

Raincoast Field School @ home

Mudflats Questions and Answers:

1. How many species live in the mud?

A lot of species occupy the mudflats at different points throughout the day. Terrestrial species such as wolves, bears, cougars, and shorebirds access the mudflats while the tide is low. They use this ecosystem as a food source and travel corridor connecting them to the surrounding islands and making for an easier travel path compared to the dense forest. When it is high tide, marine species occupy the shallow flats as areas of refuge, species like herring, crab, snails, juvenile salmon and waterfowl. However to answer this questions, there are 4 major species actually living in the mud. These 4 are; Ghost Shrimp, Baltic Macoma, Bloodworms, and Lug worms. These 4 living things have some unique adaptations that allow them to survive in this habitat.

2. What was the name of the Carnivorous worm living in the mud?

The Carnivorous worm found living in the mud is a Bloodworm. This species burrows into the mud substrate making air holes for water to travel through. These worms can grow to be 30cm long but average about 10cm in length. These carnivorous species feed by extending their large proboscis that is made up of 4 hollow jaws. The jaws have poison which is used to kill their prey. A bite from a Bloodworm can even be painful to a human. A common predator to these worms is the many gull species found feeding on the flats.

3. Where else are Mudflats located on the coast of BC?

Mudflats form when sediment is deposited by rivers or the ocean. This deposition happens in areas of low flow or wave action. Over time the sediments accumulate forming an entirely new area adjacent to the water's edge. In BC you can find mudflats at river outlets, inlets or in bays where the area is sheltered from rough conditions. There are a lot of mudflat ecosystems found on the eastern side of the Island, as this side is much more protected from the open ocean. As well the southern point of Vancouver Island in the Capital Regional District has mudflat habitat in a few locations.

4. Why does the mud smell?

As you move deeper in the soil column, there is less and less oxygen. The lowest layer is considered anoxic meaning oxygen free and is almost black in colour. This anoxic layer is produced by a chemical reaction that takes place between hydrogen sulfide and iron oxides- it results in a black coloring and rotten egg smell.

5. Are the mudflats like quick sand? Would you sink if you walked on them?

Not exactly, if you step on the mud substrate you will not instantly sink to your hips and get stuck like quicksand in the movies. However you will sink to about your ankles and if you have rubber boots on they may become suctioned in! Because of this the mud is quite challenging to walk on as each step your foot gets a little stuck!

6. What is the thin layer of algae growing on the mud?

This thin algae layer is referred to as biofilm. It is a super important layer as it has a bunch of nutrients for all species feeding on the mud. Biofilms are a collection of one or more microorganisms that almost stick together creating a layer on a variety of surfaces. Microorganisms that form biofilms include bacteria, fungi and protists.

7. Do the mudflats near Meares Island look the same as those at the botanical gardens?

The mudflats across the Browning Passage consist on a lot more eelgrass meadows. The substrate here is much sandier in comparison to the flats found near the botanical gardens. At the gardens the mud consists of more clay substrate. Even though these two ecosystems are quite close in proximity, they differ in makeup due to the wave action and aspect.