

Washington Marine Vegetation Atlas – Help

The purpose of the Marine Vegetation Atlas is to provide spatially referenced information and data about vegetation that grows in nearshore areas (seagrass, kelp, and other macroalgae) in Washington State. The atlas uses nearshore polygons as a way to index surveys of marine vegetation. These polygons consist of 1 kilometer long sections of the shoreline that extend out to -20 feet (Mean Lower Low Water) depth. Any survey that occurred within a polygon, even if it is only a small part of the total area, is recorded over the entire extent of the polygon. You can choose the information to explore through pre-defined layers in the [Data Tab](#) or customized queries in the [Search Tab](#). Then, use the map and the [Results Tab](#) to display detailed results about vegetation, survey, and to download reports and data.

The screenshot shows the Washington Marine Vegetation Atlas web application. The interface includes a navigation menu at the top with links for 'About', 'Nearshore Habitat Program', 'Contact Us', 'Feedback', and 'Help'. A left sidebar contains a 'Data' tab with sub-sections for 'Vegetation' (Seagrass, Kelp, Other Macroalgae, All Marine Vegetation), 'Number of Surveys' (Points, Polygons), and 'Basemap' (Ocean Basemap, Vegetation Search Results). The main map area displays a satellite-style map of the Washington coast with green polygons representing nearshore vegetation. A scale bar and zoom controls are visible on the map. A yellow box highlights a toolbar with icons for full screen, print, share, and other tools. Callout boxes provide detailed descriptions for these features.

Link to Marine Vegetation Atlas website

Overview of the Marine Vegetation Atlas

Link to Nearshore Habitat Program

Contact DNR about the Atlas

Link to form to provide feedback on atlas

Link to user guide

WASHINGTON MARINE VEGETATION ATLAS

About Nearshore Habitat Program Contact Us Feedback Help

Data Legend Search Results

Vegetation

- Seagrass
- Kelp
- Other Macroalgae
- All Marine Vegetation

Number of Surveys

- Number of Surveys - Points
- Number of Surveys - Polygons

Basemap

- Ocean Basemap
- Vegetation Search Results

Change the basemap

Create, or zoom to, a bookmarked extent

Create a link to share the map

Other tools (measure distance, get coordinates)

Interacting with the Map:

One major advantage of an online atlas is the ability to interact with the map. In the Washington Marine Vegetation Atlas you can explore data using intuitive operations. Re-center or move the map in any direction by clicking and holding on the map and then dragging the cursor. Zoom to sites by either using the scroll wheel on your mouse, or a double left click.

To view the data about a particular area, single left click on the polygon that encloses the area. This will bring up a “pop-up” window with basic information about the vegetation and surveys that occurred there. In the pop-up, one page summarizes each survey completed in the area, including the vegetation recorded to be present and absent by the observer. To view more details about these data, click on the survey name and detailed information about the survey will appear in the [Results Tab](#).

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The vegetation recorded as present and absent in the survey. This list will be constrained by the layer (in this example, Seagrass) or the custom search.

Click on arrows to page through the individual surveys completed in this polygon.

WASHINGTON MARINE VEGETATION ATLAS



The screenshot shows the Washington Marine Vegetation Atlas interface. On the left, there is a navigation menu with tabs for Data, Legend, Search, and Results. Below the menu, a sidebar displays survey information for 'Viewing Survey: 4 of 18'. The main area is a map of Puget Sound with a green polygon highlighting a survey site. A pop-up window titled 'Seagrass Results (4 of 18)' is open over the polygon, showing the following details:

Seagrass Present:	Zostera japonica, Zostera marina
Seagrass Absent:	Phyllospadix sp.
Submerged Vegetation Monitoring Program (SVMP), 2009 Sampling Year June 2009 - September 2009	
Zoom to	

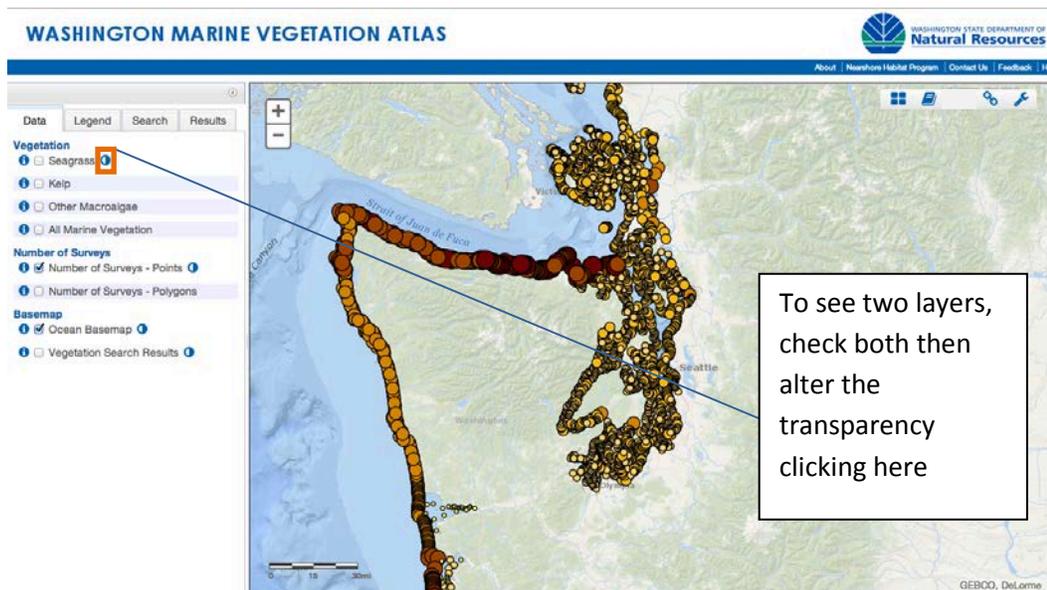
At the bottom right of the map, a site code 'SITEID: flats11' is visible. The interface also includes a scale bar (0 to 3 miles) and a navigation toolbar with zoom in (+) and zoom out (-) buttons.

Hover your mouse pointer over a polygon and its site code will appear here.

Data tab

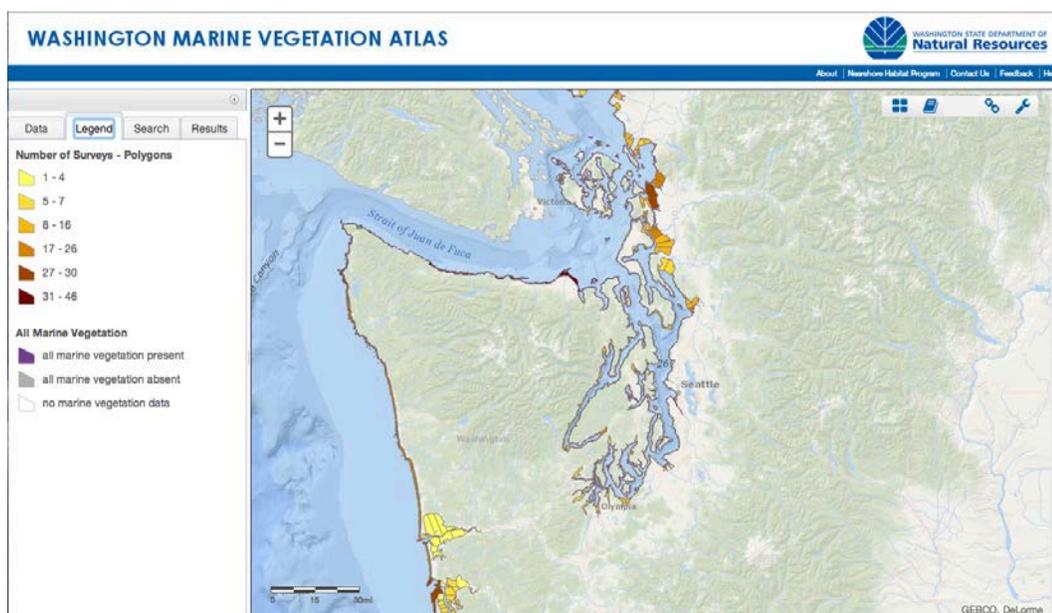
This tab lists the standard layers provided for rapid access to seagrass, kelp, other macroalgae or all marine vegetation data. More information about each layer can be found using the  button to the left of the layer. To turn layers on and off, use the check box to the left of the layer.

A polygon will display vegetation as 'present' if any survey recorded the vegetation type as present in that location. Frequently, multiple surveys have been completed within a polygon, and the results of individual surveys can be different if methods varied or if changes occurred over time. Additional layers summarize the number of surveys conducted in every polygon. Consult the map to get a list of surveys completed in a particular polygon, along with the survey results (see [Interacting with the Map](#)).



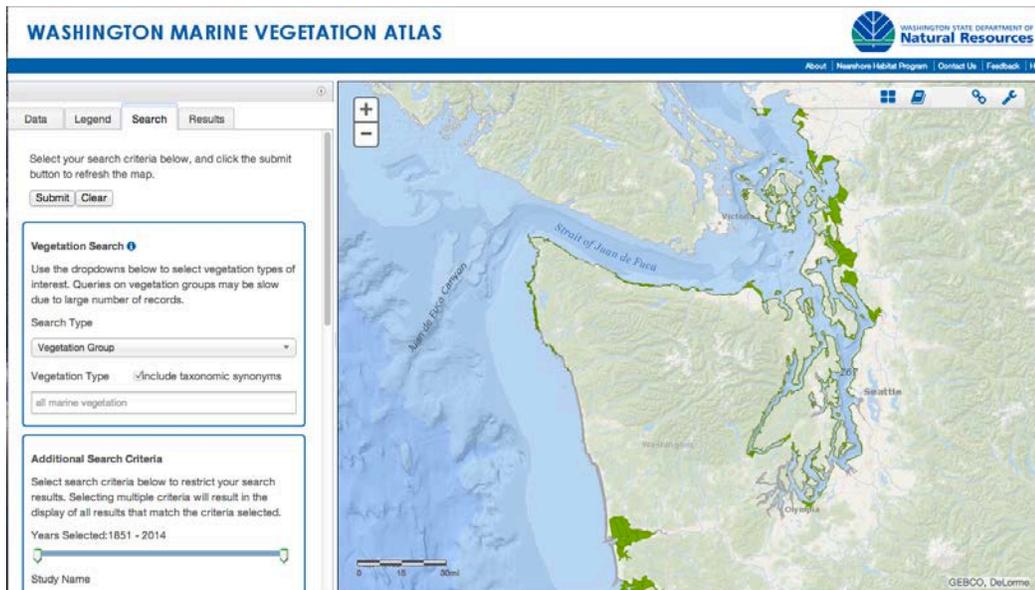
Legend tab

Displays the categories describing all of the active layers in the map.



Search tab

Specify user-defined criteria to limit the records displayed in the map and the associated tabular results (displayed in the [Results Tab](#)). Within each search category, the results will include all of the surveys that match any of the search criteria. A search across multiple search categories will find surveys that match all of the criteria together. For example: by choosing Vegetation Search: “seagrass” and “kelp”, all results that contain either seagrass or kelp will be returned. If you instead search for Vegetation Search: “seagrass”, and Additional Search Criteria: Permits: “Hydraulic Project Approval”, all results that contain both “seagrass” and “Hydraulic Project Approval” will be returned.



Vegetation Search

The vegetation search allows users to select by vegetation group or by genus and species. Select one of these options in the upper field. Then specify one or more corresponding names in the lower field. When searching by vegetation group, select from pre-defined categories of vegetation (for example: kelp). The vegetation groups are organized hierarchically, with indented sub-categories that are increasingly detailed. When using the genus and species search, the lower field allows users to pick from a list of all genus and species names that are recorded in the atlas. Users can check ‘include taxonomic synonyms’ to widen the search to automatically include alternative names that are associated with changes in taxonomy. Due to the complexity of algal taxonomy, synonyms should be reviewed for appropriateness by checking the vegetation type as it was defined in the study (see [Interacting with the Map.](#))

Timeline Filter:

The timeline filter is a slider bar that allows you to limit the results on the map and in tabular form based on survey dates. To find results within a specific timeframe, move the slider bar to include the years of interest.

Additional Search:

Filters each survey cataloged in the atlas tagged with metadata about the survey. This section allows you to search by that metadata. For example, selecting a “Permit” allows you to show all results based on a permit type for the survey. Select one or many of the additional criteria.

Results Tab

This tab lists the results of a search in a tabular format. Details are listed by survey, and surveys can be scrolled through using the arrows at the top of the table. Data can be downloaded through links in the table. Clicking on a survey name in the pop-up window in the map will automatically page to the corresponding survey in the Results Tab (see [Interacting with the Map.](#))

WASHINGTON MARINE VEGETATION ATLAS

WASHINGTON STATE DEPARTMENT OF Natural Resources

About | Nearshore Habitat Program | Contact Us | Feedback | Help

Viewing Survey: 19 of 128

[zoom to survey](#) [clear results](#) ◀ ▶

Submerged Vegetation Monitoring Program (SVMP), 2009 Sampling Year

The Submerged Vegetation Monitoring Program (SVMP) monitors native seagrasses in greater Puget Sound. Sites are surveyed using underwater videography. The data are used as an indicator of ecosystem health by DNR and the Puget Sound Partnership.

Start Date	June 2009
End Date	September 2009
Data & Reports	aqr_eelgrass_svmr_report.pdf
Vegetation Surveyed	Phyllospadix sp., Zostera japonica, Zostera marina
Vegetation Parameters	presence/absence, depth distribution, density
Other Parameters	photosynthetically active radiation (PAR), depth, temperature, dissolved oxygen, salinity
Sample Design	cross shore transects, minimum depth edge delineation, maximum depth edge delineation
Field Method	boat-based survey, hydroacoustic, underwater video

Scroll through survey results using arrows.

Results displayed on the map highlighted in blue.

Details about marine vegetation survey. Includes links to download data

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GEBCO, DeLorme