

Common Intertidal Flora and Fauna of the *Fidalgo Bay Aquatic Reserve*

L - Low intertidal; M - Mid intertidal; H - High intertidal; VH - Very high intertidal, splash zone 1 in. = 2.5 cm		
P.1 - Lichens, Eelgrass, Green & Brown Seaweeds	P.3 - Shrimp, Crabs	P.6 - Sea Slugs, Chitons, Anemones
P.2 - Red Seaweeds, Insects, Arachnids, Barnacles, Amphipods, Isopods	P.4 - Bivalves	P.7 - Worms
	P.5 - Gastropods	P.8 - Bryozoans, Sponges, Sea Stars, Tunicates, Fish

Kingdom Fungi: Phylum Ascomycota - LICHENS



***Caloplaca* sp.**
Lichen VH



***Physicia* sp.**
Lichen VH



***Verrucaria* sp.**
Lichen VH



***Xanthoria* sp.**
Lichen VH

While not marine organisms, lichens may occur on the upper portion of very large intertidal boulders.

Kingdom Plantae:

Phylum Tracheophyta



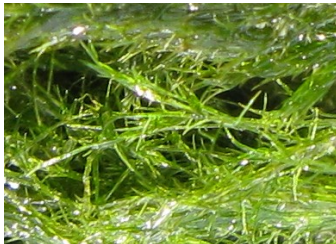
Zostera marina
Native Eelgrass L

Blades up to 12 mm wide

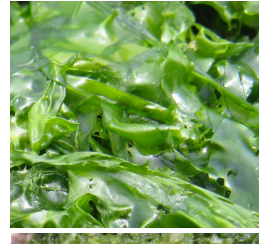
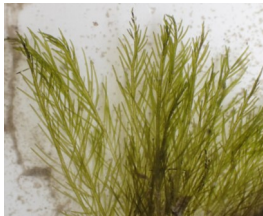
Kingdom Plantae: Phylum Chlorophyta — GREEN SEAWEEDS



***Acrosiphonia* sp.**
Green Rope M-L



***Bryopsis* sp. L**
Feather-like, branched
filament; one branched
cell lacking crosswalls



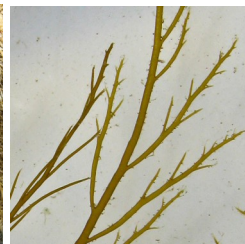
Ulvales

Sea Lettuce H-M *Ulva*, *Ulvaria*, and others; foliose & tubular
For abnormally large bloom events, add a note to the swath sheet

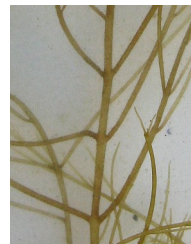
Kingdom Chromista: Phylum Ochrophyta — BROWN SEAWEEDS



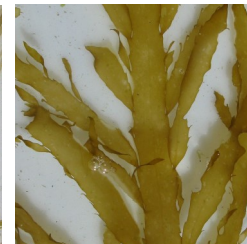
Desmarestia
Acid Kelp L



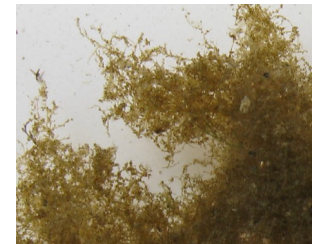
→ ***D. aculeata***
alternate branching



D. viridis
opposite branching



D. herbacea
flattened branches > 1cm



Diatoms
Filamentous Diatoms L



***Fucus* sp.**
Rockweed H-L



Saccharina latissima
Sugar Kelp L No midrib
(*Laminaria saccharina*)



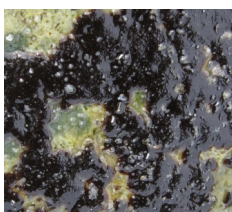
Sargassum muticum
Japanese Wireweed H-L



Scytosiphon lomentaria
Soda Straws M-L
10 mm dia.; *S. promiscuus* - 4 mm dia.



Gracilaria / Gracilariopsis complex M-L
Red Spaghetti



Petrocelis phase



Foliose rough bumps on surface
Mastocarpus sp. - Turkish Washcloth



dried in sun
H-L (*Gigartina*)



Hildebrandia sp.
Rusty Rock H-L

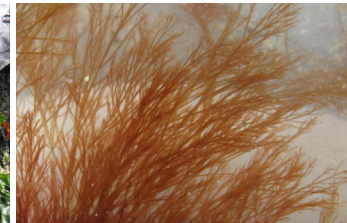


wet

Porphyria/Pyropia complex
Nori (Laver) H-L



dry



Rhodophyta - filamentous
Filamentous Red M-L

Phylum Arthropoda:

Insecta: Dermaptera



Anisolabis maritima
Marine Earwig H
Black; up to 3 cm

Insecta: Diptera

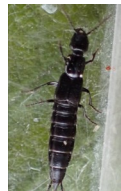


Diptera
Flies & Midges H-M
Small; dark brown-black; on algae, wrack or barnacles

Insecta: Coleoptera



Liparocephalus sp.
Marine Beetle M
Black; up to 4 mm



Ocypus olens VH
Black; up to 3 mm

Class Arachnida Class Chilopoda



Neomolgus littoralis H
Red Velvet Mite
Red; up to 3 mm



Chilopoda
Marine Centipede VH
Yellow to brown; long antennae

Phylum Arthropoda: Subphylum Crustacea - BARNACLES



Chthamalus dalli
Little Brown Barnacle H
Small, tan-brown plates; inner plates form a cross, the shorter crossbar has a slight wave



Balanus glandula
Acorn Barnacle H-M
Most common intertidal barnacle; inner plates form a sinuous W or M



Balanus crenatus
Crenate Barnacle M-L
Outer plates white & smooth; inner plates form a "sharp" W or M; squat with wide base

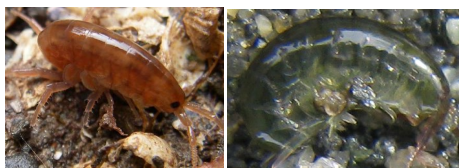


Semibalanus cariosus
Haystack Barnacle M-L
Outer plates may be ridged and inner plates form a recessed beak; the largest of these four species

Phylum Arthropoda: Subphylum Crustacea — AMPHIPODS & ISOPODS



Caprellidae
Skeleton Shrimp M-L
Amphipod; up to 4 cm



Senticaudata Amphipod H-L
Up to 2 cm



Ligia pallasii
Rock Louse VH or higher
Up to 3.5 cm, splash zone



Gnorimosphaeroma oregonense
Pill Bug Isopod M-L
Dark gray to tan; can roll up into a ball; up to 1 cm



Pentidotea resecata
Eelgrass Isopod M-L
Reddish-brown to green; forked tail; up to 4 cm



Pentidotea vosnesenskii
Rockweed Isopod M-L
Highly variable color; rounded tail; to 4 cm



***Heptacarpus* sp.**

Shrimp M-L

Variable colors and sizes



Pagurus hirsutiusculus

Hairy Hermit H-M

Hairs on legs; white stripes on legs disappear as crab ages; likes shells that seem too small



Pagurus granosimanus

Grainyhand Hermit M-L

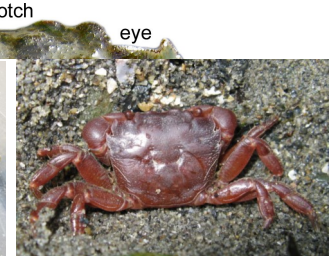
Granular appearance to claws; likes shells that are too big - can withdraw completely



Hemigrapsus nudus

Purple Shore Crab H-M

Usually purple but can be green and juveniles are variably colored; hairless walking legs; carapace to 5 cm



Hemigrapsus oregonensis

Yellow Shore Crab M-L

Usually greenish, but can be purple or white and juveniles may be quite variable; a fringe of hair on the walking legs; slight notch between eyes; carapace averages 2 cm



Cancer gracilis

Graceful Crab L

Carapace is widest at the 9th tooth; white edging along the carapace; carapace to 11 cm



Cancer magister

Dungeness Crab L

Carapace is widest at the 10th (last) tooth; juveniles highly variable in color; carapace to 23 cm



Juveniles



Cancer oregonensis

Pygmy Rock Crab L

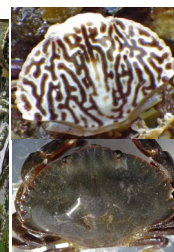
Rounded carapace; usually brownish-red to white; sometimes warty; hairy legs and black tipped claws; carapace to 3 cm



Cancer productus

Red Rock Crab M-L

Bright red; strong black-tipped pincers; juveniles colorful & sometimes patterned; carapace to 20 cm



Juveniles



Telemessus cheiragonus

Helmet Crab L

Usually a yellowish color; covered in stiff, bristly hairs; carapace to 10 cm



← ***Oregonia gracilis***

Graceful Decorator Crab M-L

Slender legs; long rostrum; frequently decorated with seaweed and other invertebrates as camouflage; carapace to 4 cm

Pinnotheridae

Pea Crabs M-L

Small, wide bodied crabs usually found inside live bivalves; occasionally found out in the open when between hosts; carapace to 2.5 cm



Crab larvae

Many possible species



Mytilus trossulus

Pacific Blue Mussel M-L

Usually blue-black but can be brown; found in clusters attached with byssal threads



Magallana gigas

(*Crassostrea gigas*)

Pacific Oyster M-L

Usually attached to rocks or other shells; frilled edge; often with purple markings; typically less than 15 cm in survey area



Ostrea lurida

Olympia Oyster M-L

Rare; gray-white; few to no frills; often confused with young Pacific Oysters; typically less than 8 cm



Pododesmus macrochisma

Green False-Jingle M-L

Gray-white mostly circular shell attached to rocks; up to 13 cm



Clinocardium nuttallii

Nuttall's Cockle M-L

Large cockle; often lying on surface or barely buried in sand; up to 14 cm long; photo on right - siphon



Macoma balthica

Baltic Macoma H-M

White to pink; small round to oval shape; infrequently found in survey area; usually less than 3 cm



Macoma inquinata

Pointed Macoma M-L

White; very common; often stained with brown; pointed end; up to 6 cm; young ones hard to tell apart from *M. balthica*



Macoma nasuta

Bent-nose Macoma M-L

White with a distinctive bent nose shape when viewed from edge; up to 7 cm



Leukoma staminea

(*Protothaca staminea*)

Pacific Littleneck M

Shell is usually fairly equal in height & width; lattice sculpture usually obvious; up to 8 cm



Venerupis philippinarum

Japanese Littleneck or Manila Clam H

Shell is usually wider than high; often stained brown; stained purple inside the shell; flattened seam posterior of umbo; up to 6 cm



Saxidomus gigantea

Washington Butterclam M-L

Gray-white; mostly smooth, thick shell with a prominent hinge; up to 13 cm



Saxidomus

siphon

***Nutricola tantilla* →**
Purple Dwarf-Venus L
Small; off-white with dark stain on posterior; up to 9 mm



Nuttallia obscurata

Purple Mahogany Clam H-M

Shiny brown periostracum; purple interior; lighter color rays on shell; juveniles can be pinkish and may be mistaken for *M. balthica*; up to 7 cm



Hiatella arctica

Arctic Hiatella L

Small, white and elongate; somewhat irregular shapes; found under rocks; usually < 3 cm



Tresus capax

Gaper Clam M-L

Large shell living deep in the sand; generally only the siphon is visible; up to 28 cm



***Tresus* sp. siphon**

leathery looking siphon may be one of two *Tresus* species

***Mya arenaria* →**
Softshell Clam M- L

Oblong shape; taller at one end than the other; thin brittle shell; up to 12 cm





Lottia persona

Mask Limpet VH-H

On boulders; low to high shell height; patterned shell; sometimes finely ribbed; up to 5 cm



Lottia digitalis

Ribbed Limpet H-M

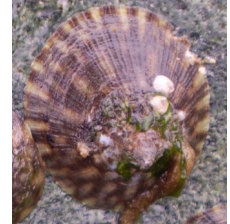
Ribbed shell with apex pointed well forward; up to 3.5 cm



Lottia pelta

Shield Limpet M-L

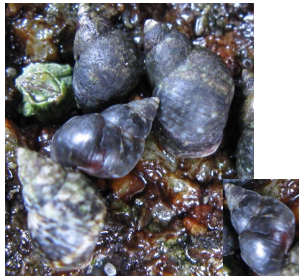
Most abundant and variable of the limpets; may be smooth to ribbed; variably patterned; apex slightly forward of center; found on rocks, shells, and eelgrass; up to 5 cm



Lottia scutum

Plate Limpet L

Found on rocks; patterned shell with apex fairly central; juveniles may be finely ribbed; up to 6 cm



Littorina scutulata

Checkered Periwinkle H-M

Small, black to checkered pattern; tall spire; abundant on rocks; usually less than 1 cm



Littorina sitkana

Sitka Periwinkle H-M

Solid black, white, orange or striped; smooth to ribbed; wide, squat shape; up to 2.5 cm



***Lacuna* sp.**

Lacuna M-L

Very small; solid brown, striped, or chevron pattern; identified by the indent in its columella; yellow eggs often found on seaweeds; usually less than 5 mm in survey area



Batillaria attramentaria

Japanese Mudflat Snail H-M

Gray to brown; may be striped white; found in muddy areas and often abundant; up to 5 cm



"Bittium" sp.

Mud Snail M-L

Gray-brown or striped; 3 possible genera; usually less than 3 cm



Nassarius fraterculus

Japanese Nassa L

Gray-brown; may have yellow stripe; vertical ribbing; up to 1.5 cm



Nassarius mendicus

Western Lean Nassa L

Gray-brown; cross-hatch sculpture; Up to 2 cm



Nucella lamellosa

Frimled Dogwinkle M-L

Highly variable shell; may be white to orange to brown and striped; smooth to frilled; juveniles have well defined spiral ribs; frequently found with its eggs; up to 12 cm



Nucella ostrina

Northern Striped Dogwinkle H-M

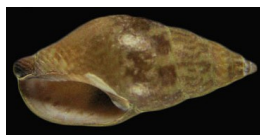
Variable from white to orange to black or striped, and smooth to lightly frilled; may also have defined spiral ribs; up to 3 cm



Lirabuccinum dirum

Dire Whelk M-L

Gray-brown with a dark brown interior; uncommon in survey area; up to 5 cm



Alia carinata

Carinate Dovesnail

Small, brownish and may be patterned; sometimes encrusted with algae; under rocks & in dead shells; up to 1 cm



Pyramidellidae

Odostomid M-L

Tiny white snail; may be found feeding on other invertebrates; up to 1 cm



Alvania compacta

Compact Alvania L

Small, brown with cancellate sculpture; could be found in algae hold-fasts or under rocks in survey area; up to 3 mm



Onchidella borealis

Leather Limpet VH-H

Small brown shell-less snail; up to 1.5 cm



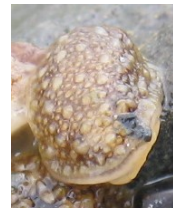
Haminoea vesicula
White Bubble Shell L

Shell hidden by body; found among sea lettuce and eelgrass; often with yellow egg masses; up to 2.5 cm



Aglaja ocelligera
Spotted Aglaja L

Brown with white specks; up to 2 cm



Onchidoris bilamellata
Barnacle – eating Nudibranch

M-L Brownish to yellow; found on rocks near barnacles; up to 2 cm



Doris montereyensis
Monterey Sea Lemon L

Creamy to yellow to gray-yellow with black specks on tubercles; up to 15 cm



Aeolidia louilpapillosa
Shag Rug Nudibranch L

Cream to brown; long cerata; up to 10 cm The species have only subtle differences and overlap in range locally.



Nudibranch eggs L

Samples of the eggs of some common nudibranchs; may be attached to eelgrass or rocks

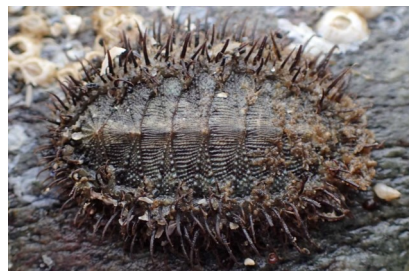


Phylum Mollusca: Class Polyplacophora - CHITONS



Mopalia lignosa
Woody Chiton M-L

Variable colors; distinctive ray pattern on plates; moderate hairiness; up to 8 cm



Mopalia muscosa
Mossy Chiton M-L

Very common; blue-green to brown plates with strong sculpture; long, stiff, bristly hairs; up to 10 cm



Mopalia kennerleyi
Northern Hairy Chiton L

Very uncommon in survey area; highly variable color; long, soft, branched hairs; up to 7.5 cm



Cyanoplax dentiens
Gould's Baby Chiton M-L
Small, smooth chiton; hairless mantle; variable patterns of gray to green to brown; up to 2.5 cm

We have a wide variety of chiton species in the Northwest. There are many other species which would be uncommon to find intertidally in Fidalgo Bay, but not impossible.

Phylum Cnidaria: Class Anthozoa - ANEMONES



Anthopleura artemisia
Moonglow Anemone L

May be white to green to brown with white bands on the tentacles; often buried in the sand; up to 15 cm wide



Metridium senile
Short Plumose Anemone L

May be white to orange to brown; smooth body; attached to boulders; may be solitary or in groups; up to 12 cm wide



Diadumene lineata
Orange-striped Green Anemone M-L

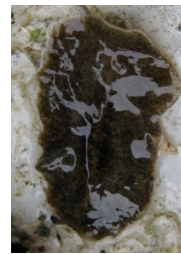
Green with orange stripes; introduced; up to 3 cm wide

Phylum Platyhelminthes: FLATWORMS

FBAR Page 7



Kaburakia excelsa
Giant Flatworm L
Reddish-brown;
rounded to oval with
irregular outline;
white digestive tract
visible on underside;
up to 10 cm



Platyhelminthes
Flatworm M-L

A number of other flatworm species exist in our area which are very difficult to identify; range in colors and size

Phylum Nemertea: RIBBON WORMS



Amphiporus bimaculatus
Two-spotted

Ribbon worm L
Red-orange; 2 dark
triangular spots on
head; up to 12 cm



Carinoma mutabilis M-L
Whitish with milky head;
flattened posteriorly

***Cerebratulus* sp. L**
Whitish head; body
variable color; flattened
body (to swim); one sp.
has white margin



Emplectonema gracile M-L
Dorsal is dark shade of green;
ventral is yellow-green



Paranemertes peregrina M-L
Dorsal is brown to purple-brown;
ventral is creamy yellow



Tubulanus polymorphus M-L
Orange; smooth; up to 1 m

Phylum Annelida: OLIGOCHAETA



Oligochaete VH
Pale tan to translucent;
segmented; found in high
driftline

Phylum Annelida: POLYCHAETES



Capitellidae
Gallery Worm M-L
Often red; threadlike when
stretched out; tolerates
polluted waters



↑ proboscis
Glyceridae
Bloodworm M-L
Distinctive habit of
everting its club-
shaped proboscis; up
to 35 cm



Hesionidae - *Oxydromus pugettensis*
Bat Star Worms M-L
Brownish; long setae along sides; white hind
segment; common in Fidalgo Bay; up to 4 cm



Lumbrinereidae L
Setae may be dark
(photo is a preserved specimen)



Nereidae L
Pile or Sand Worm
Glossy; green to brown to red; sturdy short
setae; strong jaws - shown right
Large pile worms:
Alitta brandti - green; up to 1.5 m
Nereis vexillosa - green to red; up to 30 cm



Polynoidae - Scaleworms M-L
Variable colors; overlapping scales down
each half of body; up to 10 cm



Syllidae
Small, relatively short &
slender, <10 mm; numerous
appendages from head to
tail; long setae



←↑ **Terebellidae M-L**
Spaghetti Tube Worm
Pink-brown-green; usually in
tubes made of sand & debris
under rocks; tentacles are
numerous and long; common;
up to 28 cm



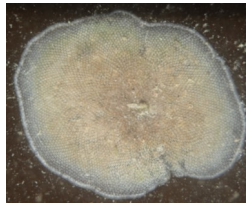
← **Tubiculous Polychaete M-L**
Includes all
genera of tube
worms which
form parchment
type or other
firm tubes

Phylum Bryozoa: BRYOZOANS



**Bryozoan
"branching"**

Many genera;
need microscopic
study to identify



**Bryozoan
"encrusting"**

Many genera;
need microscopic
study to identify



Phylum Porifera: SPONGES FBAR Page 8



Porifera - Sponge L

Many genera; most need microscopic
study to identify

Phylum Echinodermata:

Class Asteroidea - SEA STARS



Leptasterias hexactis

Six-arm Star M-L

Variable coloring; 6 arms;
usually under 6 cm



Pisaster ochraceus

Purple Star or Ochre Star L

Purple; sometimes orange to
brown; thick arms; up to 35 cm

Class Ophiuroidea - BRITTLE STARS



Ophiuroidea

Brittle Stars L

White to gray; several species
may be present; up to 12 cm

Phylum Chordata: Subphylum Tunicata - TUNICATES & ASCIDIANS



Ascidiacea

Tunicate - "solitary" L

Hard to identify; two siphons that
are hard to see out of water or
when retracted



Ascidiacea

Tunicate - "colonial" L

Variable coloring; species
can't be identified in the
field; a colony is a jelly-like
mass

Phylum Chordata: Subphylum Vertebrata - PISCES



Cottidae - Sculpin L

Under rocks in shallow pools of water;
wide heads and usually large pectoral
fins; variable colors



Pholidae - Gunnels & Blennies L

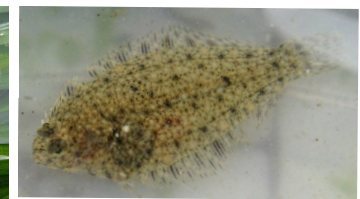
Often found in the barest bit of water and under small boulders;
variable coloring; narrow bodies; average ~15 cm



***Hypomesus pretiosus* eggs**

Surf Smelt Eggs H

In the high wet sand/gravel/small cobble; looks a bit
like salt grains on the rocks; eggs are 1 mm



Pleuronectidae

Flatfish - Sole & Flounder L

Flatfish sometimes seen in tide pools; color often
blends with substrate