



Intertidal Species in the Salish Sea

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Created May 2021 as part of the Corbett
Fellowship

What is this guide?

Welcome to a guide of intertidal species in the Salish Sea! This guidebook was created as part of the 2021 Corbett Fellowship program, a program designed to build an appreciation and understanding for the cross-border relationship between Canada and the United States in the Pacific Northwest. As a Corbett scholar, something that struck me throughout the course of the fellowship is how similar all our experiences were of living and studying along the Salish Sea regardless of if we were situated in Vancouver, Seattle or Victoria. In creating short city tours to show our fellow scholars, appreciation for the Salish sea and the beaches along the Strait were noted in each city. Despite the fact that we all live along the edge of a shared ecosystem, the federal border cutting through it has meant this shared experience of the Pacific Northwest has not been adequately acknowledged. Therefore, this guide was created as both a celebration of our shared Salish Sea and the incredible species that can be found at the waters edge, as well as an ecological guide which crosses the federal border that is currently missing from available material.

What is the Salish Sea?

The Salish sea is the name given to the large area of water including the Puget Sound, San Juan islands and the aquatic area off the coast of Metro Vancouver. This beautiful region includes 7470km of coastline and 419 islands within the inland sea. As one of the worlds largest inland seas, the Salish sea has a human population of approximately 8 million people. There is an astounding 3000 species of macro invertebrates (species that do not contain backbones but are able to be seen with the naked human eye) in the region, some of which can be found in this guide! Many endangered species also call the Salish sea home such as the Southern Resident Killer Whale, making clear and consistent environmental collaboration between the United States and Canada extremely important.

What is an intertidal zone?

An intertidal zone is an area of coastline which is covered by water at high tide, and uncovered at low tide. The constantly changing environment means the species found in intertidal zones are often adapted for life in and out of water; for instance, the rough skin seen on sea stars helps prevent drying during periods of low tide. Periods of low-tide often have the highest biodiversity compared to high or medium tides, as species which cannot survive out of water for long have more favourable conditions. I chose to focus on intertidal zones in this guide for two reasons, the first being that the fundamental purpose of this guide is to increase connection via shared experiences and ecosystems in the Salish Sea. As many of us participating in the fellowship have noted, the beaches along Vancouver, Victoria and Seattle are significant parts of our regions identity. Therefore, focusing on intertidal zones allows for sightings along these beaches to be a focus of common experiences across the border. The second reason I have chosen to focus on intertidal zones comes from my background in Geography at the University of British Columbia. While certain species are emblematic of the Pacific Northwest, such as the bald eagle or orca, our intertidal species rarely get recognition. This guide aims to bring attention to these fascinating, yet at times, less popular species.

How to use the guide.

The following pages contain a non exhaustive list of different species that can be found in intertidal zones within the Salish Sea. The species sighting maps which appear on the left were generated using iNaturalist, an app in which citizen scientists and biologists can submit sightings of different species which are then verified by the community. The maps represent verified sightings within the last two years, as the guide is meant to demonstrate where the reader can most easily find certain species, as well as the relative frequency they are seen. Yellow dots represent a single sighting, whereas orange and red dots represent multiple sightings in a small area. To the right of the maps, you can find general information about the species including their family and diet, as well as a photo of the species for easy recognition.

Crabs

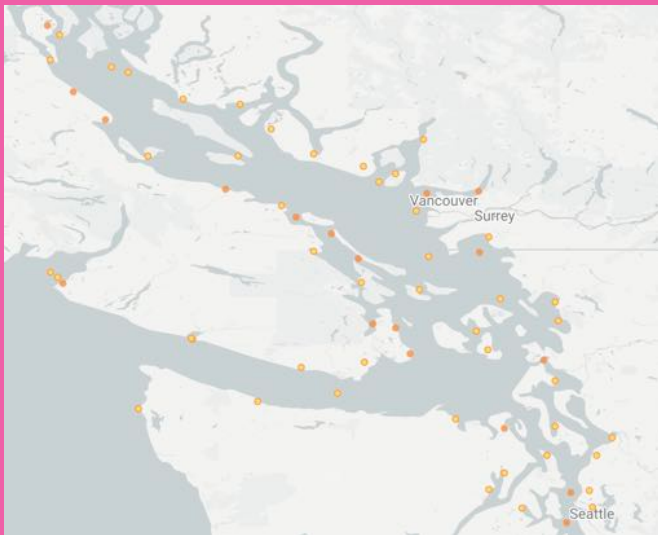


Purple Shore crab

Hemigrapsus nudus

Family: *Varunidae*

Diet: Sea lettuce and other green algae, and occasionally scavenges dead animals



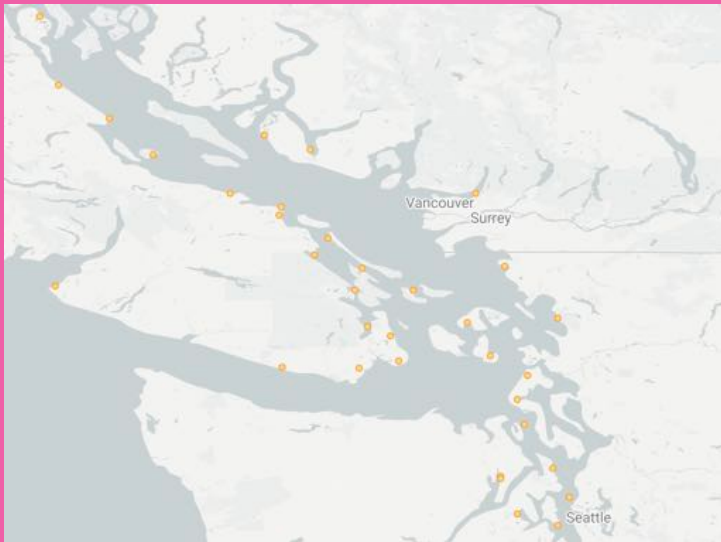
Yellow Shore crab

Hemigrapsus oregonensis

Family: *Varunidae*

Diet: Diatoms and green algae, but it will occasionally eat meat



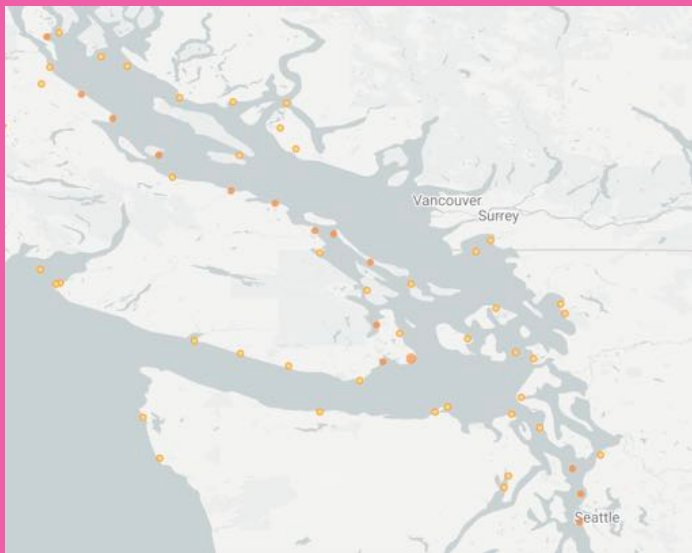


Graceful Rock Crab

Metacarcinus gracilis

Family: Cancridae

Diet: Variety of bivalves, snails and echinoderms, as well as other crustaceans such as hermit crabs



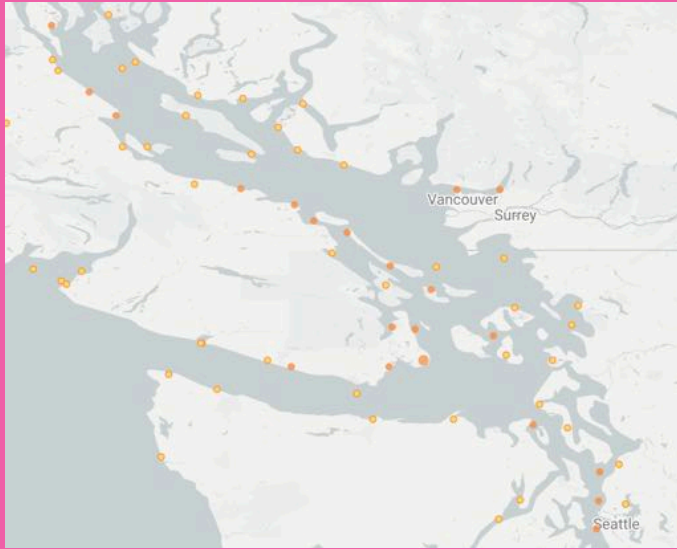
Northern Kelp Crab

Pugettia productus

Family: Epiplatidae

Diet: Kelp, rockweed, sargassum and some types of red algae. In the winter, they eat small mussels, barnacles, bryozoans, and hydroids.



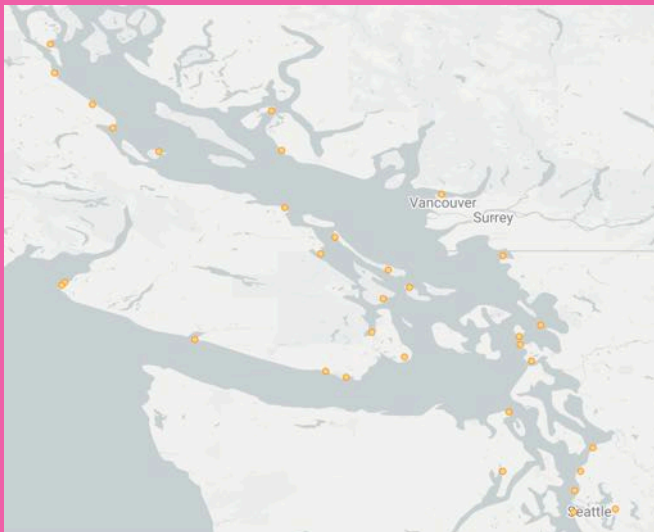


Red Rock Crab

Cancer productus

Family: *Cancridae*

Diet: Crushed barnacles, small living crabs and dead fish.



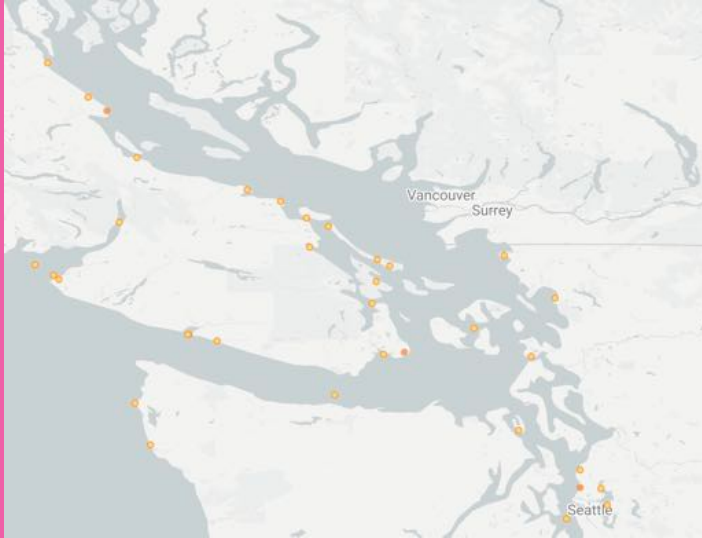
Black-claw Crest-leg Crab

Lophopanopeus bellus

Family: *Panopeidae*

Diet: Clams, oysters, periwinkles, and hermit crabs.



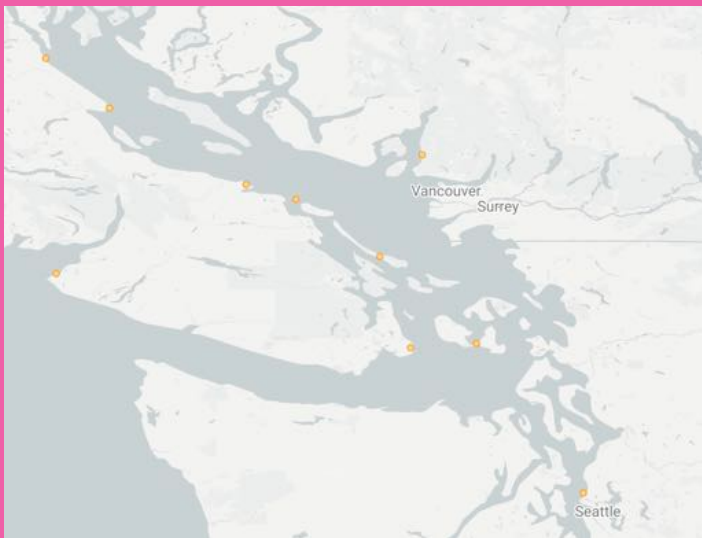


Grainy Hermit Crab

Pagurus granosimanus

Family: *Paguridae*

Diet: Microscopic mussels and clams, bits of dead animals, and macroalgae.



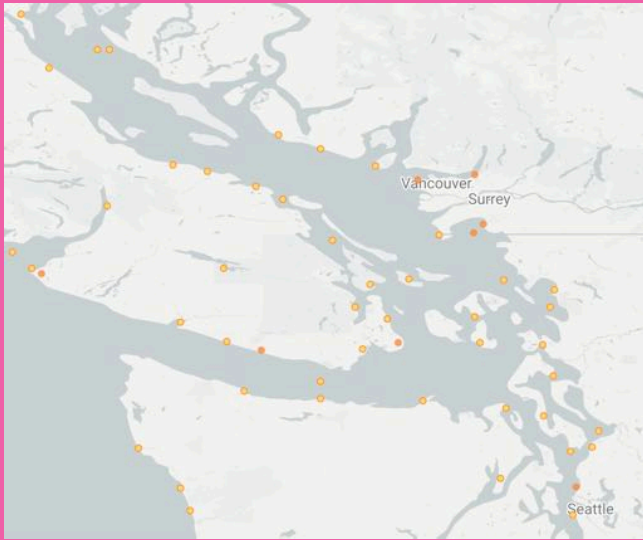
Bering Hermit Crab

Pagurus beringanus

Family: *Paguridae*

Diet: Microscopic mussels and clams, bits of dead animals, and macroalgae.



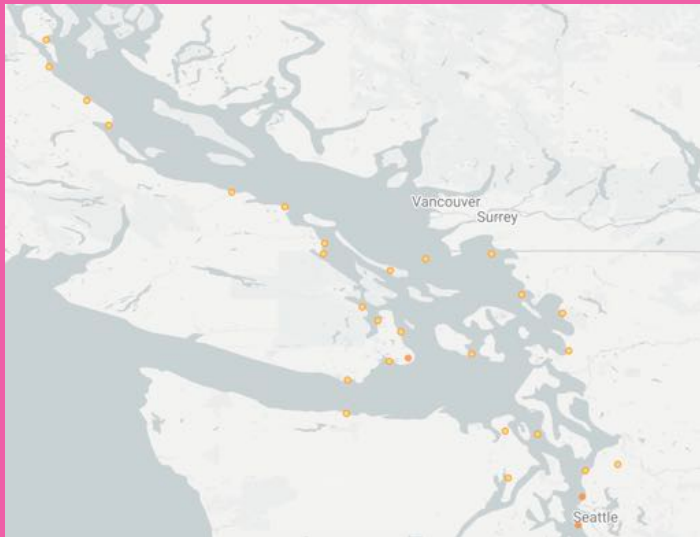


Dungeness Crab

Metacarcinus magister

Family: *Canceridae*

Diet: Clams, crustaceans and small fish. It is also an effective scavenger



Helmet Crab

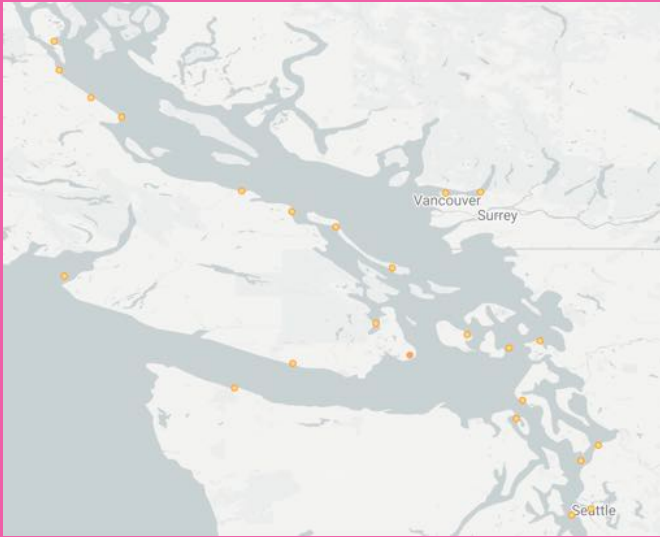
Telmessus cheiragonus

Family:

Atelecyclidae

Diet: Eelgrass, dead invertebrates and fish, and other crabs



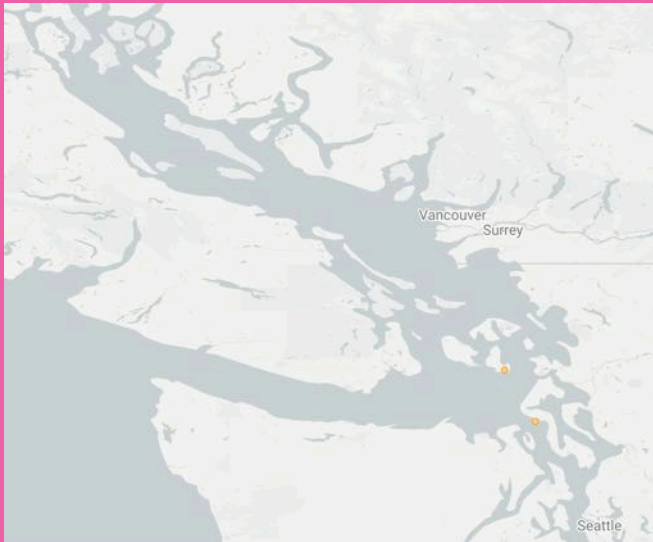


Graceful Kelp Crab

Pugettia gracilis

Family: *Majidae*

Diet: Kelp, rockweed, sargassum and some types of red algae. In the winter, they eat small mussels, barnacles, and hydroids.



Thick-claw Porcelain Crab

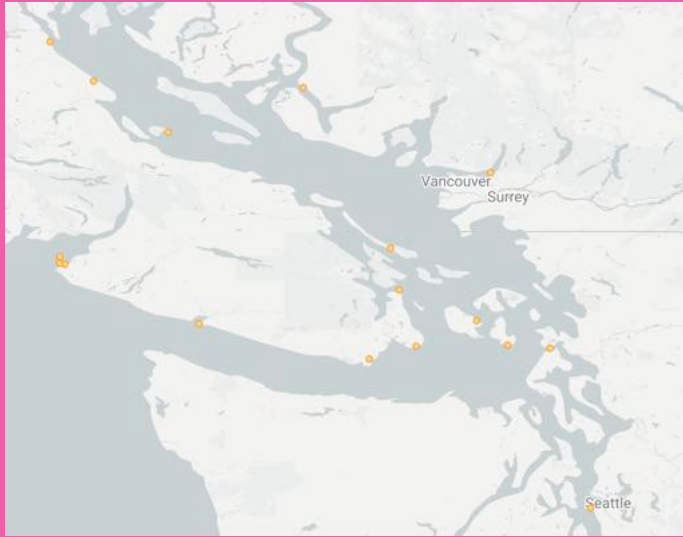
Pachycheles rudis

Family:

Porcellanidae

Diet: Small plants and plankton



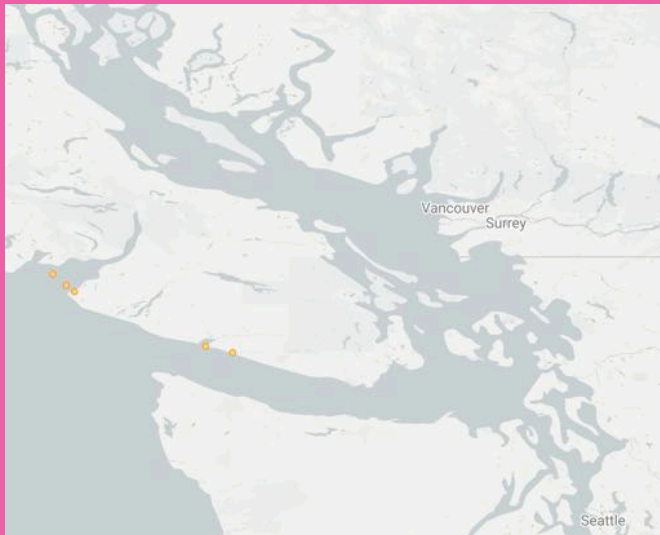


Pygmy Rock Crab

Glebocarcinus oregonensis

Family: Cancridae

Diet: Barnacles, snails, bivalves, worms, and some green algae



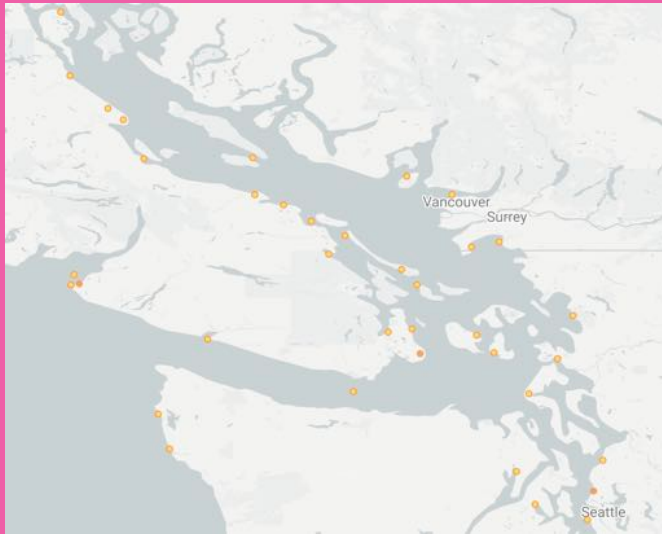
Blueband Hermit Crab

Coenobita purpureus

Family: Coenobitidae

Diet: Microscopic mussels and clams, bits of dead animals, and macroalgae.



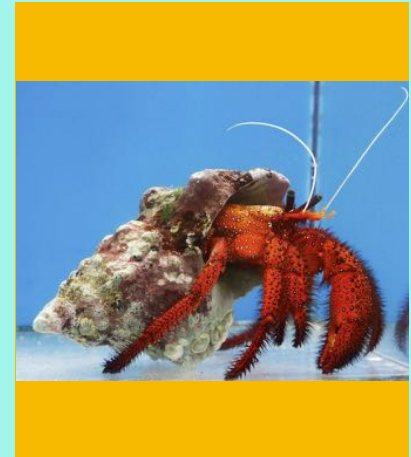


Hairy Hermit Crab

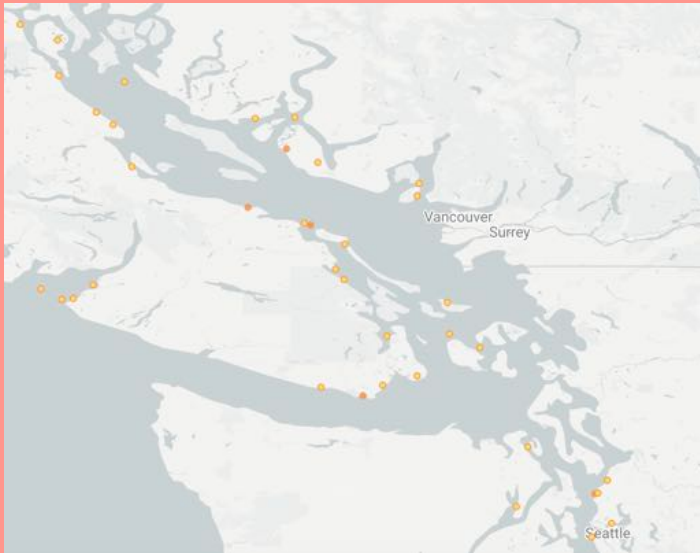
Coenobita purpureus

Family: *Paguridae*

Diet: Decomposing
organic matter.



Stars

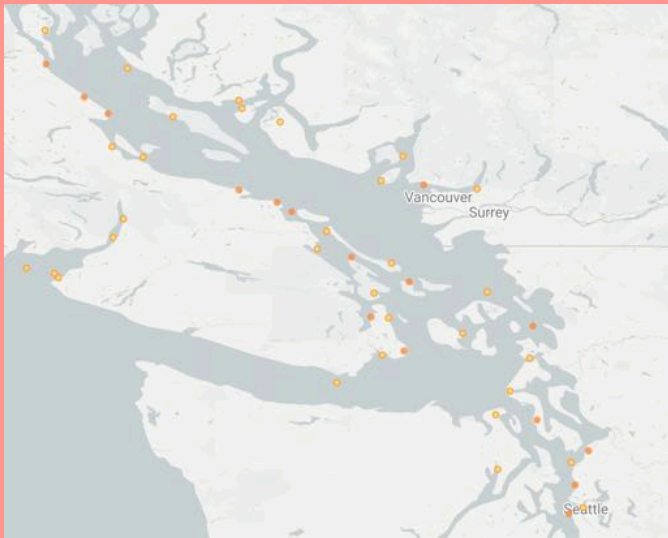


Sunflower Sea Star

Pycnopodia helianthoides

Family: Asteriidae

Diet: Sea urchins, clams, snails, and other small invertebrates.



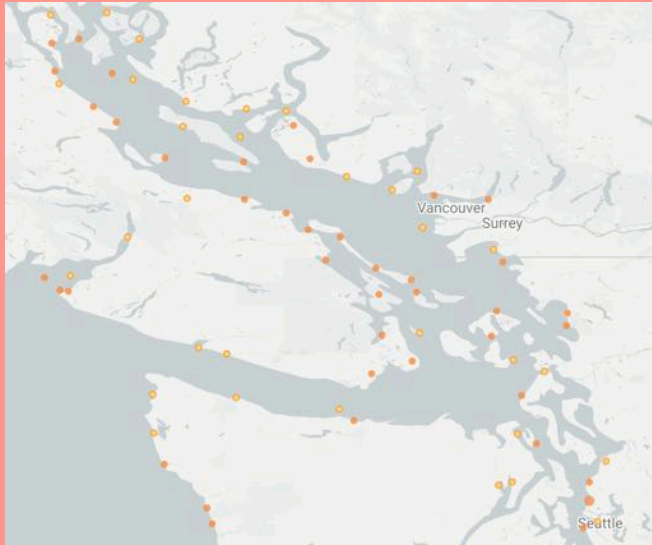
Mottled Star

Evasterias troschelii

Family: Asteriidae

Diet: Bivalves, limpets, snails, brachiopods, barnacles, and tunicates.



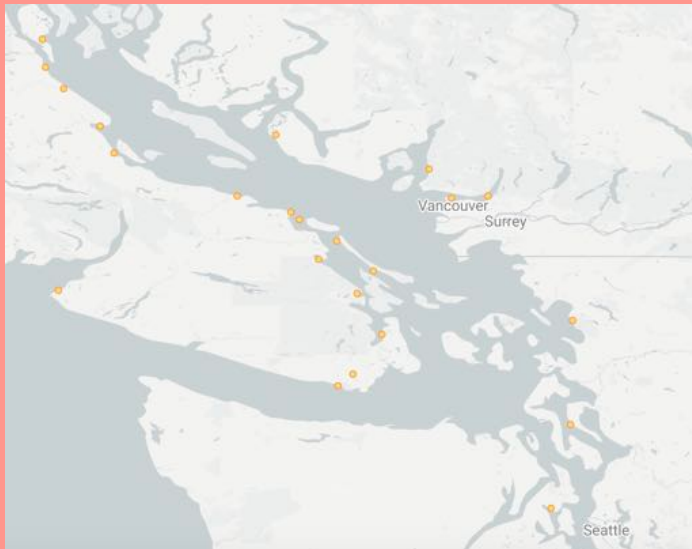


Ochre sea star

Pisaster ochraceus

Family: Asteriidae

Diet: Mainly mussels, along with barnacles, snails, limpets, and chitons



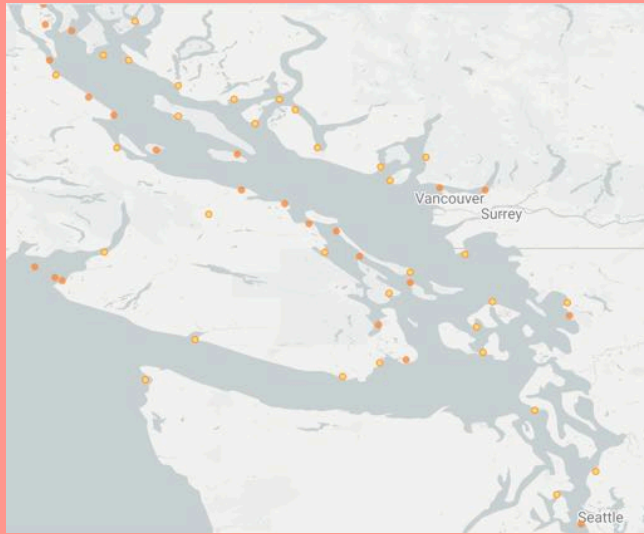
Giant Pink Sea Star

Pisaster brevispinus

Family: Asteriidae

Diet: Bivalves, snails, sand dollars, barnacles, and dead organic material.



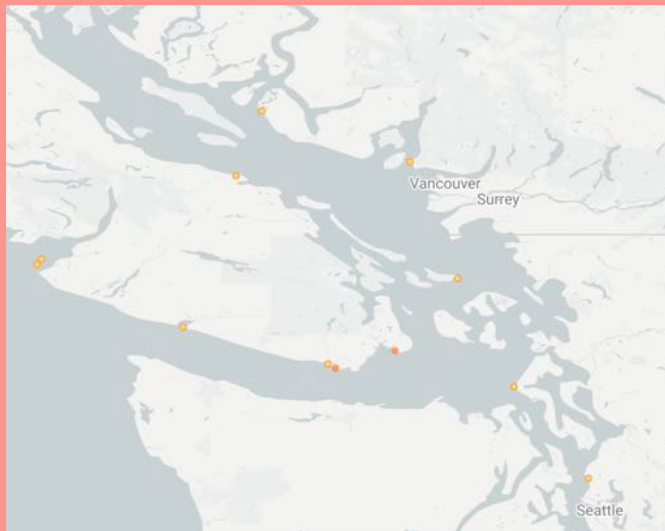


Leather star

Dermasterias imbricata

Family: Asteropseidae

Diet: Diatoms, sponges, bryozoans, sea pens, anemones, sea cucumbers, sea urchins, and chitons, ascidians, and fish eggs.



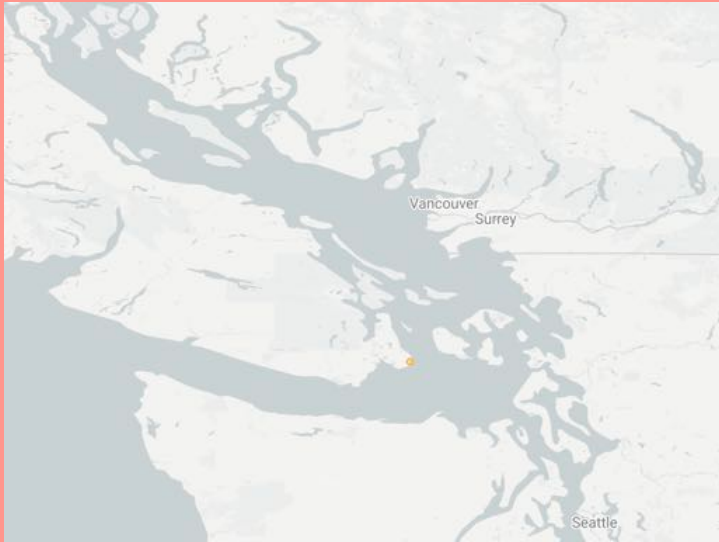
Stimpson's sun star

Solaster stimpsoni

Family: Solasteridae

Diet: Small sea cucumbers and tunicates





Brittle Snake

Star

Amphipholis squamata

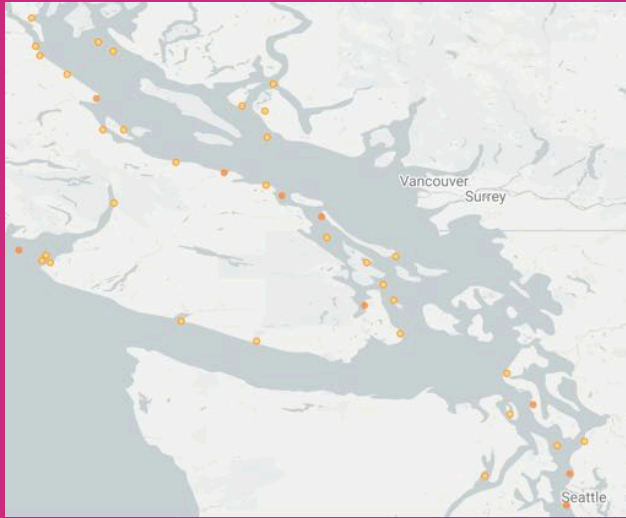
Family:

Amphiuridae

Diet: Detritus.



Mollusks

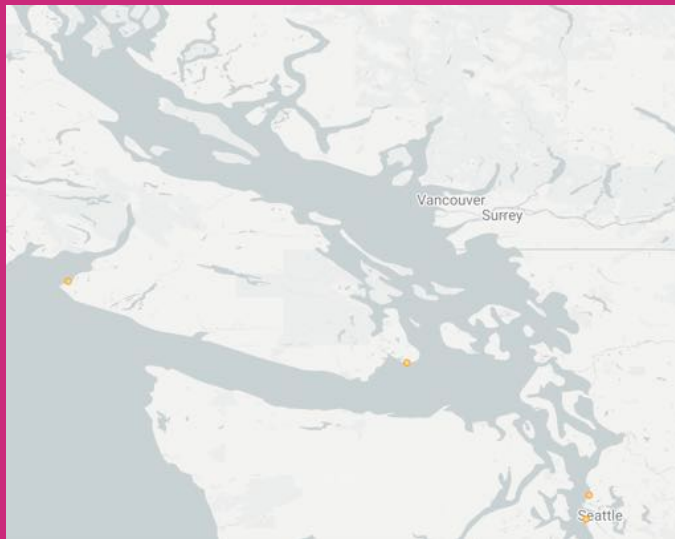


Lewis moon snail

Euspira lewisii

Family: Naticidae

Diet: Clams.



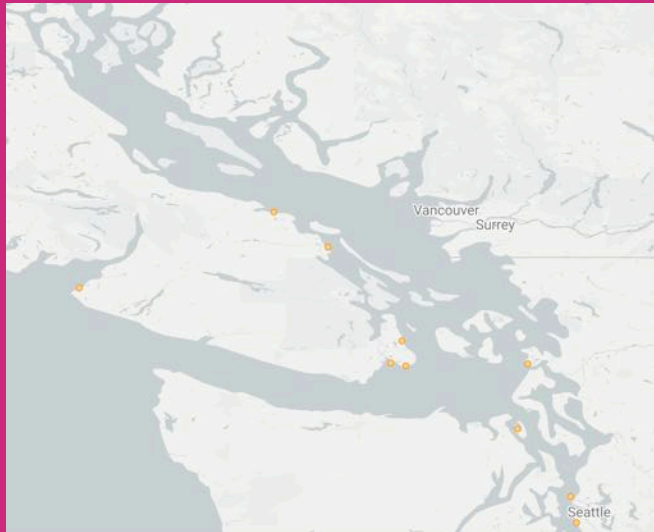
Opalescent sea slug

Hermisenda opalescens

Family: Facelinidae

Diet: Hydroids,
ascidians, sea
anemones,
nudibranchs.



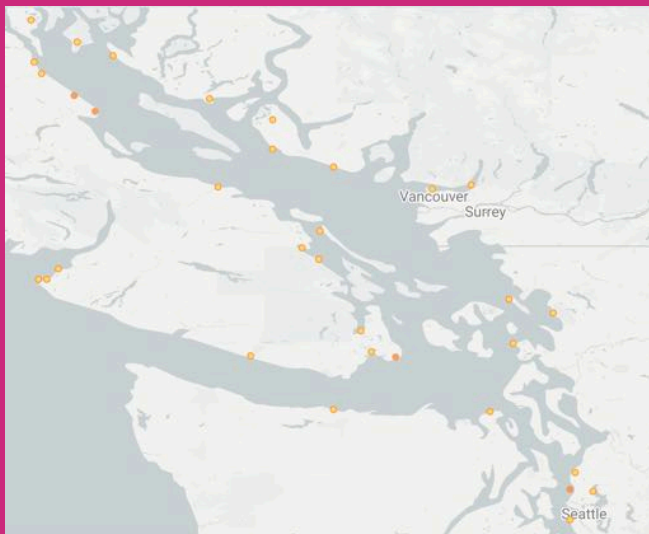


**Common grey
sea slug**

Aeolidia loui

Family: Aeolididae

Diet: Anemones.



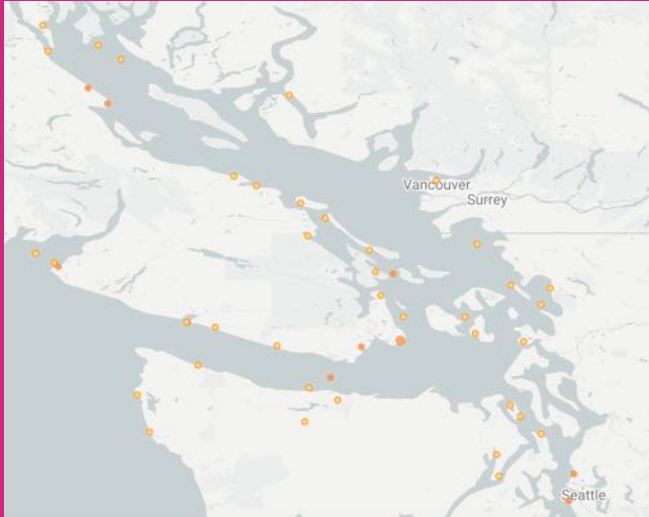
Woody Chitons

Mopalia lignosa

Family: Mopaliidae

Diet: Diatoms and
green algae.



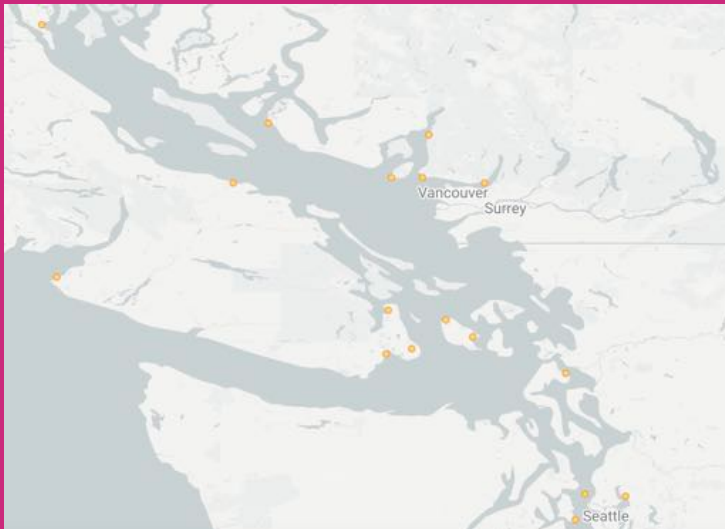


Mossy Chitons

Mopalia muscosa

Family: *Mopaliidae*

Diet: Diatoms and green algae.



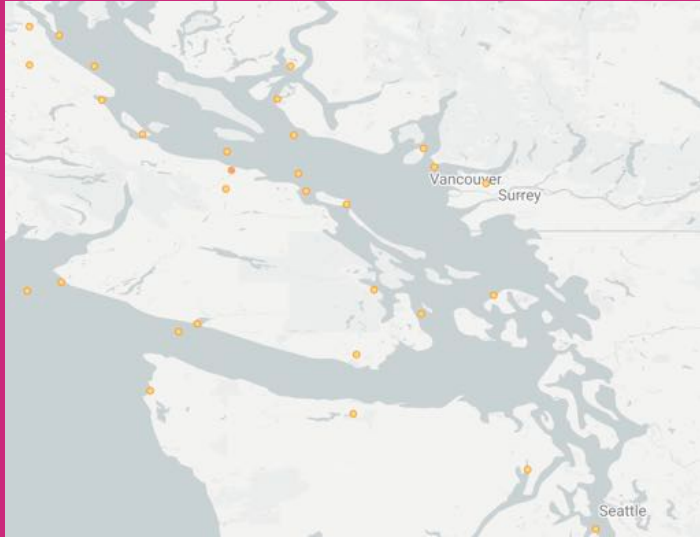
Pacific Blue Mussel

Mytilus trossulus

Family: *Mytilidae*

Diet: Detritus particles and plankton.





Giant Pacific

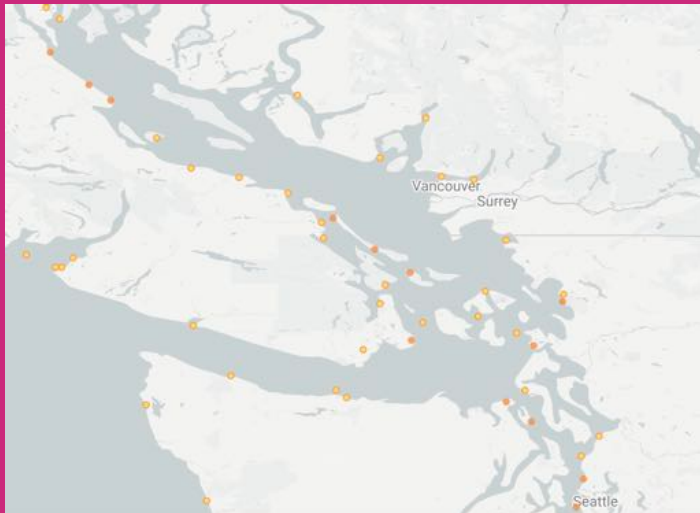
Octopus

Enteroctopus dofleini

Family:

Enteroctopodidae

Diet: Shrimp, crabs, scallops, clams, other mollusks, flatfishes, redfish and smaller octopods.



Orange Sea cucumber

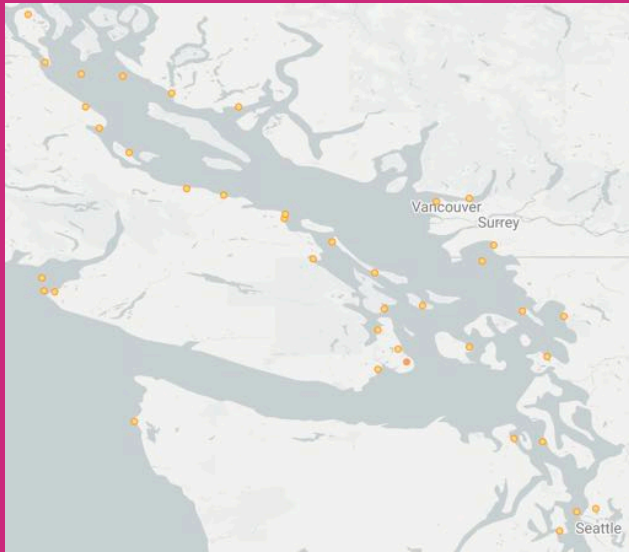
Cucumaria miniata

Family:

Cucumariidae

Diet: Small organisms and detritus.



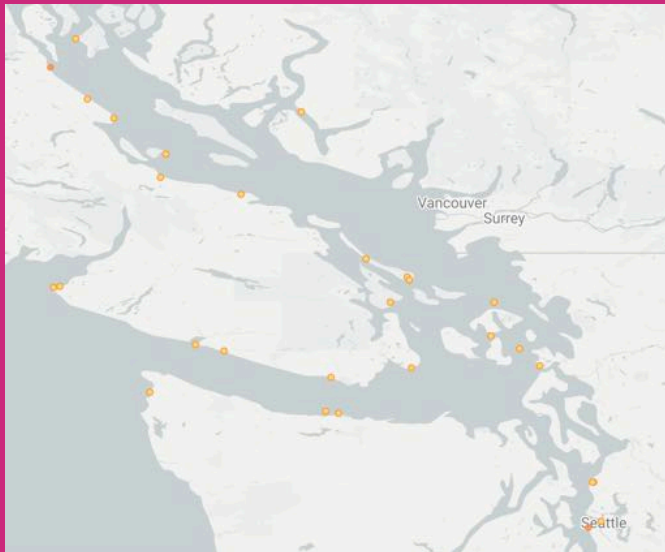


**Pacific
Littleneck Clam**

Leukoma staminea

Family: Veneridae

Diet: Microscopic algae.



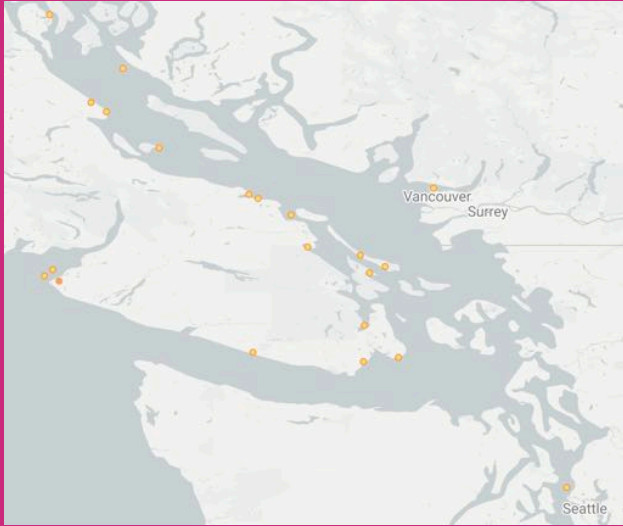
**Rough Keyhole
Limpet**

Diodora aspera

Family: Fissurellidae

Diet: Encrusting bryozoans and microscopic plant material.



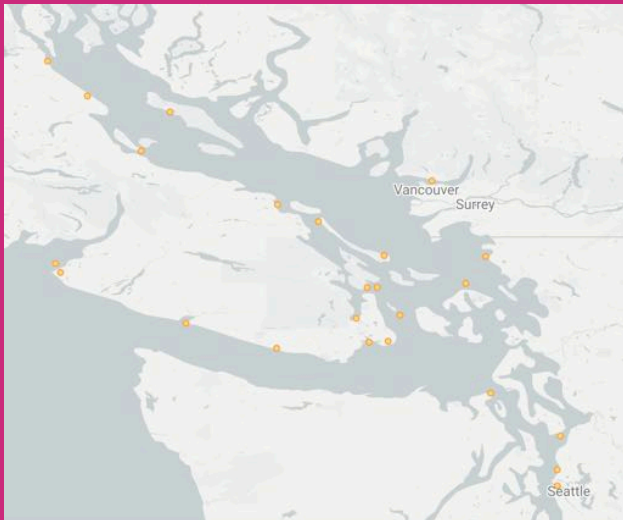


Mask Limpet

Tectura persona

Family: Lottiidae

Diet: Red and brown algae



Pacific Plate

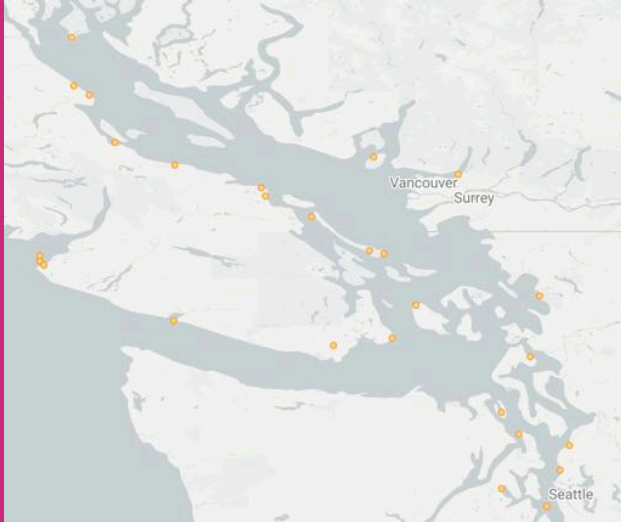
Limpet

Tectura scutum

Family: Lottiidae

Diet: Micro-algae and coralline algae.



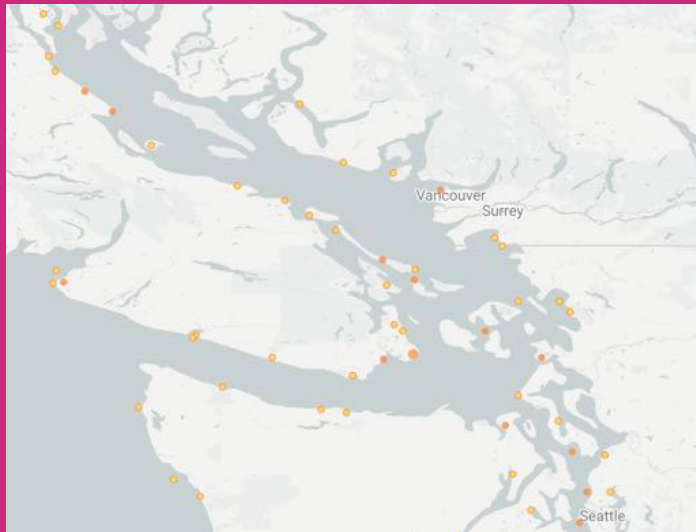


Checkered Periwinkle

Littorina scutulata

Family: Littorinidae

Diet: Diatom films,
microscopic algae,
lichens, and larger
algae.



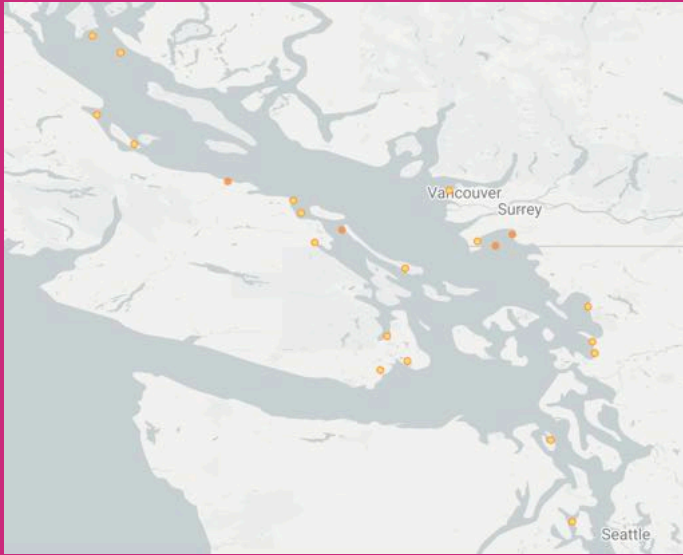
Frilled Dogwinkle

Nucella lamellosa

Family: Nucellidae

Diet: Acorn
barnacles and
mussels.



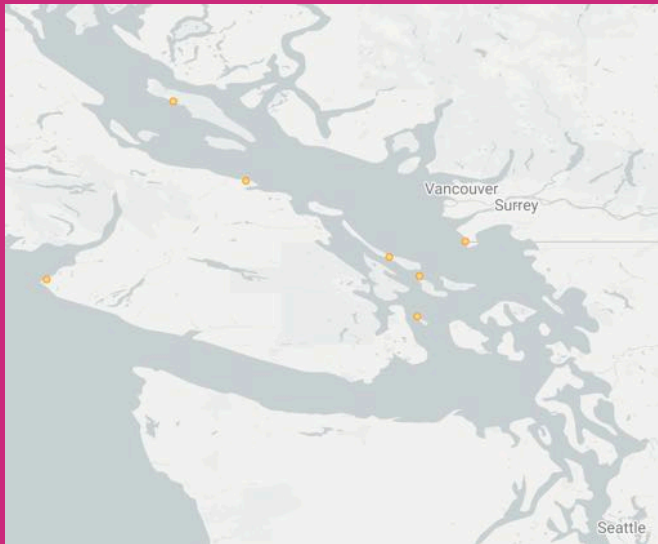


Mud-flat Snail

Batillaria attramentaria

Family: *Batillariidae*

Diet: Bacteria,
diatoms and
decomposing
matter.



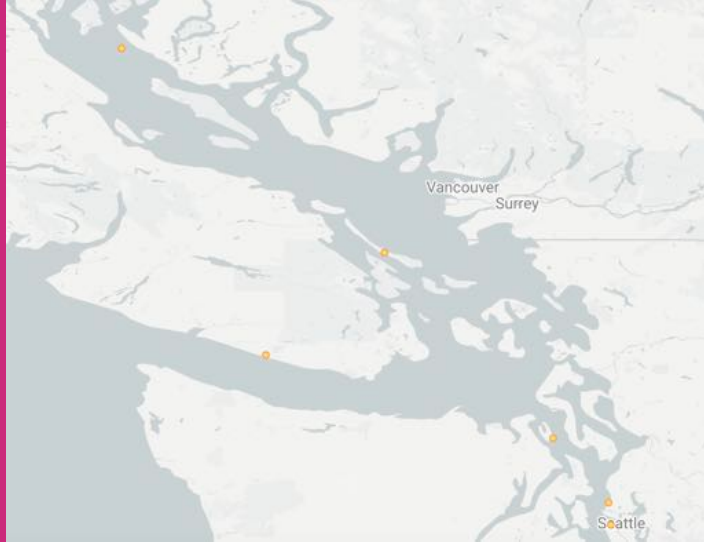
White Bubble Shell

Papawera zelandiae

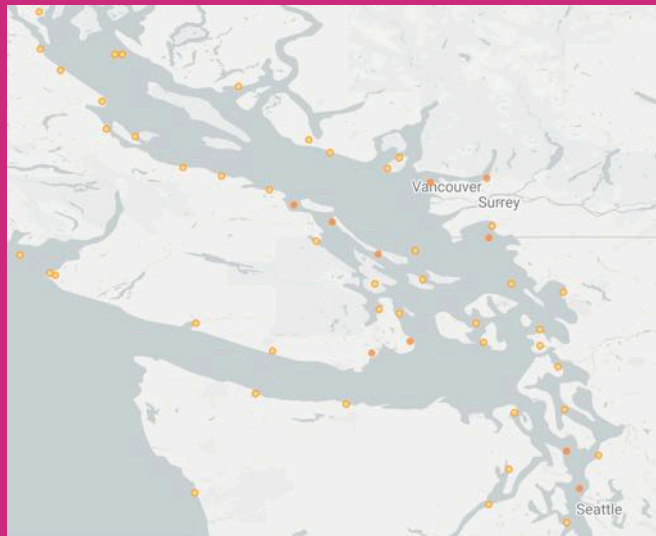
Family: *Haminoeidae*

Diet: Gastropods,
bivalves and
polychaete worms.



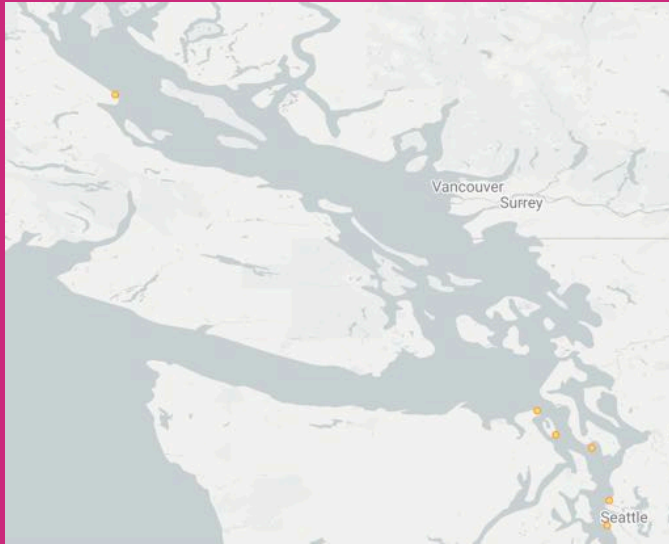


Geoduck
Panopea generosa
Family: *Hiatellidae*
Diet: Plankton.



Basket Cockle
Clinocardium nuttallii
Family: *Cardiidae*
Diet: Phytoplankton.





Rough Piddock

*Glebocarcinus
oregonensis*

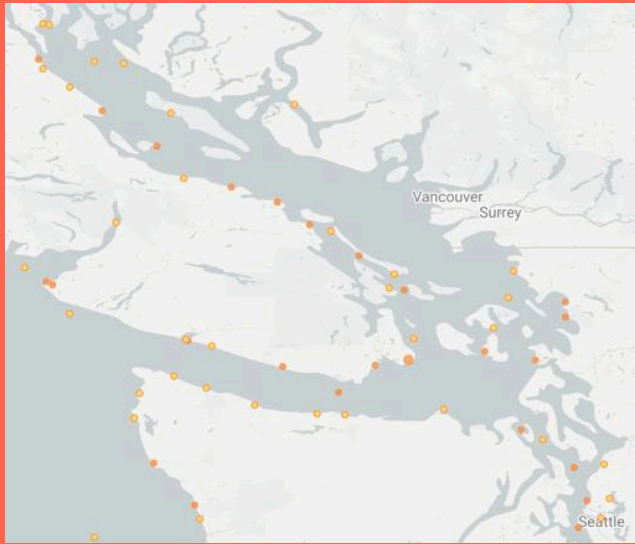
Family: *Cancridae*

Diet:

Phytoplankton.



Cnidarias, Worms, Barnacles, Urchins, and Shrimp

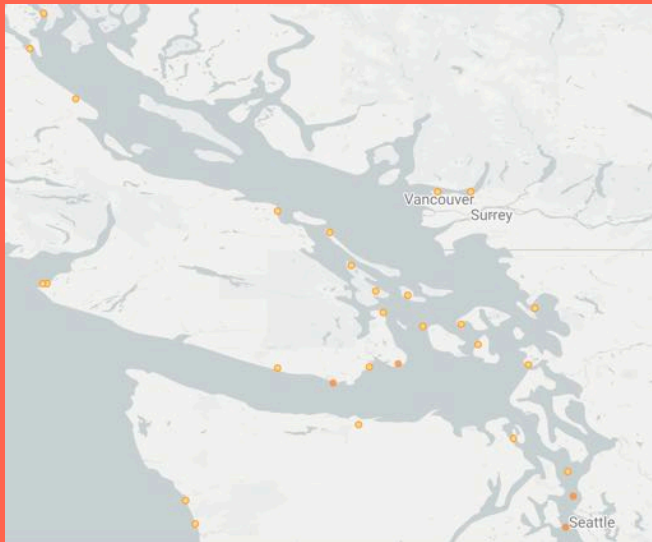


Aggregating Anemone

Anthopleura elegantissima

Family: *Paguridae*

Diet: Mussels, barnacle, small fishes and crabs.



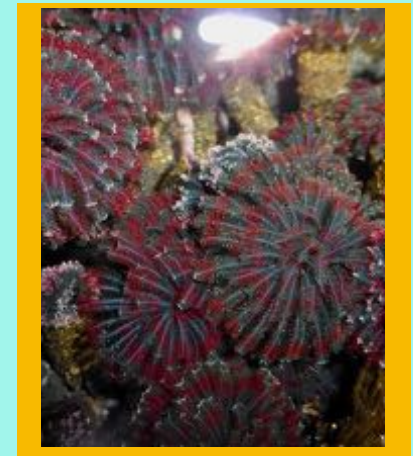
Northern Feather

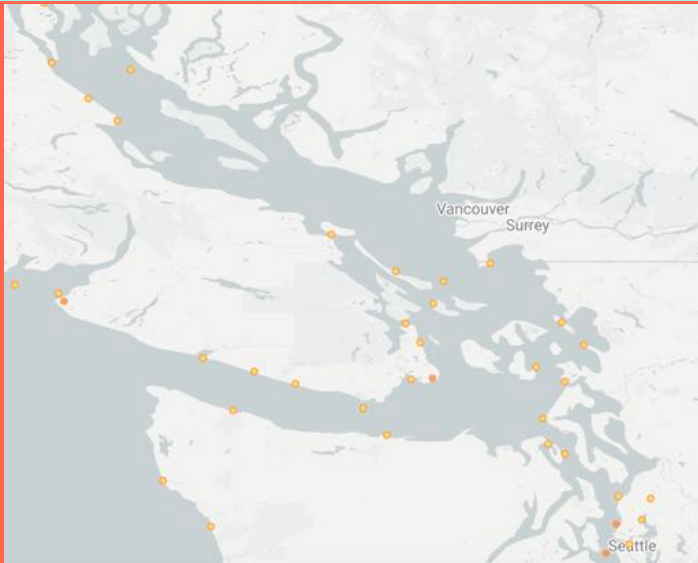
Duster Worm

Eudistylia vancouveri

Family: *Sabellidae*

Diet: Planktonic plants.





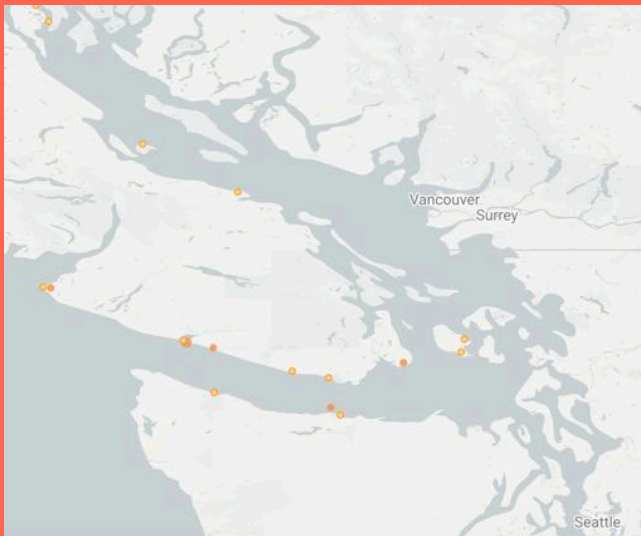
Thatched Barnacle

Semibalanus cariosus

Family:

Archaeobalanidae

Diet: Plankton.



Purple Sea Urchin

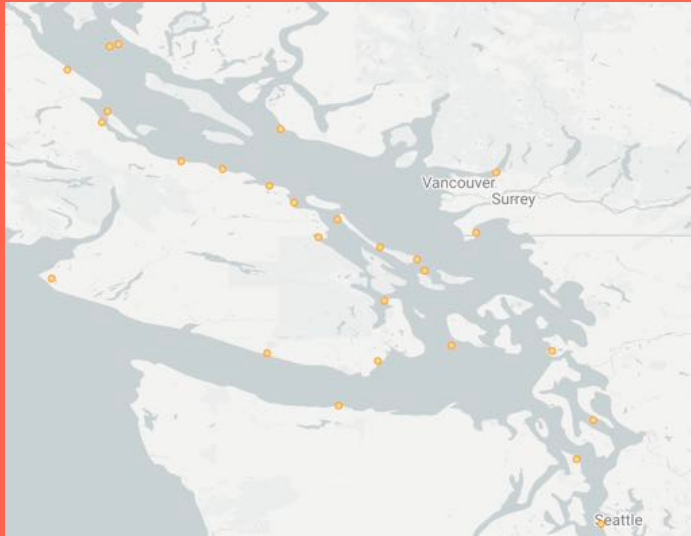
*Strongylocentrotus
purpuratus*

Family:

Strongylocentrotidae

Diet: Brown and red
algae, kelp, and
decaying plant and
animal matter.





Bay Ghost

Shrimp

Neotrypaea
californiensis

Family:

Callinassidae

Diet: Detritus.



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