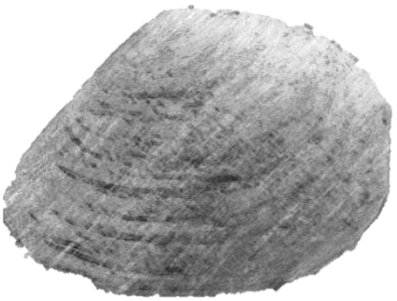
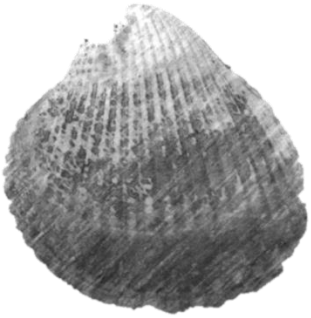
IV. Field Inquiry

Preparation for Field Inquiry

Clam Identification

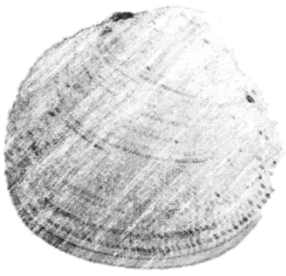


Macoma, (*Protothaca staminea)*
Thin, white to light brown shells with concentric rings. Depending on the species of Macoma, can reach up to 4". Bent-Nose Macomas' shells bend sharply to the right near the tip of the shell. Macomas are found in the intertidal zone to depths of over 100 feet.



Nuttall's Cockle, (*Cinocardiym nuttallii)*
Oval shell that opens up to heart-shaped. Light brown colored with radiating ribs or ridges on the exterior of the shell. Nuttal's Cockle, also know as Basket Cockle or Heart Cockle can grow up to 5 ½ inches and live up to 16 years old. Lives in mud and sand intertidal zones down to over 80 feet deep. Latin name is *Cinocardiym nuttallii*.

Native Littleneck *(Protothaca staminea)*
The Native Littleneck clam has a round to oval shaped inflated shell. Light brown to whitish-gray with strong radiating ridges and concentric rings (lattice like) with rough a rough edges on inside margin of the shell. Can grow up to 3 inches in diameter, the minimum size for harvesting the Native Littleneck is 1 ½ inches. Also known as Pacific Littleneck. Lives in the mid-intertidal zone to depths of 35 feet.



IV. Field Inquiry

Preparation for Field Inquiry

Clam Identification

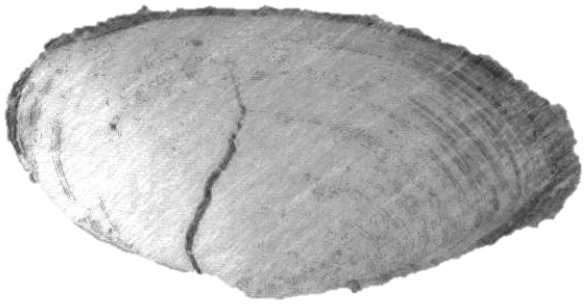
Horse clam (gaper) (*Tresus nuttallii).*
Oblong up to 8 inches. Chalky white shell with brown shellacking along edges. **Why are they called "Gapers"?** Gaper clams have very large siphons. Having such large siphons enable gapers to live deep in the mud or sand of lower intertidal zones, thereby avoiding many clam predators. Gaper shells do not close completely, leaving a gape to accommodate the large siphon.

Manilla Clam (*Venerupis philippinarum*), also known as Japanese Littleneck. Oval shells with gray blotchy or streaking patterns. Has concentric rings and radiating ridges, inside margin of shell is smooth. Shells grow up to 3 inches long. Manilla Clams live in the high to mid intertidal zone.

Butter Clams (*Saxidomus gigantean*) have a smooth creamy white shell with concentric rings. This clam can grow up to 6 inches wide and lives up to 20 years. Butter clams are most commonly found in the low intertidal zone to depths of 130 feet.

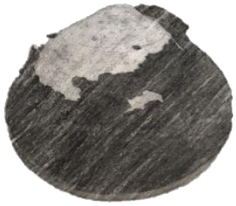
Preparation for Field Inquiry

Clam Identification



The **Eastern Softshell Clam,** ***Mya arenaria***, also known as Mud Clam, grows up to 4 inches wide. The shell is slightly oval with no visible ligament on the outside. This thin shell is often coated with yellowish to brown coating. This clam lives within the mud and sand of the intertidal zone often where freshwater is present.

Varnish Clams (*Nuttallia obscurata*) also known as Dark Mahogany-Clams have a shiny brown covering over their exterior shell. The shells are thin with a purple coloring on the inside. Varnish Clams can grow up to 2 ¼ inches and live in the high to mid intertidal zone often where freshwater is present. Varnish Clams are a non-native species from the waters off of Japan; they were introduced into The Salish Sea as recently as the 1980's.



Preparation for Field Inquiry

Small Clam Identification

Learning how to identify plants and animals using a key is an important skill to be able to quickly and accurately make identifications in the field. Today, we will practice sorting clams with similar characteristics. Below is an example key to help identify some of the clams we will find on the trip.

To get started with the key: Can you see a leathery hinge connecting the shells?

If no…

1. Shells are not mirror images, no flaps are present on the tips of siphons. **It is a softshell clam.**

2. Shells are mirror images of each other, flaps are present on the tips of siphons. **It is a Horse Clam.**

If yes...

1. And the rings or ribs are easily seen on the shells..

Shell has heavy ribs and shell is heart-shaped. **It is a cockle,** *Cinocardiym nuttallii*.

Rings and ribs are equally visible. Shell is elongated, there is a flat pit near the umbo. **It is a Manila Clam.**

Shell is rounded and there is no pit near the umbo. **It is a Littleneck Clam.**

2. And if faint rings or ribs are seen on the shells...

Shells are rounded on both ends, no periostracum. **It is a butter clam.**

Shells are pointed somewhat on one end, band of periostracusm is seen along shell edges. **It is a Macoma**

Shell is rounded and has coating like polished mahogany. Hinge is pronounced bump. It is a **Varnish Clam**

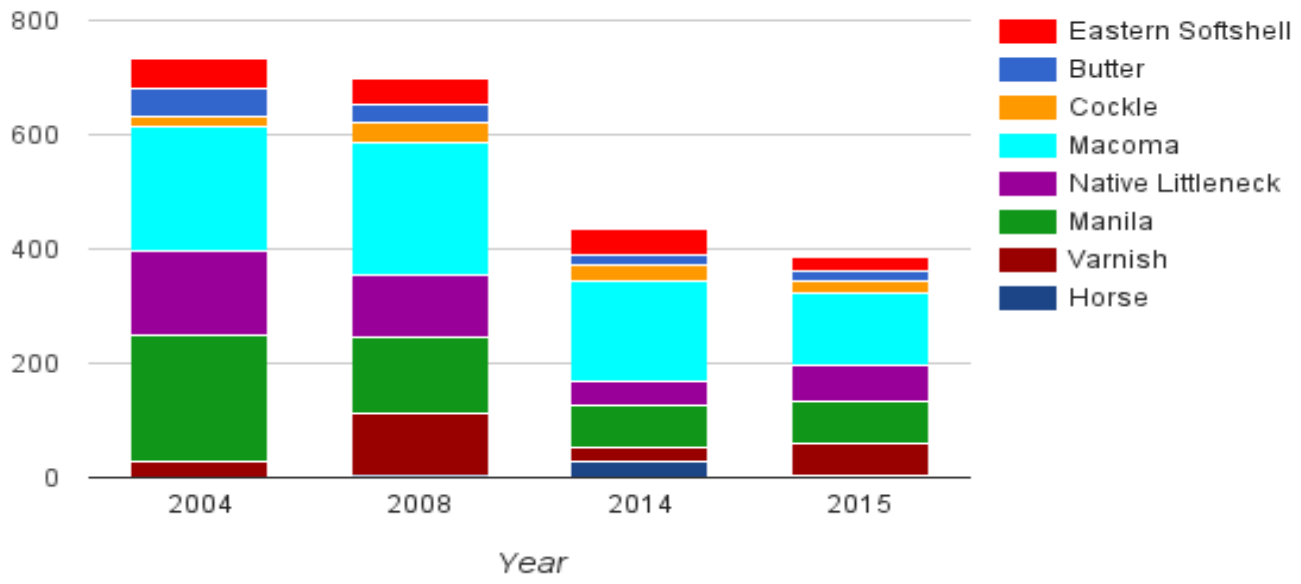
Clam Shell Sort:

Sort out the shells given to your group. Divide them up by common characteristics. In the space below, for each clam, record the name, length, width, weight, and write a brief description with a diagram of the clam. Be sure to point out any identifying features in the diagram.

Name of Clam	Size:	Weight	Description:	Diagram of Shell
	Length:_____ (units) **Width:**_____ (units)	_____ (units)	**Color:** _____ **Shape:** _____ **Markings:**_____	
	Length:_____ (units) **Width:**_____ (units)	_____ (units)	**Color:** _____ **Shape:** _____ **Markings:**_____	
	Length:_____ (units) **Width:**_____ (units)	_____ (units)	**Color:** _____ **Shape:** _____ **Markings:**_____	

Preparation for Field Inquiry

Clam Survey Distribution 2004-2015



Inquiry: Based on the graph above, which type of clam has been the most abundant?