction</td>
<td>Direct loss during construction</td>
<td>Direct loss during construction</td>
<td>Direct loss during construction</td>
<td>Direct loss during construction</td>
<td>Reduced littoral productivity (e.g., from wave action or prop wash) can reduce available prey</td>
</tr>
<tr>
<td></td>
<td>- Loss of littoral habitat for juveniles</td>
<td>Loss of littoral habitat for juveniles</td>
<td>Enhanced prey base</td>
<td>Enhanced habitat for juveniles</td>
<td>Enhanced habitat for juveniles</td>
<td>Enhanced habitat for juveniles</td>
<td>Reduced littoral productivity (e.g., from wave action or prop wash) can reduce available prey</td>
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<tr>
<td></td>
<td>- Enhanced prey base</td>
<td>Enhanced prey base</td>
<td>Enhanced prey base</td>
<td>Enhanced habitat for juveniles</td>
<td>Enhanced habitat for juveniles</td>
<td>Enhanced habitat for juveniles</td>
<td>Reduced littoral productivity (e.g., from wave action or prop wash) can reduce available prey</td>
</tr>
<tr>
<td>Hardshell clams</td>
<td>Direct loss</td>
<td>Direct loss</td>
<td>Potential for contaminant uptake from treated piles</td>
<td>Enhanced habitat for juveniles (shell hash)</td>
<td>Enhanced habitat for juveniles (shell hash)</td>
<td>Enhanced habitat for juveniles (shell hash)</td>
<td>Reduced littoral productivity (e.g., from wave action or prop wash) can reduce available prey</td>
</tr>
<tr>
<td></td>
<td>Deepening below optimum depth</td>
<td>Deepening below optimum depth</td>
<td>Deepening below optimum depth</td>
<td>Deepening below optimum depth</td>
<td>Deepening below optimum depth</td>
<td>Deepening below optimum depth</td>
<td>Reduced littoral productivity (e.g., from wave action or prop wash) can reduce available prey</td>
</tr>
<tr>
<td></td>
<td>- Short-term algalation</td>
<td>- Short-term algalation</td>
<td>- Short-term algalation</td>
<td>- Short-term algalation</td>
<td>- Short-term algalation</td>
<td>- Short-term algalation</td>
<td>- Runoff can lead to turbidity and sedimentation</td>
</tr>
<tr>
<td>Waterfowl</td>
<td>Deepening of water below optimal depth for feeding</td>
<td>Deepening of water below optimal depth for feeding</td>
<td>Deepening of water below optimal depth for feeding</td>
<td>Deepening of water below optimal depth for feeding</td>
<td>Deepening of water below optimal depth for feeding</td>
<td>Deepening of water below optimal depth for feeding</td>
<td>Deepening of water below optimal depth for feeding</td>
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<td></td>
<td>- Direct loss of habitat</td>
<td>- Direct loss of habitat</td>
<td>- Direct loss of habitat</td>
<td>- Direct loss of habitat</td>
<td>- Direct loss of habitat</td>
<td>- Direct loss of habitat</td>
<td>- Reduced littoral productivity can reduce available prey</td>
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<tr>
<td></td>
<td>- Enhanced prey base</td>
<td>- Enhanced prey base</td>
<td>- Enhanced prey base</td>
<td>- Enhanced prey base</td>
<td>- Enhanced prey base</td>
<td>- Enhanced prey base</td>
<td>- Reduced littoral productivity can reduce available prey</td>
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<tr>
<td></td>
<td>- Enhanced prey base on hard structures</td>
<td>- Enhanced prey base on hard structures</td>
<td>- Enhanced prey base on hard structures</td>
<td>- Enhanced prey base on hard structures</td>
<td>- Enhanced prey base on hard structures</td>
<td>- Enhanced prey base on hard structures</td>
<td>- Reduced littoral productivity can reduce available prey</td>
</tr>
<tr>
<td></td>
<td>- Direct loss of on-water habitat</td>
<td>- Direct loss of on-water habitat</td>
<td>- Direct loss of on-water habitat</td>
<td>- Direct loss of on-water habitat</td>
<td>- Direct loss of on-water habitat</td>
<td>- Direct loss of on-water habitat</td>
<td>- Reduced littoral productivity can reduce available prey</td>
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<tr>
<td></td>
<td>- Enhanced prey base on hard structures</td>
<td>- Enhanced prey base on hard structures</td>
<td>- Enhanced prey base on hard structures</td>
<td>- Enhanced prey base on hard structures</td>
<td>- Enhanced prey base on hard structures</td>
<td>- Enhanced prey base on hard structures</td>
<td>- Reduced littoral productivity can reduce available prey</td>
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<td></td>
<td>- Enhanced prey base on hard structures</td>
<td>- Enhanced prey base on hard structures</td>
<td>- Enhanced prey base on hard structures</td>
<td>- Enhanced prey base on hard structures</td>
<td>- Enhanced prey base on hard structures</td>
<td>- Enhanced prey base on hard structures</td>
<td>- Reduced littoral productivity can reduce available prey</td>
</tr>
</tbody>
</table>

IV-3
With a few exceptions (notably, the State Constitution and state statutory mandates that DNR manage aquatic lands to promote commerce and navigation and to conserve natural resources), state and federal resource agencies and their regulations generally embody a more single-purpose mandate, i.e., to protect a particular resource. The notion of balancing different values or objectives is, therefore, more difficult to apply. In this context, any development that affects an identified resource will raise issues regarding consistency with regulations. These issues will ultimately be determined by the type of mitigation that is proposed or deemed appropriate; they cannot be effectively resolved until a hypothetical mitigation program is known and an implementation strategy for a preferred plan is agreed upon.

Washington State Department of Natural Resources (WDNR) is charged with administering the management of State Owned Aquatic Lands (SOAL) under the Washington State Constitution and Chapter 79.90 RCW. These lands in the Fidalgo Bay Wide Planning Area include bed lands (Generally Below Extreme Low Tide) and any unsold tidelands in the Bay. WDNR’s role as a steward of SOAL is as a landowner not a regulator. WDNR coordinates with public and private interests to protect the values of SOAL and resources. WDNR must ensure that the public receives fair compensation for use of, removal of resources from, or damage to SOAL and resources. SOAL are to be managed for current and future citizens of the state; to sustain long-term ecosystem and economic viability; and to ensure access to the aquatic lands and the benefits derived from them. In as much as the Department is required to, proponents of activities that propose to occupy SOAL in navigable waters, both fresh and salt, need to have Use Authorization from WDNR. Mitigation on SOAL would, in this context, also require a Use Authorization.
<table>
<thead>
<tr>
<th>Law/Regulation</th>
<th>Requirements</th>
<th>Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SEPA (RCW 43.21C) &amp;</strong>&lt;br&gt;<strong>SEPA Rules</strong>&lt;br&gt;(WAC 197-11)</td>
<td>- Consider the environmental impacts of proposed actions affecting the environment; identify alternatives &amp; mitigation measures  &lt;br&gt;- Integrate consideration of environmental impacts into plan alternatives and plan documents  &lt;br&gt;- Control sprawl by focusing growth in cities and other designated urban areas  &lt;br&gt;- Accommodate forecast population and employment growth in areas with adequate facilities &amp; services  &lt;br&gt;- Protect the environment &amp; quality of life  &lt;br&gt;- Adopt comprehensive plans &amp; development regulations consistent with GMA goals and criteria and with Countywide Planning Policies  &lt;br&gt;- Comprehensive plans may include sub-area plans consistent with the plan  &lt;br&gt;- Identify/regulate critical areas</td>
<td></td>
</tr>
<tr>
<td><strong>Growth Management Act</strong>&lt;br&gt;(RCW 36.70A)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>(HB 1724 - Regulatory Reform)</strong>&lt;br&gt;<strong>Shoreline Management Act</strong>&lt;br&gt;(RCW 90.38)</td>
<td>- Integrate Shoreline Master Program policies and regulations into comprehensive plans &amp; development regulations  &lt;br&gt;- Adopt local permit process and shoreline master programs containing policies and use regulations for activities within the shoreline; state review and approval of SMPs required</td>
<td></td>
</tr>
<tr>
<td><strong>Anacortes Comprehensive Plan</strong></td>
<td>- Goals: create healthy, aesthetically pleasing environment to maximize opportunities for social, physical, economic benefits; improve marine-orientation (views, access, resources, marine dependent/related activities; encourage manufacturing; encourage balanced &amp; adequate employment &amp; tax base  &lt;br&gt;- Manufacturing: contain heavy mfg; respond to need for light mfg; compatibility with adjacent uses; encourage water-oriented mfg, expansion of Cap Sante Boat Haven, Port marine-oriented activities, support water-oriented mfg in urban renewal area  &lt;br&gt;- Commercial Marine: encourage water/view-dependent marine, tourist and commercial activities (incl. Marinas, boat &amp; marine equipment, boatel/hotel/motel, recreation equipment, specialty shops, restaurants; performance standards to ensure appropriate development, access, environmental protection  &lt;br&gt;- Recreation &amp; Tourism: increase appeal of city; encourage year-round visitor/recreation attractions; use shoreline to increase tourism while protecting resources; improve public access  &lt;br&gt;- Residential: balance of housing types &amp; densities to meet needs of all citizens  &lt;br&gt;- Conservation: conserve natural resources; provide public access to shorelines; maintain/improve integrity of wetlands, water bodies by limiting dredging, filling, clearing</td>
<td></td>
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<tr>
<td>Law/Regulation</td>
<td>Requirements</td>
<td>Issues</td>
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</tbody>
</table>
| **Shoreline Master Program**         | - Urban I environment: provide suitable areas for water dependent commerce & industry  
                             - Urban II environment: mix of light industrial, commercial & high density residential  
                             - Urban Residential: residential uses  
                             - Conservancy: biological/physical limitations to develop |                                                                        |
| **County-Wide Regional Comprehensive Plan Policies (1992)** | **Urban Growth** - encouraged in cities and their UGAs; densities should be sufficient to accommodate 20-year population projection; include greenbelts, open space; encourage preservation of wildlife habitat areas; encourage development on existing vacant land and infill properties;  
                             **Reduce Sprawl** - contiguous and orderly development within urban growth areas required; coordinate & phase development through inter-agency agreements; master plan sites for industrial and large-scale commercial uses to reduce impacts; restrict commercial & industrial development to urban growth areas  
                             **Economic Development** - encourage development of environmentally sensitive industries & diversification of economic base; designate commercial and industrial land to meet future needs without adverse effects to critical areas; promote tourism, recreation & land preservation provided they do not conflict with long-term commercial significance of natural resources & critical areas; to conserve aquaculture for productive use, designate aquatic resource areas where principal use is long-term commercial resource management; encourage commercial & industrial activities directly related to/dependent on aquatic resources in shoreline areas  
                             **Natural Resource Industries** - protect identified aquatic resource areas, provide adequate buffering between conflicting activities; protect & enhance fisheries resources for continued productivity; designate aquatic resource areas where principal use will be long-term commercial resource management  
                             **Environment** - designate natural resource lands, including aquatic resource areas; consider immediate & long-range cumulative effects of land use decisions; reduce loss of critical aquatic habitat by minimizing habitat fragmentation; direct development away from designated aquatic resource areas; prohibit conversion of tidelands to uplands; usual & accustomed activities on aquatic resource lands shall be protected when conducted in accordance with BMPs & applicable laws |                                                                        |
<table>
<thead>
<tr>
<th>Law/Regulation</th>
<th>Requirements</th>
<th>Issues</th>
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</thead>
</table>
| Comprehensive Plan (Draft)     | *Land Use Element*: Guide development into concentrated urban growth areas; enhance environmental quality  
Urban Growth Area: locate comm. & industrial development in well-defined centers; provide adequate vacant, serviced land  
Economic Development: expand employment opportunities; maintain adequate supply of land; designate unconstrained, serviced industrial sites  
Environment Element: protect, restore & enhance fish & wildlife populations & habitat; protect habitat conservation areas at levels commensurate with resource population status; site urban development to protect functions & values; on-site, in-kind replacement of functions & values preferred, but off-site, out-of-kind may be permitted |        |
| Shoreline Master Program       | *Urban Environment* (from March Pt. South): objective is to ensure optimum use of urban shorelines. Water-dependent uses preferred. Intensive uses permitted (commercial, industrial, ports, marinas, dredging, etc)  
*Aquatic Environment* (south of Weaverling spit): objective is to wisely use natural features & resources. Water/shoreline dependent uses preferred. Intensive uses are permitted (comm, ind, ports, marinas, dredging, etc) |        |
| Critical Areas Ordinance       | Preferred sequence of mitigation actions.  
Fish & Wildlife Habitat: critical area review required for proposals in areas with T&E or sensitive species; water of the state; tidelands available for shellfish harvest, kelp or eelgrass beds, herring or smelt spawning areas designated in PHS map of county; or "critical biological areas: (per DOE Coastal Zone Atlas). Most fish & wildlife habitat conservation areas protected on a case by case through Habitat Management Plan based on WDFW PHS program |        |
| Port Powers (RCW 53.08)        | - Broad mandate to develop and operate programs & facilities that promote and encourage development of commerce, transportation tourism and industry |        |
| Comprehensive Scheme (RCW 53.20) | *RCW 79.90.475*  
- Ports required to adopt a comprehensive scheme of harbor improvements to guide activities  
- States that the Port must "ensure consistency with the State Constitution and the policies of this chapter" and that "the administration of aquatic lands covered by a management agreement shall be consistent with the aquatic land policies of Chapters 79.90 through 79.96 RCW and the implementing regulations adopted by the department." All the same Laws and regulations applicable to DNR also apply to the Port of Anacortes. |        |
<p>| GMA                            | - No direct responsibilities; subject to City Comprehensive Plan, SMP &amp; applicable regulations |        |
| SMA                            | - Subject to SEPA for proposed actions |        |
| SEPA                           | |        |</p>
<table>
<thead>
<tr>
<th>Law/Regulation</th>
<th>Requirements</th>
<th>Issues</th>
</tr>
</thead>
</table>
| Aquatic Lands (RCW 79.90) (see Figure 14)   | - Applies to all state-owned tidelands, shorelands, harbor areas and beds of navigable waters  
- DNR manages aquatic lands for the social & economic benefits of the public, while minimizing adverse effects to aquatic ecosystems; preserves rights of fishing, navigation and commerce  
- Use of state-owned aquatic lands require DNR authorization  
- Water-dependent uses of aquatic lands preferred; non-water dependent are low priority and limited and shall not be permitted to expand or be established in new areas except in exceptional circumstances and when compatible with water-dependent uses existing in or planned for the area  
- The management of state-owned aquatic lands shall be in conformance with constitutional and statutory requirements. The manager of state-owned aquatic lands shall strive to provide a balance of public benefits for all citizens of the state. The public benefits include: encourage public use & access; foster water dependent uses; ensure environmental protection; utilize natural resources; generate revenue in a manner consistent with above.  
- Authorizes cooperative planning for dredged disposal sites as essential to commerce |                                                                                                                                                               |
| Aquatic Land Management (WAC 332-30)         | - Applies to all state-owned aquatic lands  
- These regulations contain performance standards as well as operational procedures to be used in lease management land use planning and development actions by the department and port districts. |                                                                                                                                                               |
| Aquatic Plant Management Plan               | - Preservation, habitat protection and restoration, harvest management of aquatic plants  
- Interim policy (no adopted rule, implemented through leases): prohibit impacts to vegetated portions of aquatic lands (eelgrass, kelp beds) |                                                                                                                                                               |
| Draft Marine Vegetation Management Plan (June 1996) | Plan will follow 332-30-107 below;  
Guiding principle = no overall net loss of area or function; management plans should be based on ecosystem principles and encourage bay-wide planning; Mitigation: avoidance of all impacts preferred; when not practical reduce impacts to insignificant levels; on-site replacement preferred (ability to replace must be demonstrated); no off-site replacement mitigation on private lands for developments proposed on SOAL; payment for lost value may be accepted in limited cases; post construction monitoring required |                                                                                                                                                               |
| Harbor Areas (Art XV Wash. Constitution)     | - Reserves harbor areas for commerce and navigation needs; leases limited to 30 years;                                                                                                                     |                                                                                                                                                               |
WAC 332-30-107

- Achieve management goals through planning (shoreline master programs); use to identify and mitigate adverse impacts; case by case mitigation in absence of planning (preferred order: avoidance, minimization, replacement (on-site preferred), payment

WAC 332-30-108 to WAC 332-30-116

- Outlines procedures for establishment of new Harbor Areas
- Harbor Areas shall be reserved for landings, wharves, streets and other conveniences of navigation and commerce
- Water dependent commerce shall be given preference over other uses of harbor areas
- Outlines procedures for Management Agreements with Port Districts
- Outlines Harbor Area Use Classes and subordinates Water-oriented commerce to Water-dependent commerce
- New residential uses will not be permitted to locate in harbor areas
- Facilities for public access are lower priority uses [in a harbor area] which do not make an important contribution to navigation and commerce for which harbor areas are reserved, but which can be permitted providing that the harbor area involved is not needed, or is not suitable for water-dependent commerce.

WAC 332-30-115(3)

- The department will encourage local government, state and federal agencies to cooperate in planning for the following state-wide harbor management needs: (a) reserve adequate space to meet foreseeable needs; (b) coordinate with upland development so areas reserved for navigation will be useable in the future; (c) identify areas for interim uses; (d) identify changes needed in harbor area lines; (e) minimize environmental impacts of navigation and commerce development; (f) prevent interim uses from lowering the suitability of navigation and commerce development.

WAC 332-10-115(6)

- Areas in a harbor area may be withdrawn. These are so located as to be currently unusable. The withdrawal is temporary and dependent on future demand for constitutional uses. No leases are issued during the withdrawal.

WAC 332-30-137

- Identifies non-water dependent uses and defines "exceptional circumstances" for allowing non-water dependent uses.

WAC 332-30-139

- Guidelines on marina and moorage design.
<table>
<thead>
<tr>
<th>Law/Regulation</th>
<th>Requirements</th>
<th>Issues</th>
</tr>
</thead>
</table>
| Hydraulic Code (RCW 75.20)  | - Hydraulic project approval (HPA) required for any work in waters of the state to ensure protection of fish life  
- Standards for: residential bulkheads  
- Establishes standard of "no net loss" of productive functions of fish and shellfish & habitat through mitigation for specified marine construction activities  
- Dredging prohibited in herring spawning beds; dredging shall avoid adverse impacts to eelgrass  
- Marinas shall incorporate mitigation necessary to achieve no net loss of productive function and habitat  
- Marinas prohibited on and over herring spawning beds  
- Marinas shall avoid adverse impacts to surf smelt, sand lance and eelgrass  
- Mitigation sequencing: applicants must demonstrate reasonable steps to avoid, reduce and minimize impacts before considering [compensatory] mitigation  
- Mitigation should be located at project site or within immediate vicinity (without bay-wide plan)  
- Mitigation should replace same habitat functions impacted and for benefit of same fish resources  
- To reduce risk of failure, mitigation must use demonstrated methods; where proven methods not available, must demonstrate effectiveness of mitigation prior to project construction; includes replacement of herring spawning and replacement of eelgrass > 1/2 acre  
- Habitat value measured with HEP  
- Mitigation plan requirements for projects with significant impacts  
- Mitigation implemented after project construction shall include additional habitat value (greater than replacement value) equal to loss through time  
- Mitigation sites shall be protected permanently, at minimum for life of project  
- Mitigation bank credits may be used only after standard sequencing of mitigation; HEP or other acceptable measure used to value credits/debits  
- Mitigation location priorities: on-site, in-kind; off-site, in-kind; on-site, out-of-kind; off-site, out-of-kind. Must - - Off-site must demonstrate that greater biological value can be achieved; some combo of locations may be acceptable; replacement ratio increases with distance from site  
- in-kind is highest priority; out-of-kind not acceptable for threatened, endangered, sensitive, candidate or priority species  
- Significant losses that cannot be avoided shall be replaced; mitigation must occur in same river basin as losses |                                                                                                                                                                                                 |
<table>
<thead>
<tr>
<th>Law/ Regulation</th>
<th>Responsibilities</th>
<th>Issues</th>
</tr>
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<tbody>
<tr>
<td><strong>Water Quality:</strong></td>
<td></td>
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<tr>
<td><em>Water Pollution Control Act (RCW 90.48)</em></td>
<td>- Prohibits discharges into water of state without DOE approval; declares policy of protecting water quality to ensure protection of wildlife &amp; aquatic life; requires AKART to prevent &amp; control water pollution; provides authority for implementing water quality standards</td>
<td></td>
</tr>
<tr>
<td><em>Surface Water Quality Standards (WAC 173-201A)</em></td>
<td>- Applies to all fresh &amp; marine waters; classifies waters into 5 quality levels based on numerical levels for chemical, physical &amp; biological factors; standards address toxic substances, non-degradation to maintain resource waters, mixing zone allowances, and short-term modifications</td>
<td></td>
</tr>
<tr>
<td><em>WAC 173-216</em></td>
<td>- Wastewater discharges to ground and surface waters from commercial, industrial and municipal operations conditioned to meet water quality standards</td>
<td></td>
</tr>
<tr>
<td><em>NPDES Program (WAC 173-220)</em></td>
<td>- Best management practices (BMP) for meeting water quality standards for non-point sources and storm water runoff</td>
<td></td>
</tr>
<tr>
<td><em>Water Quality Certification (WAC 173-225)</em></td>
<td>- AKART standard for discharges</td>
<td></td>
</tr>
<tr>
<td><em>Watershed Planning (WAC 400-12)</em></td>
<td>- Applies to discharges of pollutants to surface waters; permits meet requirements of Fed. Water Pollution Control Act &amp; RCW 90.48</td>
<td></td>
</tr>
<tr>
<td><em>Shellfish Protection RCW 90.72</em></td>
<td>- DOE must certify that discharges into navigable waters related to construction, dredging &amp; filling must obtain certification that proposal will comply with Fed. Water Pollution Control Act</td>
<td></td>
</tr>
<tr>
<td><em>Wetlands: Executive Orders 89-10 &amp; 90-04</em></td>
<td>- DOE coordinates/assists local governments to rank watersheds &amp; develop watershed mgmt plans that address non-point water pollution</td>
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<td></td>
<td>- Encourages counties to establish shellfish protection districts &amp; programs to prevent contamination</td>
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<td></td>
<td>- Mandates that state agencies protect wetlands to maximum extent permitted by their existing laws &amp; regs</td>
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<td></td>
<td>- Model wetland ordinance for local guidance</td>
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<tr>
<td></td>
<td>- Wetland delineation manual</td>
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<tr>
<td>Law/ Regulation</td>
<td>Responsibilities</td>
<td>Issues</td>
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<tr>
<td>------------------------------------------------------</td>
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<tr>
<td><strong>Shorelines:</strong></td>
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<tr>
<td>Shoreline Management Act (RCW 90.58)</td>
<td>- Policies for mgmt of state’s shoreline resources; requires preparation of local master programs consistent with SMA policies, with review &amp; approval by DOE; requires permit for substantial development on shorelines</td>
<td></td>
</tr>
<tr>
<td>WAC 173-16</td>
<td>- Guidelines for local master programs (environment designations, use activities)</td>
<td></td>
</tr>
<tr>
<td>ESHB 1724 (Regulatory Reform)</td>
<td>- Must certify that proposals for federal permits (e.g. 404) are consistent with SMA</td>
<td></td>
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<tr>
<td><strong>Hazardous Waste:</strong></td>
<td></td>
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<tr>
<td>Model Toxics Control Act (MTCA, RCW 70.105D)</td>
<td>- Recognizes threat to environment &amp; health from improper use &amp; disposal of hazardous wastes; procedures for clean up of contaminated sites; permits independent remedial actions</td>
<td></td>
</tr>
<tr>
<td>MTCA Regulations (WAC 173-340)</td>
<td>- Rules &amp; standards for identifying &amp; characterizing, ranking &amp; cleaning up contaminated sites; use permanent solutions (i.e., no further action at site needed) where practicable - containment not a permanent control; restore in reasonable time frame; prepare cleanup action plans; use technologies that minimize hazardous waste remaining at site</td>
<td></td>
</tr>
<tr>
<td>Sediment Management Standards (WAC 173-204)</td>
<td>- Rules &amp; standards for identifying, characterizing, ranking &amp; cleanup of contaminated marine sediments in manner that will reduce or eliminate adverse effects of biological resources &amp; human health threat</td>
<td>- Maintain/protect existing beneficial uses; no degradation of existing sediment quality in national or state parks, recreation areas, wildlife refuges &amp; water of exceptional significance; protect existing sediment quality where higher than regulatory standards; no degradation unless found to be overriding public interest in degradation</td>
</tr>
<tr>
<td>Interim Policy 540B</td>
<td></td>
<td>- Discharges to surface water shall use all known, available &amp; reasonable methods of treatment prior to discharge</td>
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<td></td>
<td></td>
<td>- Manage source controls to reduce &amp; eventually eliminate adverse effects on biological resources &amp; human health threats</td>
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<tr>
<td></td>
<td></td>
<td>- Relief from automatic liability for aquatic lands owners whose land is used for discharge of stormwater</td>
</tr>
<tr>
<td>Law/Regulation</td>
<td>Responsibilities</td>
<td>Issues</td>
</tr>
<tr>
<td>------------------------------------</td>
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</tbody>
</table>
| **Clean Water Act** *(33 USC) - Sec. 404* | - Requires permit for discharges of dredged or filled material or excavation into “waters of the US” including wetlands and special aquatic sites; may require individual permit or general “nationwide” permit  
- Corps has primary permit authority; EPA may veto permits; National Marine Fisheries & US Fish & Wildlife have review and commenting authority |        |
| 404 (b)(1)                         | - Requires evaluation of practicable on-site & off-site alternatives for accomplishing the proposal’s objectives. The project must be determined to be the least environmental damaging practicable alternative to be approved.                              |        |
| 40 CFR 230                          | - Requires avoidance to maximum extent practicable, minimization to extent appropriate & practicable for unavoidable impacts, and compensatory mitigation for impacts that cannot be minimized.                        |        |
| Sec. 401                            | - Requires state water quality certification for discharges into waters; DOE can condition permit or veto for non-compliance with state & local water quality regulations                                          |        |
| **Rivers & Harbors Act** Sec. 10    | - Corps regulates activities (e.g. construction of piers, bulkheads, dredging for navigation) that occur in navigable waters of the US                                                                                   |        |
| **National Historic Preservation Act** Sec. 106 | - Agencies must consider effect of projects on historic or archaeological properties listed or eligible for listing on National Register of Historic Places¹                                                                 |        |
| **Endangered Species Act**         | - Purpose to ensure that activities do not jeopardize listed threatened or endangered species; requires consultation with Dept. of Interior                                                                                                                   |        |
| **Fish & Wildlife Coordination Act** | - Purpose to give equal consideration to wildlife conservation and coordinate with other water resource programs; requires consultation with USFWS to prevent loss/damage to wildlife resources and to conserve, maintain & manage wildlife resources and habitat |        |

¹ Section 106 applies to federal agencies with permitting authority such as the U.S. Army Corps of Engineers. For the Corps to issue permits for work, that agency needs to take into account the effect of the action on properties listed in or eligible for listing in the National Register of Historic Places. This includes the need to consult with the State Historic Preservation Officer and other interested parties.
C. Preliminary Mitigation Approaches

General Mitigation Approaches

To help begin the discussion of mitigation measures, the consultant team identified a range of approaches to mitigate the types of impacts associated with potential development in the planning area. These are shown in Table 9. In addition to avoidance/minimization of impacts – typically the first step in mitigating impacts – the table identifies a variety of approaches to compensatory mitigation, i.e., ways to compensate for unavoidable impacts. Compensatory mitigation techniques are shown for the major wildlife resources and habitat identified in the planning area. These include a range of potential practices and approaches that could enhance existing resources (e.g. by elimination of practices, removal of existing structures or cleanup of debris/sediments that currently impact resources), or that could replace existing resources affected by development (e.g. creation of replacement habitat).

These mitigation actions could occur in the context of individual development proposals (either concurrent or in advance of proposed development), or as part of a bay-wide program to restore, enhance and compensate for resource impacts in conjunction with planned development activities. Potential mitigation programs associated with implementation of a sub-area plan (and probably beyond the means of any individual applicant) include techniques such as mitigation banking, and public purchase and restoration or enhancement of identified habitat.

It should be noted that the benefits or feasibility of some potential mitigation approaches may be questioned by the scientific community or have not been conclusively demonstrated to be successful. Table 10 provides examples of prior use of some mitigation techniques in Washington; the relative success of these examples; the potential for their use in the planning area; and potential locations for mitigation projects in the planning area.

Bay-Wide Mitigation Framework

The general identification of mitigation approaches, discussed above, served as an introduction for the FBPC and led to discussion (which is still continuing) of elements of a potential mitigation framework specific to the Fidalgo Bay planning area. Along with a specific development scenario, a comprehensive mitigation program will provide a pillar of the bay-wide plan. The mitigation program will also provide the basis for subsequent inter-agency agreements regarding application of the plan’s goals and objectives, and direction for City adoption of implementing regulations.
<table>
<thead>
<tr>
<th>Resource</th>
<th>Avoidance/minimization</th>
<th>Compensatory mitigation and enhancement approaches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eelgrass and macroalgae</td>
<td>Avoid/minimize impacts</td>
<td>- Remove structures shading potential habitat or occupying potential habitat areas</td>
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<tr>
<td></td>
<td></td>
<td>- Provide more favorable substrate or depth</td>
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<tr>
<td></td>
<td></td>
<td>- Use gates or lighting to reduce shading effects</td>
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<tr>
<td></td>
<td></td>
<td>- Transplant into areas of suitable habitat</td>
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<td></td>
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<td>- Reduce disturbances/boat traffic; limit moored vessels</td>
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<tr>
<td></td>
<td></td>
<td>- Cleanup debris and/or contaminated sediments</td>
</tr>
<tr>
<td>Herring spawning habitat</td>
<td>Avoid/minimize impacts</td>
<td>- Increase natural substrate available for spawning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Cleanup debris and contaminated sediments</td>
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<tr>
<td></td>
<td></td>
<td>- Provide acceptable artificial substrate</td>
</tr>
<tr>
<td>Surf smelt and sand lance</td>
<td>Avoid/minimize impacts</td>
<td>- Remove shoreline structures in areas of former spawning activity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Provide appropriate substrate for spawning</td>
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<tr>
<td></td>
<td></td>
<td>- Provide upper beach shading of spawning areas</td>
</tr>
<tr>
<td>Salmon</td>
<td>Avoid/minimize impacts</td>
<td>- Provide optimal substrate for growth of epibenthic zooplankton (eelgrass, sheltered silty sand and gravel)</td>
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<td></td>
<td></td>
<td>- Remove structures shading potential feeding habitat; reduce shoreline slope</td>
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<td>- Eliminate practices disturbing littoral zone; (e.g., log raft storage, construction activity)</td>
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<td></td>
<td>- Cleanup debris and contaminated sediments in the littoral zone</td>
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<td></td>
<td>- Breach dikes to restore saltmarsh and mudflat areas or excavate uplands to create new marine habitat</td>
</tr>
<tr>
<td>Dungeness crab</td>
<td>Avoid/minimize impacts</td>
<td>- Provide habitat (e.g., shell material) for newly settled crab</td>
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<tr>
<td></td>
<td></td>
<td>- Enhance eelgrass areas</td>
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<tr>
<td></td>
<td></td>
<td>- Provide deeper water channels in broad areas of flats</td>
</tr>
<tr>
<td>Hardshell clams</td>
<td>Avoid/minimize impacts</td>
<td>- Add gravel to muddy beaches</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Cleanup debris and contaminated sediments</td>
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<tr>
<td></td>
<td></td>
<td>- Seed unproductive beaches</td>
</tr>
<tr>
<td>Waterfowl</td>
<td>Avoid/minimize impacts</td>
<td>- Enhance nesting, perching opportunities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Enhance eelgrass and saltmarsh production</td>
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<tr>
<td></td>
<td></td>
<td>- Breach dikes to create saltmarsh/mudflats</td>
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<tr>
<td></td>
<td></td>
<td>- Reduce disturbances/boat traffic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Cleanup debris and contaminated sediments</td>
</tr>
<tr>
<td>Marine mammals</td>
<td>Avoid/minimize impacts</td>
<td>- Reduce disturbances/boat traffic</td>
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<tr>
<td></td>
<td></td>
<td>- Create islands for haulouts</td>
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<td></td>
<td></td>
<td>- Remove shoreline structures limiting access to adjacent upland buffers</td>
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<tr>
<td></td>
<td></td>
<td>- Source control: upland runoff, industrial discharges, maritime discharges</td>
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<tr>
<td></td>
<td></td>
<td>- Enhance eelgrass, macroalgae and saltmarsh production</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Reduce disturbances/boat traffic</td>
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<tr>
<td></td>
<td></td>
<td>- Cleanup debris and contaminated sediments</td>
</tr>
</tbody>
</table>

Note: this table is provided for informational use only and is not intended to be prescriptive in nature.
<table>
<thead>
<tr>
<th>Mitigation action</th>
<th>Water quality</th>
<th>Vegetation</th>
<th>Herring</th>
<th>Surf smelt</th>
<th>Salmon</th>
<th>Crab</th>
<th>Clams</th>
<th>Birds</th>
<th>Mammals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide appropriate substrate for spawning</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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<tr>
<td>Provide appropriate substrate for settlement/growth of algae or eelgrass</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</tr>
<tr>
<td>Transplant eelgrass to unvegetated areas</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide optimal substrate for growth of epibenthic zoo-plankton (eelgrass, sheltered silty sand and gravel)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clean up chemical contamination or woodwaste</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide habitat (e.g., shell material) for newly settled crab</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add gravel to muddy or sandy beaches</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add structures to reduce energy regime</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breach dikes, excavate uplands, or remove fills to create saltmarsh/mudflats</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enhance nesting/perching opportunities</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dredge or fill to optimize elevation (includes island creation)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remove shoreline structures or breakwaters in areas of former use</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remove structures shading potential habitat</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reduce disturbances/boat traffic</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eradicate/control exotic species</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Prior use in Washington</th>
<th>Success</th>
<th>Potential for use in planning area</th>
<th>Potential use locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fidalgo Bay</td>
<td>Undocumented</td>
<td>Yes</td>
<td>SW Fidalgo; March Point</td>
</tr>
<tr>
<td>Elliott Bay Marina; St. Paul WWay; La Conner; Pier 64/65</td>
<td>Good for macroalgae; successful for eelgrass in La Conner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swinomish Channel; Sequim Bay Marina; Ediz Hook; West Point, etc.</td>
<td>Mixed; some successes (small areas) some failures. Requires knowledge of factors limiting eelgrass presence.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Everett Pier 3; Tacoma Slips 1, 5; Seattle, Term. 91; Milwaukee WWay</td>
<td>Mixed but generally positive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sticum WWay; Eagle Harbor; St. Paul WWay; Pier 53/54</td>
<td>Benthic organisms recolonize cleaned sediments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grays Harbor; Everett</td>
<td>Failed in Everett and Grays Harbor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elliott Bay Marina; Sinclair Inlet; Tacoma Slip 5, Blaine; Milwaukee WWay; Term. 91</td>
<td>Effective where documented</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Everett Jetty Island</td>
<td>Excellent</td>
<td>No</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Marysville; South Spencer; Term. 91; Gog-Li-Hi-Ti</td>
<td>Excellent</td>
<td>Nearby potential</td>
<td>Padilla Bay; Swinomish Slough</td>
</tr>
<tr>
<td>Widespread (waterfowl/raptors)</td>
<td>Excellent</td>
<td>Yes</td>
<td>Inner bay</td>
</tr>
<tr>
<td>Padilla Bay; Milwaukee WWay; Columbia River; St. Paul WWay; Slip 5; La Conner</td>
<td>Excellent</td>
<td>Yes</td>
<td>Throughout area</td>
</tr>
<tr>
<td>Unknown</td>
<td>Undocumented but likely</td>
<td>Yes</td>
<td>Throughout area</td>
</tr>
<tr>
<td>Guemes Channel</td>
<td>Undocumented but likely</td>
<td>Yes</td>
<td>NW Fidalgo; East Guemes</td>
</tr>
<tr>
<td>Unknown</td>
<td>Undocumented but likely</td>
<td>Unlikely</td>
<td>Inner Fidalgo?</td>
</tr>
<tr>
<td>Padilla Bay; Willapa Bay</td>
<td>Marginal; needs maintenance</td>
<td>Potential nearby</td>
<td>Padilla Bay</td>
</tr>
</tbody>
</table>
The City has articulated its perspective on the relationship between the bay-wide plan and mitigation as follows:

The City of Anacortes intends to use the regional Fidalgo Bay plan, developed with the input of federal, state and tribal governments, to supplement the Anacortes Comprehensive Plan. The Plan will provide guidance for future development consistent with conservation strategies for important regional resources.

As part of preparing the bay-wide conservation and development plan, considerable information has been identified and compiled on the physical, environmental, and biological resources of the Fidalgo Bay and adjacent areas. The most intensive development scenarios would avoid development and impacts in an area containing approximately 96 percent of identified bay-wide resources, measured in terms of area. Measures designed to insure avoidance of impacts to this area will be identified, discussed and incorporated into City regulations.

Under the proposed development scenario, Alternative 1A, the balance of the planning area -- constituting approximately four percent of the Fidalgo Bay planning area, and containing the City's historic industrial lands abutting the harbor area -- would be designated for the development of “commerce and navigation” and for water-dependent development in designated harbor areas, consistent with the state constitution. This area has experienced a variety of light and heavy industrial uses during the past century; existing resources are disturbed by a variety of lawfully permitted activities.

Currently proposed development within the plan’s sub-areas containing developable land includes shipyard/boat building, marina and commercial marine terminal uses that would require dredging of approximately 48 acres of sub-tidal area. This development and dredging would disturb and probably eliminate eelgrass inhabiting much of the dredged area. The city recognizes that WDFW policy calls for “no net loss” of eelgrass habitat and functional value and requires “in-kind” mitigation by demonstrated methods (WAC 220-110-020 (30)) and proven results in advance of development. Advanced mitigation is required for eelgrass habitat greater than 1/4 acre, herring spawning habitat (eelgrass or macro algae) regardless of the area impacted and unique documented Dungeness Crab wintering habitat in Ship Harbor unless the mitigation approach is proven and interim mitigation is provided. From the inception of the Fidalgo Bay planning effort, an operating premise of pursuing an understanding of the bay-wide landscape ecology has been to identify and establish flexible, alternative impact mitigation measures which varied from the traditional, individual project driven policy perspective of “in-place, in-kind” pre-proven mitigation and still attain no net loss of functional value. (WAC 220-110-032).

The City of Anacortes is confident that implementing a wide ranging suite of mitigation initiatives will add considerably more information on the potential for eelgrass replacements, add other forms of viable long-term environmental protection to the bay-
wide ecology, and result in enhanced Bay resources over the twenty-year time span the plan contemplates.

An important advantage of the Fidalgo Bay-Wide approach to state agency policy managers is the broader, regional perspective that can be considered when assessing conservation and development opportunities. The overall cumulative impact of a variety of development projects can be assessed through different scenarios and plans developed to provide an optimal mix of economic investment and resource mitigation measures. The Draft Plan/EIS identifies these cumulative impacts in Chapter VII. The Final Plan can, therefore, provide agencies with a good idea of the range of proposed projects for a large area, the potential impacts upon specific sub-areas and species, and information for structuring an integrated development and mitigation plan. The resulting Plan can permit acceptable, economically feasible development while also protecting critical habitat and yielding resource enhancement at reasonable cost.

Mitigation Framework Elements

The discussion below reflects the initial discussion and FBPC decisions regarding the elements of a mitigation plan. Please see the more detailed discussion of the Fidalgo Bay mitigation framework in Chapter VIII of the Draft Plan/EIS.

1. Bay-Wide Mitigation

Mitigation, as defined in the SEPA rules (WAC 197-11-768) means:
   (1) Avoiding the impact altogether by not taking a certain action or parts of an action;
   (2) Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;
   (3) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
   (4) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;
   (5) Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and/or
   (6) Monitoring the impact and taking appropriate corrective measures.

The definition used by many federal agencies is substantially similar (e.g. see the NEPA Guidelines, 40 CFR Part 1508.20)

A principal objective of the Fidalgo Bay-Wide Plan, as agreed to by the FBPC, includes "providing an ecosystem-based, bay-wide approach to mitigation." Bay-wide mitigation was defined by the FBPC as follows:
"A comprehensive program, developed in a regional context, incorporating a variety of approaches and techniques to achieve a goal of "no net loss" of ecosystem functions within the planning area.

"The program is based on an understanding of the bay-wide ecosystem and the extent and sensitivity of individual resources. It also includes consideration of land use and economic development activities, and acknowledges the context of federal, state, tribal and local laws and mandates, and therefore integrates avoidance, minimization and compensatory mitigation into a regional plan. Compensatory mitigation, where appropriate, should be based on resource conditions, and sensitivity, on identification of resource functions."

This definition emphasizes mitigating for bay-wide resources through planning, rather than merely reacting to case-by-case situations and individual development proposals.

2. Sequencing

Sequencing is a concept that views mitigation (as defined above) as expressing a priority or preferred sequence of actions that an applicant must follow. The sequence requires that attempts to avoid impacts be attempted first, before other approaches to mitigation (e.g. compensation) can be considered.

The committee discussed how the bay-wide plan could potentially affect the requirement for sequencing when reviewing project applications. The answer may vary depending on the practices of particular agencies. The range of possibilities articulated by participants included: (1) no effect at all; or (2) shifting the focus to compensatory mitigation at the project level since avoidance was already considered on a bay-wide level in developing the plan.

3. Compensatory Mitigation

Committee members generally acknowledged a need for some regulatory flexibility to enable the plan to accommodate future growth while protecting Fidalgo Bay resources. Within this framework, the following general principles were identified to guide development of a bay-wide mitigation program.

- The basic standard should be "no net loss" of resource functions and area.
- On-site, in-kind mitigation is preferred to off-site, out-of-kind mitigation.
- Advance mitigation should be required if impacts are greater than 1/4 acre. Under certain circumstances, a demonstration project to establish the viability of the proposed approach may be appropriate. Depending on the selected approach, a demonstration project may require three or more years to complete.
- Off-site mitigation is preferred in the same sub-area. Mitigation outside the sub-area is possible if it meets the definition of no net loss.
- Elimination of an existing impact (e.g. removal of an existing pier shading eelgrass) and/or enhancement of existing habitat may be an acceptable form of mitigation.
Advanced mitigation is required for eelgrass habitat greater than 1/4 acre, herring spawning habitat (eelgrass or macro algae) regardless of the area impacted and unique documented Dungeness Crab wintering habitat in Ship Harbor unless the mitigation approach is proven and interim mitigation is provided.

4. Completing the Mitigation Framework

The FBPC recognized that there are remaining policy and biological questions that must be answered before a comprehensive mitigation approach or plan can be completed. The FBPC therefore authorized several agency biologists and the consultant team’s biologist to confer and address issues such as:

- What state or condition of functions and values is the basis for compensatory mitigation -- existing or historical (or optimal)?
- How should functions and values be measured?
- What replacement ratios should be used?
- How can the interest in mitigation outside of the Fidalgo Bay study area (e.g. in Padilla Bay) be pursued?

The subcommittee’s charge was to help answer some mitigation questions from a biological perspective. It was also suggested that they could develop a matrix that would help identify appropriate trade-offs and approaches to mitigation for specific resources. The results of this effort to date, are incorporated in Chapter VIII.
Chapter V.
Plan Goals, Policies & Objectives
V. Fidalgo Bay-Wide Plan Goals, Objectives & Policies

Introduction

The goals, objectives and policies contained in this chapter are intended to reflect direction gleaned from FBPC discussions, as well as from the City of Anacortes Comprehensive Plan and the Shoreline Master Program.

The policies address several broad areas, including:

- Land and Shoreline Use
- Economic Development/Commerce and Navigation
- Recreation/Public Access
- Marine Resources
- Project Planning and Permitting

The goals and policies are intended to establish a framework and broad policy direction for the Fidalgo Bay and include a specific land use pattern and approach to mitigation.

A. LAND AND SHORELINE USE

GOAL: TO BALANCE THE NEEDS OF DEVELOPMENT AND CONSERVATION OF NATURAL RESOURCES IN THE FIDALGO BAY STUDY AREA.

Objective: Provide a well balanced mix of opportunities for commercial, industrial, residential and recreational activities within the study area.

Policies:
- In the shoreline area, development that emphasizes water-dependent and/or water-related activities should occur.
- In the marine area, shipyard and marina uses should be allowed consistent with the mitigation approach established by this plan.
- In the upland area, a range of land uses, including residential, commercial and other activities that complement the city’s development pattern should be encouraged.
- The needs for development should be balanced against natural resource and treaty secured fishing rights.

Objective: Provide for the use and protection of the Fidalgo Bay sub-area shoreline and marine environments as valuable economic and environmental assets.
Policies:
- New development should preserve and protect the environmental value of the Fidalgo Bay study area, including significant land forms, natural landscape features, natural systems and critical areas.
- Clustered development that maintains and/or restores the natural shoreline, more efficiently controls potential pollutants and preserves natural land features and critical areas, should be strongly encouraged.
- Specific performance standards for development in shoreline areas should be developed. (ref. Goal 4 of the Commercial Marine Element, Anacortes Comprehensive Plan)

Objective: Ensure that significant cultural and historic features are incorporated into public and private development plans in the Fidalgo Bay study area.

Policies:
- Valuable archeological, historic and cultural resources should be identified and preserved.
- Shoreline areas identified as having archeological/historic/cultural significance should be preserved or restored.

B. ECONOMIC DEVELOPMENT/commerce AND navigation

Goal: To ensure that historic and potential future water-oriented economic development in the sub-area is fully realized.

Objective: Encourage water-oriented economic development in the shoreline area.

Policies:
- A set of commercial marine classifications should be established in the zoning ordinances (ref. Commercial Marine element of the Anacortes Comprehensive Plan). This designation should establish a priority of uses as follows:
  (1) water-dependent uses
  (2) water-related uses with public access
  (3) water-related uses with no public access
  (4) non-water related uses.
- The unique needs of water-related and water-dependent uses should be identified and accommodated in a manner consistent with the Comprehensive Plan and Shoreline Master Program.
- Designated uses in the adjoining upland areas should be compatible with and supportive of shoreline water-oriented uses.
- Maintain navigation channels for use by water-dependent commerce and industry.

Objective: Develop and maintain the marine area to serve water-dependent uses.
Policies:
- The need for compatible and complementary marine development to support shoreline uses should be recognized.
- Existing vessel management and safety measures should be maintained and enhanced.
- Future marine terminal, boat launch and marina needs should be identified and recognized in plans and regulations.

Objective: Increase shoreline and marine-related tourism.

Policies:
- Existing tourism resources and potential attractions should be identified, prioritized and addressed.
- Public amenities to create a visitor-friendly environment should be developed.

C. RECREATION/PUBLIC ACCESS

GOAL: TO MAINTAIN, ENHANCE AND INCREASE PUBLIC ACCESS TO SHORELINES AND TIDELANDS.

Objective: Preserve and expand opportunities for public access to and enjoyment of the Fidalgo Bay study area shoreline area.

Policies:
- A public access element in all public and private shoreline development proposals shall be required.
- Public access opportunities should include a range of experience, from passive to active use. Sensitive, fragile areas should be reserved for passive uses only.
- Existing obstacles to public access to the shoreline should be eliminated and new development should be encouraged to integrate public access and views in project design.
- Provide for use of street-ends for public access and views of the shoreline area.
- Require connection of shoreline walkway segments to create continuous public access along the shoreline wherever practical.

Objective: Provide for the public health and safety in all public access/recreation areas.

Policies:
- Assure that public access/recreation areas are safe for use by the general population and do not constitute a substantial intrusion on private property.
- Develop information, education and enforcement policies to promote public safety, protect the shoreline and natural systems, and cultural resources, and prevent violation of private property rights.

Objective: Preserve and protect natural environmental quality in public access/recreation areas.
Policies:
- Locate, design and maintain public access/recreation areas in a manner that protects the natural shoreline environment and processes, and cultural resources.
- Ensure that public access and recreation areas are designed and managed in a manner that is consistent with the existing natural and historic character of the area.
- Protect significant historic and cultural resources to enhance and enrich visitor experience.

**Objective:** Maintain and enhance scenic vistas as a form of public access to the shoreline.

Policies:
- Existing visual connections from upland areas to the shoreline should be maintained and enhanced.
- Scenic views and view corridors should be identified and preserved.

**D. MARINE RESOURCES**

**GOAL:** TO CONSERVE, PROTECT AND RESTORE MARINE RESOURCES WITHIN THE FIDALGO BAY STUDY AREA.

**Objective:** Improve the water quality in the Fidalgo Bay study area.

Policies:
- Increased monitoring and enforcement of water quality regulations should be encouraged.
- Sources of contaminants to water quality, including sub-standard septic systems, should be identified and corrective actions taken.
- Best management practices for stormwater management shall be enforced.
- Local capability for disposal and/or transport of marine refuse and debris should be improved.
- The quality of marine sediments should be identified through site specific studies and appropriate remediation measures evaluated and implemented.

**Objective:** Protect shoreline resources in the Fidalgo Bay study area.

Policies:
- Critical or sensitive areas of natural shoreline in the Fidalgo Bay study area should be preserved.
- Damaged shoreline features and/or systems should be restored in the context of a bay-wide mitigation program.
- Irreplaceable shoreline resources should be preserved.
- Renewable resources should be managed to ensure their continued use on a sustained yield basis.
**Objective:** Provide continuous enhancement of fisheries resources and aquatic habitats in the Fidalgo Bay study area.

**Policies:**
- On a bay-wide basis, protect significant habitat areas, such as eelgrass beds and fish spawning beaches, consistent with a bay-wide approach to mitigation.
- Consideration of habitat continuity for the movement of fish and wildlife in daily and seasonal migratory pathways should be emphasized.
- Bay-wide planning should follow an established priority for mitigating impacts to the ecosystem function of Fidalgo Bay, as follows:
  1) avoidance of impacts;
  2) minimization of impacts;
  3) compensatory mitigation for impacts that cannot be avoided or minimized
- Habitat enhancement projects consistent with established resource management practices should be encouraged with a target of restoring the ecological functions of the 60 acres of habitat lost to fill over the past 100 years (III-6).
- Innovative approaches to compensatory mitigation should be fully considered. As appropriate, measures to ensure the efficacy of the approach, such as pre-project demonstration of success, should occur.
- Research and demonstration efforts designed to create new eelgrass beds should be supported.
- A Fidalgo Bay study area mitigation bank that meets federal, state and local resource agency requirements should be established.
- Existing commercial mooring buoys should be relocated from sensitive habitat areas and new ones should be prohibited in sensitive areas.

**E. PLANNING AND PERMITTING**

**GOAL:** TO IMPROVE COORDINATION AND PREDICTABILITY AMONG LOCAL, STATE AND FEDERAL PROCESSES

**Objective:** Promote consistency among existing local, state and federal plans and policies.

**Policies:**
- Ensure that the Shoreline Master Plan remains consistent with the State’s constitutional reservation of harbor areas for use by commerce and navigation.
- Periodically review the Shoreline Master Plan to ensure continued compatibility with adopted plans and actions.
- Recognize that the City’s Comprehensive Plan contains multiple policies which are intended to ensure that development on lands adjacent to designated shorelines will be compatible with the protection of those shorelines.
- Work with federal, state, local and tribal governments to achieve formal agreement on elements of the bay-wide plan.

**Objective:** Improve the predictability of the permit process
Policies:
- Simplify permit processes to meet regulatory reform requirements.
- In conjunction with state regulatory and resource agencies and Skagit County, prepare a set of mitigation projects and strategies upon which permit applicants should draw their mitigation plans.
- Provide advance clarification of regulatory concerns and mitigation requirements.
- Promote understanding of the objectives of the bay-wide plan.
Chapter VI.  
Alternative Development Scenarios
VI. Alternative Development Scenarios

A. Scenario Building Process

Four alternative development scenarios were developed for this draft document. The scenarios provide for a range of marine, shoreline and upland uses at varying densities and intensities, and emphasize different locations for development within the study area. They reflect different ways in which the city could accommodate projected population and employment in the study area. The scenarios are also intended to allow for a comparative understanding of the potential impacts of different development types, locations and patterns.

The scenarios were developed in several stages; each stage included review and comment by the FBPC and adjustment to the scenarios. The scenario building process began with an identification of different mixes of uses and intensity of development in the marine, shoreline and upland areas. This initial conceptual stage is shown in Tables 11 through 14. Next, the amount of development under each scenario was quantified and distributed to Sub-Areas using the assumptions described below. This was followed by a general description of impacts associated with each type of development. The scenarios were refined and revised six times through this process.

While differing in the relative amount, intensity and location of uses, all of the development scenarios provide for a mix of new marina slips, commercial marine development, industrial development, general commercial development and residential development. In general, scenarios 1 and 4 provide for the greatest amount of industrial, marina and commercial marine uses. Development scenarios 2 and 3 provide for a relatively broader mix of uses, with significantly more residential development than scenarios 1 and 4. A detailed description of each of these development scenarios is provided below.

To allow for the analysis of potential impacts, future development under each scenario was allocated throughout the study area to Sub-Areas. Figures 15 through 18 show the Sub-Area distribution of uses. Under all of the scenarios, based on the presence of vacant unconstrained land, much of the new development would be focused in Sub-Area 3 and, secondarily, to Sub-Area 1. By focusing new water-dependent development in Sub-Areas 1 and 3, adjacent to established navigation channels, it was possible to minimize potential impacts on undisturbed marine environments and instead redevelop areas historically used for industrial activities. Relatively limited amounts of development are allocated to Sub-Areas 2 and 4 because of limited vacant land. No new development was allocated to Sub-Area 5 under any of the scenarios.

The balance of this chapter describes the approach and methodology used to establish the four development scenarios, along with a detailed narrative and tabular description of each scenario.
The balance of this chapter describes the approach and methodology used to establish the four development scenarios, along with a detailed narrative and tabular description of each scenario.
Fidalgo Bay-Wide Plan
Alternative Development Scenarios

Scenario 1: Intensive Development - Marina/Industrial Focus

**marine development (in the water)**
- shipping/terminal facilities
- marina
- boat sales and repair
- general industrial
- research/development
- warehouse
- processing plant

**shoreline development (within 200' of shoreline)**
- shipping/terminal facilities
- marina
- boat sales and repair
- general industrial
- research/development
- warehouse
- processing plant

**upland development (associated upland)**
- shipping/terminal facilities
- marina
- boat sales and repair
- general industrial
- research/development
- warehouse
- processing plant
- general office
- medical clinic
- general retail/commercial
- repair/cleaning shops
- restaurants/fast food
- hotel/motel
- bank
- auto sales, service, repair
- galleries, theaters

**commercial service uses**
- general office
- medical clinic
- general retail/commercial
- repair/cleaning shops
- restaurants/fast food
- hotel/motel
- bank
- auto sales, service, repair
- galleries, theaters

**residential uses**
- multi-family dwellings
- single family dwellings

**recreation/open space**
- parks/open space

**VI-3**
Fidalgo Bay-Wide Plan
Alternative Development Scenarios

Scenario 2: Mixed Use (Residential/Commercial) Focus

**water-related uses**
- shipping/terminal facilities
- marina
- boat sales and repair

**industrial uses**
- general industrial research/development
- warehouse
- processing plant
- general office
- medical clinic
- general retail/commercial repair/cleaning shops
- restaurants/fast food
- hotel/motel
- bank
- auto sale, service, repair
- galleries, theaters

**commercial service uses**
- general industrial research/development
- warehouse
- processing plant
- general office
- medical clinic
- general retail/commercial repair/cleaning shops
- restaurants/fast food
- hotel/motel
- bank
- auto sale, service, repair
- galleries, theaters
- multi-family dwellings
- single family dwellings
- parks/open space

**upland development**
- shipping/terminal facilities
- marina
- boat sales and repair
- general industrial research/development
- warehouse
- processing plant
- general office
- medical clinic
- general retail/commercial repair/cleaning shops
- restaurants/fast food
- hotel/motel
- bank
- auto sale, service, repair
- galleries, theaters
- multi-family dwellings
- single family dwellings
- parks/open space

**shoreline development**
- shipping/terminal facilities
- marina
- boat sales and repair

**marine development**
- (in the water)

**recreation/open space**
- parks/open space
Scenario 3: Low Development - Residential/Recreation Focus

<table>
<thead>
<tr>
<th>Water-related Uses</th>
<th>Marine Development (in the water)</th>
<th>Shoreline Development (within 200' of shoreline)</th>
<th>Upland Development (associated upland)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipping/terminal facilities</td>
<td>shipping/terminal facilities</td>
<td>shipping/terminal facilities</td>
<td>shipping/terminal facilities</td>
</tr>
<tr>
<td>Marina</td>
<td>marina</td>
<td>marina</td>
<td>marina</td>
</tr>
<tr>
<td>Boat sales and repair</td>
<td>boat sales and repair</td>
<td>boat sales and repair</td>
<td>boat sales and repair</td>
</tr>
<tr>
<td>Industrial Uses</td>
<td>General industrial research/development warehouse processing plant</td>
<td>General industrial research/development warehouse processing plant</td>
<td>General industrial research/development warehouse processing plant</td>
</tr>
<tr>
<td>Commercial Service Uses</td>
<td>General office</td>
<td>General office</td>
<td>General office</td>
</tr>
<tr>
<td></td>
<td>Medical clinic</td>
<td>Medical clinic</td>
<td>Medical clinic</td>
</tr>
<tr>
<td></td>
<td>General retail/commercial repair/cleaning shops</td>
<td>General retail/commercial repair/cleaning shops</td>
<td>General retail/commercial repair/cleaning shops</td>
</tr>
<tr>
<td></td>
<td>Restaurants/fast food</td>
<td>Restaurants/fast food</td>
<td>Restaurants/fast food</td>
</tr>
<tr>
<td></td>
<td>Hotel/motel</td>
<td>Hotel/motel</td>
<td>Hotel/motel</td>
</tr>
<tr>
<td></td>
<td>Bank</td>
<td>Bank</td>
<td>Bank</td>
</tr>
<tr>
<td></td>
<td>Auto sale, service, repair</td>
<td>Auto sale, service, repair</td>
<td>Auto sale, service, repair</td>
</tr>
<tr>
<td></td>
<td>Galleries, theaters</td>
<td>Galleries, theaters</td>
<td>Galleries, theaters</td>
</tr>
<tr>
<td>Residential Uses</td>
<td>Multi-family dwellings</td>
<td>Multi-family dwellings</td>
<td>Multi-family dwellings</td>
</tr>
<tr>
<td></td>
<td>Single family dwellings</td>
<td>Single family dwellings</td>
<td>Single family dwellings</td>
</tr>
<tr>
<td>Recreation/Open Space</td>
<td>Parks/open space</td>
<td>Parks/open space</td>
<td>Parks/open space</td>
</tr>
</tbody>
</table>

General Office
Medical Clinic
General Retail/Commercial
Repair/Cleaning Shops
Restaurants/Fast Food
Hotel/Motel
Bank
Auto sale, service, repair
Galleries, theaters
Multi-family dwellings
Single family dwellings
Parks/open space
Figure 17
Scenario 3
# Fidalgo Bay-Wide Plan

## Alternative Development Scenarios

### Scenario 4: No Action Alternative

<table>
<thead>
<tr>
<th><strong>marine development</strong></th>
<th><strong>shoreline development</strong></th>
<th><strong>upland development</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(in the water)</strong></td>
<td><strong>(within 200' of shoreline)</strong></td>
<td><strong>(associated upland)</strong></td>
</tr>
<tr>
<td>shipping/terminal facilities</td>
<td>shipping/terminal facilities</td>
<td>shipping/terminal facilities</td>
</tr>
<tr>
<td>marina</td>
<td>marina</td>
<td>marina</td>
</tr>
<tr>
<td>boat sales and repair</td>
<td>boat sales and repair</td>
<td>boat sales and repair</td>
</tr>
<tr>
<td>general industrial</td>
<td>general industrial</td>
<td>general industrial</td>
</tr>
<tr>
<td>research/development</td>
<td>research/development</td>
<td>research/development</td>
</tr>
<tr>
<td>warehouse</td>
<td>warehouse</td>
<td>warehouse</td>
</tr>
<tr>
<td>processing plant</td>
<td>processing plant</td>
<td>processing plant</td>
</tr>
</tbody>
</table>

**Water-related uses**
- general office
- medical clinic
- general retail/commercial
- repair/cleaning shops
- restaurants/fast food
- hotel/motel
- bank
- auto sales/service, repair
- galleries, theaters

**Industrial uses**
- general office
- medical clinic
- general retail/commercial
- repair/cleaning shops
- restaurants/fast food
- hotel/motel
- bank
- auto sales/service, repair
- galleries, theaters

**Commercial service uses**
- general office
- medical clinic
- general retail/commercial
- repair/cleaning shops
- restaurants/fast food
- hotel/motel
- bank
- auto sales/service, repair
- galleries, theaters

**Residential uses**
- multi-family dwellings
- single family dwellings

**Recreation/open space**
- parks/open space
As noted previously, future growth was allocated to Sub-Areas based on identified unconstrained land and knowledge of local development plans and proposals (identified as of March, 1996). It is anticipated that amendments to the scenarios and/or the bay-wide plan will be considered in response to evolving information about the planning area as well as to new proposals.

Assumptions & Methodology

Table 15 summarizes the amount and location of development assumed for each of the scenarios. Tables 17 through 20 provide a more detailed break-out of development.

The calculations for land uses in the alternative development scenarios are based on new development only; existing uses are not included. New development is assigned to vacant unconstrained land only; critical areas identified by the city are not included in the calculations. Vacant lands within the study area are categorized by a locational description (i.e., Marine, Shoreline and Upland) based on data in the Fidalgo Bay Environmental Profile (Chapter III). For purposes of this study, “marine” lands are defined as in or on the water; “shoreline” is defined as lands within the 200-foot Shoreline Management Act jurisdiction; and “upland” is defined as lands generally extending 3-4 blocks landward of the shoreline boundary (as included in the land use survey conducted for the Profile. All scenarios would generally maintain existing land use patterns, although some changes in specific land use designations could occur.

Vacant lands within the shoreline and upland categories occupy a total of 315 acres. Lands constrained by identified critical areas (approximately 70 acres affected by wetlands and steep slopes) were avoided as development sites and therefore deducted (assuming no development), leaving a total of 245 acres of vacant, developable land. Of this total, 82 acres are located within the shoreline environment and 163 acres are located in the upland environment; these are held constant under all the scenarios.

Proposed and “pipeline” (i.e. vested) projects are included in the alternative scenarios; some elements of the projects have been varied from current development concepts in some development scenarios. The planned expansion of the Washington State Ferry Terminal at Shannon Point, and the Ship Harbor project are assumed to be vested projects and are included in all scenarios. (The development intensity of the Ship Harbor project is increased in Scenario 1.) Cumulative development – existing uses plus proposed uses under each scenario – is also identified to help evaluation of cumulative impacts.
<table>
<thead>
<tr>
<th>Environment</th>
<th>Alternative 1</th>
<th>Alternative 2</th>
<th>Alternative 3</th>
<th>Alternative 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Marina</strong></td>
<td>100 acres</td>
<td>50 acres</td>
<td>25 acres</td>
<td>100 acres</td>
</tr>
<tr>
<td>(based on</td>
<td>2,000 slips</td>
<td>1,000 slips</td>
<td>500 slips</td>
<td>2,000 slips</td>
</tr>
<tr>
<td>projected</td>
<td>40 employees</td>
<td>20 employees</td>
<td>10 employees</td>
<td>40 employees</td>
</tr>
<tr>
<td>demand)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Industrial</strong></td>
<td>6 acres</td>
<td>.5 acres</td>
<td>.5 acres</td>
<td>6 acres</td>
</tr>
<tr>
<td></td>
<td>265,000 sq. ft</td>
<td>20,000 sq. ft</td>
<td>20,000 sq. ft</td>
<td>265,000 sq. ft</td>
</tr>
<tr>
<td></td>
<td>10 employees</td>
<td>---</td>
<td>---</td>
<td>10 employees</td>
</tr>
<tr>
<td><strong>Shoreline</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Commercial</strong></td>
<td>48 acres</td>
<td>24 acres</td>
<td>24 acres</td>
<td>28 acres</td>
</tr>
<tr>
<td>Marine</td>
<td>200,000 sq. ft</td>
<td>100,000 sq. ft</td>
<td>100,000 sq. ft</td>
<td>116,700 sq. ft</td>
</tr>
<tr>
<td></td>
<td>80 employees</td>
<td>40 employees</td>
<td>40 employees</td>
<td>45 employees</td>
</tr>
<tr>
<td><strong>Industrial</strong></td>
<td>30 acres</td>
<td>29 acres</td>
<td>10 acres</td>
<td>45 acres</td>
</tr>
<tr>
<td></td>
<td>1,200,000 sq. ft</td>
<td>580,000 sq. ft</td>
<td>200,000 sq. ft</td>
<td>900,000 sq. ft</td>
</tr>
<tr>
<td></td>
<td>480 employees</td>
<td>232 employees</td>
<td>80 employees</td>
<td>360 employees</td>
</tr>
<tr>
<td><strong>Commercial</strong></td>
<td>15 acres</td>
<td>10 acres</td>
<td>(existing)</td>
<td>(existing)</td>
</tr>
<tr>
<td>(existing)</td>
<td>300,000 sq. ft</td>
<td>100,000 sq. ft</td>
<td>(existing)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>240 employees</td>
<td>160 employees</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Residential</strong></td>
<td>10 acres</td>
<td>25 acres</td>
<td>5 acres</td>
<td></td>
</tr>
<tr>
<td>(existing)</td>
<td>280 units</td>
<td>700 units</td>
<td>90 units</td>
<td></td>
</tr>
<tr>
<td></td>
<td>672 persons</td>
<td>1,680 persons</td>
<td>216 persons</td>
<td></td>
</tr>
<tr>
<td><strong>Recreation &amp; Open Space</strong></td>
<td>4 acres</td>
<td>4 acres</td>
<td>13 acres</td>
<td>4 acres</td>
</tr>
<tr>
<td><strong>Upland</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Commercial</strong></td>
<td>75 acres</td>
<td>36 acres</td>
<td>36 acres</td>
<td>40 acres</td>
</tr>
<tr>
<td>Marine</td>
<td>412,500 sq. ft</td>
<td>200,000 sq. ft</td>
<td>200,000 sq. ft</td>
<td>220,000 sq. ft</td>
</tr>
<tr>
<td></td>
<td>412 employees</td>
<td>200 employees</td>
<td>200 employees</td>
<td>220 employees</td>
</tr>
<tr>
<td><strong>Industrial</strong></td>
<td>70 acres</td>
<td>(existing)</td>
<td>(existing)</td>
<td>90 acres</td>
</tr>
<tr>
<td></td>
<td>2,800,000 sq. ft</td>
<td>(existing)</td>
<td>(existing)</td>
<td>1,600,000 sq. ft</td>
</tr>
<tr>
<td></td>
<td>1,120 employees</td>
<td></td>
<td></td>
<td>720 employees</td>
</tr>
<tr>
<td><strong>Commercial</strong></td>
<td>20 acres</td>
<td>20 acres</td>
<td>5 acres</td>
<td></td>
</tr>
<tr>
<td>(existing)</td>
<td>400,000 sq. ft</td>
<td>400,000 sq. ft</td>
<td>50,000 sq ft</td>
<td></td>
</tr>
<tr>
<td></td>
<td>320 employees</td>
<td>320 employees</td>
<td>80 employees</td>
<td></td>
</tr>
<tr>
<td><strong>Residential</strong></td>
<td>10 acres</td>
<td>100 acres</td>
<td>10 acres</td>
<td></td>
</tr>
<tr>
<td></td>
<td>180 units</td>
<td>900 units</td>
<td>180 units</td>
<td></td>
</tr>
<tr>
<td></td>
<td>432 persons</td>
<td>2,160 persons</td>
<td>432 persons</td>
<td></td>
</tr>
<tr>
<td><strong>Recreation &amp; Open Space</strong></td>
<td>8 acres</td>
<td>38 acres</td>
<td>8 acres</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>includes open space in residential dev.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total New Employment</strong></td>
<td>2,142</td>
<td>1,052</td>
<td>810</td>
<td>1,475</td>
</tr>
<tr>
<td><strong>Total New Population</strong></td>
<td>432</td>
<td>2,832</td>
<td>3,840</td>
<td>648</td>
</tr>
</tbody>
</table>

Note: This table contains more detail than the data presented in Figures 15-18.
Development Factors

Development intensity assumptions, shown below, are based on data obtained from the City of Anacortes (including information on pipeline and proposed projects).

<table>
<thead>
<tr>
<th>Development Type</th>
<th>Assumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Marinas</td>
<td>20 slips/acre; 0.02 employees/slip</td>
</tr>
<tr>
<td>• Commercial Marine</td>
<td>4,167 square feet/acre; 1 employee/2,500 sq ft (shoreline); 1 employee/1,000 sq ft (upland)</td>
</tr>
<tr>
<td>• Industrial</td>
<td>Scenarios</td>
</tr>
<tr>
<td></td>
<td>20,000 square feet/acre</td>
</tr>
<tr>
<td></td>
<td>2, 3 &amp; 4 8 employees/acres</td>
</tr>
<tr>
<td></td>
<td>Scenario 1</td>
</tr>
<tr>
<td></td>
<td>40,000 square feet/acre</td>
</tr>
<tr>
<td></td>
<td>16 employees/acre</td>
</tr>
<tr>
<td>• Commercial</td>
<td>20,000 square feet/acre</td>
</tr>
<tr>
<td>• Residential</td>
<td>Population estimates are based on</td>
</tr>
<tr>
<td></td>
<td>2.4 persons per household.</td>
</tr>
<tr>
<td>• Parks, Open Space</td>
<td>City development requirements for</td>
</tr>
<tr>
<td></td>
<td>open space, parks dedication,</td>
</tr>
<tr>
<td></td>
<td>waterfront esplanade and trails are</td>
</tr>
<tr>
<td></td>
<td>assumed</td>
</tr>
</tbody>
</table>

Demand for Marina Development

Based on a report prepared by the Port of Bellingham (Northern Puget Sound Moorage Waiting Lists Analysis, 1994), the City of Anacortes estimated a demand for approximately 3,000 marina slips in the Anacortes area by the year 2012. This estimate was included in the Profile and used in developing initial drafts of the development scenarios. The estimated 3,000 slips was subsequently reduced by 1,200 slips in recognition of the marina proposed for development by the Swinomish Tribe south of SR20 on the west side of the Swinomish Channel.

The Supplemental Final EIS prepared for the Swinomish Channel Marina in 1996, estimated a demand for 10,790 marina slips within the northern Puget Sound region by the year 2010 (Hebert Research, Wet Moorage Market Study: prepared for Swinomish Tribal Community. Bellevue, Washington, 1995). At least twenty percent of this demand is projected to occur in the Anacortes/La Conner area.
Table 16
Northern Puget Sound Estimated Marina Demand (Year 2010)

<table>
<thead>
<tr>
<th>Total Estimated Demand to 2010</th>
<th>Total slips</th>
<th>Swinomish Marina</th>
<th>Anacortes</th>
<th>Anacortes % total demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,790</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percent of total demand located in Anacortes/La Conner</td>
<td>30%</td>
<td>3,216</td>
<td>1,216</td>
<td>2,000</td>
</tr>
<tr>
<td></td>
<td>20.5%</td>
<td>2,216</td>
<td>1,216</td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td>16%</td>
<td>1,716</td>
<td>1,216</td>
<td>500</td>
</tr>
</tbody>
</table>

*Sources: Port of Bellingham 1994; Hebert Research 1995; City of Anacortes 1996*

The development scenarios reflect a range of estimated demand for marina slips in the study area as shown in Table 16. Scenarios 1 and 4 (which include the most intensive development) assume that approximately 30 percent of projected new marina growth will occur in the Anacortes/La Conner area. Scenario 2 assumes approximately 20 percent of the growth; and Scenario 3 assumes approximately 16 percent.

**Description of Alternative Development Scenarios**

**Scenario 1 - Marina/Industrial Focus**

Scenario 1 would expand commercial marine and industrial land uses within the study area and increase/intensify development within the marine environment, shorelines, and adjacent uplands. Compared to the other scenarios, commercial and industrial development is assumed to occur at higher intensities. Most new development would occur within Sub-Area 3, although significant amounts would also occur within Sub-Area 1.

Within Sub-Area 3, development within the shoreline would encompass approximately 20 acres of marine commercial land uses and approximately 5 acres of industrial uses. Dredging would occur in Fidalgo Bay to accommodate approximately 1,500 new marina slips along the shoreline south of Cap Sante marina. Land uses within the upland portion of Sub-Area 3 would also emphasize commercial marine and industrial uses with approximately 20 acres of commercial marine uses and 62 acres of industrial development.

The planned expansion of the Washington State Ferry Terminal at Shannon Point would occur within Sub-Area 1. Marina development would include 500 deep water marina slips to be developed as part of the Ship Harbor project. The Ship Harbor project would also include 36 acres of shoreline development, including 24 acres of commercial marine
uses. Upland uses would include 46 acres of commercial marine development and 5 acres of residential uses. Twelve acres of industrial development would be located in the shoreline in the vicinity of Lovric’s and Shannon Point Sea Foods.

Development within Sub-Area 2 would be relatively low in intensity and scale, with an additional 3 acres (approximately 120,000 square feet) of new industrial uses located in the Port area together with an increase in the intensity of water-dependent industry and existing sites requiring some dredging, docks and armorign of shoreline. Approximately 5 acres (28,000 square feet) of commercial marine uses would be added to the upland area near Cap Sante marina.

Relatively limited amounts of development would be directed to the south end of Fidalgo Bay (Sub-Area 4); new shoreline development north of Weaverling Spit would include 4 plus acres of commercial marine uses, 6 acres of industrial uses, 5 acres of residential development, and some boat slips (the allocation overlaps that set forth in Sub-Area 3).

**Cumulative Development (Existing plus Scenario 1):**

- Marina slips 3,846
- Shoreline
  - commercial marine 75.5 acres
  - industrial 52 acres
- Upland
  - commercial marine 76 acres
  - industrial 146 acres

**Scenario 2 - Mixed Use (Commercial/Residential) Focus**

Under this scenario, development would be less intense, with a greater diversity of land uses, and with development more widely dispersed throughout the study area compared with Scenario 1. New marina slips would total 1,000 (approximately half the number of new slips provided under Scenarios 1 and 4). Most of the new marina capacity would be located in the relatively deep water of Guemes Channel rather than concentrated in Fidalgo Bay. Within Fidalgo Bay, only 300 new marina slips would be developed (200 allocated to Sub-Area 3 and 100 to Sub-Area 4; alternatively, all 300 slips could be located in Sub-Area 3).

Land uses within Sub-Area 1 would include expansion of the Washington State Ferry Terminal at Shannon Point; the Ship Harbor project including 600 deep water marina slips, 24 acres of commercial marine in the shoreline, and 36 acres of commercial marine uses and 30 acres of residential development in the uplands. Ten acres of new industrial development and 100 deep water marina slips would be developed in the area of Shannon Point Seafoods and Lovric Sea Crafts.
Table 17. Scenario 1 – Marina/Industrial Focus

<table>
<thead>
<tr>
<th>Environment</th>
<th>Land Use</th>
<th>Acres &amp; Development Ratio</th>
<th>Development Intensity (sq. ft./units)</th>
<th>Employment &amp; Residential Population</th>
<th>Existing Development (acres)</th>
<th>Total Cumulative Development (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marine</td>
<td>Marina</td>
<td>100</td>
<td>2,000 slips</td>
<td>40</td>
<td>1,846 slips</td>
<td>3,846 slips</td>
</tr>
<tr>
<td></td>
<td>Industrial</td>
<td>6</td>
<td>265,000</td>
<td>10</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Shoreline</td>
<td>Commercial</td>
<td>48</td>
<td>200,000</td>
<td>80</td>
<td>27.5</td>
<td>75.5</td>
</tr>
<tr>
<td>Intensive</td>
<td>Marina**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intensive</td>
<td>Industrial</td>
<td>30</td>
<td>1,200,000</td>
<td>480</td>
<td>22</td>
<td>52</td>
</tr>
<tr>
<td>Existing</td>
<td>Commercial</td>
<td>existing</td>
<td>existing</td>
<td>existing</td>
<td>54</td>
<td>54</td>
</tr>
<tr>
<td>Existing</td>
<td>Residential</td>
<td>existing</td>
<td>existing</td>
<td>existing</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>Light</td>
<td>Recreation &amp; Open Space</td>
<td>4</td>
<td>N/A</td>
<td>N/A</td>
<td>20.3</td>
<td>24.3</td>
</tr>
<tr>
<td>Explanade &amp; BNR to Trails</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upland</td>
<td>Commercial</td>
<td>75</td>
<td>416,700</td>
<td>416</td>
<td>1</td>
<td>76</td>
</tr>
<tr>
<td>Intensive</td>
<td>Marina**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intensive</td>
<td>Industrial</td>
<td>70</td>
<td>2,800,000</td>
<td>1,120</td>
<td>76</td>
<td>146</td>
</tr>
<tr>
<td>Existing</td>
<td>Commercial</td>
<td>existing</td>
<td>existing</td>
<td>existing</td>
<td>51</td>
<td>51</td>
</tr>
<tr>
<td>Light</td>
<td>Residential</td>
<td>@ 18 upa</td>
<td>180</td>
<td>432</td>
<td>176</td>
<td>186</td>
</tr>
<tr>
<td>(BNR to Trails)</td>
<td>Recreation &amp; Open Space</td>
<td>8</td>
<td>N/A</td>
<td>N/A</td>
<td>119</td>
<td>127</td>
</tr>
</tbody>
</table>

Total New Employment 2,146
Total New Residential Population 432

** Commercial Marine assumes Ship Harbor development

Revised Final Fidalgo Bay-Wide Plan/EIS
Relatively low levels of new development would occur in Sub-Area 2, with 5 acres of industrial uses developed in the vicinity of the Port’s shipping terminal and 5 acres of upland commercial north of Cap Santa marina.

Sub-Area 3 would be developed with a mix of industrial, commercial and residential uses. Within the shoreline area, the emphasis would be on commercial uses (15 acres, approximately 300,000 square feet), and a mix of industrial uses (10 acres, approximately 200,000 square feet), and residential uses (5 acres, 140 units). Residential uses would dominate the upland area with 70 acres designated for residential development (630 units) and 15 acres of commercial uses (300,000 square feet).

The southern end of the bay, Sub-Area 4, would experience only limited shoreline development with 4 acres of industrial development. Marina development would include 100 new slips.

**Cumulative Development (Existing plus Scenario 2):**
- **Shoreline**
  - 51.5 acres commercial marine
  - 51 acres industrial
  - 69 acres commercial
  - 55 acres residential.

- **Upland**
  - 37 acres commercial marine
  - 76 acres of industrial
  - 71 acres commercial
  - 276 acres residential

**Scenario 3 – Low Intensity (Residential/Recreational) Focus**

Scenario 3 would emphasize residential and recreational/open space uses. Mixed use areas of commercial and residential development would also be located within shoreline areas. No marina expansion would occur in Fidalgo Bay; up to 500 deep water slips would be constructed as part of the Ship Harbor development.

Land uses within Sub-Area 1 would include expansion of the Washington State Ferry Terminal at Shannon Point; and Ship Harbor (including 500 deep water marina slips, 24 acres of commercial marine in the shoreline; 36 acres of commercial marine uses; 5 acres of commercial uses; and 25 acres of residential development in the uplands). Three acres of new industrial development would be developed in the vicinity of Shannon Point Seafoods and Lovrie Sea Crafts. Relatively low levels of development would occur in Sub-Area 2, with 2 acres of industrial uses located in the vicinity of the Port’s shipping terminal and 5 acres of upland commercial north of the Cap Sante marina.
Table 18. Scenario 2 – Mixed Use (Commercial/Residential) Focus

<table>
<thead>
<tr>
<th>Environment</th>
<th>Land Use</th>
<th>Acres &amp; Development Ratio</th>
<th>Development Intensity (sq. ft./unit)</th>
<th>Employment &amp; Residential Population</th>
<th>New Development Potential</th>
<th>Existing Development (acres)</th>
<th>Total Cumulative Development (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Marine</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>moderate</td>
<td>Marina</td>
<td>50</td>
<td>1,000 slips</td>
<td>20</td>
<td>1,846 slips</td>
<td>3,846 slips</td>
<td></td>
</tr>
<tr>
<td>light</td>
<td>Industrial</td>
<td>.5</td>
<td>20,000</td>
<td>--</td>
<td>6</td>
<td>6.5</td>
<td></td>
</tr>
<tr>
<td><strong>Shoreline</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>moderate</td>
<td>Commercial Marine**</td>
<td>24</td>
<td>100,000</td>
<td>40</td>
<td>27.5</td>
<td>51.5</td>
<td></td>
</tr>
<tr>
<td>moderate</td>
<td>Industrial</td>
<td>29</td>
<td>580,000</td>
<td>232</td>
<td>22</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>intensive</td>
<td>Commercial</td>
<td>15</td>
<td>300,000</td>
<td>240</td>
<td>54</td>
<td>69</td>
<td></td>
</tr>
<tr>
<td>moderate</td>
<td>Residential</td>
<td>10 @ 28 upa units</td>
<td>280</td>
<td>672</td>
<td>45</td>
<td>55</td>
<td></td>
</tr>
<tr>
<td><strong>Upland</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>moderate</td>
<td>Commercial Marine**</td>
<td>36</td>
<td>200,000</td>
<td>200</td>
<td>1</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>existing</td>
<td>Industrial</td>
<td>existing</td>
<td>existing</td>
<td>existing</td>
<td>76</td>
<td>76</td>
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<tr>
<td>intensive</td>
<td>Commercial</td>
<td>20</td>
<td>400,000</td>
<td>320</td>
<td>51</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>intensive</td>
<td>Residential</td>
<td>100 @ 9 upa units</td>
<td>900</td>
<td>2,160</td>
<td>176</td>
<td>276</td>
<td></td>
</tr>
<tr>
<td>intensive</td>
<td>Recreation &amp; Open Space</td>
<td>38 *</td>
<td>N/A</td>
<td>N/A</td>
<td>119</td>
<td>127</td>
<td></td>
</tr>
</tbody>
</table>

**Total New Employment** 1,052

**Total New Population** 2,832

* recreation and open space includes open space provided within residential areas

** Commercial Marine assumes Ship Harbor development
Sub-Area 3 would be developed with a mix of industrial, commercial and residential uses. Within the shoreline area, the emphasis would be primarily commercial and residential with 10 acres of commercial uses (approximately 100,000 square feet), 10 acres of residential development (280 units) and 5 acres of industrial uses (approximately 100,000 square feet). The upland area would contain a mix of residential uses (75 acres, 675 units) and commercial uses (10 acres, approximately 200,000 square feet).

The southern end of the bay (Sub-Area 4) would experience only limited shoreline development with 10 acres of residential development (280 units) and 8 acres of open space.

_Cumulative Development (Existing plus Scenario 3):_

- **Shoreline**
  - 51.5 acres commercial marine
  - 32 acres industrial
  - 64 acres commercial
  - 70 acres residential

- **Upland**
  - 37 acres commercial marine
  - 76 acres industrial
  - 71 acres commercial
  - 276 acres residential.

**Scenario 4 – Build-Out of Existing Land Use**

Scenario 4 serves as a baseline (or “no-action”) scenario. It assumes that development currently permitted in the City’s adopted Comprehensive Plan and Zoning Code would occur. Uses would be developed on vacant land at densities permitted by existing regulations.

Under Scenario 4, development would continue to follow existing patterns of land use and the current intensity of development. Industrial and commercial marine activities would continue to be the principal uses within the shoreline and adjacent uplands. Marina development would continue to be focused primarily in Fidalgo Bay, although approximately 500 marina slips would be constructed in Guemes Channel as part of the Ship Harbor project.

Within Sub-Area 1, similar to the other scenarios, planned expansion of the Washington State ferry terminal would occur at Shannon Point. The Ship Harbor project would consist of 500 new marina slips, 24 acres of commercial marine in the shoreline area, and 36 acres of commercial marine in the uplands. Five acres of new residential development would also occur in the upland area. Approximately 13 acres of industrial uses would be developed in the vicinity of Lovric’s Sea Craft.
Table 19. Scenario 3 – Low Development (Residential/Recreational) Focus

<table>
<thead>
<tr>
<th>Environment</th>
<th>Land Use</th>
<th>Acres &amp; Development Ratio</th>
<th>Development Intensity (sq. ft./units)</th>
<th>Employment &amp; Residential Population</th>
<th>Existing Development (acres)</th>
<th>Total Cumulative Development (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marine</td>
<td>light</td>
<td>Marina</td>
<td>25</td>
<td>500 slips</td>
<td>10</td>
<td>1,846 slips</td>
</tr>
<tr>
<td></td>
<td>light</td>
<td>Industrial</td>
<td>.5</td>
<td>20,000</td>
<td>----</td>
<td>6</td>
</tr>
<tr>
<td>Shoreline</td>
<td>light</td>
<td>Commercial Marine**</td>
<td>24</td>
<td>100,000</td>
<td>40</td>
<td>27.5</td>
</tr>
<tr>
<td></td>
<td>light</td>
<td>Industrial</td>
<td>10</td>
<td>200,000</td>
<td>80</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>moderate</td>
<td>Commercial</td>
<td>10</td>
<td>100,000</td>
<td>160</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Intensive</td>
<td>Residential</td>
<td>25</td>
<td>700</td>
<td>@ 28 upa units</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>Intensive</td>
<td>Recreation &amp; Open Space</td>
<td>13</td>
<td>N/A</td>
<td>N/A</td>
<td>20.3</td>
</tr>
<tr>
<td>Upland</td>
<td>moderate</td>
<td>Commercial Marine**</td>
<td>36</td>
<td>200,000</td>
<td>200</td>
<td>1.0</td>
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<tr>
<td></td>
<td>existing</td>
<td>Industrial</td>
<td>existing</td>
<td>existing</td>
<td>existing</td>
<td>76</td>
</tr>
<tr>
<td></td>
<td>Intensive</td>
<td>Commercial</td>
<td>20</td>
<td>400,000</td>
<td>320</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>Intensive</td>
<td>Residential</td>
<td>100</td>
<td>900</td>
<td>@ 9 upa units</td>
<td>176</td>
</tr>
<tr>
<td></td>
<td>Intensive</td>
<td>Recreation &amp; Open Space</td>
<td>38 acres</td>
<td>N/A</td>
<td>N/A</td>
<td>119</td>
</tr>
</tbody>
</table>

**Total New Employment** 810

**Total New Residential** 3,840

Total Acres 597.8

Total Acres 843.3

*Recreation and open space area includes open space within residential areas

**Commercial Marine assumes Ship Harbor development
A relatively minor amount of new development would occur in Sub-Area 2, while existing uses are expected to increase water-dependent activity. Approximately 5 acres of industrial development would be located in the port area; 4 acres of commercial marine would be developed north of the Cap Sante marina.

Most new industrial development would occur in Sub-Area 3 with approximately 4 acres of commercial marine and 22 acres of industrial development located on the shoreline south of the Cap Sante marina. Upland development would encompass approximately 80 acres of new industrial uses. At build-out, approximately 1,500 new marina slips would be developed.

The limited amount of land available for development would restrict development in Sub-Area 4. Within the shoreline and upland areas approximately 10 acres of industrial development would occur. Residential development would consist of approximately 10 acres. Commercial marine development would involve 4 plus acres.

**Cumulative Development (Existing plus Scenario 4):**

- **Shoreline**
  - 55.5 acres commercial marine
  - 67 acres industrial
  - 54 acres commercial
  - 50 acres residential

- **Upland**
  - 41 acres commercial marine
  - 166 acres industrial
  - 56 acres commercial
  - 196 acres residential.
Table 20. Scenario 4 – Build-Out of Existing Land Use

<table>
<thead>
<tr>
<th>Environment</th>
<th>Land Use</th>
<th>Acres &amp; Development Ratio</th>
<th>Development Intensity (sq. ft./units)</th>
<th>Employment &amp; Residential Population</th>
<th>Existing Development (acres)</th>
<th>Total Cumulative Development (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marine</td>
<td>Marina</td>
<td>100</td>
<td>2,000 slips</td>
<td>40</td>
<td>1,846 slips</td>
<td>3,846 slips</td>
</tr>
<tr>
<td>moderate</td>
<td>Industrial</td>
<td>6</td>
<td>265,000</td>
<td>10</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Shoreline</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>light</td>
<td>Commercial</td>
<td>28</td>
<td>116,700</td>
<td>45</td>
<td>27.5</td>
<td>55.5</td>
</tr>
<tr>
<td>Intensive</td>
<td>Industrial</td>
<td>45</td>
<td>900,000</td>
<td>360</td>
<td>22</td>
<td>67</td>
</tr>
<tr>
<td>existing</td>
<td>Commercial</td>
<td>existing</td>
<td>existing</td>
<td>existing</td>
<td>54</td>
<td>54</td>
</tr>
<tr>
<td>existing</td>
<td>Residential</td>
<td>5</td>
<td>90 units</td>
<td>216</td>
<td>45</td>
<td>50</td>
</tr>
<tr>
<td>light</td>
<td>Recreation &amp; Open Space</td>
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<td>N/A</td>
<td>20.3</td>
<td>24.3</td>
</tr>
<tr>
<td>(Esplanade &amp; BNR to Trails)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upland</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>moderate</td>
<td>Commercial</td>
<td>40</td>
<td>220,000</td>
<td>220</td>
<td>1.0</td>
<td>41</td>
</tr>
<tr>
<td>moderate</td>
<td>Industrial</td>
<td>90</td>
<td>1,800,000</td>
<td>720</td>
<td>76</td>
<td>166</td>
</tr>
<tr>
<td>existing</td>
<td>Commercial</td>
<td>5</td>
<td>50,000</td>
<td>80</td>
<td>51</td>
<td>56</td>
</tr>
<tr>
<td>light</td>
<td>Residential</td>
<td>20</td>
<td>360 @18 upa</td>
<td>864</td>
<td>176</td>
<td>196</td>
</tr>
<tr>
<td>light</td>
<td>Recreation &amp; Open Space</td>
<td>8</td>
<td>N/A</td>
<td>N/A</td>
<td>119</td>
<td>127</td>
</tr>
<tr>
<td>(BNR to Trails)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Total New Employment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,475</td>
<td></td>
</tr>
<tr>
<td>Total New Population</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,080</td>
<td></td>
</tr>
</tbody>
</table>

**Commercial Marine includes Ship Harbor development
Chapter VII.

Environmental Impacts of Development Scenarios
VII. Environmental Impacts of Development Scenarios

Introduction

This chapter provides a concise comparative analysis of the environmental impacts that could result from implementation of each of the four alternative development scenarios for the Fidalgo Bay study area. A separate summary matrix is provided for each of the environmental issues.

Several points about this analysis should be noted.

- The environmental matrices analyze the cumulative, bay-wide impacts of each of the alternative development scenarios. In addition, where possible, the environmental matrices assess the potential impacts to the environment for each distinct environment (i.e., upland, shoreline, marine) in each of the five Sub-Areas of the bay.

- Impacts have been quantified where possible and appropriate. For example, potential natural resource impacts are compared against the estimated total area of the relevant marine resource, on a bay-wide basis, in comparable acres, feet or percent of the mapped resource. Numbers are estimates based on the best available information. The quantification of impacts, based on estimates derived from maps in the Environmental Profile (Chapter III) also identifies the relative size and magnitude of area that is avoided, or not directly impacted, by each alternative scenario.

- Where impacts are not quantifiable, they are evaluated on a relative scale of "high," "medium" or "low." In these cases, the accompanying narrative provides an explanation of the criteria considered in reaching the conclusions.

- The information presented in the table is intended to be a relative assessment of impacts identified for the development scenarios as opposed to an absolute assessment of impacts. As an example, while the table may show a potential impact as "high" relative to the other development scenarios, the actual impact may not be high overall when considered from a bay-wide perspective. Where possible, projected potential impacts are compared against the estimated total area of that marine resource bay-wide, in comparable acres, feet or percent of the mapped resource data.

Following each table is a section providing further explanation and analysis. This section presents criteria for the entries in the table and further analysis, where appropriate.

This information in this chapter documents the initial environmental analysis of the development scenarios. The format used is intended to be consistent with applicable SEPA rules for plan/EIS integration (WAC 197-11-210 et. seq.). The level of analysis is consistent with direction for programmatic analysis of plan and regulatory proposals. As
discussed in Chapter I of this document, the Fidalgo Bay-Wide Plan is being developed using a process that integrates consideration of environmental impacts with decisions on planning issues. This section of the Plan/EIS provided the information necessary to create and select the development scenario that meets the objectives for Fidalgo Bay.
<table>
<thead>
<tr>
<th>Element/Impact/Area/Environment</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
<th>Scenario 4</th>
</tr>
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<tbody>
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<td><strong>BIOLOGICAL RESOURCES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of Potential Impacts to Eelgrass and Macroalgae</td>
<td></td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>BAYWIDE</td>
<td></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>• Shoreline</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Marine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>◆ (48 ac)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.4% of total bay-wide resource</td>
<td></td>
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</tr>
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<td>N/A</td>
</tr>
<tr>
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<td></td>
<td></td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>• Marine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>◆ (1 ac)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBAREA 2</td>
<td></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>• Shoreline</td>
<td></td>
<td></td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>• Marine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>◆ (4 ac)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBAREA 3</td>
<td></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>• Shoreline</td>
<td></td>
<td></td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>• Marine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>◆ (2 ac)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBAREA 4</td>
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<td>N/A</td>
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<tr>
<td>• Shoreline</td>
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<td></td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>• Marine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>◆ (42 ac)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBAREA 5</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>• Shoreline, Marine</td>
<td></td>
<td></td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

**Legend**
- ◆ High
- ◆ Medium
- ◆ Low
- N/A Not applicable; no resources present &/or no development proposed in subarea

Note: Potential impacts under each scenario are compared to each other and to the overall sensitivity of the resource, not measured against any recognized standard.

* Eelgrass and Macroalgae mapped in Environmental Profile were estimated by AutoCAD at 1,398 acres. See detail Appendix F.
# Table 22

## Impacts of Development Scenarios

<table>
<thead>
<tr>
<th>Element/Impact/Area/Environment</th>
<th>Development Scenarios</th>
<th>Development Scenarios</th>
<th>Development Scenarios</th>
<th>Development Scenarios</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Scenario 1</td>
<td>Scenario 2</td>
<td>Scenario 3</td>
<td>Scenario 4</td>
</tr>
<tr>
<td><strong>BIOLOGICAL RESOURCES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of Potential Impacts to Fish Spawning Habitat</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>BAYWIDE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Shoreline</td>
<td>♦ (surf smelt)</td>
<td>♦</td>
<td>N/A</td>
<td>♦ (surf smelt)</td>
</tr>
<tr>
<td>• Marine *</td>
<td>♦ (31 ac, herring)</td>
<td>♦ (7 ac, herring)</td>
<td>♦ (0.5 ac, herring)</td>
<td>♦ (31 ac, herring)</td>
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<tr>
<td></td>
<td>2.3% of total baywide resource</td>
<td>0.5% of total baywide resource</td>
<td>0.04% of total baywide resource</td>
<td>2.3% of total baywide resource</td>
</tr>
<tr>
<td><strong>SUBAREA 1</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>• Shoreline, Marine</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>SUBAREA 2</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Shoreline</td>
<td>♦ (minimal surf smelt)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>• Marine</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>SUBAREA 3</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Shoreline</td>
<td>♦ (surf smelt)</td>
<td>♦ (minimal surf smelt)</td>
<td>N/A</td>
<td>♦ (surf smelt)</td>
</tr>
<tr>
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<td>♦ (0.5 ac, herring)</td>
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<td>• Shoreline</td>
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<td>♦ (minimal surf smelt)</td>
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<td>♦ (surf smelt)</td>
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### Legend

- ♦ High
- ♦ Medium
- ♦ Low
- N/A Not applicable; no resources present &/or no development proposed in subarea

### Note

Potential impacts under each scenario are compared to each other and to the overall sensitivity of the resource, not measured against any recognized standard.

* Herring spawn acres mapped in Environmental Profile were estimated as greater than 1,359 acres. An estimated 3.5 miles of potential surf smelt spawning beaches were identified, 92% of which (est. 17,327 linear feet) are in subareas 4 and 5. These data will be further clarified prior to Final EIS.
## Table 23

### Impacts of Development Scenarios

<table>
<thead>
<tr>
<th>Element/Impact/Area/Environment</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
<th>Scenario 4</th>
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<td><strong>BIOLOGICAL RESOURCES</strong></td>
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<tr>
<td>Degree of Potential Impacts to Water Quality/Sediment</td>
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<td>• Marine</td>
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**Legend**

◆ High  ◆ Medium  ◆ Low  N/A Not applicable; no resources present &/or no development proposed in subarea

**Note:** Potential impacts under each scenario are compared to each other and to the overall sensitivity of the resource, not measured against any recognized standard.
### Table 24

**Impacts of Development Scenarios**

<table>
<thead>
<tr>
<th>Element/Impact/Area/Environment</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
<th>Scenario 4</th>
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</table>

**Legend**

-  ◇ High
-  ◇ Medium
-  ◇ Low
-  N/A Not applicable; no resources present &/or no development proposed in subarea

**Note:** Potential impacts under each scenario are compared to each other and to the overall sensitivity of the resource, not measured against any recognized standard.
Table 25
Impacts of Development Scenarios

<table>
<thead>
<tr>
<th>Element/Impact/Area/ Environment</th>
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</tbody>
</table>

Legend
◆ High      ◆ Medium      ◆ Low      N/A Not applicable; no resources present &/or no development proposed in subarea

Note: Potential impacts under each scenario are compared to each other and to the overall sensitivity of the resource, not measured against any recognized standard.
A. Biological Resources

The projected impacts of the four scenarios on selected key resources are summarized in Tables 21 - 25. Where possible, for each key resource, the estimated acres of habitat (or linear feet of shoreline with spawning habitat) that would be affected (area-wide and by Sub-Area) is provided. These estimates should be considered only as order of magnitude estimates based on estimates from the resource maps (calculated by AutoCAD). For most of the planning area, detailed resource delineations have not been done and for most assumed projects within each scenario, detailed project plans are not available.

For each scenario and Sub-Area, the relative magnitude of impact to the resource in question is ranked as Low, Medium, or High based primarily on the relative abundance of the resource or habitat within the planning area, overall sensitivity of the resource, and the percentage of that resource or habitat that would be impacted under the scenario in question. The impacts within each Sub-Area are then summed to arrive at the overall relative impact of the scenario on the resource in question. The statements about impact are unrelated to the relative ease of mitigation and do not reflect the expectation that the vast majority of impacts could and would be compensated. In most cases, losses would be replaced or enhanced by mitigation actions directed at the same resource or habitat as would be lost.

- Under all of the proposed scenarios, impacts to the majority of the marine habitats and resources would be avoided. Except for the proposed Ship Harbor Marina, no impacts are expected in deeper waters. Also, no developments are anticipated in the southern portion of Fidalgo Bay or along the western shoreline of March Point, where an estimated 48 percent of herring spawn habitat and 58 percent of surf smelt spawning beaches are identified.

- Under Scenarios 1 and 4, approximately 100 acres of marine habitat would be affected, primarily by dredging to provide adequate navigation depths or by over-water construction. This represents approximately one-third of one percent of the surface area of marine waters within the study area boundaries.

- An estimated 48 acres of existing eelgrass habitat may be impacted under Scenarios 1 and 4. Impacts would result primarily from dredging to provide necessary depths for marina use. Based on information prepared in the Environmental Profile (Chapter III), review of aerial photographs and review of City of Anacortes' CAD maps, the Fidalgo Bay study area contains an estimated 1,400 acres of marine vegetation, primarily eelgrass habitat. Based on this estimate, the total area impacted under Scenarios 1 and 4 would equal approximately 3.4 percent of total bay-wide of eelgrass habitat area. Viewed another way, Scenarios 1 and 4 would result in avoidance of direct impacts to approximately 96.6 percent, or approximately 1,350 acres, of the eelgrass habitat area. As noted in Table 21, this is considered to be a high impact because of the known resource values of eelgrass.
A similar proportion of herring spawning habitat (on eelgrass and algae) would also be affected under Scenarios 1 and 4; these too are ranked as a high impact (Table 22).

Under Scenarios 2 and 3, progressively less eelgrass and herring spawning habitat would be impacted, primarily because less marina development would occur in Sub-Areas 3 and 4, where these resources are prevalent. Estimated losses of these habitat types would be on the order of 1 and 0.2 percent, respectively, of the amount in the planning area; these losses are rated as medium and low, respectively.

Isolated surf smelt spawning areas that could be impacted by marine or shoreline development lie along the mid- to upper intertidal zone at several locations in Sub-Areas 2 and 3; although a significant proportion of those areas could be affected, none of the scenarios would greatly affect the larger areas in Sub-Areas 4 and 5 where an estimated 92 percent of spawning in the planning area occurs (an estimated 17,324 linear feet based on information contained in the Environmental Profile, aerial photographs and the City of Anacortes' CAD maps). As a result, impacts in Sub-Area 2 are rated as low and those in Sub-Areas 3 and 4 medium for Scenarios 1 and 4 (Table 22). Scenario 2 would have only minimal potential impacts on surf smelt, all in Sub-Areas 2, 3 and 4 where impacts were rated as low. Scenario 3 would not result in impacts to surf smelt in Sub-Area 2.

Several other important marine resources could be affected by the various development scenarios. In the absence of major marine fills, the primary impacts would be in changing the depths or surficial substrate through dredging, or altering of shoreline configurations. These types of changes to the physical nature of habitats could impact hardshell clam resources, Dungeness crab habitat, and nearshore migration corridors for juvenile anadromous fish.

Dredging of significant areas (e.g., 40+ acres) for marina construction in Sub-Area 3, in addition to adverse effects on eelgrass and herring spawning, would reduce the suitability of the area for juvenile Dungeness crab; at the same time it would likely increase the use of the habitat by adult crab. Changes in depth and substrate could also change the species of clams dominating the infauna.

Dredging, shoreline and upland construction activity have the potential to introduce water-borne sediment and silt into the water column. It is assumed that best available technology would be employed to limit introduction of sediments from uplands sources; in-water work would be timed to occur at less sensitive times of the year. Suspended material would settle to the seabed in areas of low energy that could include areas of eelgrass and algal beds. Some reduction in photosynthetic activity could be expected in beds exposed to water-borne sediments for periods of weeks or longer and in beds where vegetation becomes coated with a layer of silt. Overall impacts to water quality would generally be minor (rated low in Table 23) except for
the potential for moderate impacts due to large volumes of dredging that would occur in Sub-Area 3 under Scenarios 1 and 4.

- The net effect of each scenario on juvenile salmonid habitat will be a function of the nature of the existing shorelines, changes that result from development, the nature of adjacent shorelines, and the degree of mitigation built into each individual project. For example, the north shoreline within the Cap Sante Marina offers excellent and productive shallow water juvenile salmonid feeding habitat while the riprapped west shore of the Anacortes Marina offers much less favorable habitat for these fish. Large scale marine construction under Scenarios 1 and 4 would require significant shoreline modifications as well as offshore breakwaters that could alter the nature of the nearshore environment. As a result, the potential impacts on juvenile salmonid habitat are rated as moderate in Sub-Area 3 under Scenarios 1 and 4 (Table 25); otherwise these impacts are considered to be low.
## Table 26

**Impacts of Development Scenarios**

<table>
<thead>
<tr>
<th>Element/Impact/Area/Environment</th>
<th>Development Scenarios</th>
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<tr>
<td>Conflicts with Type, Intensity &amp; Character of Adjacent Existing &amp; Proposed Land Uses Within Subarea</td>
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**Legend**
- ✷ High
- ✷ Medium
- ❀ Low
- N/A Not applicable; no resources present &/or no development proposed in subarea
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<th>Element/Impact/Area/Environment</th>
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Legend:

- High
- Medium
- Low

N/A Not applicable; no resources present &/or no development proposed in subarea.
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<th>Element/Impact/Area/Environment</th>
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</tr>
<tr>
<td>SUBAREA 4</td>
<td></td>
</tr>
<tr>
<td>SUBAREA 5</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Legend
- High
- Medium
- Low
- N/A Not applicable; no resources present &/or no development proposed in subarea
B. Land Use

Conflicts with Type, Intensity and Character of Adjacent Land Uses

Conflicts between adjacent existing and proposed land uses within a Sub-Area were assessed for each development scenario based on the amount and location of the uses and the potential for proximity impacts. Proximity impacts could occur as a result of disparate type, intensity and character of land uses. As an example, less intensive uses (i.e., residential development) could experience impacts from more intensive adjacent uses (i.e., commercial/industrial development) due to additional traffic/general activity, noise, odor, light and glare, and visual qualities. Land use conflicts could also be experienced when relatively intensive uses are developed in close proximity to each other within a confined area. For example, a large marina that is located adjacent to a commercial marine use with a dock and boat traffic may result in conflicts in boat traffic patterns and use of the marine environment.

Table 26 shows that, in general, potential conflicts with the type, intensity and character of adjacent existing and proposed land uses would be low to medium for all of the development scenarios. The greatest potential for conflict would occur in Sub-Area 1 under Scenarios 2 and 3. These scenarios propose the largest amount of commercial/industrial development in an area close to existing and proposed residential development. Some conflicts could arise between more intensive marina development and the existing predominately commercial/industrial development in Sub-Area 3 under Scenarios 1 and 4. Potential conflicts between existing and proposed residential and commercial/industrial development could also occur in Sub-Area 4 under Scenarios 1, 2 and 4 due to the limited area available for development in this area and the necessity for these uses to locate near to one another. See the discussion below for additional analysis of each of the Sub-Areas.

Sub-Area 1:

- Scenarios 2 and 3 have the greatest potential for conflicts between existing and proposed land uses in the upland environment of Sub-Area 1. These scenarios propose 36-41 acres of commercial development and 25 acres of residential uses each. Conflicts could occur between the proposed commercial and residential uses themselves, as well as between the existing residential uses and proposed commercial uses. Scenarios 1 and 4 propose approximately the same amount of commercial development as Scenarios 2 and 3, but only 5 acres each of residential development. Therefore, the potential for land use conflicts under these scenarios would be reduced somewhat.

- Conflicts between existing and proposed land uses in the shoreline environment are anticipated to be medium for all of the scenarios. All of the scenarios propose 10-13
acres of industrial development that could conflict to some degree with existing residential uses in the area.

- Conflicts between existing and proposed land uses in the marine environment are anticipated to be low for Scenarios 1, 3 and 4. These scenarios each propose 500 marina slips at the Ship Harbor development. Scenario 2 assumes 600 marina slips at the Ship Harbor development and an additional 100 marina slips to the east. The 700 total marina slips assumed under this scenario could increase the potential for conflicts with the existing predominate pattern of residential development in the area due to additional traffic and general noise/activity.

**Sub-Area 2:**

- No new development is proposed in the upland or marine environments of Sub-Area 2 under any of the scenarios. However, it is assumed that more intensive use will be made of existing water-dependent uses on the deep water channel.

- Conflicts between existing and proposed land uses in the shoreline environment are anticipated to be low for all of the scenarios. All of the scenarios propose 7-10 acres of commercial/industrial land uses. These proposed uses are consistent with the predominate pattern of commercial/industrial development in the area.

**Sub-Area 3:**

- Conflicts between existing and proposed land uses in the upland environment of Sub-Area 3 are anticipated to be medium under Scenarios 2 and 3. These scenarios propose 10-15 acres of commercial uses and 70-75 acres of residential land uses each. Some conflicts due to proximity could occur between the proposed uses themselves. Existing development in this area is primarily commercial/industrial and could conflict with future residential uses. Scenarios 1 and 4 each propose 80-82 acres of commercial/industrial land uses in the upland environment. These land uses are consistent with the existing pattern of development in the area; therefore conflicts between land uses are expected to be minimal under these scenarios.

- Conflicts between existing and proposed land uses in the shoreline environment are anticipated to be low. All of the scenarios propose 15-26 acres of commercial/industrial land uses. Scenario 2 also proposes 5 acres of residential uses. Existing development in this area is a mixture of commercial/industrial and recreational uses. The proposed uses are consistent with the predominate uses in the area; therefore conflicts between land uses are expected to be minimal.

- There is a medium potential for conflicts between existing and proposed land uses in the marine environment under Scenarios 1 and 4. These scenarios propose 1,500 marina slips each. The extent and character of this marina development could conflict with the adjacent predominately commercial/industrial pattern of development. No
additional marina slips are proposed under Scenario 3 and 300 marina slips are proposed under Scenario 2. Conflicts between existing and proposed land uses are anticipated to be minimal with the low level of marina development under Scenario 3.

Sub-Area 4:

- No new development is proposed in the upland environment of Sub-Area 4 under Scenarios 2 and 3. Scenario 4 proposes 5 acres of industrial and 5 acres of residential land uses in this area. There is a medium potential for land use conflicts between the proposed uses themselves and between the proposed industrial development and existing predominately residential land uses in this area. The potential for these land use conflicts is intensified by the limited area available for development in this area.

- Scenarios 1, 2 and 4 each propose 4 plus acres of commercial/industrial development and 0-10 acres of residential development. There is a medium potential for land use conflicts between the proposed uses themselves and between the future industrial development and the existing predominately residential character of the area. The potential for these land use conflicts is intensified by the limited area available for development in this area. Scenario 3 includes 10 acres of residential and 8 acres of open space. Land use conflicts between existing and proposed land uses would be minimal.

- The only new development proposed in the marine environment under any of the scenarios is a 442 slip marina and resort expansion north of Weaverling Spit.

Sub-Area 5:

- No development is proposed in Sub-Area 5 under any of the scenarios.
Conflicts with Overall Land Use Pattern

Conflicts between adjacent existing and proposed land uses between Sub-Areas or between a Sub-Area and adjacent upland areas were assessed for each development scenario. As with the discussion for potential land use conflicts within a Sub-Area, this assessment was based on the amount and location of the uses relative to the potential impact area and the potential for proximity impacts. Proximity impacts could occur primarily as a result of conflicting land uses and intensity of development. For example, the noise, odor, traffic, light and glare and visual impacts associated with traditional industrial activity may conflict with residential development. Similarly, as development becomes more intensive or dense, it may result in visual, traffic, noise, or light and glare impacts that conflict with nearby less intensive uses. The potential for impacts based on these types of conflicts were assessed in Table 27 and are summarized below.

As shown in Table 27, the potential for such impacts is considered to be low for all of the scenarios and in all of the Sub-Areas. In general, this is due to the similarity of proposed uses within each Sub-Area to the surrounding area; the presence of topographic breaks which serve to separate potentially incompatible uses; and the lack of proximity between potentially incompatible uses. The specific findings for each Sub-Area are discussed below.

Sub-Area 1

- Under all of the development scenarios, new development in Sub-Area 1 would be focused in two areas: (1) at the site of the proposed Ship Harbor development, near the existing Washington State Ferry Terminal and (2) in an industrial area near Lovric's and Shannon Point Sea Foods. In this area, the most proximate land use is an existing single family residential area located immediately south of Oakes Avenue. The evaluation of potential land use conflicts focused on the relationship of Sub-Area 1 to this residential area.

- New development near Lovric's and Shannon Point Sea Foods, and to a lesser degree at Ship Harbor, would be separated from adjacent upland residential development by a sharp topographic break which separates the shoreline from the upland area. Development in these areas would also be separated from the residential area by Oakes Avenue, a major arterial that is the primary route to the Washington State Ferry Terminal. Based on these natural and built features, the potential for proximity impacts -- such as increased traffic, light and glare, noise, and changes to visual character -- was judged to be relatively low.

Sub-Area 2

- Sub-Area 2 is located in an existing mixed-use commercial/industrial area. Under all of the development scenarios, the size and intensity of future development is relatively low and uses are consistent with the existing adjacent development pattern.
Therefore, the potential for conflicts with the surrounding land use pattern is considered low.

Sub-Area 3

- The potential land use pattern for Sub-Area 3 varies widely among the four development scenarios. The major differences focus on the amount of marine development, which varies from no new slips (Scenario 3) to 1,500 new slips (Scenarios 1 and 4), and residential development, which varies from no residential development (Scenarios 1 and 4) to 85 acres of residential development (Scenario 3).

- To the north and south, much the area surrounding Sub-Area 3 consists of a mix of commercial and industrial development. The existing Cap Sante Marina, with approximately 1,150 slips is located along the north boundary of Sub-Area 3. Residential development is located in the upland area, and is focused in the area west of "R" Avenue. The central downtown area extends west from the residential area.

- In general, the surrounding area is developed with a mix of at relatively low intensities and densities. Therefore, the proposed development pattern under any of the development scenarios could be compatible with surrounding development. The major difference between each development scenario would be the character of the resulting development. Scenarios 1 and 4 would result in an industrial/commercial character, while scenarios 2 and 3 would result in a mixed use, residential character. Currently, these differing patterns of development would not conflict with existing development, but may impact potential compatibility in the future. For example, if Sub-Area 3 is developed with a residential character, it may lead to potential conflicts with future intensive industrial development is Sub-Areas 2 or 4.

Sub-Area 4

- Sub-Area 4 is located in an existing mixed-use commercial marine/industrial area. Under all of the development scenarios, the proposed size and intensity of development would be relatively low and uses are consistent with the existing adjacent development pattern. Therefore, the potential for conflicts with the surrounding land use pattern is considered low.

Sub-Area 5

- No development is proposed in Sub-Area 5 under any of the scenarios.
Conflicts with Existing Downtown Land Uses

For analysis purposes, downtown Anacortes was defined as the central business district surrounding the key city facilities (i.e., municipal building, public library, post office, fire and police department, and museum). Downtown focuses on Commercial Avenue, and is generally located between 3rd Street and 12th Street to the north and south, respectively in Sub-Area 2. It is the historic center of town and contains a mixture of retail establishments, personal and professional services, restaurants, banks, hotels, institutional uses and fraternal organizations.

Potential conflicts with downtown uses were evaluated based on whether proposed development is anticipated to threaten downtown’s economic viability and/or degrade downtown’s visual character. A market analysis was not conducted to determine whether sufficient demand exists to support existing and possible future commercial development in the area.

Table 28 shows that minimal impacts to downtown land uses are anticipated from the development proposed under any of the scenarios. In general, the additional residential, industrial/commercial and recreational development generated by new development would likely support or enhance downtown’s economic base. Increased population, employment and tourism would likely increase downtown sales and additional development would increase City revenues. Similarly, the visual qualities of the downtown should generally remain intact under all of the scenarios, since sufficient separation would be maintained between potentially conflicting uses.

The mixed-use commercial development proposed under Scenarios 2 and 3 in Sub-Area 3 could potentially compete with the downtown uses. The impact of potentially increased competition could be manifested through changing sales and/or changes in business viability downtown. The potential for this to occur would depend on the type, size and mix of the specific uses in the commercial development. Downtown appears to have a strong, eclectic business character that would benefit from additional trade in the area.

The impacts of additional marina development proposed under the various scenarios, particularly Scenarios 1 and 4, was considered to be supportive of downtown uses. The marinas are assumed to be private facilities and would not cater to transient boaters. Marina users would, therefore, be as likely to frequent downtown commercial areas as the commercial development proximate to the marinas. The visual character of further marina development in the Fidalgo Bay area was also considered to be consistent with the visual character of downtown, particularly given the tourist-oriented nature of a number of the downtown businesses.

The development scenarios provide for a range of options, including working, industrial, a mix of uses, and a residential focus. See the Implementation section of this document for more detail.
### Table 29

**Impacts of Development Scenarios**

<table>
<thead>
<tr>
<th>Element/Impact/Area, Environment</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
<th>Scenario 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>POPULATION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Est. New Population / % of City Projections</td>
<td>432</td>
<td>2,832</td>
<td>3,840</td>
<td>648</td>
</tr>
<tr>
<td>BAYWIDE</td>
<td>2% of City projection</td>
<td>15% of City projection</td>
<td>21% of City projection</td>
<td>4% of City projection</td>
</tr>
<tr>
<td>UPLAND</td>
<td>432</td>
<td>2,160</td>
<td>2,160</td>
<td>432</td>
</tr>
<tr>
<td>SHORELINE</td>
<td>0</td>
<td>672</td>
<td>1,680</td>
<td>216</td>
</tr>
<tr>
<td>MARINE</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>EMPLOYMENT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Est. New Employees / % of City Employment Projections</td>
<td>2,142</td>
<td>1,052</td>
<td>810</td>
<td>1,475</td>
</tr>
<tr>
<td>BAYWIDE</td>
<td>63% of City projection</td>
<td>31% of City projection</td>
<td>24% of City projection</td>
<td>43% of City projection</td>
</tr>
<tr>
<td>UPLAND</td>
<td>1,532</td>
<td>520</td>
<td>520</td>
<td>1,120</td>
</tr>
<tr>
<td>SHORELINE</td>
<td>560</td>
<td>512</td>
<td>280</td>
<td>405</td>
</tr>
<tr>
<td>MARINE</td>
<td>50</td>
<td>20</td>
<td>10</td>
<td>50</td>
</tr>
</tbody>
</table>

1 Estimated new population is based on the development factors described in the Alternative Development Scenarios Background Section of this document.


3 Estimated new employees is based on the development factors described in the Alternative Development Scenarios Background Section of this document.

4 The City's employment projections for 2015 = 3,411 (implied from Skagit County Overall Economic Development Plan, 1994).
C. Population and Employment

Estimated New Population/Percent of City Population Projections

- Development Scenarios 2 and 3 would generate the greatest estimated new population of the development scenarios, at 2,832 and 3,840 persons each, respectively. Under both of these scenarios, new population would primarily be located in the upland environment. A substantial portion of the new population under Scenario 3 would also be located in the shoreline environment.

- Development Scenarios 2 and 3 would have the greatest capacity to accommodate population (at 15% and 21% of the City’s projections, respectively) as a result of greater area allocated to residential development. Scenarios 1 and 4 would have the least capacity to accommodate population (at 2% and 4% of the City’s projections, respectively) due to lesser area dedicated to residential development and greater area dedicated to commercial and industrial development.

Estimated New Employment/Percent of City Employment Projections

- Development Scenarios 1 and 4 would generate the greatest number of estimated new employees at 2,142 and 1,475 new employees, respectively. Under both, new employment would primarily be located in the upland environment. However, a significant amount of employment would be located in the shoreline environment.

- Development Scenarios 1 and 4 would have the greatest capacity to generate new employment in the city and meet the City’s employment projections (at 63% and 43% of the City’s projections, respectively) as a result of greater area allocated to commercial and industrial development. Scenarios 2 and 3 would have somewhat less capacity to meet these projections (at 31% and 24% of the City’s projections, respectively) due to lesser area dedicated to commercial and industrial development and greater area dedicated to residential development.
## Table 30

### Impacts of Development Scenarios

<table>
<thead>
<tr>
<th>Element/Impact/Area, Environment</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
<th>Scenario 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARKS AND RECREATION</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potential for Conflicts with Public Access to Shoreline</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAYWIDE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBAREA 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBAREA 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBAREA 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBAREA 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUBAREA 5</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Contributes to Need for Open Space &amp; Recreation Facilities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAYWIDE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Decreases Opportunity for Public &amp; Private Tourism &amp; Recreation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAYWIDE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UP LAND</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SHORELINE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MARINE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
<th>Scenario 4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8 acres of open space</td>
<td>38 acres of open space</td>
<td>38 acres of open space</td>
<td>8 acres of open space</td>
</tr>
<tr>
<td></td>
<td>4 acres of open space</td>
<td>4 acres of open space</td>
<td>13 acres of open space</td>
<td>8 acres of open space</td>
</tr>
<tr>
<td></td>
<td>2,000 marina slips</td>
<td>1,000 marina slips</td>
<td>500 marina slips</td>
<td>2,000 marina slips</td>
</tr>
</tbody>
</table>

**Legend**

- **High**
- **Medium**
- **Low**
- **N/A** Not applicable; no resources present &/or no development proposed in subarea

**Note:** Potential impacts under each scenario are compared to each other and to the overall sensitivity of the resource, not measured against any recognized standard.

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1 Need for open space and recreation facilities is based on amount of residential development and associated population growth.
2 Includes open space in residential development.
D. Parks and Recreation

Potential Conflicts with Public Access to Shoreline

- Potential conflicts with public access to the shoreline were evaluated based on the intensity of commercial/industrial development in the shoreline and marine environments and the number of marina slips proposed under each scenario. It was assumed that relatively more intensive shoreline and marine commercial/industrial development could present an obstacle to public access to the shoreline. It was also assumed that greater numbers of marina slips could result in more potential for conflicts with public access to the shoreline, since these might be private, gated facilities limiting public access. However, if new development is required to design for and provide public access, waterfront esplanade, interconnecting walkways, view corridors, and/or street-end parks as required by the Comprehensive Plan and Shoreline Master Program, conflicts may be avoided or minimized.

- Bay-wide, Scenarios 1 and 4 would have the greatest potential to conflict with public access to the shoreline. These scenarios propose the most intensive commercial/industrial development in the shoreline and marine environments (79 acres and 77 acres, respectively). These scenarios also propose the greatest number of marina slips (2,000 slips each). Relatively speaking, Scenario 2 would result in a medium impact on public access to the shoreline, with 73 acres of commercial/industrial development in the shoreline and marine environments and 1,000 marina slips. The least impact on public access to the shoreline would be expected under Scenario 3, with 49 acres of commercial/industrial development in the shoreline and marine environments and 500 marina slips.

- All of the scenarios would have a medium potential to conflict with public access to the shoreline in Sub-Area 1. Scenarios 1, 2 and 4 propose approximately 34-37 acres of commercial/industrial development in the shoreline and marine environments. Scenario 3 proposes 27 acres of commercial/industrial development in the shoreline and marine environments. All of the scenarios assume 500-600 marina slips for the Ship Harbor development; Scenario 2 also assumes 100 additional marina slips to the east of Ship Harbor.

- All of the scenarios would have a low potential to conflict with public access to the shoreline in Sub-Area 2. All of the scenarios propose 7-10 acres of commercial/industrial development in the shoreline and marine environment and no marina slips in this Sub-Area. However, existing public access to the shoreline is already limited in this Sub-Area by existing commercial/industrial development. Therefore, of the scenarios, Scenario 2 (10 acres of commercial/industrial development) would have the greatest potential to conflict.
Scenarios 1 and 4 would have the greatest potential to conflict with public access to the shoreline in Sub-Area 3. These scenarios propose 25-26 acres of commercial/industrial development in the shoreline and marine environments and 1,500 marina slips each. Relatively speaking, Scenario 2 would have a medium potential to conflict with public access to the shoreline, with 25 acres of commercial/industrial development in the marine and shoreline environments and 300 marina slips. Scenario 3 would have a low potential to conflict with public access to the shoreline, with 15 acres of commercial/industrial development in the shoreline environment and no marina slips.

All of the scenarios would present minimal potential conflict with public access to the shoreline in Sub-Area 4.

None of the scenarios would conflict with public access to the shoreline in Sub-Area 5, since no commercial/industrial development in the shoreline or marine environments and no marina slips are proposed under any of the scenarios in this Sub-Area.

Contributes to Need for Open Space and Recreation Facilities

The need for additional open space and recreation facilities was evaluated based on the amount of residential development and associated new population proposed under each development scenario. It was assumed, therefore, that greater residential development would result in more need for open space and recreational facilities relative to other uses. The City’s Park and Recreation Plan projects and plans for parks and public facilities to meet 2015 demand of 18,300 - 23,838 population. It is assumed it will be amended to reflect the selected development scenario.

Bay-wide, Scenarios 2 and 3 would result in the greatest need for open space and recreation facilities, with 105-120 acres of residential development. The majority of this development would be located in the upland environment; some would also be located in the shoreline environment. There would be minimal need for additional open space and recreational facilities under Scenarios 1 and 4, since 10 acres residential development are proposed under each of these scenarios.

Decreases Opportunity for Public and Private Tourism and Recreation

Opportunity for public and private moorage and water-oriented tourism and recreation was evaluated based on the amount of open space (including open space in residential developments) and the number of marina slips proposed under each development scenario. It was assumed that scenarios that provide less open space and fewer marina slips would decrease the opportunity for public and private tourism and recreation.
Scenarios 1 and 4. Scenarios 1 and 4 also provide 12 acres of open space each; Scenario 3 provides 42 acres of open space.
Table 31

Impacts of Development Scenarios

<table>
<thead>
<tr>
<th>Element/Impact/Area/Environment</th>
<th>Scenario 1</th>
<th>Scenario 2</th>
<th>Scenario 3</th>
<th>Scenario 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of Potential Impacts to Identified Archaeological &amp; Historical Resources¹</td>
<td>◇-◆</td>
<td>◇</td>
<td>◇</td>
<td>◇-◆</td>
</tr>
<tr>
<td>BAYWIDE</td>
<td>◇-◆</td>
<td>◇</td>
<td>◇</td>
<td>◇-◆</td>
</tr>
</tbody>
</table>

Legend
◆ High  ◇ Medium  ◆ Low  N/A Not applicable; no resources present &/or no development proposed in subarea

¹ Further study would be needed to determine whether archaeological resources exist in the proposed development areas
E. Archaeological & Historical Resources

Degree of Potential Impact to Archaeological and Historical Resources

Areas which could contain archaeological and historical resources in the Fidalgo Bay area were identified in the Environmental Profile (Chapter III) and in the Supplemental Environmental Information (Appendix D to this document). Potential impacts to archaeological and historical resources were assessed for each development scenario on a bay-wide basis. Potential impacts were rated high, medium or low depending on the extent of resources known or anticipated to be located in different areas and on the intensity of potential development.

Development scenarios containing the most intensive development in the shoreline environment, particularly in the Shannon Point/Ship Harbor, Cap Sante and tidal flat margins of Fidalgo Bay areas, were assumed to have the greatest potential to impact archaeological and historical resources. Prehistoric and historic sites are often found in the shoreline environment and known cultural resources are located in the three specific locations along Fidalgo Bay noted above. Part of the study area is within Native American Usual and Accustomed Areas and the fishery resource in the Bay is a Cultural Resource.

- Scenarios 1 and 4 propose the most intensive development along the shoreline of Guemes Channel and Fidalgo Bay and would have the greatest potential to impact archaeological and historical resources in that environment. The Profile does not identify any past tribal settlements in areas proposed for development under any of the development scenarios. Records indicate that Samish and Swinomish winter villages were located along the shores of Guemes and Fidalgo islands and on the eastern shore of Fidalgo Bay. Sub-Area 5 extends from the tip of the bay along the eastern shore to March Point; however, no development is proposed in this Sub-Area under any of the development scenarios.

- Known cultural resources are located at Shannon Point/Ship Harbor, Cap Sante and the tidal flat margins of Fidalgo Bay. The ferry terminal expansion is located in the area of known cultural resources at Shannon Point/Ship Harbor (four shell middens and two historic-period sites). No new development under any of the development scenarios studied in this EIS would occur in this area. Properties on the National Register of Historic Places at Cap Sante include: the Curtis Wharf, the Marine Supply and Hardware Complex and the Great Northern Depot. No redevelopment of any of these sites would occur under any of the scenarios. Four shell middens are located at the base and tip of Weaverling Spit, on the eastern side of the Bay and at March Point. No development under any of the scenarios would disrupt these sites.

- There is a history of commercial and industrial development in the shoreline environment of Fidalgo Bay, particularly in Sub-Areas 2 and 3. Fish processing
facilities have historically located in Sub-Area 2 and wood products manufacturing in Sub-Area 3. Extensive dredging has occurred in the waters along the western shoreline of the bay in Sub-Area 3 to create navigation channels and the Cap Sante Marina. Three significant areas of fill are also present in Sub-Area 3: in the Cap Sante Marina area, around the old lumber mills located between 14th and 17th Streets, and in the vicinity of 27th Street. The majority of new development is proposed in Sub-Area 3, and a limited amount of new development is proposed in Sub-Area 1 under all of the development scenarios. Further impacts to archaeological resources under the various scenarios are uncertain in these Sub-Areas. The previous development and disturbance could have destroyed archaeological resources in these areas. Alternatively, the filling of sediments could have preserved archaeological sites.

- Potential impacts to fisheries resources are discussed under Biological Resources in this chapter and Table 31. That discussion indicates that large scale marine construction under Scenarios 1 and 4 would require significant shoreline modifications as well as offshore breakwaters that could alter the nature of the nearshore environment. Potential impacts to juvenile salmonid habitat are rated as moderate in Sub-Area 3 under Scenarios 1 and 4; potential impacts to surf smelt beaches are rated as medium under Scenarios 1 and 4 in Sub-Areas 3 and 4; and, potential impacts to herring spawn habitat are rated high under Scenarios 1 and 4 in Sub-Area 3.

- Given the uncertainty of archaeological resources, the fisheries resource in the Bay, and the extent of existing development/potential disturbance in shoreline areas proposed for development, Table 31 shows that impacts to archaeological and historical resources are expected to be low under Scenarios 2 and 3 and low to medium under Scenarios 1 and 4.
Chapter VIII.
Mitigation Framework
VIII. Bay-Wide Mitigation Framework

The conceptual framework summarized below addresses mitigation for potential impacts to fish and wildlife habitat in the Fidalgo Bay planning area. It reflects FBPC and consultant input and was developed incrementally during the course of the committee’s discussions. It also reflects the input (occasionally diverging) of a technical sub-committee directed by the FBPC to help answer some questions related to mitigation.

The framework is conceptual and establishes the overall boundaries within which mitigation will occur in the planning area.

1. Bay-Wide Mitigation - Purpose and Definition

The Fidalgo Bay Planning Committee has defined bay-wide mitigation as:

"a comprehensive program, developed in a bay-wide context, incorporating a variety of approaches and techniques to achieve a goal of ‘no net loss’ of ecosystem functions within the planning area."

The comprehensive program is based on an understanding of the bay-wide ecosystem and the extent and sensitivity of the individual resources. It also includes consideration of past, present and future land use and economic development activities, and acknowledges the context of federal, state, tribal and local laws and mandates, and therefore integrates avoidance, minimization, and compensatory mitigation into a regional plan.

The purpose of bay-wide mitigation is to provide an ecosystem based, regional approach to mitigation. Consideration of ecosystem characteristics and mitigation needs on a bay-wide basis is intended to provide greater management and mitigation flexibility than would be possible through project-by-project consideration.

There remains some disagreement as to the degree of flexibility that is possible or desirable to achieve through the plan. Through the process of Committee discussion, there is general agreement that mitigation actions should be based on proven scientific evidence relative to mitigation actions. There remains unresolved the question of what constitutes proven scientific evidence, how findings from prior mitigation projects should be interpreted, and to what degree these findings can be extrapolated to Fidalgo Bay.

2. Mitigation Sequencing

Pursuant to federal, state, tribal and local laws and mandates, potential mitigation should be considered in a specific priority order, or sequence. The first priority is generally avoidance of the impact, followed by minimization and compensation for impacts.
1. Avoid the impact altogether by not taking a certain or parts of an action.
2. Minimize impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts.
3. Repair, rehabilitate or restore the affected environment.
4. Reduce or eliminate the impact over time by preservation and maintenance operations during the life of the action.
5. Compensate for the impact by replacing, enhancing or providing substitute resources or environments.
6. Monitor the impact and take appropriate corrective measures.

Consideration of the various development scenarios described in this Draft EIS should occur within the context of mitigation sequencing. For example, development scenarios which would tend to avoid or minimize impacts in sensitive habitats may be preferred. Within each sub-area, areas in which impacts should be avoided may be identified. Through these and similar considerations, the potential impacts associated with development in each of the scenarios will contribute to a decision regarding the type, location and intensity of development in a preferred alternative.

Fidalgo Bay-Wide Plan consideration of avoidance of impacts at a bay-wide planning level will influence the requirement for avoidance at the project level to some extent. Individual projects undertaken within the context of the Bay-Wide Plan will further consider means to accomplish mitigation sequencing (e.g. project design-level options to avoid impacts); the plan will expedite this analysis. Individual agencies will determine how the sub-area plan will influence this stage of project review.

3. **Goal of Compensatory Mitigation - “No net loss”**

**Definition and Purpose**

As noted above, compensatory mitigation is the third priority in mitigation sequencing, following avoidance and minimization. It includes any action that compensates for unavoidable adverse impacts to natural resources, habitats and habitat functions; it addresses impacts that remain following after consideration of avoidance and minimization.

The goal of compensatory mitigation is to achieve “no net loss” of ecosystem functions within the planning area. Within the context of the Fidalgo Bay Plan, “no net loss” is defined as:

- Mitigation of adverse impacts to fish and wildlife.
- Mitigation of net loss of habitat functions
- Mitigation of loss of area by habitat type.

Regardless of which approach is taken to achieve no net loss, mitigation should benefit the fish and wildlife organisms or habitats being impacted.
4. Approach to Compensatory Mitigation

Project proposals will first be found consistent with policies and requirements of the adopted Fidalgo Bay Plan. Recognition will be given to the mitigation sequencing that occurred at the general planning level (see Mitigation Sequencing, above).

Baseline for Impact Assessment & Compensatory Mitigation

Compensatory mitigation, where appropriate, will be based on existing resource conditions, sensitivity, and identified functions within the adopted Plan area at the time that permit applications are submitted.

Impact Assessment Steps

The general steps in impact assessment are as follows:

1. Identify the habitat character, functions and distribution of the potentially impacted area. If adequate information is not available, additional information will need to be collected.

2. Overlay the proposed action with site specific habitat information compiled in Step 1. Each proposed action may include a variety of actions (e.g., marina construction, marine industrial expansion, water-dependent commercial) at various levels of intensity. The components of each action (e.g., dredging, over-water structures, wave abatement structures) will have specific types of impacts on resources of concern (see Table 7). By overlaying each proposed action on habitat information, potential adverse impacts can be identified.

3. Evaluate the proposed action for opportunities to avoid, minimize and reduce adverse impacts identified in Step 2. The remaining adverse impacts represent the minimum resources, habitat area or functions that will require compensatory mitigation.

Habitats Given Priority Consideration

The impact assessment should recognize the natural resources within Fidalgo Bay that receive priority regulatory consideration. These include:

- species that are important to commercial, recreational or tribal fisheries;
- prey for such species;
- threatened or endangered species;
- species protected by the Marine Mammal Act;
- habitats for which there is no proven compensatory mitigation record;
- reproductive habitats; and
- habitats that provide unique functions.
Generic Compensatory Mitigation Actions

The Bay-Wide Plan generally recognizes that certain development actions will have unavoidable adverse impacts on some important resources in the planning area. If the impact assessment outlined above identifies impacts that are not addressed through avoidance, minimization, or reduction, compensatory mitigation will be required.

As outlined in the Draft Plan/EIS, mitigation actions typically fall into one of the following categories:

- **Creation** of new marine habitat functions in areas where they never existed.
- **Restoration** of marine habitat functions in area where they historically existed, or where they currently exist in a disturbed condition.
- **Enhancement** of the functions of an existing marine habitat.
- **Preservation** of existing high quality habitat and habitat functions. Preservation is acceptable as compensation only when it is used in conjunction with restoration, creation, or enhancement; these may also be applied to an adjacent candidate mitigation bank site.

Screening and Implementation Criteria

Table 32 of the Draft Plan/EIS provides criteria for screening potential compensatory mitigation actions within the planning area. The screening criteria consider habitat type, habitat area, priority resources, priority habitat functions, resource risk, risk of mitigation failure, mitigation timing, mitigation monitoring and mitigation cost attributes. For the purposes of evaluating compensatory mitigation options, resource risk involves consideration of resource priority, habitat function, cumulative impact and potential mitigation failure.

The Draft Plan/EIS identified the issue of the size of the area of eelgrass habitat that would trigger a requirement of advance mitigation as an unresolved issue. The Committee has subsequently resolved this question. Advance mitigation is required for eelgrass habitat greater than 1/4 acre, herring spawning habitat (eelgrass or macro algae) regardless of the area impacted and unique documented Dungeness Crab wintering habitat at Ship Harbor unless the mitigation approach is proven and interim mitigation is provided.

Mitigation Timing and Ratios

Compensatory mitigation ratios are multipliers applied to the impacted habitat area or function to increase the likelihood of achieving the goal of no net loss. The applicable multiplier is typically based on the timing of the mitigation action, the area impacted and the type of proposed mitigation. Compensatory mitigation ratios are summarized below.
<table>
<thead>
<tr>
<th>Mitigation Timing</th>
<th>Creation</th>
<th>Restoration</th>
<th>Enhancement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advance Mitigation</td>
<td>1:1</td>
<td>1:1</td>
<td>1.5:1</td>
</tr>
<tr>
<td>Concurrent Mitigation</td>
<td>1.25:1</td>
<td>1.25:1</td>
<td>1.75:1</td>
</tr>
</tbody>
</table>

In addition to replacing the natural resource functions adversely impacted by a marine development project, compensatory mitigation will also need to replace the existing resource functions that will be lost at the mitigation site as a result of a mitigation action. The existing functions of the mitigation site must be compared to the functions gained, restored or enhanced in order to determine the functional gain.

Regarding the distinction between resource area and resource function, the Committee acknowledged that there currently is no accepted functional assessment model that allows an assessment and evaluation of functional enhancement relative to area-based impacts. If such a model were developed and determined to be scientifically valid, the Committee agreed that where there is the potential for increase in a resource function as a result of mitigation, resource area could be compensated for at a 1:1 ratio.

**Monitoring**

Monitoring the success of a compensatory mitigation project is typically required for a period of three to five years or until the success criteria established for the compensatory mitigation project has been achieved.

The attributes that need to be monitored to determine the success of a compensatory mitigation project will depend on the habitat types and functions being addressed. Examples of priority habitats that need to be monitored in relation to compensatory mitigation for specific habitat types and functions are noted in Table 32. The information provided in this table is provided as an example only and is not comprehensive. There may be additional attributes that should be monitored in a specific compensatory mitigation project.

Methods and protocols, such as the Estuarine Habitat Assessment Protocol (EPA 910/9-91-037) prepared for the U.S. Environmental Protection Agency Region 10 are typically used to monitor a compensatory mitigation site. The methodology should include monitoring of an acceptable control site adjacent to the compensatory mitigation site.

**5. In-Kind and Out-of-Kind Mitigation**

Compensatory mitigation that replaces the habitat area, type and functions for the benefit of the organisms impacted is considered “in-kind” and is generally preferred.

Within a bay-wide context, other mitigation may be considered “in kind” if they comply with the following criteria: (1) no impact to priority resources, spawning habitat or gravid Dungeness crab wintering habitat in Ship Harbor; and (2) provide habitat types or
### Table 32 - Fidalgo Bay Mitigation Screening Criteria

<table>
<thead>
<tr>
<th>Habitat type</th>
<th>Priority natural resources impacted</th>
<th>Priority habitat functions impacted</th>
<th>Resource risk</th>
<th>Risk of mitigation failure</th>
<th>Mitigation timing</th>
<th>Priority monitoring attributes</th>
<th>Approx. cost*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dungeness crab, gravid females</td>
<td>Dungeness crab</td>
<td>Loss of documented winter refuge habitat</td>
<td>Very high</td>
<td>Unknown, advance success required</td>
<td>In advance, unless approach is proven</td>
<td>Female Dungeness crab; winter utilization; eelgrass area/density</td>
<td>High</td>
</tr>
<tr>
<td>Eelgrass</td>
<td>Herring spawn</td>
<td>Loss of documented spawning substrate</td>
<td>High</td>
<td>Unknown, advance success required</td>
<td>In advance, unless approach is proven</td>
<td>Herring spawn; eelgrass area/density</td>
<td>High</td>
</tr>
<tr>
<td>Macro algae</td>
<td>Herring spawn</td>
<td>Loss of documented spawning substrate</td>
<td>High</td>
<td>Unknown, advance success required</td>
<td>In advance, unless approach is proven</td>
<td>Herring spawn</td>
<td>Moderate</td>
</tr>
<tr>
<td>Eelgrass (&gt; 1/4 acre)</td>
<td>Juvenile salmonid</td>
<td>Loss of prey, loss of refuge</td>
<td>High</td>
<td>Unknown, advance success required</td>
<td>In advance, unless approach is proven</td>
<td>Eelgrass area/density</td>
<td>Moderate</td>
</tr>
<tr>
<td>Dungeness crab</td>
<td>Loss of refugee and reproduction habitat</td>
<td>Low</td>
<td>Medium</td>
<td>Unknown, advance success required</td>
<td>In advance, unless approach is proven</td>
<td>Eelgrass area/density</td>
<td>Moderate</td>
</tr>
<tr>
<td>Water quality</td>
<td>Loss of nutrient absorption function</td>
<td>Low</td>
<td>Medium</td>
<td>Unknown, advance success required</td>
<td>In advance, unless approach is proven</td>
<td>Eelgrass area/density</td>
<td>Moderate</td>
</tr>
<tr>
<td>Epibenthic invertebrates</td>
<td>Loss of habitat</td>
<td>Low</td>
<td>Medium</td>
<td>Unknown, advance success required</td>
<td>In advance, unless approach is proven</td>
<td>Eelgrass area/density</td>
<td>Moderate</td>
</tr>
<tr>
<td>Eelgrass (&lt; 1/2 acre)</td>
<td>Juvenile salmonid</td>
<td>Loss of prey, loss of refuge</td>
<td>Medium</td>
<td>Medium</td>
<td>Advance or concurrent</td>
<td>Eelgrass area/density</td>
<td>Low to high</td>
</tr>
<tr>
<td>Dungeness crab</td>
<td>Loss of refugee and reproduction habitat</td>
<td>Medium</td>
<td>Medium</td>
<td>Advance or concurrent</td>
<td>Eelgrass area/density</td>
<td>Low to moderate</td>
<td></td>
</tr>
<tr>
<td>Water quality</td>
<td>Loss of nutrient absorption function</td>
<td>Low</td>
<td>Medium</td>
<td>Advance or concurrent</td>
<td>Eelgrass area/density</td>
<td>Low to moderate</td>
<td></td>
</tr>
<tr>
<td>Epibenthic invertebrates</td>
<td>Loss of habitat</td>
<td>Low</td>
<td>Medium</td>
<td>Advance or concurrent</td>
<td>Eelgrass area/density</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Macro algae habitat</td>
<td>Juvenile salmonid</td>
<td>Loss of prey, loss of refuge</td>
<td>Medium</td>
<td>Low</td>
<td>Advance or concurrent</td>
<td>Area, percent cover, salmon use</td>
<td>Moderate</td>
</tr>
<tr>
<td>Dungeness crab</td>
<td>Loss of juvenile rearing habitat</td>
<td>Medium</td>
<td>Low</td>
<td>Advance or concurrent</td>
<td>Area, percent cover, crab use</td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td>Water quality</td>
<td>Loss of nutrient absorption function</td>
<td>Low</td>
<td>Low</td>
<td>Advance or concurrent</td>
<td>Area and percent cover</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Epibenthic invertebrates</td>
<td>Loss of habitat</td>
<td>Low</td>
<td>Low</td>
<td>Advance or concurrent</td>
<td>Area and percent cover</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Non-vegetated intertidal habitat</td>
<td>Juvenile salmonid</td>
<td>Loss of shallow migratory corridor, loss of prey</td>
<td>High</td>
<td>Low</td>
<td>Advance or concurrent</td>
<td>Area, tidal elevation, and substrate type, salmon use</td>
<td>Moderate</td>
</tr>
<tr>
<td>Dungeness crab</td>
<td>Loss of juvenile rearing habitat</td>
<td>Medium</td>
<td>Low</td>
<td>Advance or concurrent</td>
<td>Area, tidal elevation, and substrate type, crab use</td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td>Hardshell clams</td>
<td>Loss of habitat</td>
<td>Low</td>
<td>Low</td>
<td>Advance or concurrent</td>
<td>Area, tidal elevation, and substrate type, clam density</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Epibenthic invertebrates</td>
<td>Loss of habitat</td>
<td>Medium</td>
<td>Low</td>
<td>Advance or concurrent</td>
<td>Area, tidal elevation, and substrate type</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>Surf smelt</td>
<td>Loss of reproduction habitat</td>
<td>Medium</td>
<td>Medium</td>
<td>Advance or concurrent</td>
<td>Area, tidal elevation, substrate type, smelt spawn, and spawn viability</td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td>Sand lance</td>
<td>Loss of reproduction habitat</td>
<td>Medium</td>
<td>Medium</td>
<td>Advance or concurrent</td>
<td>Area, tidal elevation, substrate type, sand lance spawn, and spawn viability</td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td>Non-vegetated subtidal habitat</td>
<td>Juvenile salmonid</td>
<td>Loss of shallow migratory corridor, loss of prey</td>
<td>Moderate</td>
<td>Low</td>
<td>Advance or concurrent</td>
<td>Area, tidal elevation, and substrate type, salmon use</td>
<td>Moderate</td>
</tr>
<tr>
<td>Dungeness crab</td>
<td>Loss of adult and juvenile rearing habitat</td>
<td>Medium</td>
<td>Low</td>
<td>Advance or concurrent</td>
<td>Area, tidal elevation, and substrate type, crab use</td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td>Hardshell clams</td>
<td>Loss of habitat</td>
<td>Medium</td>
<td>Low</td>
<td>Advance or concurrent</td>
<td>Area, tidal elevation, and substrate type, clam density</td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td>Epibenthic invertebrates</td>
<td>Loss of habitat</td>
<td>Medium</td>
<td>Low</td>
<td>Advance or concurrent</td>
<td>Area, tidal elevation, and substrate type</td>
<td>High</td>
<td></td>
</tr>
</tbody>
</table>

* Estimated relative cost per unit area for mitigation action including monitoring

Note: Shaded areas indicate areas of difference between the two mitigation approaches
functions considered to be more beneficial to priority resources than the habitat types/functions impaired.

Within the context of the bay-wide framework, there may also be potential for innovative 'out-of-kind' mitigation, where such actions are deemed more beneficial to the overall productivity of the study area or to resources or life history stages of greater concern than those lost to the development impact. Examples could include:

- replacement of lost macroalgal beds with similar areas of eelgrass beds; and
- replacement of eelgrass not supporting herring spawn with algal beds supporting herring spawn.

6. Location of Mitigation

Within the Fidalgo Bay Planning Area

On-site mitigation is generally preferred. Off-site mitigation may occur within the same Fidalgo Plan sub-area that impacts occur. It is generally agreed that mitigation outside of the impacted sub-area may occur within the following limitations:

1) Project related impacts to documented herring spawning habitat will be mitigated within a Fidalgo Bay Plan sub-area where herring spawn has been documented.
2) Project related impacts to documented smelt spawning habitat will be mitigated within a Fidalgo Bay Plan sub-area where smelt spawn has been documented.
3) Project related impacts to sandlance spawning habitat will be mitigated within a Fidalgo Bay Plan sub-area where sandlance spawn has been documented.
4) Project related impacts that occur in the central channel and/or the outer bay sub-areas of the Fidalgo Bay Plan will be mitigated in the central channel and/or outer bay Fidalgo Bay Plan sub-areas.
5) Project related impacts that occur in a Fidalgo Bay Plan sub-area that does not support documented herring, smelt, or sandlance spawning habitats may be mitigated in any of the Fidalgo Bay Plan sub-areas with the exception of the central channel and outer bay sub-areas.

In all cases, the Committee agreed there is opportunity for flexibility to accommodate specific opportunities and circumstances. It was generally agreed that these limitations did not preclude documentation of spawning in previously undocumented areas and subsequent mitigation in those newly documented areas.

Outside of the Fidalgo Bay Planning Area

Committee members generally agree that the mitigation approach outlined in the plan is specific to the Fidalgo planning area. Considering compensatory mitigation opportunities
beyond the boundaries of the planning area would require expanding the existing
documentation and analysis compiled for the Fidalgo Bay-Wide Plan area to include any
new areas proposed for mitigation.

7. Mitigation Banking

Mitigation banking is considered to be an acceptable mitigation practice within the
context of the Fidalgo Bay-Wide Plan. Although the Committee conceptually supports
mitigation banking, this does not imply approval by state regulatory agencies. Policies
regarding mitigation banking will be developed by state agencies as warranted. WDNR
does have a policy of “No Net Loss” on State Owned Aquatic Lands (SOAL)”. This
means that mitigation for projects on SOAL must be done on SOAL. SDNR has not
formulated a policy on Mitigation Banking, and any proposal for banking on SOAL or
any banking proposal due to projects on SOAL, will need to go through a process for
Department approval.

The Plan provides a regional context within which to plan and establish mitigation banks.
Such banks can be established by public or private parties for the purpose of providing
compensatory mitigation for development-related impacts within the planning area. A
successfully established mitigation bank could provide compensatory mitigation in
advance of development-related impacts, thus reducing time delays associated with
mitigation uncertainties.

A mitigation bank agreement consistent with state and federal guidelines must be
developed and approved by local, state and federal regulatory agencies. (See March 6,
1995, Federal Guidance for Establishment, Use and Operation of Mitigation Banks, FR
60, No. 43 for an example of the contents of a banking agreement). The inter-agency
mitigation bank agreement would cover all aspects of bank establishment and use, as well
as long-term operation and maintenance of the mitigation bank site. Typical contents
would include:

- Purpose and objective
- Ownership and sponsor
- Mitigation bank review team
- Baseline condition of habitats at mitigation site(s)
- Mitigation action objectives (habitats, functions to be created, enhanced or preserved)
- Geographic service area and impacts that may be mitigated
- Method for determining credits and debits
- Accounting procedures
- Performance standards or success criteria
- Reporting and monitoring protocols
- Contingencies or remedial plans
- Financial assurances
- Long-term management and maintenance
8. Mitigation Plans

A typical compensatory mitigation plan for a proposed project should include the following elements:

- Mitigation need
- Mitigation goals and objectives
- Mapping requirements for habitat in proposed impact area, immediately adjacent areas and proposed mitigation areas
- Mitigation design, including acceptable mitigation techniques and timeline/schedule
- Evaluation criteria
- Monitoring requirements
- Contingency plan
- Maintenance plan
- Mitigation monitoring, and contingency cost estimate
- Performance bond

9. Contingencies

There is basic agreement concerning the need for contingency planning (i.e., what to do if expectations are not met) for mitigation projects. There is some disagreement, however, about the details of this planning.

A mitigation contingency plan under one approach would include a decision point after year 3 monitoring, at which time measures to improve the function of the originally designed mitigation action would be implemented if it appears the mitigation is not progressing as expected. If after year 5 monitoring, the mitigation continues to fall short of the mitigation success criteria, additional measures would be implemented to improve the performance of the mitigation. These measures could include the option of developing a new mitigation site. In addition, supplemental mitigation would be required to compensate for the additional temporal delay in replacing the habitat functions impacted by development.

Under a second approach, contingency actions would be more flexible and could include (generally in priority order):

- measures to improve the function of the originally designated mitigation action;
- expansion of the original mitigation site or designation of additional areas to provide the functions desired;
- designation of other areas that achieve replacement of the desired functions in an alternate habitat type (e.g., replacement of juvenile salmonid prey production in lost algal beds with production in eelgrass beds);
- designation of mitigation actions that will replace lost functions with different functions considered to be of equal or greater value (e.g., enhancement of shallow water crab rearing habitat as compensation for loss of deep-water crab habitat that is considered less likely to be limiting to crab populations); and
- fiscal compensation for lost resources or habitats that have not been replaced.
10. Performance Bonds

A performance bond provides financial assurance that sufficient funding is available to achieve the compensatory mitigation goal and to conduct the necessary monitoring. The amount of a performance bond typically includes the anticipated cost of establishing the compensatory mitigation, contingency implementation, monitoring the mitigation project and an inflation factor. Under the Fidalgo Bay-Wide Plan, an increased performance bond or other funding may be added to the mitigation package in cases where mitigation requirements are substantial and/or rely on unproven techniques. A performance bond is not necessary for compensatory mitigation projects or banks successfully established in advance of the anticipated impacts.
Chapter IX.
Preferred Sub-Area Alternative
IX. FIDALGO BAY SUB-AREA PLAN

This sub-area plan is a part of the City of Anacortes Comprehensive Land Use Plan.

The preferred Fidalgo Bay Sub-Area Plan land use alternative is based on Scenario 1 of the draft plan, and incorporates ideas from public testimony, as well as recommendations from Planning Commissioners and City Councilmembers.

This Fidalgo Bay Sub-Area Plan also provides the basis for modifications of the Zoning Regulations, to make those regulations consistent with goals and objectives of the Plan. Those revised zoning regulations are attached in Appendix A.

The Shoreline Master Program is attached as Appendix B.

The initial approach to large-scale mitigation of eelgrass impacts is set forth in Appendix C (Six-Acre Eelgrass Demonstration Project); unless projects such as this are successful the marina component of Scenario 1 will need to be drastically curtailed.

Preservation is addressed in Appendix D (South Fidalgo Bay Acquisition and Preservation).
SECTION I: DESCRIPTION OF THE PLANNING AREA

HISTORY

A history and summary of the Fidalgo Bay planning process is presented in the Fidalgo Bay-Wide Plan beginning on page S-1.

AREA COVERED BY THIS PLAN

For planning purposes, the Anacortes shoreline from Shannon Point to March Point was divided into 5 sub-areas as follows (see attached map):

Sub-area 1: Guemes Channel from the Washington State Ferry Terminal to Guemes Island ferry, north and west of downtown.

This sub-area has 2.5 miles of shoreline. Most of the area is undeveloped or has single family residences, except along the water's edge. Shoreline uses include ferry facilities, seafood processing, marina, boatyard, and a large wetland area next to the ferry dock. A major residential-marina-tourist development is proposed at Ship Harbor.

Sub-area 2: Balance of Guemes Channel and Cap Sante Head (from the Guemes Island ferry to the central portion of Fidalgo Bay)

This area's 210 acres of land includes 60 acres in industrial uses, including seafood processing, a major ship builder, coke and log loading facilities, Port of Anacortes offices, a rope manufacturer, a restaurant, and a variety of smaller businesses. The Port is the largest single landowner, and there is little vacant land. The Cap Sante area includes residences and Cap Sante Park.

Sub-area 3: Cap Sante Marina to 35th Street

With 1.5 miles of shoreline, this area includes over 100 acres of vacant land, much of it with shoreline access. Almost 70 acres in the center of this sub-area is in single ownership, representing a development opportunity that can significantly affect the city. Current uses include one public and two private marinas, a waterfront park, and a wide variety of light industrial and warehousing uses concentrated in the southern portion of the sub-area. The railroad corridor multi-use trail runs diagonally through this area.
Sub-area 4: South Fidalgo Bay

This area is bounded by SR-20 and runs from 35th Street to the southern tip of the bay. It is a narrow strip of land containing a few residences and an R-V park with associated recreational uses. A marina is proposed adjacent to the R-V park. The railroad corridor multi-use trail runs through this strip.

Subarea 5: Eastern Fidalgo Bay - March Point

March Point is predominantly occupied by oil refineries, and includes two oil loading docks. Nearly all of the shoreline is undeveloped.
SECTION II: GENERAL GOALS AND POLICIES - FIDALGO BAY PLAN*

The following general goals and policies apply to all 5 sub-areas of the Fidalgo Bay Plan:

GOAL 1: An approved Mitigation Plan for "no net loss" of eelgrass habitat shall be a prerequisite for any in-water development which impacts existing eelgrass.

GOAL 2: Projects shall be economically beneficial to the City as well as to the proponents.

POLICY:

(a) Infrastructure costs (sewer, roads, etc.) attributable to a project, shall be the responsibility of land developers.

(b) Ongoing City costs for services and infrastructure maintenance attributable to a project shall be covered by revenues generated and by City fees and taxes.

GOAL 3: Encourage projects which bring family-wage jobs and tax revenues into the City.

GOAL 4: Encourage projects which increase opportunities for citizens and visitors to come together to enjoy recreation, shopping, and cultural events in Anacortes.

GOAL 5: Encourage development which provides a balanced range of uses needed by a healthy city.

* See also Goals and Policies, Part V, Fidalgo Bay Plan
SECTION III: GOALS AND POLICIES FOR SUB-AREAS 1 - 5

SUB-AREA 1

GOAL 1: Encourage uses which take advantage of this area's unique access to deep water moorage and shipping lanes.

POLICY:

(a) Maintain the Washington State Ferry Terminal's present location for both local and international ferry needs.

(b) Retain and encourage water-dependent uses, such as boatyards, marina, and fish processing.

(c) Support the continued development of the Ship Harbor Resort/Marina as currently permitted.

SUB-AREA 2

GOAL 1: Encourage uses which take advantage of this area's unique access to deep water moorage and shipping lanes.

POLICY:

(a) Retain and encourage water-dependent uses, such as ship and boat building and repair, shipping facilities, boatyards, marinas, passenger vessel terminal, water transport services, docks, and fish processing.

(b) Encourage expansion of existing uses which require deep-water access, for example, an additional dry dock.

(c) Encourage low-impact uses where manufacturing areas abut the Cap Sante residential neighborhood.

(d) Encourage public access to the water such as street-end parks and public fishing piers.
SUB-Area 3

GOAL 1: Encourage development of underutilized acreage while maintaining viability of existing commercial areas, the beauty of the Bay, and our small-town environment.

POLICY:
(a) New development should be designed so as to be as compatible as practical with adjacent areas.

(b) Accommodate existing uses.

(c) Integrate civic, cultural, commercial and tourist activity along the west shore of Fidalgo Bay.

(d) Encourage cooperative development of civic facilities, such as a performing arts center, public pier, plaza, museum, or aquarium.

GOAL 2: Marinas, along with associated uses creating an integrated waterfront development, may be allowed in any shoreline area, as either a permitted or conditional use.

POLICY:
(a) Encourage marine-related uses near marinas, including marina support facilities such as maintenance and repair of boats and their equipment, sales of boats and marine equipment, provisioners, laundry, water transport services.

(b) In the CM1 zone, encourage visitor oriented businesses, such as boat tours, fish market, passenger vessel terminal, retail uses with tourist and marine emphasis, restaurants, and transient lodging (hotels, motels) with related uses such as meeting and conference facilities.

(c) Allow dry boat storage structures in the CM2 and Industrial zones.
GOAL 3: Commercial uses may be allowed in the CM1 zone as a Conditional Use, when consistent with the following policies.

POLICY:
(a) Commercial uses on the waterfront should be part of or in support of water-dependent commerce or industry.

(b) Retail uses should be concentrated contiguous to existing commercially zoned areas and integrated through vehicle and pedestrian circulation.

(c) Encourage a wide variety of shopping experiences, including stores that serve the general population, such as grocery and drug stores, as well as specialty shops. Do not duplicate the downtown Central Business District.

(d) Allow compatible commercial uses, such as theaters, recreation facilities, and hotels away from the shoreline.

(e) Low-impact light manufacturing uses are not to be excluded.

(f) Projects shall be designed appropriate to the scale of Anacortes, rather than sized for a large urban city.

(g) Provide for view corridors. Reduce the visual impact of large buildings through design elements and landscaping.

(h) Buildings or building complexes in excess of 50,000 sq. ft. approved through the Conditional Use Permit process shall incorporate additional design elements for the purpose of mitigating their increased size.

(i) Stores shall be integrated with pedestrian circulation.

(j) Parking should be distributed near stores, so people can park near their destinations.
GOAL 4: Moderate impact manufacturing and related uses are appropriate for the area between 29th and 22nd Streets, as a transition between the commercial area to the north and more intense manufacturing uses to the south.

POLICY:

(a) East of the Tommy Thompson Parkway in the CM2 zone, encourage marine-related uses such as dry boat storage, marina and its support facilities, boat and ship building, maintenance and repair of boats and their equipment, fish market, public small-boat ramp. Light manufacturing uses will not be excluded.

(b) West of the Tommy Thompson Parkway in the Industrial zone, encourage more general uses, such as office parks, manufacturing, research and development centers, small-scale repairs, food production, commercial parking.

(c) Allow uses customarily incidental to the permitted uses, such as cafeteria, accessory retail sales, caretaker or security residences, small recreational facilities, fish market.

(d) Do not allow residential uses in this area, as they are incompatible with the primary uses.

GOAL 5: Manufacturing and related uses are appropriate for the Industrial area south of 29th Street, where there is good highway access.

POLICY:

(a) Along the shoreline, encourage marine-related uses such as dry boat storage, marinas and their support facilities, boat and ship building, maintenance and repair of boats and their equipment, boat launch facilities to serve upland boat businesses.

(b) Maintain business access to the barge channel in Fidalgo Bay.

(c) Encourage more intensive uses to locate in this Industrial area, where they will have less impact on adjacent uses.

(d) Allow such uses as manufacturing, boat building, processing and shipment of goods, research and development centers, repairs, warehousing and storage.

(e) Allow uses customarily incidental to the permitted uses, such as cafeteria, accessory retail sales, caretaker or security residences, small recreational facilities, fish market.
(f) Do not allow residential uses in this area, as they are incompatible with the primary uses.

GOAL 6: Vehicular and pedestrian circulation shall be connected to all adjacent areas, and coordinated with overall city circulation plans.

POLICY:
(a) Integrate pedestrian circulation with the Tommy Thompson Parkway, the waterfront esplanade, and adjacent areas, forming an integrated pedestrian circulation system with safe pedestrian street crossings at all arterial intersections.
(b) Encourage a tourist train on the Tommy Thompson Parkway to stop at various locations, from Weaverling Spit to the Central Business District, linking all areas along its route.
(c) Encourage private developments to include publicly accessible areas, such as plazas and arcades, connected to public pedestrian routes.
(d) Connect vehicular circulation to all adjacent areas, to facilitate coordinated development of nearby properties.
(e) Provide through public streets to work with the City's existing street system, including streets with waterfront access.
(f) Disperse parking areas among buildings, rather than isolating buildings behind large parking lots.
(g) When appropriate, parking may be shared among uses to reduce the total number of spaces required.

GOAL 7: Public access to the waterfront is a key element of development in this area.

POLICY:
(a) Provide dedicated public waterfront access on approximately the same amount of shoreline that would be in public ownership if the existing city street grid were extended to the water.
(b) Public access shall extend visually out into Fidalgo Bay.
(c) Link public waterfront access areas to the waterfront esplanade, and to publicly accessible areas within projects.
SUB-AREA 4

GOAL 1: Encourage uses which are compatible with the narrowness of the available land, limited water depth, environmentally sensitive tide flats, and Tommy Thompson Parkway.

POLICY:
(a) Allow low-impact water related uses such as boat repair, boat moorage and launching, parks.
(b) Allow single family and multifamily residences, bed and breakfast lodging, and RV facilities.
(c) No in-water development should occur south of Weaverling Spit and the railroad trestle.
GOAL 1: Discourage uses which are incompatible with the limited water depth and environmentally sensitive tide flats, while accommodating the needs of heavy industrial users on March Point.

POLICY:

(a) No in-water or shoreline development should occur south of Weaverling Spit and the railroad trestle.

(b) Limited development may be appropriate for maintenance and environmental protection at the existing oil docks.

(c) The South Fidalgo Bay tidelands shall be preserved as a natural area of significant importance.
X. Implementation Program

A. Planning & Regulatory Framework

The Fidalgo Bay Plan is adopted as a sub-area element of the City’s Comprehensive Plan. The sub-area plan recommends a mitigation program to accomplish its goals, policies and objectives. The plan is consistent with Growth Management Act (GMA) goals and criteria, as well as with the City’s Comprehensive Plan. As a legislative document, it is also subject to legal requirements and procedures for adoption.

GMA requires that cities adopt measures to implement their adopted plans. These measures include development regulations that are consistent with the adopted plan and may also include specific measures to ensure that all adopted policies are implemented. The City proposed changes to its land use and shoreline regulations (e.g. the zoning code and Shoreline Master Program), as well as to other codes and regulations necessary to implement the plan (see Appendix A for new zoning and Appendix B for proposed housekeeping amendments to the City’s SMP).

B. Mitigation Program

A comprehensive mitigation program is a key element of the adopted plan and central to accomplishing the plan’s goals, objectives and policies. The mitigation program will comprise a distinct element of the sub-area plan and will be implemented through appropriate changes to City of Anacortes plans and development regulations (e.g., the zoning code and the Shoreline Master Program). The recommendations below are based on the impacts identified in Chapter VII of the Plan/EIS.

Fish and Wildlife Habitat

Mitigation issues related to fish and wildlife habitat are described in detail in Chapter VIII of this document. The framework described there provides the basis for a comprehensive mitigation plan related to the study area’s most sensitive biological resources.

A range of possible mitigation actions are also described in Chapter IV of this document. In addition to avoidance and minimization of impacts, these generally include actions that could enhance existing resources (e.g. by eliminating practices, structures or cleanup activities that currently impact resources), or that could replace existing resources affected by future development (e.g. through creation of replacement habitat). Techniques specific to individual resources are identified in Table 9, above.

The City favors identifying mitigation approaches that address compensation or enhancement for areas that have been altered through historical dredging and filling not associated with the plan (V-6).
Land and Shoreline Use

- To maximize future land use compatibility, consider adopting design standards and zoning code revisions to help buffer land uses of different character and intensity, particularly at edges of differing land uses.

- Using the information in the Draft Plan/EIS and public input, the City has determined and articulated the desired long-term character of the Fidalgo Bay sub-area in terms of a working, industrial shoreline. As a relatively more intensive development pattern has been selected, standards to ensure compatibility of proposed development with the surrounding area are being implemented.

Population/Employment

- The selected development scenario has been reviewed and determined to be consistent with the City’s overall employment and population targets.

Cultural and Archaeological Resources

- Archaeological survey and site records and specific studies on prehistoric settlements (i.e., “Prehistoric Places on the Southern NW Coast” by the Thomas Burke Memorial Washington State Museum) at the Washington State Office of Archaeology and Historic Preservation should be further examined and a cultural resources field survey undertaken to identify archaeological sites in the Fidalgo Bay area.

- The City of Anacortes will continue to consult with the Swinomish Tribal Community and Samish Indian Tribe to discuss the locations of possible traditional cultural use areas around the bay. Native American finfish and shellfish treaty rights should be researched and addressed.

- If archaeological resources are detected during development of future projects, the State Office of Archaeological and Historic Preservation and the Washington Department of Natural Resources (for resources on state-owned land) should be notified and the significance of the findings should be determined. Development activity which could damage any resources should cease until appropriate evaluations and actions can be carried out, consistent with state and city regulations.

Open Space/Recreation

- The Shoreline Master Program has been modified to ensure that public access requirements are consistent with the development pattern of the selected alternative.
C. Memorandum of Agreement Process

A goal of the Fidalgo Bay-Wide Plan is to provide a plan and environmental analysis that can be used to achieve greater certainty and predictability regarding the type and amount of growth that is expected in the study area; where development should be guided; how it should occur; and what types of mitigation measures can and should be applied to conserve the study area’s resources. It is anticipated that interagency agreements will provide a vehicle for specifying how the plan will be used to accomplish this goal and how its policies will be applied.

The following is a sample outline of the types of issues that will likely need to be addressed in Memoranda of Agreement (MOAs) between the City and state and federal agencies. It is assumed that substantive aspects of the agreement will be based on the mitigation program developed for the Fidalgo Bay-Wide Plan.

- Introduction: Define document purpose and participants.
- Definition of Terms: Define any technical terms.
- Goals and Objectives: Identify goals and objectives addressed by the agreement (e.g. no net loss in habitat function and acreage, procedures for establishing a mitigation bank area at a specified location, etc.)
- Parties to Agreement: Identify participants in agreement and their roles.
- Geographic Area: Define the geographic area subject to the agreement.
- Mitigation Approaches: Identify specific mitigation approaches contemplated by the agreement/plan (i.e. types of compensatory mitigation, mitigation banking, out-of-kind mitigation, off-site mitigation, other approaches).
- Framework for Implementation of Mitigation Approach: Define mitigation timing, contents of project specific mitigation plans, replacement ratios, etc.
- Description of Baseline Conditions: Describe existing conditions of relevant habitat.
- Performance Standards: Establish performance thresholds required for mitigation projects.
- Accounting Procedures: Identify accounting procedures and responsibilities (for mitigation banking approaches).
- Approach to Monitoring: Identify methodology used in monitoring, relevant time periods, responsibilities for monitoring.
- Contingency and Remedial Plans and Responsibilities: *Describe methods and actions to be taken if mitigation approach does not meet goals.*

- Decision/Approval Framework. *Outline how project proposals which are found to meet Fidalgo Bay-wide policies, conclusions and standards, together with mitigation requirements, can expect the permit approval process to proceed.*

These are intended to be examples. Agencies will tailor the agreements to address their specific needs.
Appendix A.
Land Use and Zoning Designations
CHAPTER 17.17 – MANUFACTURING AND SHIPPING DISTRICT (MS)

SECTIONS

17.17.010 PURPOSE
17.17.020 PERMITTED USES
17.17.030 PERMITTED ACCESSORY USES
17.17.040 CONDITIONAL USES
17.17.050 MINIMUM LOT SIZE
17.17.060 MINIMUM SETBACK REQUIREMENTS
17.17.070 MAXIMUM DENSITY
17.17.080 MAXIMUM LAND COVERAGE
17.17.090 MAXIMUM BUILDING HEIGHT
17.17.100 OFF-STREET PARKING REGULATIONS

17.17.010 PURPOSE

The Manufacturing and Shipping District (MS) is primarily intended to accommodate manufacturing and shipping uses that can utilize the deep waters of the Guemes Channel. Secondarily, the MS District provides for uses supplementary to and compatible with the primary uses.

17.17.020 PERMITTED USES

Manufacturing, storing, and shipment of goods; research and development centers; offices, maritime administration and public meeting space; building and repair of boats and ships; boat and marine equipment sales and services; public parks and public piers; and public parking.

17.17.030 PERMITTED ACCESSORY USES

Caretaker or security residences; cafeterias (a cafeteria is a facility whose primary function is to provide food and beverage service to employees occupying the same building or building complex as the cafeteria, but whose secondary function is to service the general public); uses customarily incidental to the permitted principle use; and accessory retail sales.

17.17.040 CONDITIONAL USES

Neighborhood grocery stores; restaurants; public and private recreational facilities; and marinas together with related uses such as boat sales and small-scale retail sales and specialty shops.
17.17.050 MINIMUM LOT SIZE
No minimum.

17.17.060 MINIMUM SETBACK REQUIREMENTS
The minimum setback requirements of the Manufacturing and Shipping District are:
A. No building or other structure shall be built closer than 10 feet from the street right-of-way lines.
B. No building or structure, other than a fence, shall be closer than 10 feet from adjacent property lines.

17.17.070 MAXIMUM DENSITY
No maximum.

17.17.080 MAXIMUM LAND COVERAGE
The maximum coverage of a lot by buildings is 60%, except that ship and boat building and repair may be up to 75%. The City may consider and approve lot coverage in excess of these percentages through the Conditional Use process.

17.17.090 MAXIMUM BUILDING HEIGHT
Maximum building height is to be 50 feet.

17.17.100 OFF-STREET PARKING AND LANDSCAPING REQUIREMENTS
Off-street parking shall be provided in the Manufacturing and Shipping District with a minimum of one parking space for each 1.5 employees on the largest shift, and in accordance with specifications in Section 17.46, Parking.

CHAPTER 17.21 - COMMERCIAL MARINE (CM)

SECTIONS
17.21.010 PURPOSE
17.21.020 PERMITTED USES
17.21.030 PERMITTED ACCESSORY USES
17.21.040 CONDITIONAL USES
17.21.050 MINIMUM LOT SIZE
17.21.060 MINIMUM SETBACK REQUIREMENTS
17.21.070 MAXIMUM DENSITY
17.21.080 MAXIMUM LAND COVERAGE
17.21.090 MAXIMUM BUILDING HEIGHT
17.21.100 OFF-STREET PARKING REQUIREMENTS
17.21.010  PURPOSE

The Commercial Marine Use District (CM) is established in recognition of the unique and irreplaceable nature of certain marine sites within Anacortes, and creates a special commercial district providing for the establishment of such uses as marinas, boat docking facilities, and other commercial enterprises where orientation to navigable waterways and tourism trade is of prime importance. Uses in this district are intended to serve the needs of marine oriented and tourist activity, and not to create large scale commercial centers providing basic goods and services to the entire community.

17.21.020  PERMITTED USES

Boat moorage, public piers, private and public marinas, ship and boat building and repair, boat and marine equipment sales and services. Small scale retail sales and specialty shops, eating and drinking establishments, offices, boatels, hotels, motels, indoor and outdoor public and private recreation facilities. Movie theaters. Parks.

17.21.030  PERMITTED ACCESSORY USES

Any use customarily incidental to the permitted principle use.

17.21.040  CONDITIONAL USE

Conditional uses in a CM district shall be as follows:

A. Recreation vehicle park or campground.

B. Apartments and condominiums provided that it can be demonstrated that the uses will not weaken the district's tourist or marine oriented purpose, nor diminish the marine values inherent in the district such as physical and visual access to waterways and shoreline.

C. Single-family homes.

D. Landmark building with any approved use, generally not permitted within the area's land use classification, which occurs or will occur in a landmark building recognized as such by the City Council.

E. Bed-and-Breakfast establishments.

F. Storage of goods and shipping and terminal facilities, requiring orientation to navigable waterways and intended to serve the needs of marine oriented activity.

17.21.050  MINIMUM LOT SIZE

No minimum lot area is assigned for CM District. It is the intent of this title that each enterprise or use be located on a site commensurate with its use and sufficient to meet the requirements for off-street parking, loading and unloading, and setback requirement of the District.
17.21.060  MINIMUM SETBACK REQUIREMENTS

No minimum from property line. 20' from right-of-way.

17.21.070  MAXIMUM DENSITY

None.

17.21.080  MAXIMUM LAND COVERAGE

Maximum land coverage by buildings shall be 50%.

17.21.090  MAXIMUM BUILDING HEIGHT

Height limit within the CM District is 35 feet except that the area east of “T” and north of the alley between 2nd and 3rd shall have a 30-foot maximum building height. This limit can be exceeded by the Council upon affirmative recommendation of the Planning Commission upon demonstration that the excess height would not be adverse to the established policies, standards, and uses in the general vicinity and would enhance one or more of the policies or standards.

17.21.100  OFF-STREET PARKING AND LANDSCAPING REQUIREMENTS

Off-street parking shall be provided in accordance with the specifications in Section 17.46 (Parking).

17.21.110  BASIC DESIGN STANDARDS

A.  Waterfront Esplanade. All uses abutting the water in the Cap Sante CM Zone shall provide a walkway that will constitute a segment of a continuous, publicly-accessible esplanade; the walkway shall be at least 10 feet wide.

B.  Railroad (BN) Corridor Trail. The trail corridor alignment may be relocated, after public hearing and City Council action, so long as it includes at least a 17’ wide continuous ROW with radii and ballast that can accommodate standard gauge rail service, space for linear park, trail and public or franchised tourist railroad. Re-alignments will be at the cost of property owners requesting change. The relocated ROW and tracks will remain in City ownership. In order to qualify for an increase in FAR, the following City-adopted standards must be met: the path be at least 8 feet wide, be an all weather surface, and be properly drained. If active rail use is present, the path shall be separated from the tracks by a fence or hedge or by a grade separation.

C.  Sidewalks. All new streets shall have sidewalks on both sides of the street.

D.  Vegetation. Any vegetation shall be of low water usage plants or native vegetation.

E.  Street Circulation. All uses shall identify how street circulation will be facilitated.
F. Planned Unit Development (PUD). The City should consider adding provisions for approval of commercial and/or industrial projects over 5 acres in size through a Planned Unit Development, rather than a Conditional Use Process, the provisions for which need to be developed.

CHAPTER 17.22 - COMMERCIAL MARINE 1 (CM1)

SECTIONS

17.22.010 PURPOSE
17.22.020 PERMITTED USES
17.22.030 PERMITTED ACCESSORY USES
17.22.040 CONDITIONAL USES
17.22.050 MINIMUM LOT SIZE
17.22.060 MINIMUM SETBACK REQUIREMENTS
17.22.070 MAXIMUM DENSITY/FLOOR AREA RATIO
17.22.080 MAXIMUM LAND COVERAGE
17.22.090 MAXIMUM BUILDING HEIGHT
17.22.100 OFF-STREET PARKING REQUIREMENTS
17.22.110 BASIC DESIGN STANDARDS

17.22.010 PURPOSE

The Commercial Marine 1 Use District (CM1) is established in recognition of the unique and irreplaceable nature of certain marine sites within Anacortes, and creates a special commercial district providing for a mix of commercial, industrial, and recreational uses appropriate adjacent to the Commercial and the Industrial Districts and compatible with public access to Fidalgo Bay, orientation to navigable waterways, and tourism trade.

The CM1 zone is a sensitive area linking the central business district and commercial areas with the shoreline and marinas. It is intended that it be developed as a pedestrian-friendly area welcoming and serving the needs of both residents and visitors. The specific standards for this zone are intended to reinforce this pedestrian scale and character, and preserve views of and access to Fidalgo Bay. Commercial businesses which are not water-related and are on a scale with the existing Commercial District, are encouraged in the CM1 zone through the Conditional Use process, so long as they are sited more than 200 feet from the shoreline.

The shoreline within 200 feet of Fidalgo Bay shall be developed with water-dependent marine uses, or uses which provide significant public physical and visual access to the Bay through public open space or public view easement or public or commercial facilities connected to a landscaped public esplanade. Shorelines accessible to navigation channels shall be developed with uses which require access to such a channel.

17.22.020 PERMITTED USES

Ship and boat building and repair; boat and marine equipment sales and services; public and private recreational facilities; public plazas; conference centers; movie theaters; eating and drinking establishments; parks and public piers; research and development centers; boat launch facilities; any single commercial establishment permitted outright in the Commercial District or
complex of such uses if the size is less than 20,000 gross square feet; and any single retail use or complex of such uses if the size is less than 20,000 gross square feet.

17.22.030 PERMITTED ACCESSORY USES

Any use customarily incidental to the permitted principle use.

17.22.040 CONDITIONAL USE

Manufacturing, storing, and shipment of goods; offices; any single retail use or complex of such uses in excess of 20,000 gross square feet but less than 50,000 gross square feet; and marinas. The following uses permitted in the Commercial District are not permitted: single family residences; a single retail use or complex of such uses in excess of 50,000 gross square feet; auto service stations; and “other commercial and services uses” as set forth in AMC 17.24.020.

17.22.050 MINIMUM LOT SIZE

No minimum lot area is assigned for CM1 District. It is the intent of this title that each enterprise or use be located on a site commensurate with its use and sufficient to meet the requirements for off-street parking, loading and unloading, and setback requirement of the District.

17.22.060 MINIMUM SETBACK REQUIREMENTS

No minimum from property line. 20' from right-of-way.

17.22.070 MAXIMUM DENSITY/FLOOR AREA RATIO

A Floor Area Ratio formula shall be applied to all buildings in this zone. For purposes of this section, Floor Area Ratio (FAR) establishes the maximum allowable amount of square feet within a building as a multiple of the area of the lot.

The maximum allowable basic FAR for all development within this zone shall be .5. This may be increased to a maximum of 1.0, according to the following formula:

A. The FAR may be increased by .25 if a development project includes a portion of the trail along the railroad corridor and constructs it according to specifications established by the City.

B. The FAR may also be increased by .25 if a development project includes a portion of the waterfront esplanade and constructs it to specifications established by the City.

C. The FAR may be increased by up to .25 by the following method: For each 5% of total lot area that is developed as public open space, a 5% increase in the FAR shall be allowed, up to a 25% maximum increase. Qualifying public open space may include pedestrian walkways (excluding those required by other provisions of this code), arcades, plazas, seating areas, landscaping in excess of that required by other provisions of this code, bikeways, permanent view easements, watercourses and fountains, courtyards, and similar publicly accessible open spaces.
A, B, and/or C above may be combined, but in no case shall the FAR exceed 1.0. If the waterfront esplanade or railroad corridor trail has been provided by other means, then an FAR increase for that feature shall not be given.

Floor Area Ratio (or FAR) is a method of directing the intensity of development. It is a ratio that expresses the amount of allowable building area as a multiple of the lot area.

Examples:
A FAR of 1.0 can produce the following possibilities (among others):
1. A two story building covering 1/2 of the lot
2. A four story building covering 1/4 of the lot

Using FAR to derive the amount of building area on a 50,000 sf lot would be as follows:
1. A .5 FAR would result in a 25,000 sf building (maximum)
2. A .75 FAR would result in a 37,500 sf building (maximum)
3. A 1.0 FAR would result in a 50,000 sf building (maximum)

17.22.080 MAXIMUM LAND COVERAGE

The maximum coverage of a lot by buildings is 50%, except that boat building and repair may be up to 75%. The City may consider and approve lot coverage in excess of these percentages through the Conditional Use process. Each proposed building shall designate its individual lot lines, for purposes of determining FAR, maximum lot coverage, landscaping, view corridors, etc. If a building is part of a larger complex, a master site plan will show how standards are met for the total master planned site.

17.22.090 MAXIMUM BUILDING HEIGHT

The basic allowable height limit shall be 20 feet, which may be increased to 40 feet according to the formula below:

The height may be increased by 10 feet if the long dimension of the building is set perpendicular to a “lettered” avenue, and a minimum of 20 feet of clear space is maintained between buildings, so that views of Fidalgo Bay are maintained, and the long dimension of the building is at least twice the short dimension.

The height may also be increased by 10 feet if the building incorporates a sloped roof having a pitch of at least 4:12 but not more than 12:12, and the ridge of the roof is perpendicular to “R” Avenue so that views of Fidalgo Bay are maintained. Only the portions of a building incorporating such a sloping roof shall qualify for the 10 foot increase.

The City may consider and approve building heights in excess of 40 feet through the Conditional Use process (as long as the 40 feet has been achieved through the above methods).

17.22.100 OFF-STREET PARKING AND LANDSCAPING REQUIREMENTS

Off-street parking shall be provided in the Commercial Marine 1 District in accordance with the specifications in Section 17.46 and this may well affect floor area calculations.
17.22.110 BASIC DESIGN STANDARDS

A. Waterfront Esplanade. All uses abutting the water shall provide a walkway that will constitute a segment of a continuous, publicly-accessible esplanade; the walkway shall be at least 10 feet wide.

In order to qualify for an increase in FAR, the following City-adopted standards will need to be met: The walkway shall be adjacent to the shoreline and have an all-weather surface with benches constructed to City design standards. If the walkway is located inland no FAR increase is applicable.

B. Railroad (BN) Corridor Trail. The trail corridor alignment may be relocated, after public hearing and City Council action, so long as it includes at least a 17’ wide continuous ROW with radii and ballast that can accommodate standard gauge rail service, space for linear park, trail and public or franchised tourist railroad. Re-alignments will be at the cost of property owners requesting change. The relocated ROW and tracks will remain in City ownership. In order to qualify for an increase in FAR, the following City-adopted standards will need to be met: the path be at least 8 feet wide, be an all weather surface, and be properly drained. If active rail use is present, the path shall be separated from the tracks by a fence or hedge or by a grade separation.

C. Sidewalks. The following existing streets shall have sidewalks on both sides of the street: “Q” Avenue, “R” Avenue, “T” Avenue, and 22nd Street unless adjacent to a City approved path/esplanade.

All new streets shall have sidewalks on both sides of the street, in order to provide connections between the waterfront esplanade and the railroad corridor trail. Inviting, safe pedestrian connections shall be provided across “Q” Avenue to connect tourists and shoppers from west of “Q” to facilities on the east site of “Q”, to the Tommy Thompson Parkway, and to sidewalks with connections to the Waterfront Esplanade.

D. Vegetation. Any vegetation shall be of low water usage plants or native vegetation. If the lot area exceeds 10,000 sq. ft., an in-ground irrigation system shall be installed in all landscaped areas. All vegetation shall be maintained in a healthy condition, free of weeds and trash, and damaged or unhealthy plants shall be promptly replaced. A landscaping plan shall be approved by the Planning Commission.

E. Street Circulation. All uses shall identify how street circulation will be facilitated. Increased traffic flows will cause need for internal traffic circulation between 13th and 22nd Streets and limited access to arterials. The City shall retain choice and control of access points to “Q”, “R”, and 22nd and “T” and adjoining City streets, to assure limited and efficient access to key arterial streets; and it retains the authority to require dedication of ROW or easements necessary for public facilities.

F. Master Planning. Commercial and/or industrial projects shall submit a Master Plan for City staff review describing a desirable relationship of structures to one another, to open spaces, and to existing buildings for a distance of 500 feet from the property boundaries. Circulation shall be defined for pedestrians, bicycles, vehicles, service vehicles, parking access, and arterial access.
If the current proposal is part of a larger complex, the applicant should show how circulation will be handled and standards will be met for the total master planned site. Staged developments may apply through a Planned Unit Development process. A Property Use and Development Agreement consistent with state statutes may be utilized when agreed to by the City and the project proponent, provided that all other provisions of City ordinances are met.

G. Building Standards: In order to make large new buildings compatible with the scale of existing city development, and create a pedestrian-friendly environment, the apparent size of buildings and parking areas shall be broken down to relate to human scale by the following means:

If a building façade exceeds 50 ft. in length, it shall be broken down into smaller elements by jogging the wall in or out a minimum of 4 ft. for at least 10 ft. of length, or by adding an element such as a porch, recessed entry, bay window, projecting trellis, or similar substantial architectural feature at least 4 ft. deep X 10 ft. wide X 1 story high, at intervals so that no continuous wall plane is more than 50 ft. in length.

If a building exceeds 20 ft. in height, its apparent height shall be modulated wherever it is within 10 ft. of a sidewalk, plaza, courtyard, or similar pedestrian area, by adding shorter (20 ft. or less) building elements such as a wing of the building, arcade, trellis, lower roof overhang, horizontal projection at least 2 ft. deep, awning, balcony, or other architectural feature to reduce the apparent height to a more human scale.

If a building wall is within 20 ft. of a sidewalk, plaza, courtyard, or similar pedestrian area, it shall incorporate human-scale elements such as windows, arcades, lower roof overhangs, small-scale textural and color changes, moldings, balconies, projecting and recessed elements, doorways, landscaped areas, trellises, artwork, and/or other small-scale architectural features so that people will not be walking past large blank wall surfaces.

Primary building entrances shall be clearly visible from streets, pedestrian ways, and parking areas, with recessed or covered entrance areas to protect people from the rain. Projects shall be designed to facilitate pedestrian access, with pedestrian walkways connecting building entrances to adjacent public ways in locations which provide access to pedestrian street crossings.

Service and loading areas shall be located away from the primary parking and pedestrian areas to minimize conflicts. Dumpsters, loading platforms, storage areas, and similar functions shall be screened from direct view from pedestrian areas by attractive view-obstructing fencing or dense landscaping.

Parking lots in this zone shall provide landscaped areas distributed throughout the parking areas, totaling not less than 5% of the parking lot area, in addition to the perimeter landscaping required by Section 17.46.080 A. In order to limit impervious surface and avoid excessively large parking areas, parking lots in the CM1 zone shall not exceed the minimum number of spaces required for each use under Chapter 17.46 by more than 10 percent.
CHAPTER 17.23 – COMMERCIAL MARINE 2 (CM2)

SECTIONS

17.23.010  PURPOSE
17.23.020  PERMITTED USES
17.23.030  PERMITTED ACCESSORY USES
17.23.040  CONDITIONAL USES
17.23.050  MINIMUM LOT SIZE
17.23.060  MINIMUM SETBACK REQUIREMENTS
17.23.070  MAXIMUM DENSITY/FLOOR AREA RATIO
17.23.080  MAXIMUM LAND COVERAGE
17.23.090  MAXIMUM BUILDING HEIGHT
17.23.100  OFF-STREET PARKING REQUIREMENTS
17.23.110  BASIC DESIGN STANDARDS

17.23.010  PURPOSE

The Commercial Marine Use 2 District (CM2) is established in recognition of the unique and irreplaceable nature of certain marine sites within Anacortes, and creates a special commercial district providing for the establishment of such uses as marinas, boat docking facilities, and other commercial and industrial enterprises where orientation to navigable waterways and/or tourism trade is of importance. Uses in this district are intended to serve the needs of marine oriented and tourist activity, and not to create large scale commercial centers providing basic goods and services to the entire community. The Commercial Marine 2 District (CM2) is established to provide for a mix of commercial and industrial uses appropriate adjacent to the Commercial Marine 1 District and the Industrial District and to provide public access to Fidalgo Bay. The shoreline within 200 feet of Fidalgo Bay shall be developed with water-dependent marine uses, or uses which provide significant public physical and visual access to the Bay through public open space or public view easement or public or commercial facilities connected to a landscaped public esplanade. Shorelines accessible to navigation channels shall be developed with uses which require access to such a channel.

17.23.020  PERMITTED USES

Ship and boat building and repair; boat and marine equipment sales and services; public and private recreational facilities; parks and public piers; marinas and dry stack boat storage; and boat launch facilities.

17.23.030  PERMITTED ACCESSORY USES

Any use customarily incidental to the permitted principle use.

17.23.040  CONDITIONAL USE

Manufacturing, storing, and shipment of goods; research and development centers; office; eating and drinking establishments; small scale retail sales and specialty shops when directly associated with a marina.
17.23.050  MINIMUM LOT SIZE

No minimum lot area is assigned for CM2 District. It is the intent of this title that each enterprise or use be located on a site commensurate with its use and sufficient to meet the requirements for off-street parking, loading and unloading, and setback requirement of the District.

17.23.060  MINIMUM SETBACK REQUIREMENTS

No minimum from property line. 20' from right-of-way.

17.23.070  MAXIMUM DENSITY/FLOOR AREA RATIO

A Floor Area Ratio formula shall be applied to all buildings in all parts of this zone. For purposes of this section, Floor Area Ratio (FAR) establishes the maximum allowable amount of square feet within a building as a multiple of the area of the lot.

The maximum allowable basic FAR for all development within this zone shall be .5. This may be increased to a maximum of 1.0, according to the following formula:

A. The FAR may be increased by .25 if a development project includes a portion of the trail along the railroad corridor and constructs it according to specifications established by the City.

B. The FAR may also be increased by .25 if a development project includes a portion of the waterfront esplanade and constructs it to specifications established by the City.

C. The FAR may be increased by up to .25 by the following method: For each 5% of total lot area that is developed as public open space, a 5% increase in the FAR shall be allowed, up to a 25% maximum increase. Qualifying public open space may include pedestrian walkways (excluding those required by other provisions of this code), arcades, plazas, seating areas, landscaping in excess of that required by other provisions of this code, bikeways, permanent view easements, watercourses and fountains, courtyards, and similar publicly accessible open spaces.

A, B, and/or C above may be combined, but in no case shall the FAR exceed 1.0. If the waterfront esplanade or railroad corridor trail has been provided by other means, then an FAR increase for that feature shall not be given.

Floor Area Ratio (or FAR) is a method of directing the intensity of development. It is a ratio that expresses the amount of allowable building area as a multiple of the lot area.

Examples:
A FAR of 1.0 can produce the following possibilities (among others):
1. A two story building covering 1/2 of the lot
2. A four story building covering 1/4 of the lot

Using FAR to derive the amount of building area on a 50,000 sf lot would be as follows:
1. A .5 FAR would result in a 25,000 sf building (maximum)
2. A .75 FAR would result in a 37,500 sf building (maximum)
3. A 1.0 FAR would result in a 50,000 sf building (maximum)
17.23.080  MAXIMUM LAND COVERAGE

The maximum coverage of a lot by buildings is 50%, except that boat building and repair may be up to 75%. The City may consider and approve lot coverage in excess of these percentages through the Conditional Use process. Each proposed building shall designate its individual lot lines, for purposes of determining FAR, maximum lot coverage, landscaping, view corridors, etc. If a building is part of a larger complex, a master site plan will show how standards are met for the total master planned site.

17.23.090  MAXIMUM BUILDING HEIGHT

The basic allowable height limit shall be 30 feet, which may be increased to 50 feet according to the following formula:

The height may be increased by 10 feet if the long dimension of the building is set perpendicular to a “lettered” avenue, and a minimum of 20 feet of clear space is maintained between buildings, so that views of Fidalgo Bay are maintained, and the long dimension of the building is at least twice the short dimension.

The height may also be increased by 10 feet if the building incorporates a sloped roof having a pitch of at least 4:12 but not more than 12:12, and the ridge of the roof is perpendicular to “R” Avenue so that views of Fidalgo Bay are maintained. Only the portions of a building incorporating such a sloping roof shall qualify for the 10 foot increase.

The City may consider and approve building heights in excess of 50 feet through the Conditional Use process (as long as the 50 feet has been achieved through the above methods).

17.23.100  OFF-STREET PARKING AND LANDSCAPING REQUIREMENTS

Off-street parking shall be provided in the Commercial Marine 1 District in accordance with the specifications in Section 17.46 and this may well affect floor area calculations.

17.23.110  BASIC DESIGN STANDARDS

A.  Waterfront Esplanade. All uses abutting the water shall provide a walkway that will constitute a segment of a continuous, publicly-accessible esplanade; the walkway shall be at least 10 feet wide.

In order to qualify for an increase in FAR, the following City-adopted standards will need to be met: The walkway shall be adjacent to the shoreline and have an all-weather surface with benches constructed to City design standards. If the walkway is located inland no FAR increase is applicable.

B.  Railroad (BN) Corridor Trail. The trail corridor alignment may be relocated, after public hearing and City Council action, so long as it includes at least a 17’ wide continuous ROW with radii and ballast that can accommodate standard gauge rail service, space for linear park, trail and public or franchised tourist railroad. Re-alignments will be at the cost of property owners requesting change. The relocated ROW and tracks will remain in City ownership. In order to qualify for an increase in FAR, the following City-adopted standards will need to be met: the path be at least 8 feet wide, be an all weather surface,
and be properly drained. If active rail use is present, the path shall be separated from the tracks by a fence or hedge or by a grade separation.

C. Sidewalks. The following existing streets shall have sidewalks on both sides of the street: “R” Avenue, “T” Avenue, 22nd Street, and 28th Street, unless adjacent to a City approved path/esplanade.

All new streets shall have sidewalks on both sides of the street, in order to provide connections between the waterfront esplanade and the railroad corridor trail.

D. Vegetation. Any vegetation shall be of low water usage plants or native vegetation. If the lot area exceeds 10,000 sq. ft., an in-ground irrigation system shall be installed in all landscaped areas. All vegetation shall be maintained in a healthy condition, free of weeds and trash, and damaged or unhealthy plants shall be promptly replaced. A landscaping plan shall be approved by the Planning Commission.

E. Street Circulation. All uses shall identify how street circulation will be facilitated.

F. Master Planning. Commercial and/or industrial projects shall submit a Master Plan for City staff review describing a desirable relationship of structures to one another, to open spaces, and to existing buildings for a distance of 500 feet from the property boundaries. Circulation shall be defined for pedestrians, bicycles, vehicles, service vehicles, parking access, and arterial access.

If the current proposal is part of a larger complex, the applicant should show how circulation will be handled and standards will be met for the total master planned site. Staged developments may apply through a Planned Unit Development process. A Property Use and Development Agreement consistent with state statutes may be utilized when agreed to by the City and the project proponent, provided that all other provisions of City ordinances are met.

CHAPTER 17.16 - INDUSTRIAL DISTRICT

SECTIONS

17.16.010 PURPOSE
17.16.020 PERMITTED USES
17.16.030 PERMITTED ACCESSORY USES
17.16.040 CONDITIONAL USES
17.16.050 MINIMUM LOT SIZE
17.16.060 MINIMUM SETBACK REQUIREMENTS
17.16.070 MAXIMUM DENSITY/FLOOR AREA RATIO
17.16.080 MAXIMUM LAND COVERAGE
17.16.090 MAXIMUM BUILDING HEIGHT
17.16.100 OFF-STREET PARKING REGULATIONS
17.16.110 BASIC DESIGN STANDARDS
17.16.120 CONDITIONAL USE PERMITS FOR INDUSTRIAL & COMMERCIAL PROJECTS
17.16.010 PURPOSE

The Industrial District is intended primarily for manufacturing uses and uses that can utilize the Anacortes Navigation Channel. Secondarily, the Industrial District provides for uses supplementary to and compatible with the primary uses. The shoreline within 200 feet of Fidalgo Bay shall be developed with water-dependent marine uses, or uses which provide significant public physical and visual access to the Bay through public open space or public view easement or public or commercial facilities connected to a landscaped public esplanade. Shorelines accessible to navigation channels shall be developed with uses which require access to such a channel.

17.16.020 PERMITTED USES

Any industrial, research and development centers, office, park, repair, warehousing, processing, shipping and terminal uses, dry stack boat storage, and movie theaters.

17.16.030 PERMITTED ACCESSORY USES

Permitted accessory uses are cafeterias, offices, caretaker or security residences, any use customarily incidental to the permitted principle use.

17.16.040 CONDITIONAL USES

Marinas and restaurants in connection with a marina are conditional uses in this zone.

17.16.050 MINIMUM LOT SIZE

No minimum.

17.16.060 MINIMUM SETBACK REQUIREMENTS

The minimum setback requirements of the Industrial District are:

A. No building or other structure, except a fence, shall be built closer than 15 feet from the street right-of-way lines.

B. No building or other structure, except a fence, shall be closer than 10 feet from adjacent property lines.

17.16.070 MAXIMUM DENSITY/FLOOR AREA RATIO

A Floor Area Ratio formula shall be applied to all buildings in all parts of this zone. For purposes of this section, Floor Area Ratio (FAR) establishes the maximum allowable amount of square feet within a building as a multiple of the area of the lot.

The maximum allowable basic FAR for all development within this zone shall be .5. This may be increased to a maximum of 1.0, according to the following formula:

A. The FAR may be increased by .25 if a development project includes a portion of the trail along the railroad corridor and constructs it according to specifications established by the City.
B. The FAR may also be increased by .25 if a development project includes a portion of the waterfront esplanade and constructs it to specifications established by the City.

Floor Area Ratio (or FAR) is a method of directing the intensity of development. It is a ratio that expresses the amount of allowable building area as a multiple of the lot area.

Examples:
A FAR of 1.0 can produce the following possibilities (among others):
1. A two story building covering 1/2 of the lot
2. A four story building covering 1/4 of the lot

Using FAR to derive the amount of building area on a 50,000 sf lot would be as follows:
1. A .5 FAR would result in a 25,000 sf building (maximum)
2. A .75 FAR would result in a 37,500 sf building (maximum)
3. A 1.0 FAR would result in a 50,000 sf building (maximum)

17.16.080 MAXIMUM LAND COVERAGE

The maximum coverage of a lot by buildings is 50%, except that boat building and repair may be up to 75%. The City may consider and approve lot coverage in excess of these percentages through the Conditional Use process. Each proposed building shall designate its individual lot lines, for purposes of determining FAR, maximum lot coverage, landscaping, view corridors, etc. If a building is part of a larger complex, a master site plan will show how standards are met for the total master planned site.

17.16.090 MAXIMUM BUILDING HEIGHT

The basic allowable height limit shall be 30 feet, which may be increased to 50 feet according to the following formula:

The height may be increased by 10 feet if the long dimension of the building is set perpendicular to a “lettered” avenue, and a minimum of 20 feet of clear space is maintained between buildings, so that views of Fidalgo Bay are maintained, and the long dimension of the building is at least twice the short dimension.

The height may also be increased by 10 feet if the building incorporates a sloped roof having a pitch of at least 4:12 but not more than 12:12, and the ridge of the roof is perpendicular to “R” Avenue so that views of Fidalgo Bay are maintained. Only the portions of a building incorporating such a sloping roof shall qualify for the 10 foot increase.

The City may consider and approve building heights in excess of 50 feet through the Conditional Use process (as long as the 50 feet has been achieved through the above methods).

17.16.100 OFF-STREET PARKING AND LANDSCAPING REQUIREMENTS

Off-street parking shall be provided in the Industrial District in accordance with specifications in Section 17.46 and this may well affect floor area calculations.
A. **Waterfront Esplanade.** All uses abutting the water shall provide a walkway that will constitute a segment of a continuous, publicly-accessible esplanade; the walkway shall be at least 10 feet wide.

In order to qualify for an increase in FAR, the following City-adopted standards will need to be met: The walkway shall be adjacent to the shoreline and have an all-weather surface with benches constructed to City design standards. If the walkway is located inland no FAR increase is applicable.

B. **Railroad (BN) Corridor Trail.** The trail corridor alignment may be relocated, after public hearing and City Council action, so long as it includes at least a 17' wide continuous ROW with radii and ballast that can accommodate standard gauge rail service, space for linear park, trail and public or franchised tourist railroad. Re-alignments will be at the cost of property owners requesting change. The relocated ROW and tracks will remain in City ownership. In order to qualify for an increase in FAR, the following City-adopted standards will need to be met: the path be at least 8 feet wide, be an all weather surface, and be properly drained. If active rail use is present, the path shall be separated from the tracks by a fence or hedge or by a grade separation.

C. **Sidewalks.** The following existing streets shall have sidewalks on both sides of the street: “R” Avenue, “T” Avenue, 22nd Street, 28th Street, 30th Street, and 34th Street, unless adjacent to a City path/esplanade.

All new streets shall have sidewalks on both sides of the street, in order to provide connections between the waterfront esplanade and the railroad corridor trail.

D. **Vegetation.** Any vegetation shall be of low water usage plant or native vegetation. If the lot area exceeds 10,000 sq. ft., an in-ground irrigation system shall be installed in all landscaped areas. All vegetation shall be maintained in a healthy condition, free of weeds and trash, and damaged or unhealthy plants shall be promptly replaced. A landscaping plan shall be approved by the Planning Commission.

E. **Street Circulation.** All uses shall identify how street circulation shall be facilitated. The City shall retain choice and control of access points to “R” Avenue, to assure limited and efficient access to that key arterial.

F. **Master Planning.** Commercial and/or industrial projects shall submit a Master Plan for City staff review describing a desirable relationship of structures to one another, to open spaces, and to existing buildings for a distance of 500 feet from the property boundaries. Circulation shall be defined for pedestrians, bicycles, vehicles, service vehicles, parking access, and arterial access.

If the current proposal is part of a larger complex, the applicant should show how circulation will be handled and standards will be met for the total master planned site. Staged developments may apply through a Planned Unit Development process. A Property Use and Development Agreement consistent with state statutes may be utilized when agreed to by the City and the project proponent, provided that all other provisions of City ordinances are met.
17.16.120 CONDITIONAL USE PERMITS FOR INDUSTRIAL AND COMMERCIAL PROJECTS

A. It is the intent of this subsection to allow certain uses, which because of their unusual size, infrequent occurrence, special requirements, possible safety hazards or detrimental effects on surrounding properties are classified as conditional uses and so designated in the various use districts.

B1. Certain uses may be allowed in those designated use districts by a conditional use permit granted by the City Council after Planning Commission recommendation provided such use is specified under the conditional use subsection of the appropriate use district and is clearly shown to the City by the applicant that it is not detrimental to the surrounding neighborhood. Prior to granting such a permit the Commission shall hold a public hearing. Prior to approval by the City Council of such a permit, it must be shown that the use will not be a liability to the neighboring uses.

B2. A conditional use permit shall be granted by the City only if the applicant demonstrates that:

1. The conditional use is designed in a manner consistent with the purpose of the zone in which the subject property is located.

2. The location, size and height of buildings, structures, walls and fences, and screening vegetation for the conditional use shall not hinder neighborhood circulation or discourage the permitted development or use of neighboring properties.

3. The conditional use is designed in a manner that is compatible with the physical characteristics of the subject property.

4. Requested modifications to standards are limited to those which will mitigate impacts in a manner equal to or greater than the standards of this title.

5. The conditional use is not in conflict with the health and safety of the community.

6. The proposed project shall provide adequate pedestrian and vehicular connections to arterials and adjacent areas, complying with City policies and standards for circulation patterns in the area, as well as appropriate circulation within the project.

7. The conditional use will be supported by adequate public facilities or services and will not adversely affect public services to the surrounding area or conditions can be established to mitigate adverse impacts on such facilities, and

8. The conditional use is in compliance with the Comprehensive Plan.

9. If the use will make greater demand on public facilities than permitted uses, applicant will be required to provide funds necessary to provide the excess capacity.
10. The following additional requirements shall apply to a building or complex of buildings exceeding 50,000 sq. ft. in gross floor area, because of the potential for a large structure to overwhelm and dominate this section of the city, to the detriment of existing uses and smaller businesses:

To visually modulate the vast expanses of parking required for a large building, an added 2% of the parking lot areas shall be developed in landscaping, in addition to the basic parking lot landscaping requirement for this zone. The landscaping plan for the project must be approved by the Planning Commission.

Parking shall be broken into several smaller parking lots, and buildings shall have entrances on more than one side, to reduce walking distances and to reduce the apparent expanse of the parking lots.

To visually modulate the greater size of the building, all sides of the building shall either meet the building standards for being within 20 ft. of a pedestrian area, or shall be partially screened by landscaped areas not less than 5 ft. in width, with at least one tree for each 30 ft. of facade length.

Buildings shall be sited so that the longest dimension of the building is oriented east to west, to facilitate views of Fidalgo Bay from upland areas.

11.

- Any single commercial establishment permitted outright in the Commercial District, or complex of such uses, in the CM1 zone is permitted outright if the size is less than 20,000 gross square feet.

- Any single retail use or complex of such uses in the CM1 zone is permitted outright if the size is less than 20,000 gross square feet.

- No single retail use or complex of such uses in the CM1 zone shall exceed 50,000 gross square feet.

- Any single retail use or complex of such uses in the CM1 zone in excess of 20,000 gross square feet must obtain a conditional use permit which evaluates the economic impact of the proposed project in light of the following Comprehensive Plan Goals and Policies:

Goal 1 -- Increase retail sales trade.

- Applicant must demonstrate that the proposed use would significantly increase retail sales in the specific retail category within the City of Anacortes.

- Applicant must demonstrate that the proposed use will significantly decrease leakage of retail sales in a specific retail category from the City of Anacortes.

- Applicant must make available to the City market studies and economic analyses pertaining to the proposed use and fund such further independent analyses as the City deems appropriate.
• Applicant must demonstrate that the proposed use will not result in a significant shift in retail sales from the Central Business District -- Commercial Avenue to the CM1 zone.

Goal 2 -- Improve economic growth and well-being of the Central Business District.

• Applicant must demonstrate that the Commercial Avenue and Central Business District will continue to supply the vast majority of commercial services for Fidalgo Island after implementation of the proposed use.

Goal 3 -- Encourage marine related business activity.

• Applicant must demonstrate that the proposed use will not discourage marine related business activity within the CM1 zone.

Goal 4 -- Do not rezone additional areas for large scale commercial development until existing commercial areas are fully developed or shown to be inadequate for proposed needs.

• Applicant must demonstrate that the proposed use must be sited within the CM1 zone because existing commercial areas are fully developed or inadequate for the proposed use.

• Applicant must demonstrate the proposed use will not detract from maintaining Commercial Avenue from 10th Street to 34th Street as the City’s major highway oriented commercial use.

• A Conditional Use Permit will not be granted if it would result in a total area of retail uses in the CM1 zone which would exceed 100,000 gross square feet.

B3. The Planning Commission may recommend to Council conditions upon a particular use if it is deemed necessary for the protection of the surrounding properties and for the general welfare of the public. If conditional use applications for certain uses occur with unusual frequency the Commission shall review those portions of this Ordinance relating to that use and if necessary recommend amendments to this Ordinance.

C. Any Conditional Use Permit that is issued shall certify the location, nature, and extent of the use, together with all conditions that are imposed and any other information deemed necessary for the issuance of said permit. A copy of the permit shall be kept on file and reviewed annually by the Administrator, and if at any time it is found that the use no longer complies with the conditions specified therein, the owner shall be declared in violation of this Ordinance and shall be subject to its penalties.

D. 1. Construction or substantial progress toward construction of a project for which a permit has been granted pursuant to this section must be undertaken within two years after the approval of the permit. Substantial progress towards construction
shall include, but not be limited to the letting of bids, making of contracts, purchase of materials involved in development, but shall not include development or uses which are inconsistent with this ordinance. In determining the running of the two year period hereof, there shall not be included the time during which a development was not actually pursued by construction and the pendency of litigation reasonably related thereto made it reasonable not to so pursue: PROVIDED, that the Planning Commission may, at its discretion extend the two-year time period for a reasonable time based on factors, including the inability to expeditiously obtain other governmental permits which are required prior to the commencement of construction.

2.  If a project for which a permit has been granted pursuant to the act has not been completed within five years after the approval of the permit by the City Council, the City Council shall at the expiration of the five year period, review the permit, consider Planning Commission recommendations, and upon a showing of good cause, do either of the following:

a. Extend the permit for one year; or
b. Terminate the permit;

PROVIDED, that the running of the five year period shall not include the time during which a development was not actually pursued by construction and the pendency of litigation reasonably related thereto made it reasonable not to so pursue, and: PROVIDED FURTHER, that nothing herein shall preclude the City Council from issuing permits with a fixed termination date of less than five years, and: PROVIDED FURTHER, that an application for a conditional use permit which has been denied in whole or in part shall not be resubmitted for a period of six months from the date of such denial.

3.  If a Conditional Use Permit is issued for a private road and a short-plat is issued based on this conditional use, short-plat approval and recording within this 5-year period shall meet this construction requirement.

E.  The following steps are required for consideration of applications for Conditional Use Permit:

1.  The proposed use must be determined to be one of the uses specified under the Conditional Use subsection of the appropriate use district. If the proposed use is not listed, but is in the opinion of the Administrator clearly similar to uses listed, and is otherwise in conformance with requirements of this section, the Administrator shall accept the application and forward it to the Planning Commission with his recommendation relative to appropriateness or similarity of proposed use.

2.  The required application form must be completed and fees, as established by this Ordinance, paid.

3.  Notice of public hearing shall be given.

4.  Reports from City staff shall be requested and forwarded to Planning Commission prior to the public hearing.
5. An open record public hearing shall be held.

6. The Planning Commission shall record their decision, their reasons for their decision, and any conditions recommended to be placed on the application. This record to be sent to City Council.

7. Any aggrieved party shall have five working days from date of the decision to appeal the decision of the Planning Commission to the City Council. The appeal shall be in writing and is to be filed with the City Clerk. After considering the record and any appeal, the City Council shall decide on the permit application.

8. If an appeal is filed by an aggrieved party, this appeal shall be a closed record appeal to the City Council who shall decide the matter.

9. For every project permit application there shall be no more than one open record hearing before the Planning Commission and one closed record appeal.

F. Expansion of an approved conditional use by expanding the land area by more than 10 percent or by increasing the land covered by buildings by more than ten percent will require a new conditional use permit.

CHAPTER 17.06 DEFINITION OF TERMS

Add:

Conference Center. A building or series of building designed to accommodate large gatherings of people. Such a center may include restaurant and hotel/motel facilities.
Appendix B

Anacortes Shoreline Master Plan Amendments
SHORELINE MASTER PROGRAM
DRAFT UPDATE

September 29, 1999
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**Appendix I** — WAC 173-27 (Permits for Development on Shorelines of the State)  
**Appendix J** — WAC 220-110 (Hydraulic Code Regulations)

**Figure I** — City Limits and Urban Growth Area  
**Figure II** — Shoreline Designations
INTRODUCTION

This Draft of the Anacortes Shoreline Management Master Program implements the is based upon State of Washington, Department of Ecology, "Final Guidelines Shoreline Management Act (RCW 90.58) for the City of Anacortes and its Urban Growth Area pursuant to the State Master Program Approval/Amendment Procedures (WAC 173-26) and the Growth Management Act (RCW 36.70A). This program controls the Shoreline Management Permit and Enforcement Procedures (WAC 173-27). RCW 90.58, WAC 173-26, and WAC 173-27 are Appendices G, H, and I respectively. The Anacortes City limits are shown in Figure I, together with the City's UGA; the legal description of the City limits is set forth in Appendix A. of 1971," and input from Citizens Advisory Committees and several public hearings held since 1975.

SHORELINE MANAGEMENT MASTER PROGRAM FORMAT

The first task was development of goals and objectives for The Shoreline Elements as outlined in the guidelines. These elements are:

1. Shoreline Use Element
2. Economic Development Element
3. Public Access Element
4. Transportation Element
5. Recreation Element
6. Conservation Element
7. Historical/Cultural Element

After development of these goals and objectives for each element, discussion began of shoreline area designations are presented. The State Guidelines suggest four general categories of shoreline area designations: Urban, Rural, Conservancy, and Natural. Using these designations as a base, and considering particular characteristics of the Anacortes shoreline, a five category shoreline area designation system was developed. These categories designations are:

1. Urban I
2. Urban II
3. Urban Residential
4. Conservancy
5. Natural

A Rural designation was not included since no shoreline area in Anacortes conforms to guideline definitions for that designation, and no future use for a Rural category was is foreseen. Those areas of Anacortes which are highly urbanized or have potential for urbanization were considered as requiring are given one of the three 'Urban' designations. The relatively undeveloped areas were considered for Conservancy designation, and those areas where no development has occurred were considered for Natural designation. After defining these shoreline categories, reviewing the shoreline inventory, considering the goals and objectives, and receiving input from the citizenry, both on an individual basis and at public meetings, appropriate designations were assigned to the various shoreline areas.
Concurrently, policies and regulations for shoreline uses were developed to meet the goals and objectives and provide a management basis for each of the shoreline areas. Within each area, uses and activities must conform to the policies and regulations for that particular designation. Regulations vary with each category. (Activities and uses allowed in an Urban I Area may be prohibited in an Urban Residential Area; restrictions on development in a Conservancy Area are more stringent than in an Urban Residential Area.)

To implement the Anacortes Shoreline Management Master Program, procedures have been developed to administer the regulations and handle permit applications. The Environmental Officer Shoreline Administrator processes the applications, acts as the Administrator and provides technical advice and recommendations to the Planning Commission who is responsible for policy decisions.

This Master Program applies to those shoreline areas extending landward 200 feet from the ordinary high water mark of all marine waters and associated wetlands, and Cranberry, Whistle, and Heart Lakes, and seaward to coincide with the legal description of the corporate limits of the City of Anacortes (see Appendix-F A).

It is the purpose of this Master Program to implement the policy and provisions of the Shoreline Management Act of 1971 and the goals and policies established herein by regulating development of the shorelines of the City in order to preserve, enhance and increase views of the water and access to the water, encourage water dependent uses, and provide for highest possible public use and enjoyment of the shorelines, protect shoreline resources, and provide for appropriate use of the shoreline.
CITY OF ANACORTES SHORELINE GOALS AND OBJECTIVES

I. SHORELINE USE ELEMENT

A. GOAL: Shorelines are to be managed and activities coordinated in order to preserve long term multiple benefits for the various shoreline resources and uses.

   (i) Objective: Identify and designate those shoreline areas suited for particular long term uses, including conservancy, recreational, residential, commercial, and industrial.

   (ii) Objective: Avoid shoreline uses which would pre-empt future use of shoreline resources or substantially obstruct adjacent uses.

   Reason for Change: Improve link to objectives which refer to uses.

B. GOAL: Achieve uses and development which increase and preserve public physical and visual shoreline access.

   (i) Objective: Develop existing public view and access easements to facilitate public access to the water and to the shoreline and pursue additional public and private access opportunities.

   Reason for Change: Clarification

C. GOAL: Plan for and achieve those uses which permit all reasonable and appropriate uses through a system of priorities.

   (i) Objective: Establish review procedure which permits reasonable and appropriate uses through system of priorities.

   Use preferences have the following priorities:

   First - water dependent uses
   Second - water related uses which provide public access
   Third - water related uses which do not provide public access
   Fourth - non water related uses - water enjoyment uses
   Fifth - non water oriented uses

II. ECONOMIC DEVELOPMENT ELEMENT

A. GOAL: Provide consistent policies and plans which promote the State's constitutional reservation of harbor areas for use by commerce and navigation that are consistent with marine resource protection.
**Reason for Change:** Clear priorities for use of certain types of shoreline environments must be established. Harbor areas have a prior state constitutional claim on them which ought to be recognized by the City and supported as an integral element of an economic development strategy.

B. **GOAL:** Detailed consideration shall be given to protecting and enhancing the habitat function of Fidalgo Bay to provide greater resource protection and improved opportunities for as—these—relate—to recreation, tourism, and commercial fisheries.

**Reason for Change:** Supplement and complement Goal A.

C. **GOAL:** Provide opportunity for development of water dependent, commercial and industrial uses at appropriate locations; promote economic opportunity for all citizens.

**Reason for Change:** Clarification.

(i) **Objective:** Assure that adequate Plan so that deep water sites will be are available for uses requiring such sites.

**Reason for Change:** Clarification.

D. **GOAL:** Establish multiple-use commercial and industrial sites for compatible, water-oriented development and activities.

(i) **Objective:** Provide services and utilities to serve multiple use sites and encourage public access to the water and the shoreline in commercial areas.

**Reason for Change:** Clarification.

E. **GOAL:** Encourage water oriented recreational/commercial development.

(i) **Objective:** Maintain and improve existing water quality to make waters attractive to recreational users, and where appropriate, encourage uses complementary and compatible ie with recreational development.

III. **PUBLIC ACCESS ELEMENT**

A. **GOAL:** Increase public physical and visual access to shorelines and the water.

**Reason for Change:** Clarification.

(i) **Objective:** Provide design for public access to shorelines in City park and recreation plans.
(ii) Objective: Increase opportunities for public view sites and identify publicly owned access areas through appropriate signing.

(iii) Objective: Use street ends abutting shorelines for public access and view easements, and develop lateral access along the waterfront connecting access points.

(iv) Objective: Provide incentives for public shoreline access opportunities in private developments.

**Reason for Change:** Clarification.

B. **GOAL:** Increase uses and activities which attract public to shorelines

(i) Objective: Encourage development of facilities (restaurants, shops, markets) which attract the public to appropriate shoreline areas.

(ii) Objective: Locate a fishing pier along the Guemes Channel with priority to co-locating with an existing facility.

**Reason for Change:** Formalize this proposal.

IV. **TRANSPORTATION ELEMENT**

A. **GOAL:** Develop transportation networks and facilities which will have minimal disruption and interference with public and private use of the shoreline.

(i) Objective: Develop and maintain navigation channels to serve water-dependent uses where compatible with resource protection.

**Reason for Change:** Recognize these important transportation links.

(ii) Objective: Motorized land transportation routes should be located as far as reasonably possible from the water's edge, except where needed to access water dependent uses.

**Reason for Change:** Clarification.

(iii) Objective: When possible, improve existing transportation facilities to enhance economic, recreational, and visual benefits to the public.

(iv) Objective: Assure that shore located activities provide sufficient parking in areas which avoid possible adverse impacts to water quality or shoreline views.

(v) Objective: Encourage landscaping of transportation facilities.
(vi) Objective: Log buoys shall not be located such that log rafts could shade eelgrass and macroalgae beds.

(vii) Objective: The City shall protect the existing Burlington Northern right-of-way from the railroad trestle to the Port marine terminal facilities for future transportation planning and development.


V. RECREATION ELEMENT

A. Goal: Maintain existing shoreline which is available for recreation use and increase amount of shoreline available for active and passive public use, while enhancing shore dependent recreation opportunities.

(i) Objective: Develop priorities for acquisition of public recreation and access sites in shoreline areas, particularly those providing lineal access, and acquire sites through purchase or easements.

(ii) Objective: Encourage development of private recreational facilities.

(iii) Objective: Do not allow public recreation sites to exceed their capacity to sustain the recreation experience sought by visitors.

(iv) Objective: Do not allow conflicting recreational uses to decrease a site’s primary recreational value.

(v) Objective: All uses abutting the Fidalgo Bay waterfront shall provide a walkway that will constitute a segment of a continuous, publicly-accessible esplanade; the walkway shall be at least ten feet wide.


VI. CONSERVATION ELEMENT

A. Goal: In conjunction with the County, preserve, protect, and restore shoreline areas needed for support of aquatic and terrestrial wildlife, and those areas of biological or geological significance in the Guemes Channel/Fidalgo Bay/Padilla-Bay system.

Reason for Change: Set parameters for mitigation.

(i) Objective: Identify unique and sensitive shoreline areas.
(ii) Objective: Develop and apply appropriate conservation practices in public shoreline areas.

(iii) Objective: Establish a "significant areas" acquisition fund designed to provide for acquisition and public land banking of privately-held priority properties as a "development mitigation" strategy.


B. GOAL: Provide continuous enhancement of fisheries resources and aquatic habitats within the Guemes Channel/Fidalgo Bay/Padilla—Bay system.

(i) Objective: There shall be no net loss of resource or habitat functional value in the Guemes/Fidalgo/Padilla system as a result of approved projects.

(ii) Objective: Impacts of development in the Anacortes Harbor areas shall be mitigated via a proposed plan to be submitted with all shoreline permit applications, with project applicants seeking to minimize impact through application of "best design" standards.

(iii) Objective: Develop design and performance standards which will minimize detrimental impacts of development upon the shoreline.

(iv) Objective: Encourage continuous study and monitoring of waters and shoreline habitats; to be cognizant maintain awareness of existing conditions and future alterations.

Reason for Changes: Comply with GMA mandates regarding critical areas.

C. GOAL: In conjunction with State regulatory and resource agencies and the County, provide a pre-approved set of mitigation projects, activities, and strategies upon which permit applicants should focus their mitigation plans.

(i) Objective: Provide a mitigation mechanism for commitments to the Guemes Channel/Fidalgo Bay/Padilla Bay system.

(ii) Objective: Support research and demonstration efforts designed to create new eelgrass beds which, if successfully developed, could serve as an eelgrass mitigation bank.

Reason for Change: These suggestions are designed to correspond with Citizens Advisory Committee findings that there may be valid
reasons to direct some mitigation investments toward the broader ecology of the Guemes/Fidalgo/Padilla system.

**Reason for Change:** Enhance opportunities for a baywide approach to conservation and development.

**VII. HISTORICAL/CULTURAL ELEMENT**

**A. GOAL:** Preserve, protect, and restore shoreline areas identified as having historical or cultural significance, including underwater archeological resources.

(i) **Objective:** Encourage public and private groups to research and study areas of historical or cultural significance.

(ii) **Objective:** Areas of historical or cultural significance should be considered in park and recreation planning.

(iii) **Objective:** Develop guidelines to direct private and public development with regard to historic structures and areas.

**Reason for Change:** Identification of a new task to assist in implementing the Goal.
SECTION 1: Title
City of Anacortes Shoreline Management Master Program.

SECTION 2: Authority
This program is adopted pursuant to RCW 90.58. (The Shoreline Management Act of 1974) and RCW 36.70A (The Growth Management Act).

SECTION 3: Scope
The regulations of this Master Program shall apply to all shorelines within the corporate limits of the City of Anacortes.

SECTION 4: Purpose
It is the policy of the State of Washington as expressed in the Shoreline Management Act of 1974 and the City of Anacortes to provide for the management of the shorelines of the State by planning for and fostering all reasonable and appropriate uses, particularly uses directly dependent upon the water; to preserve to the greatest extent feasible consistent with the overall interest of the State, the City, and the people generally, the public's opportunity to enjoy the physical and aesthetic qualities of the shorelines of the City by preserving views and increasing public access to the shorelines; and to manage the shorelines of the City to minimize, insofar as practical, damage to the shoreline area.

SECTION 5: Definitions
As used in this Master Program, unless the context otherwise requires, the definitions found in Appendices G, H, and I shall apply. Additionally, the following definitions are included from the Shoreline Management Guidebook:

Water-oriented: Refers to any combination of water-dependent, water-related, and/or water-enjoyment uses and serves as an all encompassing definition for priority uses under the SMA.

Water-dependent: A use or a portion of a use which cannot exist in any other location and is dependent on the water by reason of the intrinsic nature of its operations. Examples of water-dependent uses may include ship cargo terminal loading areas, ferry and passenger terminals, barge loading facilities, ship building and dry docking, marinas, aquaculture, float plane facilities, and sewer outfalls.

Water-related: A use or a portion of a use which is not intrinsically dependent on a waterfront location but whose economic viability is dependent upon a waterfront location because:

1. of functional requirements for a waterfront location such as the arrival or shipment of materials by water or the need for large quantities of water, or
2. The use provides a necessary service supportive of the water-dependent commercial activities and the proximity of these use to its customers makes its services less expensive and/or more convenient. Example include manufacturers of ship parts large enough that transportation becomes a significant factor in the product's cost, professional services serving primarily water-dependent activities and storage of water-transported foods. Examples of water-related uses may include warehousing of goods transported by water, seafood processing plants, hydroelectric generating plants, gravel storage when transported by barge, oil refineries where transport is by tanker and log storage.

Non-water-oriented: Uses which have little or no relationship to the shoreline and are not considered priority uses under the SMA. Examples include professional offices, automobile sales or repair shops, mini-storage facilities, multi-family residential development, department stores and gas stations.

SECTION 6: No development shall be undertaken on the shorelines of the City except those that are consistent with the policy of the Shoreline Management Act of 1974 and the goals, policies and regulations of the City of Anacortes.

SECTION 7: No substantial development shall be undertaken in the Shoreline Areas without first obtaining a substantial development permit from the City in accordance with procedures in Section 11. No such permit shall be required where the Environmental Officer City Shoreline Administrator determines that a development proposed in the Shoreline Area is not a "substantial development" as defined in Section 5, Definitions. Shoreline permit applications must contain the information required by WAC 173-27-180; with respect to WAC 173-27-180 (9) (b) applicants must note how the ordinary high water mark was determined.

SECTION 8: Applicants for substantial development permits shall have the burden of proving that a proposed substantial development is consistent with the criteria which must be met before a permit is granted. If required, an environmental impact statement or declaration of non-significance SEPA Checklist will be filed in conformance with City's State Environmental Policy Act procedures.

SECTION 9: Time Limit

The following time requirements shall apply to all substantial development, conditional use and variance permits: WAC 173-27-090 (Appendix I) with the Anacortes Planning Commission acting as the "local government."

1. Construction or substantial progress toward construction of a project for which a permit has been granted pursuant to the act must be undertaken within two years after the approval of the permit. Substantial progress towards construction shall include, but not be limited to the letting of bids, making of contracts, purchase of materials involved in development, but shall not include development or uses which are inconsistent with this Master Program. In determining the running of the two year period hereof, there shall not be included the time during which a development was not actually pursued, construction and the tendency of litigation reasonably related thereto made it reasonable not to so pursue. PROVIDED, that the Planning Commission may, at its discretion extend the two year time period for a reasonable time based on factors, including the inability to expeditiously obtain other governmental permits which are required prior to the commencement of construction.
If a project for which a permit has been granted pursuant to the Act has not been completed within five years after the approval of the permit by the Planning Commission, the Planning Commission shall, at the expiration of the five year period, review the permit, and upon a showing of good cause, do either of the following:

a) Extend the permit for one year, or

b) Terminate the permit;

PROVIDED, that the running of the five year period shall not include the time during which a development was not actually pursued by construction and the pendency of litigation reasonably related thereto made it reasonable not to so pursue; and: PROVIDED FURTHER, that nothing herein shall preclude the Planning Commission from issuing permits with a fixed termination date of less than five years.

SECTION 10: Statement of Exemption

Applicants for developments within the shoreline Area which do not require a substantial development permit, shall - may obtain a formal "Statement of Exemption" from the City - Environmental Officer Shoreline Administrator prior to commencement of such a development.

SECTION 11: Permit Procedure

1. Upon determination that a substantial development permit is required, the applicant shall obtain a Shoreline Management Substantial Development Permit Application Form from the Environmental Officer - Shoreline Administrator.

2. Upon receipt of the application, the Environmental Officer Shoreline Administrator shall instruct the applicant to publish notices of the application once a week for two consecutive weeks in a newspaper of general circulation in the City of Anacortes. In addition, the Environmental Officer Shoreline Administrator shall post at least four copies of the notice prominently on the subject property or in conspicuous public places within 300 feet thereof. Within thirty days of the final publication of notice, any interested person may submit his/her views upon the application, in writing, to the Environmental Officer - Shoreline Administrator. All persons’ submitting written views or, in writing, requesting notice shall be entitled to receive a copy of the action taken on the application.

3. As a part of the substantial development permit review process, the Planning Commission may, at their discretion, provide for will hold a public hearing on the application. particularly when:

a. the proposed development has broad public interest

b. the proposed development will require a shoreline conditional use or a variance from the provisions of this Master Program.

(A: The hearing shall should not be more than 15 days after the initial 30 day review period)
4. Not more than 5 working days after the 30-day review period, or following an After the hearing, if necessary, the Environmental Officer Shoreline Administrator shall recommend approval or denial of the permit to the Planning Commission who shall approve or deny the permit at their next meeting. If the Planning Commission does not act on the permit, the decision of the Environmental Officer—Shoreline Administrator shall stand.

5. Within eight days following approval of the permit, the application shall—should—be forwarded to the Department of Ecology and State Attorney General’s Office for the State 30-day review period. Following a final decision on the permit by the City, the application shall be forwarded to the Department of Ecology for state review and filing.

6. At the termination of the State's thirty-day review period, unless an appeal has been filed, the Environmental Officer shall notify the applicant that Construction pursuant to the permit may commence following the state review period, unless an appeal has been filed and all applicable permits have been secured.

SECTION 12: Rescission

Any substantial development permit may be rescinded by the Planning Commission upon finding that the permittee has not complied with conditions of the permit.

SECTION 13: Modifications—Revisions

All work done pursuant to a substantial development permit shall be consistent with the approved plans. A substantial development permit may be modified by the Environmental Officer if it is determined that such modification does not substantially change the uses or increase the bulk—proposed, or otherwise increase the impact of the development upon the shoreline.

The approved revision along with copies of the revised site plan and text, should be submitted by certified mail to the appropriate department of ecology office, the attorney general, and to persons who have previously notified local government relative to the original application pursuant to WAC 173-14-070. Appeals shall be in accordance with RCW 90.58.180 and shall be filed within 15 days from date of certified mailing. If a review is sought, the party seeking review shall have the burden of proving the revision granted was not within the scope and intent of the original permit.

If the proposed changes are not within the scope and intent of the original permit, the applicant shall apply for a new substantial development permit in the manner provided herein.

The following requirements shall apply: WAC 173-27-100 (Appendix I) with the Shoreline Administrator acting as the “local government.”

SECTION 14: Shoreline Conditional Uses

The purpose of a conditional use permit is to allow greater flexibility in varying the application of the use regulations of this Master Plan in a manner consistent with the policies of this Master Plan PROVIDED that conditional use permits should also be granted in a circumstance where denial of the permit would result in a thwarting of the policy enumerated in this Master Plan.
In authorizing a conditional use special conditions may be attached to the permit by the Planning Commission or the Department of Ecology to prevent undesirable effects of the proposed use. Uses which are designated in this Master Plan as shoreline conditional uses, and other uses may be authorized by the Planning Commission after public hearing, and upon approval of the Department of Ecology:

1. Uses which are classified or set forth in this Master Program as conditional uses may be authorized provided the applicant can demonstrate all of the following:

   a. That the proposed use will be consistent with the policies of this Master Program;

   b. That the proposed use will not interfere with the normal public use of public shorelines;

   c. That the proposed use of the site and design of the project will be compatible with other permitted uses within the area;

   d. That the proposed use will cause no unreasonably adverse effects to the shoreline environment designation in which it is to be located;

   e. That the public interest suffers no substantial detrimental effect.

2. Other uses which are not classified or set forth in this Master Program may be authorized as conditional uses provided the applicant can demonstrate, in addition to the criteria set forth in above, that extraordinary circumstances preclude reasonable use of the property in a manner consistent with the use regulations of the Master Program.

3. Uses which are specifically prohibited by the Master Program may not be authorized as conditional uses.

4. In the granting of all conditional use permits, consideration shall be given to the cumulative impact of additional requests for like actions in the area. For example, if conditional use permits were granted for other developments in the area where similar circumstances exist, the total of the conditional uses should also remain consistent with the policies of RCW 90.88.020 and should not produce substantial adverse effects, to the shoreline environment.

SECTION 15: Shoreline Variances

The purpose of a variance permit is strictly limited to granting relief to specific bulk, dimensional or performance standards set forth in this Master Program where there are extraordinary or unique circumstances relating to the property such that the strict implementation of the Master Program would impose unnecessary hardships on the applicant or thwart the policies set forth in this Master Program.

Variances may be authorized by the Planning Commission after public hearing, and upon approval of the Department of Ecology:

1. Variance permits should be granted in a circumstance where denial of the permit would result in a thwarting of the policy enumerated in this Master Program. In all instances extraordinary circumstances should be shown and the public interest shall suffer no substantial detrimental effect.
2. Variance permits for development that will be located landward of the ordinary high water mark (OHWM) except within those areas designated by the Department of Ecology as marshes, bogs, or swamps pursuant to Chapter 173-27 WAC, may be authorized provided the applicant can demonstrate all of the following:

a. That the strict application of the bulk, dimensional or performance standards set forth in the applicable Master Program precludes or significantly interferes with a reasonable use of the property not otherwise prohibited by the Master Program;

b. That the hardship described above is specifically related to the property, and is the result of unique conditions such as irregular lot shape, size, or natural features and the application of the Master Program, and not, for example, from deed restrictions or the applicant’s own actions;

c. That the design of the project will be compatible with other permitted activities in the area and will not cause adverse effects to adjacent properties or the shoreline environmental designation;

d. That the variance authorized does not constitute a grant of special privilege not enjoyed by the other properties in the area, and will be the minimum necessary to afford relief;

e. That the public interest will suffer no substantial detrimental effect.

2. Variance permits for development that will be located either waterward of the ordinary high water mark (OHWM), or within the marshes, bogs, or swamps as designated by the Department of Ecology pursuant to Chapter 173-27 WAC, may be authorized provided the applicant can demonstrate all of the following:

a. That the strict application of the bulk, dimensional or performance standards set forth in the applicable Master Program precludes a reasonable use of the property not otherwise prohibited by the Master Program.

b. That the hardship described above is specifically related to the property, and is the result of unique conditions such as irregular lot shape, size, or natural features and the application of the Master Program, and not, for example, from deed restrictions or the applicant’s own actions;

c. That the design of the project will be compatible with other permitted activities in the area and will not cause adverse effects to adjacent properties or the shoreline environment designation;

d. That the requested variance will not constitute a grant of special privilege not enjoyed by the other properties in the area, and will be the minimum to afford relief;

e. That the public rights of navigation and use of the shorelines will not be adversely affected by the granting of the variance;

f. That the public interest will suffer no substantial detrimental effect.
3. In the granting of all variance permits, consideration shall be given to the cumulative impact of additional requests for like actions in the area. For example if the variances were granted to other developments in the area where similar circumstances exist the total of the variances should also remain consistent with the policies of this Master Program and should not produce substantial adverse effects to the shoreline environment.

4. Requests for varying the use to which a shoreline area is to be put are not requests for variances, but rather requests for conditional uses.

SECTION 16: Appeals from Granting, Denying or Rescinding a Permit

1. Any person aggrieved by the granting, or denying of a permit on the shorelines of the City may seek review from the State Shorelines Hearings Board by filing a request for the same within thirty days of receipt of the final order. Concurrently with the filing of any request for review with the Hearings Board as provided in this section pertaining to a final order of the City of Anacortes, the requester shall file a copy of his request with the Department of Ecology and the Attorney General’s Office. If it appears to said department or the Attorney General that the requester has valid reasons to seek review, either the department or the Attorney General may certify the request within thirty days after its receipt to the shorelines hearings board following which said board shall then, but not otherwise, review the matter, covered by the request. Provided, that the failure to obtain such certification shall not preclude the requester from obtaining review in the superior court under any right to review otherwise available to the requester. The Department of Ecology and the Attorney General may intervene to protect the public interest and insure that the provisions of the Shoreline Management Act are complied with at any time within thirty days from the date of the filing of said copies by the requester.

2. The Department of Ecology or the Attorney General may obtain review of any final order granting a permit, or granting or denying an application for a permit issued by the City of Anacortes by filing a written request with the Shorelines Appeals Hearings Board and the City of Anacortes within thirty days from the date the final order was filed as provided in subsection (5) of RCW 90.58.140.

3. The review proceedings authorized by subsection (a) and (b) of this section are subject to the provisions of chapter 34.04 RCW pertaining to procedures in contested cases. Judicial review of such proceedings of the shorelines hearings board may be had as provided in chapter 34. 04 RCW.

SECTION 17: Violation and Penalty

1. Any permit may be rescinded by the City upon the finding that a permittee has not complied with conditions of a permit.

2. The State Attorney General or the City Attorney for the City of Anacortes shall bring such injunctive, declaratory, or other actions as are necessary to ensure that no uses are made of the shoreline in conflict with the provisions and programs of the Shoreline Management Act and Master Program, and to otherwise enforce the provisions of the Act and Master Program.

3. In addition to incurring civil liability under Subsection (b) of this section, any person found to have willfully engaged in activities on the shorelines in violation of the provisions of the
Shoreline Management Act or Master Program shall be guilty of a gross misdemeanor, and shall be punished by a fine of not less than twenty-five nor more than one thousand dollars or by imprisonment in the county jail for not more than ninety days, or by both such fine and imprisonment: PROVIDED, that the fine for the third and all subsequent violations in any five-year period shall be not less than five hundred nor more than ten thousand dollars.

4. Any persons subject to the regulatory program of the Shoreline Management Act or Master Program who violates any provision of the Act or Master Program or permit issued pursuant thereto shall be liable for all damage to public or private property arising from such violation, including the cost of restoring the affected area to its condition prior to violation. The State Attorney General or City Attorney shall bring suit for damages under this section on behalf of the State or City. Private persons shall have the right to bring suit for damages under this section on their own behalf and on the behalf of all persons similarly situated. If liability has been established for the cost of restoring an area affected by a violation the court shall make provision to assure that restoration will be accomplished within a reasonable time at the expense of the violator. In addition to such relief, including money damages, the court in its discretion may award attorney's fees and costs of the suit to the prevailing party.

SECTION 18: Amendments and Changes of Environment Designations

1. The City Council may, upon its own motion and after review and recommendation of the Planning Commission, amend, supplement, change or repeal by ordinance any of the provisions, Shoreline Area Designation boundaries or Shoreline Area classifications herein established.

2. An amendment or change in Shoreline Area Designation may be initiated by the Planning Commission upon its own motion, or by any person upon proper petition, or by the motion of the City Council whose action shall be referred to the Planning Commission for recommendation.

3. The Planning Commission shall hold at least one public hearing on any proposed amendment or change in Shoreline Area Designation prior to taking action on the matter. The hearing shall be held not less than ten (10) days nor more than thirty (30) days following the filing of the petition on the receipt of the City Council motion initiating the action.

The Environmental Officer Shoreline Administrator, or authorized representative, shall make an investigation and a written recommendation on each proposed amendment or change in Shoreline Area Designation to the Commission. Such recommendation shall become part of the official record.

The Planning Commission shall make its findings, decision and recommendation on each proposed amendment or change in Shoreline Area Designation within thirty (30) days following the termination of the public hearing. In the event the Planning Commission does not reply within the specified time limit, it shall be deemed that the Planning Commission has approved the proposed amendment or change in Shoreline Area Designation. The decision of the Planning Commission shall be transmitted to the City Council within ten (10) days following the date of such action.

4. After holding a public hearing to consider the findings and recommendations of the Planning Commission, the City Council shall have the authority to confirm, alter or modify any of the Planning Commission's recommendations or decisions.
5. All amendments or changes in Shoreline Area Designations must be submitted to the Department of Ecology for approval or disapproval before they can become effective locally.

SECTION 19: Shoreline Special Uses

The purpose of special use is to allow greater flexibility in varying the application of the use regulations in a manner consistent with the policies of this Master Plan. Uses which are identified in this Master Plan as special uses may be authorized by the Planning Commission after a public hearing and upon a showing by the applicant that the following conditions are satisfied:

1. The proposed use will not have a significant adverse effect upon the environment or other adjacent or nearby uses, or such adverse effects can be mitigated, or the public benefits of such use outweigh such adverse effects.

2. The proposed use will be consistent with the policies and general intent of this Master Plan.

3. The proposed use will not interfere with the public use of public shorelines.

4. The location, design and appearance of the proposed development will be compatible with surrounding uses.

In authorizing a special use, the Planning Commission may impose requirements and conditions in addition to those expressly authorized in the use regulations to prevent undesirable effects of the proposed use.

SECTION 20: Shoreline Area Designations

The Shoreline Areas as identified in this Master Plan shall be superimposed upon and modify the existing zoning classifications within the Shoreline Area. The regulations of this Master Plan are supplemental to regulations of the Zoning Ordinance, which are otherwise applicable to property in the existing zones, which shall continue to apply. In cases of irreconcilable conflict between the Master Program and the Zoning Ordinance, the provisions of the Master Program shall apply.

Urban I

This designation is primarily for those areas which are heavily developed for industrial purposes and those which are appropriate for industrial purposes, with specific reference to deeper water. The intent of the designation is to provide for efficient utilization of suitable shoreline areas for water dependent commerce and industry consistent with the Shoreline Management Act of 1971, as amended.

(Corresponds to heavy manufacturing zones)

Uses include, but are not limited to:

1. Port facilities, and public and private tug and barge companies
2. Ship construction or repair facilities
3. Pulp and paper, lumber and plywood mills and other manufacturing facilities requiring water transport and waterous effluent or intake
4. Fish processing plants
5. Petroleum handling and processing plants requiring water transport
6. Sand and gravel companies which require water transport
7. Marinas

**Reason for Change:** Cross-reference to Section 20(5) Regulation (O)(a)

**Urban II**

This designation is primarily for those areas which contain a mixture of water-oriented commercial, light manufacturing, and high density residential uses. It is the intent of this designation to maintain existing character of the area without substantially increasing bulk or scale of development, and to encourage location of water dependent or water related uses attractive to the public.

Uses include, but are not limited to:

1. Ferry terminals
2. Urban parks and commercial recreation facilities
3. Restaurants
4. Resorts, convention centers, and hotels
5. Marinas
6. Shops and markets

Urban II uses are permitted, where appropriate, in Urban I areas.

**Urban Residential**

This designation is for areas which are primarily residential or intended for residential use. These areas are to maintain existing character and be consistent with residential zoning of shoreline area in terms of open space, bulk, scale, and intensity of use. (Single family up to and including high density, with marinas permitted).

**Conservancy**

This designation is for areas where biological and physical limitations and desired shoreline character are incompatible with intense development. Activities in these areas should have a minimal adverse impact upon the shoreline.

Uses include, but are not limited to:

1. Water dependent low intensity outdoor recreation
2. Parks
3. Water dependent scientific research
4. Single family residences subject to regulations on setback, height limit, and lot coverage

**Natural**

This designation is for areas identified as having natural benefits for the community and the region in excess of any foreseeable benefits derived from development. It is the intent of this designation to
preserve or restore natural shoreline qualities of visual, biological, or geological significance. These areas are to remain relatively free of human alteration.

SECTION 21: Nonconforming Developments

All developments lawfully erected, installed, and maintained in a lawful condition prior to the effective date of the Master Program, and all developments which hold a valid Shoreline Management Substantial Development Permit approved prior to the effective date of the Master Program, but which do not conform to the regulations contained herein, shall be considered nonconforming developments.

Nonconforming developments may continue to exist or be completed according to the following provisions.

1. Nonconforming developments may be enlarged, remodeled or renovated provided such alterations do not contribute to additional encroachment or infringement of the Master Program’s goals, policies, objectives, and regulations.

2. Nonconforming developments which are destroyed beyond 50% of their value shall not be restored except in conformance to regulations contained in the Master Program.

3. When a nonconforming development is enlarged, remodeled or renovated, it shall meet all applicable regulations of the Master Program except that which makes it nonconforming.

SECTION 22: Official Shoreline Area Designation Map

1. There is hereby made a part of the Master Program a map which shall be officially known as the "Shoreline Area Designation Map" together with written description of the boundaries of the shoreline area designations.

2. Boundary Description

Burrow’s Bay

Southwest City Limits to east lot line Lot 1, Skyline Division 13. URBAN RESIDENTIAL

A West line of the Urban II Zone in the Flounder Bay area shall be established by the East line of Washington Park and the Urban II area shall extend Eastward to Flounder Bay between the City corporate limits on the South and the 200 foot land limit on the North.

A West line of the Urban II area in Flounder Bay shall be established 200 feet West of the Shoreline of Skyline Division 13.

The North line of the Urban II area in Flounder Bay shall be established by a line beginning at a point on the North line of Lot 6, Skyline 13, extended Westward 200 feet from the shoreline. Said line extending Eastward along the North line of said Lot 6 to the Northeast corner of the tideland tract to Lot 6. The North line then shall extend Southerly along the East lines of tideland tracts of Lots 6, 7, 8, 9 and 10, Skyline Division 13, to a point 45 feet, more or less, Southerly of the Northeast corner of the tideland tract to Lot 10. Said point being 130 feet Southerly of the South line of tideland tract to Lot 13, Skyline Division 7.
The North line shall then continue Easterly and Southerly and parallel to the South lines of the lot tideland tracts of Skyline Divisions 7 and 11 between Lot 13, Skyline Division 7 and the South corner of Lot 34, Skyline Division 11. Said North line running parallel to the South line of Lot 34, Skyline Division 11 shall terminate at a point of intersection with a line bearing N170 111 33"E extended from the North end of the East line of Lot 16, Skyline Division 19.

The East Boundary of the Urban II area shall be determined by a line beginning at the termination of the North line described above thence running to the East line of Lot 16 on a bearing of S20 44' 46"E extended to the City corporate limits.

The South line of the Urban II area of Flounder Bay area shall be determined by the South City corporate limits extending from a point due South of Lot 34, Skyline Division 11 to the East line of Washington Park extended Southward.

The Urban Residential area in Flounder Bay shall extend Northerly and Easterly from the North line of the Urban II area described above to the 200 foot land limit. URBAN II

**Washington Park and Shannon Point**

From the Southeastern boundary corner Washington Park to North corner of Lot 1, Section 29. NATURAL

From North corner of Lot 1, Section 29 to Western boundary of Washington State Ferry Terminal, including associated wetlands of Cannery Pond (Shannon Lake). CONSERVANCY

**Guemes Channel**

From Western boundary Washington State Ferry Terminal property to Northern extended center line Anacopper Road, including associated wetlands of Ship Harbor. URBAN II

From Northern extended centerline of Anacopper Road to the Northern extended centerline of Illinois Avenue. URBAN RESIDENTIAL.

From Northern extended centerline of Illinois Avenue to Northern extended centerline Avenue K. URBAN II

From Northern extended centerline Avenue K to East boundary Avenue U. URBAN I

**Cap Sante**

From East boundary Avenue U to Easterly extended centerline 6th Street. URBAN RESIDENTIAL

From Easterly extended centerline 6th Street to Northeastern breakwater Cap Sante Boat Haven. CONSERVANCY
Fidalgo Bay

From Northeastern breakwater Cap Sante Boat Haven to Easterly extended centerline 13th Street. URBAN II

From Easterly extended centerline 13th Street to Easterly extended centerline 36th Street. URBAN I

From Easterly extended centerline 36th Street to Southeast City limits, including the area known as Weaverling Spit and as annexed by the City of Anacortes in Ordinance No. 1844. URBAN II

Cranberry Lake

All shorelines of Cranberry Lake. CONSERVANCY

Whistle Lake/Heart Lake/Lake Erie (portion)

These lakes have the shoreline designation provided by Skagit County prior to the City’s annexation in 1985. The City should amend this Master Program to specifically include these lakes under the City’s Shoreline Master Program, designation, and regulations.

South Fidalgo Bay

Now that South Fidalgo Bay has been annexed to the City, the shoreline designations will be updated after public ownership of South Fidalgo Bay is finalized.
### Regulation Table

<table>
<thead>
<tr>
<th>AREA</th>
<th>LOT COVERAGE</th>
<th>MAXIMUM HEIGHT</th>
<th>SETBACK</th>
<th>Water Dependent</th>
<th>Non-Water Dependent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% OF AREA</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1.</td>
<td>Burrows Bay (South City limits to Washington Park)</td>
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<tr>
<td>A.</td>
<td>Urban II</td>
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<tr>
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<td>2.</td>
<td>Washington Park/Shannon Point (Skyline to State Ferry Terminal)</td>
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<tr>
<td>A.</td>
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<td>100'</td>
</tr>
<tr>
<td>B.</td>
<td>Natural</td>
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<td>X</td>
<td>X</td>
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<td>3.</td>
<td>Guemes Channel (State Ferry Terminal to east side Avenue U)</td>
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<tr>
<td>A.</td>
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<td>25'</td>
</tr>
<tr>
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<tr>
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<tr>
<td>4.</td>
<td>Cap Sante (East side Avenue U to N/E Breakwater Cap Sante Boat Haven)</td>
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<tr>
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<tr>
<td>C.</td>
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<td>5.</td>
<td>Fidalgo Bay (N/E Breakwater Cap Sante to South City limits)</td>
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<tr>
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<td>50'*</td>
<td>0'</td>
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</tr>
<tr>
<td>B.</td>
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<td>6.</td>
<td>Cranberry Lake</td>
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<tr>
<td>A.</td>
<td>Conservancy</td>
<td>25%</td>
<td>25'</td>
<td>100'</td>
<td>100'</td>
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</tbody>
</table>

*In these areas requirements for structures in excess of 50 feet shall be considered by the Planning Commission on an individual basis.

X - Development prohibited in this area.

Although single family residences do not normally require shoreline substantial development permits, such permits are required where the residence would exceed 35 feet in height.
Height of Structures

Height shall be measured from average grade level to the highest point of a structure not otherwise excepted from the height limits, where "average grade level" is: The average of the natural or existing topography of the portion of the lot, parcel or tract of real property which will be directly under the proposed building or structure; provided, that in the case of structures to be built over water, average grade level shall be the elevation of ordinary high water. Further provided, that in the case of structures to be built other than over water, average grade level should be the elevation of 16 feet above MLLW. Calculation of the average grade level shall be made by averaging the elevations at the center of all exterior walls of the proposed building or structure. Additionally, "natural or existing topography" is: The topography of the lot, parcel or tract of real property immediately prior to any site preparation, grading, excavation, or filling.

No building or structure in the Shoreline Area (200 feet from OHWM) shall exceed the height limits indicated on the Regulation Table Maximum Height, except:

1. Cranes, gantries, mobile conveyors and similar equipment necessary for the functions of marinas, marine manufacturing, permitted commercial, industrial or port activities and servicing vehicles.

2. Flagpoles or masts, transmission towers, chimneys, smokestacks, aerials or stairwells, when part of a water dependent use.

3. Belfries, monuments, spires or steeples, transmission towers, provided such structures shall be designed to minimize obstruction of views.

4. Penthouses for elevator and other mechanical equipment and monitors when less than 5% of lot coverage and extending not more than 10 feet above roof level. In non-residential zones, penthouses for elevator and other mechanical equipment and monitors for light and ventilation are permitted, when occupying less than 15% of the total roof area less than 5% of lot coverage and extending not more than 10 feet above roof level.

5. When considering allowance of structures to exceed the height limitations the Planning Commission must consider:
   a. View obstruction from both land and water;
   b. Alternate siting outside shoreline areas;
   c. Significance of alteration of existing skyline profile.

Lot Coverage

Buildings or structures in the Shoreline Area shall not occupy a greater percentage of a lot than indicated on Regulations Table, Lot Coverage (percent) of Area.

Setback

Setback shall be measured in feet from the ordinary high water mark. Building or structures in the Shoreline Area shall not be constructed within the setback area except for marina or other shore dependent uses, except where the criteria for shoreline variances are met under Section 15. Shore
dependent uses are: Any reasonable use that requires a shoreline or water surface location because of its functional nature, including but not limited to, navigation, ports, marinas, docks, piers, floats, boat fueling stations, shipyards, seafood harvest, aquaculture, recreational boating and swimming, and research and observation of natural shoreline phenomena.

SECTION 23: Use-Activity Policies and Regulations

1. AGRICULTURAL PRACTICES: The farming or raising of livestock or crops.

Policy

Vegetative buffers and setbacks shall be maintained between agricultural use areas and water bodies.

Regulations

a. A vegetative buffer not less than twenty-five (25) two hundred (200) feet in width shall be maintained between croplands, pasture lands, and the shoreline.

b. Livestock feed lots shall not be permitted within seventy-five (75) feet of the shoreline jurisdiction.

c. Livestock wastes shall be handled in accordance with Guidelines for Handling Livestock Wastes for Western Washington, Washington State Department of Ecology Regulations.

Reason for Change: Consistency with current state regulations.

2. AQUACULTURE: The farming or culture of food fish, shell fish, or aquatic plants in fresh or salt water areas.

Policy

Aquaculture activity shall be compatible with adjacent water dependent uses and shall not interfere with marine navigation, nor be located or designed to have a detrimental influence on shoreline views.

Regulations

a. Aquaculture developments shall be located and maintained so as not to interfere with established or possible future navigational lanes.

b. Only those aquaculture facilities which are shore dependent shall be located on the shoreline.

c. Aquaculture operations shall not generate nuisances or dispose of wastes which would degrade the shoreline or reduce water quality.
3. FOREST MANAGEMENT PRACTICES: Any activity conducted on or directly pertaining to forest land and related growing, harvesting or processing of timber.

Policies

a. Timber harvesting on shorelines of the City shall comply with RCW 90.58.150 and WAC 90.58.150, and the State Forest Practices Act and applicable implementing regulations.

Reason for Change: Consistency with current state regulations.

b. The first priority of forest management within shoreline areas shall be to maintain the natural forest setting and the visual integrity of the forested areas.

Regulations

a. Timber harvesting within 200 feet of the ordinary high water mark shall be limited to that cutting necessary to maintain the forest; provided that other timber cutting methods may be permitted in those limited instances where topography, soil conditions or silviculture practices necessary for regeneration warrant such methods.

b. Clearing of timber which is incidental to preparation of land for other uses authorized in this program may be permitted, provided that measures are taken to avoid degradation to the shoreline and water quality.

4. COMMERCIAL DEVELOPMENT: Developments having a primary use for retail or wholesale trade or other business activities.

Policies

a. Commercial developments on shorelines of the City should be shore-water dependent or provide an opportunity for a substantial number of patrons or the general public to enjoy the shoreline.

b. Commercial development should be encouraged to locate near existing commercial sites or abandoned industrial or manufacturing sites.

Reason for Change: Proposed local policy change.

Regulations

a. Except for marinas, related facilities, and port facilities, business or only water dependent commercial uses shall be allowed constructed over water, are to be shoreline water-dependent and all over water development shall provide for regulated public access. This is not to be interpreted to restrict existing development or commercial uses upon existing docks and wharves.
b. Warehousing is permitted on shorelines only as an accessory use directly serving a water-dependent use.

5. MARINAS: Commercial facilities which provide boat launching, storage, supplies and services for small commercial and pleasure craft.

Policies

a. Marinas are to be designed to minimize adverse impacts to water quality, and to be aesthetically compatible with the shoreline area.

b. Viewpoints and public access to marina areas are encouraged in marina plan and design.

c. Marinas must be designed to substantially comply as far as practicable with guidelines regulations prepared by the Washington State Department of Fisheries and Wildlife and other agencies having jurisdiction over such development.

Reason for Change: Consistency with current state regulations.

d. Marinas are to be located and designed in such a manner that in the determination of the Planning Commission so that they will not significantly damage fish and shellfish resources after appropriate consideration has been given to proposed mitigation— all mitigation requirements are met.

Reason for Change: Cross-reference to mitigation.

e. Marinas are to be designed to minimize, as far as practicable, adverse impacts to natural shoreline processes.

f. Special attention should be given to the design and development of operational procedures for fuel handling and storage in order to minimize accidental spillage and provide satisfactory means for handling those spills that do occur.

g. All applicable State and local health and safety standards shall be complied with in the development of marinas.

h. “Dry stack” storage is the preferred method for handling power boats under 30 feet in length.

i. Upland marinas are preferred after appropriate consideration is given to land values and location.

Regulations

a. Marina development shall comply with all applicable local, state, and federal agency regulations and requirements, and is also regulated by including those of the Washington State Department of Fish and Wildlife shall comply with "Criteria Governing the Design of Bulkheads, Landfills, and Marinas in Puget Sound, Hood Canal, and Strait of Juan De Fuca for Protection of Fish and Shellfish Resources," State
of Washington, Department of Fisheries, Feb. 8, 1971. Fish and Wildlife regulations (Appendix J has contains the current version of these Fish and Wildlife regulations).

**Reason for Change:** Consistency with current state regulations.

b. Placement of breakwaters, jetties, groins, bulkheads, landfills, and dredging activities associated with marina construction shall comply with regulations contained in this Master Plan Program pertaining to those activities.

c. Marinas and boat launch ramps shall provide parking facilities adequate to meet demand/need analysis projections.

d. Covered moorage is may be permitted when only in compliance with Washington State Department of Fish and Wildlife requirements and then only if views from water or upland areas will not be substantially affected.

**Reason for Change:** Tighter regulation.

e. Marinas shall be supplied with restroom and solid waste receptacles to accommodate marina users, and shall have facilities and established procedures for the discharge of solid waste or sewage, other than discharge into the water.

f. Marinas shall have facilities and established procedures for the disposal or discarding of fish or shellfish cleaning wastes, scrapfish, viscera, or unused bait in or near the marina.

g. Marinas shall have facilities and established procedures for the containment and recovery of spilled petroleum or toxic products.

h. Marinas shall provide view points or regulated pedestrian access areas which will allow the public to view marina activity.

i. Marinas shall provide pump-out, holding and/or treatment facilities for sewage contained on boats or vessels.

j. Marinas shall have implement a landscaping plan which addresses impacts on adjacent properties, views from upland areas, and existing topography of the area.

k. Accessory uses at marinas shall be limited to those uses that are shoreline water dependent or directly serve needs of marina users of necessity to marina operations and shall comply with the regulations contained in the Master Plan pertaining to those activities.

l. Over-the-water parking facilities are prohibited.

m. Space for transient moorage shall be encouraged.
n. **Marinas may be constructed if the applicant can** Applicants for marina proposals must demonstrate to the satisfaction of the Planning Commission the following:

1) The proposed site has the flushing capacity to maintain water quality;
2) The proposed design will minimize interference with geohydraulic processes and disruption of existing shore forms;
3) The proposed design will minimize impediments to fish migration;
4) The proposed facility will not be located on a site of major importance for natural stocks of shellfish or finfish, including spawning, feeding and rearing areas. The proposed facility will not impact shellfish or finfish habitat, including spawning, feeding and rearing areas, unless mitigation consistent with the requirements of the mitigation element of the Fidalgo Bay Plan has been provided.

**Reason for Change:** Redundant

o. Marina construction shall conform to the tabular requirements established in Section 19, REGULATION TABLE: except as provided below:

1) Maximum height for covered moorage is twenty-five feet above the OHWM.

2) Structures for upland boat storage shall comply with height, bulk and setback requirements for buildings in the underlying zone.

**Reason for Change:** Clarification.

**Environments**

a. Urban I: Marinas are permitted in the Urban I shoreline area designations subject to the applicable policies and regulations.

b. Urban II: Marinas are permitted in the Urban II shoreline area designations subject to the applicable policies and regulations.

c. Urban Residential: Marinas are permitted in the Urban Residential shoreline area designations subject to the applicable policies and regulations.

d. Conservancy: Marinas are prohibited in the Conservancy shoreline area designations.

e. Natural: Marinas are prohibited in the Natural shoreline area designations.

**Reason for Change:** Clarification.
6. MINING: Removal of naturally occurring mineral or other materials for economic use.

Policies

a. Mining activity in shoreline areas shall follow procedures which provide protection against sediment and silt production, and shall conform to the Washington State Surface Mining Act.

b. Removal of sand and gravel from marine beaches shall be strictly controlled, and prohibited in physically or biologically sensitive areas.

Regulations

a. No mining shall occur immediately adjacent to any water body or in any location which would have an adverse affect on water quality.

b. Stockpiling of mining spoils, disposal of washings and construction of water holding basins for mining purposes shall not be permitted within the shoreline area.

c. A proposal for reclamation of mined areas, in accordance with State of Washington Board of Natural Resources regulations, must be approved prior to issuance of Shoreline Substantial Development Permit.

7. OUTDOOR ADVERTISING SIGNS AND BILLBOARDS: Publicly displayed boards or devices for providing information, direction or advertising.

Policy

Signs shall not be placed where they will detract from or block shoreline views, nor shall they be of a design and size which would degrade the shoreline character as defined in the Area Designations.

Regulations

a. Billboards are prohibited within shoreline areas of the City and at upland locations which would obstruct existing visual access to the shorelines.

b. Signs identifying shoreline uses shall not extend above the roofline of adjacent buildings.

c. Free-standing signs are permitted provided they are no larger than thirty-two square feet in area on any one face.
8. RESIDENTIAL DEVELOPMENT: Buildings, earth modifications, subdivision and use of land primarily for human residence.

Policies

a. Planned unit residential developments which provide incentives for additional open space design and public shoreline access are encouraged.

Reason for Change: Clarification.

b. Over-water construction, or construction which obstructs existing shoreline view, is discouraged is prohibited.

Reason for Change: Tighter regulation.

c. Construction which obstructs existing shoreline view, is discouraged.

d. Subdivisions and high density residential developments are to be planned and designed to avoid problems of storm and sanitary sewage disposal and be compatible with existing or desired shoreline character.

Reason for Change: Clarification.

Regulations

a. New construction or expansion of existing piers, bulkheads or fills to provide for overwater residential development is prohibited.

b. Residential structures in shoreline areas which exceed thirty-five feet in height shall be reviewed by the City for possible impacts to views and shoreline character.

c. Single family subdivisions and multi-family residences on waterfront property shall provide for regulated public access to the water or to water view sites.

d. Live aboards are restricted to marinas with facilities adequate to accommodate them.

Reason for Change: Clarification.

9. UTILITIES: Facilities for generating, distributing, processing or storing water, sewage, electricity, gas and other energy sources.

Policies

Placement of utilities in shoreline areas shall be planned and designed to avoid degradation of the shorelines and shoreline views during and after installation.
Regulations

a. When feasible, utilities within the shoreline area should be placed underground, and utility corridors should be used for shoreline access.

b. Undergrounding of utilities across a water body must gain approval of the State of Washington Department of Fisheries and Game—Department of Fish and Wildlife shall comply with all applicable local, state, and federal agency regulations and requirements; a shoreline permit is required.

Reason for Change: Clarification

10. SOLID WASTE: All putrescible and non-putrescible solid and semi-solid waste.

Policy

Waste disposal shall conform to Washington State Department of Ecology regulations relating to solid waste handling.

Regulation

Solid waste disposal and solid waste disposal sites are prohibited on shorelines within shoreline jurisdiction.

11. PORTS AND WATER RELATED INDUSTRY: Public or private facilities for transfer of cargo or passengers from water-borne craft to land and vice versa; and facilities for processing manufacturing and storage of goods.

Policies

a. Water-dependent industrial or port uses shall have priority over other industrial uses for frontage on navigable waters. Other industrial uses.

Reason for Change: Tighter policy.

b. Public access Opportunities for public access to the water are encouraged at port and industrial sites, if such access would not interfere with operations or endanger public health and safety.

Reason for Change: Clarification

c. Cooperative and complementary port and industrial activities are encouraged to locate in common areas.

d. Shoreline industrial areas presently served with City utilities and transportation networks and zoned industrial should be considered for use before establishing additional industrial shoreline areas.
e. Once the Port of Anacortes’ Comprehensive Plan Update is complete, appropriate cross-references will be made.

Regulations

a. Existing port or industrial development on shorelines which is neither shore nor water dependent or related shall be permitted to expand inland from, but not along the shoreline.

b. Plans for industrial developments shall provide for screening and buffer areas related to adjacent non-industrial zones and upland views.

**Reason for Change:** Clarification.

c. The Port of Anacortes and City shall coordinate the cooperative and multiple use of publicly owned piers, docks, and parking facilities.

**Reason for Change:** Clarification.

12. **SHORE DEFENSE WORK SHORELINE STABILIZATION:** Structures or modifications normally used on marine shores for diverting wave erosion and protecting harbors (beach restoration/enhancement, bioengineering, revetments, rock wiers, bulkheads, breakwaters, groins and jetties).

Policies

a. Construction of shore defense works shall not be allowed until effects on adjacent shores have been reviewed and determined evaluated by the Shoreline Administrator against Shoreline Goals, Policies, and Regulations.

**Reason for Change:** Clarification.

b. Floating or open breakwaters which do not impede flow of marine life are preferred over solid breakwaters.

c. Shore defense works should be designed to have minimal degradation water views, and avoid adverse effects on fisheries resources.

**Reason for Change:** Clarification.

d. Shore defense works which would decrease publicly owned lands should not be allowed.

e. Shoreline stabilization structures should be allowed only where demonstrated to be necessary to support or protect permitted shoreline uses or where an existing structure is in imminent danger from shoreline erosion.

Regulations
a. Prior to granting a permit for Shore Defense Works (bulkheads, breakwaters, groins and jetties) the effect of such development on adjacent properties shall be determined and the decision of the City shall reflect such determination. Applications for such development must be accompanied by information showing configuration of the shoreline and consistency of bank materials for properties within 300 feet in both directions from the proposal. Mitigation of adverse effects may be required as an alternative to denial.

**Reason for Change:** Tighter regulation.

b. Shore Defense Works shall comply with all applicable local, state, and federal agency regulations and requirements. are also regulated by shall comply with "Criteria Governing the Design of Bulkheads, Landfills, and Marinas in Puget Sound, Hood Canal, and Strait of Juan De Fuca, for Protection of Fish and Shellfish Resources," State of Washington, Department of Fisheries, February 5, 1971. State Department of Fish and Wildlife regulations (Appendix J has the current version of these regulations).

**Reason for Change:** Consistency with current state regulations.

13. LANDFILL: The creation of upland area or the elevating of existing upland by deposition of soil, dredge spoil, or other solid material onto land or into shallow water bodies.

**Policies**

a. Landfills which reduce the area of marine surface waters should be permitted for water dependent uses only, and only to the extent necessary.

b. Landfill proposals should demonstrate a reasonable need and consistency with the Shoreline Management Act and this program. Landfills proposals shall be allowed within shoreline jurisdiction only in conjunction with an approved water-dependent or preferred use and then only in the minimum amount necessary for the intended purpose and if consistent with the Shoreline Management Act and this program.

**Reason for Change:** Clarification.

c. Fill materials are not to contain pollutants which could cause an adverse impact upon water quality.

d. Landfills should be landscaped to maintain or improve existing views and prevent erosion where feasible.

**Reason for Change:** Tighter policy.

d. Review of proposals for landfills should assess qualitatively and quantitatively the overall value of the landfill site in its present state versus the proposed shoreline use to be created and other future potential public or private shoreline uses; these should be expressed in short and long range economic, social, and environmental terms.
f. Landfills should be designed no larger than necessary for the proposed use.

**Reason for Change:** Included in (a) above.

e. Landfills should minimize and mitigate, by design and construction, adverse impacts to the shoreline and aquatic environment and to nearby land and water uses.

**Regulations**

a. Landfills are also regulated by shall comply with "Criteria for Governing the Design of Bulkheads, Landfills, and Marinas in Puget Sound, Hood Canal, and Strait of Juan de Fuca, for Protection of Fish and Shellfish Resources," State of Washington, Department of Fisheries, February 5, 1971. State Department of Fish and Wildlife regulations (Appendix J contains the current version of these regulations).

**Reason for Change:** Consistency with current state regulations.

b. Landfill materials shall be of such quality so as to not significantly degrade existing surrounding levels of water quality.

c. All perimeters of fills shall use vegetation, retaining walls, or other means for erosion control.

d. Landfills which reduce the area of marine surface waters shall be allowed only for those water dependent uses consistent with this Shoreline Master Plan Program and then only in the minimum amount necessary for the intended purpose and if consistent with the Shoreline Management Act and this program.

**Reason for Change:** Clarification.

e. **Landfills may be constructed if the applicant can demonstrate** the following:

1) the proposed landfill location and design will minimize the interference with water flow and circulation, and disruption of natural shore processes.

2) the proposed landfill will not be located on a site important for wildlife, shellfish, or finfish, including feeding, reproduction, and rearing areas, or that impacts to such habitat areas are mitigable.

3) the proposed landfill will not pose significant restrictions on navigation or loss of public access.

4) the proposed landfill location and design will blend with the existing shoreline features and adjacent properties.
Environments

a. Urban I: Landfill is permitted in the Urban I shoreline area designations, subject to the policies and regulations, as provided below:

1) landfill involving placement of less than 1,000 cubic yards is a permitted use.
2) landfill in excess of the limits of subsection (1) is a special use.

b. Urban II: Landfill is permitted in Urban II shoreline area designations, subject to the policies and regulations, as provided below:

1) landfill involving placement of less than 1,000 cubic yards is a permitted use.
2) landfill in excess of the limits of subsection (1) is a special use.

c. Urban Residential: Landfill is permitted in the Urban Residential shoreline area designations, subject to the policies and regulations, as provided below:

1) landfill involving placement of less than 500 cubic yards is a permitted use.
2) landfill in excess of the limits of subsection (1) is a special use.

d) Conservancy: Landfill is permitted in the Conservancy shoreline area designations, subject to the policies and regulations, as a conditional use.

e) Natural: Landfill is prohibited in the Natural shoreline area designations.

14. DREDGING: Removal, displacement, and disposal of material from the bottom of water bodies, or natural wetlands.

Policies

a. Dredging shall be done in such a manner as to minimize adverse impacts on marine life and habitat.

b. Polluted Contaminated dredge spoils material should be deposited at upland sites and measures taken to contain runoff from the sites.

Reason for Change: Clarification.

c. Dredging and spoils disposal operations should comply with the applicable water quality standards, guidelines, and regulations of applicable federal, state and local agencies.
Regulations

a. Dredge spoils shall be deposited in an approved submerged site only if the spoils meet EPA Puget Sound Dredge Disposal Analysis criteria for deposit in navigable waters.

**Reason for Change:** Consistency with current state regulations.

b. Dredging shall be scheduled so as not to interfere with migratory movements of anadromous fish.

c. Dredging shall be allowed only for those shore water dependent uses consistent with this Shoreline Master Plan–Program, and where the applicant can show that impacts upon water quality and aquatic life are mitigable can be mitigated.

**Reason for Change:** Clarification.

d. Dredging of bottom materials for the single primary purpose of obtaining fill material is prohibited.

e. Maintenance dredging of navigable channels and established boat basins is permitted without a shoreline substantial development permit provided such dredging is done in a manner which will minimize adverse impacts on water quality, marine life and habitat. Any legally established channel which has been maintained in the past can continue to be maintained in the future without a permit with an exemption as long as dredge disposal is carried out in accordance with all applicable requirements. Filling or dumping within shoreline jurisdiction which is associated with dredging activities requires a shoreline permit unless the dredged material is placed in an authorized and permitted dredge disposal site.

Environments

a. Urban I: Dredging is permitted in the Urban I shoreline area designations, subject to the policies and regulations, as provided below:

1) Dredging involving removal of less than 1,000 cubic yards is a permitted use.

2) Dredging in excess of the limits of subsection (1) is a special use.

b. Urban II: Dredging is permitted in the Urban II shoreline area designations, subject to the policies and regulations, as provided below:

1) Dredging involving removal of less than 1,000 cubic yards is a permitted use.

2) Dredging in excess of the limits of subsection (1) is a special use.

c. Urban Residential: Dredging is permitted in the Urban Residential shoreline area designations, subject to the policies and regulations, as provided below:
1) dredging involving removal of less than 500 cubic yards is a permitted use.

2) dredging in excess of the limits of subsection (1) is a special use.

d. Conservancy: Dredging is permitted in the Conservancy shoreline area designations, subject to the policies and regulations, as a conditional use.

e. Natural: Dredging is prohibited in the Natural shoreline area designations.

15. ROAD AND RAILWAY DESIGN AND CONSTRUCTION

Policies

a. Road and railway development should be located as far inland from the land/water interface as feasible and should not interfere with other appropriate shoreline uses, or degrade shoreline areas.

b. Design of roadways on shorelines should take advantage of scenic vistas and provide for viewpoints and rest and picnic sites in public areas.

Regulations

a. New railroad and road developments, to the extent consistent with public safety, may be required to provide public access opportunities, and to maintain existing pedestrian access to shorelines.

b. Road and railroad development shall be coordinated with the various governing bodies, and where possible, development shall be designed to accommodate varied modes of transportation.

c. Design of roadways on shorelines shall provide for pedestrian and bicycle routes.

Reason for Change: Policy implementation.

16. PIERS AND DOCKS: Any platform, structures or devices located in or floating on water bodies.

Policies

a. Use of floating docks or open pile piers is preferred over solid structures in order to minimize obstruction to currents and circulation of marine life.

b. The cooperative use of piers and docks shall be encouraged.

c. Piers and docks shall not be constructed so as to obstruct navigable waters or to significantly reduce public use of the water surface.

d. The use of toxic substances in or on pilings is prohibited whether for new construction or repair.
e. Toxic substances may be utilized on pilings in repair projects for timber structures, provided BMPs for the Use of Treated Wood in Aquatic Environments, Western Wood Preserves Institute/Canadian Institute of Treated Wood, are met.

Regulations

a. Prior to granting a permit for a pier, dock or float, the effects of the structure upon adjacent shoreline shall be determined, and disposition of the permit by the City shall reflect such determination.

b. Piers and docks may be restricted in areas of substantial littoral drift or significant historic/scenic values. In these areas open piling or floating structures may be required.

17. **BREAKWATER**: Any structure located in water bodies for the purpose of protecting adjacent water and shoreline areas from wave action.

**Policies**

a. Retrofitting existing solid breakwaters is an appropriate mitigation in so far as this activity minimizes obstruction to currents and circulation of marine life.


17. **ARCHEOLOGICAL AREAS AND HISTORIC SITES**: Includes sites, structures or developments which provide knowledge about our cultural heritage.

**Policies**

a. An inventory of historical and archeological sites shall be prepared and referred to when reviewing plans for development in shoreline areas.

b. If, in the course of construction on shorelines, **items of possible archeological data is significance are uncovered**, the contractor shall notify the City of the find, and stop work which could damage such items, or protect the items from damage, until appropriate evaluations and actions can be carried out.

**Reason for Change**: Tighter policy.

**Regulations**

a. Archeological and historic site development is permitted as a conditional use in shoreline areas designated Natural subject to relevant shoreline regulations.

b. Such developments which are intended for commercial purposes shall comply with policies and regulations for Commercial Development.

c. Evaluations of possible archeological finds shall be done promptly by a qualified archeologist and shall be done so as to avoid excessive delays to construction.
Reason for Change: Implementation of tighter policy.

18. RECREATION: Recreation and refreshment of body and mind through forms of play, sports, relaxation, amusement or contemplation.

Policies

a. Public recreation facilities should be planned and designed to augment and enhance private recreation facilities and vice versa.

b. Unique shoreline recreational areas and vistas shall be preserved for future generations.

c. Recreational planning and development should recognize the wide variety of needs generated by the diverse local and regional population.

Regulations

a. Commercial recreational developments shall conform to relevant regulations contained in this Shoreline Master Plan Program.

Reason for Change: Clarification.

b. Recreational development shall not unduly burden or create conflicts with adjacent shoreline uses.

Reason for Change: Redundant.

b. Recreational developments, public and private, shall be located, constructed, and operated so as not to be a hazard to public health and safety nor should they materially interfere with normal public use of the water and shorelines.

19. GENERAL REGULATIONS FOR SHORELINE AREAS:

a. All soils disturbed by use activities, and which are potentially erodable or unstable shall be stabilized through seeding, mulching, terracing or other effective means.

b. Development on unique or fragile shoreline areas shall be avoided unless it can be shown in the proposal that development will not degrade the shoreline or that the development will enhance public use of shoreline resources, while minimizing damage to fragile areas.

Reason for Change: Tighter policy.

c. Shorelines are to be kept free of discarded waste materials.

d. Street rights-of-way or utility easements which offer physical or visual access to the shorelines or water body shall be—preserved—maintained in public ownership as a recreational and public view resource.
Reason for Change: Clarification.

e. For all structures and work performed in navigable waters of the United States; and discharge of dredged or fill material on wetlands adjacent and contiguous to navigable waters of the United States, it is required that a permit approval be received from the U.S. Department of the Army, Corps of Engineers.

Reason for Change: Consistency with current state regulations.
CITY OF ANACORTES

SCALE - 1" - 2400'

SHORELINE AREA BOUNDARIES ARE EXAGGERATED FOR DISPLAY PURPOSES. JURISDICTION IS 200 FEET LANDWARD FROM SHORE, AND SEAWARD TO THE CORPORATE BOUNDARIES OF THE CITY OF ANACORTES.
Appendix C

Six Acre Eelgrass Demonstration Project
DEPARTMENT OF THE ARMY PERMIT

Permittee: Anacortes Planning & Community Devel. City of Anacortes Planning & Community Devel.
Permit No: 97-2-01466 904 - 6th Street
Issuing Office: Seattle District Anacortes, Washington 98221

Note: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: Raise three locations to an elevation of -7 to -8 feet mean lower low water by placing a maximum of 60,000 cubic yards (cy) of clean sediment over 6 acres in accordance with the plans and drawings attached hereto which are incorporated in and made a part of this permit. (Conduct an experimental eelgrass replacement demonstration project).

Project Location: In Fidalgo Bay near Anacortes, Skagit County, Washington.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on JAN 22 2002.
   If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least 1 month before the above date is reached.

2. You must maintain the activity authorized by this permit in good condition and in accordance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification to this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.
7. After a detailed and careful review of all of the conditions contained in this permit, the permittee acknowledges that, although said conditions were required by the Corps of Engineers, nonetheless the permittee agreed to those conditions voluntarily to facilitate issuance of the permit; the permittee will comply fully with all the terms of the permit conditions.

Special Conditions:

a. You must provide a copy of the permit transmittal letter, the permit form, and drawings to all contractors performing any of the authorized work.

b. Your use of the permitted activity must not interfere with the public's right to free navigation on all navigable waters of the United States.

c. You must have a copy of this permit available on the vessel used for the authorized transportation and disposal of the dredged material.

d. The fill material used for the proposed project must meet PSDDA standards of clean sediment. Documentation that sediment is "clean" must be submitted to the Seattle District, Regulatory Branch 30 days prior to placement of the fill material.

e. A status report on the project construction, including as-built drawings, must be submitted to the Seattle District, Regulatory Branch, 13 months from the date of permit issuance. Annual status reports are required until project construction is complete.

f. The monitoring plan "Large-scale Belgrass (Zostera marina L.) Replacement Demonstration Project Fidalgo Bay, Monitoring Plan" by Battelle Marine Sciences Laboratory, dated 23 September 1998, must be implemented in its entirety. Monitoring reports will be due annually for a period of 5 years after the as-built drawings have been accepted in writing by the Seattle District, Regulatory Branch. All reports must be submitted to the Seattle District, Regulatory Branch. If the project is determined to be unsuccessful at the end of the 5-year monitoring, the Corps may require additional measures to compensate for the impacts of project construction, including but not limited to removal of the fill material.

g. In order to protect migrating juvenile salmonids, proposed as threatened under the Endangered Species Act of 1973, as amended, no in-water construction may occur from 15 March through 14 June of any year.

h. In order to protect herring spawning in the project vicinity, no in-water construction may occur from 15 January through 1 May of any year.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:

   (X) Section 10 of the Rivers and Harbor Act of 1899 (33 U.S.C. 403).

   (X) Section 404 of the Clean Water Act (33 U.S.C. 1344).

   () Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C 1413).

2. Limits of this authorization.

   a. This permit does not obviate the need to obtain other Federal, State, or local authorization required by law.

   b. This permit does not grant any property rights or exclusive privileges.
c. This permit does not authorize any injury to the property or rights of others.

d. This permit does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:

   a. Damages to the permitted project or uses thereof as a result of other permitted activities or from natural causes.

   b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

   c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

   d. Design or construction deficiencies associated with the permitted work.

   e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require include, but are not limited to, the following:

   a. You fail to comply with the terms and conditions of the permit.

   b. The information provided by you in support of your application proves to have been false, incomplete, or inaccurate (See 4 above).

   c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.
Anacortes Planning & Community Development

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.

X  [Signature]  X  1-15-99
Anacortes Planning & Community Development  (DATE)

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.

[Signature]  1-15-99
JAMES M. RIGSBY  (DATE)
Colonel, Corps of Engineers
District Engineer

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEEER)  (DATE)
Purpose: Large scale eelgrass replacement demonstration
Datum: MLLW = 0 (NOS)
Sections 18 and 19 of Township 35N, Range 2E

Vicinity Map

Proposed: Fill up to 51 acres of subtidal land to a maximum elevation of -7 ft. MLLW
Near: Anacortes, Skagit County, Washington
By: City of Anacortes, Planning and Community Development
7/25/97
Sheet 1 of 4
Purpose: Large scale seagrass replacement demonstration

Datum: MLLW = 0 (NOS)

Sections 18 and 19 of Township 35N, Range 2E

Site Plan

Proposed: Fill up to 5X acres of subtidal land to a maximum elevation of -7 ft. MLLW
Near: Anacortes, Skagit County, Washington

By: City of Anacortes, Planning and Community Development

7/25/97
Sheet: 2 of 4
Purpose: Large scale eelgrass replacement demonstration
Datum: MLLW = 0 (NOS)
Sections 18 and 19 of Township 35N, Range 2E

Section A-A'

Proposed: Fill up to 5 acres of subtidal land to a maximum elevation of -7 ft. MLLW
Near: Anacortes, Skagit County, Washington
By: City of Anacortes, Planning and Community Development
7/25/97
Sheet 3 of 4
Figure 2. Locations of Test and Reference Sites in Fidalgo Bay

Purpose: Large scale eelgrass replacement demonstration
Datum: MLLW = 0 (NOS)
Sections 18 and 19 of Township 35N, Range 2E

Test areas within Area 1

Proposed: Fill up to 5 acres of subtidal land to a maximum elevation of -7 ft. MLLW
Near: Anacortes, Skagit County, Washington
By: City of Anacortes, Planning and Community Development
7/25/97
Sheet 4 of 4
CERTIFICATE OF COMPLIANCE WITH DEPARTMENT OF THE ARMY PERMIT

Permit Number: 97-2-01466

Name of Permittee: ANACORTES PLANNING AND COMMUNITY DEVELOPMENT

Date of Issuance: JAN 22 1999

Upon completion of the activity authorized by this permit, sign this certification and return it to the following address:

Department of the Army
U.S. Army Corps of Engineers
Seattle District, Regulatory Branch
Post Office Box 3755
Seattle Washington 98125-3755

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers' representative. If you fail to comply with your authorization, your project is subject to suspension, modification, or revocation.

☐ The work authorized by the above referenced permit has been completed in accordance with the terms and conditions of your permit.

☐ The mitigation required (not including monitoring) by the above referenced permit has been completed in accordance with the terms and conditions of your permit.

Signature of Permittee

11 February 1997
CLM7; B:CERTCOMP.97
LARGE-SCALE EELGRASS (*Zostera marina* L.) REPLACEMENT DEMONSTRATION PROJECT FOR FIDALGO BAY

MONITORING PLAN

Submitted to:

The City of Anacortes  
P.O. Box 547  
Anacortes, Washington 98221

Submitted by:

Battelle Marine Sciences Laboratory  
1529 West Sequim Bay Road  
Sequim, Washington 98382

September 23, 1998
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Fidalgo Bay Eelgrass Demonstration
Project Monitoring Plan
September 23, 1998
EXECUTIVE SUMMARY

The Fidalgo Bay-Wide Plan (FBW Plan) and the State Hydraulic Code Rules (WAC 220-110) require compensation for losses of eelgrass and herring spawning habitat resulting from in-water developments under any of the FBW Plan development scenarios. To this end, the City of Anacortes has requested approval from USACE Seattle District to perform a large-scale eelgrass replacement demonstration project in Fidalgo Bay in support of the FBW Plan. The location of the demonstration project is depicted in Figure 1. It is hoped that this demonstration project will serve as a model for future mitigation in this and other areas. It is believed that large portions of Fidalgo Bay could support active eelgrass colonies if current water depths were reduced by the placement of clean fill material in these areas. The goal of this project is to select three test sites that are currently too deep to support eelgrass communities, fill them to acceptable depths with clean fill material, and monitor them over time to determine whether eelgrass colonization has occurred. In addition, eelgrass transplanting will occur in subplots within each test area to evaluate the feasibility of this technique in enhancing eelgrass communities. Eelgrass colonization success will be evaluated through comparison to selected reference sites. The purpose of this monitoring plan is to describe the components of this demonstration project, to summarize how and when the project will be monitored, and to present contingency plans if fill material does not remain in place during the project duration or colonization by natural means or transplantation does not meet stated performance criteria.
Figure 1. Location of the Fidalgo Bay ElmgroASS Replacement Demonstration Project (Pentec 1997)

- Purpose: Large scale elmgroass replacement demonstration
- Datum: MLLW = 0 (NOS)
- Sections 18 and 19 of Township 35N, Range 2E
- Vicinity Map
- Proposed: Fill up to seven acres of subtidal land to a maximum elevation of -7 ft. MLLW
- Near: Anacortes, Skagit County, Washington
- By: City of Anacortes, Planning and Community Development
- 7/25/97
- Sheet 1 of 3
1.0 PROJECT DESCRIPTION

1.1 Project Location

The Fidalgo Bay Eelgrass Replacement Demonstration Project will be conducted in Fidalgo Bay, Washington (Figure 1). The study area is located west of the Texaco Oil Dock, and encompasses a total area of approximately 9 acres (36,405 m²). Three test sites (A, B, C) and three reference sites (R-1, R-2, R-3) have been chosen for this study. Test sites represent 2 acres each (8,090 m²), reference sites are 1 acre each (4,045 m²) in size. Site locations were based on a bathymetric and diver surveys conducted by Pentec Environmental in October, 1997, and are presented in Figure 2. The total 6 acres of the fill proposed here is smaller than the 7 acres indicated in the Public Notice for the project (97-2-01466; 24 October 1997). The primary reasons for this change are that the experimental flats are confined to one of the deep holes rather than two and the number of replicate plots was increased from two to three for statistical purposes. Restricting the plots to one deep hole and increasing the replication allowed for a more controlled and statistically valid design for evaluating the Demonstration Project test results. Additionally, the three test plots are spaced at increasing distances from the natural eelgrass beds, such that the effect of distance from existing eelgrass on the colonization rate can be tested.

1.2 Responsible Parties

The responsible parties for this project include:

Applicant: The City of Anacortes
Mr. Ian Munce, Director of Planning and Community Development, Assistant City Attorney
P.O. Box 547
Anacortes, Washington 98221
(360) 299-1942

Monitoring Plan Preparation: Battelle Marine Sciences Laboratory
Dr. Ronald M. Thom, Staff Scientist
Mr. Jeffrey A. Ward, Senior Research Scientist
Mr. David K. Shreffler, Senior Research Scientist
Ms. Amy B. Borde, Research Scientist
1529 West Sequim Bay Road
Sequim, Washington 98282
(360) 681-3657, (360) 681-3669
Figure 2. Locations of Test and Reference Sites in Fidalgo Bay
1.3 Project Purpose, Goal, Objectives, and Performance Standards

1.3.1 Project Purpose

The purpose of this project is to demonstrate that eelgrass meadows can be expanded in Fidalgo Bay by raising the bottom elevations to approximately -7 to -8 ft. mean lower low water (MLLW) through the placement of uncontaminated dredged material into subtidal areas currently too deep to support eelgrass communities.

1.3.2 Project Goal

The goal of this project is to create shallow subtidal flats in three test areas at a depth that is appropriate for development and colonization of eelgrass beds (approximately -7 to -8 ft MLLW). Based on bathymetric surveys conducted by Pentec Environmental in October 1997, extensive beds of eelgrass are known to exist in Fidalgo Bay at this water depth.

1.3.3 Project Objectives and Performance Standards

**Objective 1:** Place uncontaminated dredged material in three test areas to raise bottom elevations to depths that will support eelgrass meadows (approximately -7 to -8 ft MLLW).

**Performance Standard for Objective 1:** Approximately 90% of each shallow subtidal flat created with fill material at each test site during the Demonstration Project will remain for a period of five years. This means that, over the five year monitoring period, a maximum of 10% of the flat area will be eroded to depth greater than -8ft MLLW. In addition, to evaluate the relative degree of erosion taking place, sediment grain size will be assessed annually. Significant erosion will be indicated if grain size becomes coarser by two mean phi units (eg., goes from +3 to +1 mean phi size) between annual samplings. This performance standard will be assessed by bathymetric surveys and sediment grain size analysis of the areas on a yearly basis, as outlined in Section 4.1.

**Objective 2:** Plant eelgrass in five subplots within each test area to evaluate the effectiveness of planting versus natural colonization. Each subplot will encompass an area of 6 m².

**Performance Standard for Objective 2:** Mean eelgrass density in both the transplant plots and the unplanted areas will be at least 80% of that recorded in the reference plots within five years following dredged material placement and transplanting. Eelgrass coverage will be in the same cover class as in reference areas. Cover and density will be within 1-10% of the reference site condition within 12 months following fill placement and planting. Within 36 months, cover and density will be 11-79% of reference, and between 36-60 months cover and density will be ≥ 80% of reference. Figure 3 shows a predicted cover and density value on an annual basis, which will be used to assess the performance of the test plots.
annually. The predictions are based on data on transplants from Grays Harbor estuary (Thom 1995). Eelgrass percentage cover estimates for the test areas will be assessed by video surveys; eelgrass density in subplots and in unplanted areas will be assessed by diver surveys. As outlined in Section 4.2, both surveys will be conducted annually between June and September, the period when eelgrass aboveground biomass is at its peak.

Selected benthic resources will be qualitatively sampled to assess whether they are utilizing the test plots. Presence of Dungeness crab, and fish and bivalve mollusks often associated with eelgrass in the plots will indicate that the plots are functioning in support of these resources. The fish and bivalve species known to be indicators of eelgrass include: tubasnout, bay pipefish, crescent gunnel, chum salmon, kelp perch, lincod, Pacific herring, penpoint gunnel, shiner perch, snake prickleback, striped seaperch, and cockles (Shreffler and Thom 1993).

![Graph](image)

**Figure 3.** Predicted eelgrass relative cover and density within the test plots on an annual basis
1.4 Selection of Test and Reference Areas

Three test sites and three reference sites have been identified for this study based on a preliminary bathymetric survey conducted by Pentec in October 1997. Site locations are depicted in Figure 2. The test sites represent areas of the bay where eelgrass is sparse, due primarily to water depth constraints, and are located near established eelgrass communities to facilitate natural colonization. Reference sites represent areas of Fidalgo Bay where established eelgrass communities occur, and will be used to assess the success of natural colonization and test subplot transplantation during the five year study. Each test site is two acres in size (8,090 m²); each reference site encompasses one acre (4,045 m²). Subplots within each test site are 2m x 3m in size (6 m²). It is anticipated that 5 subplots will be established within each test site. Test and reference sites have been located away from active shipping activities to reduce disturbance; test sites have been located to reduce disturbance of established eelgrass communities during dredged material placement, yet facilitate natural eelgrass colonization via rhizome migration and seed dispersion.

2.0 PRE-DISPOSAL ECOLOGICAL ASSESSMENT OF TEST AND REFERENCE SITES

2.1 Bathymetry, Benthic Communities and Resources

Pentec Environmental conducted a pre-disposal survey in October 1997. This survey resulted in a detailed bathymetric map of the Fidalgo Bay study area, and was used to identify potential test and reference sites. In addition, the information collected during this survey serves as the pre-disposal ecological assessment of the area. Qualitative observations of benthic communities and resources were recorded during the bathymetric survey, but a detailed pre-disposal dataset is not available for test and reference sites.

3.0 STUDY APPROACH

3.1 Placement of Fill Material

It is anticipated that uncontaminated fill material will be placed at each of the three test sites by a split-hull barge supplied by a private dredger. Prior to placement, the corners of each test site will be located via differential global positioning system (dGPS) and marked with buoys. As material placement proceeds, bathymetric transect lines will be run and confirmed by dGPS to determine fill material.
thickness, resulting MLLW elevations, and water depth consistency. Survey personnel will be in radio contact with barge personnel to guide them during disposal operations, when necessary. At the end of each placement event, a final bathymetric survey will be conducted at each test site to establish a baseline for future surveys.

In addition to bathymetric surveys, sediment gauges will be placed at specific locations within each test site to accurately measure the amount of clean material deposited by the barge. It is anticipated that five gauges will be installed in each test area: one located at the center of the area, and one in the center of each of the four quadrants defined by a test area. Sediment gauge location will be confirmed by dGPS; divers will evaluate sediment height. Sediment gauges and buoy locators will be left in place after disposal, if possible, and used as a reference for each of five subplot areas discussed below. A Notice to Mariners will also be released to the U.S. Coast Guard describing the study area and associated navigational hazards.

3.2 Experimental Eelgrass Plantings

In order to meet Objective 2, eelgrass will be transplanted by divers on an experimental basis into five subplots within each of the three test areas that are filled with uncontaminated dredged material. The probability that eelgrass will become established on the fill sediments will be maximized if the depth and substrate match the adjacent areas that presently support eelgrass. These experimental transplants will enable us to determine whether eelgrass transplanting can enhance natural colonization. On several other projects in Puget Sound (Antrim and Thom 1995, Thom 1995, Thom et al. 1995, Thom et al. 1998) Battelle has successfully implemented and refined eelgrass transplanting techniques, as outlined below.

3.2.1 Marking the Transplant Subplots

The exact location of the transplant subplot corners will be mapped by measuring distances from and triangulating to fixed landmarks on shore. The transplant subplots (2m x 3m) will be marked at the corners with PVC stakes and cinder blocks. In addition, the position of the subplot corners will be located using a dGPS so that they can be relocated in subsequent years. The eelgrass subplot locations will be the same locations where the sediment gauges are placed (see Section 3.1).

3.2.2 Planting Units and Donor Stock

Planting units will consist of “bare root” bundles of 2-4 eelgrass shoots each. Bundles will be assembled using biodegradable ties and anchors. The transplant bundles will be handled with extreme care and submerged in cool ambient seawater as much as possible to avoid drying. To ensure the highest probability of success, only individuals experienced in this critical task will prepare the transplant.
bundles.

Eelgrass will be collected from a donor site acceptable to the resource agencies. The donor site will be a nearby healthy eelgrass bed at a similar depth to: (1) ensure that the plants are physiologically adapted to the conditions at the transplant site; (2) minimize introducing a genetically different strain of eelgrass into the project site; and (3) minimize handling and holding times; an off-site donor source could result in longer handling and holding times prior to transplanting. Donor material will be harvested carefully from a wide area to minimize any impact to the donor bed. The total number of shoots required is very small (i.e., 360), and will involve removal of eelgrass from a cumulative area of approximately 2 m². Our experience has been that recolonization of the donor area will be rapid using our proposed strategy.

3.2.3 Planting, Spacing, and Timing

A diver will place a single bundle in a shallow hole dug either by hand or with a small trowel, depending on the consistency of the sediment. The hole will then be back-filled to ensure that the rhizome and biodegradable anchor are below the surface of the sediment. The above ground (green) portion of the shoot should not be buried. These transplant bundles will be planted using a 1m x 1m quadrat frame for a guide to meet initial planting densities of 4 shoots/m² in each subplot; this would result in a total of 24 eelgrass shoots transplanted into each 2m x 3m subplot. Planting should occur between April and September.

4.0 MONITORING PLAN AND SCHEDULE

4.1 Bathymetric Surveys

Bathymetric surveys will be conducted using a precision acoustic system capable of differentiating between eelgrass and true bottom elevations. During this survey, a tide gauge will be installed and referenced to a known benchmark to provide vertical control. The survey will use a dGPS to determine exact positions. At a minimum, the bathymetric survey will map 1-ft bottom contours with trackline spacing of 30-m. The results of the bathymetric survey will be downloaded onto personal computer spreadsheet files, and converted into maps at the end of the survey. Bathymetric surveys will be conducted annually for five years. In-house computer software will be used to determine the location and percentage of fill material present in subsequent years relative to baseline estimates immediately after material was placed in test sites.
4.2 Eelgrass Communities

The three test sites (A, B, C) and three reference sites (R-1, R-2, R-3) will be mapped using underwater videography to determine the extent of natural colonization of eelgrass into the uncontaminated fill material. An underwater video camera will be towed behind an 11 m research vessel. Vessel position data (latitude and longitude) will be obtained using a dGPS. The dGPS antenna is located at the tip of the cargo boom used to deploy the camera. Underwater video images will be obtained using an underwater camera equipped with a 250 watt underwater light. The camera is mounted in a “down-looking” orientation on a towfish weighing approximately 45 kg, which helps keep the camera positioned directly beneath the dGPS antenna.

A laptop computer equipped with a video overlay controller and data logger software integrates dGPS data (date, time, latitude, longitude) and the video signal. dGPS data is updated every two seconds and transect identification numbers are stored directly onto the video tape using a four head video cassette recorder (VCR). Data and survey notes are also stored on a floppy disk at two second intervals. Television monitors located in both the pilothouse and work deck assist the helmsman and winch operator.

Data stored on floppy disks will be downloaded and organized into spreadsheet files with separate columns for date, time, and position data. Video images will be visually analyzed to characterize three different cover classes of eelgrass (no eelgrass, 1-50 percent cover, 51-100 percent cover). These cover data will then be transferred to a Geographic Information System (GIS) and registered in Map Info™ to produce plots of eelgrass cover within the three test sites. If available, GIS layers for other geographically referenced features, such as shorelines, topography, bathymetry, and overwater structures will be added. An example of the type of finished product that will be generated using this methodology is provided in Figure 4.

At five 2m x 3m subplots within each of the three test and reference sites, divers will perform surveys to evaluate the effectiveness of eelgrass planting versus natural colonization. Divers will relocate the transplant subplots, make qualitative observations on epiphyte growth, new shoot growth, and macroalgae cover, and record general observations of physical or biological disturbances that may have affected the eelgrass transplants. For each subplot, eelgrass density and percent cover will be recorded within a 1m² quadrat at three randomly chosen sampling stations. Percent cover will be estimated within the quadrats as three cover classes: 0%, 1-50%, and > 51-100%. If transplant bundles are discernible, the number of individual shoots per bundle will also be counted. Shoot length will be measured in randomly selected plants from each quadrat. The same techniques will be used to make qualitative observations and measure eelgrass density and percent cover at the five subplots within each of the three reference sites (R-1, R-2, R-3). Reference site monitoring should occur within a week of monitoring at the transplant sites.
Figure 4. Eelgrass Distribution at the Vashon Island Ferry Terminal
Eelgrass mapping and diving surveys will take place at the test and reference sites once annually in summer for five years. These annual surveys will be used to assess the long-term performance of the system relative to the performance standards.

4.3 Benthic Resources

Benthic resources (e.g., bivalves, Dungeness crab, bottom fish) were not quantitatively surveyed as part of the pre-disposal bathymetric assessment performed by Pentec Environmental. Nevertheless, although we have no baseline (i.e., pre-disposal) data on distribution and abundance of benthic resources, we propose to monitor post-disposal benthic resources using underwater videography and diver surveys, as a measure of the relative performance of the demonstration project in support of these resources.

During the underwater video mapping of eelgrass (described in Section 4.2), we will also record qualitative observations of the presence/absence of bivalve siphons and mobile macrofauna such as Dungeness crabs and flatfish. As part of our quantitative eelgrass sampling at the test and reference subplots, divers will also record crab densities (no./m²), and clam densities (no./m²) based on siphon identifications. These data will be compared to similar data collected at the reference site subplots to assess the relative performance of the demonstration project. Benthic resource surveys will take place at the test and reference sites once annually in summer for five years.

4.4 Sediment Characterization

During diver surveys at test subplots, sediment samples will be obtained from each test plot to determine current grain-size composition (represented as mean phi size). Sediment grain-size has been identified as an important factor in eelgrass transplantation and colonization success, since optimum growth is greatest in a substrate known as “Ulva Mud,” followed by marsh channel sediment, naturally occurring substrate associated with existing eelgrass beds, and a combination of sand and gravel (Figure 5). Sediment characterization will occur during the summer for five years.
4.5 Management and Reporting

Management and reporting requirements during the FB Demonstration Project will consist of annual letter reports describing project progress submitted to Seattle District, U.S. Army Corps of Engineers by 31 December of each year, one briefing meeting per year to discuss results and review findings, and a comprehensive technical report on the project at the end of five years. All agencies interested in this project will be invited to participate in the meetings and will be provided copies of the reports. At present, this group includes Washington State Departments of Fish and Wildlife (WDFW), Natural Resources (WNR) and Ecology (WDE), National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS).

4.6 Contingency Plans

Recognizing that this is a demonstration project, and that eelgrass transplanting projects along the West Coast have demonstrated variable success (Thom 1990), we suggest an adaptive management approach for determining the appropriate remedial solutions if the system is not performing as expected. An adaptive management approach is strongly recommended by the National Research Council (1992) to maximize the probability of success for aquatic restoration projects. Annual assessments based on monitoring data will be used to determine how the system is performing relative to the performance standards. Potential remedial solutions will be developed through evaluation of monitoring results and use of a performance matrix (Figure 6) (Thom 1997).
The predicted development of the system through time proceeds from the lower left box to the upper right box (Figure 6). Annual assessments based on monitoring data will be used to identify where the system is located in the matrix. The phrases in the matrix boxes are potential reasons for the system being at that particular condition. If the system should deviate from either the predicted time frame of development or the trajectory (i.e., other than diagonal from lower left to upper right), potential reasons will be examined. Other information available from site monitoring (e.g., sediment movement, storms, high macroalgae abundance, other disturbances) will aid this analysis.

4.6.1 Contingency Plans Relative to Performance Standard for Objective 1

Annual bathymetric surveys will be performed to ensure that the fill material is staying in place. If a bathymetric survey demonstrates that less than 90% of the subtidal flat created at any of the three test sites is remaining, then: (1) the reasons for the loss of the material would be evaluated (e.g., storms, erosion, sloughing); and (2) either new fill material could be added to replace what was lost, assuming there was a better understanding of why the original material had moved; or (3) a new test site could be designated in a location where physical disturbances (e.g. currents, storms, boat wake) would be less likely to redistribute the sediments.

4.6.2 Contingency Plan Relative to Performance Standard for Objective 2

If mean eelgrass density and percent cover in either the transplant subplots or the unplanted test sites is not meeting or exceeding performance standards, then the reasons for the poor performance would be evaluated (e.g., wrong elevation, sedimentation, light limitations, physical disturbances). Possible remedial actions could include: (1) no-action; if it is determined that more time is needed for the system to develop as predicted; (2) supplemental transplanting to enhance the rate of natural colonization using either divers or Battelle’s experimental eelgrass mat-deployment device; (3) sediment modification (e.g., modify the sediment grain size) or amendment (e.g., add fertilizer or organic matter) to enhance natural colonization; (4) source control to reduce sedimentation or inorganic nutrient supply to the site; or (5) abandon the site for another site more likely to support eelgrass growth and survival.
<table>
<thead>
<tr>
<th>Eelgrass Cover (%)</th>
<th>0%</th>
<th>1-50%</th>
<th>51-100%</th>
</tr>
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<tr>
<td>1-10% of Reference</td>
<td>-very large plants developed, distribution not clumped</td>
<td>-smaller plants developed, distribution not clumped</td>
<td>-density and cover fully developed (36-60 months)</td>
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<td>-potential disturbance indicated</td>
<td>-potential disturbance indicated</td>
<td>-stability maximizing</td>
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<td></td>
<td></td>
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<td>-resilient to typical disturbances</td>
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<td></td>
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</tr>
<tr>
<td>11-79% of Reference</td>
<td>-large plants developed, distribution not clumped</td>
<td>-intermediate stage of development (13-36 months)</td>
<td>-somewhat patchy development</td>
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<tr>
<td></td>
<td>-potential disturbance indicated</td>
<td>-moderate disturbance/disruption indicated</td>
<td>-moderate disturbance/disruption indicated</td>
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<tr>
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<td></td>
<td></td>
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<tr>
<td>≥80% of Reference</td>
<td>-early in development (1-12 mo.)</td>
<td>-very patchy development, pockets of dense eelgrass</td>
<td>-extremely patchy, pockets of very dense eelgrass</td>
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<tr>
<td></td>
<td>-high disturbance/disruption indicated</td>
<td>-moderate disturbance/disruption indicated</td>
<td>-moderate disturbance/disruption indicated</td>
</tr>
</tbody>
</table>

Average Shoot Density (no./m²)

Figure 6. Matrix of performance and adaptive management of the eelgrass meadow

The upper right hand box indicates the final predicted performance of the meadow in terms of mean density and percent cover. Phrases in the boxes indicate the state of the meadow and the potential general reasons for this condition. These phrases are intended to guide decisions on what to do if the meadow in not meeting the predicted performance criteria.
5.0 LITERATURE CITED


HYDRAULIC PROJECT APPROVAL
RCW 75.20.100 or RCW 75.20.108

DATE OF ISSUE: March 2, 1999

At the request of, Ian Munce, on February 26, 1999, this Hydraulic Project Approval (HPA), which now supersedes all previous HPAs for this project, is a time extension of the original HPA issued October 6, 1997.

PERMITTEE
City of Anacortes
ATTENTION: Ian Munce
904 6th Steet
Anacortes, WA 98221
(360) 229-1942

AUTHORIZED AGENT OR CONTRACTOR
Not Applicable

PROJECT DESCRIPTION: Sediment Disposal and Eelgrass Replacement Demonstration Project

PROJECT LOCATION: Fidalgo Bay, Anacortes

<table>
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<tr>
<th>#</th>
<th>WRIA</th>
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<th>1/4 SEC.</th>
<th>SEC.</th>
<th>TOWNSHIP</th>
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<td>35 North</td>
<td>02 East</td>
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<td>02 East</td>
<td>Skagit</td>
<td></td>
</tr>
</tbody>
</table>

PROVISIONS

1. TIMING LIMITATIONS: The project may begin immediately and shall be completed by December 31, 2000, provided:
   a. Work below the ordinary high water line shall not occur from March 15 through June 14 of any year for the protection of migrating juvenile salmonids.
   b. Work below the ordinary high water line shall not occur from January 15 through May 1 of any year for the protection of herring spawning beds.

2. NOTIFICATION REQUIREMENT: The permittee or contractor shall notify the Area Habitat Biologist (AHB) listed below of the project start date. Notification shall be received by the AHB prior to the start of construction activities.

3. This project is approved as illustrated in your application and Implementation Plan For Large-Scale Eelgrass Replacement Demonstration In Fidalgo Bay, Washington dated September 30, 1997 subject to the following provisions.

4. The eelgrass replacement demonstration sites shall be subject to WDFW approval prior to the deposition of the clean sediment material.

5. The eelgrass replacement demonstration shall be implemented per the terms and conditions of the Implementation Plan For Large-Scale Eelgrass Replacement Demonstration In Fidalgo Bay, Washington dated September 30, 1997.

6. Under no circumstances shall the eelgrass replacement demonstration be implemented per terms and conditions different from those specified in the Implementation Plan For Large-Scale Eelgrass Replacement Demonstration In Fidalgo Bay, Washington dated September 30, 1997 without prior WDFW approval.
HYDRAULIC PROJECT APPROVAL
RCW 75.20.100 or RCW 75.20.108

DATE OF ISSUE: March 2, 1999

LOG NUMBER: 00-D0339-03

7. If a fish kill occurs or fish are observed in distress, the project activity shall immediately cease and WDFW Habitat Program shall be notified immediately.

8. No petroleum products or other deleterious materials shall enter surface waters.

9. Water quality is not to be degraded to the detriment of fish life as a result of this project.

SEPA: MDNS by City of Anacortes final on September 15, 1997.

APPLICATION ACCEPTED: July 29, 1997

ENFORCEMENT OFFICER: Abrams (96) [P3]

Brian Williams (360) 428-1053
Area Habitat Biologist

for Director
WDFW

cc: Ted Muller - WDFW Mill Creek

GENERAL PROVISIONS

This Hydraulic Project Approval (HPA) pertains only to the provisions of the Fisheries Code (RCW 75.20). Additional authorization from other public agencies may be necessary for this project.

This HPA shall be available on the job site at all times and all its provisions followed by the permittee and operator(s) performing the work.

This HPA does not authorize trespass.

The person(s) to whom this HPA is issued may be held liable for any loss or damage to fish life or fish habitat which results from failure to comply with the provisions of this HPA.

Failure to comply with the provisions of this Hydraulic Project Approval could result in a civil penalty of up to one hundred dollars per day or a gross misdemeanor charge, possibly punishable by fine and/or imprisonment.

All HPAs issued pursuant to RCW 75.20.100 or 75.20.160 are subject to additional restrictions, conditions or revocation if the Department of Fish and Wildlife determines that new biological or physical information indicates the need for such action. The permittee has the right pursuant to Chapter 34.04 RCW to appeal such decisions. All HPAs issued pursuant to RCW 75.20.103 may be modified by the Department of Fish and Wildlife due to changed conditions after consultation with the permittee: PROVIDED HOWEVER, that such modifications shall be subject to appeal to the Hydraulic Appeals Board established in RCW 75.20.130.

APPEALS - GENERAL INFORMATION

IF YOU WISH TO APPEAL A DENIAL OF OR CONDITIONS PROVIDED IN A HYDRAULIC PROJECT APPROVAL, THERE ARE INFORMAL AND FORMAL APPEAL PROCESSES AVAILABLE.
A. INFORMAL APPEALS (WAC 220-110-340) OF DEPARTMENT ACTIONS TAKEN PURSUANT TO RCW 75.20.100, 75.20.103, 75.20.106, AND 75.20.160:
A person who is aggrieved or adversely affected by the following Department actions may request an informal review of:
   (A) The denial or issuance of a HPA, or the conditions or provisions made part of a HPA; or
   (B) An order imposing civil penalties.
It is recommended that an aggrieved party contact the Area Habitat Biologist and discuss the concerns. Most problems are resolved at this level, but if not, you may elevate your concerns to his/her supervisor. A request for an INFORMAL REVIEW shall be in WRITING to the Department of Fish and Wildlife, 600 Capitol Way North, Olympia, Washington 98501-1091 and shall be RECEIVED by the Department within 30-days of the denial or issuance of a HPA or receipt of an order imposing civil penalties. The 30-day time requirement may be stayed by the Department if negotiations are occurring between the aggrieved party and the Area Habitat Biologist and/or his/her supervisor. The Habitat Protection Services Division Manager or his/her designee shall conduct a review and recommend a decision to the Director or its designee. If you are not satisfied with the results of this informal appeal, a formal appeal may be filed.

B. FORMAL APPEALS (WAC 220-110-350) OF DEPARTMENT ACTIONS TAKEN PURSUANT TO RCW 75.20.100 OR 75.20.106:
A person who is aggrieved or adversely affected by the following Department actions may request an formal review of:
   (A) The denial or issuance of a HPA, or the conditions or provisions made part of a HPA;
   (B) An order imposing civil penalties; or
   (C) Any other "agency action" for which an adjudicative proceeding is required under the Administrative Procedure Act, Chapter 34.05 RCW.
A request for a FORMAL APPEAL shall be in WRITING to the Department of Fish and Wildlife, 600 Capitol Way North, Olympia, Washington 98501-1091, shall be plainly labeled as "REQUEST FOR FORMAL APPEAL" and shall be RECEIVED DURING OFFICE HOURS by the Department within 30-days of the Department action that is being challenged. The time period for requesting a formal appeal is suspended during consideration of a timely informal appeal. If there has been an informal appeal, the deadline for requesting a formal appeal shall be within 30-days of the date of the Department's written decision in response to the informal appeal.

C. FORMAL APPEALS OF DEPARTMENT ACTIONS TAKEN PURSUANT TO RCW 75.20.103 or 75.20.160:
A person who is aggrieved or adversely affected by the denial or issuance of a HPA, or the conditions or provisions made part of a HPA may request a formal appeal. The request for FORMAL APPEAL shall be in WRITING to the Hydraulic Appeals Board per WAC 259-04 at Environmental Hearings Office, 4224 Sixth Avenue SE, Building Two - Rowe Six, Lacey, Washington 98504; telephone 360/459-6327.

D. FAILURE TO APPEAL WITHIN THE REQUIRED TIME PERIODS RESULTS IN FORFEITURE OF ALL APPEAL RIGHTS. IF THERE IS NO TIMELY REQUEST FOR AN APPEAL, THE DEPARTMENT ACTION SHALL BE FINAL AND UNAPPEALABLE.
October 14, 1997

Ian Munce
Planning Director
City of Anacortes
P.O. Box 547
Anacortes, WA 98221

Dear Mr. Munce:

Re: City of Anacortes Permit # 236
ANACORTES, CITY OF - Applicant
Shoreline Substantial Development/Conditional Use Permit 1997-NW-10101
Conditioned

The Department of Ecology has reviewed the above referenced Substantial Development/Conditional Use Permit to construct an eelgrass mitigation demonstration project by placing up to 60,000 cubic yards of dredge spoil in two 3-acre depressions in Fidalgo Bay for eelgrass colonization.

We concur that the proposal, as conditioned by the City of Anacortes, meets the intent of the master program and the criteria set forth in WAC 173-27-160 for granting a Conditional Use Permit, provided that the following conditions are added:

1. This project must be completed in strict compliance with the Revised Final Implementation Plan, dated October 9, 1997, attached.

2. The sites selected shall conform to the site selection criteria set forth in the Revised Final Implementation Plan. Prior to commencement of dredge spoil deposition, pre-project surveys and site determinations are to be submitted to Department of Ecology for final review and approval. Information should be mailed to: Department of Ecology, Northwest Regional Office, Shorelands and Environmental Assistance Program, 3190-160th Avenue S.E., Bellevue, WA 98008.

3. Placement of dredged material and post-project monitoring shall be conducted in accordance with the Revised Final Implementation Plan, dated October 9, 1997, attached.
4. This permit does not authorize or approve use of the demonstration sites for the establishment of a multi-user mitigation site (mitigation bank).

The permit is hereby approved.

This approval is given pursuant to requirements of the Shoreline Management Act of 1971. Other federal, state, or local approvals may be required.

Those developments and activities authorized by the subject permit may not begin until twenty-one (21) days from the transmittal date of this approval letter, or until conclusion of any review proceeding (appeal) initiated within the twenty-one day period. The Shorelines Hearings Board will notify you by letter if this permit is appealed.

The Shoreline Management Act of 1971 provides that a request for review (appeal) before the Shorelines Hearings Board may be filed within twenty-one (21) days from the transmittal date of this conditioned approval. Guidelines for filing a request for review (appeal) are available from the Shorelines Hearings Board at (360) 459-6327.

If you have any questions on the above action, please contact Alice Kelly at (425) 649-7129.

Sincerely,

[Signature]

Raymond K. Hellwig, Section Supervisor
Shorelands and Environmental Assistance Program

RKH: AMK:amk
CUPC.DOC
Enclosure
October 14, 1997

I certify that I mailed a copy of this document to the persons and addresses listed thereon, postage prepaid, in a receptacle for United States mail in Bellevue, Washington on ________________.

Alice Kelly

Gregor Myhr
Skagit County Planning & Permit Center
700 S. Second Street, Room 204
Mount Vernon, WA 98273

Ian Munce
Planning Director
City of Anacortes
PO Box 547
Anacortes, WA 98221

Dear Mr. Myhr and Mr. Munce:

Re: Skagit County Permit # SHL 97-0330
ANACORTES, CITY OF - Applicant
Shoreline Substantial Development/Conditional Use Permit 1997-NW-10104 Conditioned

The Department of Ecology has reviewed the above referenced Substantial Development/Conditional Use Permit to construct an eelgrass mitigation demonstration project by placing up to 60,000 cubic yards of dredge spoil in two 3-acre depressions in Fidalgo Bay for eelgrass colonization.

We concur that the proposal, as conditioned by Skagit County, meets the intent of the master program and the criteria set forth in WAC 173-27-160 for granting a Conditional Use Permit, provided that the following conditions are added:

1. This project must be completed in strict compliance with the Revised Final Implementation Plan, dated October 9, 1997, attached.

2. The sites selected shall conform to the site selection criteria set forth in the Revised Final Implementation Plan. Prior to commencement of dredge spoil deposition, pre-project surveys and site determinations are to be submitted to Department of Ecology for final review and approval. Information should be mailed to: Department of Ecology, Northwest Regional Office, Shorelands and Environmental Assistance Program, 3190 - 160th Avenue S.E., Bellevue, WA 98008.
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4. This permit does not authorize or approve use of the demonstration sites for the establishment of a multi-user mitigation site (mitigation bank).

The permit is hereby approved.

This approval is given pursuant to requirements of the Shoreline Management Act of 1971. Other federal, state, or local approvals may be required.

Those developments and activities authorized by the subject permit may not begin until twenty-one (21) days from the transmittal date of this approval letter, or until conclusion of any review proceeding (appeal) initiated within the twenty-one day period. The Shorelines Hearings Board will notify you by letter if this permit is appealed.

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If you have any questions on the above action, please contact Alice Kelly at (425) 649-7129.

Sincerely,

[Signature]

Raymond K. Hellwig, Section Supervisor
Shorelands and Environmental Assistance Program
City of Anacortes Shoreline Permit #236

THIS SECTION FOR DEPARTMENT OF ECOLOGY USE ONLY IN REGARD TO A CONDITIONAL USE OR VARIANCE PERMIT

DEPARTMENT OF ECOLOGY No.: 1997-NW-10101

Date received by the Department of Ecology September 29, 1997

Approved X  Denied

This Substantial Development/Conditional Use Permit is approved by the Department of Ecology pursuant to chapter 90.58 RCW. Development shall be undertaken pursuant to the following additional terms and conditions:

1. This project must be completed in strict compliance with the Revised Final Implementation Plan, dated October 9, 1997, attached.

2. The sites selected shall conform to the site selection criteria set forth in the Revised Final Implementation Plan. Prior to commencement of dredge spoil deposition, pre-project surveys and site determinations are to be submitted to Department of Ecology for final review and approval. Information should be mailed to: Department of Ecology, Northwest Regional Office, Shorelands and Environmental Assistance Program, 3190 - 160th Avenue S.E., Bellevue, WA 98008.

3. Placement of dredged material and post-project monitoring shall be conducted in accordance with the Revised Final Implementation Plan, dated October 9, 1997, attached.

4. This permit does not authorize or approve use of the demonstration sites for the establishment of a multi-user mitigation site (mitigation bank).

10-14-97
(Date)  
(Signature of Authorized Department Official)
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STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
JENNIFER M. BELCHER
Commissioner of Public Lands
Olympia, Washington 98504

AQUATIC LANDS RIGHT OF ENTRY AGREEMENT

AQUATIC LANDS RIGHT OF ENTRY AGREEMENT NO. 20-013623

THIS AGREEMENT is made by and between the STATE OF WASHINGTON, acting
through the Department of Natural Resources ("State"), and CITY OF ANACORTES, a
Washington Municipality ("Licensee").

1. PERMISSION, LOCATION AND ACCESS

   Subject to the terms and conditions set forth below, State grants Licensee and its agents,
   contractors and subcontractors a temporary revocable license to enter upon the real property
described in Exhibits A-1, A-2, and A-3 (the "Property") to conduct the authorized activities
described below and for no other purpose.

2. CONSIDERATION

   The consideration paid by Licensee to State shall be as follows:

   No fee is being charged at this time; fees for sediments and eelgrass will be considered at
the conclusion of the project.

3. TERM OF LICENSE

   This license shall be effective on the 15th day of June, 1999 (the "Effective Date"), and
shall terminate Five (5) years from the date that the capping material is placed at the
demonstration site, unless terminated sooner under the terms of this License, or when Licensee
completes the Activities, whichever occurs first. State reserves the right to revoke this license at
any time upon thirty (30) days notice to Licensee.

4. AUTHORIZED ACTIVITIES

   (a) The activities authorized to be conducted are described in Exhibits B and C to this
   Agreement (the "Activities"). No other activities may be conducted on the Property without the
   prior written permission of State. Not included in this Agreement are any rights to harvest,
collect, or damage any natural resource, including aquatic life or living plants.

   (b) Restrictions on Use. Licensee shall not cause or permit any damage to natural
resources on the Property, except to the extent such damage is expressly permitted under the
mitigation plan incorporated in Exhibits B and C. Licensee shall also not cause or permit any
filling activity to occur on the Property. This prohibition includes any deposit of rock, earth,
ballast, refuse, garbage, waste matter (including chemical, biological or toxic wastes),
hydrocarbons, any other pollutants, or other matter in or on the Property, except as approved in writing by State or as authorized by Exhibits B and C. Licensee shall neither commit nor allow waste to be committed to or on the Property. If Licensee fails to comply with all or any of the restrictions in use set out in this Section 4, State may take any steps reasonably necessary to remedy such failure. Upon demand by State, Licensee shall pay all costs of such remedial action, including but not limited to the costs of removing and disposing of any material deposited improperly on the Property.

(c) Condition of the Property. Prior to the termination of this Agreement, or within thirty (30) days after receiving notice of an early revocation of this License, Licensee shall restore the Property to a condition as near as reasonably possible to the condition of the Property at the commencement of this Agreement except for any changed conditions caused solely by parties other than Licensee, its agents, contractors, or subcontractors. This requirement may be negated if this project is deemed successful at its conclusion; however, the Department may require additional measures to compensate for impacts if this project is deemed unsuccessful at the end of the Five (5) year monitoring period.

5. TITLE TO PROPERTY
State grants a right of access only to the extent of its interest in the Property. It does not warrant that it is the owner of the Property or that Licensee's entry and use of the Property does not violate other persons' rights to the Property. Licensee agrees to obtain approvals from other persons who have a right, title, or interest in the Property. This license shall not be exclusive and State may grant similar rights to anyone else. State may also lease the Property or grant easements or licenses.

6. NOTICE OF DATE OF ENTRY
Licensee and its agents, contractors, and subcontractors shall provide State with at least two (2) weeks notice of the schedule of anticipated dates necessary for conducting the Activities. Licensee shall promptly notify State of any modifications in the schedule.

7. COMPLIANCE WITH LAWS
Licensee shall, at all times, keep current and comply with all conditions and terms of any permits, licenses, certificates, regulations, ordinances, statutes, and other government rules and regulations regarding the use of the Property. Licensee shall, at its sole expense, obtain all regulatory or proprietary consents or approvals required to be obtained from any public authority, State or third party in connection with any work on the Property or Licensee's use or occupation of the Property.

8. INDEMNIFICATION AND LIABILITY
Licensee shall indemnify, defend, and hold harmless State, its employees, officers, and agents from any and all liability, damages (including bodily injury, personal injury and damages to land, aquatic life, and other natural resources), expenses, causes of action, suits, claims, costs, fees (including attorneys’ fees), penalties, or judgments, of any nature whatsoever, arising out of the use, occupation, or control of the Property by Licensee, its sublicensees, invitees, agents,
employees, licensees, or permittees, except as may arise solely out of the willful or negligent act of State or State's elected officials, employees, or agents. To the extent that RCW 4.24.115 applies, Licensee shall not be required to indemnify, defend, and hold State harmless from State's sole or concurrent negligence.

9. INSURANCE

At its own expense, Licensee shall procure and maintain during the Term of this license, the insurance coverages and limits described in Section 9(a) and (b) below. This insurance shall be issued by an insurance company or companies admitted and licensed by the Insurance Commissioner to do business in the State of Washington. Insurers must have a rating of B+ or better by "Best's Insurance Reports," or a comparable rating by another rating company acceptable to State. If non-admitted or non-rated carriers are used, the policies must comply with Chapter 48.15 RCW.

(a) Types of Required Insurance or provide evidence of self insurance meeting the following types and amounts.

(1) **Commercial General Liability Insurance.** Licensee shall procure and maintain Commercial General Liability insurance covering claims for bodily injury, personal injury, or property damage arising on the Property and/or arising out of Licensee's operations. Insurance must include liability coverage with limits not less than those specified below:

<table>
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<th>Description</th>
<th>Limits</th>
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<tr>
<td>Each Occurrence</td>
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<tr>
<td>General Aggregate Limit</td>
<td>$2,000,000</td>
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(2) **Worker's Compensation/Employer's Liability Insurance.** As applicable, Licensee shall procure and maintain:

(i) State of Washington Worker's Compensation coverage with respect to any work by Licensee's employees on or about the Property and on any improvements;

(ii) Employers Liability or "Stop Gap" insurance coverage with limits not less than those specified below. Insurance must include bodily injury coverage with limits not less than those specified below:

<table>
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<tr>
<th>By Accident</th>
<th>By Disease By Disease</th>
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<td>$1,000,000</td>
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(iii) Jones Act coverage with respect to any work by Licensee's employees on or about the Property and on any improvements.

(b) **Terms of Insurance.** The policies required under Section 9(a) shall name the State of Washington, Department of Natural Resources as an additional insured (except for State of Washington Worker's Compensation coverage, and Federal Jones' Act coverage). Furthermore, all policies of insurance described in Section 9(a) shall meet the following requirements:

(1) Policies shall be written as primary policies not contributing with and not in excess of coverage that State may carry;
(2) Policies shall expressly provide that such insurance may not be canceled or nonrenewed with respect to State except upon forty-five (45) days prior written notice from the insurance company to State;

(3) All liability policies must provide coverage on an occurrence basis; and

(4) Liability policies shall not include exclusions for cross liability.

c) Proof of Insurance. Licensee shall furnish evidence of insurance in the form of a Certificate of Insurance satisfactory to the State accompanied by a check list of coverages provided by State, executed by a duly authorized representative of each insurer showing compliance with the insurance requirements described in Section 9, and, if requested, copies of policies to State. The Certificate of Insurance shall reference the State of Washington, Department of Natural Resources and the right of entry number. Receipt of such certificates or policies by State does not constitute approval by State of the terms of such policies. Licensee acknowledges that the coverage requirements set forth herein are the minimum limits of insurance the Licensee must purchase to enter into this agreement. These limits may not be sufficient to cover all liability losses and related claim settlement expenses. Purchase of these limits of coverage does not relieve the Licensee from liability for losses and settlement expenses greater than these amounts.

10. PROHIBITION AGAINST ASSIGNMENT
Licensee shall not assign this Agreement.

11. APPLICABLE LAW AND VENUE
This Agreement shall be interpreted and construed pursuant to the laws of the State of Washington. Venue for any action arising out of or in connection with this Agreement shall be in the Superior Court for Thurston County, Washington.
12. MODIFICATION
Any modification of this Agreement must be in writing and signed by the parties. State shall not be bound by any oral representations or statements.

THIS AGREEMENT requires the signature of all parties and is executed as of the date of the last signature below.

STATE:

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

By: WILLIAM J. WALLACE

Its: Northwest Region Manager

Dated: June 29, 1999

LICENSEE:

CITY OF ANACORTES,
a Washington Municipality

By: H. Dean Maxwell

Dean Maxwell
Type or Print Name

Its: Mayor

Dated: 6/1/99

Right of Entry
STATE OF WASHINGTON )
COUNTY OF SKAGIT )

ss.

I certify that I know or have satisfactory evidence that WILLIAM J. WALLACE is the person who appeared before me, and is the Northwest Region Manager of the STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES. I further certify that said person acknowledged the foregoing to be the free and voluntary act of the STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES for the uses and purposes mentioned in the instrument, and on oath stated that he is duly authorized to execute and acknowledge said instrument.

STATE OF WASHINGTON )
COUNTY OF Skagit )

ss.

I certify that I know or have satisfactory evidence that Dean Maxwell is the person who appeared before me, and is the Mayor of CITY OF ANACORTES ("Licensee"). I further certify that said person acknowledged the foregoing instrument to be the free and voluntary act of the Tenant for the uses and purposes mentioned in the instrument, and on oath state that [he/she] is duly authorized to execute and acknowledge said instrument.

DATED: June 29, 1999

Brenda L Werden

(Type/Print Name)

Notary Public in and for the State of Washington
residing at: Sedro Woolley
My Commission Expires: March 27, 2002

DATED: 6-1-99

George Khtiian

(Type/Print Name)

Notary Public in and for the State of Washington
residing at: Anacortes, Wa.
My Commission Expires: July 3, 2002

20-013623
6
Right of Entry
"Exhibit B"
Lease No. 20-013623

LARGE-SCALE EELGRASS (Zostera marina L.)
REPLACEMENT DEMONSTRATION PROJECT
FOR FIDALGO BAY

MONITORING PLAN

Submitted to:

The City of Anacortes
P.O. Box 547
Anacortes, Washington 98221

Submitted by:

Battelle Marine Sciences Laboratory
1529 West Sequim Bay Road
Sequim, Washington 98382

September 23, 1998
"Exhibit B"
Lease No. 20-013623
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Fidalgo Bay Eelgrass Demonstration
Project Monitoring Plan
September 23, 1998
"Exhibit B"
Lease No. 20-013623
EXECUTIVE SUMMARY

The Fidalgo Bay-Wide Plan (FBW Plan) and the State Hydraulic Code Rules (WAC 220-110) require compensation for losses of eelgrass and herring spawning habitat resulting from in-water developments under any of the FBW Plan development scenarios. To this end, the City of Anacortes has requested approval from USACE Seattle District to perform a large-scale eelgrass replacement demonstration project in Fidalgo Bay in support of the FBW Plan. The location of the demonstration project is depicted in Figure 1. It is hoped that this demonstration project will serve as a model for future mitigation in this and other areas. It is believed that large portions of Fidalgo Bay could support active eelgrass colonies if current water depths were reduced by the placement of clean fill material in these areas. The goal of this project is to select three test sites that are currently too deep to support eelgrass communities, fill them to acceptable depths with clean fill material, and monitor them over time to determine whether eelgrass colonization has occurred. In addition, eelgrass transplanting will occur in subplots within each test area to evaluate the feasibility of this technique in enhancing eelgrass communities. Eelgrass colonization success will be evaluated through comparison to selected reference sites. The purpose of this monitoring plan is to describe the components of this demonstration project, to summarize how and when the project will be monitored, and to present contingency plans if fill material does not remain in place during the project duration or colonization by natural means or transplantation does not meet stated performance criteria.
1.1 Project Location

The Fidalgo Bay Eelgrass Replacement Demonstration Project will be conducted in Fidalgo Bay, Washington (Figure 1). The study area is located west of the Texaco Oil Dock, and encompasses a total area of approximately 9 acres (36,405 m²). Three test sites (A, B, C) and three reference sites (R-1, R-2, R-3) have been chosen for this study. Test sites represent 2 acres each (8,090 m²), reference sites are 1 acre each (4,045 m²) in size. Site locations were based on a bathymetric and diver surveys conducted by Pentec Environmental in October, 1997, and are presented in Figure 2. The total 6 acres of the fill proposed here is smaller than the 7 acres indicated in the Public Notice for the project (97-2-01466; 24 October 1997). The primary reasons for this change are that the experimental flats are confined to one of the deep holes rather than two and the number of replicate plots was increased from two to three for statistical purposes. Restricting the plots to one deep hole and increasing the replication allowed for a more controlled and statistically valid design for evaluating the Demonstration Project test results. Additionally, the three test plots are spaced at increasing distances from the natural eelgrass beds, such that the effect of distance from existing eelgrass on the colonization rate can be tested.

1.2 Responsible Parties

The responsible parties for this project include:

Applicant: The City of Anacortes
Mr. Ian Munce, Director of Planning and Community Development, Assistant City Attorney
P.O. Box 547
Anacortes, Washington 98221
(360) 299-1942

Monitoring Plan Preparation: Battelle Marine Sciences Laboratory
Dr. Ronald M. Thom, Staff Scientist
Mr. Jeffrey A. Ward, Senior Research Scientist
Mr. David K. Shreffler, Senior Research Scientist
Ms. Amy B. Borde, Research Scientist
1529 West Sequim Bay Road
Sequim, Washington 98282
(360) 681-3657, (360) 681-3669
"Exhibit B"
Lease No. 20-013623

FIDALGO BAY

Scale: 1 inch = 1200 feet
0.5 foot contours based on Pentec bathymetry data 1997

Washington State Plane
NAD 1927

Figure 2. Locations of Test and Reference Sites in Fidalgo Bay
"Exhibit B"
Lease No. 20-013623

1.3 Project Purpose, Goal, Objectives, and Performance Standards

1.3.1 Project Purpose

The purpose of this project is to demonstrate that eelgrass meadows can be expanded in Fidalgo Bay by raising the bottom elevations to approximately -7 to -8 ft. mean lower low water (MLLW) through the placement of uncontaminated dredged material into subtidal areas currently too deep to support eelgrass communities.

1.3.2 Project Goal

The goal of this project is to create shallow subtidal flats in three test areas at a depth that is appropriate for development and colonization of eelgrass beds (approximately -7 to -8 ft MLLW). Based on bathymetric surveys conducted by Pentec Environmental in October 1997, extensive beds of eelgrass are known to exist in Fidalgo Bay at this water depth.

1.3.3 Project Objectives and Performance Standards

Objective 1: Place uncontaminated dredged material in three test areas to raise bottom elevations to depths that will support eelgrass meadows (approximately -7 to -8 ft MLLW).

Performance Standard for Objective 1: Approximately 90% of each shallow subtidal flat created with fill material at each test site during the Demonstration Project will remain for a period of five years. This means that, over the five year monitoring period, a maximum of 10% of the flat area will be eroded to depth greater than -8 ft MLLW. In addition, to evaluate the relative degree of erosion taking place, sediment grain size will be assessed annually. Significant erosion will be indicated if grain size becomes coarser by two mean phi units (e.g., goes from +3 to +1 mean phi size) between annual samplings. This performance standard will be assessed by bathymetric surveys and sediment grain size analysis of the areas on a yearly basis, as outlined in Section 4.1.

Objective 2: Plant eelgrass in five subplots within each test area to evaluate the effectiveness of planting versus natural colonization. Each subplot will encompass an area of 6 m².

Performance Standard for Objective 2: Mean eelgrass density in both the transplant plots and the unplanted areas will be at least 80% of that recorded in the reference plots within five years following dredged material placement and transplanting. Eelgrass coverage will be in the same cover class as in reference areas. Cover and density will be within 1-10% of the reference site condition within 12 months following fill placement and planting. Within 36 months, cover and density will be 11-79% of reference, and between 36-60 months cover and density will be ≥ 80% of reference. Figure 3 shows a predicted cover and density value on an annual basis, which will be used to assess the performance of the test plots.
annually. The predictions are based on data on transplants from Grays Harbor estuary (Thom 1995). Eelgrass percentage cover estimates for the test areas will be assessed by video surveys; eelgrass density in subplots and in unplanted areas will be assessed by diver surveys. As outlined in Section 4.2, both surveys will be conducted annually between June and September, the period when eelgrass aboveground biomass is at its peak.

Selected benthic resources will be qualitatively sampled to assess whether they are utilizing the test plots. Presence of Dungeness crab, and fish and bivalve mollusks often associated with eelgrass in the plots will indicate that the plots are functioning in support of these resources. The fish and bivalve species known to be indicators of eelgrass include: tubsnout, bay pipefish, crescent gunnel, chum salmon, kelp perch, lincod, Pacific herring, penpoint gunnel, shiner perch, snake prickleback, striped seaperch, and cockles (Shreffler and Thom 1993).

Figure 3. Predicted eelgrass relative cover and density within the test plots on an annual basis
1.4 Selection of Test and Reference Areas

Three test sites and three reference sites have been identified for this study based on a preliminary bathymetric survey conducted by Pentec in October 1997. Site locations are depicted in Figure 2. The test sites represent areas of the bay where eelgrass is sparse, due primarily to water depth constraints, and are located near established eelgrass communities to facilitate natural colonization. Reference sites represent areas of Fidalgo Bay where established eelgrass communities occur, and will be used to assess the success of natural colonization and test subplot transplantation during the five year study. Each test site is two acres in size (8,090 m²); each reference site encompasses one acre (4,045 m²). Subplots within each test site are 2m x 3m in size (6 m²). It is anticipated that 5 subplots will be established within each test site. Test and reference sites have been located away from active shipping activities to reduce disturbance; test sites have been located to reduce disturbance of established eelgrass communities during dredged material placement, yet facilitate natural eelgrass colonization via rhizome migration and seed dispersion.

2.0 PRE-DISPOSAL ECOLOGICAL ASSESSMENT OF TEST AND REFERENCE SITES

2.1 Bathymetry, Benthic Communities and Resources

Pentec Environmental conducted a pre-disposal survey in October 1997. This survey resulted in a detailed bathymetric map of the Fidalgo Bay study area, and was used to identify potential test and reference sites. In addition, the information collected during this survey serves as the pre-disposal ecological assessment of the area. Qualitative observations of benthic communities and resources were recorded during the bathymetric survey, but a detailed pre-disposal dataset is not available for test and reference sites.

3.0 STUDY APPROACH

3.1 Placement of Fill Material

It is anticipated that uncontaminated fill material will be placed at each of the three test sites by a split-hull barge supplied by a private dredger. Prior to placement, the corners of each test site will be located via differential global positioning system (dGPS) and marked with buoys. As material placement proceeds, bathymetric transect lines will be run and confirmed by dGPS to determine fill material placement.
thickness, resulting MLLW elevations, and water depth consistency. Survey personnel will be in radio contact with barge personnel to guide them during disposal operations, when necessary. At the end of each placement event, a final bathymetric survey will be conducted at each test site to establish a baseline for future surveys.

In addition to bathymetric surveys, sediment gauges will be placed at specific locations within each test site to accurately measure the amount of clean material deposited by the barge. It is anticipated that five gauges will be installed in each test area: one located at the center of the area, and one in the center of each of the four quadrants defined by a test area. Sediment gauge location will be confirmed by dGPS; divers will evaluate sediment height. Sediment gauges and buoy locators will be left in place after disposal, if possible, and used as a reference for each of five subplot areas discussed below. A Notice to Mariners will also be released to the U.S. Coast Guard describing the study area and associated navigational hazards.

3.2 Experimental Eelgrass Plantings

In order to meet Objective 2, eelgrass will be transplanted by divers on an experimental basis into five subplots within each of the three test areas that are filled with uncontaminated dredged material. The probability that eelgrass will become established on the fill sediments will be maximized if the depth and substrate match the adjacent areas that presently support eelgrass. These experimental transplants will enable us to determine whether eelgrass transplanting can enhance natural colonization. On several other projects in Puget Sound (Antrim and Thom 1995, Thom 1995, Thom et al. 1995, Thom et al. 1998) Battelle has successfully implemented and refined eelgrass transplanting techniques, as outlined below.

3.2.1 Marking the Transplant Subplots

The exact location of the transplant subplot corners will be mapped by measuring distances from and triangulating to fixed landmarks on shore. The transplant subplots (2m x 3m) will be marked at the corners with PVC stakes and cinder blocks. In addition, the position of the subplot corners will be located using a dGPS so that they can be relocated in subsequent years. The eelgrass subplot locations will be the same locations where the sediment gauges are placed (see Section 3.1).

3.2.2 Planting Units and Donor Stock

Planting units will consist of "bare root" bundles of 2-4 eelgrass shoots each. Bundles will be assembled using biodegradable ties and anchors. The transplant bundles will be handled with extreme care and submerged in cool ambient seawater as much as possible to avoid drying. To ensure the highest probability of success, only individuals experienced in this critical task will prepare the transplant.
Eelgrass will be collected from a donor site acceptable to the resource agencies. The donor site will be a nearby healthy eelgrass bed at a similar depth to: (1) ensure that the plants are physiologically adapted to the conditions at the transplant site; (2) minimize introducing a genetically different strain of eelgrass into the project site; and (3) minimize handling and holding times; an off-site donor source could result in longer handling and holding times prior to transplanting. Donor material will be harvested carefully from a wide area to minimize any impact to the donor bed. The total number of shoots required is very small (i.e., 360), and will involve removal of eelgrass from a cumulative area of approximately 2 m². Our experience has been that recolonization of the donor area will be rapid using our proposed strategy.

3.2.3 Planting, Spacing, and Timing

A diver will place a single bundle in a shallow hole dug either by hand or with a small trowel, depending on the consistency of the sediment. The hole will then be back-filled to ensure that the rhizome and biodegradable anchor are below the surface of the sediment. The above ground (green) portion of the shoot should not be buried. These transplant bundles will be planted using a 1m x 1m quadrat frame for a guide to meet initial planting densities of 4 shoots/m² in each subplot; this would result in a total of 24 eelgrass shoots transplanted into each 2m x 3m subplot. Planting should occur between April and September.

4.0 MONITORING PLAN AND SCHEDULE

4.1 Bathymetric Surveys

Bathymetric surveys will be conducted using a precision acoustic system capable of differentiating between eelgrass and true bottom elevations. During this survey, a tide gauge will be installed and referenced to a known benchmark to provide vertical control. The survey will use a dGPS to determine exact positions. At a minimum, the bathymetric survey will map 1-ft bottom contours with trackline spacing of 30-m. The results of the bathymetric survey will be downloaded onto personal computer spreadsheet files, and converted into maps at the end of the survey. Bathymetric surveys will be conducted annually for five years. In-house computer software will be used to determine the location and percentage of fill material present in subsequent years relative to baseline estimates immediately after material was placed in test sites.
4.2 Eelgrass Communities

The three test sites (A, B, C) and three reference sites (R-1, R-2, R-3) will be mapped using underwater videography to determine the extent of natural colonization of eelgrass into the uncontaminated fill material. An underwater video camera will be towed behind an 11 m research vessel. Vessel position data (latitude and longitude) will be obtained using a dGPS. The dGPS antenna is located at the tip of the cargo boom used to deploy the camera. Underwater video images will be obtained using an underwater camera equipped with a 250 watt underwater light. The camera is mounted in a “down-looking” orientation on a towfish weighing approximately 45 kg, which helps keep the camera positioned directly beneath the dGPS antenna.

A laptop computer equipped with a video overlay controller and data logger software integrates dGPS data (date, time, latitude, longitude) and the video signal. dGPS data is updated every two seconds and transect identification numbers are stored directly onto the video tape using a four head video cassette recorder (VCR). Data and survey notes are also stored on a floppy disk at two second intervals. Television monitors located in both the pilothouse and work deck assist the helmsman and winch operator.

Data stored on floppy disks will be downloaded and organized into spreadsheet files with separate columns for date, time, and position data. Video images will be visually analyzed to characterize three different cover classes of eelgrass (no eelgrass, 1-50 percent cover, 51-100 percent cover). These cover data will then be transferred to a Geographic Information System (GIS) and registered in Map Info™ to produce plots of eelgrass cover within the three test sites. If available, GIS layers for other geographically referenced features, such as shorelines, topography, bathymetry, and overwater structures will be added. An example of the type of finished product that will be generated using this methodology is provided in Figure 4.

At five 2m x 3m subplots within each of the three test and reference sites, divers will perform surveys to evaluate the effectiveness of eelgrass planting versus natural colonization. Divers will relocate the transplant subplots, make qualitative observations on epiphyte growth, new shoot growth, and macroalgae cover, and record general observations of physical or biological disturbances that may have affected the eelgrass transplants. For each subplot, eelgrass density and percent cover will be recorded within a 1m² quadrat at three randomly chosen sampling stations. Percent cover will be estimated within the quadrats as three cover classes: 0%, 1-50%, and > 51-100%. If transplant bundles are discernible, the number of individual shoots per bundle will also be counted. Shoot length will be measured in randomly selected plants from each quadrat. The same techniques will be used to make qualitative observations and measure eelgrass density and percent cover at the five subplots within each of the three reference sites (R-1, R-2, R-3). Reference site monitoring should occur within a week of monitoring at the transplant sites.
Figure 4. Eelgrass Distribution at the Vashon Island Ferry Terminal
"Exhibit B"
Lease No. 20-013623

Eelgrass mapping and diving surveys will take place at the test and reference sites once annually in summer for five years. These annual surveys will be used to assess the long-term performance of the system relative to the performance standards.

4.3 Benthic Resources

Benthic resources (e.g., bivalves, Dungeness crab, bottom fish) were not quantitatively surveyed as part of the pre-disposal bathymetric assessment performed by Pentec Environmental. Nevertheless, although we have no baseline (i.e., pre-disposal) data on distribution and abundance of benthic resources, we propose to monitor post-disposal benthic resources using underwater videography and diver surveys, as a measure of the relative performance of the demonstration project in support of these resources.

During the underwater video mapping of eelgrass (described in Section 4.2), we will also record qualitative observations of the presence/absence of bivalve siphons and mobile macrofauna such as Dungeness crabs and flatfish. As part of our quantitative eelgrass sampling at the test and reference subplots, divers will also record crab densities (no./m²), and clam densities (no./m²) based on siphon identifications. These data will be compared to similar data collected at the reference site subplots to assess the relative performance of the demonstration project. Benthic resource surveys will take place at the test and reference sites once annually in summer for five years.

4.4 Sediment Characterization

During diver surveys at test subplots, sediment samples will be obtained from each test plot to determine current grain-size composition (represented as mean phi size). Sediment grain-size has been identified as an important factor in eelgrass transplantation and colonization success, since optimum growth is greatest in a substrate known as "Ulva Mud," followed by marsh channel sediment, naturally occurring substrate associated with existing eelgrass beds, and a combination of sand and gravel (Figure 5). Sediment characterization will occur during the summer for five years.
4.5 Management and Reporting

Management and reporting requirements during the FB Demonstration Project will consist of annual letter reports describing project progress submitted to Seattle District, U.S. Army Corps of Engineers by 31 December of each year, one briefing meeting per year to discuss results and review findings, and a comprehensive technical report on the project at the end of five years. All agencies interested in this project will be invited to participate in the meetings and will be provided copies of the reports. At present, this group includes Washington State Departments of Fish and Wildlife (WDFW), Natural Resources (WDNR) and Ecology (WDE), National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS).

4.6 Contingency Plans

Recognizing that this is a demonstration project, and that eelgrass transplanting projects along the West Coast have demonstrated variable success (Thom 1990), we suggest an adaptive management approach for determining the appropriate remedial solutions if the system is not performing as expected. An adaptive management approach is strongly recommended by the National Research Council (1992) to maximize the probability of success for aquatic restoration projects. Annual assessments based on monitoring data will be used to determine how the system is performing relative to the performance standards. Potential remedial solutions will be developed through evaluation of monitoring results and use of a performance matrix (Figure 6) (Thom 1997).

Fidalgo Bay Eelgrass Demonstration Project Monitoring Plan
September 23, 1998
"Exhibit B"
Lease No. 20-013623

The predicted development of the system through time proceeds from the lower left box to the upper right box (Figure 6). Annual assessments based on monitoring data will be used to identify where the system is located in the matrix. The phrases in the matrix boxes are potential reasons for the system being at that particular condition. If the system should deviate from the predicted time frame of development or the trajectory (i.e., other than diagonal from lower left to upper right), potential reasons will be examined. Other information available from site monitoring (e.g., sediment movement, storms, high macroalgal abundance, other disturbances) will aid this analysis.

4.6.1 Contingency Plans Relative to Performance Standard for Objective 1

Annual bathymetric surveys will be performed to ensure that the fill material is staying in place. If a bathymetric survey demonstrates that less than 90% of the subtidal flat created at any of the three test sites is remaining, then: (1) the reasons for the loss of the material would be evaluated (e.g., storms, erosion, sloughing); and (2) either new fill material could be added to replace what was lost, assuming there was a better understanding of why the original material had moved; or (3) a new test site could be designated in a location where physical disturbances (e.g. currents, storms, boat wake) would be less likely to redistribute the sediments.

4.6.2 Contingency Plan Relative to Performance Standard for Objective 2

If mean eelgrass density and percent cover in either the transplant subplots or the unplanted test sites is not meeting or exceeding performance standards, then the reasons for the poor performance would be evaluated (e.g., wrong elevation, sedimentation, light limitations, physical disturbances). Possible remedial actions could include: (1) no-action; if it is determined that more time is needed for the system to develop as predicted; (2) supplemental transplanting to enhance the rate of natural colonization using either divers or Battelle's experimental eelgrass mat-deployment device; (3) sediment modification (e.g., modify the sediment grain size) or amendment (e.g., add fertilizer or organic matter) to enhance natural colonization; (4) source control to reduce sedimentation or inorganic nutrient supply to the site; or (5) abandon the site for another site more likely to support eelgrass growth and survival.
Figure 6. Matrix of performance and adaptive management of the eelgrass meadow

The upper right hand box indicates the final predicted performance of the meadow in terms of mean density and percent cover. Phrases in the boxes indicate the state of the meadow and the potential general reasons for this condition. These phrases are intended to guide decisions on what to do if the meadow in not meeting the predicted performance criteria.
"EXHIBIT C"

Further Requirements of the Right of Entry
No. 20-013623

1. Before this project shall occur, all regulatory permits must be in place and current. All the conditions stated in said permits will be enforceable as if they are conditions of this agreement.

2. Any deviations from the approved plans must be approved, in writing, before such modifications would be authorized.

3. The Department of Natural Resources (the Department) is not authorizing mitigation credits for this project. The issue of mitigation credits reviewed at the conclusion of the project and mitigation credits may be applied to this project if it is deemed successful by the Department, as well as the Fidalgo Bay Planning Committee and meets the Department's mitigation policy current at that time.

4. The use of State Owned Fill Material, from the Port of Anacortes's dredging project in Guemes Channel (or any other location) is recognized by all parties. The Department will allow this material to be used (provided that it meets the PSDDA standards of clean sediment) at no fee for the purposes of the Demonstration Project. However, if the Department ("Grantor") grants mitigation credits, based upon the review of item number three above, the grantees agree to pay the Department full market value (based upon values current at the completion of the project, per cubic yard) before the Department will allow mitigation credit. Accurate records must be kept to identify the volumes of material used for this project. In addition, documentation that the sediment is "clean" based upon the above criteria, must be provided to the NW Regional office before the material is placed.

5. The Department will allow the eelgrass from the "Eelgrass Donor Stock Areas" to be used at no fee for the purposes of the Demonstration Project. Eelgrass can only be used as needed to accommodate initial planting. Any modifications will require DNR's written authorizations. If the Department ("Grantor") grants mitigation credits, based upon the review of item number three above, the grantees agree to pay the Department full market value (based upon negotiated values) before the Department will allow mitigation credit. It is likely that this charge will be based upon a per shoot basis and accurate records must be kept to identify the numbers of shoots taken from the donor site.

6. Marker buoys are authorized to identify the location of the demonstration sites.
"Exhibit B"

Lease No. 20-013623

5.0 LITERATURE CITED


Appendix D

South Fidalgo Bay Acquisition and Protection
PROPOSAL FOR ACQUISITION AND PROTECTION OF SOUTH FIDALGO BAY

Date: February 17, 1999

Name of Submitter: Skagit Land Trust
PO Box 1017
Mount Vernon, WA 98273

Section: NA
Contact Person: Martha Bray, Project Director

Phone Number: (360) 428-7878

Title of Project: South Fidalgo Bay Acquisition and Protection

1) Location of Project:
The project is located in Skagit County WA: T 34N R2E Section 5 and T35N R2E Section 32. It includes the majority of tidelands in Fidalgo Bay south of the Burlington Northern Railroad trestle. The site is approximately 450 acres in size as shown on attached location and site maps (Attachments A and B).

2) Brief Description of Project
Four hundred and fifty acres of tidelands in south Fidalgo Bay are currently in one contiguous undivided private ownership. Skagit Land Trust (SLT) proposes public acquisition and permanent protection of this property through a conservation easement. This project would preserve a large tract of relatively natural and unspoiled estuarine habitat, and restore it to public ownership. South Fidalgo Bay includes high quality mud flat and eelgrass habitat for a number estuarine dependent species. These include shellfish, herring, surf smelt, juvenile salmonids, raptors, shorebirds and waterfowl. Public benefits for present and future generations in this rapidly urbanizing area of Skagit County include open-space values and recreational opportunities.

SLT negotiated a Purchase and Sale Agreement on this property in July 1998. This binding contract is contingent upon funding, and provides SLT with exclusive purchaser’s rights through July 1999. Purchase rights can be assigned by SLT to an appropriate public entity. If funding is secured, SLT will manage the acquisition transaction and ensure title conveyance or assignment. A conservation easement which permanently prohibits development activities will be placed on the title prior to transfer to a public entity. SLT will hold the conservation easement, and will be responsible for ensuring restrictions are upheld.

3) Describe briefly how this project will benefit resources potentially impacted by oil spills:
South Fidalgo Bay and nearby marine environments have been the site of several oil spills in the last decade. Resource damage has included impacts to phytoplankton and primary productivity, as well as to surf smelt and Pacific herring populations.

This project will protect a large tract of relatively natural and unspoiled inter-tidal habitat. The importance of Fidalgo Bay to the regional marine ecosystem is documented in a 1995 Wa. State Dept. of Fish and Wildlife (WDFW) report: “Baitfish Resources and Habitats of Fidalgo Bay,”
which states that “(i)t is one of only 17 such bays within the Puget Sound basin support spawning habitats of three important forage fish species: The Pacific herring (Clupea pallasii), the surf smelt (Hypomesus pretiosus) and the Pacific sand lance (Ammodytes hexapterus), co-occur along the same shoreline areas”. The south end of Fidalgo Bay supports extensive stands of native eelgrass (Zostera marina) which provides the spawning substrate for Pacific herring as well as habitat for host of other marine organisms including juvenile salmonids, Dungeness crab and waterfowl. WDFW maps show approximately a third, or 165 acres of the south end of Fidalgo Bay in eelgrass (Attachment C).

In summary, South Fidalgo Bay consists of productive inter-tidal habitat including:

- Significant high quality eel-grass beds
- Documented Pacific herring and surf smelt habitat
- Documented Dungeness crab habitat, especially important for juveniles
- Serves as important feeding habitat for nesting bald eagle and a large heronry, containing 300 great blue heron nests, on March’s Point one mile east of the bay
- High quality habitat for many other waterfowl and shorebirds; raptors; and a range of inter-tidal organisms
- In addition, the site has high scenic, recreational, educational value, and is close to urban centers and tourism.

While existing regulations provide some protection for these resources, current development standards and shoreline regulations allow activities that could significantly degrade the habitat value in south Fidalgo Bay. The subject property has recently been annexed to the City of Anacortes. The site is zoned “Light Manufacturing” which allows for commercial and industrial development. Allowed uses under Skagit County’s Shoreline Management Master Program include aquaculture; commercial and industrial uses; dredging, marinas; piers and docks. Other threats to South Fidalgo Bay include the possibility that private landowners would exercise their right to dredge the existing designated state waterway to access and enhance development activities. In addition, interest has been expressed to use the area for enhancement and/or protection credits to mitigate for removal of eelgrass elsewhere in Fidalgo Bay. Finally, these tidelands are subject to impacts from adjacent industrial, commercial and residential development; there is currently no management of the site for habitat values or protection from ongoing threats from exotic species; industrial pollution or nonpoint source pollution. Public ownership and management combined with a conservation easement held by Skagit Land Trust can permanently protect this site from these threats.

A conservation easement held by SLT would contain specific language to permanently prohibit development and other damaging activities. Language would be developed in consultation with funding agencies. A list of typical “prohibited uses” for conservation easements is included (Attachment D).
Define the goals and measurable objectives of this project (how will success be measured?):

Goals:
- Preserve approximately 450 acres of high quality estuarine habitat.
- Restore public ownership of tidelands for present and future generations
- Provide public benefits of open-space and recreational opportunities

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<th>OBJECTIVES/ACTION ITEMS:</th>
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<tr>
<td>1. Negotiate purchase and sale agreement with landowners</td>
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<td>2. Title search</td>
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<td>3. Commitment to project from funding agency</td>
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<td>4. Contract for services w/ SLT</td>
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<td>5. Environmental Risk Assessment*</td>
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<td>6. Appraisal*</td>
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<tr>
<td>7. Identify source of land management funds</td>
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<td>8. Commitment to accept property from public agency</td>
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<tr>
<td>10. Open escrow / Prepare instructions</td>
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<td>11. Complete baseline data report for conservation easement</td>
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<td>12. Close transaction</td>
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<td>13. Identify appropriate location for, design and install educational sign(s) explaining project &amp; contributors</td>
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<td>14. Public ceremony and property dedication</td>
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<td>15. Develop management plan</td>
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<td>16. Conduct annual site inspections and monitoring to ensure compliance with conservation easement</td>
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*Scope and lead to be determined on Environmental Risk Assessment and Appraisal

5) What is the estimated duration of this project?
This is an acquisition and protection project. The conservation easement will provide protection “in perpetuity.” Stewardship endowment funds, included in the budget below, provide for annual monitoring and legal defense of the conservation easement.
6) What is the estimated cost of this project?

**Approximate Costs:**

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<td>Transaction costs &amp; project management</td>
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<td>Stewardship Endowment</td>
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<td>Education publicity and signs</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>$321,500</strong></td>
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</table>

*Cost of risk assessment varies widely depending on scope. Estimated cost based on Phase I assessment using existing data.*

7) For projects involving habitat restoration/acquisition:

   a) **What is the approximate acreage of the area to be restored?**
   Property proposed for acquisition consists of approximately 450 acres in 17 tracts.

   b) **What is the current ownership of the area to be restored?**
   The property is currently in one contiguous private ownership held in undivided interest by three separate parties.

   c) **Please attach a map(s) showing the location where the restoration project will take place.** See Attachments A and B
ATTACHMENT "B"

SITE MAP
SOUTH FIDALGO BAY TIDELANDS
SECTION 32, TOWNSHIP 34 NORTH, RANGE 2 EAST, W.M.
Figure 4. Areas of possible impacts to Pacific herring spawning habitats in Fidalgo Bay, Skagit Co., WA.

WDFW Baitfish Unit

5/1/95

Modified from NOAA chart #18427
SUGGESTED PROHIBITED AND ALLOWED USES
FOR CONSERVATION EASEMENT PROTECTING
INTERTIDAL HABITAT

Prohibited uses:

- Alteration of hydrology including dredging, diking, draining, filling in mudflats*
- Buildings or structures including docks and piers
- Any activities causing significant water pollution or erosion
- Removal or disturbance of native vegetation
- Aquaculture*
- Waste disposal or storage including sewage, manure, garbage, pesticides or hazardous waste
- Application of pesticides and fertilizers*
- Mining
- Intentional disruption of wildlife
- Introduction of invasive non-native vegetation
- Commercial billboards and signs
- Use of site for mitigation credits or banking

* Prohibited except as necessary to protect, enhance or restore conservation values of tidelands

Allowed uses:

- Usual and accustomed hunting and fishing
- Planting native vegetation for restoration and enhancement purposes
- Ecological surveys and research
- Low impact recreation
- Control of non-native, invasive or noxious plants and animals
- Emergency activities to protect public health or safety
Appendix E
Sediment Quality
Sediment Quality

The earliest survey included in the SEDQUAL database was the 1988 sediment monitoring survey for Texaco Inc.'s Anacortes Refinery Class 2 permit. All sampling sites were subtidal. Two sampling sites were located near the Texaco tanker berth and one sample site was located near Hat Island. The samples did not show any exceedences of the SMS levels, but detection limits for the chlorinated hydrocarbons, butyl benzyl phthalate, several of the phenol compounds, and several of the miscellaneous extractables were above the SMS levels.

The Port Townsend & Cap Sante Marinas Study conducted in 1988 by the Environmental Protection Agency (EPA) collected subtidal grab samples from within the marina and the area outside of the marina breakwater. Two stations within the marina contained levels of fluoranthene in excess of the SMS levels. Three stations within the marina and one located near the breakwater exceeded the SMS level for chrysene. One station located outside of the marina exceeded the SMS level for dibenzo(a,h)anthracene and benzo(g,h,i)perylene.

A single subtidal station sampled during the Swinomish Channel Maintenance dredging in 1988 was located within the study area. The sample site was within the Swinomish channel in Padilla Bay. No chemistry exceedences were found, but detection limits for the chlorinated hydrocarbons, butyl benzyl phthalate, and benzyl alcohol were above the SMS levels.

A sediment monitoring survey for Shell Oil Inc.'s Anacortes Refinery Class 2 permit was conducted in 1989. The sample station was located off the former Shell Oil refinery tanker berth. The samples did not show any exceedences of the SMS levels, but detection limits for the chlorinated hydrocarbons, butyl benzyl phthalate, benzyl alcohol, and hexachlorobutadiene were above the SMS levels.

The Puget Sound Ambient Monitoring Program conducted sampling at Station 71 in the middle of Fidalgo Bay in 1990 and 1991. No chemistry exceedences of the SMS levels were found, but detection limits for 1,2,4-trichlorobenzene, hexachlorobenzene, and benzyl alcohol were above the SMS levels.

In 1990 sampling was done for the Anchor Cove Marina dredging project on the south side of Guemes Channel. The sample site was identified as an intertidal station but the elevation was reported in the SEDQUAL database as -7 ft. Chemistry showed no exceedence of the SMS level, but the detection limit for hexachlorobenzene was above the SMS level.

The Washington Department of Natural Resources (DNR) Aquatic Lands Sediment Quality Reconnaissance Survey in 1991 sampled two sites along the south side of the
Guemes Channel, one site within Cap Sante Marina, and one site south of the marina. All sample sites were subtidal. The sample sites in Guemes Channel showed all chemical levels below the Sediment Management Standards. The detection levels for hexachlorobenzene reported for the sample sites in Guemes Channel were equal to or above the SMS levels. The station within the marina showed no exceedences of the SMS chemical levels. The sample site south of the marina showed elevated levels of several chemicals. Levels of fluoranthene, benzo(a)anthracene, chrysene, and total HPAH were above the SMS levels. Detection limits for the chlorinated hydrocarbons were also above the SMS levels.

In 1992 Texaco Anacortes conducted a National Pollution Discharge Elimination System (NPDES) sediment survey at subtidal sample sites near its tanker berth. No chemistry exceedences were found, but detection limits for cadmium, chlorinated hydrocarbons, butyl benzyl phthalate, 2,4-dimethylphenol, and hexachlorobutadiene were above the SMS levels.

In 1995 sediment sampling was done at five intertidal and seven subtidal stations off the Custom Plywood Mill property. All sample sites showed chemical levels below the SMS levels.

Additional chemical data from sources not included in the SEDQUAL database are available (Anvil 1979 and 1982, Hart Crowser 1989, Parametrix 1977, Laucks 1978 and 1980). Surface grabs and core samples were collected from sample sites within the intertidal and subtidal areas of the Cap Sante Marina, the nearby bay, and from test pits on the upland sites south of the marina. The utility of these reports is questionable based on the testing methods used and problems with the station location control.

Samples collected in 1977 (Parametrix 1977), 1978 (Laucks 1978), and 1980 (Laucks 1980) were tested for the conventional sediment parameters of total solids, chemical oxygen demand, total volatile solids, oil and grease, and sulfide. Accurate site locations are not available. Additional tests included elutriate tests for zinc, mercury, lead, and copper. Boring logs from a subsurface soils investigation conducted by Anvil Corporation (1979) from the area around the Scott Paper property are available.

In 1982 Anvil Corporation (1982) dug test pits in the upland areas south of the Cap Sante Marina and did test borings in the offshore areas southwest of the marina. Boring logs are available for the test pits and offshore boreholes. Conventional sediment parameters were measured for samples from some sites. Elutriate tests for metals were run on surface and subsurface core segments. EP toxicity testing for metals and some pesticides was run on composited surface cores.
Hart Crowser (1989), collected soil and sediment samples from the Scott Paper property and the bay offshore of the property. Surface samples were collected from the intertidal zone and from approximately 100 ft offshore of the site and composited. Accurate site locations are not available. Comparison of the sediment chemistry results with the Puget Sound Dredge Disposal Analysis (PSDDA) sediment standards is presented in Table 1-2. The composite contained levels of several metals and polycyclic aromatic hydrocarbons (PAHs) in excess of PSDDA screening levels (SL) but no exceedences of maximum levels (ML). Detection levels for several of the PAH compounds were above the screening levels. Levels of bis(2-ethylhexyl)phthalate were above the SL. Most of the remaining organic compounds had detection levels above the screening levels and in some cases above the MLs.

Hart Crowser (1995) took surface grabs from 10 stations in lease areas in a band extending southeast from the Fidalgo Marina and offshore in front of the old plywood mill site and in to the central part of Fidalgo Bay. Sampling and analysis were in accordance with Puget Sound Estuary Program protocols and included the top 10 cm of sediment. There were no exceedences of any SMS criteria and no detections of guaiacols or PCBs.
Ms. Gretchen Brunner  
Huckell/Weinman Associates, Inc.  
205 Lake Street South, Suite 202  
Kirkland, Washington 98033

Results of Additional Cultural Resources  
Background Research for Fidalgo Bay, Skagit County, Washington

Dear Ms. Brunner:

This letter reports the results of additional background research of the shoreline areas adjacent to Fidalgo Bay, Skagit County, Washington. On behalf of the City of Anacortes, Huckell/Weinman Associates, Inc. (Huckell/Weinman) requested that Historical Research Associates, Inc. (HRA) perform a focused cultural resources document search at the Washington State Office of Archaeology and Historic Preservation (OAHP) in Olympia. This research will supplement the Historical Profile previously prepared by HRA in March, 1996.

HRA research personnel examined selected OAHP files for information on properties located within an approximately 0.1-mile-wide corridor (research corridor), stretching along the Fidalgo Island shoreline from the Sunset Beach boat ramp on the west to March Point on the east. The map attached to this letter shows the location of the research corridor.

Research Methods

An HRA researcher performed a focused examination of selected cultural resource records on file at the OAHP. This agency marks archaeological site locations and numbers on USGS topographic quadrangle maps. The site forms, which describe the cultural resources, are available for review as hard-copies and/or microfiche. HRA photocopied the pertinent USGS topographic maps and forms for sites appearing within the research corridor.
National Register of Historic Places (NRHP) nominations for historic-period resources such as buildings, bridges, tunnels, and other structures are archived separately from the archaeological survey reports. HRA reviewed and photocopied NRHP property files for resources located within the research corridor.

Finally, HRA research personnel perused reports for cultural resource studies conducted within Skagit County. Typically, OAHP staff can generate a list of reports on file in the National Archaeological Database (NADB) for a defined Township and Range. Currently, however, OAHP is reorganizing their database files and will not have their search feature available for several more weeks. The HRA researcher looked through the Skagit County files by hand for reports that had been conducted near the research corridor, which assist in providing a context for sites that are located in the area and an evaluation of cultural resources work previously performed in the vicinity.

Results

The OAHP has 10 sites recorded within the research corridor. The following two paragraphs summarize information included on the site forms.

Six properties (45SK15, 45SK154h, 45SK14, 45SK155, 45SK174, and 45SK158) are clustered around Ship Harbor, just east of Shannon Point, and include four shell middens and two historic-period sites. The shell middens range between 4 and 30 meters in width, 7 and 125 meters in length, and extend up to 42 centimeters in depth. The first historic-period site is comprised of the remains of the Fidalgo Island Packing Company cannery facility (45SK154h), which operated between c.1898 and 1930. Three buildings, pilings, and scattered debris are included within the site area. Site 45SK174 is comprised of refuse scatters and appears to be the remains of a Samish Indian community. The area may have been occupied from the early 1890s until the 1930s, with the residents employed at the Ship Harbor.

The four remaining sites adjacent to Fidalgo Bay are shell middens. Two are located at the base and tip of Weaverling Spit (45SK43 and 45SK42, respectively), another lies on the eastern side of the Bay near the intersection of March Point and N. Texas Roads (45SK45), and the last is situated at March Point (45SK44). Weaverling Spit may also have the site of at least three homesteads prior to 1890.

OAHP lists five properties in the NRHP within the research corridor. The ensuing three paragraphs synthesize information from NRHP nomination files.
Two of the NRHP properties, the La Merced and W.T. Preston, are National Historic Landmark ships located on the waterfront at Oakes and R Avenues, respectively. The four-masted schooner La Merced was built in 1917 and originally served as cargo ship. She was converted into a floating cannery in Alaska in the 1920s or 1930s. In 1966, the La Merced was put in place as a breakwater where she now sits on fill and riprap. The stern-wheeler W.T. Preston, constructed in 1939, served as a snagboat and bucket dredger for the Army Corps of Engineers until 1981, when it was converted into a floating museum.

The Curtis Wharf, Great Northern Depot, and the Marine Supply and Hardware Complex are all listed in the NRHP. The Curtis Wharf, located at O Avenue and 2nd Street, includes two docks and four buildings that were constructed between 1903 and 1914. One of fifteen original docks, the Curtis Wharf also served as the terminal for inter-island and international ferry routes, and is the only early-period transportation and commerce wharf remaining in Anacortes.

The Anacortes Great Northern Depot served as the city’s passenger depot between 1911 and c.1930, and continued as a freight depot until 1957. With plans to convert the Depot into a community center, the City of Anacortes purchased the building in 1981. The Marine Supply and Hardware Complex includes four contiguous, pre-1907 buildings that served as part of the waterfront commercial district. Collectively, the buildings chart the evolution of commercial building types in late nineteenth-century and early twentieth-century Anacortes.

OAHP Skagit County cultural resources assessment files contain studies conducted at the following locations: the Texaco Puget Sound Plant near March Point, Weaverling Spit, Anacortes/Guemes Island Ferry Dock, Ship Harbor Marina, as well as several general investigations of the Fidalgo Island and Swinomish Channel/Reservation area.

In summary, cultural resources and field assessments are concentrated primarily in three areas: Shannon Point/Ship Harbor, Cap Sante, and the tidal flat margins of Fidalgo Bay.

**Recommendations for Further Work**

This research project focused primarily on site and nomination forms. However, OAHP maintains a variety of additional documents for the research parcel that could reveal
cultural resources not identified elsewhere. HRA recommends the following supplementary work:

1) examination of the OAHP Historic Inventory and Engineering/Industrial Files for properties filed under the Skagit County heading, and inspection of the Historic Bridges and Tunnels Files;

2) inspection of OAHP's files containing Skagit County properties that have undergone a Determination of Eligibility for listing in the NRHP;

3) review of Government Land Office (GLO) survey plats and historic topographic maps at the Map and Microforms Collections at the University of Washington libraries;

4) synthesis of Anacortes-vicinity and Fidalgo Island cultural resource assessment reports on file at OAHP;

5) and archaeological and architectural survey of areas in which ground disturbance or construction will occur.

HRA also suggests that the City of Anacortes or Huckell/Weinman continue consultation with the Swinomish Tribal Community and the Samish Indian Tribe, which were identified in HRA's March 1996 Historical Profile for the Fidalgo Bay project area, to discuss the Tribes' concerns regarding treaty-protected resources, places, or activities, and cultural resources that might be affected by construction.

I hope this information meets your needs. If you have any questions or comments, please call me or Lisa Mighetto at your convenience. Thank you for your time and attention.

Sincerely,

Linda Naoi Goetz
Research Archaeologist

Attachment:
Research Corridor and Site Location Map
Appendix G

References/Annotated Bibliography

1. Environmental Profile References/Annotated Bibliography

2. Supplemental References
1. ENVIRONMENTAL PROFILE

References

Land & Shoreline Use

BST Associates, for Skagit County Sub-Regional Transportation Planning Organization. 1996. County-wide Air, Rail, Water and Port Transportation System Study

City of Anacortes.
- 1996. Comprehensive Plan Amendment/Rezone Draft EIS.


Port of Anacortes.

Skagit County
- 1976. Skagit County Shoreline Master Program.

Historical & Cultural


Blukis Onat, A.R.


U.S. Army Corps of Engineers.


Willis, Margaret, ed.

The Draft EIS relies on the expected results of the present planning effort (Fidalgo Baywide Planning Process) for information on natural resources. Does not address specifics of impacts or mitigation for the proposed rezone and resulting commercial marina development.


A site-specific marine flora and fauna survey completed in 1993. Document includes a list of vegetation (including eelgrass) and fauna species identified by divers. Maps showing positions relative to Guemes Channel were not included. Survey depths ranged from intertidal down to -25 ft MLLW.


A report on a preliminary soils investigation conducted on and offshore of the property immediately south of Cap Sante Marina, the former Scott Paper Mill site. Upland and offshore samples were taken. This was a study of physical characteristics only without chemical analyses. Includes logs of borings from Cap Sante entrance south past South Park and offshore of the MJB property.


An inspection report on test pits excavated along the South Basin shoreline and test borings completed in the South and North basins of the Cap Sante Marina. Soils logs are available. Bulk and elutriate testing were performed on some samples. EP toxicity was run on some samples.


A site-specific survey for eelgrass and macroalgae conducted in 1993. The eelgrass survey was at a preliminary level because of the lateness of the season. A location map was provided but at a low resolution. Dominant species of vegetation and invertebrates were listed. The survey depths ranged from the intertidal down to -26 ft MLLW.


The previous six reports document a relatively complete study on Dungeness crabs at the proposed site of the Ship Harbor Marina adjacent to the existing Washington Department of Transportation Anacortes ferry terminal. This study extended over a period of 20 months from 1984 to April 1986. The reports, especially the final undated report, include information from field sampling not only at the Ship Harbor site but also along Guemes Channel, in Fidalgo Bay, and north and east of March Point. Scuba diving, beam trawls, crab traps, and intertidal quadrats were used. The Ship Harbor site was found to support significant populations of crabs, especially egg-bearing (ovigerous) females.


Pre-construction monitoring in accordance with mitigation plan for the Fidalgo Marina. Eelgrass density and distribution with observations on associated fauna are presented from an array of transects.


This and the preceding document are the draft and final EISs for a large marina proposed in 1981 for Weaverling Spit, the separation between outer and inner parts of Fidalgo Bay. Included in the draft are specific information on currents, spawning patterns of Pacific herring, eelgrass distribution, Dungeness crabs, and birds. A technical report on herring spawning is present in the final EIS with comments from the Washington Department of Fisheries. Aerial photographs of Fidalgo Bay and Weaverling Spit are included, which offer a historical perspective on the distribution of eelgrass within the bay. The technical report contained within the Draft EIS offers a quantitative assessment of the extent and distribution of eelgrass based on aerial photographs.


This document presents the standard shoreline and subtidal habitat classification system presently in use in Washington.


Contains detailed review of historic land use and soil and sediment chemistry sampling at site of proposed Fidalgo Landing development. Concludes there is little evidence of serious contamination on the site.


This was a brief survey apparently with the purpose of documenting the presence of herring spawn within the Cap Sante Marina. Only five transects were conducted since February 1991. Because of the limited scope of the survey, the results are not conclusive.


This document contains a series of maps describing key features of Puget Sound region in 1987. Individual maps summarize by area the location of political boundaries and present population forecasts and show areas with shoreline master plans. Location of point discharges, dredge material disposal sites, aquaculture and shellfish bed certification status are summarized. Some of the available sediment chemistry data is mapped. In addition, results of
bioaccumulation and histopathology studies, key biological and environmental resources such as eelgrass and kelp beds, marine mammals, fish and shellfish resources are mapped. Seabird nesting sites and areas where sensitive species occur are presented. Salmon resources and tribal usual and accustomed fishing places are plotted.


A report on the first year of a two year study on the abundance and distribution of marine mammals in Northern Puget Sound and the Strait of Juan de Fuca. The report provides data on the use of Fidalgo Bay and Guemes Channel by marine mammals, primarily harbor seals.


This is a letter report transmitting findings from a sediment investigation conducted for the Port of Anacortes at the former Scott Paper property; the exact location is not described. Marine sediments were found to be contaminated with detectable concentrations of priority pollutant metals and PAHs. Some contaminants were present in concentrations above PSDDA screening levels.


Hart Crowser (1995) took surface grabs from 10 stations in lease areas in a band extending southeast from the Fidalgo Marina and offshore in front of the old plywood mill site and in to the central part of Fidalgo Bay (Figure 1-1). Sampling and analysis were in accordance with Puget Sound Estuary Program protocols and included the top 10 cm of sediment. There were no exceedences of any SMS criteria and no detections of guaiacols or PCBs.


Results of bulk and elutriate testing of spoil samples. Accurate sample locations not available.

Results of bulk and elutriate testing of spoil samples. Accurate sample locations not available.


These two documents described summer and winter surveys of eelgrass on two transects at the site of the proposed Ship Harbor Marina adjacent to the existing Washington State Department of Transportation ferry terminal. The surveys were restricted to existing eelgrass beds. Shoot counts and above and below-ground biomass data were collected.


A monitoring report in accordance with mitigation plan for the Fidalgo Marina. Eelgrass density and distribution with observations on associated fauna are presented from an array of transects. Little impact on eelgrass distribution or abundance had resulted from construction of the marina breakwater.


Letter transmitting the results of a survey of the Cap Sante Boat Haven marina including the results of bulk and elutriate testing of some samples. Sample locations not specified.


Contains results of diver surveys and mapping of eelgrass and macroalgae in the vicinity of the Anacortes Ferry Terminal. Includes recommendations regarding potential eelgrass mitigation sites. Reports eelgrass growth to -4 m (-13 ft) MLLW away from the disturbance of ferry operations.

A survey of the area of a proposed building (processing facility). Includes assessment of eelgrass, epibenthic zooplankton, and crustaceans


Herring spawn surveys were conducted in a single season in an area of about 40 acres adjacent to the Anacortes Marina in the northwest part of Fidalgo Bay. Herring spawning intensity was documented substrates.


Eelgrass and macroalgae distribution and density were documented and mapped on a site of about 40 acres adjacent to the Anacortes Marina in the northwestern part of Fidalgo Bay. Aerial photography, underwater videography, and diver counts were used.


A comprehensive survey of Port of Anacortes waterfront properties was made using underwater video survey techniques with sampling by scuba diver to determine eelgrass and macroalgae densities. Eelgrass, macroalgae, and shoreline types were mapped. Eelgrass beds were delineated for both distribution and density.


A study done by WDFW using eelgrass shoot density as an indicator of shading. The Shell Oil pier at March Point was included in the study. Shoot densities are presented for five transects along the pier.


A compilation and summary of survey data on baitfish, Pacific herring, surf smelt, and Pacific
sandlance, spawning in Fidalgo Bay from 1972 through 1995. The report presents the distribution and average stock of these baitfish species. Also included is an assessment of shoreline conditions within the Bay. A digital copy of these maps was obtained February 4, 1996.


This document is a partial update of the 1987 Puget Sound Environmental Atlas. Large-scale (1:125,000) maps of the region. A subset of the topics presented in the 1987 Atlas were presented to reflect recent studies and to incorporate the responses of reviewers. Sediment chemistry was updated to show sampling done after 1987. Updated maps of biological and environmental resources include seabird and sensitive bird species nesting areas, marine mammals, marine fish and invertebrate resources. Additional maps show PSP beach closures, permitted discharge sites, salmon fishing areas, salmon aquaculture sites and areas designated as tribal usual and accustomed fishing areas. We have a digital copy of this atlas on 1/4 inch tape.


A study conducted by Huxley College of Western Washington University on the impact of channel dredging in Fidalgo Bay. Eelgrass, macroalgae, Dungeness crabs, and infauna were included in the study. Sampling methods were diver quadrat counts, suction sampling for infauna, and trawls. This report is a source of historical data on eelgrass densities in the northwest part of the bay.


A historical study on conditions in Fidalgo Bay, Guemes Channel, and adjacent areas in 1958. Water quality and circulation, fauna, shoreline conditions, plankton, and commercial oyster growing in Fidalgo Bay were included in the study.


This document contains a summary (pages 27 to 32) of pollution sources for the vicinity of Anacortes including Fidalgo Bay and Guemes Channel. The EPA ranked this area as "high" in toxic problems. Sources include refineries, saw and shingle mills, wastewater discharges, and marinas.

A set of maps showing the distribution of biological resources (e.g., crabs, mammal haulouts, bird colonies, etc.) of concern in the event of an oil spill. Also shown are the presence of physical landforms, sport and commercial fishing, and shoreline types. Biological resource data are generalized.


A brief letter containing comments on the findings of marine borings in Cap Sante Marina conducted in 1982. Accompanying the letter are field and lab notes on the samples. There is not useable information in this document.


A series of photographs of Fidalgo Bay from the northwest corner east to the Swinomish Channel and south to the tidal flats south of Weaverling Spit.


Locations of samples and results of tests for all sediment analyses done in Puget Sound using standard Puget Sound Estuarine Program protocols and required as part of cleanup or dredge spoil disposal activities.


A summary document showing through the use of maps the distribution of commercially important biological resources throughout Puget Sound. Fidalgo Bay and Guemes Channel are included. Note: at the moment we are only in possession of PART of this document, including a map of the salmon fishery in the study area. This map is the same as the map in PSWQA 1992. Other maps that may be relevant include Groundfish of the North Sound and Strait of Juan de Fuca, Clams and Urchins of the North Sound and Strait of Juan de Fuca, and Miscellaneous
Appendix H
Distribution List
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City of Anacortes  
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Ian Munce  
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Skagit Systems Cooperative  
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Mount Vernon, WA  98273

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C/o Samish Potlatch Gifts
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Citizens Advisory Committee -- 12  
City Council -- 7  
Planning Commission -- 7
Appendix I
Detailed Responses to Comments
March 23, 1999

Mr. Brian Williams
Dept. of Fish & Wildlife
PO Box 1100
LaConner, WA 98257

RE: Your April 23, 1997 Comments on the Fidalgo Bay Plan

Dear Mr. Williams:

Thank you for taking the time to set out your detailed concerns and issues with the Fidalgo Bay Plan. The following are our specific responses:

1. The information presented was scaled from available maps by the consultants and City staff. The information presented is designed to present order of magnitude information to assist the reader.

2. These impacts are noted in the detailed text and maps that accompany the summary tables.

3. The working assumption is that mitigation sequencing will reduce acreages impacted to those shown in the summary tables.

4. Your wording has been used.

5. Your modification has been added.

6. The table includes both dredging and filling; the map will be amended to show the approximate location of the dredging areas.

7. This has been done.

8. A note acknowledging this issue has been added.

9. The reference has been deleted.

10. The first statement has been deleted. Can you assist with the second or should it be deleted too?

11. The map will be redone to properly reflect bald eagle nests and territories.

12. The table heading has been revised to achieve consistency.
13. The statement objected to simply presents the GMA and preferred alternative context.
14. The statement objected to has been deleted.
15. The statement objected to has been deleted.
16. Is advance mitigation required if less than a quarter acre is involved?
17. The City has simply extrapolated from the previous studies referenced.
18. The City has simply extrapolated from the previous studies referenced.
19. Given the mitigation strategy “medium impact” has been assigned to Sub-Area 3.
20. The 111 acre figure has been corrected to 100 acres.
21-25. Chapter VIII has been extensively rewritten and further comments are now solicited.
26. The information presented was scaled from available maps by the consultants and city staff. The information presented is designed to present order of magnitude information to assist the reader.
27. It is the City’s earnest hope that the major issues that have emerged from the integrated plan/SEPA review have now been addressed.

Thank you for your comments.

Sincerely,

CITY OF ANACORTES

[Signature]

Ian S. Munce, AICP
Director of Planning & Community Development

ISM:ll
April 23, 1997

Huckel/Weinman Associates, Inc.
Attention: Richard Weinman
205 Lake Street South, Suite 202
Kirkland, Washington 98033

Subject: Comments - Draft Integrated Fidalgo Bay-Wide Plan & EIS
Dated March 21, 1997

Dear Mr. Weinman:

The Washington Department of Fish and Wildlife (WDFW) has reviewed the Integrated Draft Fidalgo Bay-Wide Plan & EIS dated March 21, 1997 and offer the following comments for your consideration.

1. page S-7 & S-8
The summary tables use environmental profile map area calculations from Appendix E to calculate % of total bay-wide resources impacted values. Appendix E does not identify the source of the profile map area calculations, the method of area calculation or the limitations of the profile maps used to make the area calculations. The following information should be included in Appendix E:

   a. What is the source of the area calculations? Did the consultant team conduct the area calculations that are presented in Appendix E and the % of total values presented in the summary tables S-7 & S-8. If not, who generated these values? What are their qualifications and expertise to do so?

   b. What methods were used to calculate the areas?

   c. What map data bases were used and what is their accuracy limitations.

   d. Were the calculation methods, map data bases and the resulting area estimates reviewed by the consultant team or the larger committee prior to inclusion in the Draft Fidalgo Bay-Wide Plan and EIS.

2. page S-7 & S-8
Impacts to smelt spawning habitat and sandlance spawning habitat are not noted in the summary tables.
3. page S-7 & S-8

WDFW is concerned that the impact areas noted in the eelgrass and macro algae category of the summary table are underestimated. For example, though the summary table states that 42 acres of eelgrass and macro algae may be impacted in Sub-area 3, Pentec's 1994 survey of the proposed MJB marina site identified 29 acres of eelgrass and 32.7 acres of macro algae habitat. In addition, Table 15 indicates that for scenarios 1 and 4, 100 acres of marine habitat will be impacted and yet it is unclear how the 100 acres is translated to only 48 acres in table 21 on page VII-3 and what happened to the remaining 52 acres and what type of habitat is it?

What map database was used to estimate the anticipated marine vegetation impacts? What is the accuracy limitations of the marine vegetation map database that was used? Accuracy limitations of the marine vegetation map database need to be noted with respect to the accuracy of the impact areas presented in the Draft Fidalgo Bay-Wide Plan and EIS.

4. page S-10

WDFW disagrees with the summary table conclusion for scenarios 1 and 4 that "impacts to salmonid habitat considered low bay-wide. Given the dependency of juvenile salmonid species upon the intertidal and shallow subtidal marine habitats for rearing, migration and refuge from predation, WDFW considers the loss of approximately 100 acres of intertidal and shallow sub tidal habitat including approximately 48 acres of eelgrass very significant and therefore should be considered high bay-wide and for Sub-Area 3.

5. page I-4

In the Purpose and Use section of the Draft Integrated Fidalgo Bay-Wide Plan and EIS, the bullet statement regarding mitigation has been deleted. A mitigation purpose statement needs to be included as a primary purpose of the Fidalgo Bay-Wide Plan. Per our February 24, 1997 comments, WDFW recommends the following modification of the mitigation purpose statement that was included in the Preliminary Draft Fidalgo Bay-Wide Plan and EIS; "Provide an ecosystem based, bay-wide context for mitigation."

6. page III-6

Historical dredging in the Fidalgo Bay-Wide Plan study should also be presented in map form. In addition, historical fills should also be presented in table form.

7. page III-22

The tribal coordination section needs to be updated to reflect the Skagit Cooperative's participation in Planning Committee Meetings and on mitigation sub committee.
8. page III-53
The invertebrates section should include a paragraph that describes epibenthic crustacea species such as harpacticoid copepods, gammarid amphipods, tanaids and cumaceans that are important prey for many of our juvenile marine fish species including but not limited to juvenile salmonids, herring, smelt, sand lance, rock fish, ling cod and flatfish species.

9. page III-56
The reference (WDFW 1995) to which the statement "some adult salmon returning to the Skagit and Samish rivers may pass through the study area but little sport or commercial harvest occurs there" is not listed in the reference section. What is this reference?

10. page III-56
The references for the following statements need to be identified and included in the annotated bibliography:

Paragraph 2: In other areas, herring deposition can be so heavy as to occur in overlapping layers of eggs, and studies have shown reduced survival of eggs with increasing density of deposition (ref ?).

Paragraph 3: In other parts of the species range, a wide variety of other algal species and substrates, including some artificially introduced materials, are used (ref ?).

11. page III-62 Figure 13
The bald eagle map does not include bald eagle nests in the Ship Harbor vicinity and Weaverling Spit vicinity. In addition, the bald eagle territory for the Weaverling Spit nest is not included. These data omissions were submitted to Pentec in 1996 and per personal communication with Jon Houghton, the map was not modified to include the data due to funding constraints. The omitted nest sites and territory are attached for your information. The nest sites and territory need to be added to the map and the map redrawn, otherwise the Plan is not using the best information available.

12. page IV-3 Table 7
Table 7 deals with the potential impacts of development activity. Table 7 needs to be corrected to reflect impacts and not enhancements. Table 7 references enhancements for dungeness crab, waterfowl and marine mammal resources under the following impact categories: overwater structures, shoreline protection, and wave abatement structures.

13. page IV-20 & IV-21
Why was the city given the opportunity to articulate their perspective on mitigation within the body of the Draft Integrated Bay-Wide Plan and EIS when the other participating agencies and tribes were not afforded the same opportunity?
Why wasn't the Planning Committee given the opportunity to review and comment on the inclusion of the City's mitigation perspective prior to issuance of the Plan for public comment? Inclusion of the City's mitigation perspective into the body of the Plan is a significant deviation from the Preliminary Draft Plan that the Plan Committee reviewed.

The inclusion of the City's mitigation perspective within the body of the Draft Plan is inappropriate. Inclusion of the City's mitigation perspective within the main body of the Plan reduces the Draft Plan and EIS to a tool of political lobbying rather than a sound resource/development management plan based on consensus. In addition, inclusion of the City's mitigation perspective within the body of the Plan undermines the trust necessary to resolve the remaining Plan conflicts. The City's mitigation perspective should be removed from the body of the Plan and relegated to appendix E with the other perspective documents.

14. page IV-20 & IV-21
With regard to the City's articulation regarding mitigation, the City's conclusion that "the functional importance of eelgrass to marine fishes and invertebrates within the Bay are unclear" is incorrect. WDFW and the Plan consultant team have provided extensive data and documentation that clearly identifies and supports the functional importance of eelgrass to marine fishes and invertebrates within the Bay.

15. page IV-20 & IV-21
The City's conclusion "it is unlikely that proposed disturbances would generate measurable changes in important marine fauna (herring, salmon, crab, etc.) or be functionally critical to the local fish and invertebrate populations" is incorrect. What scientific expertise does the City of Anacortes have to make sensitive judgements relative to important marine resources and habitats? The City's impact analysis is speculation that essentially reiterates the mitigation perspective put forth by a development interest through the NRC Draft Briefing Report and disregards scientific experience and expertise of WDFW, NMFS and the Skagit Cooperative.

16. page IV-23
The compensatory mitigation section should include a bullet that identifies advance mitigation is required for impacts to herring spawning habitat.

17. page VI-12
What is the City of Anacortes 1996 reference under Table 16. Has the City conducted an additional moorage demand study?

18. page VI-12 Table 16
Are the moorage demand numbers presented in the table based on the Port of Bellingham 1994 and Herbert Research 1995 studies or some other rational. How were the demand percentages determined? The
numbers appear to have been manipulated to account for the Swinomish Marina and yet still provide a preconceived moorage demand in the Anacortes vicinity.

19. page VII-7
WDFW believes that the potential impacts to juvenile salmonid habitat under scenarios 1 and 4 warrant a high impact rating for each sub area that impacts occur rather than the low rating provided in Table 25 and noted in text on page VII-10. Given the dependency of juvenile salmonid species upon the intertidal and shallow subtidal marine habitats for rearing, migration and refuge from predation, WDFW considers the loss of approximately 100 acres of intertidal and shallow sub tidal habitat including approximately 48 acres of eelgrass very significant and therefore should be considered high bay-wide and in particular Sub-Area 3.

20. page VII-8
Under the biological resource section, bullet 2 states that 111 acres of marine habitat would be impacted under scenarios 1 or 4. However, this conflicts with the 100 acre or 106 acre impact values for scenarios 1 and 4 that are presented in Table 15. The discrepancy between the different impact areas need to be clarified and resolved.

21. page VIII-6
The definition of a "proven mitigation approach" as suggested by Pentec will still necessitate an area parameter that is based on previous successful demonstrations of the approach given that a mitigation approach may be successful for small area mitigations but not for larger endeavors. For example, transplanting of eelgrass plugs is a successful eelgrass mitigation approach but success has been limited to areas of less than 1/4 acre.

22. page VIII-6
It is important to note that WDFW has overextended eelgrass science with regard to the minimum eelgrass area that triggers advance mitigation. WDFW's earlier advocacy for a 1/2 acre advance eelgrass mitigation criteria is not supported by available eelgrass mitigation work and as a consequence does not provide adequate protection for eelgrass habitat. Existing eelgrass research demonstrates that eelgrass mitigation for areas greater than 1/4 acre have a high probability of failure. As a consequence, advance mitigation for eelgrass impacts greater than 1/4 acre should be required.

Belgrass mitigation research is currently being pursued from the San Diego area. However, it is important to note that a fundamental principle of science is that if an experiment is to be deemed successful or conclusive, it must first be replicated. In this context, a single successful eelgrass mitigation project from the San Diego area in unlikely to sway WDFW to support an advance mitigation threshold criteria that is greater than 1/4 acre.
23. page VIII-8
The functional assessment model (IVA) used in the Everett SWIS process allowed for a 1:1 area mitigation ratio under those circumstances where the mitigation provided greater resource functions than were impacted at the project site. It is important to note that the IVA model used in the Everett SWIS process was adapted to the Snohomish Estuary through 2+ years of technical committee work and only addressed fresh water wetlands and marine intertidal mud flats. The IVA model was not adapted to address eelgrass habitat, macro algae habitat, subtidal habitats, or intertidal habitats other than mud flats. It is also important to note that both Jon Houghton and Brian Williams participated in the Everett SWIS process and that both feel the intertidal mudflat assessment element was inadequate.

24. page VIII-8, paragraph 7
The concept "deemed more beneficial to the overall productivity of the study area" is essentially meaningless in that the overall productivity of the study area has not been defined or can it be measured.

25. page VIII-11 & VIII-12, Contingencies
The first approach does not capture the full intent of the contingency put forth by the agency framework mitigation plan. A mitigation contingency plan under approach 1 would include a decision point after year 3 monitoring at which time measures to improve the function of the originally designed mitigation action would be implemented if it appears the mitigation is not progressing as expected. If after year 5 monitoring the mitigation continues to fall short of the mitigation success criteria, additional measures would be implemented to improve the performance of the mitigation which could include the option of developing a new mitigation site. In addition, supplemental mitigation would be required to compensate for the additional temporal delay in replacing the habitat functions impacted by development.

26. Appendix E - Supplemental Environmental Information - Fidalgo Bay Environmental Profile Map Area Calculations
Appendix E does not identify the source of the profile map area calculations, the method of area calculation or the limitations of the profile maps used to make the area calculations. The following information should be included in Appendix E:

a. What is the source of the area calculations? Did the consultant team conduct the area calculations that are presented in Appendix E and the % of total values presented in the summary tables S-7 & S-8. If not, who generated these values? What are their qualifications and expertise to do so?

b. What methods were used to calculate the areas?

c. What map data bases were used and what is their accuracy limitations.
d. Were the calculation methods, map data bases and the resulting area estimates reviewed by the consultant team or the larger committee prior to inclusion in the Draft Fidalgo Bay-Wide Plan and EIS.

27. General Process Questions and Concerns
It is unclear how the WDFW is planning process and the Fidalgo Bay-Wide Plan will benefit from public review of a document that is rife with mitigation conflicts left unresolved by the Fidalgo Bay Planning Committee (FBPC). Though the FBPC has identified mitigation as a pillar of the Fidalgo Bay-Wide Plan and an essential tool by which to evaluate the environmental risks associated with the proposed development scenarios, by leaving mitigation conflicts unresolved, the City of Anacortes is asking the public to help determine a course for the future with a compass (mitigation section) that is dysfunctional.

From our perspective, the Fidalgo Bay-Wide Plan, planning process and the public would have been better served by the FBPC resolving the outstanding mitigation conflicts prior to requesting public review of the Fidalgo Bay-Wide Plan.

In addition, it is important to note that if the outstanding conflicts within the mitigation section of the Fidalgo Bay-Wide Plan can not be resolved to the satisfaction of WDFW, WDFW will not be able to support the Fidalgo Bay-Wide Plan, the mitigation flexibility identified by WDFW in the context of the Fidalgo Bay-Wide Plan will not be applicable and out of necessity, WDFW will continue to review proposed development projects for impacts to fish life on a case by case basis.

If you have any questions, please call me at (360) 428-1053.

Sincerely,

Brian Williams
Area Habitat Biologist
Habitat Program

cc:
Bob Everett - WDFW Mill Creek
Ted Muller - WDFW Mill Creek
Norm Lemberg - WDFW Mount Vernon
Dan Penttila - WDFW Mount Vernon
Larry Wasserman - Skagit System Cooperative
Denis Carlson - NMFS
Alice Schizel - DOE
March 23, 1999

Ms. Rebecca Inman  
DOE – Environmental Review Section  
PO Box 47600  
Olympia, WA 98504-7600

RE:  Your April 25, 1997 Letter on the Fidalgo Bay Plan

Dear Ms. Inman:

Thank you for taking the time to set out your detailed concerns and issues with the Fidalgo Bay Plan. The following are our specific responses.

1. The conclusion relative to sediments has been restated. The City concurs that more work must be done on the sediment issues.

2. Mitigation beyond Fidalgo Bay is no longer proposed.

3. The City is committed to pursuing proven mitigation.

4. The City considers that large scale restoration and mitigation has a high probability of success and is proceeding accordingly.

5. The City intends to clarify that its concern is to habitat function and value.

6. By separate letter/SMP Amendments, the City considers that it has addressed each and every SMP issues raised. The City is pursuing SMP Amendments as an integral part of its Sub-Area Plan.

7. The City respectfully submits that some of DOE’s statements are as conclusory as those submitted by the City, e.g. are the resin acids from Scott Paper Company?

8. All references to the NRC Report have been dropped.

Thank you for your comments.

Sincerely,

CITY OF ANACORTES

[Signature]

Ian S. Munce, AICP  
Director of Planning & Community Development

ISM:11
April 25, 1997

Ian Munce, Director
Anacortes Planning & Community Development Department
P. O. Box 547
Anacortes, WA 98221

Dear Mr. Munce:

We sent you comments on April 23, 1997 regarding the draft Fidalgo Bay-Wide Plan and environmental impact statement (EIS). Since then we have received additional comments from our staff.

Ecology has actively participated in the Fidalgo Bay planning process since its commencement. Early-on in the planning process, all participants acknowledged: 1) that funding constraints made it necessary to base the Plan/EIS on a thorough accumulation of available information and data; 2) that it would not be possible to acquire new data to "plug" identified gaps; and 3) that Plan/EIS (plan-level) conclusions and decisions would therefore by necessity be limited to those supportable by available data.

Having acknowledged these data limitations and agreed that plan-level decisions were to be guided by and restricted as a result of the limitations, Ecology is concerned with the following aspects of the draft Plan/EIS:

Treatment of Sediment Contamination Issues in the Plan/EIS:

One of the overall goals of this draft document is to look at the potential for water related development in the bay. A key to understanding this, is the sediment section of the report. From the earliest days of the Fidalgo Bay planning process, Ecology has expressed concern that properties within the planning area may contain contaminated sediments. This important information is only briefly discussed on page III-46, Sediment Quality, and Appendix D. These sections discuss data obtained from Ecology's SEDQUAL database which contains data from 1988 and from older studies. Each of these studies was designed to answer questions about particular sites in the bay. The relevance of these studies to understanding whether sediment quality in Fidalgo Bay is a concern or not is not addressed. The conclusion of the sediment section of the report is that "Sediment quality throughout the majority of the planning area appears to be high." This statement is inaccurate and contrary to available data. The independent studies were not designed to answer the question of a bay-wide understanding of
sediment quality. Further, the data presented in these studies shows numerous exceedances of the standards. The EIS at a minimum needs to address:

- Whether there is adequate data to define sediment quality in the bay or study area.
- The document sites numerous areas that are above Sediment Management Standards. An additional step would include illustrating these areas clearly in the report. The map on page III-47 is not legible or useful.
- The studies that are discussed in the document are related to historic uses of the bay; a in-depth look at the industrial activity of the area would be needed and a analysis of how these activities impacted the bay would be necessary. Define all historic sources of contamination.
- Define data gaps.

The Sediment Management Standards (SMS) are mentioned in the report in the Sediment Quality section but are not listed in Table 8, page IV-5. If in-water work is pursued, the SMS will have a significant role along with the Model Toxics Control Act (MTCA) on impacting bay-wide planning. The document does not mention the listing of upland sites under MTCA. Clean-up will need to take place at these sites prior to any development.

Page III-6, Historic Dredging: In many urban areas shorelines were frequently used to dispose of garbage and other unwanted materials along shorelines. This common historic practice is an important factor in understanding significant sources of contamination to sediments. This section needs to be expanded to include disclosure of this information.

Wood debris: Fidalgo bay maps show areas of high wood debris. Under the SMS, this material is considered regulated under other deleterious substances. This material should be considered a contaminant of concern as part of this planning process.

Further investigation of the data should be carried out prior to determining what types and intensities of land uses may be appropriate within the planning area. At a minimum, the Plan/EIS should indicate that clean-up of contaminated sediments must occur prior to or concurrently with any planned development.

Protection of Critical Habitat Resources:

Ecology believes that the mitigation plan discussed in Chapter VIII of the Plan/EIS is generally acceptable and provides mitigation of a suitable level and type. As long as advance mitigation for critical habitats is required. Given the lack of proven success of larger mitigation areas, at minimum, advance mitigation should be required for areas of eelgrass impact that exceed 0.25 acre. Similarly, advance mitigation should be required for impacts to gravid Dungeness crab and herring spawn habitat.
We also cannot endorse extension of the mitigation area beyond Fidalgo Bay at this time. Such extension would require additional study beyond the scope of the present planning effort. Please refer to comments by Stephen Stanley, attached.

**Present Disconnect Between Alternative Scenarios and Mitigation Feasibility:**

Plan-level decisions are necessarily limited by available data. Ecology is concerned that interpretation of available data not lead to erroneous and/or insupportable conclusions and plan-level decisions. As previously concluded by planning process participants, additional data collection at the project review stage will undoubtedly be necessary before the viability of future in-water development proposals and attendant mitigation requirements can be ascertained. By "viability" we mean that such proposals would be economically feasible in view of the cost of the required mitigation. That mitigation would successfully replace biological functions, evidenced by having been successfully completed in advance or have a demonstrated high probability of success.

There has been some strong resistance throughout the planning process to requiring up-front replacement mitigation due to its cost and the absence of any guarantees that project proposals will be subsequently approved. To date, the relationship between the level of anticipated impacts and required mitigation has not been explored for any of the alternative scenarios. As a consequence, it is not possible to know if adequate mitigation can be provided to support each scenario. In other words, the viability has not been demonstrated.

**Recommendations for Preferred Alternative:**

The preferred development alternative needs to provide a sense of realism missing in the current alternative scenarios - it must be based on mitigation requirements with both a high probability of success AND economic practicability. The presence of critical habitat resources throughout much of Fidalgo Bay and the need for up-front mitigation seem to strongly suggest that substantial over-water and in-water developments are not viable at this time.

It appears that the preferred alternative should concentrate on upland uses, limiting those that require in-water and/or over-water locations. In particular, the up-front mitigation requirement for eelgrass disturbances in excess of 0.25 acre casts doubt on the feasibility of marina-related development, given the projected levels of habitat impact.

Other locations within the study area may prove more appropriate for additional marina accommodations than the presently proposed sites in Subarea 3. Avoidance of habitat loss as the
preferred mitigation strategy should be stressed, at least until a credible habitat assessment is prepared and/or a mitigation bank is approved and functioning.

Table S-1

Table S-1 is somewhat confusing, especially in the "Impacts to Eelgrass and Macroalgae" section. It might add clarity if the information in the third bullet under Scenarios 1 and 4 was more obviously presented as a subset of information contained in the second bullet. In addition, Ecology believes that the references to the percentage the anticipated impacted resource represents of that resource bay-wide may be misleading. The percentage does not take into account the function of the lost habitat relative to the whole bay.

Appendix Contents

Appendix B: This Appendix section contains the City of Anacortes Shoreline Master Program Draft Update, January 22, 1997. Based on a very cursory review of this document, Ecology has identified several concerns. Following additional review, Ecology will summarize these concerns in a subsequent letter to the city. It was, however, Ecology's understanding that the shoreline master program (SMP) would be updated following city approval of the Fidalgo Bay-Wide Plan and preferred alternative.

The present SMP amendments appear to "lead" the Bay-Wide planning process by including certain concepts not justified by the planning process to date. For example, the draft SMP amendments support allowing mitigation for resource impacts to Fidalgo Bay to occur within the "Guemes Channel/Fidalgo Bay/Padilla Bay system". The Fidalgo Bay Planning Committee has not reached consensus on expansion of the mitigation area. This proposal has, in fact, generated considerable debate and has been "resolved" in the Draft Fidalgo Bay-Wide Plan/EIS with the following statement, found on Page VIII-10: "Considering compensatory mitigation opportunities beyond the boundaries of the planning area would require expanding the existing documentation and analysis compiled for the Fidalgo Bay-Wide Plan area to include any new areas proposed for mitigation."

Ecology continues to recommend that amendments to the SMP should not be considered until the city has approved the Bay-Wide Plan and agreed to a preferred development/conservation alternative.

Appendix D: The sources of sediment information contained in this Appendix section are not identified. In addition, the very cursory comments discussing the referenced surveys and samplings appear to overly simplify very complex data. Further, a considerable body of existing data, made available by Ecology during the planning process, has not been included or given more than a passing reference in the text or appendices.
Ian Munce  
April 25, 1997  
Page 5

The document (page III-46 and Appendix D) refers to a study conducted by Hart Crowser on Fidalgo Marina (1995) to support the conclusion that there are no issues of concern in the bay. These statements are misleading since this study was designed to look at only the Fidalgo Marina contamination issues. Though it demonstrated that contamination from this operation was not of concern; it did however, identify the presence of resin acids associated with Scott Paper Company operations. No biological testing was conducted since this would not have been warranted to clarify the marina contamination issues. Without biological testing, you cannot conclude that the resins were below SMS standards. All contaminants of concern were not looked at; for instance, the study did not look at whether tributyltin (TBT) or dioxin was present.

Appendix D: Please explain how the chemistry level can be above the SMS, but the samples did not show exceedances of the SMS. This statement or conclusion is made repeatedly in this section of the document. If a chemical exceeds the SMS criteria, it is above the SMS.

Page II, paragraphs 5 and 6: Please specify which chemicals were tested and discuss what the results showed.

Appendix E: Ecology staff have carefully reviewed the NRC Eelgrass Report included in this Appendix. We have concluded that the report is based on incorrect assumptions regarding the marine intertidal resources of Fidalgo Bay and that the scientific basis (as it is reported in the NRC report) for these assumptions is seriously flawed. We concur with the Department of Fish and Wildlife’s response to the NRC report, also included in the Appendix. More detailed comments are provided in Stephen Stanley’s attachment.

If you have any questions, please call Ms. Alice Schisel with our Shorelands Program at (206) 649-4309.

Sincerely,

Rebecca J. Inman  
Environmental Review Section

Attachment

EIS #971905  
cc: Alice Schisel, NWRO  
Martha Turvey, NWRO  
Steve Stanley, NWRO  
SEPA Coordinator, NWRO
March 23, 1999

Ms. Rebecca Inman
DOE – Environmental Review Section
PO Box 47600
Olympia, WA 98504-7600

RE: Your April 28, 1997 Comments on the Draft Fidalgo Bay Plan

Dear Ms. Inman:

Thank you for taking the time to set out your detailed concerns and issues with the Fidalgo Bay Plan. The following are our specific responses:

1. We regret that our financial resources/scope of work do not permit the information to be presented in the level of detail that you recommended.

2. We submit that the text and map need to be reviewed together; a note to this effect has been added.

3. Your recommendation has been included.

4. Padilla Bay has been eliminated as a mitigation site.

5. The NRC Report has been dropped from the latest Plan Draft.

Thank you for your comments.

Sincerely,

CITY OF ANACORTES

[Signature]
Ian S. Munce, AICP
Director of Planning & Community Development

ISM:II
April 23, 1997

Mr. Ian Munce
City of Anacortes
PO Box 547
Anacortes WA 98221

Dear Mr. Munce:

Thank you for the opportunity to comment on the draft environmental impact statement (EIS) for the Draft Fidalgo Bay-Wide Plan. We have reviewed the document and have the following comments.

In table S-1 of the "Plan Summary Environmental Summary", and in the text on page IV-20 the impacts indicate a percentage of baywide resource impacted. Such generalization for the eelgrass habitat is inaccurate because of the different depths, densities, and patch characteristics of the eelgrass and possibly different species of eelgrass that are being lumped. The impact to the eelgrass should indicate the species and depth of eelgrass at a minimum, and indicate the density and patch characteristics as well whenever possible.

Chapter III, Section B of the Draft Integrated Fidalgo Bay-Wide Plan and EIS is a description of the regional biological resources. This section and description appear to be a good summary of the available knowledge of biological resources in Fidalgo Bay. The following comments could improve that section:

- There is no salt marsh mapped in Figure 8 in the southern part of Fidalgo Bay although the text refers to those salt marshes.

- Figure 8 may also be misleading regarding the extent of algae in Fidalgo Bay. The text clearly indicates that algae are present throughout much of the eelgrass area and the area labeled "Bare sand or mud" on the map. However, the figure implies that algae are present only in a few isolated patches.

Figure 8 characterizes the eelgrass as "dense", "spare" or "patchy". The "spare" designation seems misleading because densities of eelgrass included in the "spare" area include well developed eelgrass beds that would usually not be labeled "spare". Using that labeling system, many of the eelgrass beds throughout Puget Sound would be labeled "spare" which is not an accurate characterization. Perhaps the middle
density eelgrass [Eelgrass (sparse)] should be labeled just [Eelgrass] with the other two having the added labels (dense) and (patchy).

On page VIII-8, Table 32, we suggest that salmon use, crab use, and epibenthic invertebrates be made part of the monitoring of eelgrass, as they are for macroalgae and non-vegetated intertidal.

Padilla Bay is mentioned as a potential site for mitigation in various places in the Draft Integrated Fidalgo Bay-Wide Plan and the EIS. The Padilla Bay National Estuarine Research Reserve is the managing authority for nearly 11,000 acres of the bay and may be a suitable place to conduct some off-site mitigation. However, any such action would need to fit within the policies and regulations of the National Estuarine Research Reserve System, the Padilla Bay National Estuarine Research Reserve Management Plan, and to meet the applicable permits and regulations of the relevant local, state, federal agencies.

Appendix E.3 contains a response from the Washington Department of Fish and Wildlife (WDFW) to the Natural Resource Conservation Service Eelgrass Report. The Padilla Bay National Estuarine Research Reserve concurs with the WDFW response that indicates the importance of eelgrass habitat and the need for strong protection of this important habitat.

If you have any questions, please call Mr. Terry Stevens with Ecology’s Padilla Bay National Estuarine Research Reserve at (360) 428-1558.

Sincerely,

Rebecca J. Inman
Environmental Review Section

RI:

EIS #971905

cc: Terry Stevens, Padilla Bay
March 23, 1999

Mr. Gregory Griffith, Planning Specialist
CTED—Archaeology & Historic Pres.
PO Box 48343
Olympia, WA 98504-8343

RE: Your April 2, 1997 Comments on the Fidalgo Bay Plan

Dear Mr. Griffith:

Thank you for taking the time to set out your detailed concerns and issues with the Fidalgo Bay Plan. The following are our specific responses:

1. Acknowledged.
2. Changes included.
3. The comprehensive survey that you recommend is regrettably beyond our current resources and scope of work.
4. Thank you.
5. Reference added as you recommended.
6. The footnote you requested has been added.
7. Given the goal and policy changes made in Chapter V, historic preservation will be further addressed at the project level.
8. Appendix F1 now contains the reference you sought.

Thank you for your comments.

Sincerely,

CITY OF ANACORTES

[Signature]

Ian S. Munce, AICP
Director of Planning & Community Development

ISM:II
Mr. Ian Munce, Planning Director  
City of Anacortes  
P.O. Box 547  
Anacortes, Washington 98221

In future correspondence refer to:  
Log: 032697-02-SK  
Re: Draft Integrated Fidalgo Bay-Wide Plan & EIS, Anacortes

Dear Mr. Munce:

Thank you for sending a copy of the above referenced document to the Washington State Office of Archaeology and Historic Preservation (OAHP). From the narrative, I understand that once fully developed, this sub-area plan will supplement the Anacortes Comprehensive Plan, and provide guidance for future development activities and conservation of resources along the Fidalgo Bay shoreline.

In response, I have reviewed the draft in terms of potential impacts upon significant cultural resources (including archaeological and historic properties, and traditional cultural places) in the planning sub-areas. While recognizing that more work is anticipated to complete the Plan, the following points include both comments and recommendations intended to raise the awareness of the presence of cultural resources in the sub-area and the value of identifying and protecting those properties that are significant to the community’s heritage.

Before beginning with comments on specific aspects of the Plan, I want to pass along two comments of a more general nature. First, I recommend that the Plan address the need for interpretation of the resources (both natural and historic/cultural) found along the shoreline. Development of a strategy and plan for interpretation of these resources closely relates to recreation, public access, tourism and economic development. The Plan should call for the development of a comprehensive approach for integrating into future development the interpretation of the many fascinating aspects of the Fidalgo Bay shoreline.
Second, I recommend that the sub-area be comprehensively surveyed for archaeological and historic properties and traditional cultural places that have survived to the present. The information generated by this effort needs to be incorporated as part of the Plan's mitigation framework if the planning and development process is going to attain the Plan's goal of identifying and protecting cultural resources and increasing the predictability of the development process.

Specific comments/recommendations are as follows:

1. In Chapter V, I note and support the third objective and policies on page V-2 under the Land and Shoreline Use Goal.

2. I recommend that similar objectives and policies for protecting cultural resources be developed under B. Economic Development/Commerce and Navigation and C. Recreation/Public Access. Suggested wording for these statements may read something like the following:

   - Ensure that public access and recreation areas are designed and managed in a manner that is consistent with the existing natural and historic character of the area.

   - *Protect significant historic and cultural resources to enhance and enrich visitor experience.*

   - Develop information, education and enforcement policies to promote public safety, protect the shoreline, natural systems, and cultural resources, and prevent violation of private property rights.

   - Locate, design and maintain public access/recreation areas in a manner that protect the natural shoreline environment and processes, and cultural resources.
The section on Historical Land Use Activities beginning on page III-2 provides a
good context for how the sub-area developed historically. It is not clear how this
information is to be used in informing or directing future land use decisions as
they might affect cultural resources. As mentioned above, I recommend that a
comprehensive survey of historic, archaeological, and traditional cultural places
be undertaken to provide detailed information in order to help guide future
development.

On page III-22, I note and commend the Plan for coordinating with the Samish
and Swinomish tribes. Participation of the tribes is important particularly in
regard to identifying and protecting sites that may be of cultural importance.

I was not able to identify anywhere in the draft plan any reference to the inventor
of historic properties that was sponsored by OAHP in Anacortes in 1987.
Although not exhaustive, the 1987 inventory identified a number of historic
properties along the Anacortes shoreline and resulted in the nomination of Curtis
Wharf and other properties to the National Register of Historic Places. It is
recommended that acknowledgement of this work be included (perhaps in Chapte
III) in the Plan and that this inventory be the basis for additional cultural resource
identification work to be included as part of this Plan.

I note that the National Historic Preservation Act is referenced on page IV-16. It
is probably worth noting that Section 106 applies to federal agencies with
permitting authority such as the U.S. Army Corps of Engineers. For the Corps to
issue permits for work, that agency needs to take into account the effect of the
action on properties listed in or eligible for listing in the National Register of
Historic Places. This includes the need to consult with the State Historic
Preservation Officer and other interested parties.

I concur with statements made in Section E beginning on page VII-27 and Sectio
B beginning on page X-2 in terms of impacts to cultural resources and
implementation. However, the focus tends to be on impacts to archaeological
properties. Although concern for impacts to archaeological resources are
commendable and appropriate, I recommend that increased awareness and
consideration be devoted to historic properties which may survive in the sub-area
Again, no mention is made of the 1987 inventory of Anacortes. Impacts to any
surviving historic canneries, mills, wharves, vessels, and related buildings and
structures does not appear to be considered.
On page VII-27, the referenced Supplemental Environmental Information on Historical/Cultural referenced to be found in Appendix D (or E?) was not found in the copy of the Plan I reviewed.

Thank you for the opportunity to review and comment on the draft Fidalgo Bay-Wide Plan & EIS. On behalf of OAHP, I look forward to the Plan’s eventual completion and implementation. Should you have any questions about any of the above comments and recommendations, please feel free to contact me at (360) 753-9116

Sincerely,

[Signature]
Gregory Griffith
Comprehensive Planning Specialist

GAG:tjt

cc: Peter Riley
March 23, 1999

Mr. Gary Voerman, Manager
EPA – Aquatic Resources Unit
1200 6th Ave
Seattle, WA 98101

RE: Your April 21, 1997 Letter on the Draft Fidalgo Bay Plan

Dear Mr. Voerman:

Thank you for your taking the time to set out your detailed concerns and issues with the Fidalgo Bay Plan.

1. The City has acted on your recommendations. We have finalized the Mitigation Framework and issued a Supplemental EIS for further review and comment. The following are our specific responses:

2. The latest draft addresses preservation and restoration as well as mitigation.

3. The City will insert "functions and values" for functional value.

4. The Plan is proposed as a Sub-Area Plan of the City’s Comprehensive Plan.

Thank you for your comments. We look forward to any additional comments that you have at this time.

Sincerely,

CITY OF ANACORTES

Ian S. Munce, AICP
Director of Planning & Community Development

ISM:II
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

APR 2

Letter 2

Reply To
Attn: ECO-033

Ian Munce, SEPA Official
Director of Planning and Community Development
City of Anacortes
F.O. Box 547
Anacortes, Washington 98221

Dear Mr. Munce:

The Environmental Protection Agency (EPA) has reviewed the
Draft Integrated Fidalgo Bay-Wide Plan and Environmental Impact
Statement (DEIS) dated March 21, 1997, which reviews a range of
proposed alternatives for conservation and development in Fidalgo
Bay, Washington. This document was prepared under the State
Environmental Policy Act. The purpose of this letter is to
serve as a planning aid letter to the City of Anacortes, Port of
Anacortes, and other tribal, state and federal natural resource
and regulatory agencies as we move towards the Clean Water Act
Section (CWA) 404(b)(1) analysis and permitting process.

The Fidalgo Bay-Wide Planning Process has been underway for
sometime. EPA has reviewed and commented on a number of
documents at critical points during the planning process. We
consider this planning effort important to protecting aquatic
resources while at the same time directing where development could
occur in the least environmentally damaging manner. EPA supports
these planning efforts whenever we have sufficient staff
resources.

From EPA’s perspective, the success or failure of this
planning process will be in the development of an acceptable
“Mitigation Framework” and future project specific detailed
mitigation plans. Since the Mitigation Framework is a “work in
progress” with “ongoing discussions” to resolve a variety of
issues identified in the DEIS, EPA believes the issuance of the
Integrated Fidalgo Bay-Wide Plan and DEIS was premature.

EPA’s specific concerns and comments are as follows:

1) The “Mitigation Framework” must address cumulative impacts.
The loss of 4% of existing eelgrass habitat to proposed
development must be completely mitigated consistent with the
plans goal of “no net loss” and be described in the
“Mitigation Framework.” There is a substantial body of
literature available documenting the relatively high functional importance of eelgrass, even at lower densities.

- The phrase functional value is not currently used in the scientific community and is incorrect. We prefer to use functions and values where function refers to how the resource functions in an ecosystem context and values refer to the value society places on the resource.

- The City of Anacortes provided it’s perspective on the relationship between the bay-wide plan and mitigation. Since this document is to reflect the efforts of all committee members, then all committee members should be provided the same opportunity to provide their perspective on this relationship.

We recommend the City of Anacortes finalize the "Mitigation Framework" prior to issuance of the Final Environment Impact Statement. It should be incorporated into the Fidalgo Bay-Wide Plan and made available to the public for review and comment through the issuance of a Supplemental Draft Environmental Impact Statement.

Should you have any questions or desire additional coordination on this project, please contact Steven Roy at telephone (206) 553-6221.

Sincerely,

[Signature]
Gary Voerman, Manager
Aquatic Resources Unit

CC:
COE
WDF&W
USF&W
Ecology
NMFS
Swinomish Tribe
Skagit System Cooperative
March 23, 1999

Mr. Steven Landino, Supervisor
NOAA – National Marine Fisheries
7600 Sand Point Way NE
Seattle, WA 98115

RE: Your April 28, 1997 Comments on the Draft Fidalgo Bay Plan

Dear Mr. Landino:

Thank you for taking the time to set out your detailed concerns and issues with the Fidalgo Bay Plan.

The following are our specific responses:

1. The City has added a set of innovative approaches in its March 26, 1999 Draft. These range from aquatic land acquisition, to restoration goals, to design objectives for marinas relative to dry stack and upland alternatives.

2. The City has added specific restoration goals to address habitat losses that have occurred over the past 100 years.

3. The March 26, 1998 Draft better addresses mitigation sequencing.

4. Comments noted.

5. The Eelgrass Demonstration Project described in the Plan provides for a five year monitoring period and then use for mitigation.

6. Comment noted, although given the current position of state agencies, this is not a focus of the Plan.

7. The calculations were based on the available site specific data.

8. Comment noted. This is the key issue to be addressed in mitigation sequencing.

Thank you for your comments.

Sincerely,

CITY OF ANACORTES

Ian S. Munce, AICP
Director of Planning & Community Development

ISM:II
Mr. Richard Weinman  
Huckell/Weinman Associates, Inc.  
205 Lake Street South, Suite 202  
Kirkland, Washington 98033  

RE: Draft Integrated Fidalgo Bay-Wide Plan & EIS

Dear Mr. Weinman:

Thank you for providing the National Marine Fisheries Service (NMFS) with a copy of the Draft Integrated Fidalgo Bay-Wide Plan & Environmental Impact Statement. This document provides a range of proposed unidentified development scenarios and generic mitigation approaches that could occur for development that affects Fidalgo Bay fish and wildlife resources. Our comments are based on NMFS' responsibility for the protection and enhancement of marine, estuarine and anadromous fishery resources and their habitats. Because this document is intended to solicit input from the public and resource agencies for planning development of specific proposals and appropriate compensatory habitat mitigation in the future, we will provide general comments and concerns at this time.

We are concerned that the stated objective to provide continuous enhancement of fisheries resources and aquatic habitat in the Fidalgo Bay study area is not associated with clearly defined goals. For instance, under the Land and Shoreline Use and the Economic Development/Commerce and Navigation sections, no goals or policies have been presented for innovative approaches for development to avoid impacts to sensitive natural resources. However, these goals or policies (i.e., avoidance, minimization and compensatory mitigation) are identified in the marine resources section.

NMFS has not yet agreed that compensatory mitigation, where appropriate, will be based on today's existing resource conditions, sensitivity, and identified functions within the adopted Plan area at the time that permit applications are submitted. Adoption of that concept would ignore aquatic resources that have been lost, degraded or modified by development that have not been fully mitigated. Further, there may be seasonal use of habitats by fishery resources that have not yet been documented, or intra- and inter-specific relationships of fishery resources exist that we have yet to fully understand.

The draft document appears to favor compensatory mitigation rather than promoting project alternative development that would avoid impacts to sensitive marine habitats. Our preference is to promote avoidance of the impact, followed by minimization, and finally compensatory...
mitigation where necessary. It should be made clear that avoidance may be the only acceptable mitigation allowed for potential resource impacts in the shallow marine waters of subareas 2, 3, 4 and 5. It should also be made clear that if habitat avoidance was considered at the bay-wide planning level, it will still remain a viable mitigation alternative at the project level review stage.

The EIS implies that a preferred alternative will be selected for the final document. The relationship of the Fidalgo Bay Planning Committee (FBPC) and the preferred development alternative is unclear. NMFS intends to remain neutral and provide only our assessment of the natural resource impacts of the alternatives examined. NMFS representation on the FBPC does not imply endorsement of any selected preferred alternatives.

It should be noted that restoration of marine habitat functions in an area where they historically existed, or where those resources presently exist in a disturbed condition, is preferable to creation of new marine habitats where that resource never existed. Mitigation preference can only be determined on a case by case basis, using an approach that is expected to have the greatest likelihood of success.

In an instance where advanced mitigation has been determined to have fully compensated for aquatic resources lost or degraded by development, a 1:1 habitat replacement ratio may be acceptable. However, there should be a caveat that clearly explains that project construction would likely occur at the end of a monitoring period, usually after 5 years. Thus, it is likely that most mitigation would be proposed concurrently with project development or after a project is implemented, and not in advance. We are concerned that the proposed concurrent mitigation replacement ratios are inadequate to fully replace the lost uses of existing aquatic resources and the temporal loss required to re-establish fully functioning replacement habitat(s). Further, it is not clear in the mitigation summary chart whether enhancement alone at a replacement ratio of 1.75:1 is meant to provide full and complete compensatory mitigation for the net loss of aquatic habitat (area). If so, this is unacceptable to NMFS, and would appear to conflict with the EIS definition and purpose of "no net loss" (mitigation of loss of area by habitat type). There may be instances where enhancement alone may provide adequate compensatory mitigation for minor impacts to trust resources; however, it is our experience that habitat enhancement work is often implemented with some form of habitat restoration or creation.

It should be noted that use of preservation as a component of mitigation is acceptable when high quality habitat(s) are in imminent danger of being lost or degraded if not otherwise already protected by statute or law.

It is our understanding that the Washington Department of Fish and Wildlife (WDF&W) has a policy that advanced mitigation would be required for projects that would impact eelgrass habitat greater than 1/4 acre, herring spawning habitat (eelgrass or macroalgae) regardless of the area impacted and unique documented Dungeness crab wintering habitat at Ship Harbor. It's our belief that policy or recommendation is based on experience in Washington on the survival of creating or restoring fully functioning eelgrass beds as mitigation and the low rate of full mitigation success. Given that scenario, we recommend that the present WDF&W policy remain in effect unless new research applicable to Washington indicates otherwise.
The basis for the acres of impact on eelgrass and macroalgae and fish spawning in the scenarios comparison tables is unclear. For example, using the 20 boat slips per acre criteria and 1500 slips in subarea 3 (scenarios 1 and 4) yields an over water impact of 75 acres. It is not clear how it was determined that only 42 acres of eelgrass and macroalgal beds or only 30 acres of herring spawning habitat would be impacted by marina development in scenarios 1 and 4. In addition, the scenarios comparison table for juvenile salmonid habitat is highly speculative given the limited knowledge of salmonid use of the planning area. Also, the impact of marine development is likely greater than just shoreline modification. Loss of eelgrass and macroalgae can mean a loss of prey base, loss of cover to escape predators, an increase in salmonid predator habitat, and forcing migrating juvenile salmonids into deeper water with subsequent increased predation.

Thank you for the opportunity to comment on this document. Should you have questions, please contact Mr. Dennis Carlson of my staff at (360) 753-5828 or at the letterhead address.

Sincerely,

[Signed]
Steven Landino
Supervisor

c: COE, Seattle (Cindy Barger)
   EPA, Seattle (Steve Roy)
   USFWS, Lacey (Nancy Brennan-Dubbs)
   WDF&W, Region 4 (Brian Williams)
March 23, 1999

Mr. Larry Wasserman  
Skagit Systems Cooperative  
PO Box 368  
LaConner, WA 98257

RE: Your April 23, 1997 Comments on the Fidalgo Bay Plan

Dear Mr. Wasserman:

The City submits the following specific response:

1. A new draft of the Mitigation Plan has been prepared for review and comment and, hopefully, for endorsement by all participating agencies and tribes.

2. We appreciate your position but consider that there continues to be “substantial controversy” on some issues, controversy that the City hopes can be resolved before final City action.

3. We submit that no additional eelgrass will be lost to development if the proposed policy of proven, advance mitigation is implemented. Further, the Plan calls for restoration of the eelgrass lost to development over the past 100 years.

4. This statement has been dropped.

5. Without the statement referred to in (4) and the addition of preservation and restoration goals this conclusion can, we consider, stand.

6. Please refer to (1) and (2) above.

Thank you for your comments.

Sincerely,

CITY OF ANACortES

[Signature]

Ian S. Munce, AICP  
Director of Planning & Community Development

ISM:II
Dear Richard:

Skagit System Cooperative would like to provide the following comments regarding the Draft Fidalgo Bay Plan EIS. To begin, please refer to our February 24, 1996 comments, particularly comments referring to pages 9, 10, 22, 29, 32 and pages 6 and 9 of the mitigation plan. We still believe that these questions have not been adequately addressed. We would also like to provide these additional comments related to this latest version.

We believe it would be more explicit regarding the lack of consensus on some critical issues. It should be stated that lacking consensus on the part of regulatory agencies, the likelihood of this plan providing significant influence on project permitting is severely diminished. While the plan might have utility regarding as a statement of the proposed direction that the City of Anacortes intends to pursue, plan implementation as described will be unlikely if the Tribes and agencies feel that the mitigation as proposed is inadequate. This should be clearly expressed in the document, as well as in the summary.

Page S-6:
Third paragraph states "substantial controversy exists at this time regarding the degree of flexibility that can be incorporated into the plan regarding mitigation for impacts related to marine development..." We believe this statement is erroneous. We believe the Tribes and regulatory agencies have been quite explicit regarding the degree of flexibility that exists, and that authority for permitting resides with these agencies. Clearly, the City is not satisfied with the degree of flexibility that has been provided, but to characterize this as a controversy is not accurate, since the regulatory authority ultimately resides within the Natural Resource Managers.

III-6. Historical dredging and filling in Fidalgo Bay:
We have not seen the raw data that was used to generate the extent of dredge or fill. We believe this raw data should be provided in the appendix. We also feel that while the report states that Scenarios 1 and 4 will result in approximately a 4% loss of eelgrass, it could also be stated that these alternatives will be equivalent to nearly double the number of acres lost due to dredging (48 acres loss of eelgrass/60 acres historically dredged) during the past 80 years.
IV-20 and IV-21. While it may be appropriate for the City to state its beliefs regarding the significance of impacts of its various scenarios on biological resources within the Bay, we believe that the conclusions that it has drawn are not only inaccurate, but credible documentation has not been provided regarding how the City came to these conclusions. In reference to these two pages, there are three salient points. First, there is no analysis of the environmental impact of the loss of 4 percent of the eelgrass in Fidalgo Bay. We hope that the City does not expect the Skagit River Tribes to bear the burden of this loss so that benefits may accrue to the City’s non-Indian community. The second point of contention is the statement:

Although the density of eelgrass in this area is relatively low and its functional importance to marine fishes and invertebrates within the Bay are unclear, the City believes it highly unlikely that proposed disturbances would generate measurable changes to important marine fauna (herring, salmon, crab etc) or be functionally critical to the local fish and invertebrate populations.

No basis is provided to support this statement regarding functional importance to marine populations, cumulative effects, or what constitutes measurable changes. This appears to be an attempt on the part of the City to downplay, without scientific justification, the impacts of proposed scenarios. We therefore cannot agree with the final conclusion that:

The resulting Plan can permit acceptable, economically feasible development while also protecting critical habitat and yielding resource enhancement at reasonable cost.

This is particularly true in light of the fact that no agreed upon mitigation plan has been adopted, nor has there been any assessment regarding resource enhancement.

Our final comment is one of a procedural nature. We are unclear how the City intends to proceed regarding planning in Fidalgo Bay, lacking an approved mitigation plan. The Tribes, State, and Federal agencies have been explicit regarding mitigation measures that must be employed. Clearly the City believes the level of flexibility proposed is not adequate. Lacking closure on this issue, we do not understand the utility of the Baywide Plan at this time. We therefore would like to ask the City of Anacortes to describe how it intends to utilize this plan, and its expectations regarding how natural resource managers will use this plan during review of individual project proposals.

Thank you for your consideration of these comments.

Sincerely,

Larry Wasserman
Environmental Services Director
March 17, 1999

Ms. Alice Schisel
Dept. of Ecology
Northwest Regional Office
3190 160th Ave SE
Bellevue, WA 98008-5452

RE: WSDOE’s Comments on Proposed Zoning Language for Alternative 1A

Dear Ms. Schisel:

Thank you for the above referenced comments. We submit the following response:

1. Minimum setback requirements for non-water dependent uses are now addressed in the March 26, 1999 Draft of the Anacortes Shoreline Master Program (ASMP)

2. Flexible height provisions are not included in the March 26, 1999 Draft of the ASMP.

3. I am proposing that commercial parking not be allowed within shoreline jurisdiction.

4. Non-water dependent uses are excluded in the March 26, 1999 Draft of the ASMP.

5. Landscaping is currently required in conjunction with all parking areas, AMC 17.46.080. Additionally, the City is currently reviewing its landscaping requirements as part of its 1999 Comprehensive Plan with Development Regulations Amendments.

6. In Section 17.24.080 I am proposing to add that building coverage cannot exceed 75% even if the Conditional Use process is used, unless boat building or repair are involved.

7. I am proposing to add language to the Zoning Ordinance provisions to make it clear that “impacts to shoreline resources can not occur except in compliance with the requirements of the Fidalgo Bay Plan.”

8. The City is not proposing to add any new shoreline conditional uses.
It is our earnest hope that these changes DOE requested by DOE in our draft SMP Amendments and the modifications proposed in this letter will address your concerns.

Sincerely,

CITY OF ANACORTES

[Signature]

Ian S. Munce, AICP
Director of Planning & Community Development

ISM:ll
December 3, 1998

Mr. Ian Munce, Director
City of Anacortes
Planning & Community Development
P.O. Box 547
Anacortes, WA 98221

Dear Mr. Munce:

Re: Proposed Zoning Language for Alternative 1A

The Ecology staff have reviewed the above-referenced document and has the following comments:

1. Minimum setback requirements: Nowhere in the proposed zoning provisions did we see waterfront setback requirements. Minimum setbacks from the Ordinary High Water Mark should be specified for all non-water-dependent uses in each zone.

2. Height limitations: Most of the heights limitations proposed for the several zoning classifications can be exceeded with a Planning Commission recommendation, through the conditional use process or if the proposed development conforms to specified criteria. It appears that these flexible height provisions will apply in shoreline jurisdiction as well as in upland non-shoreline areas. We are concerned about the impacts such heights may have on existing development. Also, as we have previously indicated, the City’s SMP must be amended to be consistent with such zoning changes.

3. Commercial parking: Commercial parking (i.e., parking as a primary use) should not be allowed within shoreline jurisdiction. The proposed language should be revised to indicate this.

4. Movie theaters and other non-water-oriented uses: Uses such as movie theaters and other non-water-oriented uses that do not require or benefit from a shoreline location should be permitted only in those areas of the proposed zoning designations that are outside shoreline jurisdiction.

5. Buffers/landscaping: We could not find any requirements for buffers and/or landscaping in the proposed zoning amendments. In fact, it appears that the use of vegetation is almost discouraged in all the subject zones. While buffering and landscaping may not be appropriate for all uses within each zone, this should be decided on a case by case basis. We recommend revising the present language to allow the City to require both buffers and landscaping when appropriate.

6. Maximum land coverage: In at least one subsection (17.24.080), there appears to be no upper limit to land coverage. This seems to indicate that development in this zone may cover 100 percent of the lot. Ecology would have concerns about water quality and view obstruction if this approach were allowed within shoreline jurisdiction.
Over-water structures: The proposed zoning provisions do not deal with over-water development yet over-water structures would be inherent in many of the permitted uses. For example, in Subsection 17.XX.020, page 12, both “shipping” and “terminal uses” would likely require over-water structures and/or in-water activities (e.g. docks and dredging). Requirements for over-water development should be adequately addressed in the zoning provisions. In addition, any potential impacts of over-water development to shoreline resources such as eelgrass would have to conform to requirements of the eelgrass restoration and mitigation plan completed as part of the Fidalgo Bay planning process (and later amended by Ron Thom, Ph.D.). This document should be referred to in the proposed zoning provisions, which should clearly indicate that impacts to shoreline resources can not occur except in compliance with the plan’s requirements.

Shoreline conditional use permit requirements: Section 17.10.105, pages 14-17, contains criteria for obtaining a conditional use permit. However, it appears that this is a ZONING permit and not one to be issued pursuant to the Shoreline Management Act and the City’s shoreline master program. Many of the conditional uses set forth in the proposed zoning language should also require a shoreline conditional use permit. This is one of several areas where the new zoning provisions and the City’s SMP must be reconciled.

The City appears to have selected the Fidalgo Bay planning alternative that involves the most intensive shoreline and over-water development, in spite of the very severe limitations posed by the presence of seagrass habitats in much of the planning area. Until techniques to mitigate for seagrass loss greater than 1/4 acre have been proven and accepted by state and federal regulatory and proprietary agencies, it appears that implementation of the zoning provisions will be highly problematic.

Ecology believes several provisions of the proposed zoning language are inconsistent with the present master program. From the onset of the Fidalgo Bay planning process, Ecology has stressed that a master program revision to assure consistency between the master program and the adopted plan should be an integral part of the process. We strongly recommend that the master program be amended to achieve consistency with the proposed zoning language before development under the new zoning provisions is authorized.

Please don’t hesitate to contact me at (425) 649-4309 to discuss the above comments. I plan to attend the meeting scheduled for December 15th in Mill Creek.

Sincerely,

Alice Schisel
Shoreline Planner

cc: Raymond K. Hellwig
    Mike Rundlett
March 17, 1999

Mr. David Palazzi, Natural Resource Planner
Aquatic Resources Division
Department of Natural Resources
1111 Washington St, SE
PO Box 47000
Olympia, WA 98504-7000

RE: Fidalgo Bay Plan (FBP)

Dear Mr. Palazzi:

Thank you for your February 24, 1998 comments on the above referenced document. I have responded separately to your Department’s April 21, 1997 letter (copy attached). My response to your February 24, 1998 letter is as follows:

1. From the outset, funding limited our work on an analysis of existing data. If there is any data for the FBP Study Area (FBPSA) that we have not included please let me know. Based on what we do know about the FBPSA we have now identified a preservation strategy for South Fidalgo Bay, a restoration strategy for the FBPSA, areas where there could be a minimum degree of limited action, and a cautious approach to eelgrass mitigation and mitigation banking. We have fully incorporated mitigation sequencing in the current version of the FBP.

2. As you will see in the latest version of the Shoreline Master Program Amendments (SMPA) buffers have been added for non-water dependent uses. Additionally, once South Fidalgo Bay is in public ownership the City plans to revise shoreline designations accordingly (SMPA p. 21).

3. Upland dredging to create marina space is now a preferred activity (SMPA p. 26).

4. Once the Port of Anacortes’ Comprehensive Plan Update is complete, appropriate cross-references to the FBP will be made (SMPA p. 31).

5. Based on the City’s limited understanding of this proposal, the FBP allows this proposal to be considered.

6. The answer is yes.
7. The uplands that drain into the southern portion of Fidalgo are largely developed without urban stormwater system(s) or sewers. The City has now adopted urban stormwater standards for this area, is now working towards correcting existing deficiencies, and is designing a sewer system to replace failing septic and mound systems.

8. The City would appreciate WDNR’s guidance as to how best to incorporate WDNR’s Forage Fish Management Plan.

9. This comment has been included in the FBP.

10. The City’s analysis of marina demand is based on a reasonable 20-year demand forecast that includes existing waiting lists for the region.

11. This recommendation has been added.

12. The latest version of the FBP includes changes called for by DNR in DNR’s April 21, 1997 letter.

13. The City understands DNR’s position but considers that more intensive use of existing, developed industrial land, including brownfields cleanup, is preferable to sprawling development on undeveloped land.

14. It is our earnest hope that with the changes that are now proposed in the FBP that the FBP can receive DNR’s support.

Thank you.
Sincerely,

CITY OF ANACORTES

Ian S. Munce, AICP
Director of Planning & Community Development

ISM:II
February 24, 1998

Mr. Ian Munce
Shoreline Planner
City of Anacortes
P.O. Box 547
Anacortes, WA 98221-0547

Dear Mr. Munce:

The following are the compiled review comments on the Fidalgo Bay/Sub-Area Plan final environmental impact statement (Plan), on behalf of the Department of Natural Resources Aquatic Resources Division and Northwest Regional Office (DNR). The Plan represents many months of work by the Fidalgo Bay Planning Committee (FBPC). The City should be commended for their efforts in organizing this effort.

Overall, the Plan provides a basis for planning in Fidalgo Bay. The Plan does not provide the level of predictability to DNR for managing state proprietary interests in Fidalgo Bay. The addition of the following components to the Plan will provide the predictability we desire.

1. The Plan recognizes herring spawning habitat (eel grass) and, to a lesser degree, surf melt and sand lance spawning areas to be important habitat. The Plan should go further and classify forage fish spawning habitat and other prime intertidal and subtidal habitat for protection needs. Habitat protection needs should be directly correlated with mitigation sequencing. In addition, the Plan should identify where land use in the next 10-20 years may conflict with forage fish spawning habitat and other prime intertidal and subtidal habitat in the planning area. Specifically, the committee should identify and agree on where impacts to aquatic habitat should be avoided, where there should be a minimum degree of limited action, etc. At a minimum, the committee must identify areas where mitigation would be difficult based on the risk to the resource. Resource protection should not take a back seat to development in the planning area.
2. In addition to identifying critical aquatic habitat, the Plan should recommend changes to the Anacortes Shoreline Master Program that would require adequate shoreline buffering and shoreline designation to protect these resources. Most of the proposed development in the planning area is industrial which tends to have a greater potential for impact than other land use. Aquatic habitat should be assured a buffer from adjacent upland uses. Buffers should be specified based prescribed protection needs and the type and intensity of development on the shoreline.

3. The Plan should address options for upland dredging to created marina space. Avoidance is the first choice under mitigation sequencing when proposing to displace aquatic habitat.

4. The Plan should incorporate pertinent sections from the Port of Anacortes Comprehensive Plan Update and Draft Programmatic Environmental Impact Statement, November, 1996. This should include the specific plans the Port has for Cap Sante Boat Haven, South Basin and March Point.

5. The Plan should incorporate the proposal for the new Samish Indian Tribal Marina. Though there were no committee members from the Samish Tribe, the implications of their proposal should be considered with all the other development proposals.

6. Is it safe to say that the Anacortes Marina has no expansion plans if there is nothing in the Plan?

7. The Plan should include the impacts to Fidalgo Bay from the March Point annexation. The third sentence of the first bullet under A. Biological Resource on page VII-8 of the Plan states that “no development impacts are anticipated in the southern portion of Fidalgo Bay...” This is not consistent with the South March Point Feasibility Study, June 1997. The area of the annexation includes 500 undeveloped acres held in over 100 separate parcels. Of the 1,214 acres to be annexed to City, a good portion is along (and includes) the southern portion of Fidalgo Bay. There most definitely will be nonpoint source water quality impacts to the Bay from the level of development proposed for this area. The Plan should deal with this through prescribed best management practices including requiring buffers as discussed in #2 above.

8. The Plan should consider the implications of the recently proposed Forage Fish Management Plan by the Washington Department of Fish and Wildlife.

The following are comments to specific sections of the Plan:

Impacts of Development Scenarios: The development scenarios described for the marine environment in Table 21 & 22 on page VII-3 and VII-4 only consider the impacts from the footprint (ex. 48 acres) of the proposed projects. The scenario should be expanded to account for
the impacts from nonpoint sources of pollution that will be generated from these sites and the impacts to habitat continuity.

Demand for Marina Development, page VI-11: This section over-estimates the present demand for marina development. The reported demand for 3,000 slips in the Anacortes area is not consistent with the report by the Port of Bellingham referenced in the first paragraph. The Port of Bellingham report determined that for the entire Northern Puget Sound there is a waiting list for 2,107 moorage spaces. The report also states that “Most if not all of these 2,107 individuals are all potential customers for the Port’s (Bellingham) Marina Division.”

The following are general comments to the Plan:

11. There should be a review of the Plan every five years by the committee in order to evaluate the condition of aquatic habitat and resources and to modify the Plan for any changes in land use.

12. Many of the comments to the March 21, 1997, Draft Integrated Fidalgo Bay-Wide Plan & EIS, submitted in a letter from DNR dated April 21, 1997, (attached) have not been adequately addressed in the final environmental impact statement.

13. DNR favors development scenario number four, the “no action” option of those proposed in the Plan, but without the 1500 slip marina proposed at the MJB site. The level of disturbance to aquatic resources from the development of a 1500 slip marina does not correlate with a “no action scenario.”

Finally, we recommend that the FEIS be withdrawn at this point until the following additions have been made to the Plan:

- Final consensus is reached on the Bay-Wide Mitigation Framework. The first paragraph on page VII-1 of the plan states that the mitigation framework “...is a work in progress...” Mitigation is a crucial element of the Plan.

- Consensus is reached by the committee on the baseline for establishing the definition for no-net-loss. This is also crucial to the mitigation framework.

- Comments to the Plan from the members of the Fidalgo Bay Planning Committee can be adequately addressed.

The addition of the above suggested revisions to the Plan would provide DNR staff with the
predictability needed for bay wide management of state-owned aquatic lands and resources in Fidalgo Bay and as a result provide predictability to the City, adjacent land owners, other resource management agencies, citizens and interest groups. We are committed to continue to work with the City and the Fidalgo Bay Planning Committee to accomplish this. We would also welcome an opportunity to review with you, our comments to the Plan.

Please call me (360) 902-1069 or Chad Unland in our Northwest Regional Office at (360) 856-3500 if you have any questions.

Sincerely,

David Palazzi
Natural Resource Planner
Aquatic Resources Division

cc: Tom Mumford, DNR
    Chad Unland, DNR NW Region
    Peter Riley, CTED
    Dave Dietzman, DNR SEPA Center

attachment
bc: Maria Peeler
     Lisa Randlette
     Bill Wallace
March 18, 1999

Mr. Steve Jenison
Orca District Manager
Dept. of Natural Resources
919 N. Township
Sedro-Woolley, WA 98284-9395

RE: DNR’s Comments on the Fidalgo Bay Plan

Dear Mr. Jenison:

These comments are in response to your office’s April 21, 1997 submission:

1. This clarification has been added.

2. The City has incorporated the Shoreline Management Guidebook’s definitions of “water dependent” and “water related” and set these forth in Appendix B (Shoreline Master Program Amendments).

3. We concur. The Anacortes Zoning Code provides for the working waterfront by allowing the walkway to be inland from the shoreline. The text in S-2 has been changed to refer to the “waterfront area” rather than “the shoreline”.

4. A footnote has been added relative to WDNR’s position.

5. This clarification has been added.

6. The City has circulated the FBP Drafts to the State Office of Archaeology and Historic Preservation for review. No comments have been received to date. However, the two points raised by Ms. Grebmeier have been included as a new paragraph at the end of Subsection 1(a).

7. The reference to “further study” has been added as a footnote to Table 31 on Page VII-26.

8. The City has circulated the FBP Drafts to the Samish and Swinomish Tribes for review. No formal comments have been received to date. Informal comments have been received and discussions are continuing.

9. The reference to “high” sediment quality has been changed to “...relatively good compared to many developed areas.”
10. Table 21 has been revised and a medium rather than low potential identified for Scenario 1.

11. The City would welcome WDNR’s assistance in better characterizing sediment issues.

12. Typographical error corrected.

13. The reference to “vacant industrial land” has been deleted.

14. Typographical error corrected.

15. The City would welcome WDNR’s assistance in better characterizing sediment issues.

16. These corrections have been made.

17. These references have been added.

18. The reference to Aquatic Lands has been clarified.

19. The requested clarification has been inserted.

20. The second bullet has been deleted.

21. The suggested references have been included.

22. Mitigation sequencing is addressed outside this table for ease of presentation.

23. Table 10 has been renamed as suggested.

24. The focus of the City’s perspective was on baywide issues.

25. The requested text reference has been added.

26. There is now a preferred alternative presented.

27. The statement objected to has been deleted.

28. Restoration targets have been added (Shoreline Master Program Amendments, Appendix B).

29. Comment noted.

30. The discrepancy has been addressed with a note on Table 15.

31. More detail on these issues is presented in Appendix A, the Preferred Alternative.

32. Figures 15-18 will be corrected.

33. Typographical errors corrected.
34. Restoration targets have been added (Shoreline Master Program Amendments, Appendix B).

35. The City is proposing to move forward with the ¼ acre threshold supported by DNR.

36. The City would welcome DNR’s assistance in expanding the Table 32 to sediment and water quality.

37. Reference to provisions being included for management over the long-term have been added.

38. WDNR’s position has been included as a separate paragraph.

39. Comment noted.

40. The word “Regulatory” has been deleted from the title.

41. The introductory paragraph has been added in the location requested.

Sincerely,

CITY OF ANACORTES

Ian S. Munce, AICP
Director of Planning & Community Development

ISM:il
April 21, 1997

Ian Munce, AICP
Director of Planning & Community Development
City of Anacortes
P.O. Box 547
Anacortes, WA. 98221

RE: Comments on Draft Integrated Fidalgo Bay-Wide Plan and EIS Dated March 21, 1997
SEPA File No. 8709

Dear Ian:

Washington State Department of Natural Resources’ comments on the above document are as follows:

<table>
<thead>
<tr>
<th>Page</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-2</td>
<td>In Land and Shoreline Use, “water-related” uses are NOT preferred uses in State-owned harbor areas, which may fall within the marine subarea designation. Same comment for Economic Development / Commerce and Navigation. What is the definition used for “water dependent” and “water-related”?</td>
</tr>
<tr>
<td></td>
<td>Recreation/Public Access, the “continuous walkway along the shoreline” concept must not interfere with the navigation and commerce needs of the working waterfront. What are the plans for preventing this interference?</td>
</tr>
<tr>
<td>S-3</td>
<td>WDNR has not formulated a policy on Mitigation Banking and any proposal for banking on SOAL or any banking proposal due to projects on SOAL, will need to go through a process for Department approval.</td>
</tr>
<tr>
<td></td>
<td>WDNR agrees that some data, especially sediments and habitat is either incomplete or inconclusive. At least the functional equivalent of a Remedial Investigation/Feasibility Study (RI/FS) may be needed on a project specific basis to deal both with sediment contamination and source control issues and habitat issues.</td>
</tr>
<tr>
<td>III-Sec 1 &amp; E. VII-27,28</td>
<td>The Historical Land Use Activities and Archaeological &amp; Historical Resources Sections should include a contact with Washington State Office of Archaeology</td>
</tr>
</tbody>
</table>
and Historic Preservation Office in Olympia. Their records include a copy of a study entitled “Prehistoric Places on the Southern NW Coast by the Thomas Burke Memorial Washington State Museum. This study contains a document dated 1983, written by a Jacqueline Grebmeier entitled “Inundated Prehistoric Maritime Sites. The document makes two very clear points:

- Filling of sediments can preserve a site and the fact that an area has been filled or dredged, does not mean that there isn’t Archaeological potential in the area.

- Padilla Bay, which neighbors Fidalgo Bay and contains some of the same substrate as Fidalgo Bay, may likely have buried Archaeological sites.

Knowledge of this study would appear to indicate that Table 31 on Page VII-26, may be incorrect as to a low impact rating on Archaeological & Historical Resources. Further study would be needed to be sure that no Archaeological Resources exist in the proposed Development Areas. These sections still seem to be incomplete in its handling of Native American Cultural Resources. Again, part of the planning area is within Native American Usual and Accustomed Areas (U & A) and the fishery resource is a Cultural Resource. Native American finfish and shellfish treaty rights should be researched and addressed. We say this as the last sentence on Page VII-28 mentions the uncertainty of archaeological resources and then says the impact is either low or medium.

The statement that "sediment quality throughout the majority of the planning area appears to be high" is not overly accurate and is not necessarily representative of the data presented in Appendix D. In order to formulate this statement with any degree of accuracy, a discussion needs to be provided regarding the quality of the data and how the quality issues may limit the use of the data in formulating such a generalized conclusion regarding sediment quality in the study area. Chapter II notes that one of the key elements of the project was to compile and evaluate technical information for use in planning decisions. It seems as though the compilation of sediment quality information has been completed, but the evaluation of the information has not been completed.

There are statements that, to some degree, address the limitations of the data. However, it seems contradictory to read the statement quoted above and then to later read a short statement about the data being spotty and incomplete (Chapter IV). While we appreciate this statement regarding the data gaps associated with sediment quality (and the more generalized statement in the Environmental
Summary that states: "...some information is generalized and fragmented. Some data is incomplete or inconclusive"), we would like to see more statements specific to the limitations of the sediment quality information, in addition to the discussion of the evaluation performed to identify the limitations, as noted above.

Page IV-1 Sec. A contains language appropriate to the information characterizing sediment quality (information is spotty or incomplete). WDNR supports the language on Page IV-1 that "It may be difficult, therefore, to rely exclusively on such "plan Level" information to make site-specific decisions. It is envisioned that these and similar data issues will be resolved through technical studies performed for future project proposals or as part of scientific studies." There are generalized statements in the report that imply applicability to sediment issues but very few specific statements regarding sediment issues. It seems as though additional statements are necessary in the report sections we reviewed to clarify issues associated with the study area's sediment quality.

Based on reviews of Chapters VI and VII, we question that there is a low potential for impacts to water and sediment quality associated with several of the scenarios. We are especially confused by the low potential noted for Scenario 1 which has a marina/industrial focus. Based on the proposed uses listed in Table 11 of Chapter VI, we do not agree with the predicted impacts noted in Table 23 of Chapter VII, again, particularly the low impacts listed for Scenario 1.

Tammi Allen's previous comments that were specific to the data now being presented in Appendix D of this report have not changed significantly. In addition, the translation of the data into the text of the report could have been more clear on the limitations of the data in formulating a generalized sediment quality picture, and the text could have placed more emphasis on the need for assessing sediment quality on a project specific/site specific basis. Finally, we would like to have more clarity on the derivation of the potential for impacts associated with each of the proposed scenarios. Tammi Allen's previous comments were as follows:

In numerous summary statements, Pentec noted that the detection limits for a variety of compounds were above the Sediment Management Standards (SMS) levels. It is therefore undetermined if those compounds are present in exceedance of the SQS or the Cleanup Screening Levels (CSL) under the SMS. The exceedance of the detection limits for the compounds noted limits the useability of the data in determining the sediment quality conditions in Fidalgo Bay, leaving the overall summation of sediment quality incomplete. A discussion of the meaning of these detection limit exceedances to the sediment quality in the area would be
helpful in clarifying the importance and/or relative non-importance of exceedances noted. Beyond reliance on the quality control/quality assurance (QA/QC) provided by inclusion on the Department of Ecology's SEDQUAL database, there is no discussion of QA/QC of the data summarized by Pentec. It is unclear if Pentec made an independent determination of the reliability of the data based on review of sampling and analytical techniques. This is particularly important in the older data presented. A number of the studies discussed were conducted before the adoption of the SMS and at a time when the Puget Sound Estuary Program (PSEP) protocols for sampling were not necessarily commonly used. The sampling methodologies and the analytical techniques are therefore questionable.

It is inappropriate in the instances where dredging projects were discussed to compare analytical results to the SMS levels. The intent of samples taken for dredging projects is to characterize contaminant levels over the entire proposed dredging prism. Although the introductory paragraph to the text states that all sediment samples discussed appear to be surface grabs, typically, to achieve characterization for dredged material, composite samples are taken over 4-foot intervals. Because of the dilution provided by compositing over depth, these dredged material results do not accurately represent contaminant levels in the biologically active zone (0-10 centimeters) which is the target area for the SMS. Conversely, it is not clear why in the Hart Crowser, Inc. 1989 report the analytical results for what was referred to as a composite of surface samples were compared to Puget Sound Dredge Disposal Analysis (PSDDA) sediment standards which are intended for use in evaluating proposed dredged material from all levels of the dredging prism. In addition to the sampling discrepancies noted above, PSDDA allows some minor adverse biological impacts to occur, whereas the SMS provides a stricter standard for some chemical compounds.

The exceedances noted in the text do not define if the exceedance is of the SQS or of the CSL; referral to the attached analytical data should not be mandatory to properly interpret the information provided in the text. The distinction between exceedances of these two levels is important to note because the CSL is the regulatory trigger that requires further action, whereas the SQS serves as a guideline and warning of a potential future problem.

There is no discussion of the availability of analytical results for the sediments in the areas affected by the documented oil spills in Fidalgo Bay. It is therefore unclear if sediment sampling has been undertaken in these areas. There is a reference to a report in which "a rapid weathering of oil from the marsh sediments" was noted, but there is no clarification of confirmation of this through sediment
sampling.

The summaries include information regarding several studies that, in Pentec's estimation, are of questionable utility because of testing methods used and lack of station location control. The summaries indicate that conventional sediment parameters were measured and elutriate and EP toxicity tests were completed. The results of these tests were not disclosed, presumably because of the questionable nature of the studies. If the intent was to summarize the information provided by the sources cited, perhaps those sources from which reliable information was not obtained should not have been cited.

Pentec summarizes that the "sediment quality throughout the majority of the planning area appears to be high". This conclusion appears to be largely unfounded and undocumented by the materials presented. There are documented exceedances in the summarized information, as well as many instances of potential exceedances in the cases where the detection limits do not meet SQS. Of particular concern are the data from studies conducted before and/or concurrently with the adoption of the SMS and before the widespread use of the PSEP protocols; the reliability of information presented in these reports is in question because of the uncertainty regarding sampling and analytical techniques used. Several more recent studies were summarized and should be supplemented by information from additional current studies to provide a more reliable characterization of the sediment quality in Fidalgo Bay.

12. 3rd para, last line, "...key element if the project's..."

13. "Vacant industrial land is a resource that the City will use to accomplish this GMA goal", why is industrial land the only resource cited to meet this goal? The conversion of industrial uplands into residential uses may interfere with the constitutional mandate of harbor area's for navigation and commerce.

14. Same page, first line "...contamination of sediments of disturbance..."

15. Table 7; Add sediments as a resource. This table does not address all uses or values for which mitigation may be required.

16. First sentence. These are not WDNR's mandates, they are mandated by the Washington State Constitution and Legislative Statute. Also, The promotion of commerce and navigation is in Harbor Areas.

17. Add: RCW 79.90.475 which states- the Port must" ensure consistency with the
State Constitution and the policies of this chapter" and that “the administration of aquatic lands covered by a management agreement shall be consistent with the aquatic land policies of chapters 79.90 through 79.96 RCW and the implementing regulations adopted by the department.” All the same Laws and regulations applicable to DNR also apply to the Port of Anacortes.

**IV-10**

Table 8, 3rd bullet insert “Use of State Owned Aquatic Lands” in place of “Use of aquatic lands.”

**19.**

Table 8, 5th bullet, may be misleading. RCW 79.90.455 puts the management philosophy/goals after “The management of state-owned aquatic lands shall be in conformance with constitutional and statutory requirements. The manager of state-owned aquatic lands shall strive to provide a balance of public benefits for all citizens of the state. The public benefits are varied and include: (1) Encouraging direct public use and access;...etc.

**20.**

Under Harbor Areas (Article XV Wash. Constitution), delete the second bullet that starts “DNR must consider...” be there. This is bullet language is not found in Article XV.

**IV-11**

also of note within the 108-116 WAC group:

332-30-115(3) Facilities for public access are lower priority uses [in a harbor area] which do not make an important contribution to navigation and commerce for which harbor areas are reserved, but which can be permitted providing that the harbor area involved is not needed, or is not suitable for water-dependent commerce.

332-30-109(15) The department will encourage local government, state and federal agencies to cooperate in planning for the following state-wide harbor management needs: (a) reserve adequate space to meet foreseeable needs; (b) coordinate with upland development so areas reserved for navigation will be useable in the future ;(c) identify areas for interim uses;(d) identify changes needed in harbor area lines; (e) minimize environmental impacts of navigation and commerce development; (f) prevent interim uses from lowering the suitability of navigation and commerce development.
332-10-115(6) Areas in a harbor area may be withdrawn. These are so located as to be currently unusable. The withdrawal is temporary and dependent on future demand for constitutional uses. No leases are issued during the withdrawal.

Important WAC's not included are 332-30-139 which has guidelines on marina and moorage design. WAC 332-30-137, identifies non-water dependent uses and defines "exceptional circumstances" for allowing non-water dependent uses.

We have not seen any specific plans in this document to address these needs within the harbor area

Table 9; The column for avoidance/minimization needs to be expanded into separate columns for each mitigation sequencing step (avoid, minimize, repair/rehab/restore, reduce over time, compensate), and each column given equal importance. Add row for sediments. Criteria and process for getting from sequencing step 1 to 2, 2 to 3, etc., needs to be added. This table does not address all uses or values for which mitigation may be required.

Table 10; Re-name as "Compensatory Mitigation Approaches. This table does not address all uses or values for which mitigation may be required.

The fourth paragraph contains language that states "...the most intensive development scenarios currently under discussion would avoid development and impacts in an area containing approximately 96% of identified bay-wide resources measured in terms of area....". As a large portion of the crucial habitat resources are found closer to shallower water (eelgrass & other spawning habitat) how can this statement be true?

On the same page, in the sixth paragraph there is a statement "This development and dredging would disturb and probably eliminate eelgrass inhabiting much of the dredged area. Although the density of eelgrass in this area is relatively low and its functional importance to marine fishes and invertebrates within the Bay are unclear, the City believes it highly unlikely that proposed disturbances would generate measurable changes in important marine fauna .... or be functionally critical to the local fish and invertebrate population." How, with the Federal Government announcing that a species status review is being conducted for potential listing of Washington Salmonids as endangered, can this statement be made? Also, other ecological functions and values such as public access etc. should be considered in mitigation.
3rd para, middle, “the Draft Plan/EIS identifies these cumulative impacts.” Please reference the location in the text, and where does the plan do this?

This is a phased environmental review. It is not clear what constitutes an action here in that there is no preferred alternative. On Page IV-22, the statement is made that "the plan will deal with sequencing regarding the location of development and project applications must still deal with sequencing in terms of their individual design". [italics yours] we don't believe it is possible to separate the location and design portions of an overall development plan.

The comment (Compensatory Mitigation Section) that the basic standard should be “no net loss” of resource function and area has now become unacceptable in light of the potential listing of salmonid stocks as endangered. The National Marine Fisheries Service has commented to the state that management must not only halt the loss of habitat area and function, but increase it to most Endangered Species Act requirements. WDNR must strive for improvement of resources through restoration and enhancement. The concerns of federal and tribal acceptance with this part of the Plan probably reflects this reality.

All tables: regarding in water uses, boat sales and repair may be considered water-oriented only, and ALL OTHER uses in this column are non-water dependent and not preferred or not allowable in harbor areas and possibly state-owned tidelands.

Table 15 conflicts with Figures 15-18. There is no industrial use identified in the marine designation for figures 15-18 in any scenario.

General comment on all scenarios is the wisdom of mixing industrial and residential uses.

What is the definition of commercial marine? Marine development in Scenario 1 is not identified.

3rd para. This development is identified as in sub area 3 (not sub area 4) on Figure 15.

3rd para. This development is identified as in sub area 3 (not sub area 4) in figure 16.
VI-17 | 2nd para. This development is identified as in sub area 3 (not sub area 4) in figure 17.

VI-19 | 3rd para. This development is identified as in sub area 3 and 4 (not sub area 4) in figure 18.

VII-25 | Second to last sentence, “Scenarios 3 & 4” should read “Scenarios 1&4”.

VIII-1 | Insert “a” between “be” and “fully” in last sentence first paragraph.

VIII-3 & VIII-4 | While the definition of “no net loss”, used on Page VIII-3, comes from WDFW WAC’s, it does not adequately address any other ecosystem functions other than fish and wildlife habitat. The definition is procedural only, and is not based on performance. Avoidance appears to be defined as something other than mitigation, which is contradictory to mitigation sequencing. Other ecosystem functions, such as primary productivity, detritus production, nutrient cycling, hydrodynamics, etc., are not directly considered. Also, as in comment IV-23 Page 6 above, “The comment (Compensatory Mitigation Section) that the basic standard should be “no net loss” of resource function and area has now become unacceptable in light of the potential listing of salmonid stocks as endangered. The National Marine Fisheries Service has commented to the state that management must not only halt the loss of habitat area and function, but increase it to most Endangered Species Act requirements. WDNR must strive for improvement of resources through restoration and enhancement. The concerns of federal and tribal acceptance with this part of the Plan probably reflects this reality.” The first paragraph on Page VIII-4 is also contradictory to the current draft of the state’s Wild Salmonid Policy (WSP) and to state treaty obligations. The WSP commits agencies to increase productivity, not just maintain present status. The WDNR cannot commit to SEC 404 minimum standards.

VIII-6 | WDNR supports a 1/4 acre threshold. For the Department to consider ratios (Under Mitigation Timing and Ratios Section), it will need to examine functions as well as area. Models not considering functions will likely lead to continual loss of function or productivity.

VIII-7 | Table 32; In general, all regions in the study area should be included as habitat—“everything is habitat”. Add sediments and water quality. Consider a column
36. regarding the reversibility or permanence of a proposed activity/structure.

VIII-8 Is a project proponent “done” with mitigation when the mitigation meets the success criteria? There is a conspicuous lack of “perpetuity” in this mitigation plan. Will ownership or a perpetual easement be required for the mitigation area? Performance criteria and protocols will need to be fleshed out.

VIII-9 A clearer definition of “on-site” and “off-site” needs to be made. E.g. is it related to the project site or sub-area site? Is it based on ownership, ecological functions, hydrology, ...? For any mitigation not on the proponents ownership, the land owner of the mitigation site needs to be a full player BEFORE the mitigation is approved by ANY regulatory agency.

VIII-10 WDNR supports mitigation within the plan area. WDNR has a policy of “No Net Loss on State Owned Aquatic Lands (SOAL)”. This means that mitigation for projects on SOAL must be done on SOAL.

38. Under Section 7, WDNR has not formulated a policy on Mitigation Banking, and any proposal for banking on SOAL or any banking proposal due to projects on SOAL, will need to go through a process for Department approval.

VIII-12 There needs to be a discussion regarding who holds the bond, and whether the bond will be adequate for complete removal and restoration of a project, not just continued compensatory efforts.

X-3 Under Regulatory/Memorandum of Agreement Process Section; The Regulatory word in the title to this section is misleading to WDNR’s role in issuing agreements to project proponents. WDNR serves a proprietary role not a regulatory role. During the January 21, 1997 Mitigation Element Subcommittee meeting, a discussion ensued concerning the inclusion of a section on roles of various Fidalgo Bay-Wide Planning Committee member agencies. The following paragraph was developed as a result of this discussion. The paragraph could be placed as an introduction to Table 8 on Page IV-10 of the Fidalgo Bay-wide Plan.

INTRODUCTION PARAGRAPH for WDNR’s PROPRIETARY ROLE

Washington State Department of Natural Resources (WDNR) is charged with administering the management of State Owned Aquatic Lands (SOAL) under the
Washington State Constitution and Chapter 79.90 RCW. These lands in the Fidalgo Bay Wide Planning Area include bed lands (Generally Below Extreme Low Tide) and any unsold tidelands in the Bay. WDNR's role as a steward of SOAL is as a landowner not a regulator. WDNR coordinates with public and private interests to protect the values of SOAL and resources. WDNR must ensure that the public receives fair compensation for use of, removal of resources from, or damage to SOAL and resources. SOAL are to be managed for current and future citizens of the state; to sustain long-term ecosystem and economic viability; and to ensure access to the aquatic lands and the benefits derived from them. In as much as the Department is required to, proponents of activities that propose to occupy SOAL in navigable waters, both fresh and salt, need to have a Use Authorization from WDNR. Mitigation on SOAL would, in this context, also require a Use Authorization.

App B. Appendix B is titled Anacortes Shoreline Master Program Amendments. WDNR has responded to these proposed amendments in an earlier letter dated 3-7-97. The letter is attached here.

Thank you for the opportunity to comment on the Draft Integrated Fidalgo Bay-wide Plan and EIS. Please contact Mike Naylor, the Department's Fidalgo Bay-wide Planning Committee Member if you have any questions.

Sincerely,

[Signature]

Michael N. Naylor
Orca District Manager

c: Bill Wallace, NW Region
Craig Partridge, Aquatic Resources Division
Mary Ellen Birli, WDNR SEPA Center
Huckell/Weinman Associates
bc: John Osborn, NW Region
James Isdell, NW Region
Rich Sluss, NW Region
Joel Greene, Aquatic Resources Division
Ron Teissere, Aquatic Resources Division
Ann Essko, Aquatic Resources Division
Tammi Allen, Aquatic Resources Division
Todd Palzer, Aquatic Resources Division
Celia Barton, Aquatic Resources Division
Tom Mumford, Aquatic Resources Division
Dave Palazzi, Aquatic resources Division
Memo

To: Planning Commission
From: Planning Director
Subject: Possible Response to Agency Comments
Date: 05/07/99

I submit the following:

April 26, 1999 Letter from Department of Natural Resources


2. Alternative 1 is the preferred alternative. In response to requests by Anacortes residents and businesses, more detail on Alternative 1 has been provided, with these details being presented as Alternative 1A. This point will be clarified and highlighted in the final document.

3. Comment noted.

4. This point will be clarified and highlighted in the final document.

5. The City will undertake this "check" and note in the final document that the SMP will need to be updated within two years to comply with the State Shoreline Regulations that are currently being rewritten.

6. Moorage demand was based on the formula used by the Corps of Engineers in their "June 1975, Section 107, Detailed Project Report on Small Boat Harbor Expansion at Squalicum Harbor, Bellingham, Washington" as applied by the Port of Bellingham in their "December 1994 Northern Puget Sound Moorage Waiting Lists Analysis". As explained in #2 above, Alternative 1A has the same number of slips as
Alternative 1. The City has rechecked the moorage expansion numbers for consistency.

7. Page I-6 will be corrected to reflect the statements in #2 above.

8. The City will review and correct the pagination.

9. These corrections will be made and these will be cross-referenced to the City Comprehensive Plan and Development Regulations.

10. The City will add a brief update.

11. This typographic error has been corrected.

12. This cross-reference will be added.

13. Comment noted.

14. Correction made.

15. The proposed language has been included.

16. The boxes and shading will show up better on the final, color copy.

17. This language has been clarified with the deletion of the word “impacts” so that this reads “...no developments are anticipated...”.

18. This clarification will be added.

19. This definition from the Shoreline Management Guidebook will be added; a copy is attached.

20. Non water dependent uses are subject to a 25 foot setback in all shoreline zones.

21. The City is adding the following clarification: “...by the Shoreline Administrator against Shoreline goals, policies, and regulations.

22. This correction has been made.

April 30, 1999 Letter from Skagit Systems Cooperative

1. The City will add a clarification that if the demonstration project(s) prove unsuccessful, the marina component of the plan will need to be curtailed. There are some marina locations, though, that could go forward without eelgrass impacts, e.g. Ship Harbor and MJB’s drystack storage facility.
2. The City will add the following to V.A.: "The needs of development should be balanced against natural resource protection and Treaty secured fishing rights."

3. The City agrees: the words "To the extent possible" will be deleted.

4. Adoption of a 60 acre restoration goal is the first step and represents a significant new policy direction for the City.

5. The City considers this to be an important implementation issue and will continue to work on it with all interested parties.

6. A 200 foot buffer requirement has been substituted for the current 25 foot buffer requirement in Section 23(1) of the ASMP.

April 26, 1999 Letter from the State Department of Fish and Wildlife

1. A new paragraph will be added at the end of S-3:

Listing of Puget Sound Chinook as a Threatened Species under the Endangered Species Act.

The FBP will need to be updated within the next 24 months to address the issues and concerns that have been raised through the recent listing of Puget Sound Chinook as a Threatened Species under the Endangered Species Act. This work will, at a minimum, need to address the following:

• a clear strategy for addressing historical and future impacts to the near shore juvenile salmon migration corridor

• Shoreline Master Plan updates that address the new WSDOE regulations currently under development and include the annexed areas of Heart Lake, and Lake Erie and South Fidalgo Bay

• a detailed restoration program that implements the restoration goal set forth in V-5.

2. This correction will be made with the addition of the balance of the sentence in VIII-6 "...and interim mitigation is provided".

3. The mitigation standards can be separate from the restoration program referred to in (1) above.

4. This addition will be made as amended in (2) above.

5. The conceptual nature of the Mitigation Plan has been clarified in the attached revision.

6. These points are addressed in (1) above.
April 26, 1999

Mr. Ian Munce
City of Anacortes
P.O. Box 547
Anacortes, WA 98221-0547

RE: Comments to the Revised Final Integrated Fidalgo Bay-Wide Plan & EIS

Dear Mr. Munce:

I have compiled the following comments on the Revised Fidalgo Bay-Wide Plan & EIS (Plan). These comments have been consolidated through our Aquatics Division (Planning and Habitat Sections) and the Northwest Regional Office.

The City should be awarded for their efforts and vision to foster this plan which will help better manage the ecosystem in Fidalgo Bay. This Plan capitalized from the input of many Federal, State, and Local governments as well as other participants and it represents a coordinated approach to attempt to balance the needs of the environment with needs of growth in the Fidalgo Bay area.

As you are aware there are some gaps in the information and as well the plan is incomplete until after the mitigation component has been completed. DNR made comments to the Fidalgo Bay/Sub-Area Plan previously, in a letter dated February 24, 1998, and identified many of the discrepancies with the plan and requested it to be updated in these areas.

After reviewing the plan I was able to determine if any of those comments had been incorporated into the plan but for the most part I determined that they were not addressed. The Department will use this opportunity to make the same comments by attaching them to this letter.

In addition the following are general comments and are recommended updates that should be incorporated into the plan.

Preferred alternative 1A is not well defined.
In the summary section on page 5-5, 3rd paragraph, it is apparent that the City combined several of the alternatives to make a new alternative (Alternative 1A). Throughout the document, there are many references to the preferred alternative. However, there is no information about the alternative nor is there any analysis of the potential impact to the resources of the Bay. The City should include a summary statement about the preferred alternative similar to the summary
statements found on page S-5. A discussion in Chapter VI should explain what elements of each scenario will be incorporated to make the “preferred alternative”. Also, the features of this new alternative should be highlighted in table S-1 and some analysis should be completed to highlight cumulative impacts.

2.

It is important that the City make the connection between Alternatives 1-4 and the preferred alternative. At this stage in the SEPA process, new alternatives must be within the range of previously discussed alternatives. It would also be helpful to discuss when and how Alternative 1A developed, how did the planning committee select the various elements to combine?

3.

**DNR is interested in completing an aquascape plan for Fidalgo Bay.**

In developing an aquascape plan for the Fidalgo Bay area, the DNR will attempt to complement the City’s Plan. However, the Department may establish different policies and goals which may not fit with the city’s development driven plan. During the process, DNR staff will consult with city staff in order to reduce conflicts.

**Proposed mitigation issues**

It should be made more clear in the plan that the City’s mitigation strategy has not been officially approved by DNR. Therefore, proposed development scenarios should not be dependent on the mitigation within the Plan. As we have stated in the past, the Department is willing to continue working with the City to finalize this process.

4.

Several specific comments in regard to the mitigation component are as follows:

On Page I-1, Section B, third paragraph it states, . . . The bay-wide planning process consisted of two primary phases. Due to the fact that the plan is not fully completed and cannot be implemented until the mitigation component is finalized the Department recommends adding a third phase to this section which explains when and how the mitigation component will be completed which could allow the Plan to be implemented.

The Plan does state in Chapter VIII (Bay-wide Mitigation Framework) on page VIII-1, third paragraph, second sentence that, “A specific, detailed plan is not recommended at this time but will be developed as part of the package of measures to implement the Fidalgo Bay-Wide Plan.” The Department agrees in concept with this statement but would like to have it more clearly stated. For instance, what are the package of measures and how will they help to finalize a specific mitigation plan.

**Consistency with the SMP, amended March 26, 1999**

The Plan refers to definitions from the SMP. However, the Plan does not include amended
language. The City should check to be sure that there is consistency between the Plan and the SMP, which serves as an appendix to the Plan

- Page III-18, definition of Urban I, the amended SMP includes language allows marinas in this classification.
- Urban II - The SMP amendment qualifies commercial with “water oriented” in this classification.
- Urban Residential - SMP amendment allows marinas in these areas.
- Conservancy - City should qualify that the residential uses in this designation will be subject to regulations, setbacks etc. according to the SMP amendment.
- City should add the Natural SMP designation to complete the discussion.

Marina Growth
From the various discussions on Moorage slips, and marina expansion (Page III-39, VI-11, VI-12) it is still not clear that the demand exists for the type of marina expansion discussed. Also, the City should incorporate regional mooring demand estimates into the Plan. (See letter to the City from David Palazzi, DNR Environmental Planner, dated February 24, 1998.)

It is not completely clear how many marina slips will be added in each development scenario, including Alternative 1A. The City should be sure there is consistency among pages VI.11-VI.20 where mooring expansion numbers are discussed according to scenario. Currently, there seems to be two different estimates for scenario #2.

Specific comments and Misc.
Page I-6 - Is there a difference between “special bay-wide development scenario” and development scenarios 1-4? Or is the “special bay-wide development scenario” the preferred alternative? (see above comments). This is not very clear. Also, Chapter IX suggests that the preferred alternative is focused on Scenario #1, while the remainder of the document emphasizes that the preferred alternative is a compilation of Scenarios 1-4.

The City should review the pagination as well as the figure and table references within the text. For example: page III-12 refers to figure 5, there is figure 5-a and 5-b; there are multiple page IV-18's; Page III-40, Section II. Regional Resource Profile - refers to data from USGS on monthly discharge from rivers, it is not labeled.

The City may want to combine the discussion on the comprehensive plan land designations. The zoning categories on that page don’t match the ones on the map AND are there no marine
conservation, natural, or open space zones in the city’s comp.

Pages III.12-III.15, The City may want to continue the discussion on the Comprehensive Plan land designations by including all of the categories - or at least those that are relevant to this planning process. The City should include, at a minimum, open space designation (or comparable) and a some discussion relative to residential use. As it is currently stated, it appears as though this plan is only concerned with manufacturing, commercial and commercial marine.

Page III.33 - III.34 survey of business and potential projects completed in March 1996. Suggest that the City include language that updates that discussion. Are projects still being considered? Have any of them gone beyond planning stages? Any fallen off the table? What type of development is currently interested in moving to the area?

Page III-35, para on population, second sentence is not clear. Currently states: “Both jurisdictions are projected to experience steady growth, at a rate of between approximately two percent per year 2”.

Page V-2, consider adding archeological interests to cultural section, to create a better tie to the SMP.

Page V-3, I Applaud the qualification of passive recreation in sensitive areas!

Page V-5, First bullet should read: irreplaceable shoreline resources should be preserved.

Page V-5, Last bullet in section D is really good! City may want to consider stating that all mooring should be kept out of sensitive areas.

Page VI.3 - VI.4, Tables area bit unclear. What do the boxes represent? The shading?

Page VII-8, First bullet - Concerned with the language that states “...no development impacts are anticipated in the southern portion of Fidalgo bay or along the western shoreline of March Point...” It is virtually impossible to avoid impacts from development - even with extensive waste and storm water system. The City should change the language. (See letter to the City from David Palazzi, DNR Environmental Planner, dated February 24, 1999.)

Page VIII-6, the Plan identifies mitigation ratios and it should be clearly stated that these are not finalized until the mitigation component has been agreed to.

Comments regarding Appendix B, Shoreline Master Program, amended March 26, 1999.
19. Page 9, Section 5 - The City should define “water enjoyment uses”.

20. Page 22 The City should change 0' to N/A’s to those categories that are non-water dependent. For example, the SMP should not state that residential uses must abide by a 0' buffer.

21. Page 32, Section 12 - Policy A states “construction of shore defense works shall not be allowed until effects on adjacent shores have been evaluated”, who is responsible for the evaluation? And what will it be based upon? Similarly Regulation A states “Prior to granting a permit for Shore Defense Works...the effect of such development on adjacent properties shall be determined...” By whom? And what will be the basis of the determination?

22. Page 35, Section 14 - Policy B should read: “Contaminated dredge material...”

Please contact me at (360) 856-3500 if you have any questions or comments.

Sincerely,

Chad W. Unland,
Land Manager, Northwest Region

c: Margaret Barrette, DNR Division, Planning Section
   Tom Mumford, DNR Division, Habitat Section
February 24, 1998

Mr. Ian Munce  
Shoreline Planner  
City of Anacortes  
P.O. Box 547  
Anacortes, WA 98221-0547

Dear Mr. Munce:

The following are the compiled review comments on the Fidalgo Bay/Sub-Area Plan final environmental impact statement (Plan), on behalf of the Department of Natural Resources Aquatic Resources Division and Northwest Regional Office (DNR). The Plan represents many months of work by the Fidalgo Bay Planning Committee (FBPC). The City should be commended for their efforts in organizing this effort.

Overall, the Plan provides a basis for planning in Fidalgo Bay. The Plan does not provide the level of predictability to DNR for managing state proprietary interests in Fidalgo Bay. The addition of the following components to the Plan will provide the predictability we desire.

1. The Plan recognizes herring spawning habitat (eel grass) and, to a lesser degree, surf melt and sand lance spawning areas to be important habitat. The Plan should go further and classify forage fish spawning habitat and other prime intertidal and subtidal habitat for protection needs. Habitat protection needs should be directly correlated with mitigation sequencing. In addition, the Plan should identify where land use in the next 10-20 years may conflict with forage fish spawning habitat and other prime intertidal and subtidal habitat in the planning area. Specifically, the committee should identify and agree on where impacts to aquatic habitat should be avoided, where there should be a minimum degree of limited action, etc. At a minimum, the committee must identify areas where mitigation would be difficult based on the risk to the resource. Resource protection should not take a back seat to development in the planning area.
the impacts from nonpoint sources of pollution that will be generated from these sites and the impacts to habitat continuity.

Demand for Marina Development, page VI-11: This section over-estimates the present demand for marina development. The reported demand for 3,000 slips in the Anacortes area is not consistent with the report by the Port of Bellingham referenced in the first paragraph. The Port of Bellingham report determined that for the entire Northern Puget Sound there is a waiting list for 2,107 moorage spaces. The report also states that “Most if not all of these 2,107 individuals are all potential customers for the Port’s (Bellingham) Marina Division.”

The following are general comments to the Plan:

11. There should be a review of the Plan every five years by the committee in order to evaluate the condition of aquatic habitat and resources and to modify the Plan for any changes in land use.

12. Many of the comments to the March 21, 1997, Draft Integrated Fidalgo Bay-Wide Plan & EIS, submitted in a letter from DNR dated April 21, 1997, (attached) have not been adequately addressed in the final environmental impact statement.

13. DNR favors development scenario number four, the “no action” option of those proposed in the Plan, but without the 1500 slip marina proposed at the MJB site. The level of disturbance to aquatic resources from the development of a 1500 slip marina does not correlate with a “no action scenario.”

Finally, we recommend that the FEIS be withdrawn at this point until the following additions have been made to the Plan:

- Final consensus is reached on the Bay-Wide Mitigation Framework. The first paragraph on page VIII-1 of the plan states that the mitigation framework “...is a work in progress...” Mitigation is a crucial element of the Plan.

- Consensus is reached by the committee on the baseline for establishing the definition for no-net-loss. This is also crucial to the mitigation framework.

- Comments to the Plan from the members of the Fidalgo Bay Planning Committee can be adequately addressed.

The addition of the above suggested revisions to the Plan would provide DNR staff with the
March 17, 1999

Mr. David Palazzi, Natural Resource Planner
Aquatic Resources Division
Department of Natural Resources
1111 Washington St, SE
PO Box 47000
Olympia, WA 98504-7000

RE: Fidalgo Bay Plan (FBP)

Dear Mr. Palazzi:

Thank you for your February 24, 1998 comments on the above referenced document. I have responded separately to your Department’s April 21, 1997 letter (copy attached). My response to your February 24, 1998 letter is as follows:

1. From the outset, funding limited our work on an analysis of existing data. If there is any data for the FBP Study Area (FBPSA) that we have not included please let me know. Based on what we do know about the FBPSA we have now identified a preservation strategy for South Fidalgo Bay, a restoration strategy for the FBPSA, areas where there could be a minimum degree of limited action, and a cautious approach to eelgrass mitigation and mitigation banking. We have fully incorporated mitigation sequencing in the current version of the FBP.

2. As you will see in the latest version of the Shoreline Master Program Amendments (SMPA) buffers have been added for non-water dependent uses. Additionally, once South Fidalgo Bay is in public ownership the City plans to revise shoreline designations accordingly (SMPA p. 21).

3. Upland dredging to create marina space is now a preferred activity (SMPA p. 26).

4. Once the Port of Anacortes’ Comprehensive Plan Update is complete, appropriate cross-references to the FBP will be made (SMPA p. 31).

5. Based on the City’s limited understanding of this proposal, the FBP allows this proposal to be considered.

6. The answer is yes.
Mr. David Palazzi  
March 17, 1999  
Page 2

7. The uplands that drain into the southern portion of Fidalgo are largely developed without urban stormwater system(s) or sewers. The City has now adopted urban stormwater standards for this area, is now working towards correcting existing deficiencies, and is designing a sewer system to replace failing septic and mound systems.

8. The City would appreciate WDNR's guidance as to how best to incorporate WDNR's Forage Fish Management Plan.

9. This comment has been included in the FBP.

10. The City's analysis of marina demand is based on a reasonable 20-year demand forecast that includes existing waiting lists for the region.

11. This recommendation has been added.

12. The latest version of the FBP includes changes called for by DNR in DNR's April 21, 1997 letter.

13. The City understands DNR's position but considers that more intensive use of existing, developed industrial land, including brownfields cleanup, is preferable to sprawling development on undeveloped land.

14. It is our earnest hope that with the changes that are now proposed in the FBP that the FBP can receive DNR's support.

Thank you.
Sincerely,

CITY OF ANACORTES

[Signature]

Ian S. Mунке, AICP  
Director of Planning & Community Development

ISM:II
Tidelands - Land on the shore of marine water bodies between the line of ordinary high tide and the line of extreme low tide.

Tombolo - A causeway-like accretion spit that connects an offshore rock or island to the main shore, or to another island.

Undrained hydric soils - Those soils which are wet long enough to periodically produce anaerobic conditions, thereby influencing the growth of plants. See WAC 173-22-030(5).

Upland - Generally described as the dry land area above and landward of the OHWM.

USC - United States Code.

Variance - A means to grant relief from the specific bulk, dimensional or performance standards specified in the applicable master program. Variance permits must be specifically approved, approved with conditions, or denied by Ecology (See WAC 173-14-150).

Vessel - Ships, boats, barges, or any other floating craft which are designed and used for navigation and do not interfere with normal public use of the water (WAC 173-14-030(18)).

WAC - Washington Administrative Code.

Water-bar - A diversion ditch and/or hump in a trail or road for the purpose of carrying surface water runoff into the vegetation duff, ditch, or other dispersion area so that it does not gain the volume and velocity which cause soil movement and erosion.

Water-dependent - A use or a portion of a use which can not exist in any other location and is dependent on the water by reason of the intrinsic nature of its operations. Examples of water-dependent uses may include ship cargo terminal loading areas, ferry and passenger terminals, barge loading facilities, ship building and dry docking, marinas, aquaculture, float plane facilities and sewer outfalls.

Water-enjoyment - A recreational use, or other use facilitating public access to the shoreline as a primary characteristic of the use; or a use that provides for recreational use or aesthetic enjoyment of the shoreline for a substantial number of people as a general characteristic of the use and which through the location, design and operation assures the public's ability to enjoy the physical and aesthetic qualities of the shoreline. In order to qualify as a water-enjoyment use, the use must be open to the general public and the shoreline oriented space within the project must be devoted to the specific aspects of the use that fosters shoreline enjoyment. Primary water-enjoyment uses may include, but are not limited to, parks, piers and other improvements facilitating public access to shorelines of the state; and general water-enjoyment uses may include but are not limited to, restaurants, museums, aquariums, scientific/ecological reserves, resorts and mixed-use commercial; PROVIDED, that such uses conform to the above water-enjoyment specifications and the provisions of the master program.

Water-oriented - Refers to any combination of water-dependent, water-related, and/or water enjoyment uses and serves as an all encompassing definition for priority uses under the SMA.
Anacortes Planning and Community Development Dept.
P.O. Box 547
Anacortes, WA 98221
ATTN: Ian Munce

RE: Final Integrated Fidalgo Bay-Wide Plan and Supplemental EIS

April 30, 1999

Dear Ian:

On behalf of the Upper Skagit, Swinomish, and Sauk-Suiattle Indian Tribes, Skagit System Cooperative (SSC) would like to make the following comments regarding the Final Integrated Fidalgo Bay-Wide Plan and Supplemental EIS. In our April 23, 1997 comments, we asked how the City anticipates resource agencies using this Baywide Plan for decision making. The cities response was that a new plan would be developed. We are still left with the same questions following this final integrated Bay-wide plan. Lacking an agreed upon mitigation outcome, how can natural resources decisionmakers determine the adequacy of the plan. More precisely, if the demonstration project proves unsuccessful, what happens to the Baywide plan and marina development. If it is successful at a small scale, how will this be translated to large scale marina development. We still do not believe these issues have been adequately addressed in the Plan or EIS.

Lacking a demonstrated ability to mitigate for large expanses of eelgrass, we do not support the City's preferred alternative, in that it provides the greatest risk of environmental degradation, and since the outcome of the demonstration project is uncertain, we believe that a Baywide plan predicated on a positive outcome of these investigations might have limited utility. In addition, the likelihood of permitting these activities by natural resource agencies is not increased as a result of the EIS or Baywide plan. While it is certainly the prerogative of the City to choose a preferred alternative, we are not sure of the benefit to the City of this choice, in that it does not appear to provide additional certainty of implementation. This is reflected on page IV-2, which lists regulations and programs, but states

while they have not been evaluated in detail at this point,
there are presented here as future touchstone for evaluating
a proposed plan alternative

Lacking this evaluation, we are unclear of the utility of the EIS, or the applicability of the proposed alternative.
We have the following comments regarding specific aspects of the EIS and plan.

V. Goals, Objectives, and Policies

We are generally supportive of the goals and policies being promoted by the City, and believe it will be an ambitious agenda to meet these stated goals. If successful, citizens throughout Skagit County will be the beneficiaries. We are concerned that when the City chooses to balance between the needs of development, and natural resources (A. Land and Shoreline Use), this balance for development does not come at the expense of Treaty secured fishing rights. It is unclear to use how these Reserved Rights will be balanced against the need to accommodate new development.

V-4. D. Marine Resources states

To the extent possible, critical or sensitive areas of natural shoreline in the Fidalgo Bay study area should be preserved.

We are unclear the intent of this statement. What would make the protection of critical or sensitive areas impossible. It seems that this protection is within the purview of the City, and that consistent with the Growth Management Act, these areas must be protected.

Page V-5. While we are very supportive of the City's policy to target the restoration of 60 acres of habitat lost to fill of over the past 100 years, there is no specific plan to achieve this, while there are very specific development plans outlined for shoreline development in the plan. We believe the details of how this restoration will be achieved should be stated if there is to be an increased likelihood that a Baywide plan that can be implemented is to have credence. While there has been a significant effort put forth to document the need for new development and how the City proposes to accommodate this need, there has not been a commensurate effort provided to show the need for restoration, nor the specific information regarding a preferred alternative for providing this restoration.

VIII. Baywide Mitigation Framework.

As stated in our previous letter, it appears that there is little disagreement between resource agencies regarding the degree of flexibility desirable to achieve implementation of the Plan. We believe that for this plan to have validity, the issues associated with (1) what constitutes proven scientific evidence (2) how finding from prior mitigation projects should be interpreted, and (3) how these findings can be extrapolated to Fidalgo Bay should be incorporated within the plan, rather than waiting until later to find out that an impasse exists. This would demonstrate a commitment on the part of the City to specific criteria which would increase the certainty of outcomes if the criteria are met.
Proposed Zoning Language for Alternative 1A, page 24

Section 23 (1) a. proposes a 25 foot buffer between croplands, pasturelands and the shoreline. We would like to point out that there is absolutely no scientific evidence to support this buffer as being adequate to protect water dependant resources, particularly fish. Much of the prevailing literature (which we can provide if requested) recommends buffers of 100-200 feet. Discussions with the NMFS indicate that they will be looking for buffers that reflect the natural growing capacity of a riparian area, which general equates to the height of a mature tree capable of growing at that site.

We appreciate the opportunity to comment on the Final Bay-wide Plan and EIS. We support the comments of the Washington Department of Fish and Wildlife, and the Washington Department of Natural Resources. Please feel free to contact me if you have any further questions.

Sincerely,

Larry Wasserman
Environmental Services Director

Cc Williams WDFW
Unland WDNR
Gruber
April 26, 1999

City of Anacortes Planning Department  
Attention: Ian Munce  
Post Office Box 547  
Anacortes, WA. 98221

Subject: WDFW Comments - Revised Final Integrated Fidalgo Bay-Wide Plan & EIS -  
Dated March 26, 1999

Dear Mr. Munce:

The Washington Department of Fish and Wildlife (WDFW) has reviewed the Revised Final Integrated Fidalgo Bay-Wide Plan & EIS dated March 26, 1999 and offer the following comments for your consideration.

Plan Adoption:
The Fidalgo Bay Plan will need to be updated to address the issues and concerns that have been raised through the recent listing of Puget Sound Chinook as a threatened species. WDFW will not be able to support the “Revised Final Integrated Fidalgo Bay-Wide Plan & EIS” until it has been updated to WDFW and National Marine Fisheries Service (NMFS) satisfaction. The “Revised Final Integrated Fidalgo Bay-Wide Plan & EIS” provides a substantial foundation upon which to incorporate the necessary changes. WDFW staff will be available to assist the City in updating the plan.

Threatened and Endangered Species:
1. Page I-2 states that “the plan is intended to be a dynamic, living document”. As note above, the plan needs to be updated to address issues and concerns raised by recent listing of Puget Sound Chinook as a threatened species.

2. The plan does not adequately identify the loss and fragmentation of the nearshore juvenile salmon migration corridor. The plan needs to identify a clear strategy for addressing historical and future impacts to the near shore juvenile salmon migration corridor.

3. Page IV-18 - Table 9 (Potential Mitigation Approaches) should list the creation, enhancement and/or restoration of juvenile salmon littoral (nearshore) migration habitat. This loss of littoral (nearshore) migration habitat is called out in table 7 for Potential Impacts to Salmon.
Mitigation:
1. The mitigation objective of "no net loss" will need to be revisited. Given the recent listing of Puget Sound Chinook as a threatened species, State, Federal and Tribal organizations are collectively advocating for a net gain in habitat area and function" rather than "no net loss". The mitigation framework will need to include a "net gain" component.

2. The Plan would benefit from a clearer articulation/identification of restoration/protection objectives that improve the ecological health of Fidalgo Bay. Restoration/protection objectives should be prioritized based on an analysis of landscape ecology, habitat connectivity/migration corridors, distribution of priority species, and historic habitat conditions.

3. The plan would benefit from identification of specific restoration, enhancement, creation, and preservation opportunities that satisfy the plans habitat restoration/protection objective.

4. Page IV-22 - The City's mitigation perspective in-correctly states and mis-represents WDFW's advance mitigation policy. It is correctly articulated on page VIII-6: "Advance mitigation is required for eelgrass habitat greater than 1/4 acre, herring spawning habitat (eelgrass or macro algae) regardless of the area impacted and unique documented Dungeness Crab wintering habitat in Ship Harbor unless the mitigation approach is proven."

5. Page IV-24 - "No net loss" is identified as the basic standard to guide the development of a bay-wide mitigation program. See comment 1 above.

6. Page IV-24 - The principles for guiding development of a bay-wide mitigation program should include a bullet that identifies advance mitigation is required for eelgrass habitat greater than 1/4 acre, herring spawning habitat (eelgrass or macro algae) regardless of the area impacted and unique documented Dungeness Crab wintering habitat in Ship Harbor unless the mitigation approach is proven."

7. Page VIII-1 - The first paragraph notes that the mitigation framework is not intended to be a fully developed mitigation plan. The mitigation framework is essential to the plans ability to protect and restore the ecosystem health and natural resources of Fidalgo Bay. Absent a completed mitigation framework, the plan fails to provide adequate habitat and natural resource protection. Until the mitigation framework is completed and updated to address issues raised by the listing of Puget Sound chinook, WDFW will not be able to support the plan.

Land Use/Zoning Designations/Shoreline Master Plan/Harbor Area:
1. Aquatic habitat should be managed as a component of the infrastructure. Aquatic habitat should be put on an equal footing with all other land uses. The ecological basis of this approach is that location is as important for many habitats as it is for economic uses. Based on this ecological perspective, all of the shorelines and bed lands within the Fidalgo Bay Plan area should be re-examined from the perspective of optimizing their biological and economic uses.

2. The City's Land Use and Zoning Designations and the Shoreline Master Plan should be modified so that habitat is put on an equal footing with all other land uses. The reservation of harbor areas for navigation and commerce also needs to be revisited. DNR has assured WDFW that harbor areas can accommodate habitat functions on an equal footing with navigation and commerce. Perpetuating shoreline management where specific shoreline areas and reaches are
dedicated to commerce and economic development without consideration of habitat connectivity will continue to fragment nearshore habitat to the detriment of natural resources.

3. Page IV-21 - See comment 2 above In addition, habitats already disturbed should not be dismissed or abandoned to further economic development without first considering the potential to restore important habitat functions beneficial to the ecological health of Fidalgo Bay.

4. Page V-5 - Planning and Permitting - Policies - The first bullet notes that the Shoreline Master Plan should remain consistent with the reservation of the harbor areas for use by commerce and navigation. The reservation of harbor areas for navigation and commerce needs to be revisited. In development of the Bellingham Bay Plan, DNR has assured WDFW that harbor areas can and should accommodate habitat functions on an equal footing with navigation and commerce.

Memorandum Of Understanding (MOU):
1. It is unclear what the MOU accomplishes within the regulatory environment. As noted above, WDFW will not be able to support the “Revised Final Integrated Fidalgo Bay-Wide Plan &EIS” until it has been updated, to WDFW’s and National Marine Fisheries Service (NMFS) satisfaction, to address the issues and concerns that have been raised through the recent listing of Puget Sound Chinook as a threatened species.

If you have any questions, please call me at (360) 466-4345, extension 250.

Sincerely,

Brian Williams
Area Habitat Biologist
Habitat/Lands Program

cc:
Bob Everitt - WDFW Mill Creek
Ted Muller - WDFW Mill Creek
Alice Schizel - DOE
Bob Donnelly - NMFS
Lisa Randlett - DNR
Larry Wasserman - SSC
State/Federal Agencies

The City has received only one follow-up letter from a state or federal agency after the City's Responses to Agency Comments (forwarded to the Planning Commission on May 7, 1999), namely a May 18, 1999 letter from State Fish and Wildlife (Attachment A). The City has responded to this by developing a proposal to add a Restoration Component to the Fidalgo Bay Plan (Attachment B, and Appendix J to the Fidalgo Bay Plan). Additionally, the editorial changes called for in the May 7 Planning Commission package still need to be incorporated into the March 26, 1999 Draft of the Fidalgo Bay Plan.

Comments re Chapter IX

In response to requests for clear Sub-Area Goals and cross-references, an expanded Chapter IX has been prepared (Attachment C).

Proposed Zoning Language for Alternative 1A

Appendix A has been amended to include Zoning Ordinance changes made on January 4, 1999 (Attachment D). Additionally, in response to citizen comments, changes are now proposed to Appendix A (Attachment E).

Retail Core Expansion

Goal 1 of the Commercial Section of the Comprehensive Plan is to "Increase retail sales trade", with a focus in Policy (a) of this Goal of providing "...attractive, high quality commercial sites...". Review of the last (1992) Census of Retail Trade
identifies $123 million in retail sales, with an estimated net leakage of sales to locations outside of Anacortes of $76 million, using an expanded trade area that includes San Juan County and a seasonal adjustment. Anacortes Comprehensive Plan Amendment/Rezone, DEIS, February 1996, page 3-47. This same document establishes that “Currently, there are no vacant commercial sites of significant size in Anacortes”. DEIS, page 3-2.

Goal 4 of the Commercial Section of the Comprehensive Plan provides for providing additional area for large-scale commercial development under circumstances such as these, i.e. large net leakage and no vacant commercial sites of significant size. However, there are two significant provisos: (1) “...this should be achieved by expanding existing commercial areas” (Commercial Goal 4), and (2) “The City of Anacortes’ Commercial Avenue and Central Business District shall continue to supply the vast majority of commercial services for Fidalgo Island” (Commercial Goal 2, Policy e).

The Planning Department recommendations are that: (1) large-scale commercial development be defined as involving over 5,000 square feet, (2) that a limit of 120,000 square feet be placed on the maximum retail square footage that can be located in the proposed CM1 zone, and (3) that in the CM1 zone no single building or complex of buildings exceed 65,000 square feet. This zone is adjacent to the existing Commercial zone.

Elgrass Demonstration Project

Appendix C has been amended to include the Right-of-Entry Permit issued by the State Department of Natural Resources, additional conditions, and expanded baseline and follow up monitoring. Attachment F.

Shoreline Master Program Amendments

The following change is proposed on Page 37:

d. The use of toxic substances in or on pilings is prohibited for new construction.
e. Toxics substances may be utilized on pilings in repair projects for timber structures, provided BMPs for the Use of Treated Wood in Aquatic Environments, Western Wood Preserves Institute of Treated Wood, are met.

Responses to Comments Received for the May 12, 1999 Planning Commission Public Hearing:

Attachment G

ISM: ll

cc: Mayor and City Council
May 18, 1999

City of Anacortes Planning Department  
Attention: Ian Munce  
Post Office Box 547  
Anacortes, WA. 98221

Subject: Additional WDFW Comments -Revised Final Integrated Fidalgo Bay-Wide Plan & EIS - Dated March 26, 1999

Dear Mr. Munce:

The Washington Department of Fish and Wildlife (WDFW) has reviewed your response to our April 26, 1999 comments and offer the following comments for your consideration.

The text additions and changes suggested in your response letter dated 5/7/99 will improve the current version of the “Revised Final Integrated Fidalgo Bay-Wide Plan & EIS”. However, despite these text additions and changes, the current version of the “Revised Final Integrated Fidalgo Bay-Wide Plan & EIS” does not adequately address natural resource protection, preservation and restoration. Consequently, the “Revised Final Integrated Fidalgo Bay-Wide Plan & EIS” is not, in WDFW’s opinion, a comprehensive bay-wide plan.

WDFW supports the current version of the “Revised Final Integrated Fidalgo Bay-Wide Plan & EIS” as an excellent first step towards the development of a comprehensive Fidalgo Bay-Wide Plan. The current version of the “Revised Final Integrated Fidalgo Bay-Wide Plan & EIS” needs to address not only issues and concerns raised through the recent listing of Puget Sound Chinook, but also natural resource issues and concerns in general as they pertain to the health and function of the Fidalgo Bay ecosystem. The current version of the “Revised Final Integrated Fidalgo Bay-Wide Plan & EIS” provides a substantial foundation upon which to incorporate the necessary natural resource updates and changes. The following natural resource elements need to be developed and incorporated into the Fidalgo Bay-Wide Plan:

1. Analysis of Habitat Changes (existing vs historical)
2. Habitat/Resource Vision, Goals and Objectives
3. Identify Priority Habitat/Resource Objectives
4. Identify Habitat Protection, Restoration, Enhancement Opportunities
5. Prioritize Habitat Restoration and Enhancement Opportunities
6. Mitigation Framework
7. Net Gain Concept
The attached schematic for the Habitat Strategy element of the Bellingham Bay Plan illustrates how the different natural resource elements of a comprehensive plan fit together. An noted in our April 26, 1999 correspondence, WDFW staff will be available to work with the City towards updating the plan to address habitat and natural resource issues.

If you have any questions, please call me at (360) 466-4345, extension 250.

Sincerely,

[Signature]
Brian Williams
Area Habitat Biologist
Habitat/Lands Program

cc:
Bob Everitt - WDFW Mill Creek
Ted Muller - WDFW Mill Creek
Alice Schizel - DOE
Larry Wasserman - SSC
BELLINGHAM BAY HABITAT STRATEGY

Existing Habitat/Resource Snapshot

Analysis of Habitat Changes

Habitat Vision, Goals and Objectives

Priority Habitat Objectives

Protection, Restoration, Enhancement Opportunities

Priority Restoration and Enhancement Opportunities

Individual Project Actions
Benefit/Impact Assessment Matrix
Mitigation Framework (no net loss objective)
Net Gain Provision

Volunteer Actions
Appendix J

Development of a Restoration Program
August 4, 1999

Ms. Shane Hope, Managing Director
Washington State Department of Community, Trade, & Economic Development
PO Box 48300
Olympia, WA 98504-8300

RE: GMA Grant Application: Special Project

Dear Ms. Hope:

I attach the City of Anacortes’ Grant Application to add a restoration component to the Fidalgo Bay Sub-Area Plan and, thereby, complete a four year planning effort and comply with emerging Endangered Species Act requirements relative to Chinook Salmon.

If you or your staff have any questions on this application, please do not hesitate to contact me.

Sincerely,

CITY OF ANACORTES

Ian S. Munce, AICP
Director of Planning & Community Development

ISM:II

cc: Dr. Ron Thom, Battelle Northwest
Mr. Bob Everitt, Regional Director, Washington State Dept of Fish & Wildlife
Mr. Brian Williams, Area Habitat Biologist, Washington State Dept of Fish & Wildlife, La Conner
Purpose

The purpose of this category, Special Project Grants, is to help communities meet special needs and goals or demonstrate innovative approaches to growth management. Examples include: subarea planning that integrates GMA and SEPA and helps provide up-front predictability for development...to develop detailed subarea plans...

Eligibility

Only jurisdictions that are fully planning under the GMA and currently in compliance are eligible for this category.
A. Jurisdiction Information

1. Name of jurisdiction (or lead jurisdiction if this is a joint application):

   City of Anacortes

2. Name of other participating jurisdictions, if this is a joint application:

3. Name of contact person, along with phone number and address (Fax number and e-mail address are optional):

   Ian S. Munce
   Director of Planning & Community Development
   PO Box 547
   Anacortes, WA 98221

   Ph. (360) 299-1942   Fx. (360) 293-1938   ianmunce@gte.net

4. Status of eligibility:

   (a) Has your jurisdiction already adopted a comprehensive plan, critical area ordinances, natural resources lands ordinances, and other necessary development regulations under the GMA?

       yes

   (b) Is your jurisdiction currently in compliance with the GMA based on the eligibility description above?

       yes

5. Local need:

   (a) Is your jurisdiction experiencing problems related to population growth or level of development? If so, please describe the problem:

       The City of Anacortes grew up around its 'working waterfront', with an economy based on fishing, fish processing, wood processing, boat building, oil refining, ferry terminals, port facilities, and businesses that provided support to these water dependent and related activities. Today the City's economy has diversified somewhat to include tourism focused around marinas and marine recreation and 'footloose' businesses drawn to the City's quality of life. However, the economy and culture still
focus on the City's 'working waterfront' and the need to upgrade this waterfront's marine facilities creates potential conflicts with the protection of marine resources.

(b) Are there other reasons that your jurisdiction especially needs to do this project? If so, please describe:

The City is addressing this problem by developing a Development and Conservation Plan for Fidalgo Bay with the active participation of federal, state, local, and tribal agencies. A Draft Plan has been prepared over the past three years with $100,000 in PERF funds from CTED matched by $50,000 in local cash and a further $50,000 in in-kind effort. A major hurdle was crossed in June 1999 when the City secured conditional support from State Fish and Wildlife. Plan adoption is now scheduled for October, 1999 and at this time the City and its residents and businesses will gain the up-front predictability for development that sub-area planning provides.

This application is made to follow through on the City's commitment to State Fish and Wildlife to go beyond conservation to identifying and implementing habitat restoration in Fidalgo Bay. WDFW's letter of support for the Fidalgo Bay Plan (Attachment A) is conditioned upon the City adding a habitat restoration component to the Fidalgo Bay Plan. This application would assist the City in completing this task and add depth and credibility to the Fidalgo Bay Plan. The scope of work is set forth in Attachment B.

B. Project Information

1. Purpose of Project:

To develop a habitat restoration component to the Fidalgo Bay Sub-Area Plan.

2. Description of project, related to meeting "basic GMA requirements" (or attach description):

Attachment B

3. Amount of funding request for July 1, 1999 through June 30, 2000 and the milestones (i.e., major tasks or accomplishments) to be completed in that period:

(a) $39,462 (amount requested)
(b) Milestones: *Attachment B*

4. Additional amount of funding request (if necessary) for July 1, 2000 through June 30, 2001 and the milestones (i.e., major tasks or accomplishments) to be completed in that period:

(a) $___________________ (amount requested)

(c) Milestones:

5. Local resources:

If this project receives a GMA grant from CTED, what local resources will be committed to the project? (Examples of “local resources” include other funding and “in-kind” support, such as equipment, copying, and volunteer help.)

$10,538 in in-kind support

6. Has your jurisdiction submitted (or will it be submitting) other GMA Grant applications to CTED in August or September, 1999?

*No*

If yes, what is the priority of this project, compared to your jurisdiction’s other GMA Grant applications? Please indicate whether it is #1, #2, #3, #4, #5, #6 etc…

7. Description of any partnerships or intergovernmental arrangements to complete this project:

*A list of the federal, state, local, and tribal agencies participating in the ongoing Fidalgo Bay Planning Process is included as Attachment C.*

8. Optional information that you would like CTED to know about this project:
STATEMENT OF WORK

Development of Additional Natural Resource Elements for the Revised final Integrated Fidalgo Bay-Wide Plan and EIS

Prepared by

Ronald Thom
Liam Antrim

Battelle Marine Sciences Laboratory
Sequim, Washington

Prepared for

City of Anacortes Planning Department
Anacortes, Washington

July 27, 1999

Introduction

In response to comments from the Washington Department of Fish and Wildlife (WDFW) in a letter dated May 18, 1999, the City of Anacortes has been required to expand upon natural resource elements in the "Revised Final Integrated Fidalgo Bay-Wide Plan and EIS." In particular, WDFW has directed the City to address issues and concerns associated with the recent Endangered Species Act listing of Puget Sound Chinook, as well as other natural resource issues related to the health and function of the Fidalgo Bay ecosystem. This approach is to be modeled after similar efforts that are further advanced in Bellingham Bay and Commencement Bay. Both of these projects are multi-party processes that address contaminant and restoration issues using a habitat based approach. The specific natural resource elements that will be augmented, developed, and incorporated into the Fidalgo Bay-Wide Plan are

1. Analysis of Habitat Changes (existing vs. historical)
2. Habitat/Resource Vision, Goals, and Objectives
3. Identify Priority Habitat/Resource Objectives
4. Identify Habitat Protection, Restoration, and Enhancement Opportunities
5. Prioritize Habitat Restoration and Enhancement Opportunities
6. Mitigation Framework
7. Net Gain Concept.
The Fidalgo Bay-Wide Plan already includes elements that address the Mitigation Framework and Net Gain Concept. These elements require some modification to incorporate concepts developed in the Bellingham Bay and Commencement Bay projects. The main portions of the Fidalgo Bay-Wide Plan that require significant development and refinement, however, are development of habitat goals and objectives, analysis of habitat changes in the bay, identification of restoration/enhancement opportunities in the bay, and prioritization of restoration/enhancement projects. The City of Anacortes has requested that Battelle Marine Sciences Laboratory (MSL) assist the City with preparation of these elements of the Fidalgo Bay-Wide Plan. This Statement of Work describes the approach proposed by Battelle MSL for providing the City of Anacortes with technical assistance for further development of natural resource elements of the Fidalgo Bay-Wide Plan.

**Proposed Approach**

Scientists at the Battelle MSL will contribute to an multi-agency process that includes representatives from the City of Anacortes, WDFW, and other government agencies to assemble existing documentation and other pertinent materials (i.e., aerial photographs, natural resource and property ownership maps) in support of the natural resource elements outlined above. Battelle's major role will be to provide technical assistance to the City of Anacortes, to produce draft versions of selected natural resource elements of the Fidalgo Bay-Wide Plan, and to represent the City of Anacortes at meetings at which these elements are refined and finalized. A description of the approach to be used for each element follows.

**Analysis of Habitat Changes (existing and historical)**

Analysis of habitat changes in the nearshore portions of Fidalgo Bay begins with definition and description of the historical habitat types in the bay as far back in time as records allow. Battelle MSL will lead this effort and work with assistance from the City of Anacortes and state resource agencies. Documents used for this effort include maps, charts, and aerial photographs. This information will be summarized in a historical baseline map(s) that indicates general habitat types and a written description of habitat types that existed throughout the bay. The current habitat in the bay will be defined by review of recent aerial photographs, survey information, and habitat maps prepared by state resource agencies (i.e., WDFW, WDNR [Washington Department of Natural Resources]). A shore- and small vessel-based site visit will be conducted to clarify any information gaps or incongruities in documentation of existing habitats. The current habitat will be characterized on a site map similar to that prepared for the historical baseline habitat and a written description of current habitats. This analysis will also include a discussion of human development practices and natural history factors that contributed to the changes documented in the bay's habitat.

**Habitat/Resource Vision, Goals and Objectives**

This element of the Fidalgo Bay-Wide Plan & EIS is founded on a conceptual image and the long-term vision for a healthy and functioning ecosystem in Fidalgo Bay. This vision necessarily recognizes the presence of existing shoreline development and the potential for further development projects in nearshore areas. It is assumed that the vision will be
one of healthy habitats that support naturally sustainable aquatic resources in Fidalgo Bay. A broad vision statement will be augmented with a set of clear goals necessary to achieve the vision for the bay. The goals will describe what realistically can be expected within the confines of the environmental conditions that control the area’s ecology. Goal statements will be simple statements that outline guiding principals from which specific objectives can be derived. The objectives will outline the possible actions required to maintain and improve the habitat within the bay. Battelle MSL will contribute technical support to the City of Anacortes and attend meetings of the multi-agency work group that drafts the habitat/resource vision, goals, and objectives.

*Identify Priority Habitat/Resource Objectives*

Prioritization of habitat/resource objectives will be completed by the multi-agency work group. Battelle MSL will contribute technical support to the City of Anacortes for this process.

*Identify Habitat Protection, Restoration, and Enhancement Opportunities*

Specific opportunities or projects for habitat protection, restoration, and enhancement will be identified through evaluation of historical changes to habitat and potential reasons for the changes, discussion with state resource agencies, and site visits. Measures for protection of existing high priority habitat will be discussed with reference to the current scientific understanding of potential impacts to selected habitats. Restoration and enhancement opportunities will be identified and described by estimated habitat area and mature habitat type. A site visit will be necessary at location to make a rapid evaluation of the specific opportunity/project based on best professional judgement. Restoration opportunities/projects will be summarized in a table that lists the project name, habitat area to be gained, and description of the process required for preservation, restoration, or enhancement.

*Prioritize Habitat Restoration and Enhancement Opportunities*

The multi-agency work group will prioritize habitat restoration and enhancement opportunities. Battelle MSL will provide technical assistance to the City of Anacortes for this work group. Prioritization will take into account a variety of factors including mature habitat type, abundance/area of similar habitat within the bay, benefits to aquatic resource species, habitat connectivity, probability of success, feasibility, time frame, and the economic cost of each restoration and enhancement project.

*Mitigation Framework*

A mitigation framework for habitat protection, restoration, and enhancement projects has been outlined for the Fidalgo Bay-Wide Plan & EIS. This framework requires further refinement to incorporate the approaches developed under similar processes in Bellingham and Commencement Bays. Battelle MSL will provide technical assistance to the City of Anacortes on the multi-agency work group during this process. The mitigation framework should incorporate principals of adaptive management that allow for periodic evaluation of mitigation success and modification of mitigation goals to accommodate for changing conditions and expectations. Such an approach is necessary because of inherent uncertainty associated with all habitat restoration and enhancement projects and the influence of unknown or unanticipated factors that can
impact the outcome of the effort. Dr. Thom at Battelle is a leading advocate of an adaptive management approach to restoration efforts.

_Net Gain Concept_

Whereas the overall objective of the mitigation framework outlined for Fidalgo Bay will be no net loss of habitat in the bay, an additional principal guiding principal for long-term management of Fidalgo Bay should be a net gain of productive aquatic habitat in the bay. The net gain concept recognizes that human development of coastal areas has led to significant losses of nearshore habitat through Puget Sound. The net gain concept will be incorporated into the Mitigation Framework that is produced by the multi-agency work group.

_Budget_

A budget for the proposed work is attached.

_Schedule_

Battelle MSL can begin work on these tasks as soon as funding is available. A draft of the Analysis of Habitat Changes will be produced within 6 weeks of approval for start of work. Further scheduling will depend on coordination of the multi-agency work group.
PROPOSAL OF BATTELLE MEMORIAL INSTITUTE,  
PACIFIC NORTHWEST LABORATORIES, to  
CITY OF ANACORTES

BNW Proposal No. 28470 AMND 3

ESTIMATED COSTS
It is expected that the cost of this research may be distributed approximately as set forth herein, subject to the understanding that this allocation is merely an estimate, and actual costs incurred may vary from the categories shown. These estimates are reasonable and consistent with Battelle-Northwest's established policies. Any change in such policies as the result of the promulgation of Government Regulations will be applied prospectively in accumulating the costs of work proposed herein.

DIRECT STAFF LABOR
Includes salaries and wages plus predetermined accrual for vacation, holiday, approved paid absences, pension, insurance, unemployment insurance, workmen's compensation, and social security.

Direct labor hours costed are: 285.

$ 13,841

ORGANIZATIONAL OVERHEAD
Includes actual use of Battelle-owned and Government-owned specialized equipment at an established rate. This rate is based on depreciation, maintenance, utilities, special supplies, and other expenses necessary to operation. Also includes organizational management and administration, laboratory supplies, and operating costs allocated based on direct staff labor hours.

5,999

PROGRAM DEVELOPMENT AND MANAGEMENT
Includes costs for business development, planning, and monitoring for a group of projects. Costs are allocated on a base that includes value added costs less PDM costs plus materials and subcontracts.

1,330

DOE-NN, -CN, -IN / DOD OVERHEAD
The operating costs for the Sensitive Compartmented Information Facility (SCIF) are allocated to projects in the benefiting Market Sectors: DOE-NN (Office of Nonproliferation and National Security) and Department of Defense (DoD).

1,688

TRAVEL
Includes the actual cost of transportation and reasonable actual subsistence expenses determined in accordance with Battelle's standard procedure for research. A mileage allowance for necessary travel by privately owned conveyance is included in lieu of the cost of such travel.

5,999

OTHER DIRECT COSTS
Includes unit costs for special services such as duplicating and photography, and other direct costs.

$ 32

Subtotal: Value Added

22,890

9,941

OTHER INDIRECT COSTS
Includes General and Administrative costs and, if applicable, Nuclear Assessment and Cost of Facilities Capital.

MATERIALS, SUBCONTRACTS, AND CONSULTANTS
Includes directly applicable purchase orders, subcontracts, consultant services, and equipment which may be purchased as necessary in the performance of the research.

$ 611

Total Estimated Cost

$ 33,442

Fee

$ 6,020

Total Estimated Cost and Fee

$ 39,462
FIDALGO BAY PLAN PARTICIPATING AGENCIES

City of Anacortes
Port of Anacortes
Skagit County Commissioners
Swinomish Tribal Community
Skagit Systems Cooperative
State Department of Fish and Wildlife
Department of Natural Resources
Department of Ecology, Northwest Office
Department of Community, Trade & Economic Development
U.S. Army Corps of Engineers
National Marine Fisheries
U.S. Environmental Protection Agency