



## Boundary Bay Regional Park

### "SEASHORE SLEUTHS"

Grades KN - 7

Friday, June 1, 2018



We have arranged a field trip for students in Grades KN - 7 on Friday, June 1, 2018 from 11:00 am to 1:00 pm at Boundary Bay. We will meet outside the washroom building at Centennial Beach.

Field Trip Description: *Bubble snails, sea stars and bristleworms – these are some of the fascinating creatures whose adaptations let them survive the ebb and flow of the tide. Get your hands and feet wet as you explore slippery seaweeds, peek inside seashells or hold a tiny shore crab. Sample activities may include: **tide pool exploration** (wade in to take a closer look at fish, crabs, isopods and snails that get stuck when the tide goes out); **mudflat dig** (unearth marine worms and clams that live beneath the mud to find out how they survive and what they contribute to the ecosystem); **barnacle buffet** (see these mysterious creatures under magnification as they feed, and learn about their wacky lifecycle).*

**This trip is "rain or shine", please dress for the weather!**

**The field trip runs from 11:00 – 1:00 pm. Please plan your lunch accordingly (i.e. eat beforehand or pack a lunch to have at the beach once the field trip ends.)**

*Accidents can be the result of the nature of the activity and can occur with or without any fault on either the part of the student, or the school board or its employees or agents, or the facility where the activity is taking place. By allowing your son/daughter to participate in this activity, you are accepting the risk of an accident occurring, and agree that this activity, as described above, is suitable for your child.*



I give \_\_\_\_\_ (name of student[s]) permission to participate in the "Seashore Sleuths" field trip to Boundary Bay Regional Park on Friday, June 1, 2018. I understand that my child/ren may be exposed to certain risks while participating in this activity. Accidents and injuries may occur.

\_\_\_\_\_  
Signature of Parent/Guardian

\_\_\_\_\_  
Date

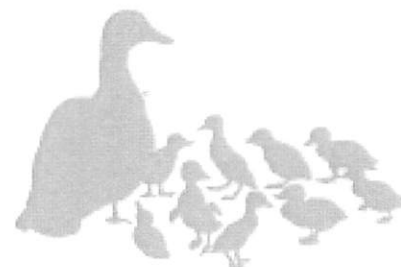
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Printed name of Parent/Guardian



## METRO VANCOUVER REGIONAL PARKS FIELD TRIPS

# Beach Etiquette

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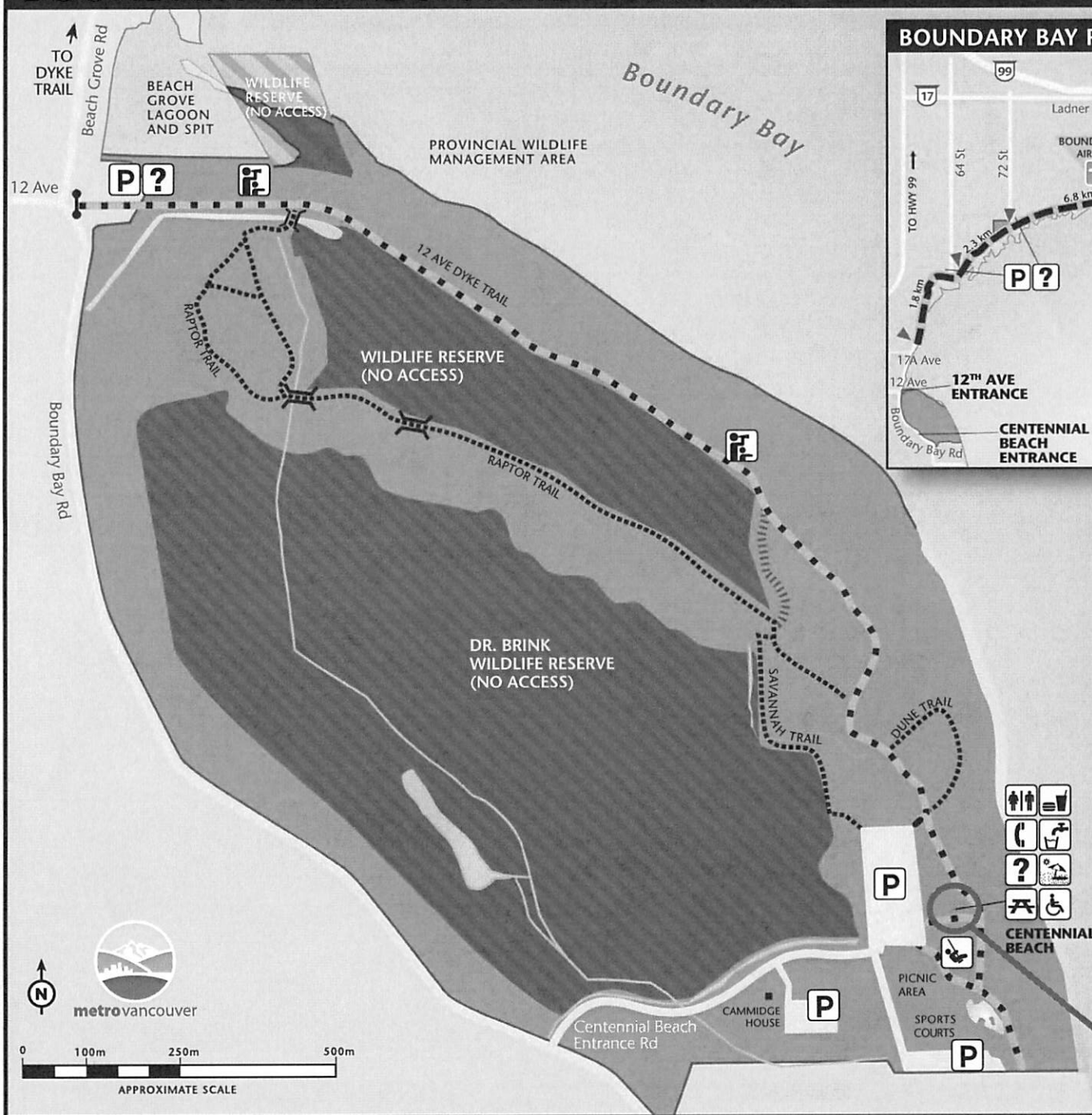
*While visiting the beach please take the opportunity to teach your group how to respect and care for the natural spaces. Beaches are home to a myriad of creatures from tiny plankton to giant sea stars. Make your visit a positive experience for all living things! If we care for and protect our beaches, they will be ours to enjoy for many years.*

- **Walk carefully.** Avoid crushing barnacles, mussels and other small creatures.
- **Beach creatures breathe water!** Observe creatures where you find them. If you pick them up, only hold them for as long as you can hold your breath. Never pick more than one up at a time.
- **Be gentle.** Many beach creatures are fragile. Handle them gently and put them back where you found them as soon as you are finished.
- **If it's attached to something, leave it!** Some beach creatures, like mussels and limpets, stay alive by anchoring themselves to rocks and other hard places. If you pick them off they may not be able to attach themselves again.
- **Leave everything the way you found it.** If you look under logs or stones, gently put them back in place. They provide homes and hiding places for beach creatures. Fill in any holes that you dig.
- **Do not take anything home from the beach!** All things found on the beach, living or dead, have a role to play. Leave only footprints and take only memories.

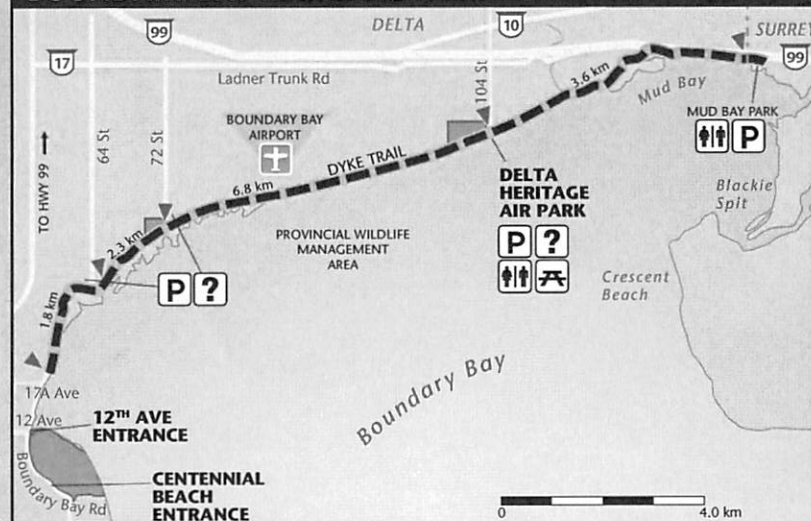
*We hope your group has a memorable and enlightening experience in Regional Parks, and we look forward to seeing you again.*



# BOUNDARY BAY REGIONAL PARK DETAIL



## BOUNDARY BAY REGIONAL PARK



- |   |                  |
|---|------------------|
| Information                               | Regional Park    |
| Parking                                   | No Public Access |
| Toilets                                   | Boardwalk        |
| Picnic Area                               | Gate             |
| Drinking Water                            | Bridge           |
| Viewpoint                                 | Distance Marker  |
| Beach Activities                          |                  |
| Playground                                |                  |
| Concession                                |                  |
| Hiking Trail .....                        |                  |
| Hiking/Cycling Trail - - - - -            |                  |
| Hiking/Cycling/Equestrian Trail - - - - - |                  |

Meet in front of  
Concession Building



# Common Seashore Creatures

The beach is a wonderful place to explore. Beach creatures are well adapted to their particular intertidal zone, even though it can be a harsh place to live with hot sun, crashing waves and predators. Please leave these creatures where you find them and help us to preserve our beaches!

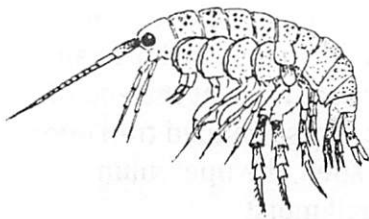
## **High Tide Zone**

At the top of the beach is the high tide zone. The area is mostly dry and exposed to the air, except at high tide when it is under sea water.



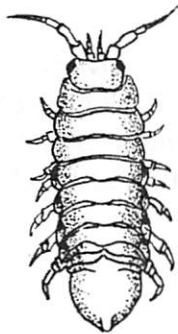
### **Barnacle**

Believe it or not, those small white volcanoes stuck to the rocks are alive! Barnacles live out their adult lives inside these hard calcareous shells with their heads glued to the rocks. When the tide goes out, they close the plate-like doors at the top of their cone and survive by storing seawater. If you watch them carefully in a pool of water, you might see their feathery feet (called cirri) shoot out to grab food. Barnacle cones have very sharp edges so be careful not to get cut.



### **Sideswimmer**

Look closely in the tide pools, or under rocks for these pea-sized creatures darting here and there. Swimming on their sides, these amphipods are well-camouflaged scavengers that are an important food source for many beach creatures.

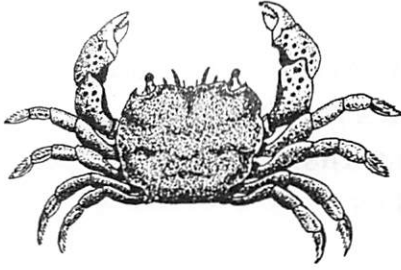


### **Rockweed Isopod**

Well-camouflaged against the rockweed, these armoured creatures are hard to see. Equipped with a flattened body and 7 pairs of clawed legs, they can hold on tight when the tide comes in. At about 4 cm long, they are also acrobatic swimmers when placed in sea water.

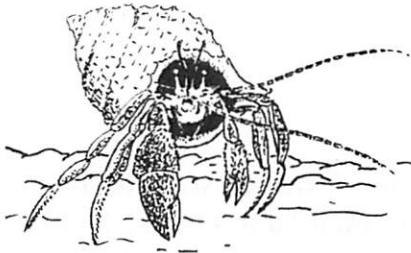


## Common Seashore Creatures, p2.



### ***Purple Shore Crab***

Be careful, these little guys might crawl right under your foot. When the tide goes out, shore crabs hide under rocks and seaweed to avoid predators and to keep from drying out. Shore crabs help recycle nutrients on the beach. Using their pincers, they cut up decaying matter and eat it. You may even find a female “in berrie”, carrying eggs on her stomach, tucked under her tail.



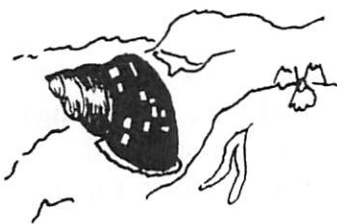
### ***Hermit Crab***

Unlike other crabs, the abdomens of hermit crabs are soft and curled. Hermit crabs are constantly on the search for shells to wear for protection against predators. You can often find these crabs shoved into shells that are much too small. Please leave shells on the beach because they are important shelters for many animals.



### ***Limpet***

Stuck to the rocks, these little pyramids are trying their best to stay moist. Using their powerful foot, they hold tight to the rock and avoid being washed away or eaten. Like snails, they scrape algae off the rocks for food.



### ***Periwinkle Snail***

You can find these little black snails in the rockweed and barnacles near the high tide line. Like many marine snails, they have a bony plate, called an operculum, at the end of their foot. The operculum acts like a disc-shaped trap door. When the snail pulls itself into its shell, the operculum seals the opening shut and keeps the snail moist inside.



### ***Rockweed***

In summer, this olive brown seaweed provides cover for many beach creatures that would otherwise dry out in the hot sun or be preyed on. Rockweeds have holdfasts that anchor them to the rocks, and air bladders at their tips that keep them afloat.



## Common Seashore Creatures, p3.

### **Mid Tide Zone**

Further down the beach is a zone that is usually covered with sea water. Only during low tide does the mid tide zone get exposed to the air.



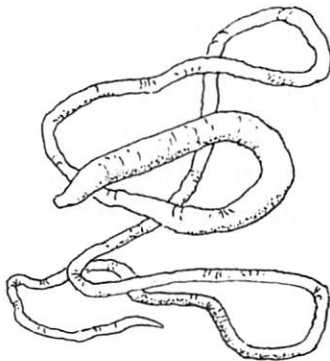
#### **Mussel**

Attached to the rocks, mussels are found on rocky shores and attached to pilings. When underwater, they filter feed by opening their shells and sucking in seawater and microscopic food. Mussels have elastic byssal threads to anchor themselves. If food or space becomes scarce, mussels can reel in some of the byssal threads and use their foot to move to a better location.



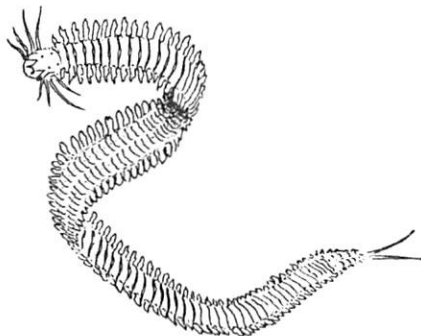
#### **Heart Cockle Clam**

On the sand, you may find a heart cockle closed tightly or buried just beneath the surface. When looking at the clam from the end, it has a definite heart shape. If a predator comes too close, the heart cockle will use its powerful foot to dig to safety or to flip over.



#### **Ribbon Worm**

Among the barnacles and mussels or under a rock, you might find this slender and incredibly elastic worm. With a proboscis jaw that can inject poison and the ability to stretch many times their length, this docile-looking worm preys on much larger creatures. Whether they are dark-green or red on top, their underside is always lighter. They can break apart if handled and each piece can regenerate into a new worm if large enough.



#### **Nereis or Bristleworm**

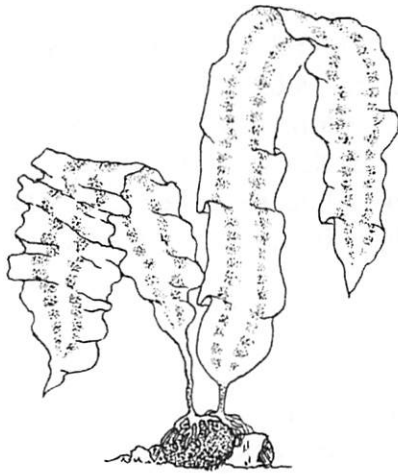
Peek under rocks to see this green iridescent worm. This large worm can get up to 30 cm long, and its many appendages make it a powerful swimmer. Be careful if handling a bristleworm, as its powerful jaws can break skin.



## Common Seashore Creatures, p4.

### ***Low Tide Zone***

The low tide zone is the very wet part of the seashore and only at the lowest tides will this zone be exposed to the air.



### ***Sugar Kelp***

This large bladed seaweed can often be found washed up on the beach still anchored to a rock. Seaweeds live in nutrient-rich waters and therefore do not need roots to absorb water or minerals. The holdfasts are used instead to anchor the seaweed to a firm surface. Seaweeds lack rigid stems because at high tide, they float in the sea water. To keep from drying out, sugar kelp and other seaweeds are covered in a gelatinous coating.



### ***Dungeness Crab***

Normally, these large brownish-orange crabs are found in deep water, but they will come into shallow water to molt. When a crab's shell becomes too small, they will crack the back and slip out, leaving behind a complete exoskeleton and gills. If you find a "dead" crab on the beach and it doesn't smell bad, it is a molt. Dungeness will not move out of the water because they breathe with their gills and need to stay moist. They will defend themselves with their pincers. Be careful!

