

# Washington Coastal Atlas

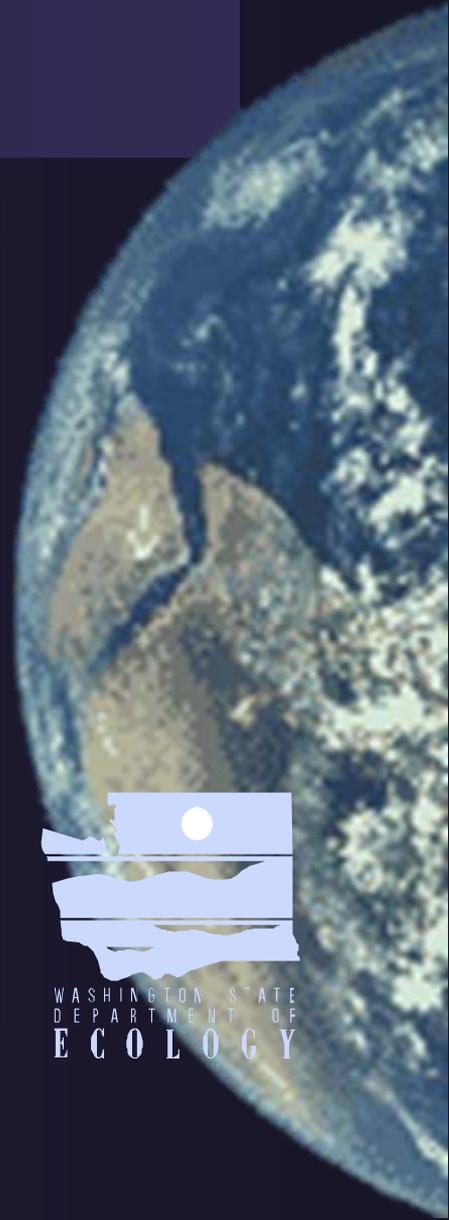
Kathy Taylor, Ph.D.  
Shorelands Program

Darby Veeck and Dan Saul  
GIS Technical Services Group

Washington Department of Ecology



# Fledermaus



WASHINGTON STATE  
DEPARTMENT OF  
**ECOLOGY**

# WA Coastal Atlas Contributors:

## Ecology:

Kathy Taylor  
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Brian Lynn  
Darby Veeck  
Dan Saul  
John Tooley  
Hugh Shipman  
Ann Wessel

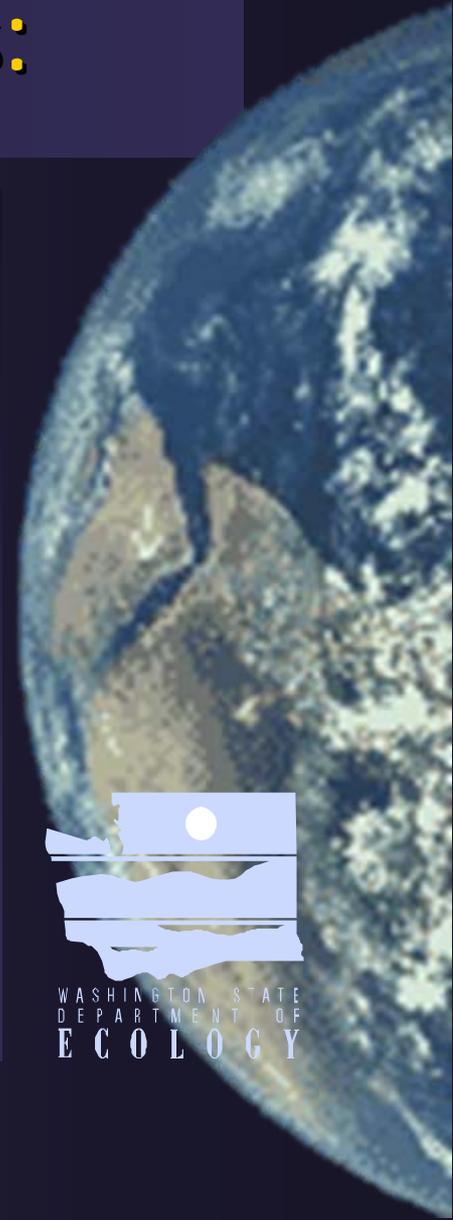
Puget Sound Action Team  
(now PS Partnership)

DNR

Tim Strickler\*

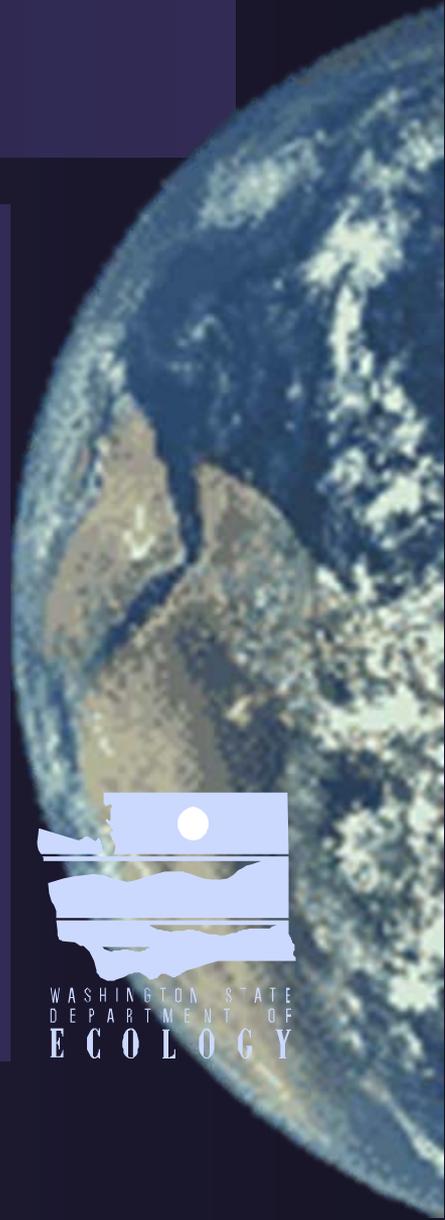
Phil Bloch\*

\*currently working elsewhere



# Washington Coastal Atlas:

- Purpose
- Location
- Information Available
  - Background Layers
  - Data Layers
  - Land Cover
  - Oblique Aerial Photos – 2006 Marine and 2007 Freshwater Including Eastern WA
- Opportunities for Future Development



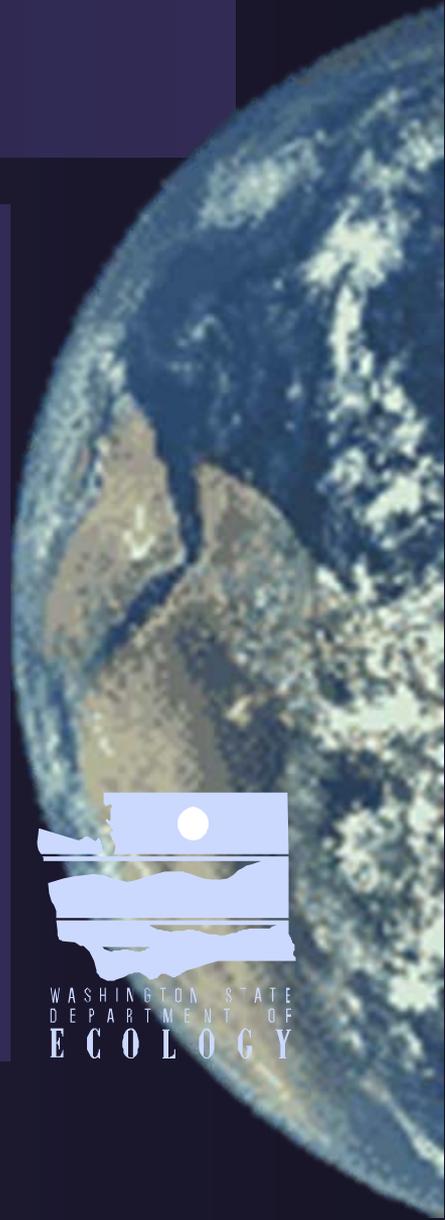
# Purpose of WA Coastal Atlas

- To make relevant information easily available for use in coastal and shoreline resource planning and management.



# Location

- Washington Department of Ecology  
Web Site



WASHINGTON STATE  
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ECOLOGY

BY PROGRAM

- Air Quality
- Environmental Assessment
- Hazardous Waste & Toxics Reduction
- Nuclear Waste

Shorelands

- Environmental Programs
- Regulatory Assistance
- Education & Training
- Grants
- Publications

- Solid Waste
- Spills
- Toxics Cleanup
- Water Quality
- Water Resources

FIND INFO ABOUT

- Core Services
- Laws & Rules
- Publications & Forms
- Public Records
- Searchable Databases
- Contract Opportunities

# Shorelands & Environmental Assistance



Healthy shorelands and watersheds provide viable habitat for fish, plants and animals, and support economic growth in communities.

The Shorelands and Environmental Assistance Program helps communities manage shorelands and wetlands. Our primary focus is on state and local responsibilities for administering Washington state and federally-delegated laws.

### ENVIRONMENTAL PROGRAMS

[Coastal Zone Management](#) | [Floodplain Management](#) | [Wetlands](#) | [Ocean Resources](#) | [Padilla Bay Reserve](#) | [Shoreline Management \(SMA\)](#) | [SW Washington Coastal Erosion Study](#) | [Watershed Planning](#) | [Washington Conservation Corps \(WCC\)](#) | [More](#)

### REGULATORY ASSISTANCE

[Environmental Permitting Services](#) | [Federal Permitting](#) | [Joint Aquatic Resource Permits Application \(JARPA\)](#) | [State Environmental Policy Act \(SEPA\)](#) | [Transportation Liaison Team](#) | [Wetlands](#)

### EDUCATION & TRAINING

[Coastal Training Program](#) | [Property Owner Guides](#) | [Teacher Resources](#)

### GRANTS

[Coastal Zone Management \(CZM\)](#) | [Watershed Planning](#) | [Flood Control Assistance Account \(FCAAP\)](#) | [Shoreline Master Program \(SMP\)](#)

### UPDATES

[Shellfish Committee Information](#) | [Wetland Mitigation Stakeholder Forum Information](#) | [NW Pipeline Capacity Replacement Project](#) | [Wetland Mitigation Banking](#) | [Sea-Tac Third Runway](#) | [More](#)

### ENVIRONMENTAL PERMITTING SERVICES

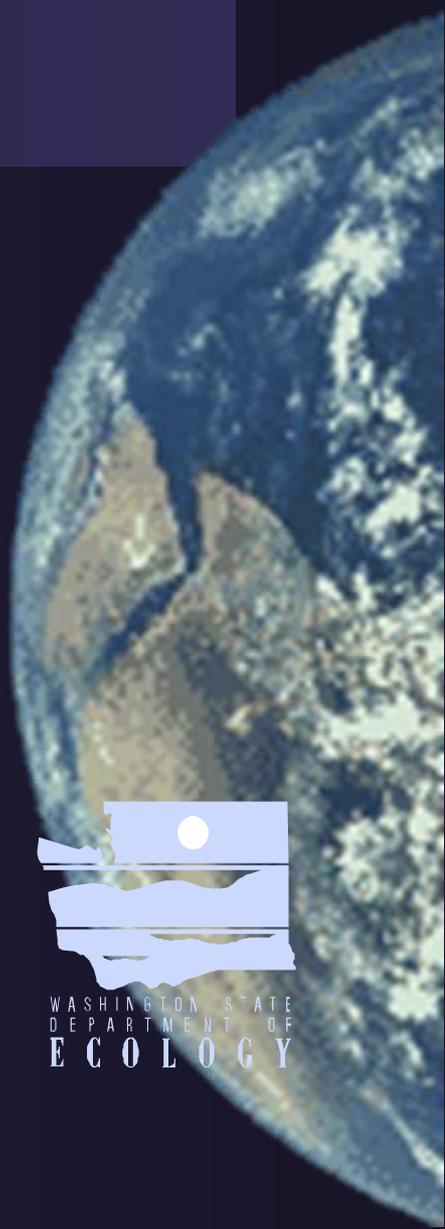
[Permitting assistance for citizens, businesses, and project applicants.](#)



**Updated Version!**  
[Interactive mapping for Washington's coast](#)



[Images of Washington's marine shorelines](#)



WASHINGTON STATE DEPARTMENT OF ECOLOGY

[Ecology home](#) > [SEA Program home](#) > [Shoreline Aerial Photos](#) > Washington Coastal Atlas

## Washington Coastal Atlas

Use the Coastal Atlas to learn about Washington's marine shorelines and the land areas near Puget Sound, the outer coast, and the estuarine portion of the Columbia River. You can view aerial photographs of marine shorelines, locate different habitat types, physical features, see changes in land cover, and much more.



[Click to Start Mapping!](#)

[Tips for using this site](#)



- FULL STATE
- ZOOM IN
- ZOOM OUT
- PAN
- ZOOM TO
- ZOOM LAST
- VIEW PHOTO
- SELECT
- SELECT POLYGON
- BUFFER
- CLEAR SELECT
- LAND COVER
- MEASURE
- PRINT MAP

Refresh Map

### Data Layers

- Biological/Habitat Fea
- Physical Features
- Regulated Features
- Modifications
- Jurisdictional Delineat
- Transportation Featur
- Background Imagery
- Satellite Imagery

### Help:

- A closed group, click to open.
- An open group, click to close.
- A hidden layer, click to make visible.
- A visible layer, click to hide.
- A visible layer, but not at this scale.



Map created by the WA State Department of Ecology

0 90mi

### Introduction

1. Choose Data Layers to display from right hand menu and then click **Refresh Map**. If layer is not visible,  until features are displayed.

2. Click on tools such as ,  or  for further instructions and information in this window.



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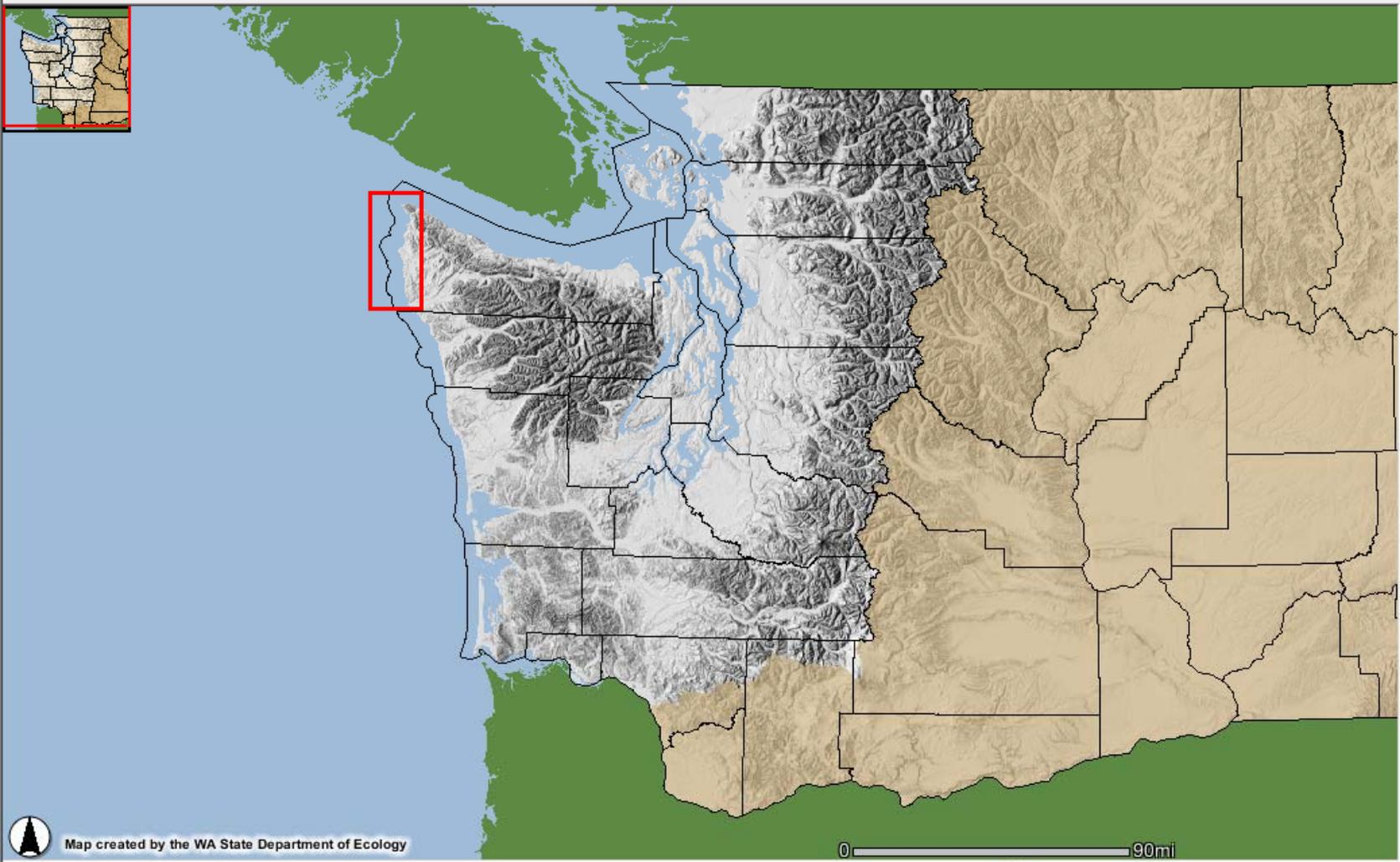
Refresh Map

### Data Layers

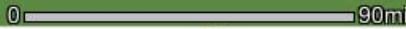
- Biological/Habitat
- Physical Features
- Regulated Features
- Modifications
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- Transportation Fea
- Background Image
- Satellite Imagery

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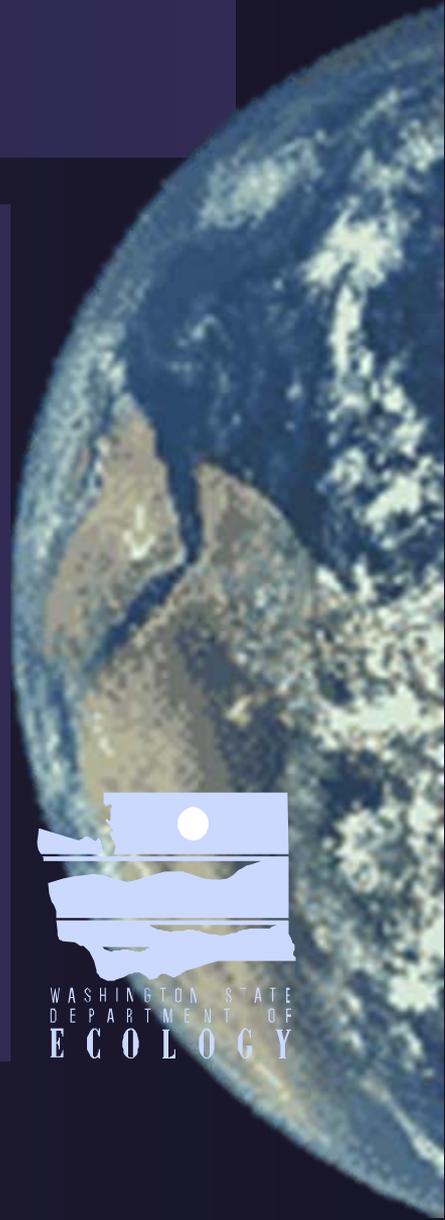
## Introduction

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# Background Layers

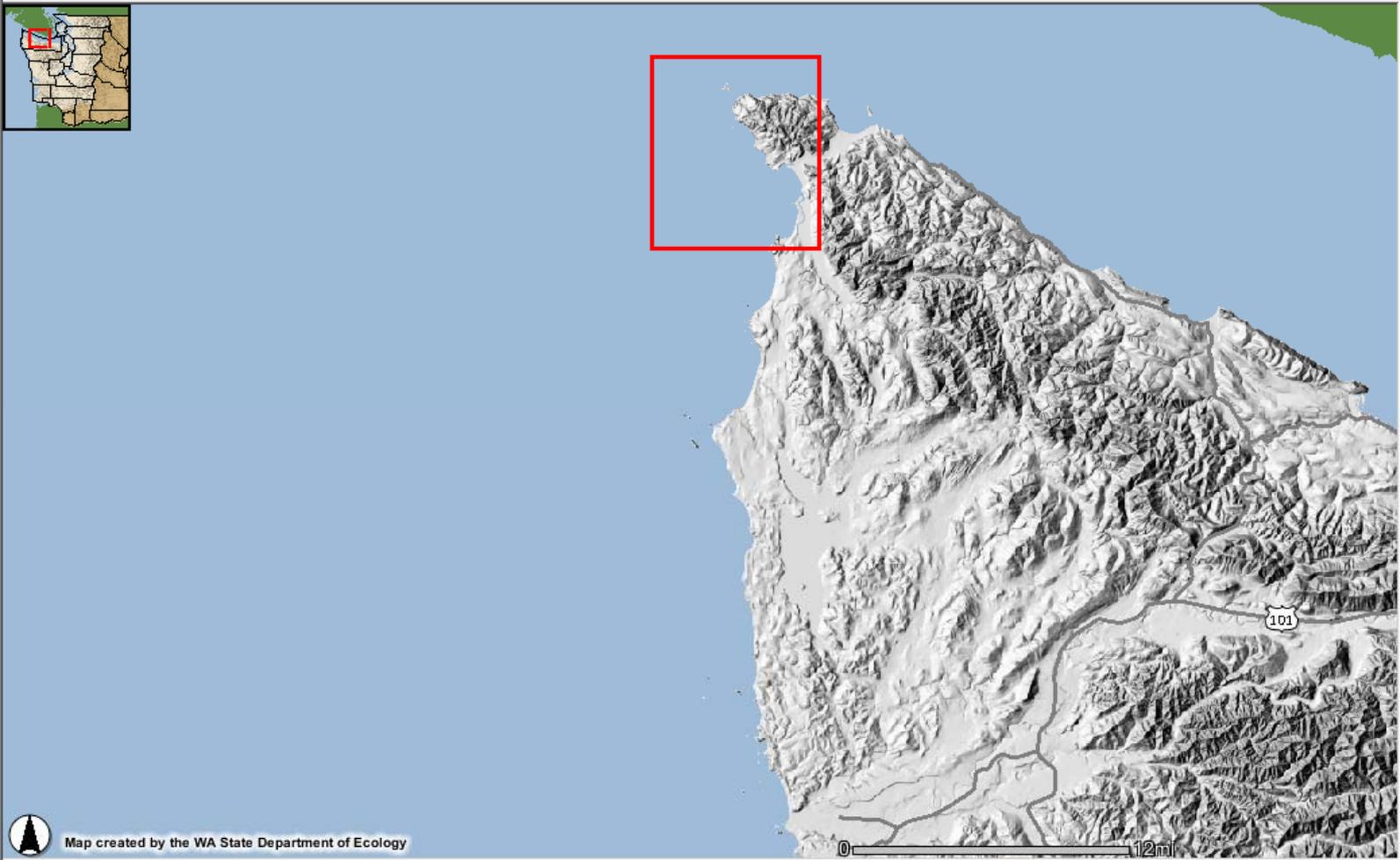
- Hillshade
- Aerial Imagery
- Nautical Chart
- USGS Topo Map



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 FULL STATE  
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  ZOOM LAST  
  VIEW PHOTO  
  SELECT  
  SELECT POLYGON  
  BUFFER  
  CLEAR SELECT  
  LAND COVER  
  MEASURE  
  PRINT MAP

Refresh Map



**Data Layers**

- Biological/Habitat Features
- Physical Features
- Regulated Features
- Modifications
- Jurisdictional Delineations
  - Watershed (WRIA) Boundaries
  - Sub Basins
  - County
  - Cities
  - Township/Range/Section
- Transportation Features
- Background Imagery
  - Nautical Chart
  - USGS Topo Maps
  - Aerial Imagery
  - Hillshade
- Satellite Imagery

Map created by the WA State Department of Ecology

### Introduction

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Help:

Map navigation tools: FULL STATE, ZOOM IN, ZOOM OUT, PAN, ZOOM TO, ZOOM LAST, VIEW PHOTO, SELECT, SELECT POLYGON, BUFFER, CLEAR SELECT, LAND COVER, MEASURE, PRINT MAP

Refresh Map



- Data Layers
- Biological/Habitat Features
  - Physical Features
  - Regulated Features
  - Modifications
  - Jurisdictional Delineations
  - Transportation Features
  - Background Imagery
    - Nautical Chart
    - USGS Topo Maps
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Introduction

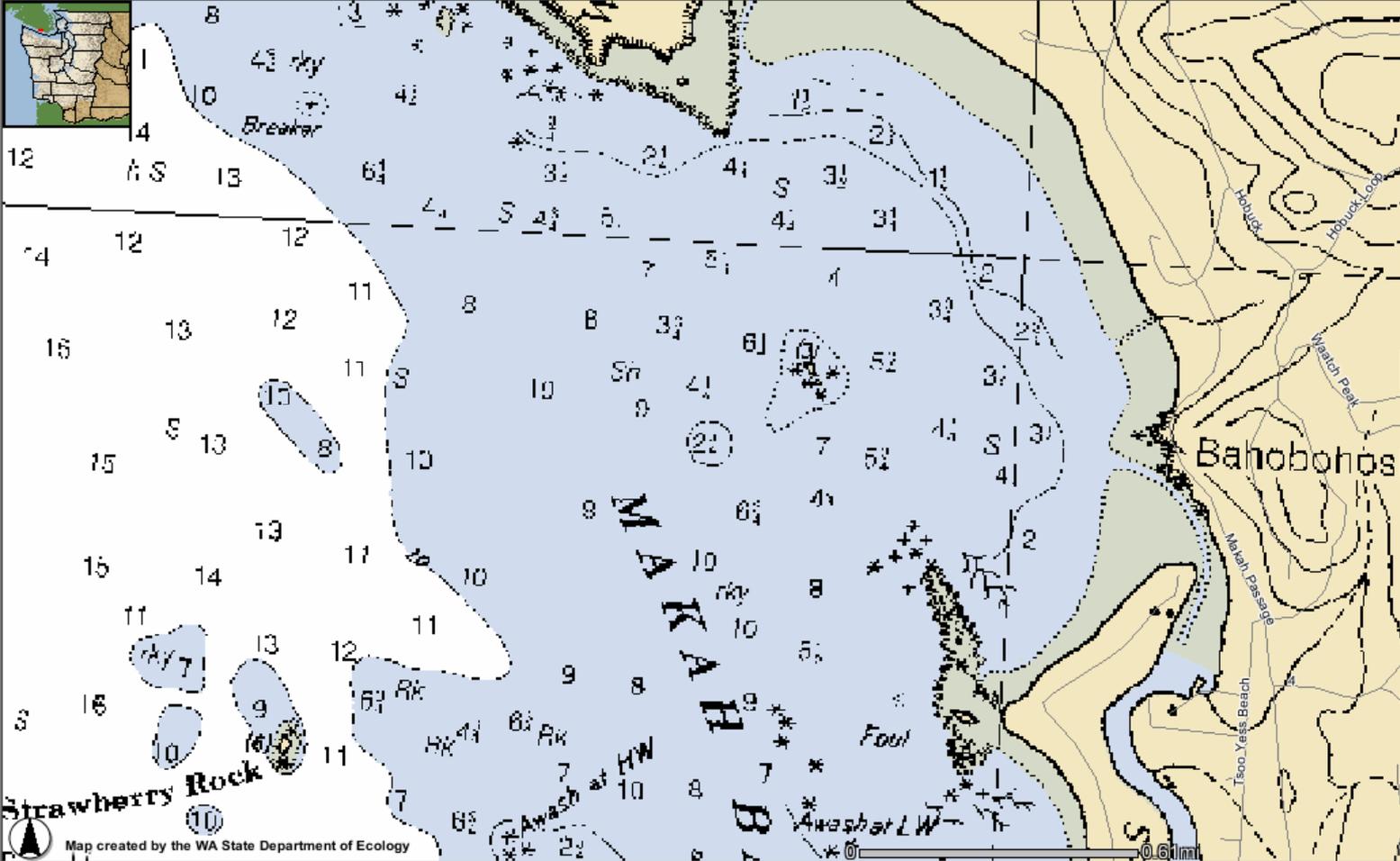
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Refresh Map



- Data Layers**
- Biological/Habitat Features
  - Physical Features
  - Regulated Features
  - Modifications
  - Jurisdictional Delineations
  - Transportation Features
  - Background Imagery
    - Nautical Chart
    - USGS Topo Maps
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    - Hillshade
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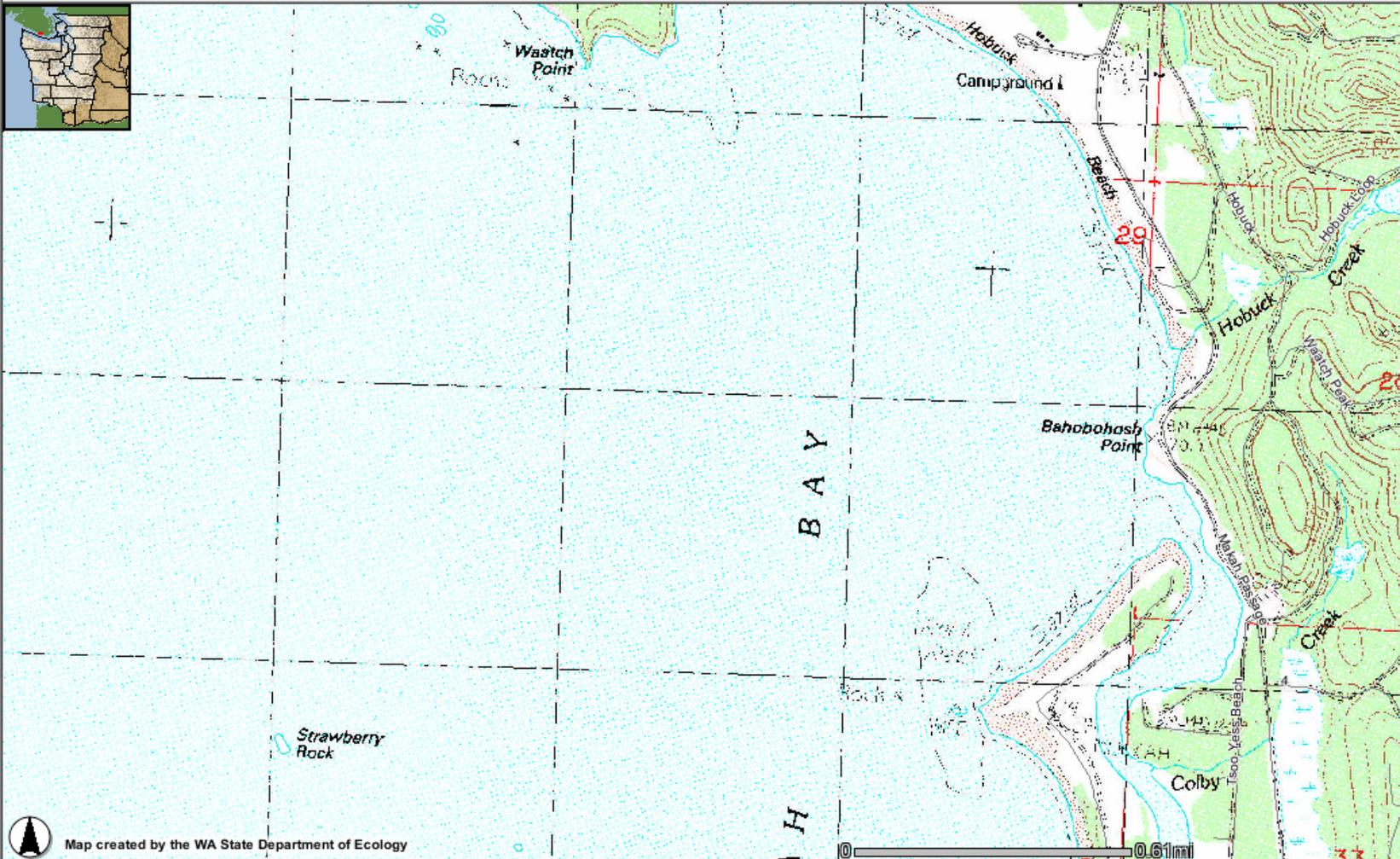
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- BUFFER
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- LAND COVER
- MEASURE
- PRINT MAP

Refresh Map



- Data Layers**
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# Example Data Layers

- Biological Features
- Physical Features
- Modifications to the Environment



Map navigation tools: FULL STATE, ZOOM IN, ZOOM OUT, PAN, ZOOM TO, ZOOM LAST, VIEW PHOTO, SELECT, SELECT POLYGON, BUFFER, CLEAR SELECT, LAND COVER, MEASURE, PRINT MAP

**Refresh Map**



**Data Layers**

- Biological/Habitat Features
- Physical Features
- Regulated Features
- Modifications
- Jurisdictional Delineations
- Transportation Features
- Background Imagery
  - Nautical Chart
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Washington Coastal Atlas - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites

Address <https://fortress.wa.gov/ecy/coastalatlascviewer.htm> Go Links

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# Coastal Atlas



 FULL STATE
  ZOOM IN
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  ZOOM LAST
  VIEW PHOTO
  SELECT
  SELECT POLYGON
  BUFFER
  CLEAR SELECT
  LAND COVER
  MEASURE
  PRINT MAP

**Refresh Map**

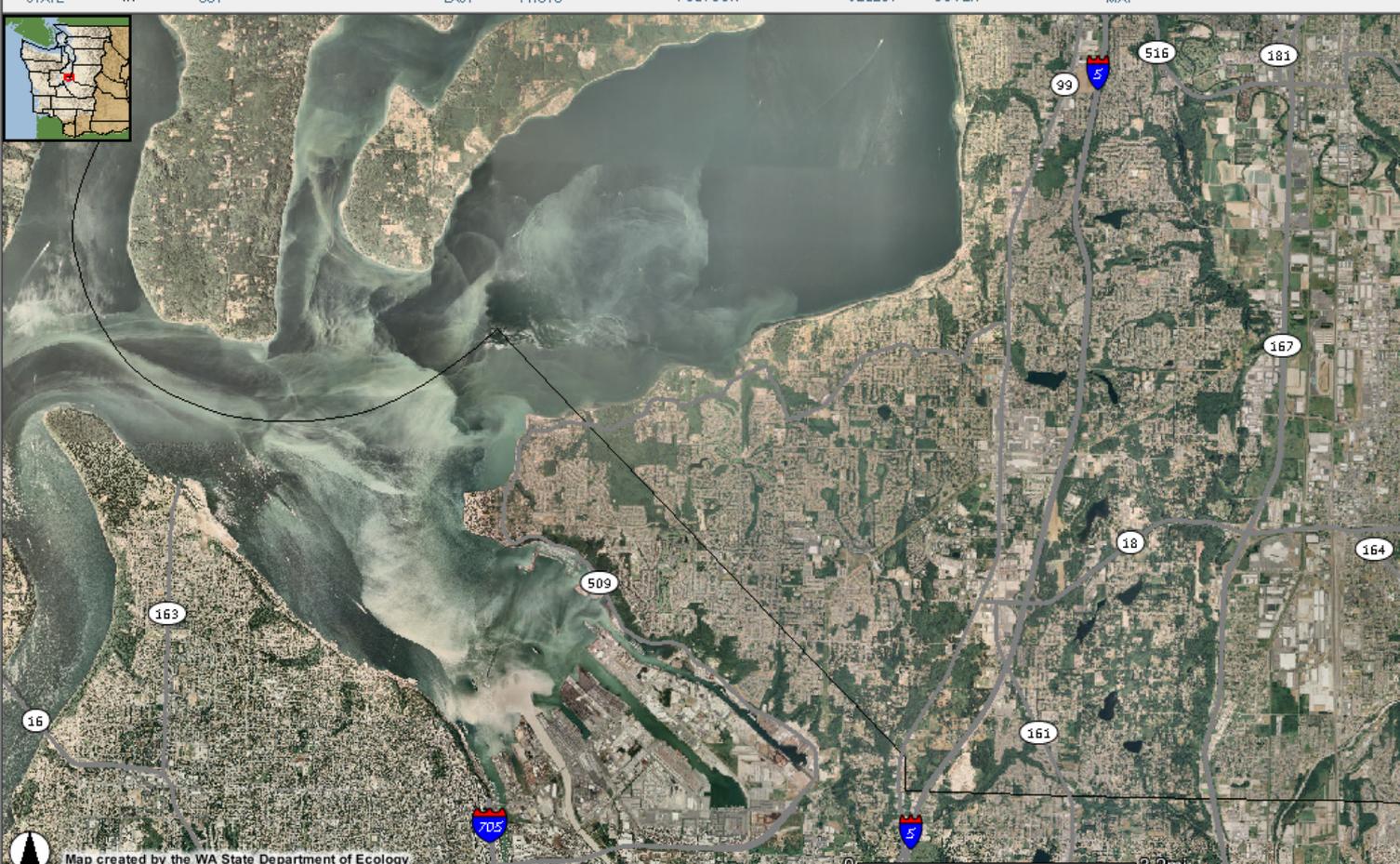
### Data Layers

- Biological/Habitat Features
- Physical Features
- Regulated Features
- Modifications
- Jurisdictional Delineations
- Transportation Features
- Background Imagery
  - Nautical Chart
  - USGS Topo Maps
  - Aerial Imagery
  - Hillshade
- Satellite Imagery

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### Help:

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Map created by the WA State Department of Ecology

0 3.2mi

## Introduction

1. Choose Data Layers to display from right hand menu and then click **Refresh Map**. If layer is not visible,  until features are displayed.

2. Click on tools such as  **SELECT**,  **LAND COVER** or  **VIEW PHOTO** for further instructions and information in this window.

Clear Selection

Internet

Washington Coastal Atlas - Microsoft Internet Explorer

File Edit View Favorites Tools Help

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# Coastal Atlas



 FULL STATE
  ZOOM IN
  ZOOM OUT
  PAN
  ZOOM TO
  ZOOM LAST
  VIEW PHOTO
  SELECT
  SELECT POLYGON
  BUFFER
  CLEAR SELECT
  LAND COVER
  MEASURE
  PRINT MAP

**Refresh Map**

### Data Layers

- Biological/Habitat Features
- Physical Features
- Regulated Features
- Modifications
- Jurisdictional Delineations
- Transportation Features
- Background Imagery
  - Nautical Chart
  - USGS Topo Maps
  - Aerial Imagery
  - Hillshade
- Satellite Imagery

### Help:

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Map created by the WA State Department of Ecology

0 3.2mi

## Introduction

1. Choose Data Layers to display from right hand menu and then click **Refresh Map**. If layer is not visible,  until features are displayed.

2. Click on tools such as ,  or  for further instructions and information in this window.

Cursor location is approximately Longitude: -122.37 N, Latitude: 47.33 W

Internet



# Example Data Layers

- **Biological Features**
- Physical Features
- Modifications to the Environment







Washington Coastal Atlas - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites

Address <https://fortress.wa.gov/ec/> <https://fortress.wa.gov - GIS Layer Information - Microsoft Internet Explorer> Go Links

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FULL STATE ZOOM IN ZOOM OUT

Map created by the WA State De

Department of Ecology **GIS** Geographic Information System

## GIS Layer Information

<b>Layer Name:</b>	Wetlands
<b>Description:</b>	A generalized inventory of wetlands location and classification.
<b>Source:</b>	Generalized from the US Fish & Wildlife Service's National Wetlands Inventory (NWI) by the WA State Dept of Ecology.
<b>Scale:</b>	1:24,000
<b>Date:</b>	1980-1989
<b>Notes:</b>	Compiled from 1:58,000 aerial photography onto 1:24,000 base maps

GIS Layer Attribute Information

Attribute	Description	Example
<b>Cover Type</b>	Generalized classification of the dominant vegetative cover types	Emergent
<b>Acres</b>	Area of wetland in acres	175.2

Detailed Layer Information

Refresh Map

**Data Layers**

- Biological/Habitat Features
  - Wetlands
    - Aquatic Bed
    - Emergent
    - Forested
    - Shrub/Scrub
    - Tidal Aquatic Bed
    - Tidal Emergent
    - Tidal Forested
    - Tidal Shrub/Scrub
  - Historic Estuary Maps
  - Pocket Estuaries
  - Dunegrass
    - Continuous
    - Patchy
  - Surfgrass
    - Continuous
    - Patchy
  - Kelp
    - Continuous
    - Patchy
  - Eelgrass Fringe
    - Continuous
    - Patchy
  - Eelgrass Beds
  - Salt Marsh Fringe
    - Continuous
    - Patchy
  - Salt Marsh
    - Continuous
    - Patchy
  - Low Marsh Fringe
    - Continuous
    - Patchy
  - Low Marsh
    - Continuous
    - Patchy
- Physical Features
- Regulated Features

Allows the user to re-center or move around the map when the map is centered at the desired location.

Use button when the

Cursor location is approximately Longitude: -122.34 N, Latitude: 47.34 W

Start Calendar - Microsoft Out... Z:\Coastal Atlas\Present... Microsoft PowerPoint - [...] Washington Coastal Atla... <https://fortress.wa.g...> 11:57 AM



# Example Data Layers

- Biological Features
- **Physical Features**
- Modifications to the Environment



Washington Coastal Atlas - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Mail Print Run Windows

Address <https://fortress.wa.gov/ecy/coastalatlus/viewer.htm> Go Links

WASHINGTON STATE Department of Ecology Coastal Atlas

Refresh Map

FULL STATE ZOOM IN ZOOM OUT PAN ZOOM TO ZOOM LAST VIEW PHOTO SELECT SELECT POLYGON BUFFER CLEAR SELECT LAND COVER MEASURE PRINT MAP

**Data Layers**

- Biological/Habitat Features**
- Physical Features**
  - Drift Cells**
    - Left to Right
    - Right to Left
    - Divergence Zone
    - NAD
    - Undefined
  - Slope Stability**
    - Stable
    - Intermediate
    - Unstable
    - Unstable Recent Landslide
    - Unstable Old Landslide
    - Modified
  - Water Bodies (100K)**
    - Reservoir
    - Glacier
    - Marsh
    - Water
  - Water Courses (100K)**
- Regulated Features**
- Modifications**
- Jurisdictional Delineations**
- Transportation Features**
- Background Imagery**
- Satellite Imagery**

Map created by the WA State Department of Ecology

0 1.07mi

**Pan Tool**

Allows the user to re-center or move around the map by **1**) Clicking on the Map and, while holding down the left mouse button, **2**) Dragging the Map View across the screen. Release the mouse button when the map is centered at the desired location.

Cursor location is approximately Longitude: -122.33 N, Latitude: 47.34 W

Help:

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- A visible layer, but not at this scale.

Internet

WASHINGTON STATE  
Department of Ecology

FULL STATE ZOOM IN ZOOM OUT



## GIS Layer Information

<b>Layer Name:</b>	Slope Stability
<b>Description:</b>	The digital maps presented here were originally published as hard copy maps in the Coastal Zone Atlas of Washington between 1978 and 1980. Although the Atlas has been out of print for many years, the maps contain information that remain the basis for local planning decisions. After receiving multiple requests for electronic versions of portions of the Atlas, an effort was made to scan, georeference and digitize aspects of the Atlas, beginning with the slope stability maps. These maps indicate the relative stability of coastal slopes as interpreted by geologists based on aerial photographs, geological mapping, topography, and field observations.
<b>Source:</b>	Washington State Department of Ecology, Shorelands and Coastal Zone Management Program
<b>Scale:</b>	1:100,000
<b>Date:</b>	2004

No attribute records found for layer slp\_stblty

Map created by the WA State De

Allows the user to re-center or move around map is centered at the desired location.



Refresh Map

### Data Layers

- Biological/Habitat Features
- Physical Features
  - Drift Cells
    - Left to Right
    - Right to Left
    - Divergence Zone
    - NAD
    - Undefined
  - Slope Stability
    - Stable
    - Intermediate
    - Unstable
    - Unstable Recent Landslide
    - Unstable Old Landslide
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  - Water Bodies (100K)
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    - Marsh
    - Water
  - Water Courses (100K)
- Regulated Features
- Modifications
- Jurisdictional Delineations
- Transportation Features
- Background Imagery
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# Information Available

- Biological Features
- Physical Features
- **Modifications to the Environment**



 FULL STATE
  ZOOM IN
  ZOOM OUT
  PAN
  ZOOM TO
  ZOOM LAST
  VIEW PHOTO
  SELECT
  SELECT POLYGON
  BUFFER
  CLEAR SELECT
  LAND COVER
  MEASURE
  PRINT MAP
  Refresh Map



**Data Layers**

- Biological/Habitat Features
- Physical Features
- Regulated Features
- Modifications
  - Piers and Docks (#)
    - 0 - 6
    - 5 - 35
    - 34 - 122
  - Shore Modification (%)
    - 0 - 21
    - 20 - 71
    - 70 - 100
- Jurisdictional Delineations
- Transportation Features
- Background Imagery
- Satellite Imagery

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WASHINGTON STATE  
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FULL STATE ZOOM IN ZOOM OUT



Map created by the WA State De

Department of Ecology GIS Geographic Information System

## GIS Layer Information

<b>Layer Name:</b>	Shore Modification
<b>Description:</b>	An inventory of Washington State's saltwater shorelines using the ShoreZone Mapping System. Physical and biological resources are described, along with information on the inventory data collection. The majority of the spatial data is line data, with some polygons and points. The inventory divides the shoreline into homogenous physical segments, the average linear segment length is 0.5 miles. Each spatial unit record has many corresponding tabular across-shore component records that describe the unit in more detail.
<b>Source:</b>	Washington State Department Natural Resources, Business Systems Support Division
<b>Scale:</b>	1:24,000
<b>Date:</b>	1994-2000

No attribute records found for layer shore\_mod

[Detailed Layer Information](#)



Refresh Map

Data Layers

- Biological/Habitat Features
- Physical Features
- Regulated Features
- Modifications
  - Piers and Docks (#)
    - 0 - 6
    - 5 - 35
    - 34 - 122
  - Shore Modification (%)
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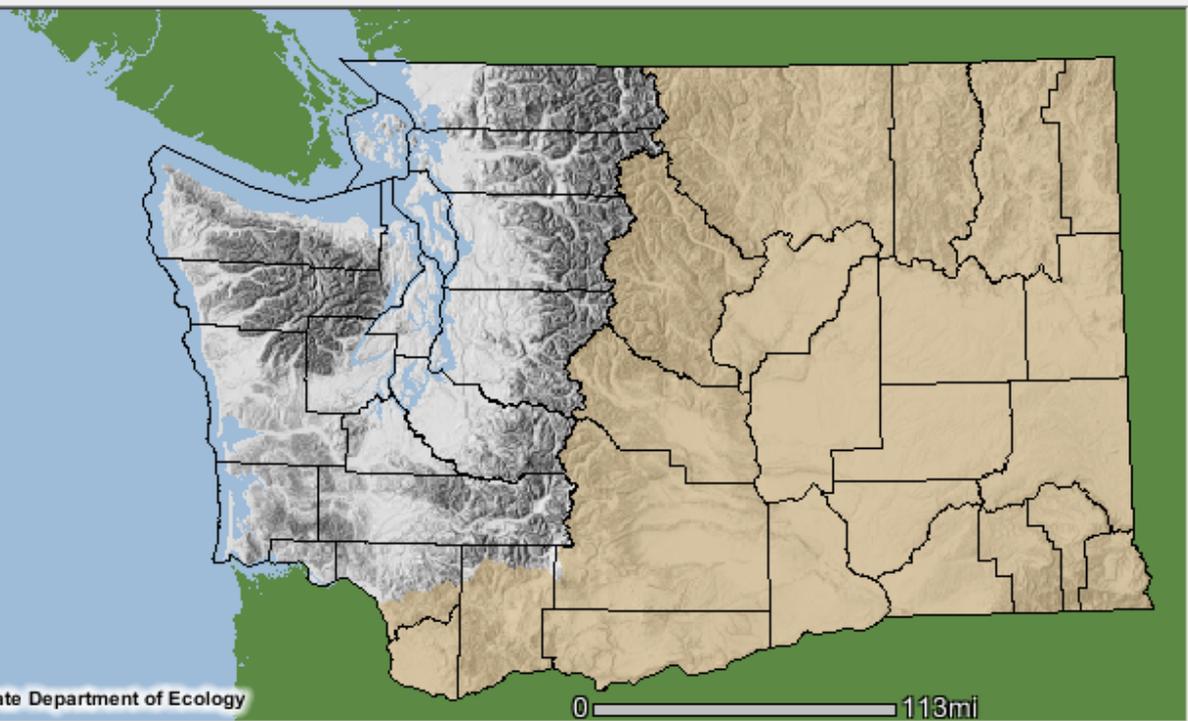
# Land Cover Information

- NOAA Coastal Change Analysis Program Data
- Change in Forest Cover
- Change in Impervious Surface Cover



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  VIEW PHOTO
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  SELECT POLYGON
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  LAND COVER
  MEASUR

Refresh Map



Map created by the WA State Department of Ecology

### Land Use Statistics Tool

1. Choose a layer to select from:

2. With the left mouse button, click on the map to select an area to select desired features.

3. Once feature(s) are selected, a report of two land use metrics.

Cursor location is approximately

*If the layer is not visible at the current scale, zoom in until the features are displayed.*

- Data Layers**
- Biological/Habitat Features
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# Report on Percent Cover of Forest Canopy

Impervious Surface Report

The percentage of forest canopy is a measure of the amount of area covered by woody vegetation greater than 6 meters (20 ft) in height. This includes:

- evergreen forest (e.g. Douglas fir, western red-cedar, western hemlock),
- deciduous forest (e.g. red alder, oak, big-leaf maple),
- mixed forest (e.g. evergreens and deciduous), and
- forested wetlands (e.g. sitka spruce).

The values reported reflect an average forest canopy across the area of land selected (sub-basin, county, or watershed (WRIA), because the amount of forest canopy cover is reported as a percentage of the total area.

The change in the percentage of forest canopy cover over time indicates how much forest was converted into other land cover types (reductions in percent forest cover) or the amount of reforestation of previously non-forested area (increases in forest percent forest cover).

The data used in this analysis have an overall accuracy of 85 percent. While this information is useful in identifying regional landscape patterns, it is not intended to be used to make specific land use decisions at a fine scale of individual parcels.

County Name	% Forest Canopy Cover 1991	% Forest Canopy Cover 1996	% Forest Canopy Cover 2001	% Change in Forest Canopy 1991-1996	% Change in Forest Canopy 1996-2001	% Change in Forest Canopy 1991-2001
Pierce	56.0	55.0	53.0	-2.0	-4.0	-5.0

### Technical Information:

WASHINGTON STATE Department of E

FULL STATE ZOOM IN

Map created by the V

## Report on Percent Impervious Surface

Forest Canopy Report

The percentage of impervious surface is a measure of the amount land covered by constructed materials. This includes roofing, metal, concrete, and asphalt. Areas covered by vegetation (either natural or cultivated) or other cover such as water, bare land, or snow, were not counted as impervious surface.

Areas with greater percentages of impervious surface may include heavily built-up urban centers as well as large constructed surfaces in suburban and rural areas. Some of the structures contributing to high impervious surface values include high density residential dwellings, shopping centers, factories, industrial complexes, highways, and airport runways.

Areas with lower percentages may have fewer urban centers and large buildings and more area covered by vegetation or other cover types.

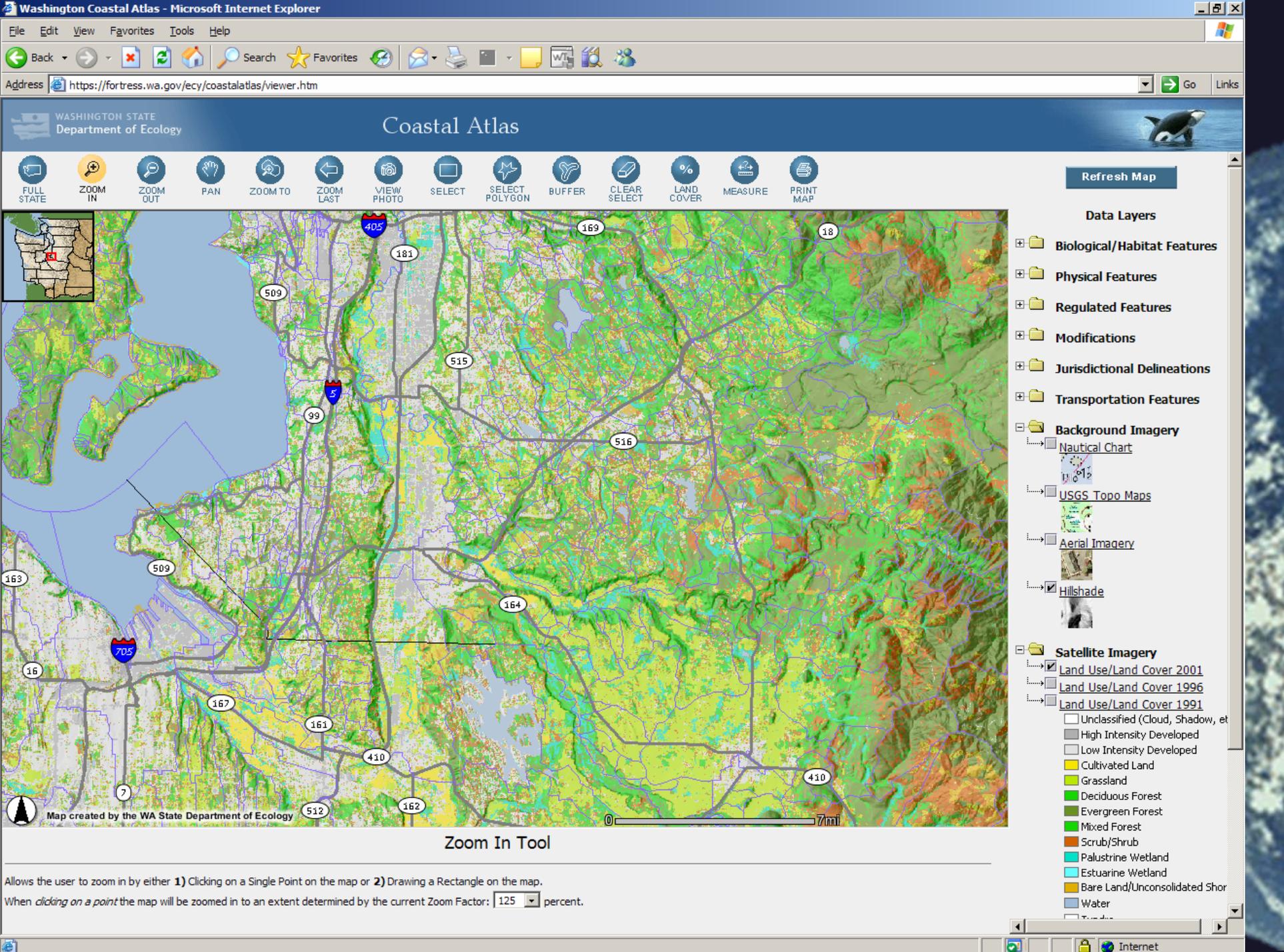
The values reported reflect an average amount of impervious surface across the area of land selected (sub basin, county or watershed (WRIA). The amount of impervious surface is reported as a percentage of the total area.

The change in the percentage of impervious surface over time indicates how much of the other land cover types were converted into impervious surface.

While this information is useful in identifying regional landscape patterns, it is not intended to be used to make specific land use decisions at a fine scale of individual parcels.

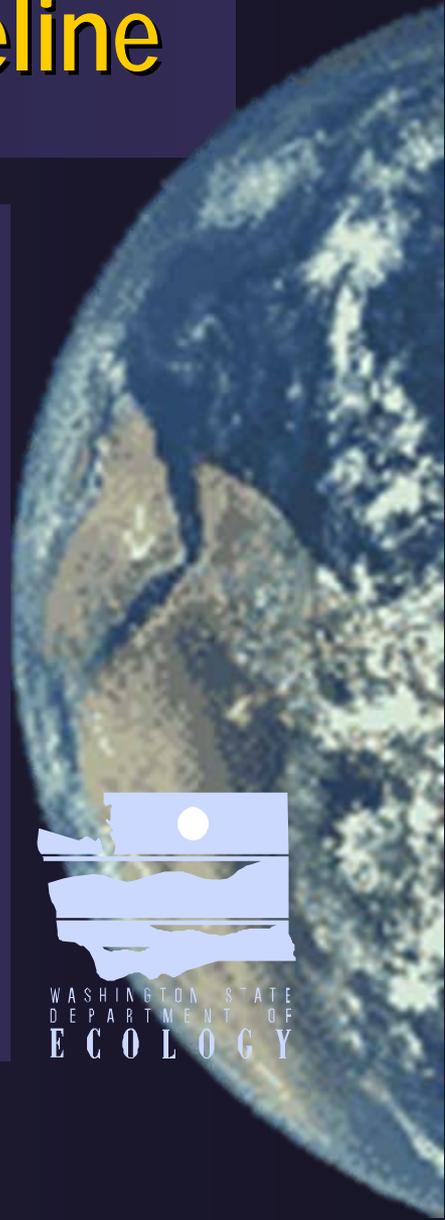
County Name	% Impervious Surface 1991	% Impervious Surface 1996	% Impervious Surface 2001	% Change in Impervious Surface 1991-1996	% Change in Impervious Surface 1996-2001	% Change in Impervious Surface 1991-2001
Pierce	4.8	5.1	5.4	6.2	5.8	12.5



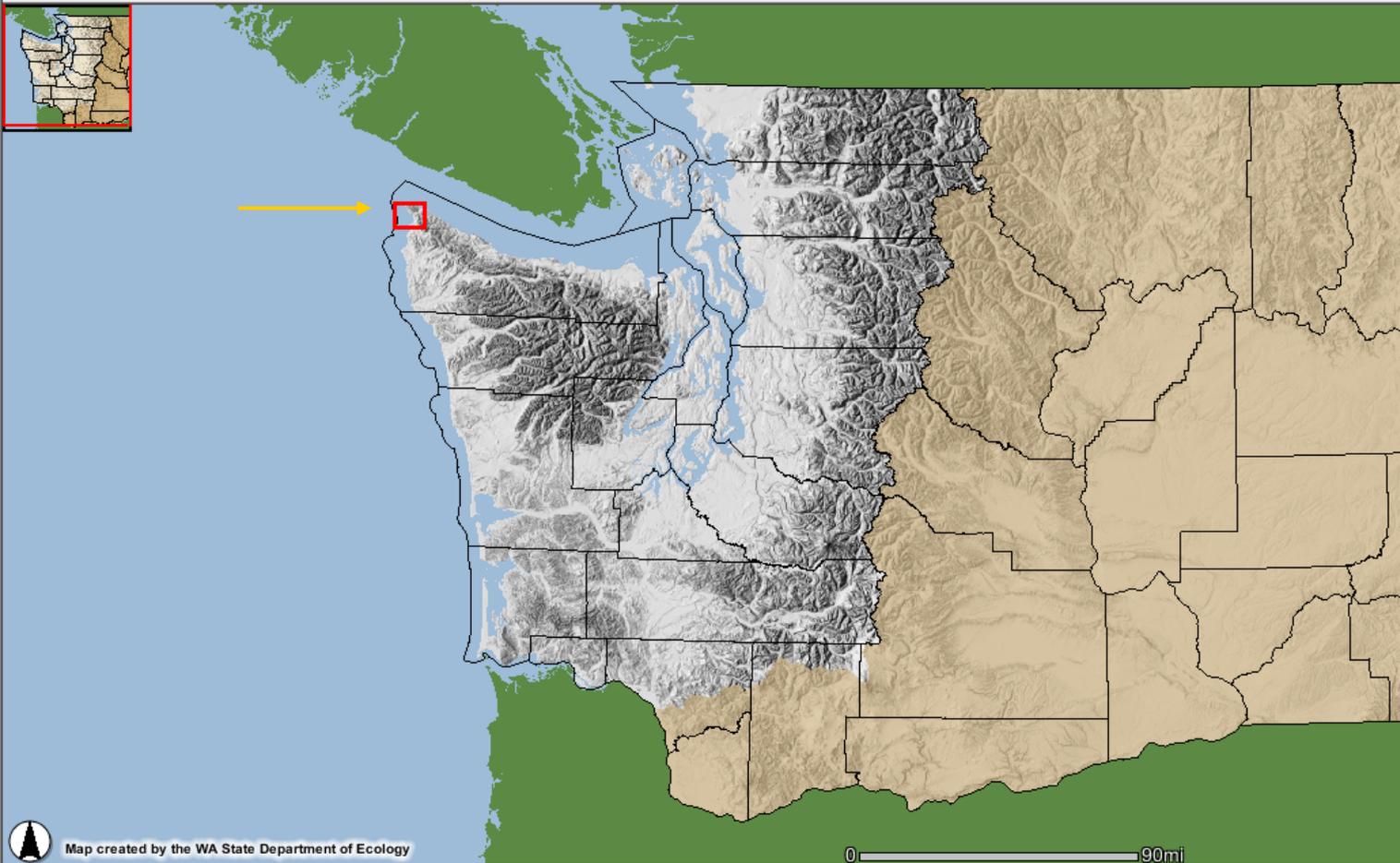


# Oblique Aerial Photos of Shoreline

- Downloadable
- High Resolution
- Available for Multiple Years
- Available for all WA Marine Shorelines  
And Some Freshwater Shorelines in  
Eastern And Western Washington



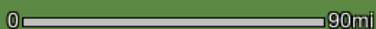
FULL STATE ZOOM IN ZOOM OUT PAN ZOOM TO ZOOM LAST VIEW PHOTO SELECT SELECT POLYGON BUFFER CLEAR SELECT LAND COVER MEASURE PRINT MAP



- Data Layers**
- Biological/Habitat Features
  - Physical Features
  - Regulated Features
  - Modifications
  - Jurisdictional Delineations
  - Transportation Features
  - Background Imagery
  - Satellite Imagery

- Help:**
- A closed group, click to open.
  - An open group, click to close.
  - A hidden layer, click to make visible.
  - A visible layer, click to hide.
  - A visible layer, but not at this scale.

Map created by the WA State Department of Ecology



**Introduction**

1. Choose Data Layers to display from right hand menu and then click **Refresh Map**. If layer is not visible,  until features are displayed.

2. Click on tools such as , , or  for further instructions and information in this window.

WASHINGTON STATE Department of Ecology  
 Coastal Atlas 

 FULL STATE  
  ZOOM IN  
  ZOOM OUT  
  PAN  
  ZOOM TO  
  ZOOM LAST  
  VIEW PHOTO  
  SELECT  
  SELECT POLYGON  
  BUFFER  
  CLEAR SELECT  
  LAND COVER  
  MEASURE  
  PRINT MAP

Refresh Map



- Data Layers**
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 Map created by the WA State Department of Ecology

**Introduction**

1. Choose Data Layers to display from right hand menu and then click **Refresh Map**. If layer is not visible,  until features are displayed.

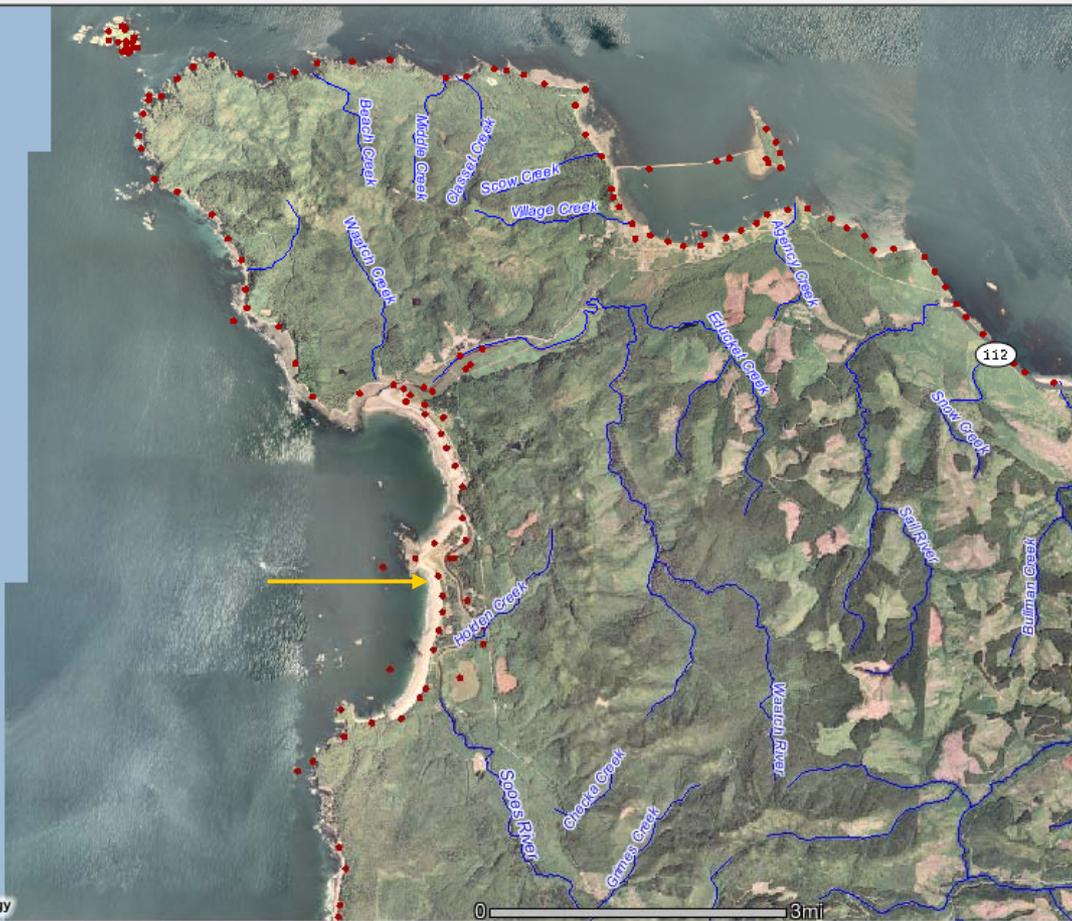
2. Click on tools such as ,  or  for further instructions and information in this window.



WASHINGTON STATE Department of Ecology **Coastal Atlas** 

- FULL STATE
- ZOOM IN
- ZOOM OUT
- PAN
- ZOOM TO
- ZOOM LAST
- VIEW PHOTO
- SELECT
- SELECT POLYGON
- BUFFER
- CLEAR SELECT
- LAND COVER
- MEASURE
- PRINT MAP

[Refresh Map](#)



- Data Layers**
- Biological/Habitat Features
  - Physical Features
  - Regulated Features
  - Modifications
  - Jurisdictional Delineations
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  - Background Imagery
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  - A hidden layer, click to make visible.
  - A visible layer, click to hide.
  - A visible layer, but not at this scale.

Map created by the WA State Department of Ecology

**View Shoreline Photos**

Choose a time period for which you would like to view photos below, then click on a point to view the oblique 1970's, 1990's or 2000's photos or within a grid cell for the vertical 1940's photos.

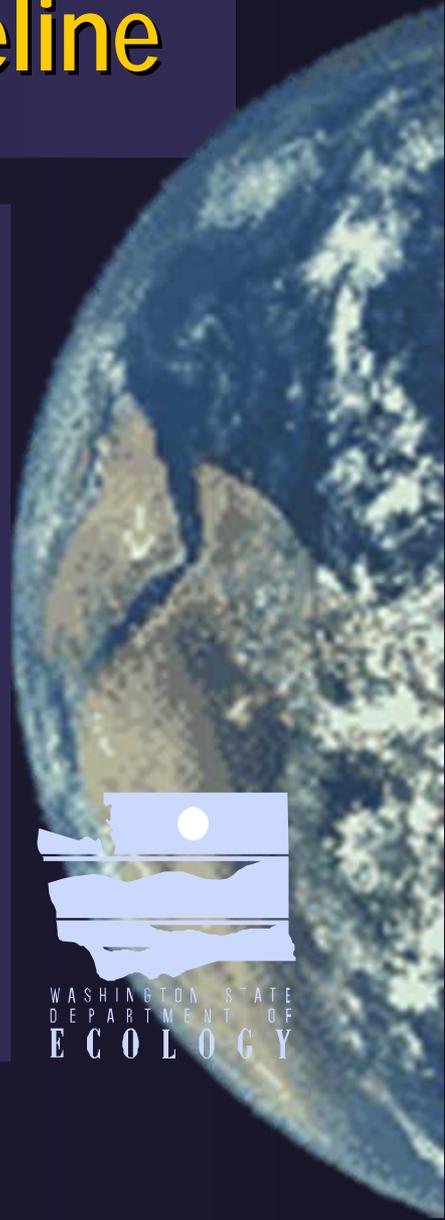
- Vintage: Shoreline Photos 2006-07
- Shoreline Photos 2006-07
  - Shoreline Photos 2000-02
  - Shoreline Photos 1992-97
  - Shoreline Photos 1976-77

[Hide Photo Layer](#)



# Oblique Aerial Photos of Shoreline

- Downloadable
- High Resolution
- Available for Multiple Years
- Available for all WA Marine Shorelines  
And Some Freshwater Shorelines in  
Eastern And Western Washington





Find on Map

**Photo Reference:** 060819\_15379

**Date:** 8/19/2006

**Download links for this photo:**

[Low Resolution \(800 x 531 pixels, 74Kb\)](#)

[High Resolution \(4288 x 2848 pixels, 2528Kb\)](#)

*Approx. 11 seconds for 56kbps modem; 2 seconds for Cable/DSL*

*Approx. 6 minutes for 56kbps modem; 53 seconds for Cable/DSL*

**View photos of this area in other years:** 1940s 1976-77 [1992-97](#) [2000-02](#)

PRINT MAP

**Refresh Map**

**Data Layers**

- Biological/Habitat Features**
- Physical Features**
- Regulated Features**
- Modifications**
- Jurisdictional Delineations**
- Transportation Features**
- Background Imagery**
- Satellite Imagery**

**Help:**

- A closed group, click to open.
- An open group, click to close.
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- A visible layer, click to hide.
- A visible layer, but not at this scale.



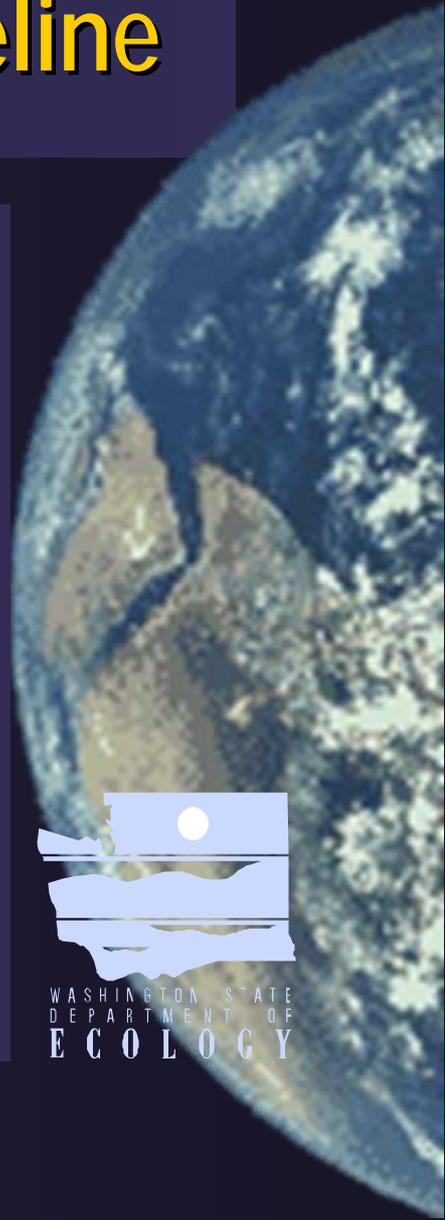






# Oblique Aerial Photos of Shoreline

- Downloadable
- High Resolution
- *Available for Multiple Years*
- Available for all WA Marine Shorelines  
And Some Freshwater Shorelines in  
Eastern And Western Washington



WASHINGTON STATE  
DEPARTMENT OF  
E C O L O G Y



Next ▲ Image



Next ▲ Image

**Photo Reference:** PIE0677\_063

**Date:** on photo

**Area:** Ruston ASARCO Plant

**Download links for this photo:**

[Low Resolution \(700 x 702 pixels, 618Kb\)](#)

[High Resolution \(2092 x 2118 pixels, 1131Kb\)](#)



Next ▲ Image



Next ▼ Image

**Photo Reference:** PIE0102

**Date:** 5/16/1992

**Area:** Asarco Smelter

**Download links for this photo:**

[Low Resolution \(768 x 512 pixels, 92Kb\)](#)

*\*\* High resolution image not available \*\**



000817\_153620



Next  Image

Next  Image

**Photo Reference:** 000817\_153620

**Date:** 8/17/2000

**Download links for this photo:**

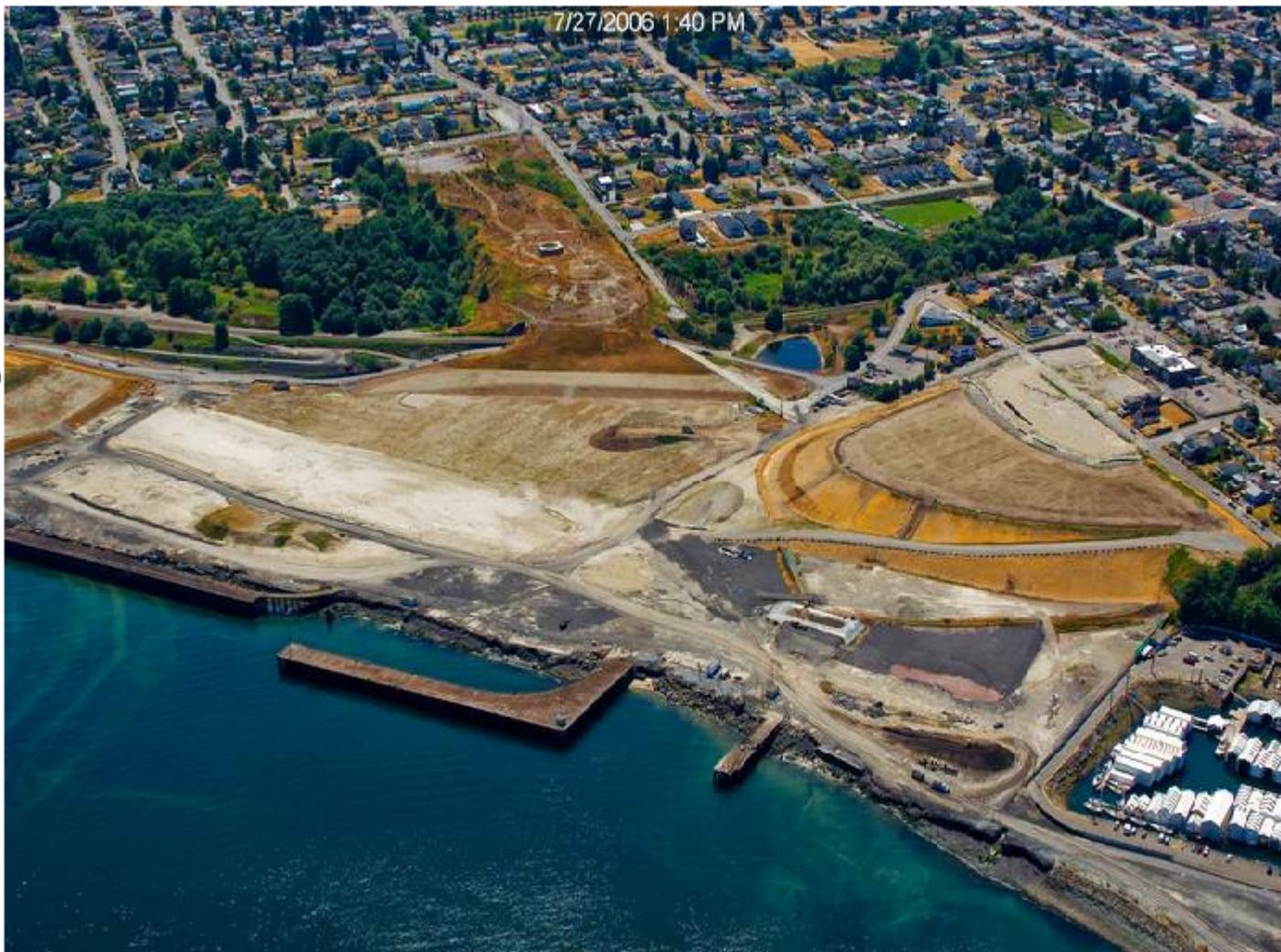
[Low Resolution \(700 x 524 pixels, 185Kb\)](#)

[High Resolution \(2008 x 1504 pixels, 718Kb\)](#)



7/27/2006 1:40 PM

Next  Image



Next  Image

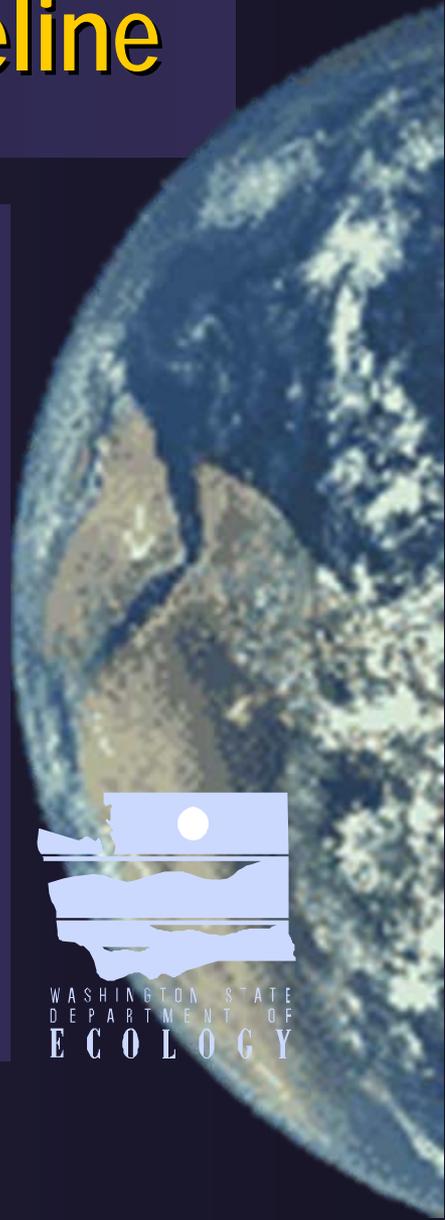
**Photo Reference:** 060727\_10050

**Date:** 7/27/2006

**Download links for this photo:**

# Oblique Aerial Photos of Shoreline

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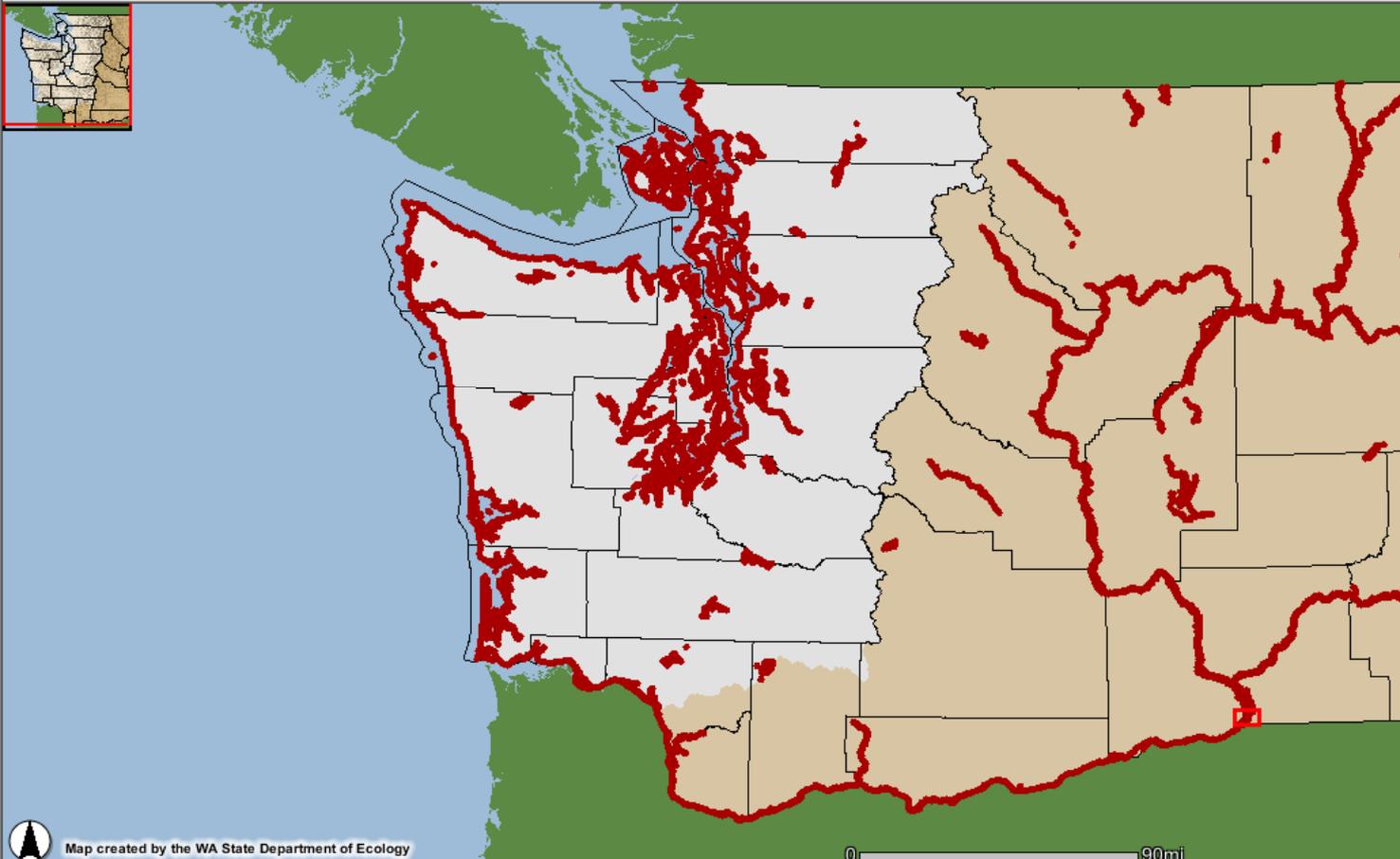


- FULL STATE
- ZOOM IN
- ZOOM OUT
- PAN
- ZOOM TO
- ZOOM LAST
- VIEW PHOTO
- SELECT
- SELECT POLYGON
- BUFFER
- CLEAR SELECT
- LAND COVER
- MEASURE
- PRINT MAP

Refresh Map

### Data Layers

- Biological/Habitat Features
- Physical Features
- Regulated Features
- Modifications
- Jurisdictional Delineations
  - Watershed (WRIA) Boundaries
  - Sub Basins
  - County
  - Cities
  - Township/Range/Section
- Transportation Features
- Background Imagery
  - Nautical Chart
  - USGS Topo Maps
  - Aerial Imagery
  - Hillshade
- Satellite Imagery



Map created by the WA State Department of Ecology

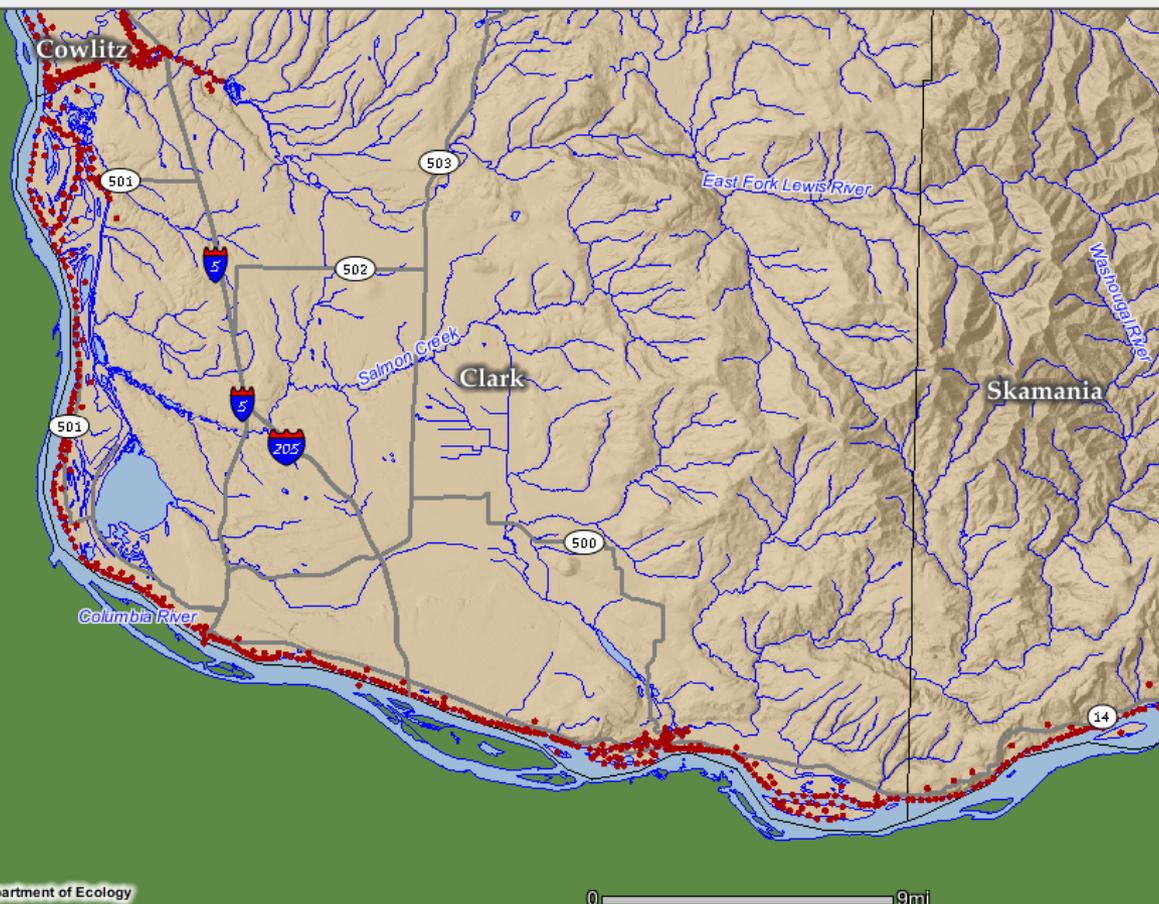
Shoreline Photos (2006)  
Selection cleared.

Help:



- FULL STATE
- ZOOM IN
- ZOOM OUT
- PAN
- ZOOM TO
- ZOOM LAST
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Refresh Map



- ### Data Layers
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### Help:

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- A visible layer, click to hide.
- A visible layer, but not at this scale.

Map created by the WA State Department of Ecology

### Zoom In Tool

Allows the user to zoom in by either **1**) Clicking on a Single Point on the map or **2**) Drawing a Rectangle on the map.

When *clicking on a point* the map will be zoomed in to an extent determined by the current Zoom Factor:  percent.



Find on Map Oblique Shoreline Photo

Photo Reference: 070612\_38077

Date: 6/12/2007

Download links for this photo:

Low Resolution (800 x 531 pixels, 53Kb)

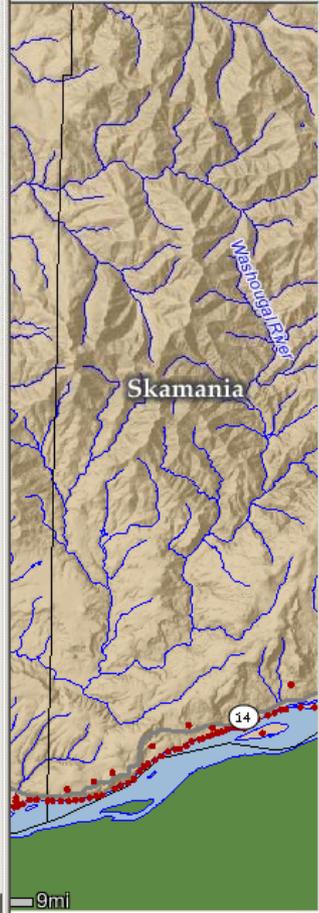
High Resolution (4288 x 2848 pixels, 1921Kb)

Approx. 8 seconds for 56kbps modem; 1 seconds for Cable/DSL

Approx. 4.6 minutes for 56kbps modem; 40 seconds for Cable/DSL

View photos of this area in other years: 1940s 1976-77 1992-97 2000-02

Refresh Map button and Data Layers section header.



- Data Layers: Biological/Habitat Features, Physical Features, Regulated Features, Modifications, Jurisdictional Delineations, Transportation Features, Background Imagery (Nautical Chart, USGS Topo Maps, Aerial Imagery, Hillshade), Satellite Imagery.

- Help: A closed group, click to open. An open group, click to close. A hidden layer, click to make visible. A visible layer, click to hide. A visible layer, but not at this scale.

Rec	Photo Index	Photo Date/Time
1	<a href="#">070612_38077</a>	6/12/2007 1:14:04 PM
2	<a href="#">070612_38080</a>	6/12/2007 1:22:32 PM
3	<a href="#">070612_38087</a>	6/12/2007 1:23:42 PM
4	<a href="#">070612_38088</a>	6/12/2007 1:23:47 PM



 Find on Map

Photo Reference: 070612\_38092

Date: 6/12/2007

**Download links for this photo:**

[Low Resolution \(800 x 531 pixels, 65Kb\)](#)

[High Resolution \(4288 x 2848 pixels, 1795Kb\)](#)

*Approx. 9 seconds for 56kbps modem; 1 seconds for Cable/DSL*

*Approx. 4.3 minutes for 56kbps modem; 38 seconds for Cable/DSL*

**View photos of this area in other years:** 1940s 1976-77 1992-97 2000-02

2	<a href="#">070612_38093</a>	6/12/2007 1:24:13 PM
3	<a href="#">070612_38094</a>	6/12/2007 1:24:16 PM

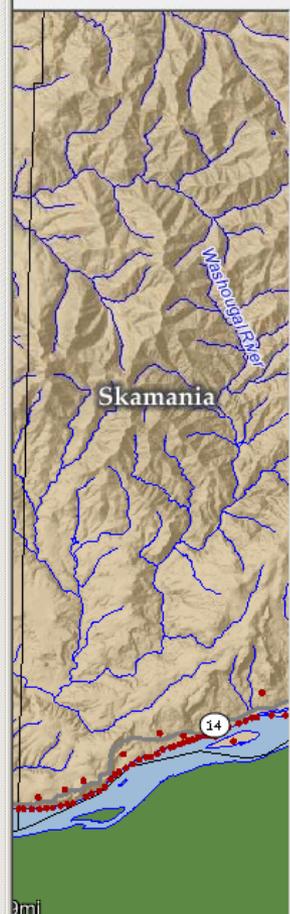
**Refresh Map**

**Data Layers**

- Biological/Habitat Features
- Physical Features
- Regulated Features
- Modifications
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# Future Development

- Will Add Information on Public Access to Washington Marine Shorelines.
- Organizing Interagency Group to Advise Future Work on Washington Coastal Atlas.



# Add Information on Public Access to Washington Shorelines

- NOAA Coastal Services Center Coastal Management Fellow Project August 2008-July 2010.
- Model Available in Oregon Coastal Atlas.



- Center Home > Fellowships & Funding
- Fellowship Opportunities**
- Fellow News: Newsletter
- Coastal Management Fellowship
- State Projects**
- 2007 Summary
- 2006 Summary
- 2005 Summary
- 2004 Summary
- 2003 Summary
- 2002 Summary
- 2001 Summary
- 2000 Summary
- 1999 Summary
- 1998 Summary
- 1997 Summary
- 1996 Summary
- Fellow Eligibility and Selection
- State Eligibility and Project Selection
- Frequently Asked Questions
- Partners and Their Roles
- Fellow Contact Info. (password protected)
- NOAA Coral Reef Management Fellowship
- Pacific Islands Assistantship Program
- Other Opportunities

## Coastal Management Fellowship

### 2008 State Projects

The six projects selected for the 2008-2010 fellowship are located at coastal resource agencies in the following states and territories. A summary of each project follows.

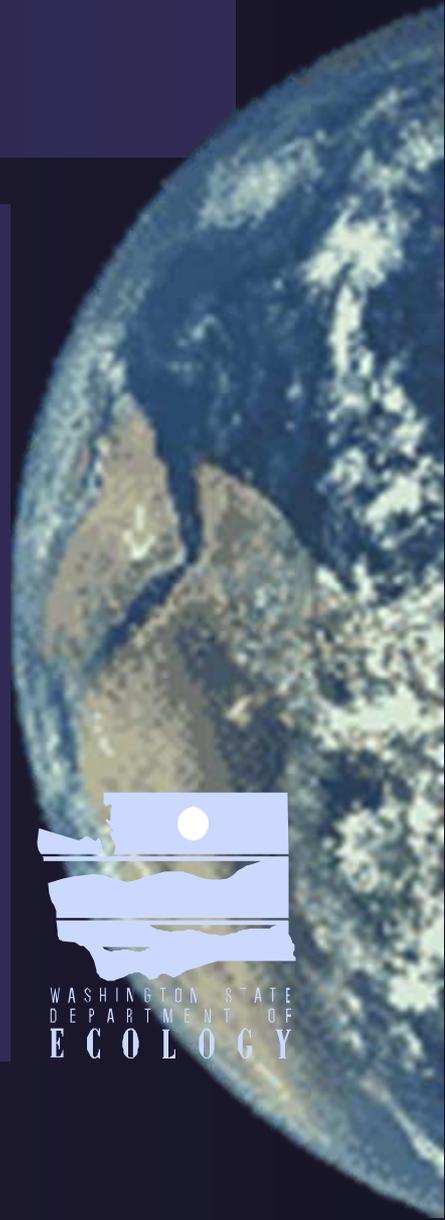
Location	Host Agency	Project Proposal	Project Goal
San Francisco, California	<a href="#">California Coastal Commission</a>	<a href="#">Climate Change and the California Coastal Act: Rising to the Challenge</a> (PDF, 144KB)	Develop a collection of climate change information and use that information to develop a series of public workshops.
Dover, Delaware	<a href="#">Delaware Coastal Management Program</a>	<a href="#">Development of a Sea Level Rise Adaptation Plan for the State of Delaware</a> (PDF, 204KB)	Develop a sea-level-rise adaptation plan for the State of Delaware.
Augusta, Maine	<a href="#">Maine Coastal Program, Maine State Planning Office</a>	<a href="#">Applying An Ecosystem-Based Management Framework in Maine's Coastal Waters</a> (PDF, 141KB)	Apply an ecosystem-based management framework to Maine's coastal waters.
Boston, Massachusetts	<a href="#">Massachusetts Office of Coastal Zone Management</a>	<a href="#">StormSmart Coasts: Making Storm-Resilient Communities a Reality in Massachusetts</a> (PDF, 124KB)	Make storm-resilient communities a reality in Massachusetts.
Albany, New York	<a href="#">New York State Division of Coastal Resources</a>	<a href="#">Development of New York State Guidelines for Post-Storm Redevelopment Plans</a> (PDF, 65KB)	Develop New York State guidelines for post-storm redevelopment plans.
Olympia, Washington	<a href="#">Washington State Department of Ecology</a>	<a href="#">Reaching the Shore: Providing public access information through the Washington Coastal Atlas</a> (PDF, 348KB)	Develop a public access portion of the Washington Coastal Atlas.



**Note:** Viewing Portable Document Format (PDF) files require the Adobe® Reader® plug-in. If you do not have

# Organizing Interagency Group to Guide Future Work

- Data from other agencies is currently displayed on the Washington Coastal Atlas and there is the potential for incorporating more.
- Many agencies have developed or are considering development of their own tools for different, but related, purposes. It is important to coordinate and crosslink.



# Consider the Washington Coastal Atlas as a Possible Tool For Displaying Washington Sea Floor Mapping Information



# Washington Coastal Atlas Contact:

Kathy Taylor, Ph.D.

Shorelands Program

Washington Department of Ecology

360-407-7125

[ktay461@ecy.wa.gov](mailto:ktay461@ecy.wa.gov)

