

## Olympia Oyster Info Sheet

Created by Seaquaria Ocean Education, November 2019

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### What's so special about this species?

The Olympia oyster (*Ostrea lurida*) is the **only native oyster species** in the Pacific Northwest coast of North America.

## Olympia Oyster Snapshot



Name: Olympia Oyster

Scientific Name: *Ostrea lurida*

Range: South Alaska to Panama

Habitat: Found in the very low intertidal and high subtidal zones of estuaries, lagoons, bays and channels. They are often found attached to other shells, rocks, docks or pilings.

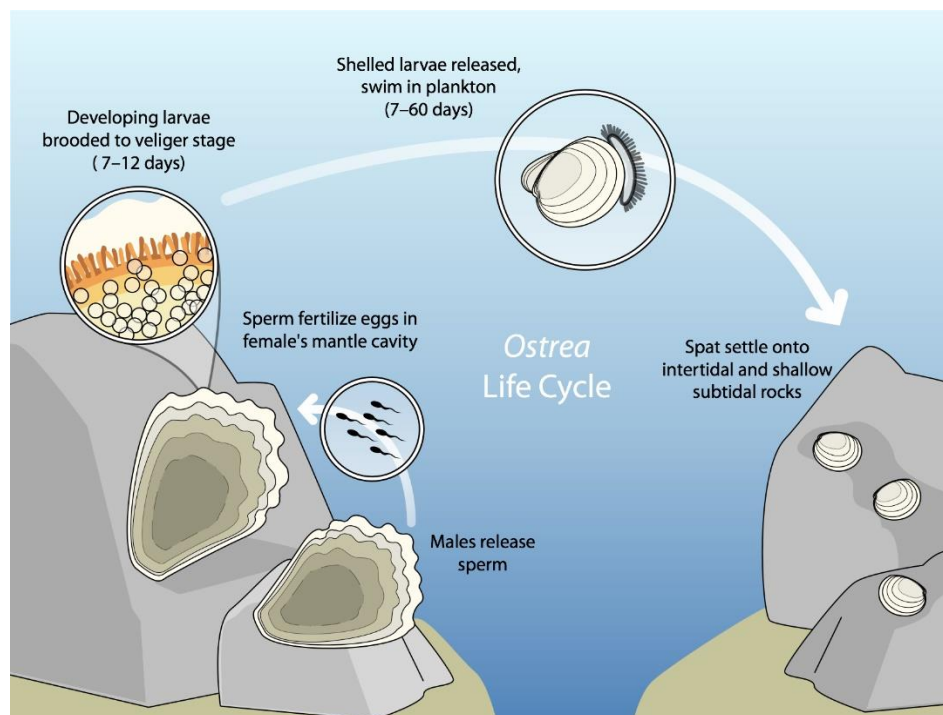
Feeding: Oysters are filter feeders and eat plankton

Predators: Crabs, sea stars, predatory sea snails and birds. Non-indigenous predators include the Japanese oyster drill and the Japanese oyster leech.

Description: This species of oyster is quite small, growing at most to 9 cm in length over the course of their 10-year lifespan. They have two shells, on valves, ranging in colour from white to purplish-black.

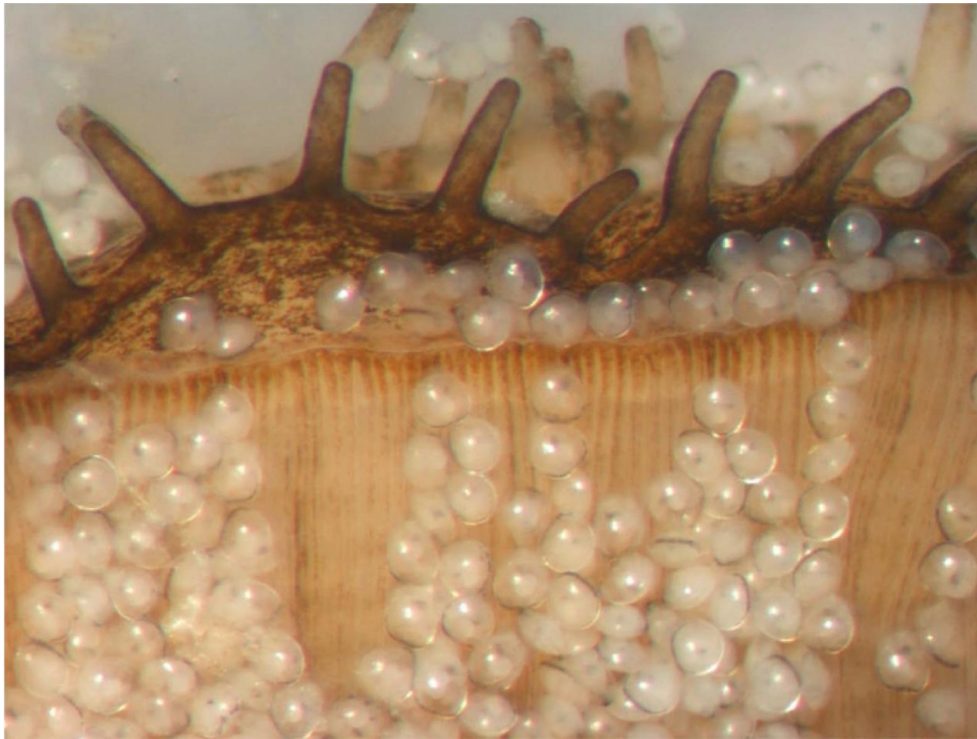
## Olympia Oyster Fun Tidbits

### Life Cycle



<https://olympiaoysternet.ucdavis.edu/life-cycle-olympia-oyster>

Olympia oysters begin their lives as swimming larvae that broods inside their mother's mantle cavity for 7-12 days (unlike the common Pacific oysters). The larvae develop a shell and are released as swimming plankton. They swim for 7-60 days before settling down to become an adult.



Inside a mother's mantle cavity: shelled oyster larvae

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Larvae tend to choose places that are a little darker and mostly hard, like shells, concrete, and rocks. Oysters also find tiny bits of hard stuff in the mud, and many of the mudflats in the Gorge are full of oysters. Newly settled oysters are called spat. The footings on the Craigflower Bridge were textured horizontally to attract native oysters and are now covered by them.

Adults are sessile, meaning they don't move after settling. Olympia oysters alternate sexes annually – the same oyster will be male one year and female the next! Adults spawn during the summer months.

Native oysters produce around 250, 000 larvae a year!

### **Feeding and Breathing**

The oysters get oxygen out of the water using both their gills (that's right, oysters have gills) and their mantle. The mantle is the big sack of skin that holds all their organs in.

Oysters are filter feeders. They suck water into their bodies and eat the tiny phytoplankton (microscopic marine algae aka tiny seaweed).

### **Ecosystem Role**

Oysters are an important part of the food chain as a primary consumer – aka the link between plants and larger organisms. They are prey (food) for animals such as sea stars, crabs, and birds.

They also clean the water by filtering out algae.

Due to their nature to settle on top of hard surface, they also create habitat for animals to hide in!

### **Frequently Asked Questions**

**How do we know that Olympia oysters were eaten in the Gorge thousands of years ago?**

Native oysters are abundant in the middens (collections of shells and bones from kitchen scraps of old native villages) on the Gorge waterway, but not very common in

other middens on the coast. It is unknown if this implies that oysters were a particularity of the indigenous Gorge cuisine, or if the shells simply did not survive as well in other middens.

### **What kinds of oysters have been introduced to the Gorge?**

Pacific oysters, Atlantic oysters and European oysters were all introduced to the Gorge in the early 1900s, but of these, only an occasional giant Pacific oyster is still found. The native Olympia oyster, on the other hand, survived the competition and can be found quite abundantly.

### **How can you tell the difference between a native Olympia oyster and a Pacific oyster?**

The native oyster is generally much smaller than the Pacific oyster. Their maximum size in the Gorge is about 5 cm, though in some parts of the coast they probably grew to about 9 cm. The Pacific oyster, on the other hand, can be 40 cm and larger. While they may look a bit different, it is hard to tell a small Pacific oyster from a native oyster.

### **How do the native Olympia oysters confuse scientists?**

The shape of the native oysters can be so variable depending on where it grows that it has been described as at least three different species. Generally, experts now think there is only one species, but don't know how distinct different populations might be.

### **What did World Fisheries Trust do to help the native oyster population during the Craigflower Bridge construction?**

World Fisheries Trust created two new reefs and relocated the oysters from the bridge to the new reefs during construction. Now, WFT is leading the monitoring of the oysters in the Gorge and elsewhere.

### **What is the Canadian government doing to help protect the native oysters?**

Due to their low overall numbers, the Olympia oyster has been listed as a species of special concern by the federal government in the Species at Risk Act (SARA). No one can harvest them, or cause damage to their habitat without proper compensation.

### **How does plastic pollution in the ocean impact the native oysters?**

Olympia oysters are fed by filtering water around them and will ingest/digest anything small enough to be trapped in their gills. Microplastic pieces take a toll on their digestive systems and their ability to reproduce. A study done in 2015 in Trent University, ON, found that oysters that were fed both algae (which is their regular food) and plastic ate more algae. Evidence from the study suggest they are compensating for the energy used to respond to the ingested plastic. The researchers also found the reproduction rate of the oysters ingesting plastic was very low. For male oysters, their sperm cells were slower, impacting their efficiency in fertilizing female eggs. In females, the oocytes were smaller and fewer. The offspring of the oysters ingesting plastic were smaller and they had fewer offspring.