

Shoreline Master Program Update

WELCOME

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SHORELINE MASTER PROGRAM
UPDATE
PUBLIC MEETING
NOVEMBER 7TH, 2007
BERTHA KNIGHT LANDES ROOM
5:30 - 7: 30 P.M.

Shoreline Master Program Update

AGENDA

SHORELINE MASTER PROGRAM UPDATE PUBLIC MEETING
NOVEMBER 7TH, 2007
5:30 - 7:30 P.M.

AGENDA

- 5:30 Information Viewing
Department of Planning and Development (DPD)
and Department of Ecology Staff Available for
Questions
- 6:00 Welcome – Diane Sugimura, DPD Director
- 6:10 Presentation – Maggie Glowacki, DPD
- Overview of Current Shoreline Master Program (SMP) Regulations
 - New State Guidelines for SMP Update
 - Shoreline Inventory and Characterization
 - Public Involvement Plan
 - Vision and Intent
 - Shoreline Environmental Designations
 - Goals, Policies, and Regulations
 - No net loss of ecological function
 - Cumulative Impact Analysis
 - Restoration Plan
 - Timeline
 - Work to Date
 - Shoreline Inventory
 - Public Involvement Plan
- 6:30 Information Viewing - DPD and Department of Ecology Staff Available for Questions
- 7:30 Adjourn

Shoreline Master Program Update

OVERVIEW

GOALS

Goals of the Shoreline Management Act:

- **Accommodating preferred shoreline uses.**
Inventory data allow us to determine the extent of existing water-dependent and water-related activities.
- **Providing environmental protection.**
Inventory data allow us to set reasonable expectations regarding the types of habitats that currently exist and those that could potentially be restored throughout the city.
- **Ensuring public access.**
Inventory data allow us to determine the extent of public access already occurring in the city and identify areas that may accommodate new recreational use.

INVENTORY

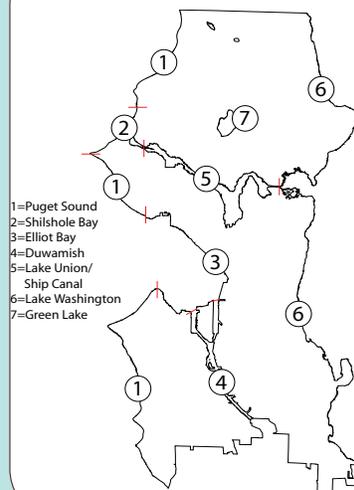
Seattle Shoreline Inventory Overview

The Shoreline Management Act Requires a Shoreline Inventory to provide baseline information that describes the existing conditions of Seattle's shorelines. This information, along with the Shoreline Ecological Characterization, is used to develop shoreline Goals, Policies, Regulations and Shoreline Designations.

Six categories of the shoreline inventory:

- Ecological attributes
- Utilities
- Transportation infrastructure
- Public access sites
- Historical/archeological sites
- Land uses

Seattle Shoreline Sections



Within the City of Seattle, seven shoreline areas fall under the SMP jurisdiction:

- Puget Sound Marine Shorelines
- Shilshole Bay
- Elliott Bay
- Lake Union/Ship Canal
- Duwamish River and Estuary
- Lake Washington
- Green Lake

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OVERVIEW (continued)

METHOD

1. Summarize regional context

including:

- Climate (Seasonal variability, mean temperatures, precipitation)
- Geology/Topography (Major historic formation processes, geologic landforms)
- Soils (Distribution of major soil types)
- Hydrology (Description of general surface and subsurface flows)
- Land cover & land uses

2. Identify the shoreline jurisdiction:

- Marine shorelines
- Stream segments with mean annual flow of 20 c.f.s. or more
- Lakes greater than 20 acres
- Shorelines of Statewide Significance
- Lands extending 200 feet landward from the ordinary high water mark (OHWM)
- Floodways and contiguous floodplains 200 feet from such floodways
- All associated wetlands and river deltas
- Excludes reservations and tribal trust lands

3. Map shoreline inventory data

Example data sources include:

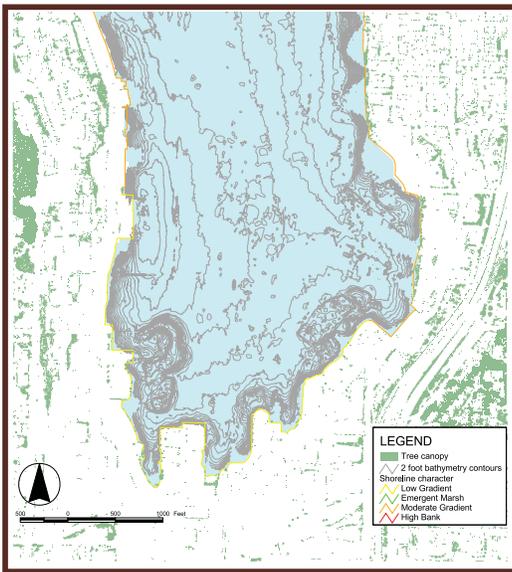
- Bathymetry (water depth)
- Riparian vegetation cover
- Aquatic and Terrestrial animal use of the shoreline
- Slope of the shoreline.
- Roads and highways
- Railroads
- Port facilities
- Public access
- Specific land uses

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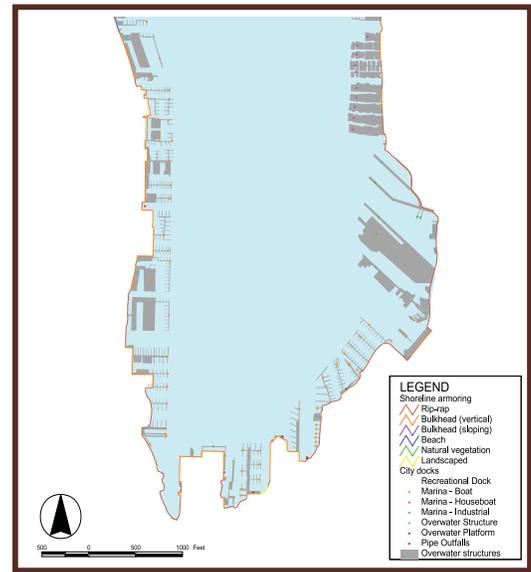
ECOLOGICAL INVENTORY

The inventory of ecological attributes draws on a wide range of sources, incorporating elements such as topography, bathymetry (underwater topography), vegetation, erosion and sedimentation, bank armoring, and water quality. Data layers are checked against aerial photos wherever possible to improve accuracy.

These figures demonstrate some of the types of data included in the ecological inventory:



1. Detail of South Lake Union Shoreline depicting tree canopy, shoreline type, and bathymetry



2. Detail of South Lake Union Shoreline depicting shoreline armoring data, extent of overwater structures, and the type of dock

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ECOLOGICAL CHARACTERIZATION

The shoreline ecological characterization report builds on the data collected during the inventory process to analyze the ecological conditions of the shoreline.

METHOD

The Shoreline Management Act requires jurisdictions to undertake the following steps in creating their Ecological Characterization Report:

1. Identify Ecosystem-Wide Processes and Ecological Functions
2. Determine the relationship between Ecosystem-Wide Processes & Ecological Functions
3. Establish indicators and metrics that will be used to measure whether the shoreline ecological processes and functions are healthy

PROCESSES

Ecosystem Wide/Shoreline Processes Include:

- Tidal Influences (marine and estuaries)
- Wave Energy
- Sediment
- Light Energy
- Riparian Generated Organic Matter including Woody Debris
- Water Quality/Pollutants (excess nutrients, toxics, and pathogens)
- Hydrology/Water

FUNCTIONS

- **Food Production:** The shoreline environment supports landscape and habitat necessary to ensure availability of nutrients to shoreline species.
- **Refuge & Migration:** Shorelines are migration routes and rearing areas for resident and migratory species therefore sufficient habitat is needed to provide areas for predator avoidance and allow for migration.
- **Reproduction:** Eelgrass is important spawning habitat for herring, which are a keystone aquatic species, and shorelines provide spawning habitat for kokanee salmon (lake spawning sockeye).

ANALYSIS

Determine the relationship between Ecosystem-Wide Processes & Ecological Functions

Ecological indicators and the metrics are used to measure whether the shoreline ecological processes are functioning:

Example of indicators and metrics:

Process: Sediment (how is sediment delivered, moved through and lost in Seattle's shoreline)

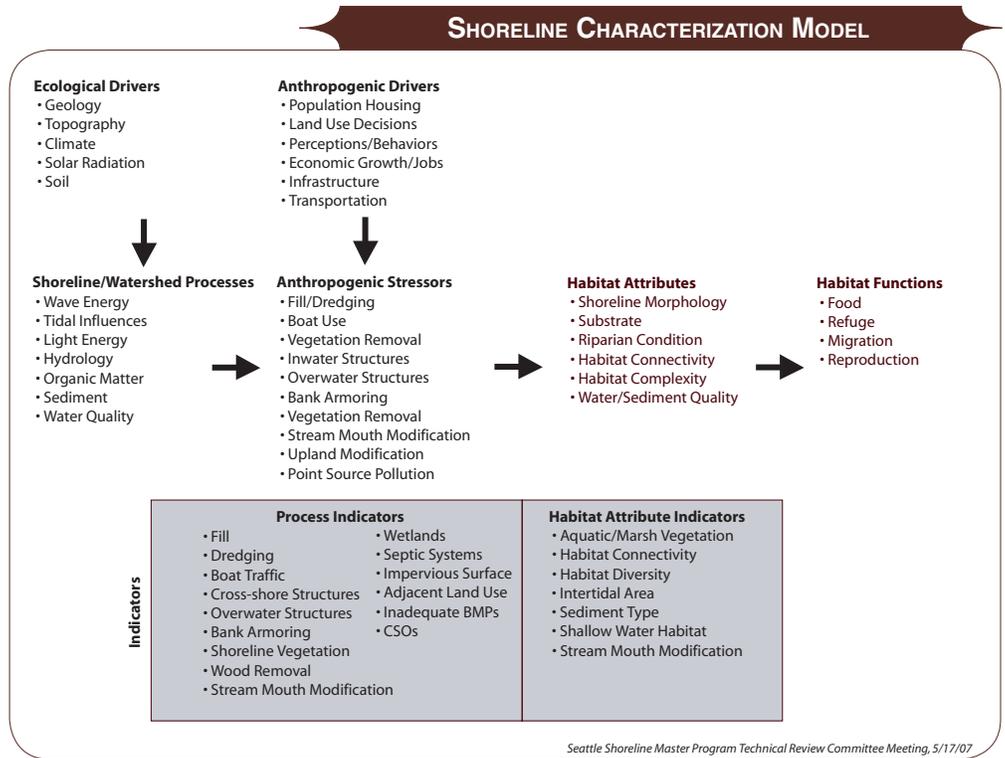
Indicators and metrics:

- Linear feet of bank armoring
- Presence of stream (mouth piped or open?)
- Presence of in-water structures (# of structures /linear feet of shoreline)
- Presence of over-water structures (# of structures /linear feet of shoreline)

Bank armoring, stream mouths and in and over water structures are the indicators; the percent of bank armoring along the shoreline, whether a stream is piped or open and the number of in and over water structures per linear feet of shoreline, respectively, are the metrics that measures each indicator.

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ECOLOGICAL CHARACTERIZATION (continued)



PRODUCT

The Ecological Characterization Report will provide the baseline data of ecological conditions along Seattle's shorelines. This information will provide data to:

- Measure the health of ecological processes and functions occurring in the shoreline.
- Identify measures necessary to protect and/or restore the ecological functions and ecosystem-wide processes
- Inform future planning exercises such as the:
 - o Preparation of the Shoreline Master Program's policies and regulations designed to achieve no net loss of ecological functions
 - o Analysis of future cumulative impacts to determine the effectiveness of the shoreline regulations in achieving no net loss of ecological function
 - o Preparation of a Restoration Plan that achieves restoration of ecological processes and functions.

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LAND USE INVENTORY

METHOD

Field surveys of 4,294 parcels were conducted in 2006. The following information was collected:

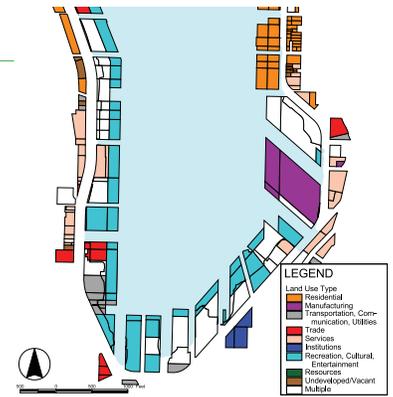
- Land Uses
- Business Names
- Presence of Public Access
- Parking Stalls
- Extent of Overwater Coverage
- Extent of Submerged Land
- Extent of Water Frontage

Where visual observation failed to allow collection of the needed data, informal interviews with occupants, web research, and review of aerial photography were used to supplement the data.

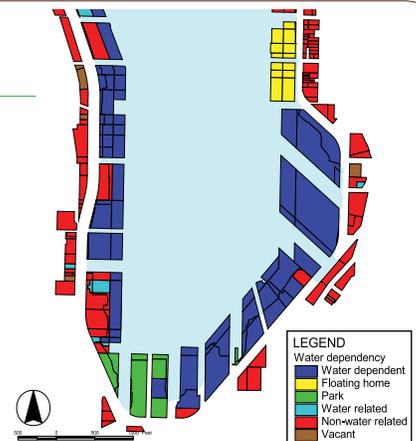
ANALYSIS

- Water dependency designations were assigned to each parcel by DPD staff based on the definitions in Washington Administrative Code (WAC).
 - Survey data was joined with city's existing Geographic Information Systems (GIS) database based on parcel identification numbers.
- GIS analysis calculated the submerged waterfront, dry waterfront and upland area of each parcel.
- Data validation was undertaken to ensure the accuracy of the data.
 - Results of the land use survey were summarized and compared with a similar land use survey that was conducted in 1982.

Land Use



Water Dependency



PRODUCT

Inventory data will be posted on DPD's Shoreline Master Program website via a web-based mapping application. This application will allow individuals to view multiple layers of land use data spatially, zoom in on specific sections of the city, and compare land use information to other data layers analyzed by DPD during the Shoreline Inventory and Characterization Process.

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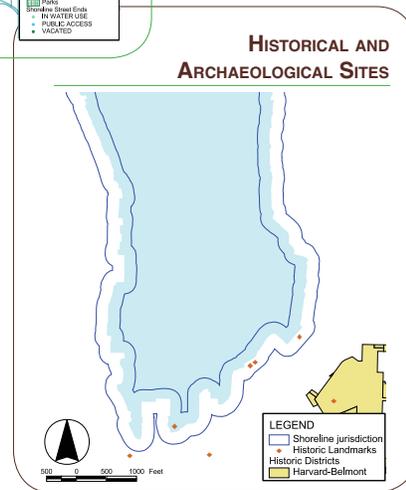
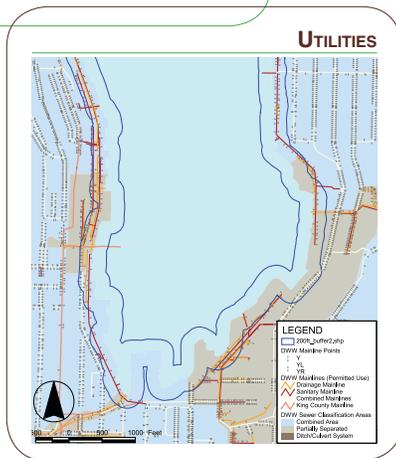
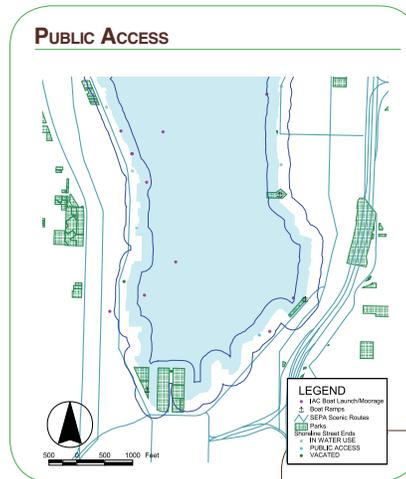
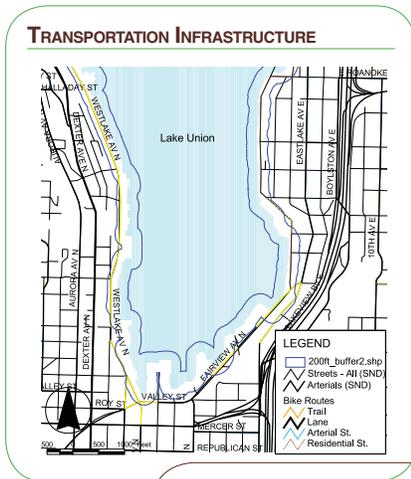
ADDITIONAL INVENTORIES

Transportation Infrastructure, Public Access, Utilities, Historic & Archeological sites

The Shoreline Master Program regulations outlined in Washington's Shoreline Management Act require local governments to gather and organize a wide range of information relevant to shoreline management decisions. In addition to inventories of land use and ecological attributes, this includes inventories of transportation infrastructure, public access, and historic and archeological sites.

Methods:

Each inventory compiles and overlays existing data layers from state agencies and the City's GIS database. Data layers are checked against recent aerial photos for consistency.



Seattle's Shorelines: A Rich Variety of Uses and Landscapes

PHOTOS

WILDLIFE

Dave LaClergue



Don Wilson



INDUSTRY



RECREATION

Don Wilson



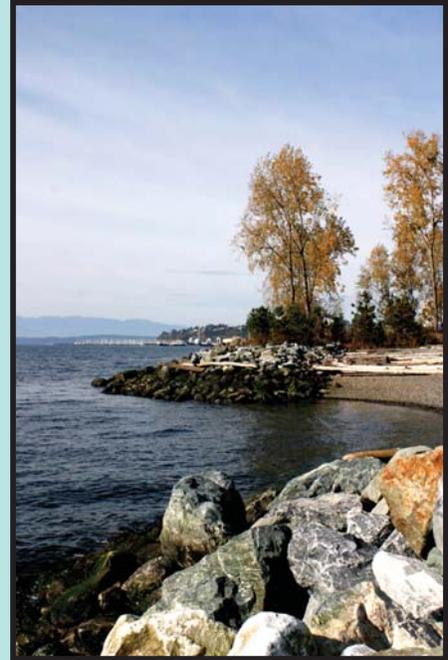
PUBLIC ACCESS

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PHOTOS



RESIDENTIAL



Eric Lindquist

RESTORATION



Don Wilson

ENJOYMENT

Karen Wood



HABITAT