

## II. At the Shore's Edge

As they drive along the twisting roads down the river to the bay, William and Beth recollect how the tides once ruled their lives. Coastal waters can be difficult to navigate and a mistake can cost time, money, or worse. The tide was very low early this morning, a sign that the full moon last night is still having its way with the waters of the ocean and the bay. A few late clam diggers are retreating, buckets in hand, as the rising flood of salty seawater reclaims the flats. When they lived along this shore, the Seelanders spent many mornings exploring the muddy expanses for clams to fry or make chowder with. Occasionally, they would chance upon a raccoon working the edge of the water in search of food. His nimble paws carefully digging, the raccoon used his sharp teeth and powerful jaws to break open the clam and scrape the tasty flesh out.

Today, they see a family of River otters heading across the channel to a safe refuge on a dredge spoil island. Beth remembers when the dredges put that island out in the middle of the bay. The huge metal jaws of the dredge splashed down through the water to be driven deep into the mud and then pulled back up. The thick stew of oozing, watery goop was dumped on a barge and then brought over to the spoil site to be dumped. The water near the dredge was cloudy for a long time afterwards and the mudflats nearby were buried beneath a new layer of sediment, plants, burrows and all. They no longer dump dredge spoils in the bay. Instead, the barges take it out to the ocean or suck it up and dump it out on the land where it can be contained. Scientists determined that the spoils contained too many poisons to be dumped back into the estuary. Besides that, the more the bay is filled, the less bay there is for the estuary.

The job today is to drive down to the mouth of the bay and meet up with a couple of scientists, and then travel by boat up the estuary into a quiet, backwater arm called Mealticket Slough. Here, as volunteers, Will and Beth are going to help out the scientists with a research project that has been going on for almost a decade. The work they do is mostly helping to identify and count plants. They work as a team. Beth is the botanist, a scientist that specializes in the study of plants, and Will is the recorder, although he favors calling out the birds he sees rather than the plants when they are in the field together.

As they drive along the shore of the bay, Will reminds Beth of the first time that he came to call on her at her parent's old house way up on Cedar Slough. The tides had been just barely high enough for him to row his boat up to their dock without too much of a fight. She had agreed to go with him to town and visit the Saturday market where they could get fresh vegetables, fish, and some other goods the family needed. As they rowed along the narrow inlet, they waved to their neighbors and laughed with surprise as a few fish jumped out of the water near the boat. Beth nearly fell overboard when a Harbor seal poked an inquisitive nose out of the water right behind her and then splashed her as it dove beneath the surface.

Hours later, for they had lost track of time, they struggled against the last of the outgoing tide. But then they noticed the wavy blades of eelgrass in the shallows along the edge of the channel standing up straight, a sign that the tidal current had become slack and would now begin to flood, propelling them up the inlet towards home. Yet the mudflats were still exposed when they reached the shore near Beth's house. So Will, gentleman that he was, climbed out and dragged the boat through the shallows and across the brown, sticky mud sinking nearly to his knees. What a first date!

Fortunately, they had learned a thing or two about the tides since that time. Today's journey is timed perfectly to allow them to reach the place where the research work will be done and then carry them back out to the mouth of the slough at the end of the day, riding the tides all the way. As they approach the dock, Mary Finbeck and Charlie Teal are waiting with the boat. They greet each other and began loading the gear for the day. Mary and Charlie are both scientists that have been studying the estuary for the past decade as a part of a large project to understand how to restore tidal habitat. They train volunteers to help monitor the changes after the restoration work is done, so that they can determine how successful the projects have been or if additional work is needed. Sometimes this work is terribly messy and sometimes the information about what the area once looked like back before it had been damaged is hard to come by. This is where Will and Beth really shine. They can remember many places along the shore before they had been changed to make way for "progress". Sometimes this "progress" just tore up the marshes and tide flats or sometimes these low, wet places were just filled in, never to be seen again.

Once, Beth had watched as a crew bottled up an entire creek into an underground tunnel called a culvert, put a big flapper door called a tide gate on one end and drove away. She remembered how the salmon stopped coming to that creek, since they could no longer get upstream to the place where generations of their ancestors had spawned for thousands of years. Nobody had really understood how much damage all the filling, diking, draining, and dredging had done to the estuary. In fact, nobody had called it an estuary at all. Most people just figured the bay was a stinky, mucky, mosquito breeding ground that would be better off the sooner it was filled in or dug out. But some people saw the connections and realized that something must be done to protect the estuary before it was too late. She still wondered sometimes if they had acted soon enough.

Today, they are part of a different kind of crew, one that is working to bring back the bay and make it healthy again. The morning air smells clean and fresh with a slight tinge of ocean salt making the case that the sea is nearby. The morning sunlight bounces off the water as they watch huge, swirling rafts of debris called wrack floating up the slough. Will has always been fascinated by these matted clumps of sea grass, kelp, driftwood and sticks. He often tugs a handful aboard the boat in search of tiny aquatic animals called isopods and amphipods. In the spring, he usually searches for the little crab larvae called megalopae. Some years, the wrack is teeming with them, a good sign that three years out the crabbing will probably be good. But mostly, he just wonders about all the different kinds of life he finds in these floating micro-worlds brought in by the tides.

As they climb into the skiff and head away from the dock, the surface of the bay is glassy. On the way up the slough, Will skims a crab molt from the water and proudly holds it out to Mary for her sniff of approval. He never grabs a dead crab, since you can usually smell the stink from far away. But the molts, the shell that is shed as the animal grows, don't really smell at all. He is pleased to announce that the Dungeness crab that left behind this amazing reminder of how big it had been was probably just now getting into position to climb into one of the crab pots his friend Dave put in the water this morning!