

Washington Coastal Atlas

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Address http://www.ecy.wa.gov/programs/sea/sma/atlas_home.html

DEPARTMENT OF
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State of Washington

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Washington Coastal Atlas

COASTAL ATLAS HOME
Start Mapping
Tips for Using Site
Useful Links



Start Mapping
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.

Tips for Using this Site
Learn how to navigate the Washington Coastal Atlas, view shoreline photos, use the mapping tools and create customized maps.

Useful Links
Links to coastal public access information, other coastal atlas sites and Department of Ecology partner web sites.

Coastal Atlas Partners



WASHINGTON STATE DEPARTMENT OF
Natural Resources

NOAA Coastal Services Center
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

Access Washington®
Official State Government Web Site

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Information for Ecology staff

Coordination with other entities

In Washington:

- Department of Natural Resources
- Department of Health (Shellfish Group)
- Department of Fish and Wildlife
- Puget Sound Partnership
- Department of Transportation
- Community, Trade, and Economic Development
- Parks
- Northwest Indian Fish Commission

Outside of Washington:

- Oregon CZM program (OR Coastal Atlas, Public Access)
- NOAA Coastal Services Center (Coastal Change Analysis Program Data)
- ICAN



Washington Coastal Atlas:

- Purpose
- Target Audience
- Geographic Extent
- Information Available
- Distinguishing Features
- Technology Used
- Atlas Support
- Challenges
- Lessons Learned
- Future Directions

The screenshot shows the Washington Coastal Atlas website. At the top, the address bar displays http://www.ecy.wa.gov/programs/sea/sma/atlas_home.html. The header features the Department of Ecology logo and navigation links for Home, WATER, AIR, WASTE, CLEANUP, TOXIC HAZARDS, GREEN, About Us, and Jobs. Below the header, there are links for Programs, Services, Publications, Databases, Laws & Rules, Calendar, and Public Records. The main content area is titled "Washington Coastal Atlas" and includes a "COASTAL ATLAS HOME" section with links for Start Mapping, Tips for Using Site, and Useful Links. A "Start Mapping" section features a map of Washington and text explaining the atlas's purpose: "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." Below this is a "Tips for Using this Site" section with instructions on navigation and mapping tools, and a "Useful Links" section with links to public access information and partner websites. The "Coastal Atlas Partners" section lists the Washington State Department of Natural Resources and the NOAA Coastal Services Center. The footer includes the Access Washington logo, copyright information for the Washington State Department of Ecology, and contact links for Ecology staff.

Purpose

Purpose

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



Examples

- Provide information to update local Shoreline Master Programs
- View current or historic aerial photos of project sites
- Gather info prior to field work or site visits
- Quickly prepare maps to inform a variety of audiences on specific topics or projects
- Document shoreline violations
- Find info on slope stability for specific shoreline areas
- View changes over time in the marine shoreline or in upland land cover

Target Audience

Primary Targets

- Local governments implementing WA CZM through local Shoreline Master Programs
- State government agencies with authority to regulate or manage activities on the shorelines and tidelands of Washington

Other important users

- Tribal governments
- Federal agencies
- Non-governmental organizations
- Outdoor recreation groups
- Real estate professionals
- Private citizens



Geographic Extent

- Marine shoreline of Washington's outer coast
- Shoreline and waters of Puget Sound
- Estuarine portion of the Columbia River
- Upland information for all counties with marine or estuarine shorelines



Data Available

• Biological/Habitat Features

- Wetlands
- Historic Estuary Maps
- Pocket Estuaries
- Dunegrass, Surfgrass
- Kelp, Eelgrass
- Salt Marsh
- Low Marsh

• Physical Features

- Drift Cells
- Slope Stability
- Water Bodies (100k)
- Water Courses (100k)

• Regulated Features

- Commercial Shellfish
- Flood Zone
- Drinking Water Wells
- Category Water (5, 4C, 4B, 4A, 2, 1)

• Modifications

- Piers and Docks
- Shore Modification

• Jurisdictional Delineations

- Watershed (WRIA) Boundaries
- Sub Basins
- Counties
- Cities
- Township/Range/Section

• Transportation Features

- Major Roads
- Streets
- Railroads

• Background Imagery

- USGS Topo Maps
- Aerial Imagery
- Hillshade
- Nautical Charts

• Satellite Imagery

- Land Use/Land Cover 1991, 1996, 2001

• Other Imagery

- Oblique shoreline photos 1976-77, 1992-'97, 2000-02, 2006

Distinguishing Features

Oblique aerial photos of the shoreline

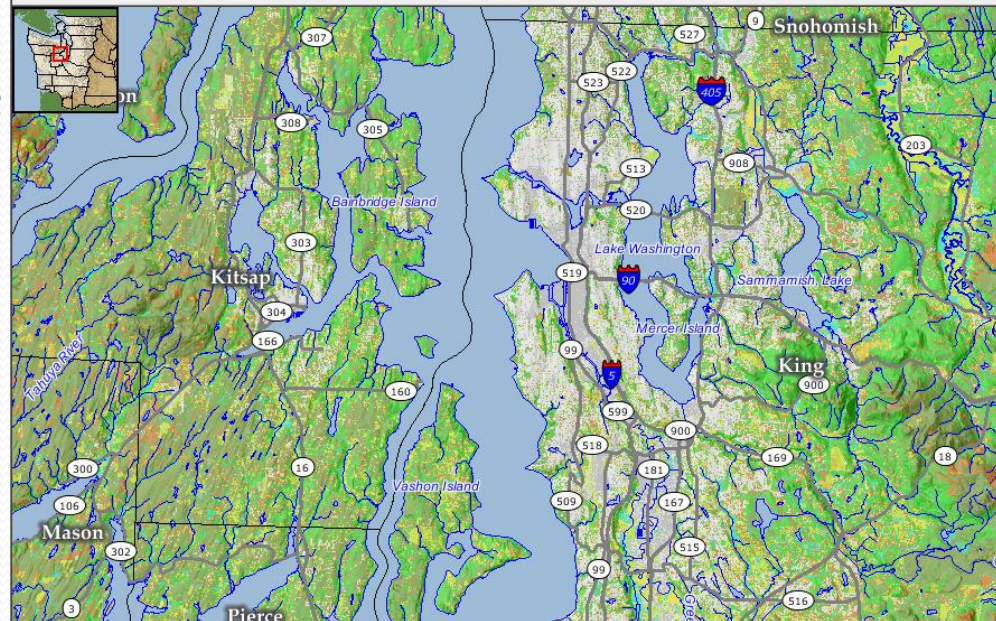
- Downloadable
- High Resolution
- Available for Multiple Years
- Available for
 - all WA marine shorelines
 - some freshwater shorelines throughout WA



Distinguishing Features


Land cover changes over time

- NOAA C-CAP data
- Can view cover data from 1991, 1996, and 2001
- Reports show changes in forest cover and impervious surface for all of western Washington at a county, watershed and subbasin scale.



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
King	55.0	54.0	53.0	-2.0	-2.0	-4.0

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
King	7.2	7.5	7.7	4.2	2.7	6.9


 DEPARTMENT OF ECOLOGY
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Washington Coastal Atlas

- [Coastal Atlas Home](#)
- [Start Mapping](#)
- [Tips for Using Site](#)
- [Useful Links](#)



Start Mapping

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Coastal Atlas Partners



- 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



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.

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

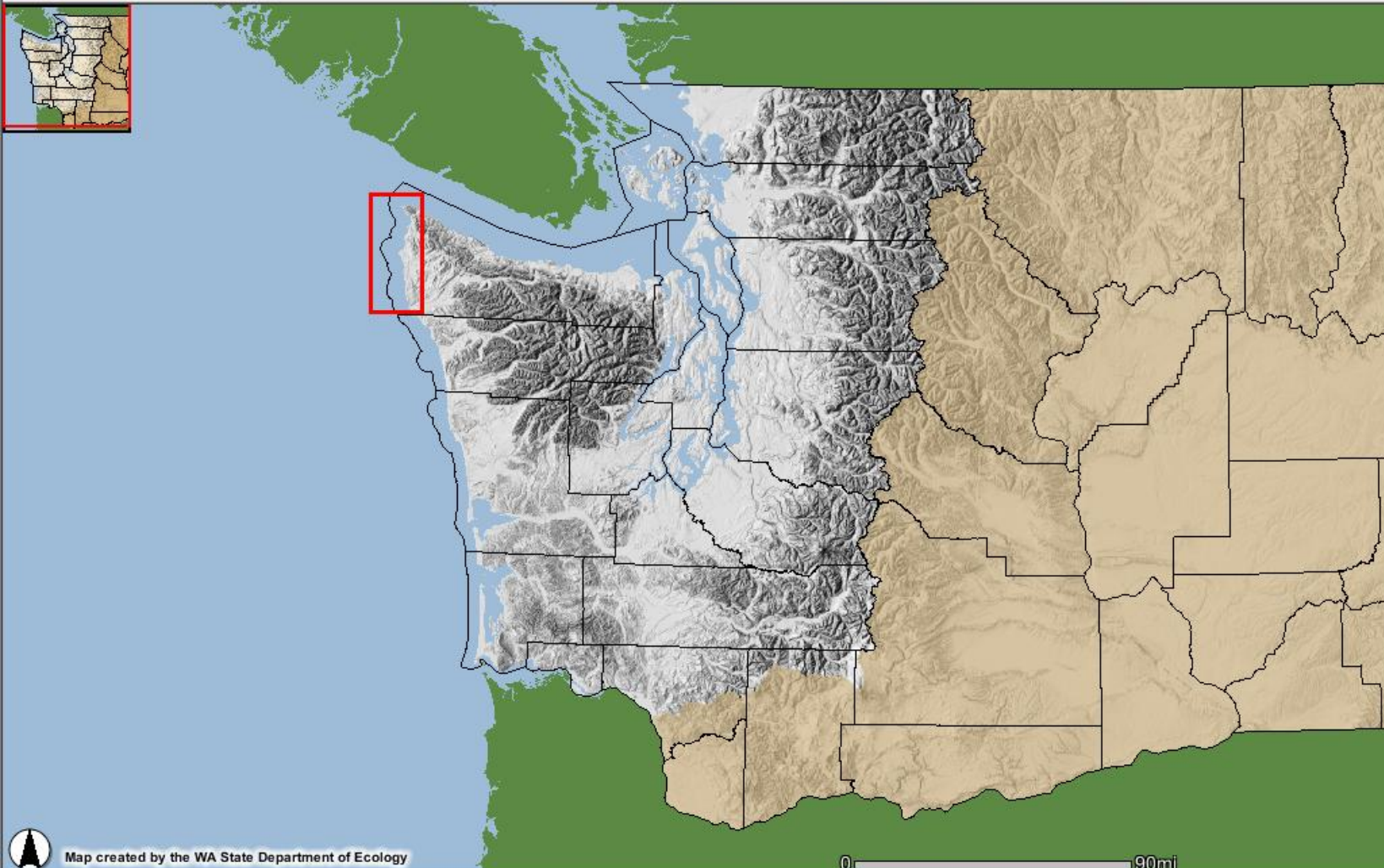
Refresh Map

Data Layers

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

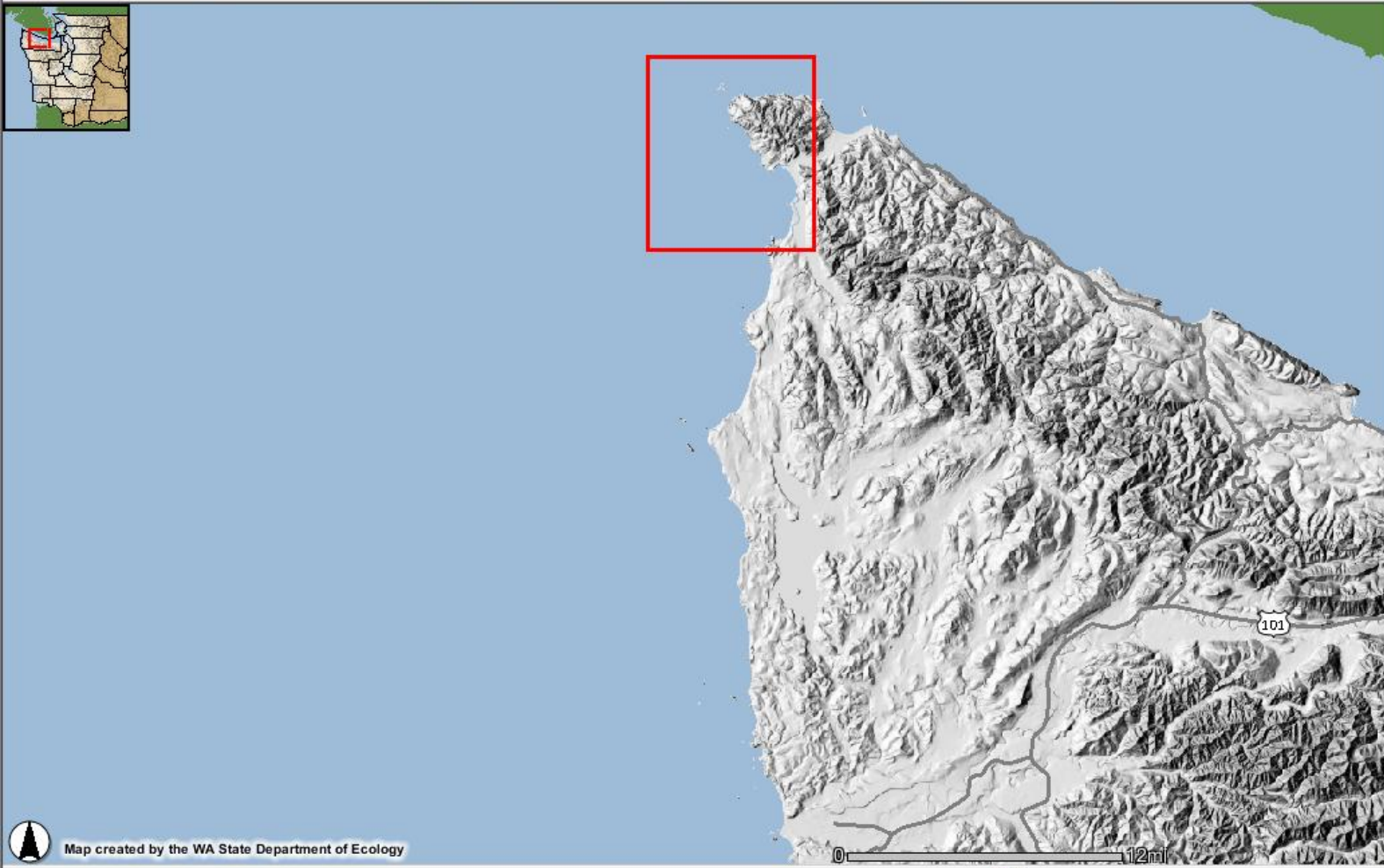


Background Layers

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

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
 - Watershed (WRIA) Boundaries
 - Sub Basins
 - County
 - Cities
 - Township/Range/Section
- Transportation Features
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 - Aerial Imagery
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Map created by the WA State Department of Ecology

Introduction

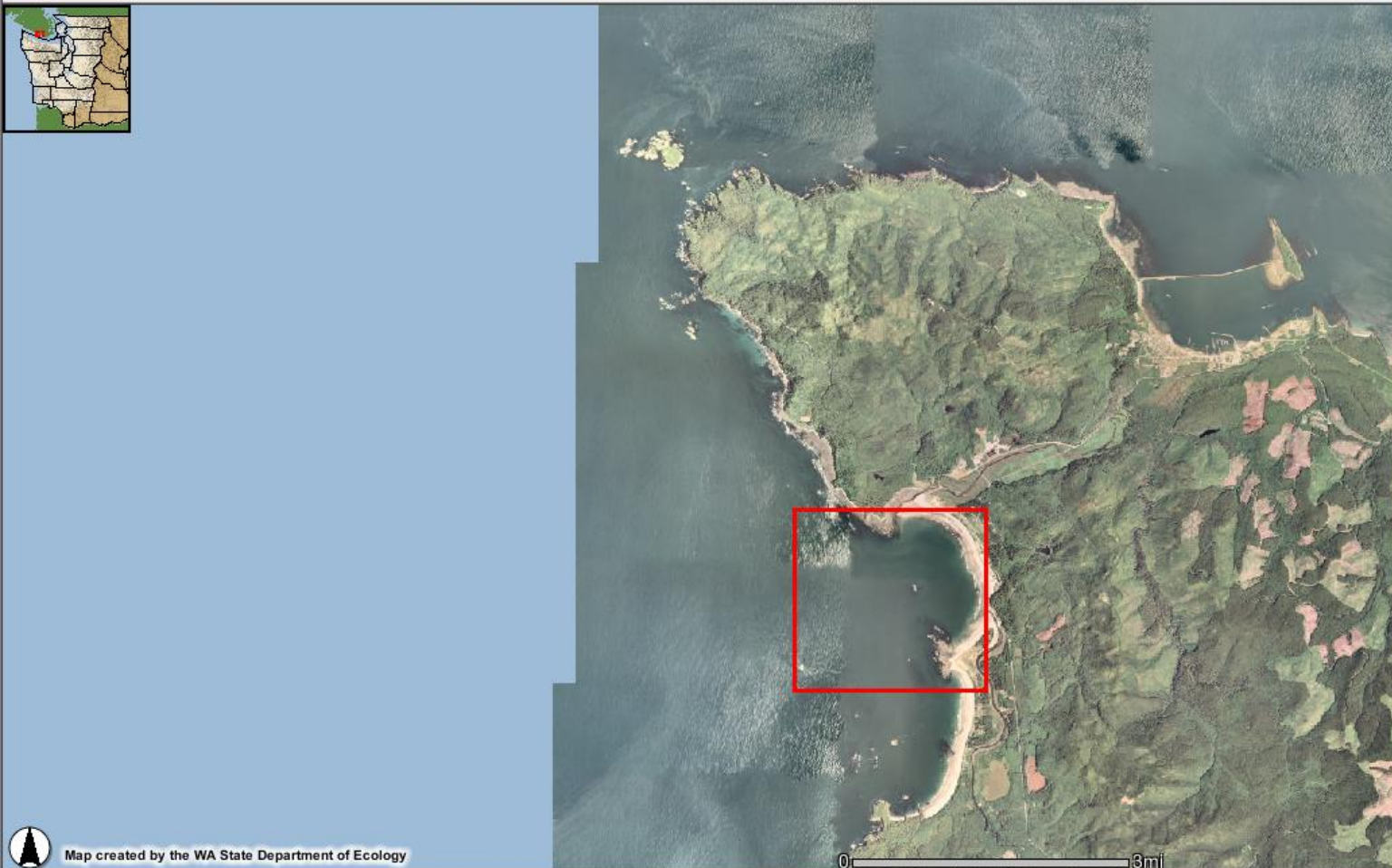
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  MEASURE
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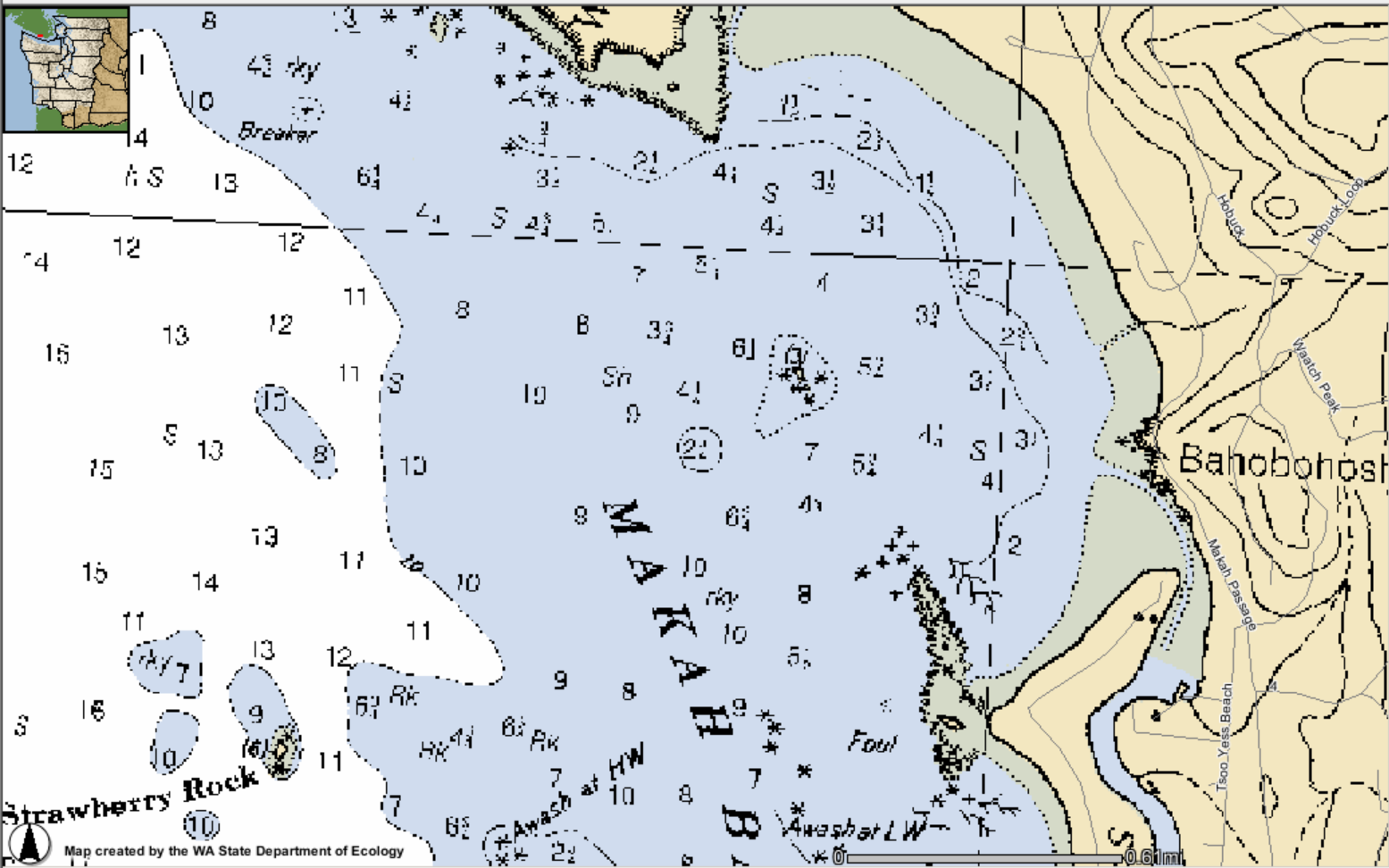
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
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Refresh Map






- Data Layers**
- Biological/Habitat Features
 - Physical Features
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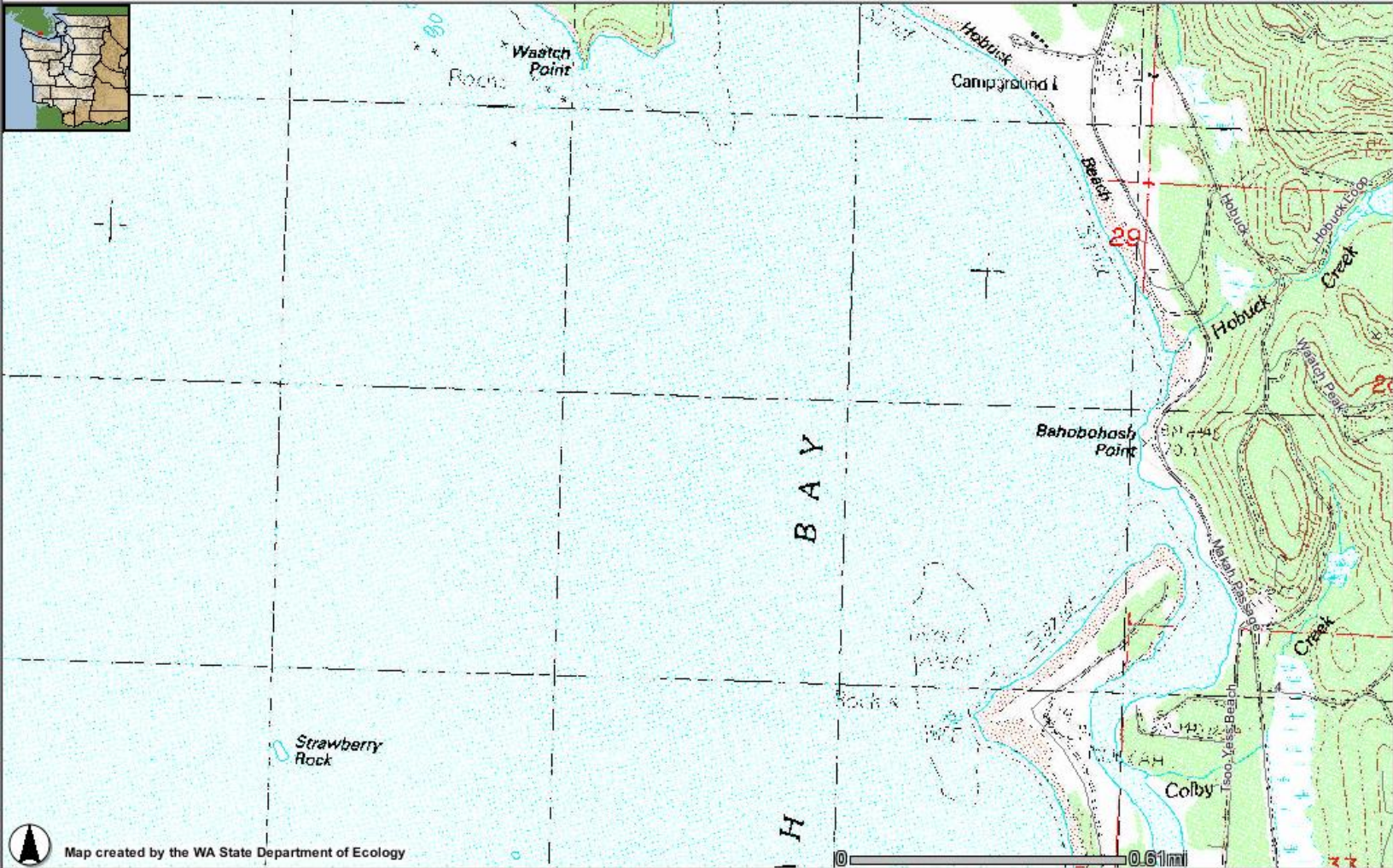
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Map created by the WA State Department of Ecology

Introduction

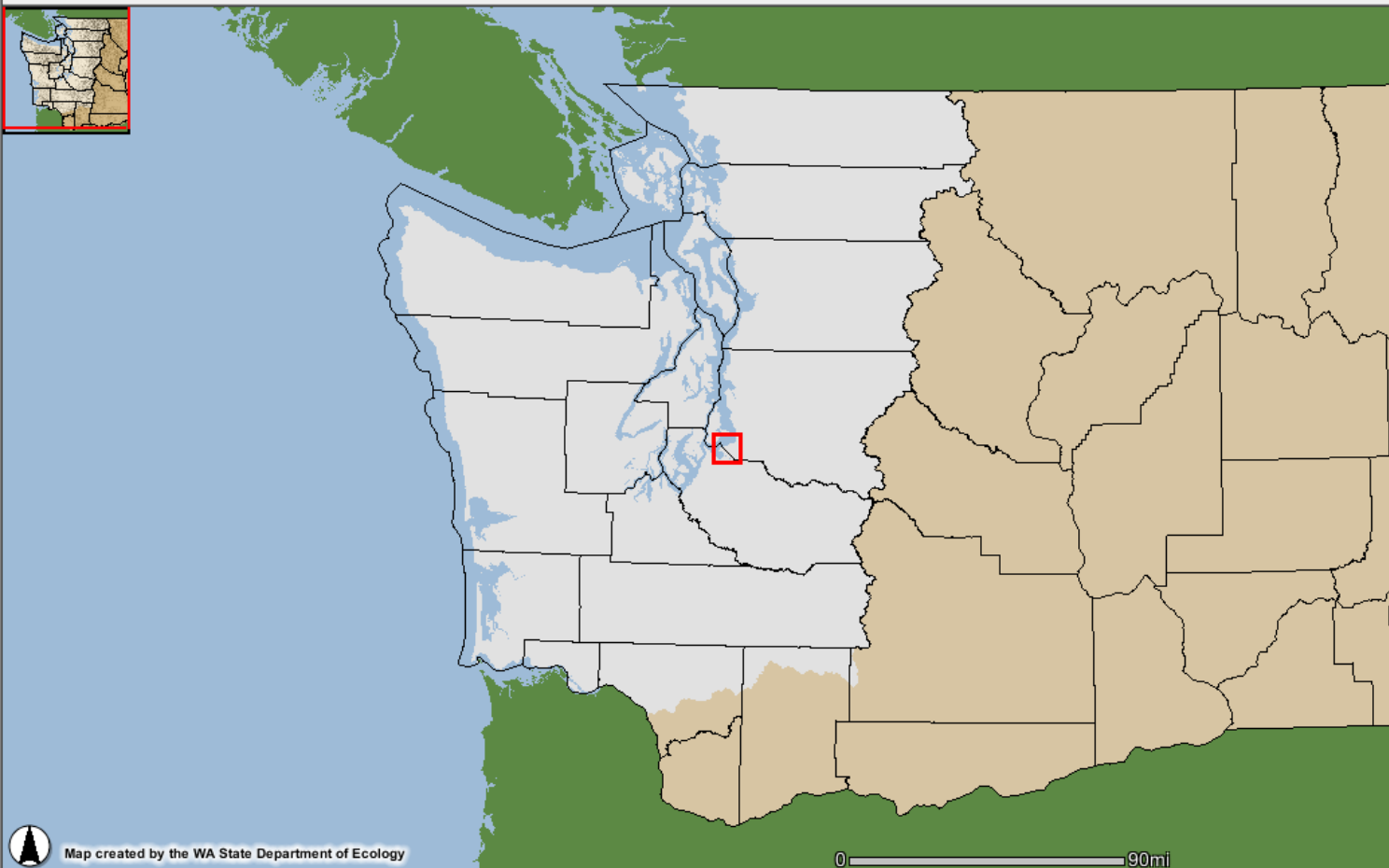
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Example Data Layers

- Biological Features
- Physical Features
- Modifications to the Environment

WASHINGTON STATE Department of Ecology
Coastal Atlas 



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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WASHINGTON STATE Department of Ecology Coastal Atlas



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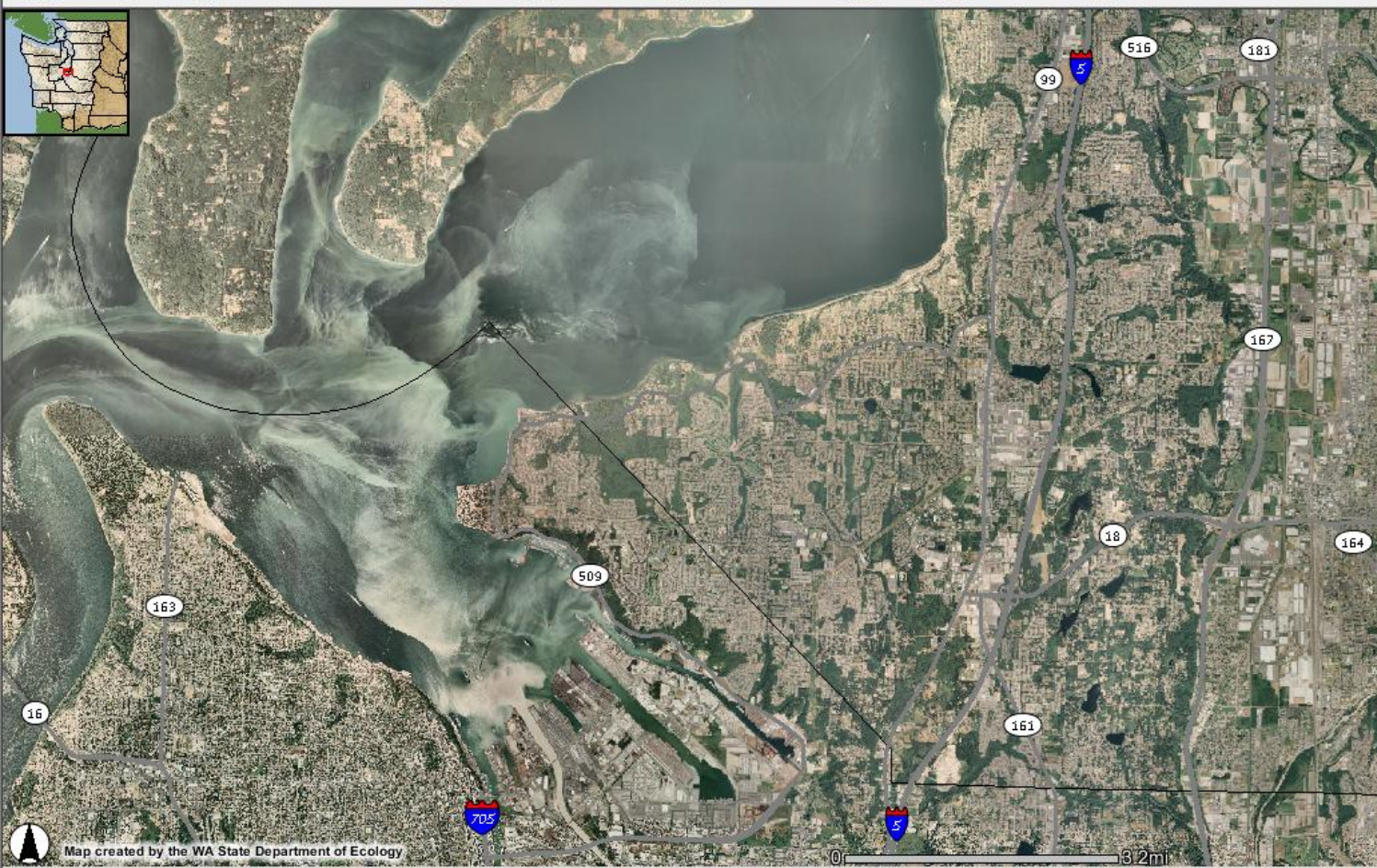
Refresh Map

Data Layers

- Biological/Habitat Features
- Physical Features
- Regulated Features
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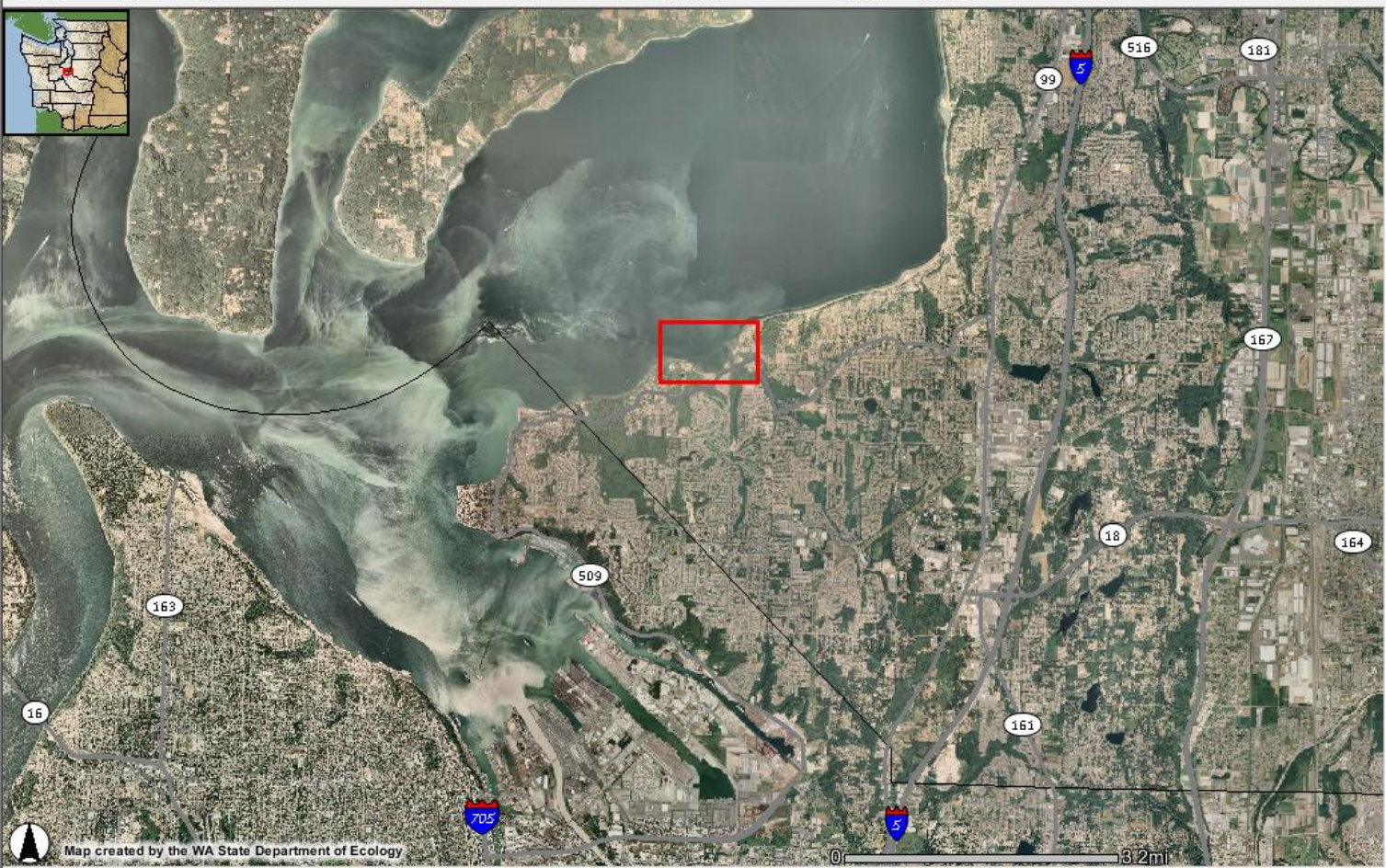
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WASHINGTON STATE Department of Ecology Coastal Atlas 

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Refresh Map



- Data Layers**
- Biological/Habitat Features
 - Physical Features
 - Regulated Features
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 - Jurisdictional Delineations
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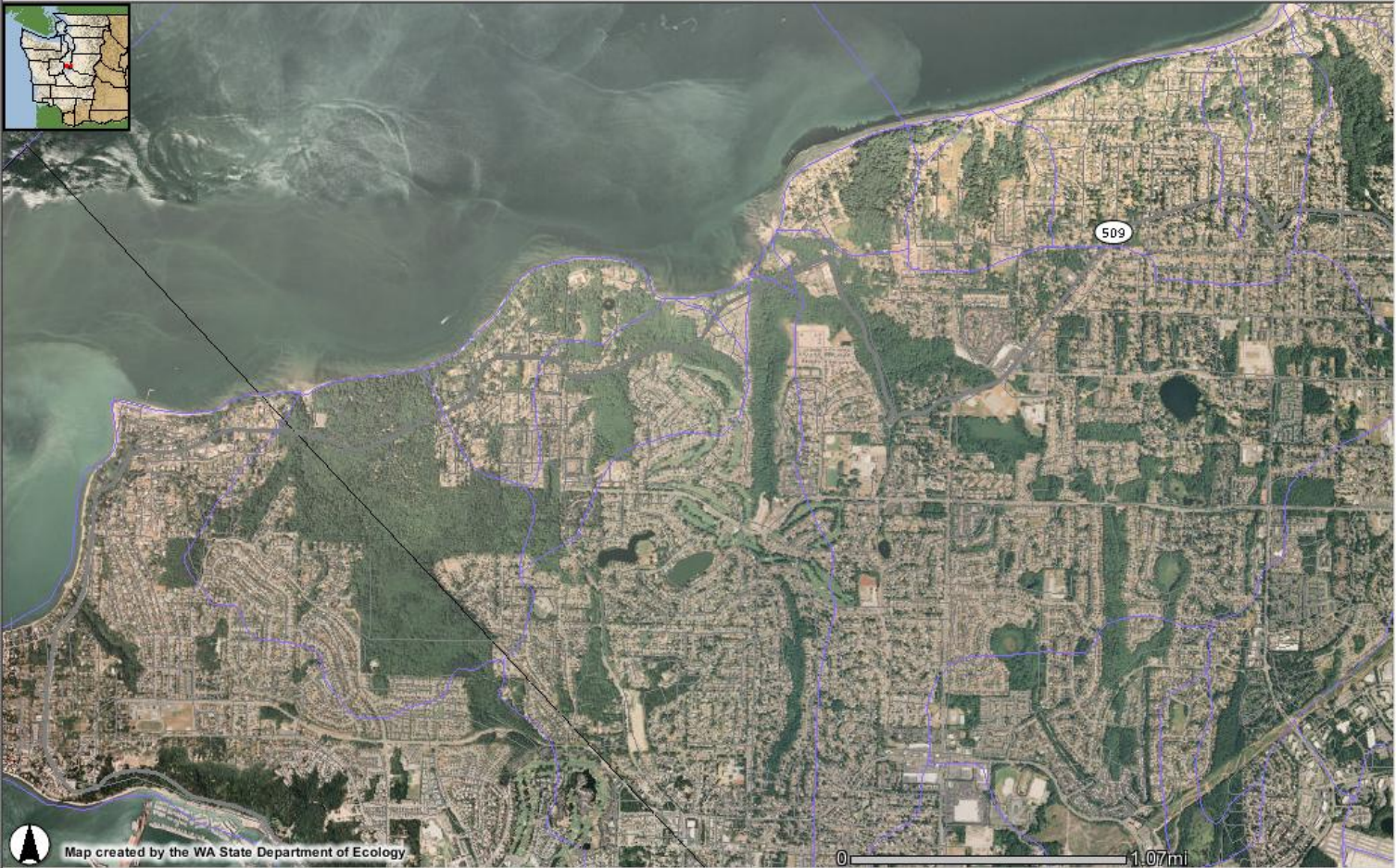
2. Click on tools such as , or for further instructions and information in this window.

Example Data Layers

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

FULL STATE
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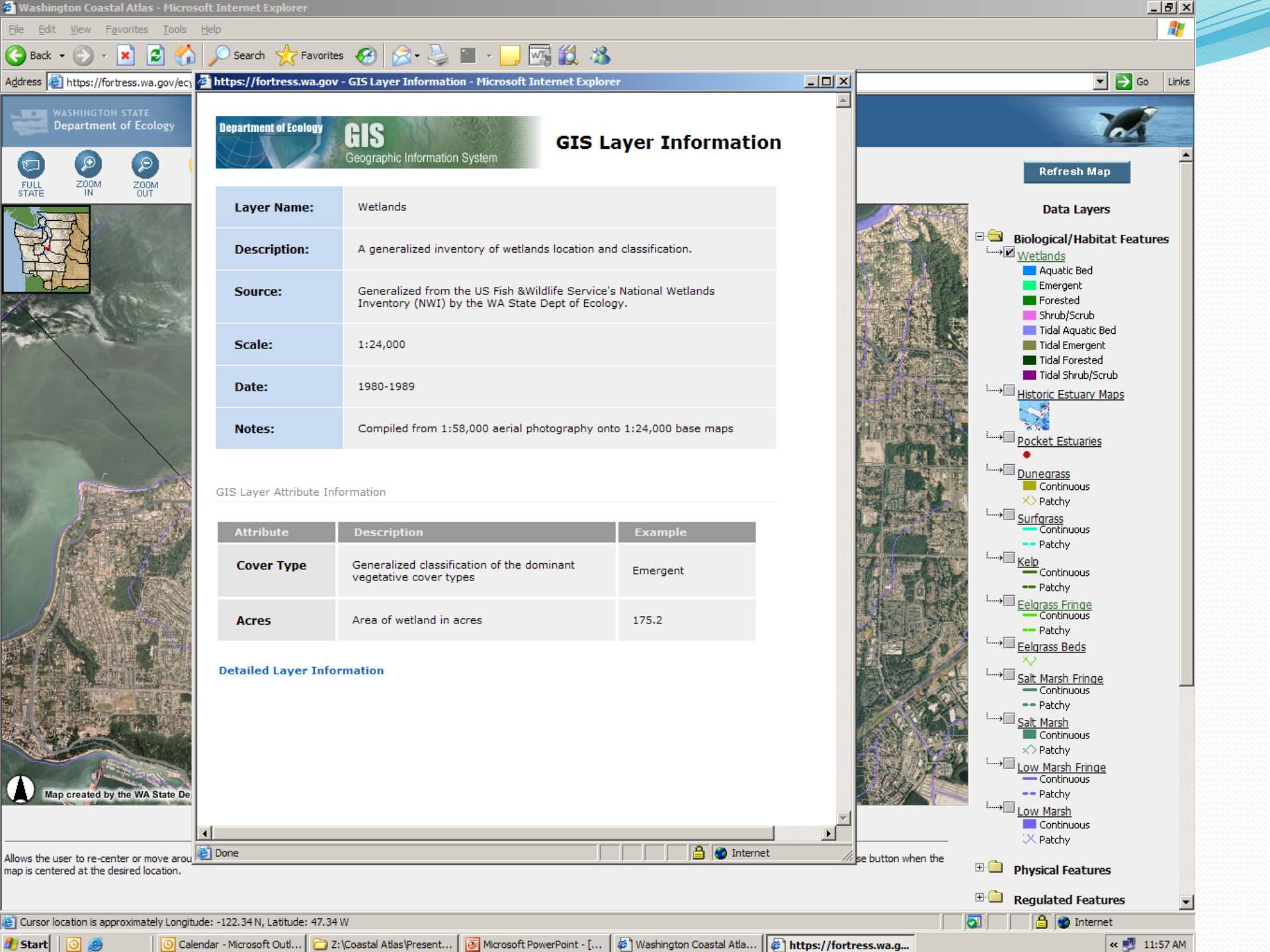
Data Layers

- 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**
 - Patchy
 - Salt Marsh Fringe**
 - Continuous
 - Patchy
 - Salt Marsh**
 - Continuous
 - Patchy
 - Low Marsh Fringe**
 - Continuous
 - Patchy
 - Low Marsh**
 - Continuous
 - Patchy
- Physical Features**
- Regulated Features**

Map created by the WA State Department of Ecology

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.



WASHINGTON STATE
Department of Ecology

FULL STATE ZOOM IN ZOOM OUT

Department of Ecology **GIS** Geographic Information System **GIS Layer Information**

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

GIS Layer Attribute Information

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

Detailed Layer Information



Refresh Map

Data Layers

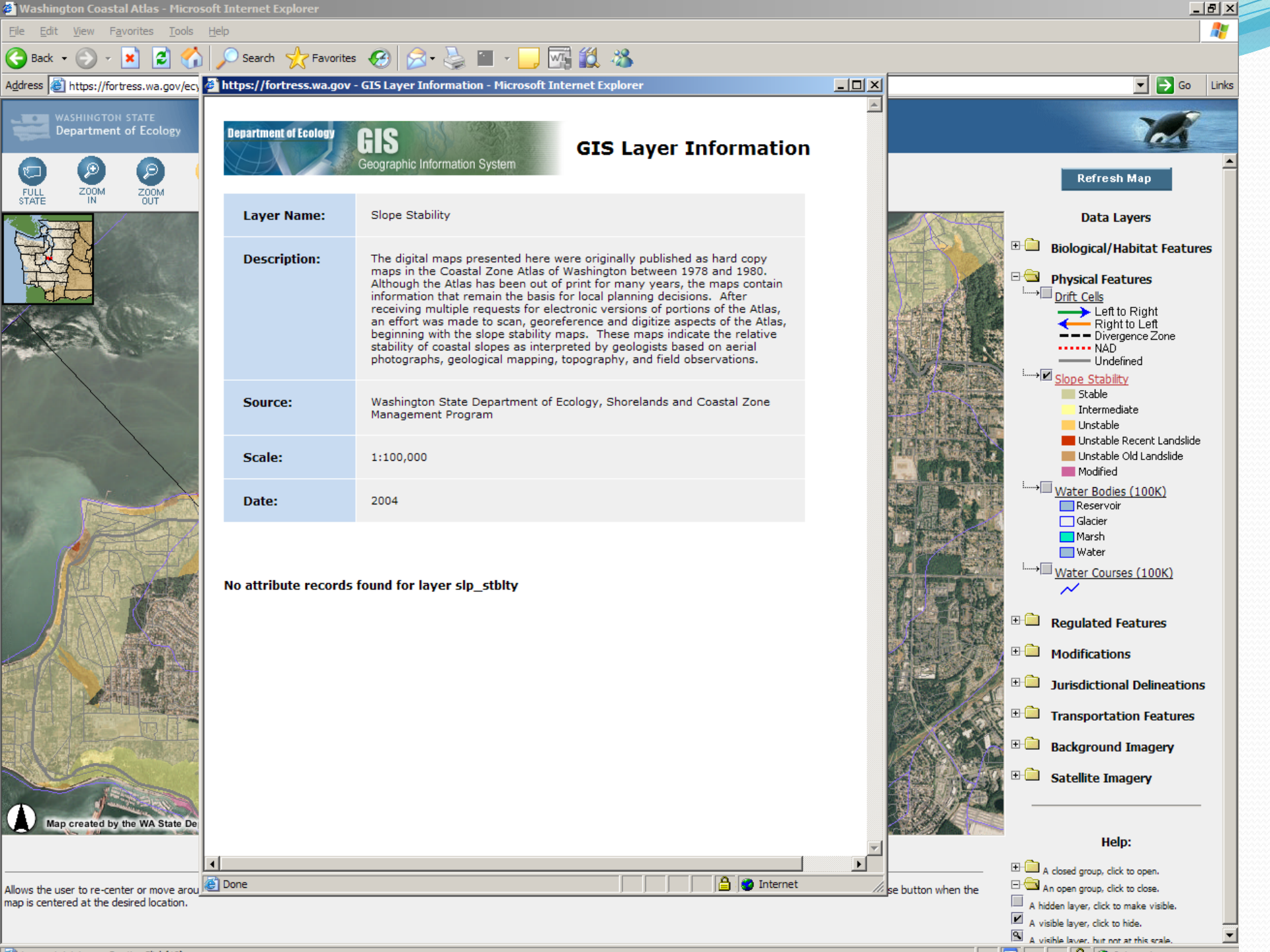
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 - Patchy
 - Salt Marsh
 - Continuous
 - Patchy
 - Low Marsh Fringe
 - Continuous
 - Patchy
 - Low Marsh
 - Continuous
 - Patchy
- Physical Features**
- Regulated Features**



Map created by the WA State De

Example Data Layers

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



WASHINGTON STATE
Department of Ecology

FULL STATE ZOOM IN ZOOM OUT



GIS Layer Information

Layer Name:	Slope Stability
Description:	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.
Source:	Washington State Department of Ecology, Shorelands and Coastal Zone Management Program
Scale:	1:100,000
Date:	2004

No attribute records found for layer slp_stblty



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
 - Modified
 - Water Bodies (100K)
 - Reservoir
 - Glacier
 - Marsh
 - Water
 - Water Courses (100K)
- Regulated Features
- Modifications
- Jurisdictional Delineations
- Transportation Features
- Background Imagery
- Satellite Imagery

Help:

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

Information Available

- 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

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

WASHINGTON STATE Department of Ecology







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

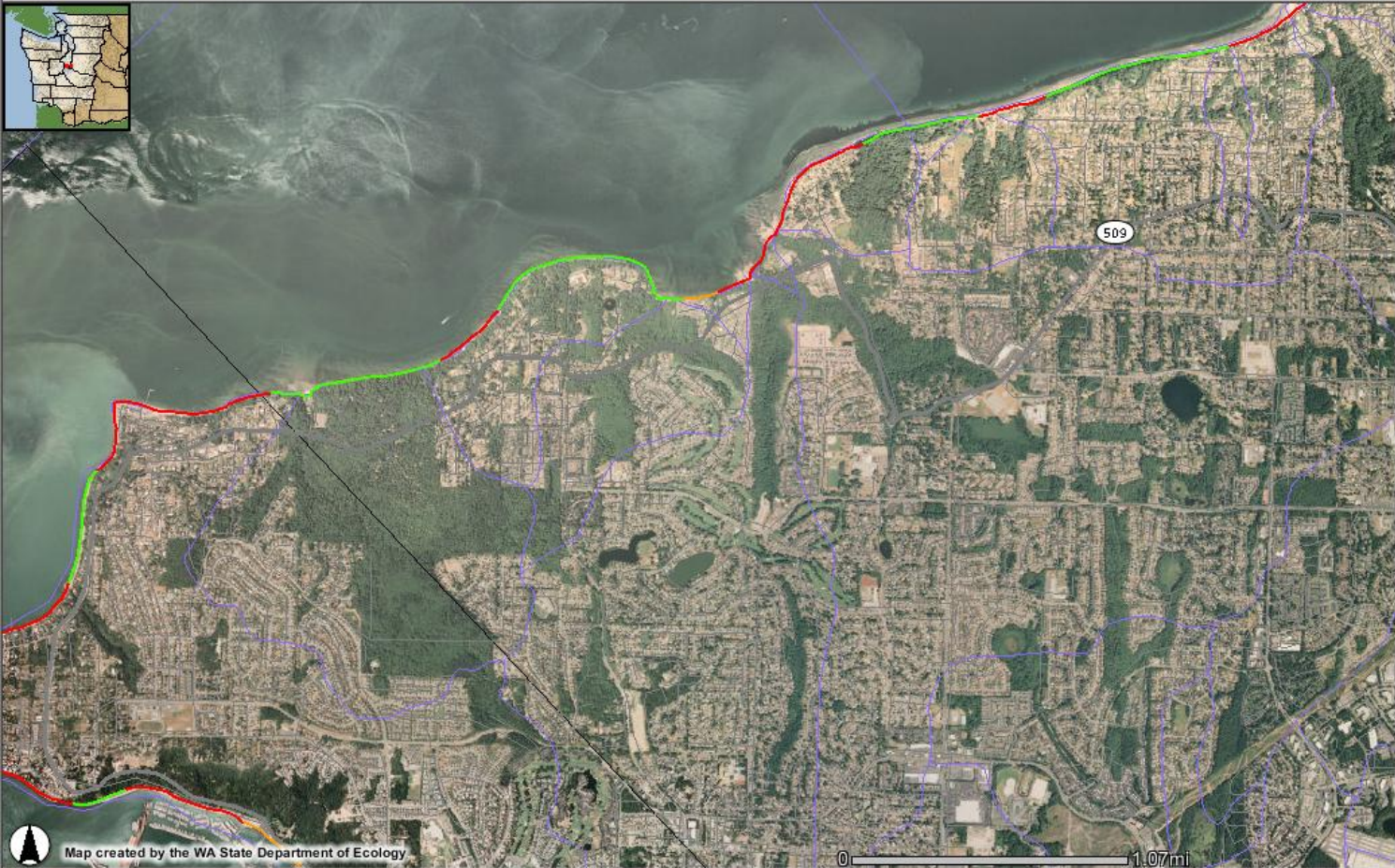
Refresh Map

Data Layers

- Biological/Habitat Features
- Physical Features
- Regulated Features
- Modifications
 - 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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Map created by the WA State Department of Ecology

Pan Tool

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

Internet

WASHINGTON STATE
Department of Ecology

FULL STATE ZOOM IN ZOOM OUT



Map created by the WA State De

Department of Ecology GIS Geographic Information System

GIS Layer Information

Layer Name:	Shore Modification
Description:	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.
Source:	Washington State Department Natural Resources, Business Systems Support Division
Scale:	1:24,000
Date:	1994-2000

No attribute records found for layer shore_mod

[Detailed Layer Information](#)



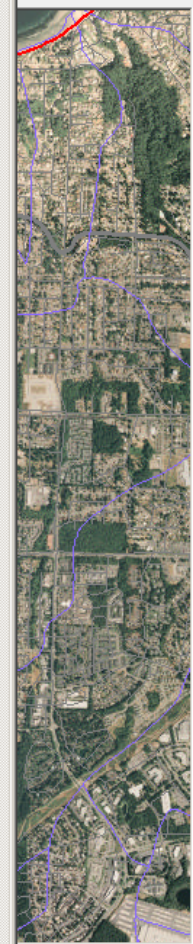
Refresh Map

Data Layers

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



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

Land Cover Information

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

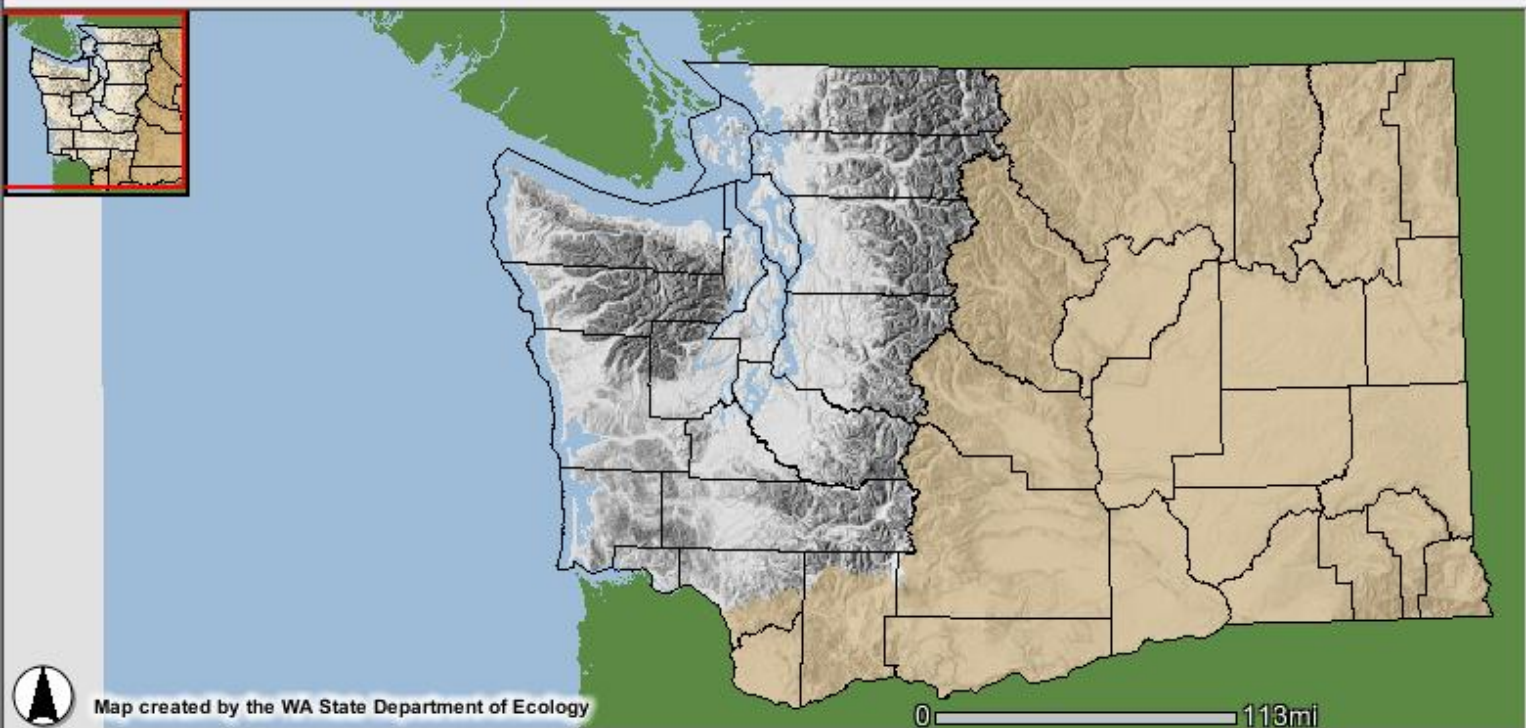
Refresh Map

Data Layers

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

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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.

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

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

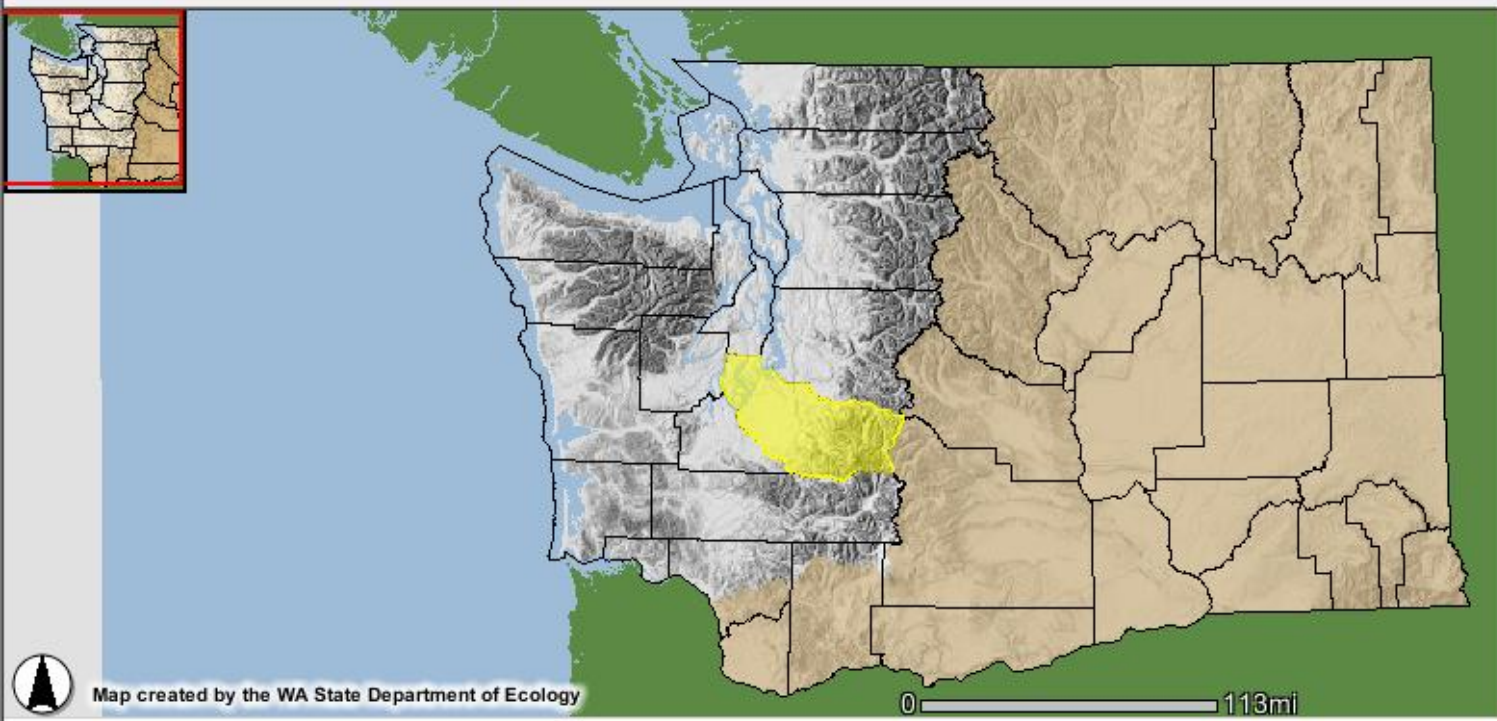
Refresh Map

Data Layers

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

Help:

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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

County [Return to Select Options](#)

Rec	County Name	County Code
1	Pierce	27

WASHINGTON STATE
Department of Ecology

FULL STATE ZOOM IN



Map created by the V

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:

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

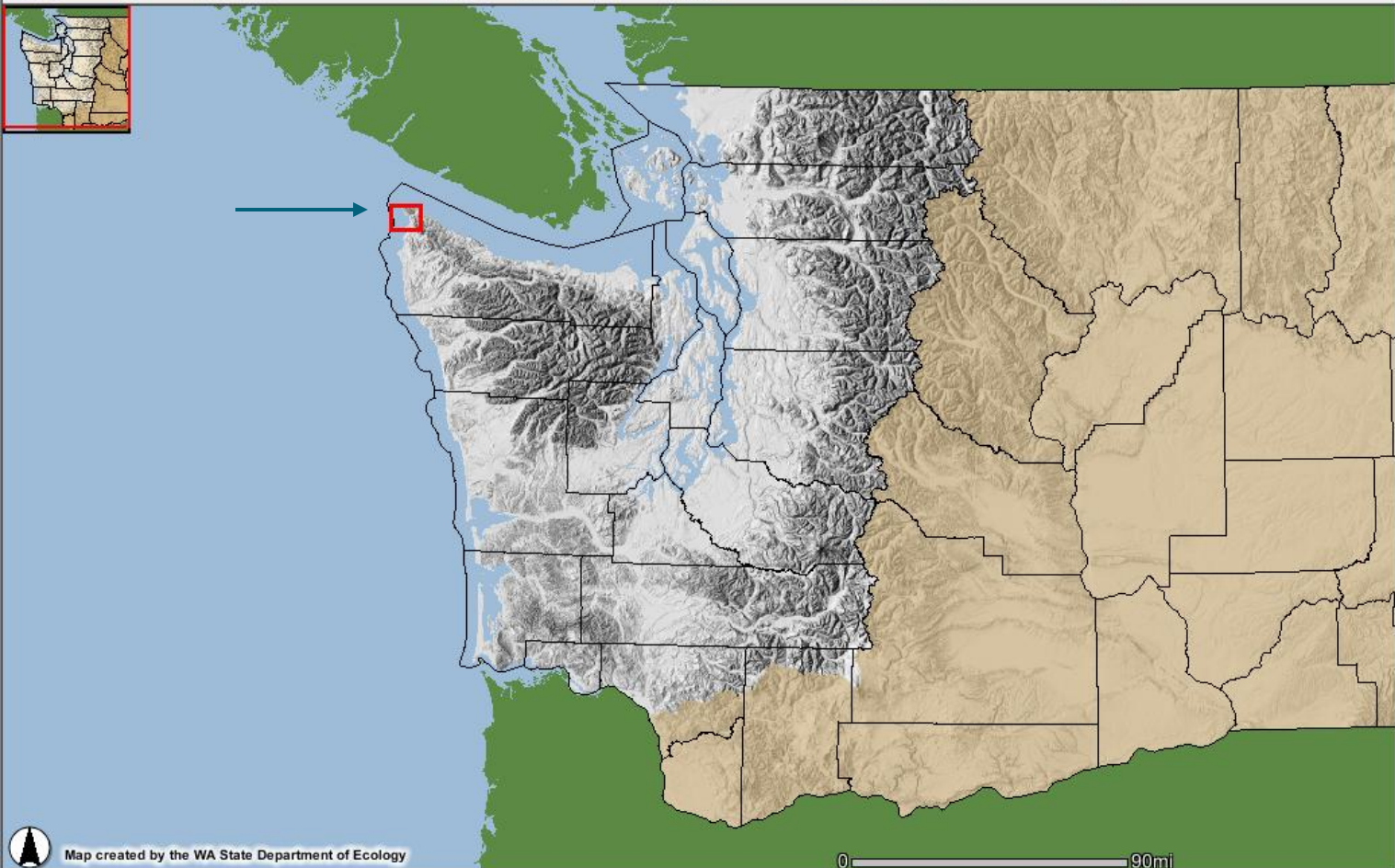
Refresh Map

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.
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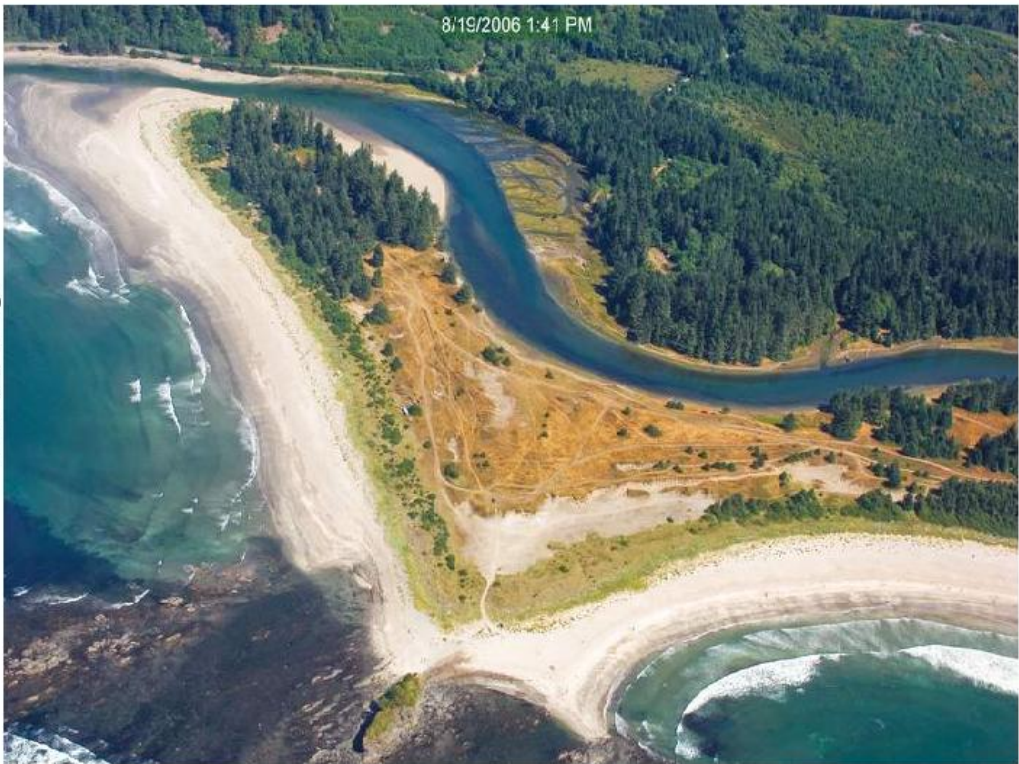
Map created by the WA State Department of Ecology

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  SELECT,  LAND COVER or  VIEW PHOTO for further instructions and information in this window.

WASHINGTON STATE Department of Ecology Coastal Atlas



Next Image

Next Image

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

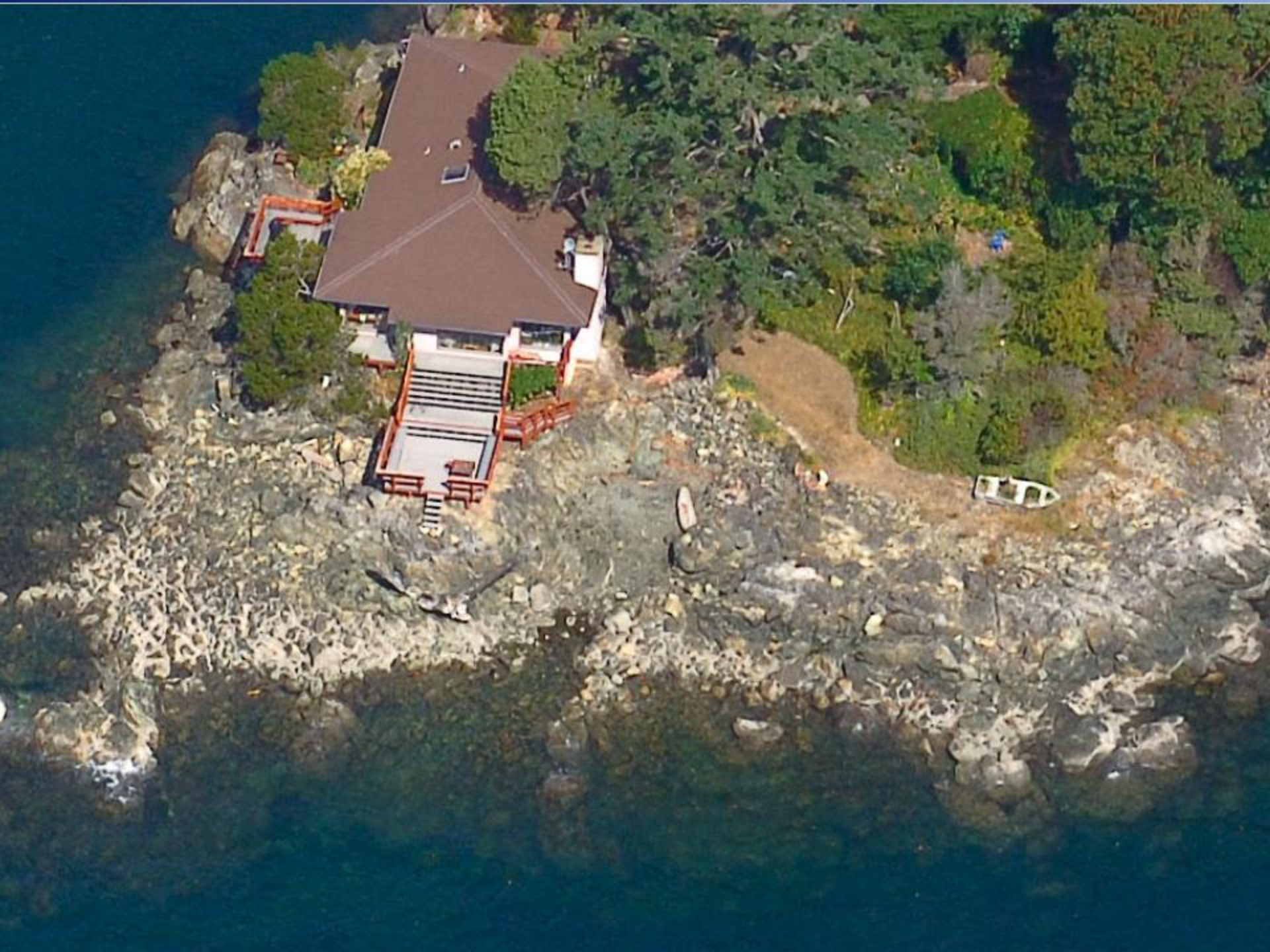


- Data Layers
- Biological/Habitat Features
 - Physical Features
 - Regulated Features
 - Modifications
 - Jurisdictional Delineations
 - Transportation Features
 - Background Imagery
 - Satellite Imagery

Help:

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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

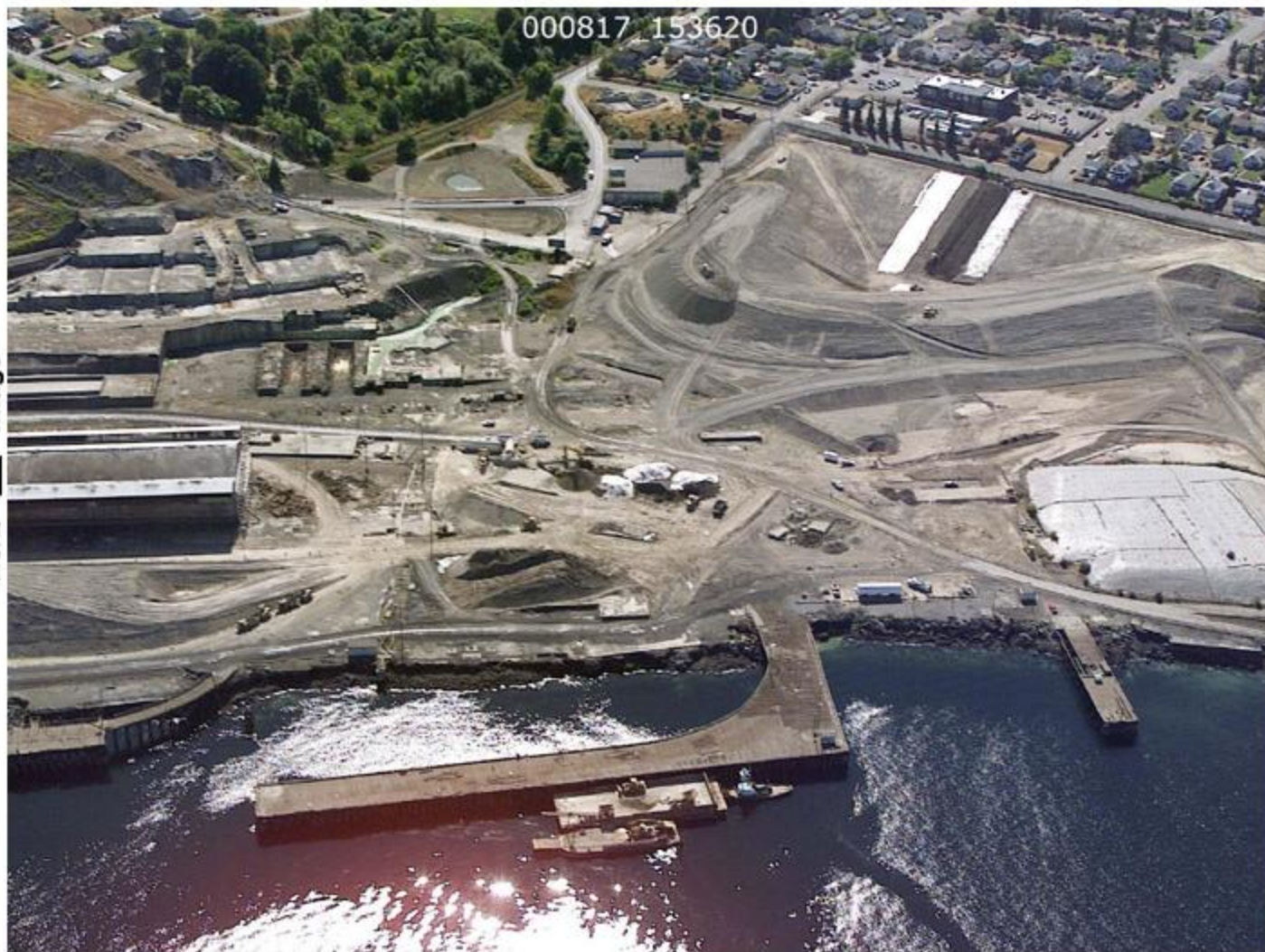
Download links for this photo:

[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:

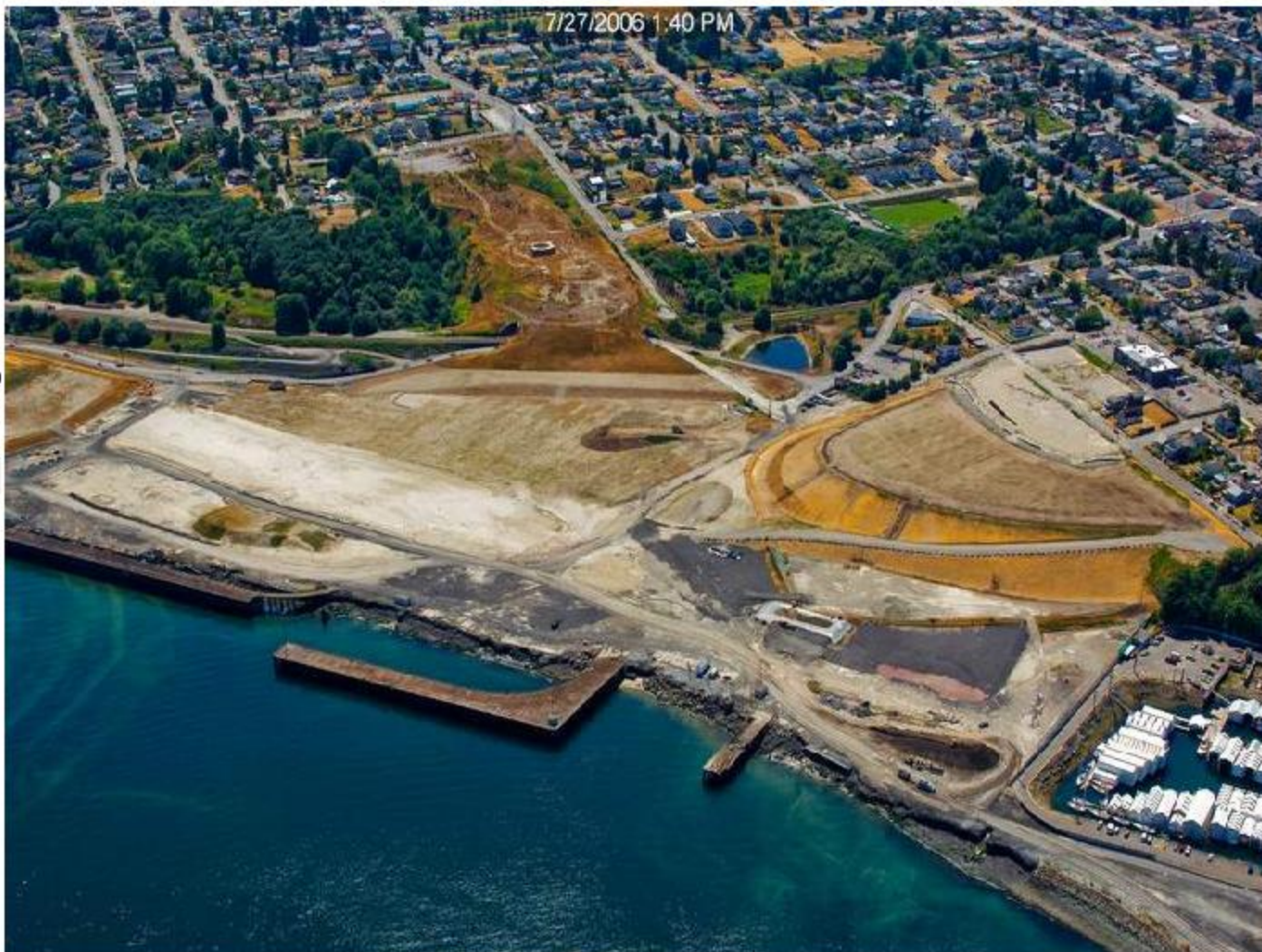
[Low Resolution \(700 x 524 pixels, 185Kb\)](#)

[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

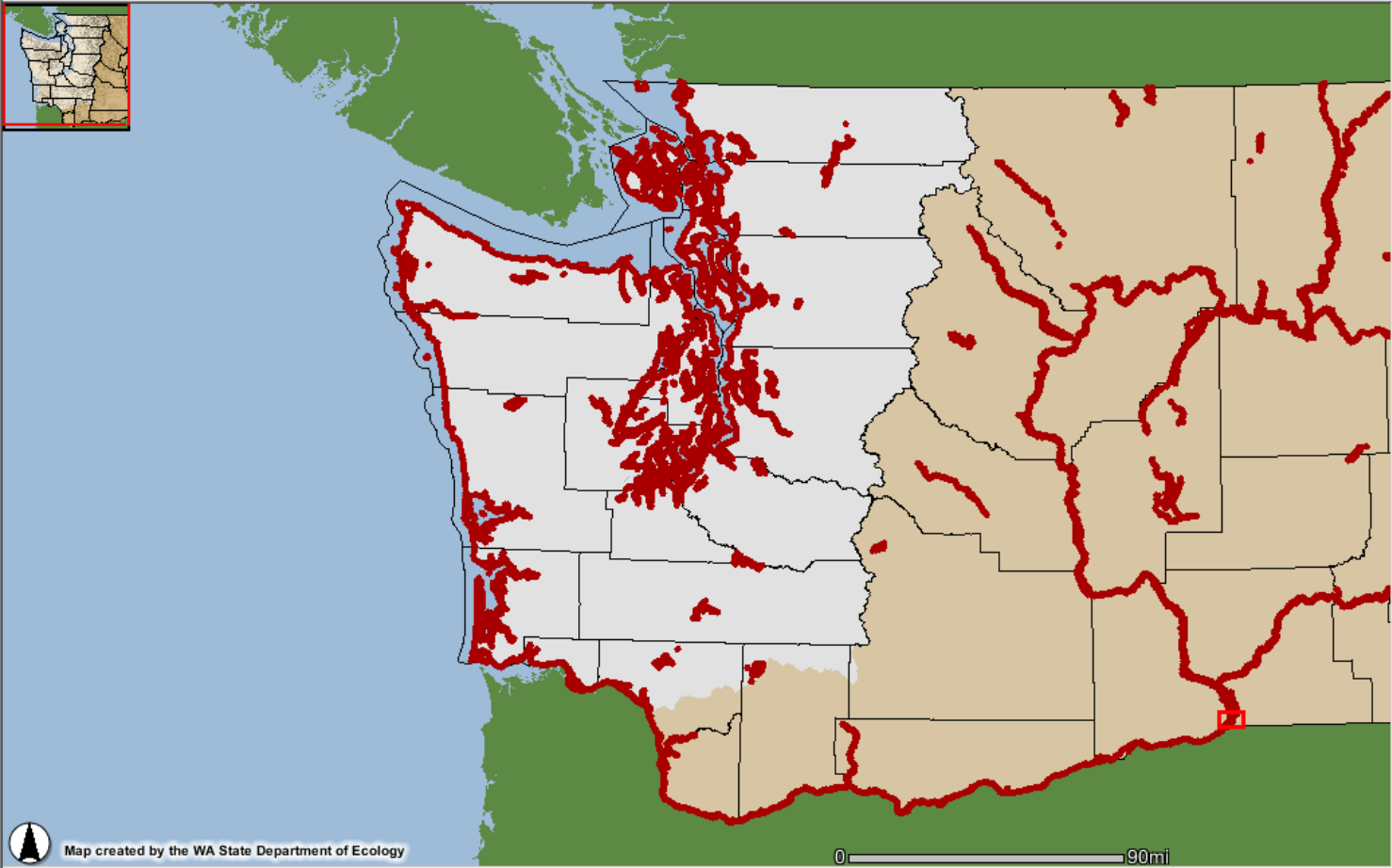
Download links for this photo:

Oblique Aerial Photos of Shoreline

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



Refresh Map



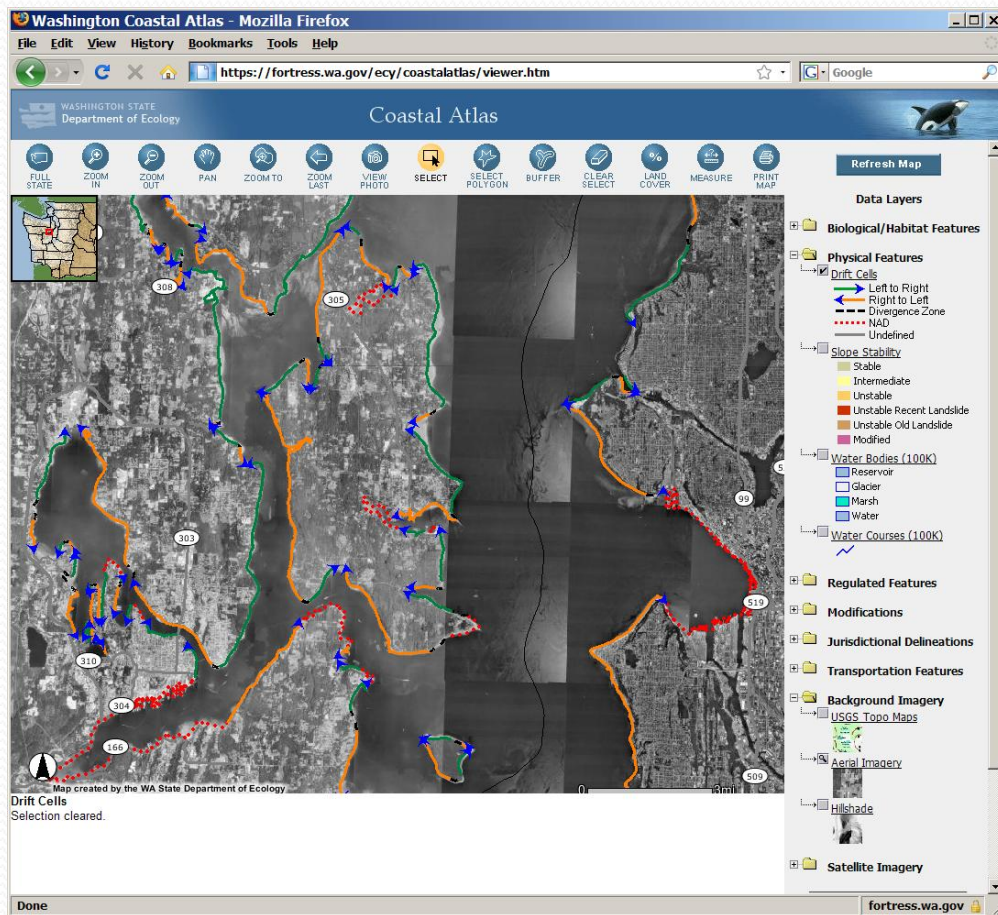
- Data Layers**
- Biological/Habitat Features
 - Physical Features
 - Regulated Features
 - Modifications
 - Jurisdictional Delineations
 - Watershed (WRIA) Boundaries
 - Sub Basins
 - County
 - Cities
 - Township/Range/Section
 - Transportation Features
 - Background Imagery
 - Nautical Chart
 - USGS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

Map created by the WA State Department of Ecology

Shoreline Photos (2006)
Selection cleared.

Help:

Technology



- ESRI ArcIMS 9.2
- ArcSDE 9.2: Data, simplified metadata
- MS SQL Server 2005
- IIS Server,
Apache Tomcat 5.5
- ASP.NET v2.0 (Coastal Image Viewer and Land Cover Tool)

Resources/Support for the Atlas

- Managed and maintained by Washington Dept. of Ecology staff
- Funding sources:
 - State funds
 - Washington's NOAA OCRM Coastal Zone Management grant.
- Other state agencies have contributed data, staff time and small amounts of funding for specific components.

Resources/Support for the Atlas

- Both state and federal funding sources have been diminishing
- The Washington Coastal Atlas is the most visited component of our web site and the number of users and the amount of information served is increasing.
- The Washington Coastal Atlas is a high priority for us to continue to develop and maintain

Challenges encountered

- Securing long term funding commitments
- Setting up data sharing agreements
- Critical gaps in existing information relevant to coastal and marine issues
- Constantly changing technology
- Constantly evolving web standards
- Pressures to extend the geographic scope beyond coastal areas to serve non-coastal needs
- Broad user base

Lessons learned

- Understand the needs of the targeted audience(s) and communicate with users
- Keep executive management informed
- Clearly articulate use and importance of Atlas to managers in related programs and agencies
- Build partnerships
- Communicate with occasional users about new information and features
- Market the Atlas to appropriate new audiences and potential stakeholders

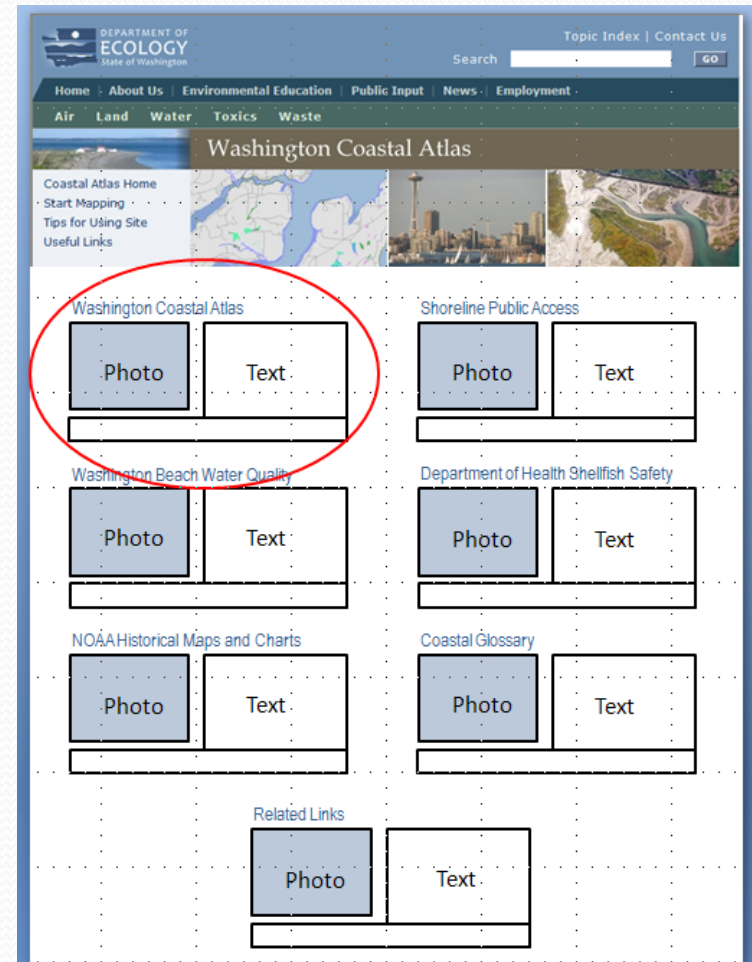
Future Development

- Add information on public access to Washington marine shorelines (*Deborah Purce*)
- As available, add data useful in coastal and ocean management
- User survey



Future Development

- A redesign to make the Atlas to be more information rich and less cartographic centered Add information on public access to Washington marine shorelines
- (*Darby Veeck*)



Future Development

- Increase cooperative effort with other state agencies
- Increase communication and coordination with other coastal atlas efforts on the west coast
- Increase interoperability w/other atlases through the International Coastal Atlas Network (ICAN)



6/27/2006 10:26 AM

Questions?

