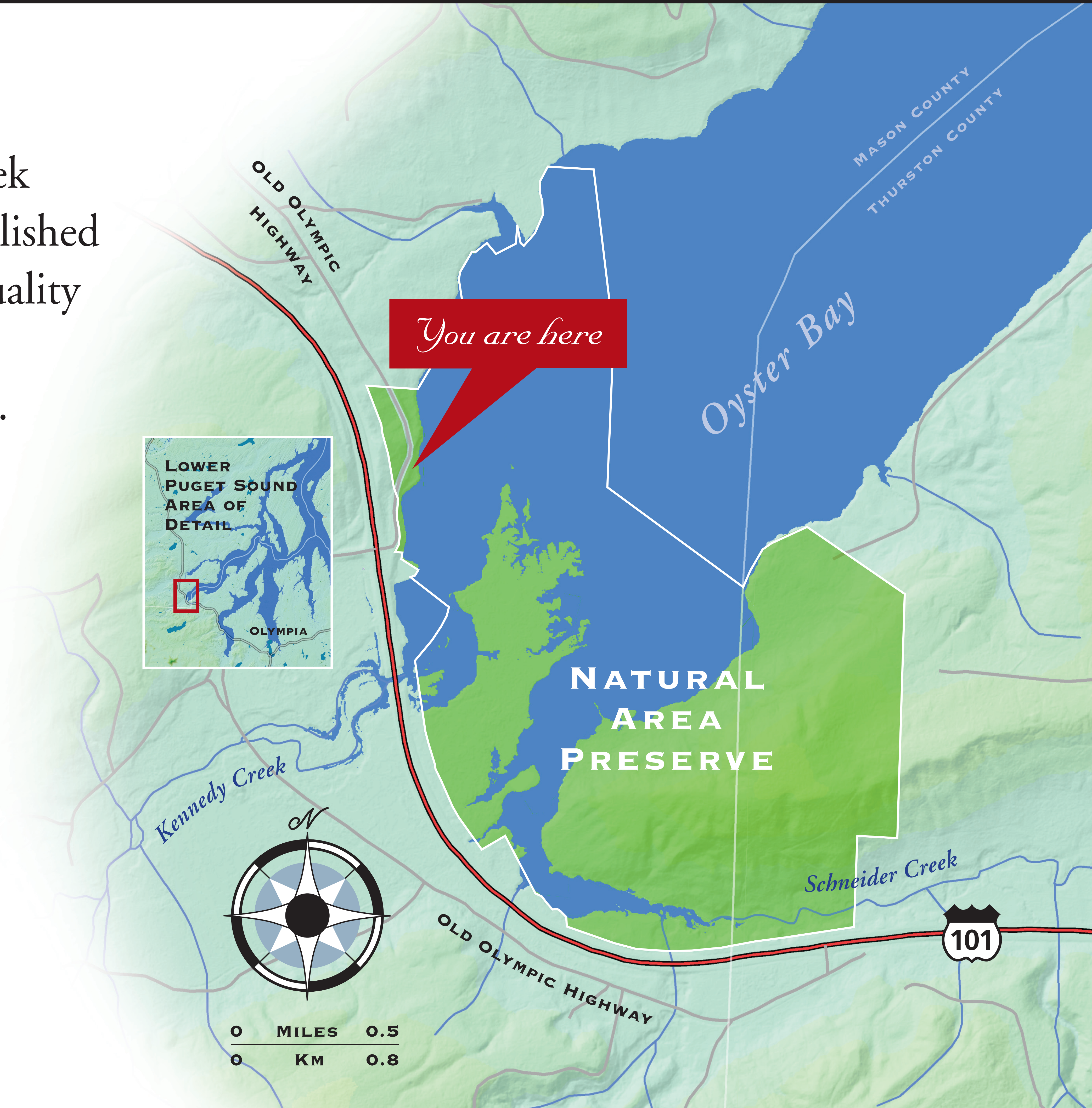




Welcome to Kennedy Creek NAP

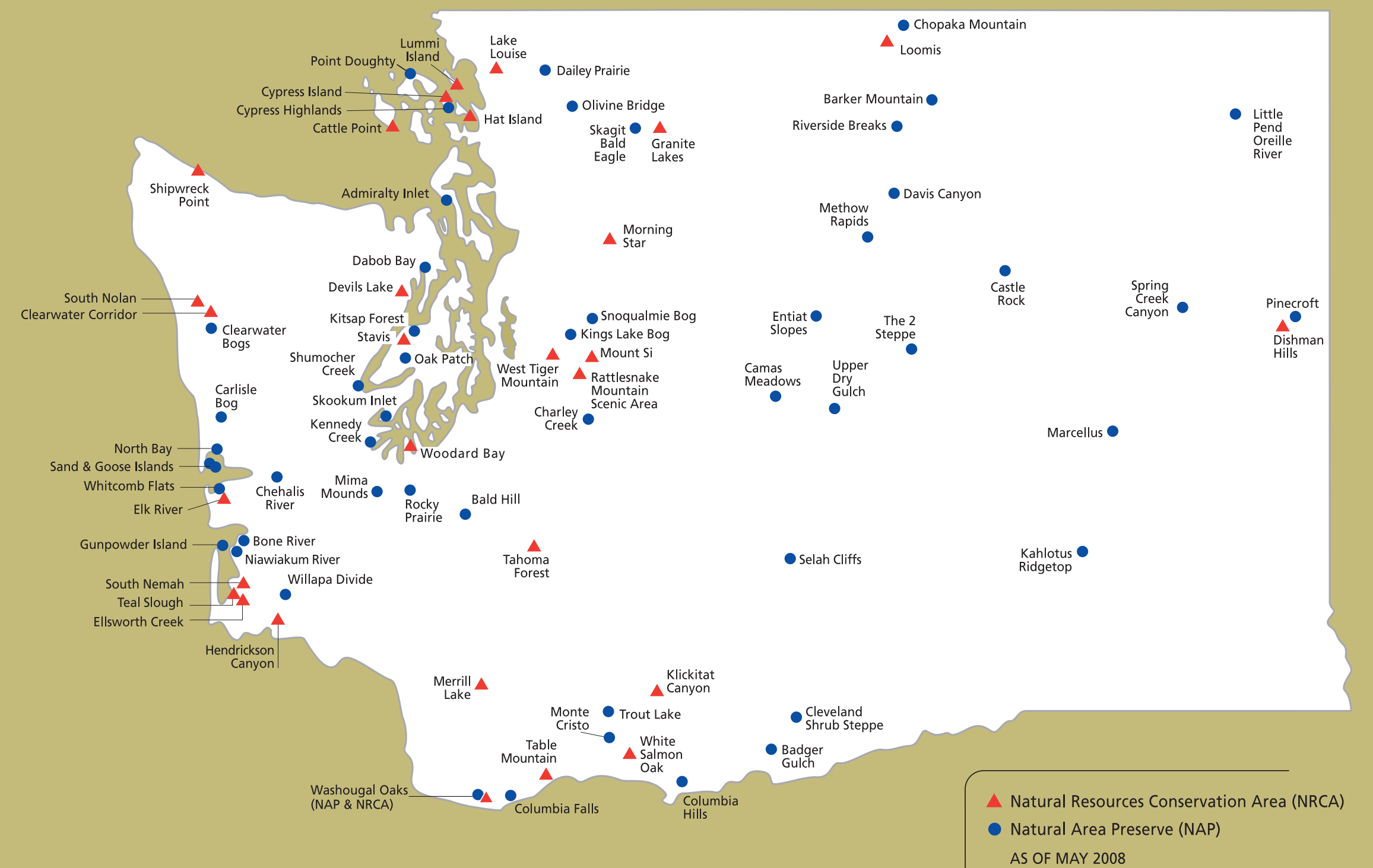
The Kennedy Creek preserve was established to protect a high quality salt marsh ecosystem that is rare in the Puget Sound area.

The approximately 340-acre site includes the salt marsh at the confluence of Kennedy and Schneider Creeks, adjacent mudflats and the surrounding upland forest.



Exceptional Places

Quality examples of Washington's native grasslands, woodlands, marshes and more are protected in natural areas managed by the Department of Natural Resources (DNR). These special sites offer opportunities for research and education. Some have interpretive or recreation trails. Others have features that are sensitive to human disturbance and require permission from DNR to visit.



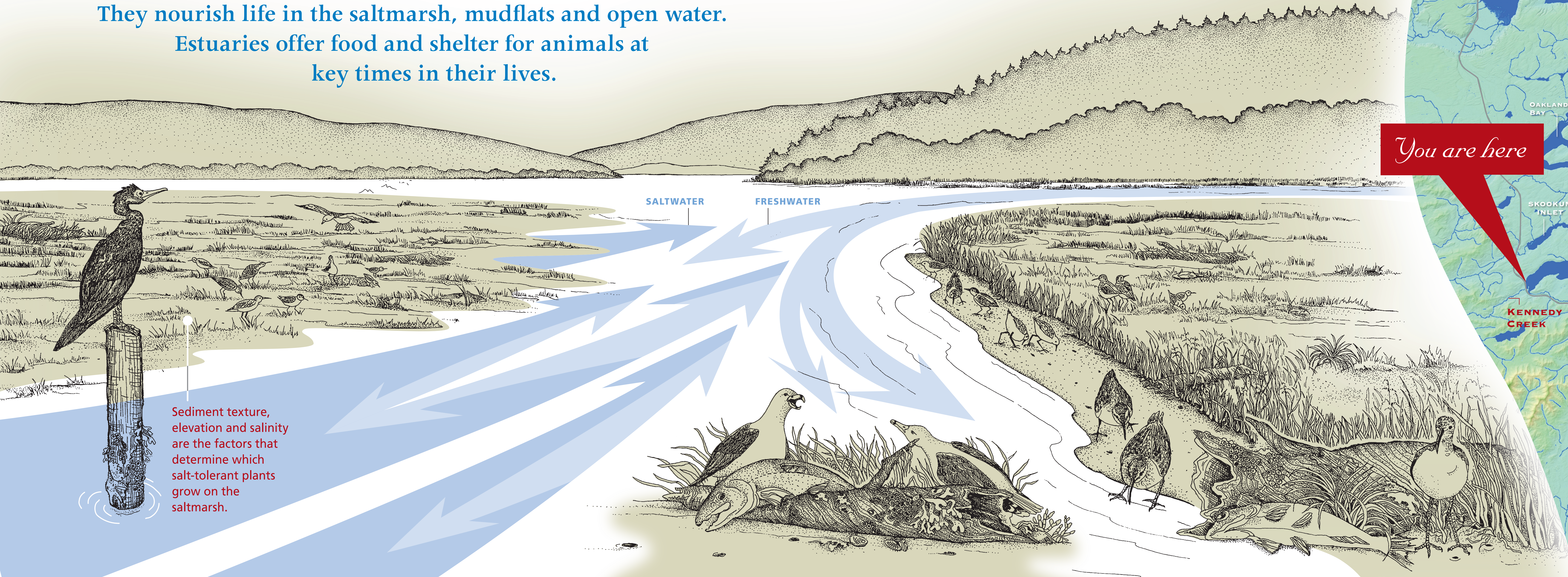
For more information contact the DNR Natural Areas Program, South Puget Sound Region at (360) 825-1631 | TTY 7-1-1 www.dnr.wa.gov

Life Abounds Where Freshwater Meets Saltwater in the Estuary

An estuary is created where a river or stream flows into a sheltered saltwater bay. Here, nutrients and sediment from both land and sea accumulate.

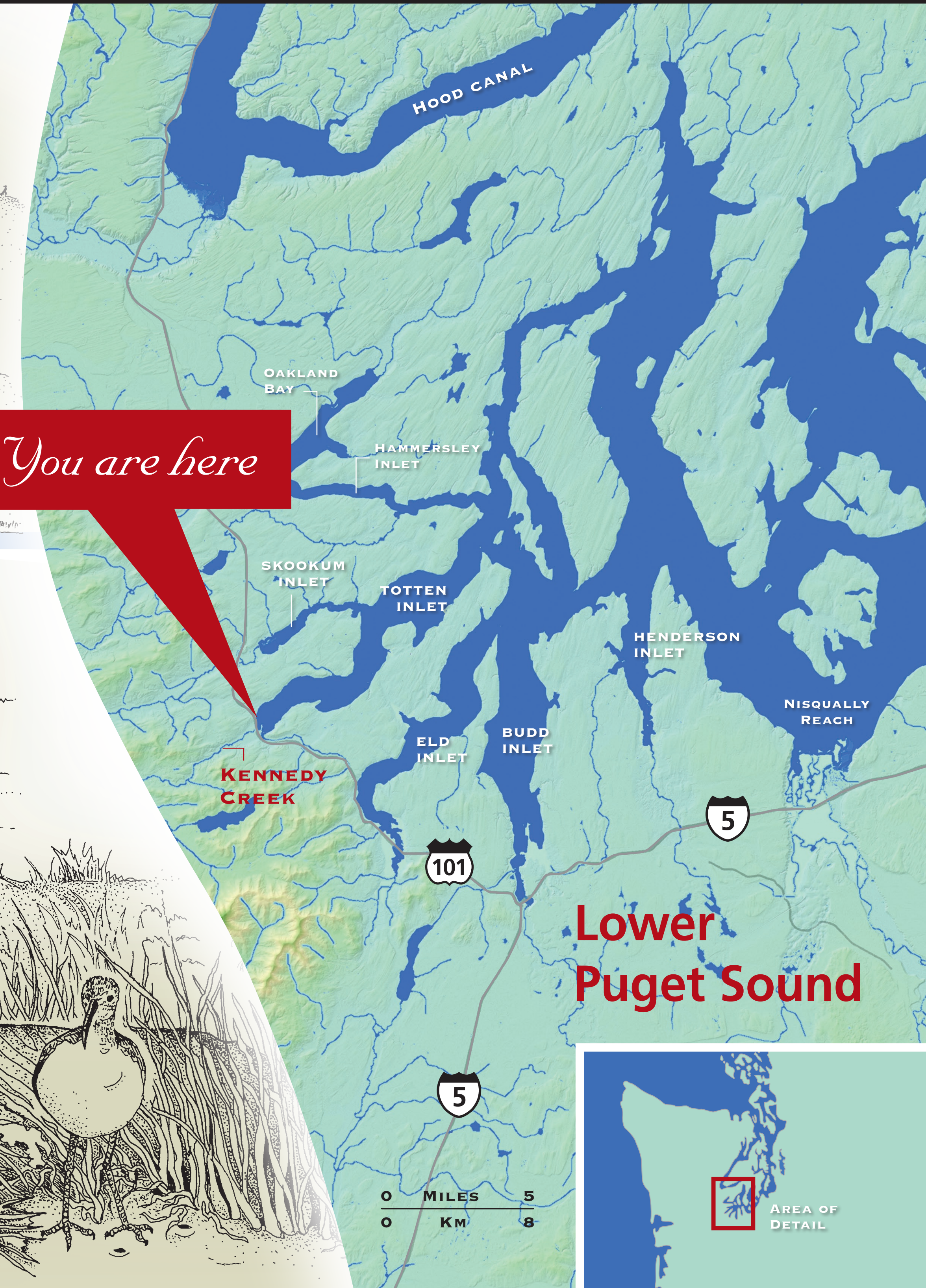
They nourish life in the saltmarsh, mudflats and open water.

Estuaries offer food and shelter for animals at key times in their lives.



Sediment texture, elevation and salinity are the factors that determine which salt-tolerant plants grow on the saltmarsh.

You are here

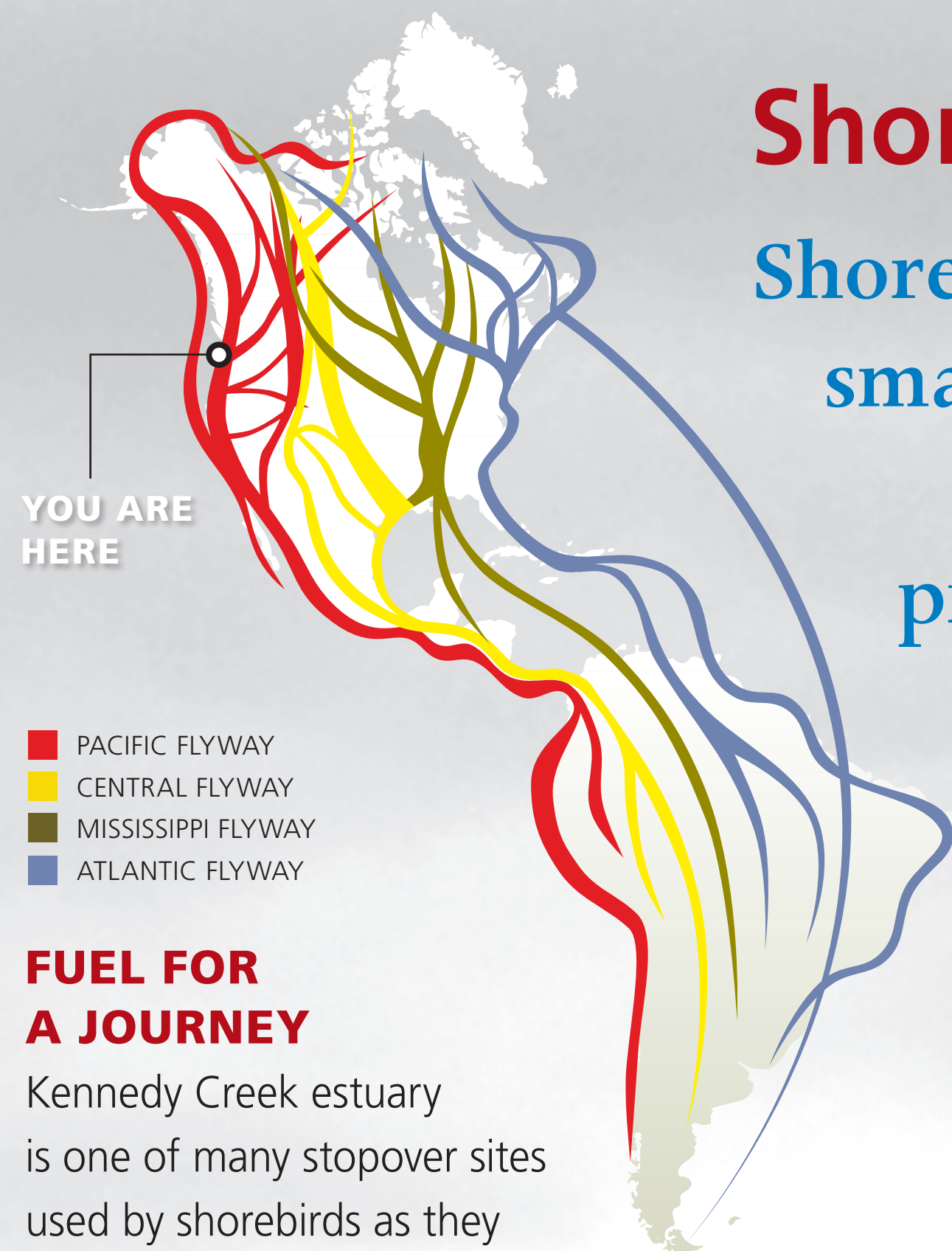


Lower Puget Sound

The Estuary Is a Refuge for Shorebirds

Shorebirds share a mudflat buffet

Shorebirds hunt the mudflats for marine worms, crustaceans, small shellfish and other invertebrates. Each shorebird species has a unique bill length and foraging style so they can probe the mud to a different depth. This allows several species to share the same patch of mud without competing for food.



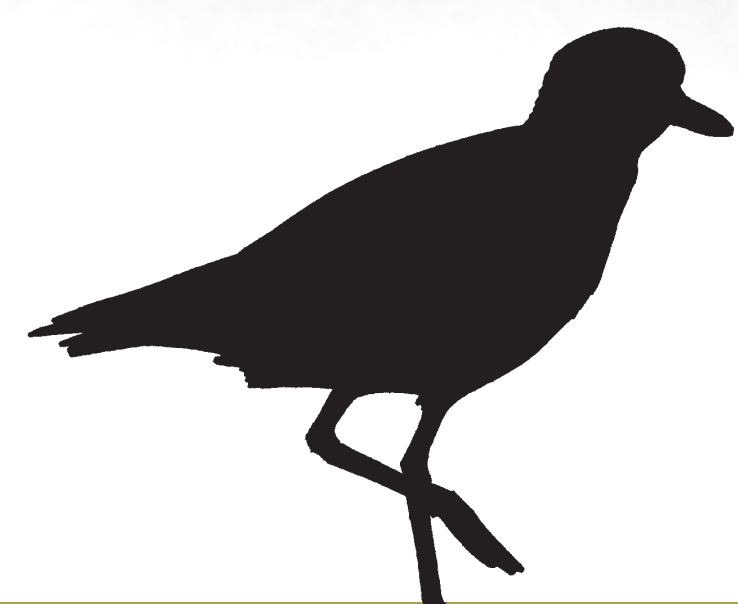
YOU ARE HERE

- PACIFIC FLYWAY
- CENTRAL FLYWAY
- MISSISSIPPI FLYWAY
- ATLANTIC FLYWAY

FUEL FOR A JOURNEY

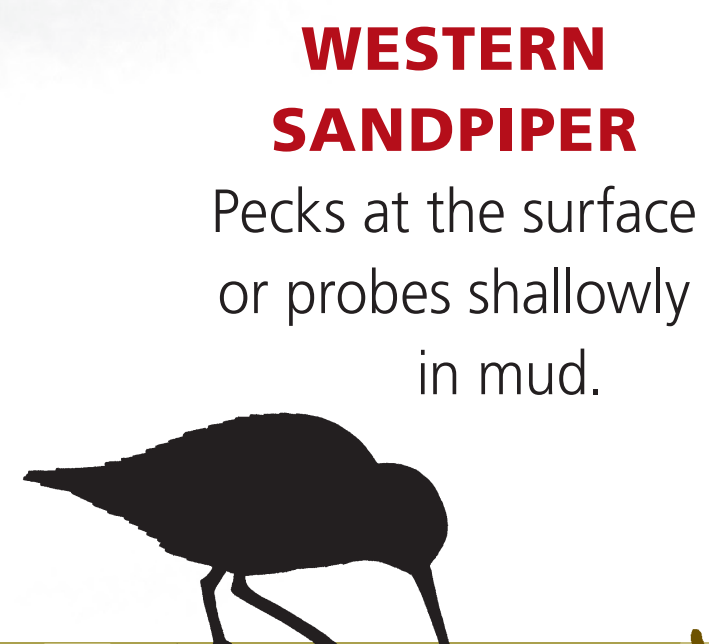
Kennedy Creek estuary is one of many stopover sites used by shorebirds as they migrate to northern breeding areas in spring and southern wintering grounds in fall.

These birds are traveling one strand of a broad migration path called the Pacific Flyway. They use the estuary as a place to rest and feed. Some shorebirds spend the winter here, taking advantage of this estuary's especially abundant food.



BLACK-BELLIED PLOVER

Forages by eyesight with a run/stop/pluck motion.



WESTERN SANDPIPER

Pecks at the surface or probes shallowly in mud.

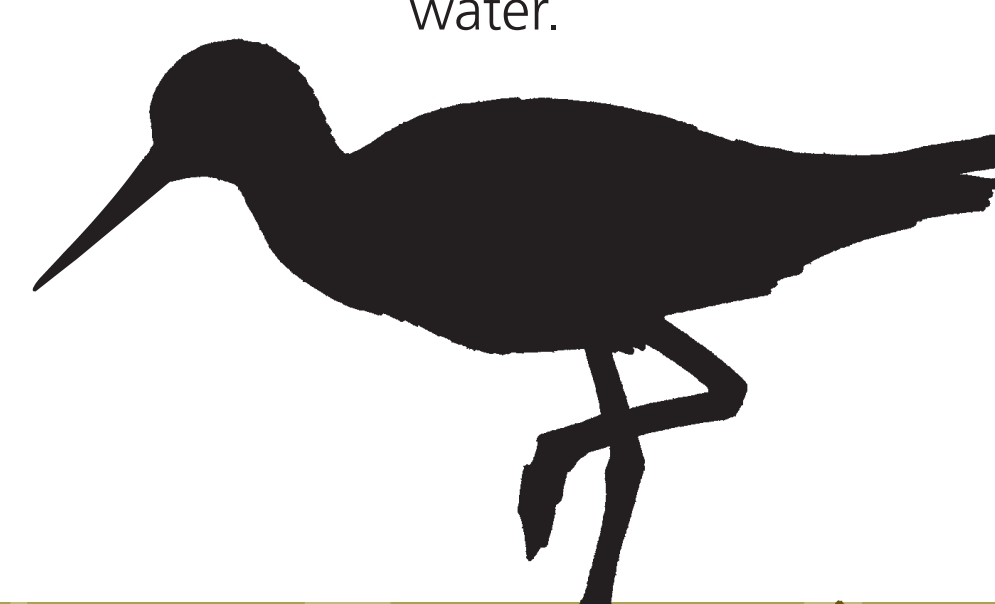
SHORT-BILLED DOWITCHER

Usually feeds in compact flocks with a deep "sewing machine" probing motion. Often takes only one or two steps between probes.



DUNLIN

Probes, picks and jabs at the mud, often with bill open. Walks steadily until food is found.



GREATER YELLOWLEGS

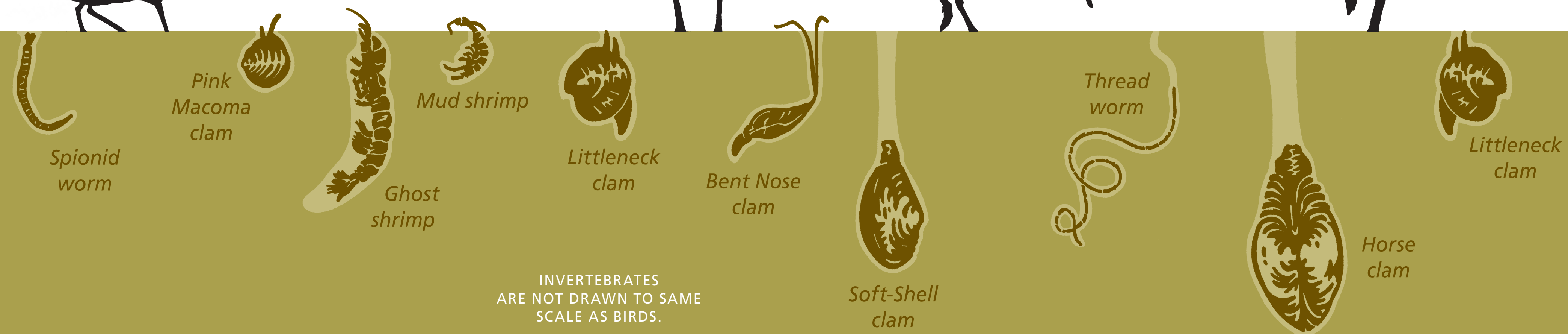
Stabs quickly at the water when food is found. In deeper water it runs to chase small fish. Sometimes swishes its beak from side to side at the surface of the water.



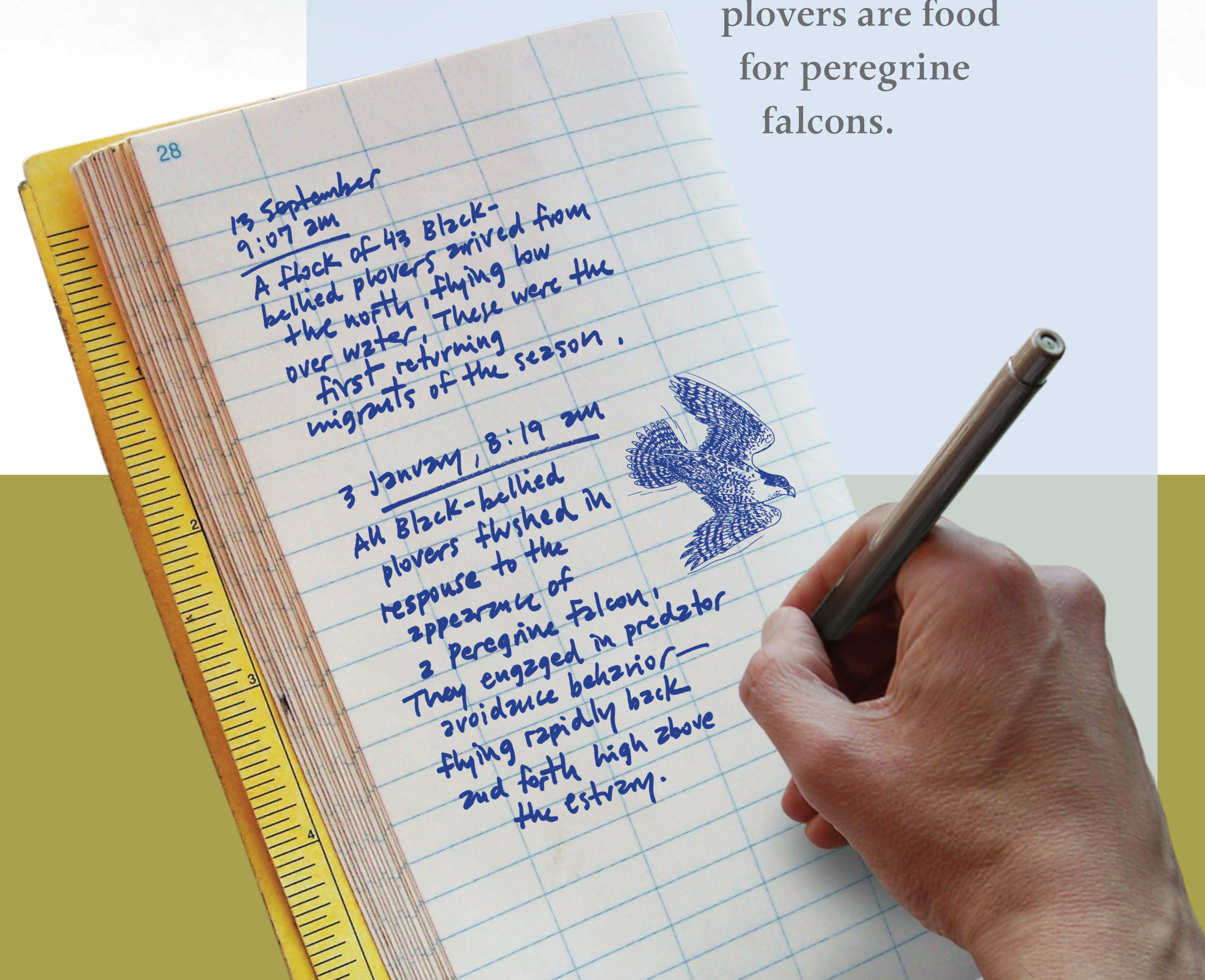
Habitat for a special shorebird



This inlet supports one of the largest flocks of wintering **black-bellied plovers** in the Puget Sound area. They are drawn here by numerous polychaete worms living in the mud. In turn, the plovers are food for peregrine falcons.



INVERTEBRATES ARE NOT DRAWN TO SAME SCALE AS BIRDS.

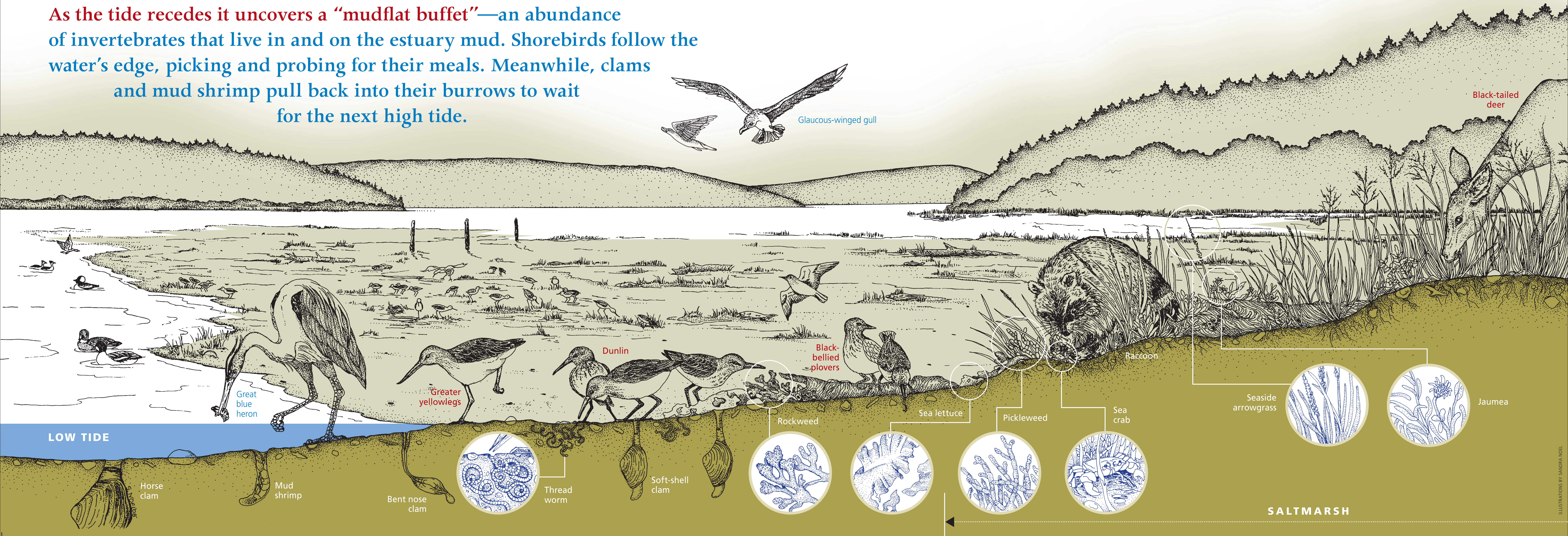


13 September
9:07 am
A flock of 43 Black-bellied plovers arrived from the north, flying low over water. These were the first returning migrants of the season.

3 January, 8:19 am
All Black-bellied plovers flushed in response to the appearance of a Peregrine falcon. They engaged in predator avoidance behavior—flying rapidly back and forth high above the estuary.

Some Like It Low...

As the tide recedes it uncovers a “mudflat buffet”—an abundance of invertebrates that live in and on the estuary mud. Shorebirds follow the water’s edge, picking and probing for their meals. Meanwhile, clams and mud shrimp pull back into their burrows to wait for the next high tide.



Glaucous-winged gull

Black-tailed deer

Great blue heron

Greater yellowlegs

Dunlin

Black-bellied plovers

Raccoon

LOW TIDE

Horse clam

Mud shrimp

Bent nose clam

Thread worm

Soft-shell clam

Rockweed

Sea lettuce

Pickleweed

Sea crab

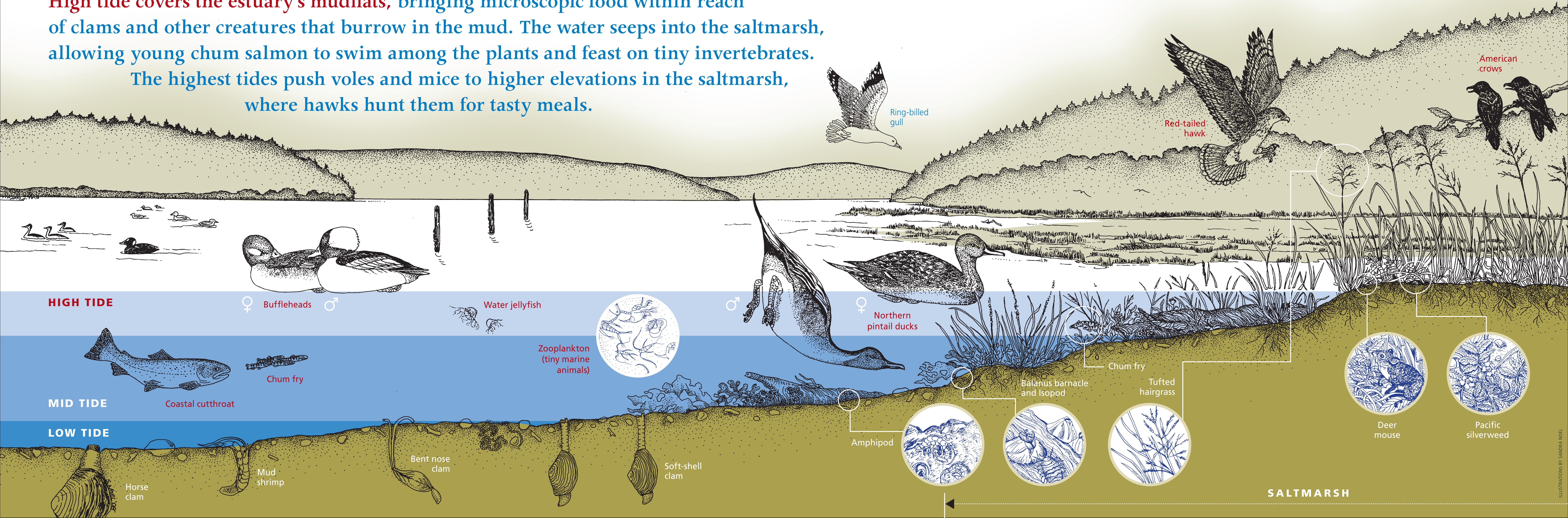
Seaside arrowgrass

Jaumea

SALTMARSH

Some Like It High...

High tide covers the estuary's mudflats, bringing microscopic food within reach of clams and other creatures that burrow in the mud. The water seeps into the saltmarsh, allowing young chum salmon to swim among the plants and feast on tiny invertebrates. The highest tides push voles and mice to higher elevations in the saltmarsh, where hawks hunt them for tasty meals.



HIGH TIDE

♀ Buffleheads ♂

Water jellyfish

♂ Northern pintail ducks ♀

Ring-billed gull

Red-tailed hawk

American crows

MID TIDE

Coastal cutthroat

Chum fry

Zooplankton (tiny marine animals)

Amphipod

Balanus barnacle and Isopod

Tufted hairgrass

Chum fry

LOW TIDE

Horse clam

Mud shrimp

Bent nose clam

Soft-shell clam

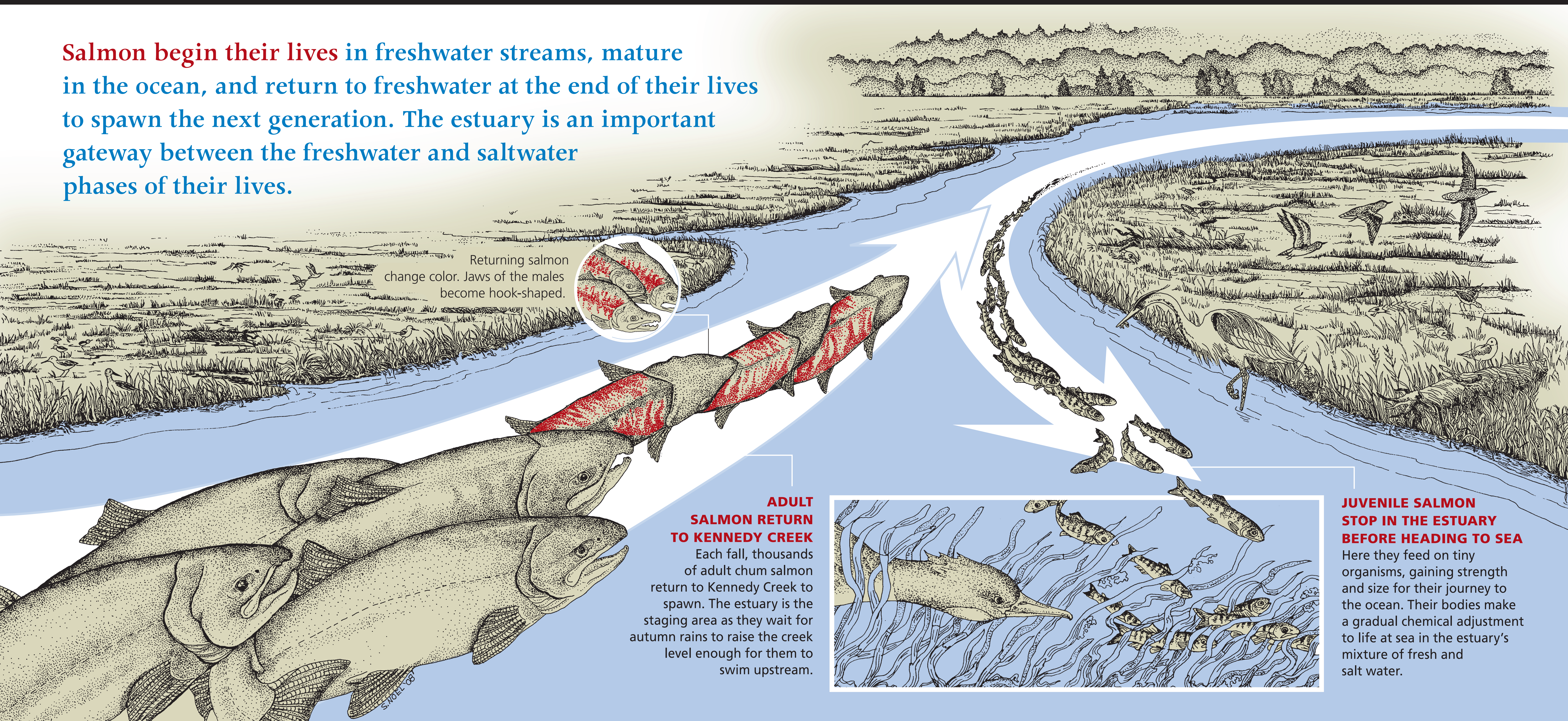
Deer mouse

Pacific silverweed

SALTMARSH

The Estuary Is a Gateway for Salmon

Salmon begin their lives in freshwater streams, mature in the ocean, and return to freshwater at the end of their lives to spawn the next generation. The estuary is an important gateway between the freshwater and saltwater phases of their lives.

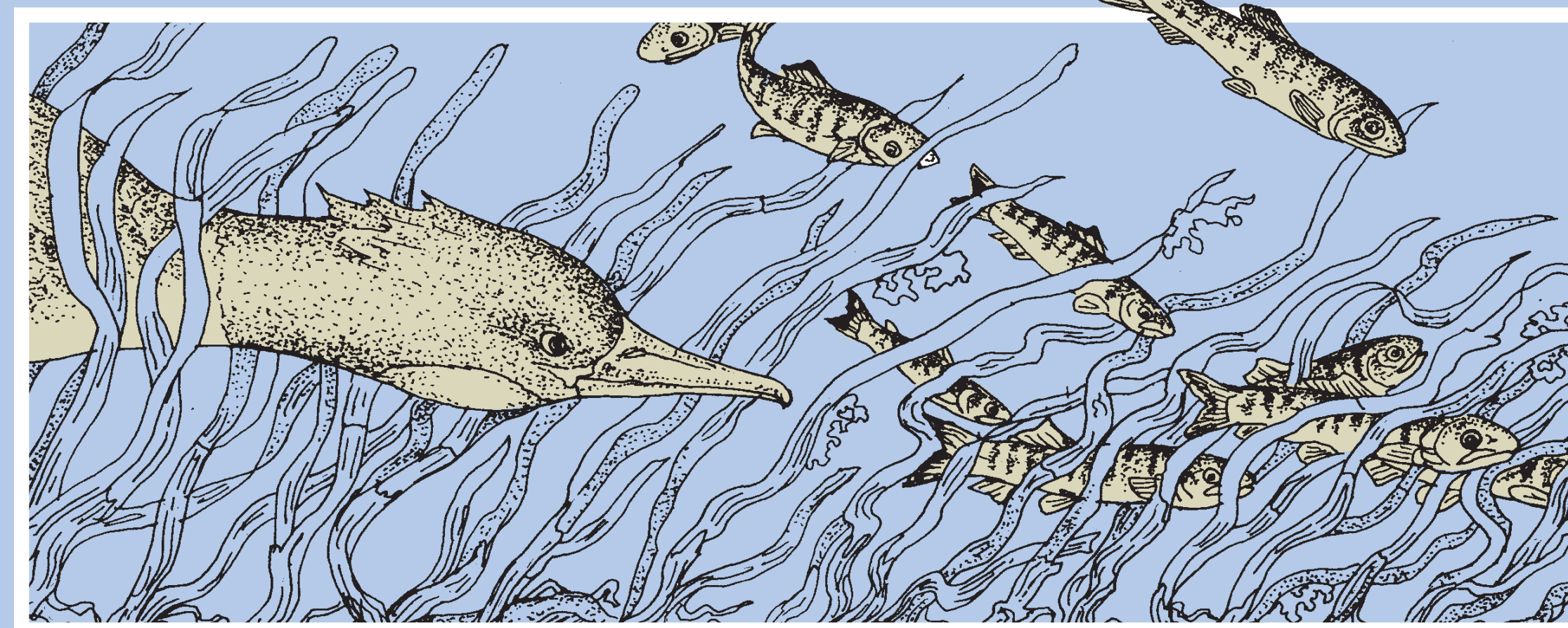


Returning salmon change color. Jaws of the males become hook-shaped.



ADULT SALMON RETURN TO KENNEDY CREEK

Each fall, thousands of adult chum salmon return to Kennedy Creek to spawn. The estuary is the staging area as they wait for autumn rains to raise the creek level enough for them to swim upstream.



JUVENILE SALMON STOP IN THE ESTUARY BEFORE HEADING TO SEA

Here they feed on tiny organisms, gaining strength and size for their journey to the ocean. Their bodies make a gradual chemical adjustment to life at sea in the estuary's mixture of fresh and salt water.

Salmon enrich the web of life



Adult salmon die after spawning and their carcasses wash downstream to the estuary. Eagles, gulls, raccoons and other animals feed on their flesh. As the flesh decomposes, it nourishes small organisms in the estuary mud. In turn, these organisms are food for shorebirds, juvenile salmon, and other animals.

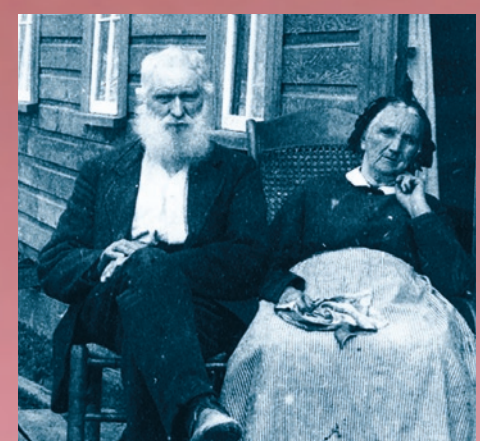


Diving ducks, herons, cutthroat trout, otters, and many other animals come to the estuary to feed on juvenile salmon.

People and the Estuary

Past

For thousands of years, the ancestors of the Squaxin Island Tribe used traditional methods to fish and collect shellfish in this estuary. Euro-American settlers arrived in the 1850s and began to use the estuary in different ways.

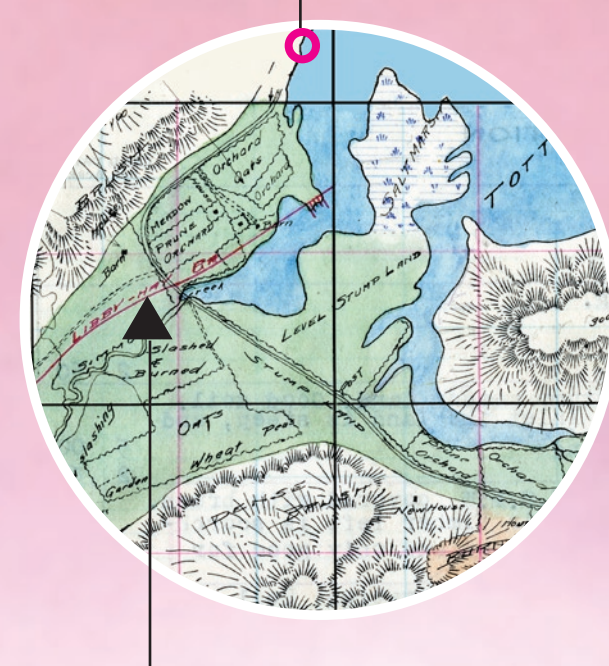


FRANKLIN AND ANN KENNEDY
CIRCA 1880

HOMESTEADERS ARRIVE

Franklin and Ann Kennedy settled in the estuary area in 1855 on 320 acres claimed through the Donation Land Claim Act.

YOU ARE HERE



USING THE ESTUARY TO TRANSPORT LOGS

In the early days of timber harvest, trains and then trucks brought logs to the water's edge. The logs were dumped into the bay and floated to mills in large "booms."



◀ In the late 1930s Roy Kimbel's logging trucks hauled timber to this site.



Beginning in 1907, the Libby-Hay short line railroad was used to haul timber to the Kennedy Creek estuary.

Present

Fishing, shellfish harvest and timber harvest continue in the Kennedy Creek watershed. In 1993, the Washington State Department of Natural Resources established the Kennedy Creek Natural Area Preserve in the estuary area. The preserve protects the high quality saltmarsh and tidal areas as habitat for salmon, shorebirds and other wildlife. Research, education and habitat restoration are the main activities in the preserve area.

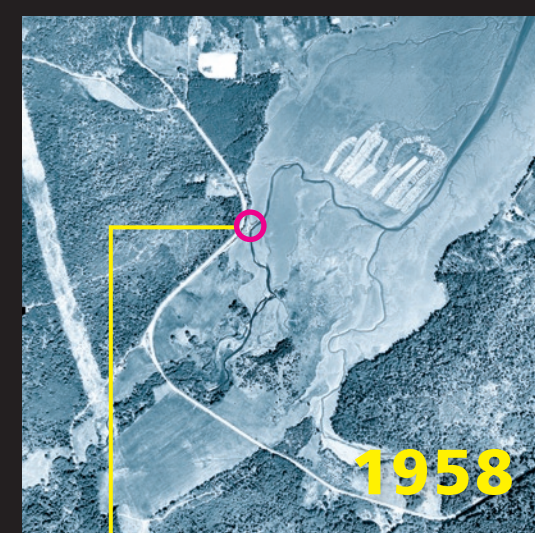
Future

Learning more about the Kennedy Creek estuary — and how to care for it — is one important step in the work to protect and restore Puget Sound for future generations of people and wildlife.



VISIT THE SQUAXIN ISLAND MUSEUM

The Squaxin Island Tribe shares the story of its past and present at the Tribe's Museum near here. To get there, continue north on Old Olympic Highway for approximately 1.5 miles, turn right on Kwuh-Deegs-Altsw.



1958



2003

YOU ARE HERE

HIGHWAY CONSTRUCTION

Construction of Highway 101 in 1960 brought a new roadbed and bridge across the estuary.