FISH

Tidepool Sculpin **N**
Oligocottus maculosus
The Tidepool Sculpin, a common, well-camouflaged, small fish growing to 9cm long, can tolerate both high temperatures and low salinities. Detect it by its sudden movement.

Starry Flounder **N**
Platichthys stellatus
This fish's flat, oval body is studded with rough, star-shaped plates. Its fins have dark and light bands. It grows to 1kg in Boundary Bay but larger elsewhere.

Pacific Sand Lance **N**
Ammodytes personatus
A pencil-thin fish growing up to 28cm, the Pacific Sand Lance buries itself in the sand for protection when not feeding. Adults swim free of the sandy bottoms to breed and may form large, densely packed schools.

SHRIMP

Bay Ghost Shrimp **N**
Neotrypaea californiensis
This shrimp has a smooth, slender body, up to 12cm long, of an orange-pink colour. It lives in sandy intertidal zones, burrowing tunnels as deep as 75cm. Of the first pair of claws, one is bigger than the other.

Blacktail Shrimp **N**
Crangon nigricauda
This very common inhabitant of kelp beds lives at shallow depths. It is typically 2-4cm long, and its tail is often, though not always, black. It is one of many shrimp found in the Salish Sea.

JELLYFISH

Water Jelly **N**
Aequorea victoria
The thick gelatinous bell of this jellyfish has numerous white radial canals, like the spokes of a bicycle wheel. It appears fluorescent when disturbed. (Photo shows jelly and its shadow to the right).

Fried Egg Jelly **N**
Phacellophora camtschatica
The translucent 60cm bell of this species, with a bright-yellow gonad mass in the centre, resembles a fried egg. Tentacles are 6m long, with cells that cause a mild sting.

Pacific Moon Jelly **N**
Aurelia aurita
This whitish-grey or blue jelly is up to 40cm wide, and its tentacles are short. It floats near the surface, moving with the current. Dead ones are often washed ashore.

Lion's Mane Jelly **N**
Cyanea capillata
Do not touch this very large red jellyfish, as it stings even when dead. The Lion's Mane Jelly is 50-200cm wide, with long, trailing tentacles. It is often seen in mid- to late summer.

OTHER

Eccentric Sand Dollar (Live) **N**
Dendraster excentricus
Sand dollars burrow in the sand of the low intertidal zone. When alive, the flat body (test) is covered with fine, short spines and tube feet. It has a dark, velvety sheen.

Eccentric Sand Dollar (Dead) **N**
Dendraster excentricus
The dead test, made of calcium carbonate, has a star-shaped pattern in the centre, resembling a flower. At low tide, these flat discs lie on the sand's surface.

Moonglow Anemone **N**
Anthopleura artemisia
Found in tidal pools and shelly sand in the mid-tidal zone, the Moonglow Anemone attaches by its base to a rock or shell, withdrawing into the sediment at low tide. Colour can vary.

LOOK and LEAVE Please enjoy the seashore and tidal flats. It's important that you leave your discoveries for others to enjoy.

Pacific Lugworm **N**
Abarenicola pacifica
Lugworms live out of sight in J-shaped burrows in sandy mudflats. Buried head-first, the worm excretes its waste from the tail-end into distinctive coiled castings visible on the surface at low tide. Worms can grow to 15cm.

Pacific Lugworm (egg sac and fecal) **N**
Abarenicola pacifica
These are coiled fecal castings of the lugworm, shown beside its egg sac. This balloon-shaped, jelly-like sac, containing hundreds of eggs, is often mistaken for a jellyfish. Do not remove sacs, as the eggs will die.

Red-banded Bamboo Worm Tubes **N**
Axiothella rubrocincta
These tubes, made of sand grains tightly stuck together with mucus, identify the presence of a worm. It lives in the low intertidal zone in a U-shaped tube that extends above the surface. The burrows can be 30cm deep.

Ochre Sea Star **N**
Pisaster ochraceus
Though purple is the most common colour for this once-common sea star (many died from a wasting disease in 2013), it can also be yellow, orange, or brown. It grows up to 36cm, usually on rocks or mussel beds.

Acorn Barnacle **N**
Balanus glandula
This white to greyish barnacle is a common and abundant species found in the upper-to mid-tidal zones of the Pacific Northwest. In uncrowded conditions it grows to only 2cm, but if crowded, it can form taller columns.

Use the iNaturalist app or inaturalist.org to identify species you find and record their locations.

Photos and text by members of the DELTA NATURALISTS SOCIETY
dncb.wordpress.com

Delta

Pacific Parklands FOUNDATION
Supporting Metro Vancouver Regional Parks

Intertidal Life in Delta

Intertidal areas are beaches uncovered as the tide drops. Summer is the best time to explore, especially at low tide, when waters are calm. In winter, high tides, storms, and strong onshore winds can push water onto the beach, bringing logs, piles of dead eelgrass, and other debris. Centennial Beach in Boundary Bay Regional Park has a very accessible intertidal area.

On Roberts Bank, tidal areas are affected by two long causeways that break the freshwater flow from the Fraser River. Intertidal areas along the south shore of the Tsawwassen ferry-terminal causeway have some limited access.

N = Native **I** = Introduced

SEAWEEDS

Native Eelgrass **N**
Zostera marina
This green, grass-like herb grows up to 1m tall in huge swathes on mud flats. It grows from rhizomes, underground stems buried in the mud. Eelgrass meadows are highly productive and form vital habitat for many marine creatures.

Dwarf Eelgrass **I**
Zostera japonica
Introduced from Asia in a shipment of oysters at the beginning of the 20th century, this invasive species has shorter, slimmer leaves than Native Eelgrass and grows higher in the intertidal zone.

Dead Eelgrass **N** **I**
Both of above
In the fall, Dwarf Eelgrass, an annual species, dies and disconnects from its roots. Together with some Native Eelgrass, it washes ashore in large brown piles at the high-tide level in Boundary Bay.

Bull Kelp **N**
Nereocystis luetkeana
A very large brown seaweed or kelp that attaches to rocks in high-current areas away from the intertidal areas, Bull Kelp has a circular bulb with a hollow stalk (stipe) up to 36m long that has blades up to 4m long.

Broadleaf Sea Lettuce **N**
Ulva sp.
This species is a flat green algae that grows on rocks or pebbles. It is often torn or ruffled at the edges, and varies in colour from light to dark green. It can grow to 18cm, though it is usually smaller.

Rockweed **N**
Fucus distichus

Rockweed is a small, brown, tufted seaweed that attaches to rocks or small stones. It can commonly be seen in small rock pools or washed ashore. The buoyant yellow tips pop like bubble wrap when squeezed!

Staghorn **N**
Ceramium sp.

Staghorn seaweed grows up to 18cm long. It is found clinging to rocks or in tide pools in low- and mid-tidal areas, and is often washed ashore. Its purple colour fades when exposed to the sun.

CRABS

Dungeness Crab **N**
Metacarcinus magister

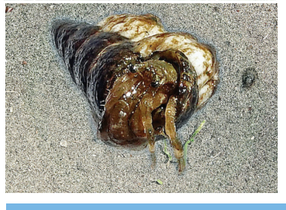
This large crab (male 25cm, female 18cm), named after a port in Washington, can be found at very low tides, when its eelgrass habitat is exposed. As the crab grows, it sheds its outer exoskeleton (shell) and then hardens the new one.

Red Rock Crab **N**
Cancer productus

The Red Rock Crab is similar to the Dungeness Crab but slightly smaller (male 20cm, female 15cm), with a deeper red colour. Adults have black tips to their pincers; juveniles have diverse patterns and colours.

Yellow Shore Crab **N**
Hemigrapsus oregonensis

A small crab, at only 5cm wide, this species lives close to the shoreline and can be found under rocks in muddy bays. Colour can vary greatly, especially among juveniles: yellow, brown, grey-green, or red-brown.



Hermit Crab **N**
Pagurus sp.

Hermit crabs live in discarded shells. Very few large shells are available in Delta, so hermit crabs here tend to be small, as they mainly inhabit Mudflat Snail shells. They are found in both intertidal areas and deep water. There are over 20 species of hermit crabs in BC.

TIDES Before exploring, be sure to check a tide table to see the time and height of high and low tides, which vary with the season. Approximate maximum and minimum tides are 4.6m and 0.4m.

Pea Crab **N**
Pinnixa sp.

This small crab lives as a parasite in gapers, oysters, clams, and mussels. It feeds off the nutrients that these bivalves filter from the water, while also gaining protection from its host. These crabs were in a Fat Gaper (Horse Clam).

European Green Crab **I**
Carcinus maenas

This crab is an aggressive, highly invasive species about 10cm wide and varying in colour from yellow or greenish-brown to orange or red. Yellow spots form two "H"s on either side of the upper shell. Report any sightings to the DFO.

Northern Kelp Crab **N**
Pugettia producta

This crab, part of the spider-crab family, grows to about 9cm wide and has a shell shaped much like a police officer's badge. It can be dark brown, olive, or olive-brown. It lives mostly on kelp.

MOLLUSCS

Pacific Blue Mussel **N**
Mytilus trossulus complex

Blue Mussels attach to rocks by tough fibrous threads, and are brown or dark blue. In Delta, mussels are found near the ferry causeway or washed up in Boundary Bay. When crowded, mussels can reposition and re-attach themselves.

Pacific Oyster **I**
Magallana gigas

This large oyster (up to 40cm) is an invasive species, deliberately introduced from Japan for aquaculture. It attaches to rocks in shallow intertidal and tidal areas, and tolerates higher temperatures.

Mudflat Snail **I**
Batillaria attramentaria

Since being accidentally introduced in oyster seed from Japan in 1930, Mudflat Snails have invaded intertidal areas from California to Boundary Bay. They grow up to 5cm long and are very prolific, reaching densities of 7,000 per m^2.

INTERTIDAL LIFE Not all intertidal species are seen in all zones. Intertidal areas in Delta are important habitat for migratory birds, so please keep your dog under control.

Pacific Littleneck Clam **N**
Leukoma staminea

A traditional food of First Nations, this clam has a chalky, round-to-oval shell, rarely exceeding 8cm wide, with a latticed sculpture of fine ribs and ridges. The shell is white to brown, with dark patches. It lives 10cm deep.

Pacific Littleneck Clam (inside) **N**
Leukoma staminea

The inside of this clam is shown to help with identification, as it is often confused with the Manila Clam (see below)

Manila Clam **I**
Ruditapes philippinarum

An accidentally introduced Asian species, the Manila Clam, also known as Japanese Littleneck Clam, grows to 8cm and has thick, elongated, oval shells with a latticed sculpture of ribs and ridges. It varies in colour from cream to grey to brown with streaked patterns.

Manila Clam (inside) **I**
Ruditapes philippinarum

The interior of the Manila Clam shell is distinctive, with blue-purple markings on the edge.

Nuttall's Cockle **N**
Clinocardium nuttallii

Cockles live just below the surface of the sand, often in eelgrass beds. Their strongly ribbed shells, reaching 14cm long, have scalloped, interlocking outer edges. Look for them at very low tides. They are a traditional food of First Nations.

Purple Mahogany Clam **I**
Nuttallia obscurata

This 7cm-long, oval clam is named for its shiny brown protective coating (similar to varnish) and purple interior. Introduced in 1991 from Japan in ballast water, it is now one of the most widespread clams in Delta. It is found up to 20cm deep.

SHELLFISH HARVESTING Usually closed in Delta due to risks from marine biotoxins and human waste contamination. Harvesting bivalve shellfish and crabs in BC requires a BC Tidal Waters Sport Fishing Licence. Check for area closures on the Department of Fisheries and Oceans Canada (DFO) website. www.dfo-mpo.gc.ca

Butter Clam **N**
Saxidomus gigantea

A thick, solid species, growing to 15cm long, this native was the largest of BC's commercial fishery and a staple food of First Nations. The shell is chalky- to greyish-white on the outside, with an interior that is smooth and white but not glossy.

Shield Limpet **N**
Lottia peltas

Shield Limpets grow to 5.5cm wide and live on rocks and kelp. In Delta they can be found on the Tsawwassen ferry causeway beach. Recent studies show that they take on different forms in different habitats.

Fat Gaper **N**
Tresus capax

This very large clam has a chalky white shell with a brown coating, sometimes stained black from sulphides in the mud. It grows up to 23cm long and can weigh 1.4-1.8kg. This clam is also known as Horse Clam.

Wrinkled Amphissa **N**
Amphissa columbiana

Featuring a conical shell with distinct parallel and spiral threads, the Wrinkled Amphissa grows to 1.8cm long and can be pink, orange, yellow, or brown. It is a scavenger and can be found on carcasses such as this Dungeness crab (photo).

Soft-shelled Clam **N**
Mya arenaria

This very large, elongated clam (up to 17cm) lives 7-20cm deep and has chalky white-grey shells that are easily broken. It extends siphons to the surface to filter seawater and feed. The holes made by these siphons can be easily seen as water is often expelled.

Baltic Macoma **I**
Macoma balthica

This small (up to 4.5cm) oval clam may be an introduced species brought in with oyster seeds. A favourite of beachcombers, it has a pink, blue, yellow, or orange shell and lives 20cm deep in sand-mud bays and estuaries.

Bent-nosed Clam **N**
Macoma nasuta

Named for the upturned or bent end to its shell, this small native clam grows to 5cm and lives in the top 15cm of mud, moving sideways to feed. Its outer shell is white with a thin brown varnish.