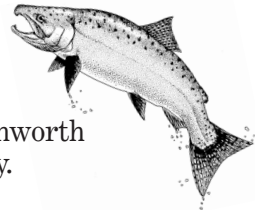


# Self-Guided Tour Leavenworth National Fish Hatchery



Welcome to the Leavenworth National Fish Hatchery.

In 1940, Leavenworth National Fish Hatchery proudly opened as the world's largest fish hatchery. Its mission was to produce salmon to make up for the impact of the Grand Coulee Dam, which completely blocked fish passage to the upper Columbia River. That's exactly what the hatchery has continued to do, decade after decade, successfully providing salmon that support people and wildlife.

The Bureau of Reclamation funds three hatcheries, operated by the US Fish and Wildlife Service as part of the Leavenworth Fisheries Complex: Leavenworth, Entiat, and Winthrop. The Mid-Columbia Fish & Wildlife Conservation Office is also part of the Complex, and works on monitoring and evaluation of hatchery fish, habitat restoration, and native fish conservation.

We raise 1.2 million spring Chinook salmon at Leavenworth every year. Take a walk around and learn how we do it.

*Starting at the entrance to the main hatchery building, walk down the hall into the visitor center.*

### Stop 1: Visitor Center

Salmon are tied to just about everything in this region! Stroll around the room and look carefully at the mural, and you'll see many of the animals that rely on salmon—including people. Yet salmon face many hurdles. To reach the hatchery from the ocean, adults must swim upstream 500 miles and pass seven dams. Of the 1.2 million young salmon we release, we might see just 500-6,000 return. Learn about the challenges salmon face as you read the exhibit panels.

*Continue through the doors into the nursery.*

### Stop 2: Nursery

Spring Chinook salmon spawn in late August. Females dig nests called redds in the gravel of cool flowing streams, and males release milt

(sperm) to fertilize the eggs. Water moves through the gravel, bringing oxygen to the eggs. In our nursery, we imitate nature. We take the eggs and milt from the adults, mix them, and put the fertilized eggs into trays. We run water through the trays to provide oxygen.

When the eggs hatch in late September or October, the tiny fish (called sac-fry or alevins) are still undeveloped. They feed off yolk sacs until they are big enough to start eating on their own. In the wild, they would eat aquatic insects. In the hatchery, we move them into green fiberglass nursery tanks and feed them carefully prepared dry food by hand up to seven times a day!

The fry are usually in the tanks from March to May, when we move them to outside ponds

called raceways. Even when the fry are outside, we have a small aquarium with local fish in the nursery for you to view.

*Go back out the front door, turn left on the sidewalk, and walk to the raceways. Stop 3 is on your right.*

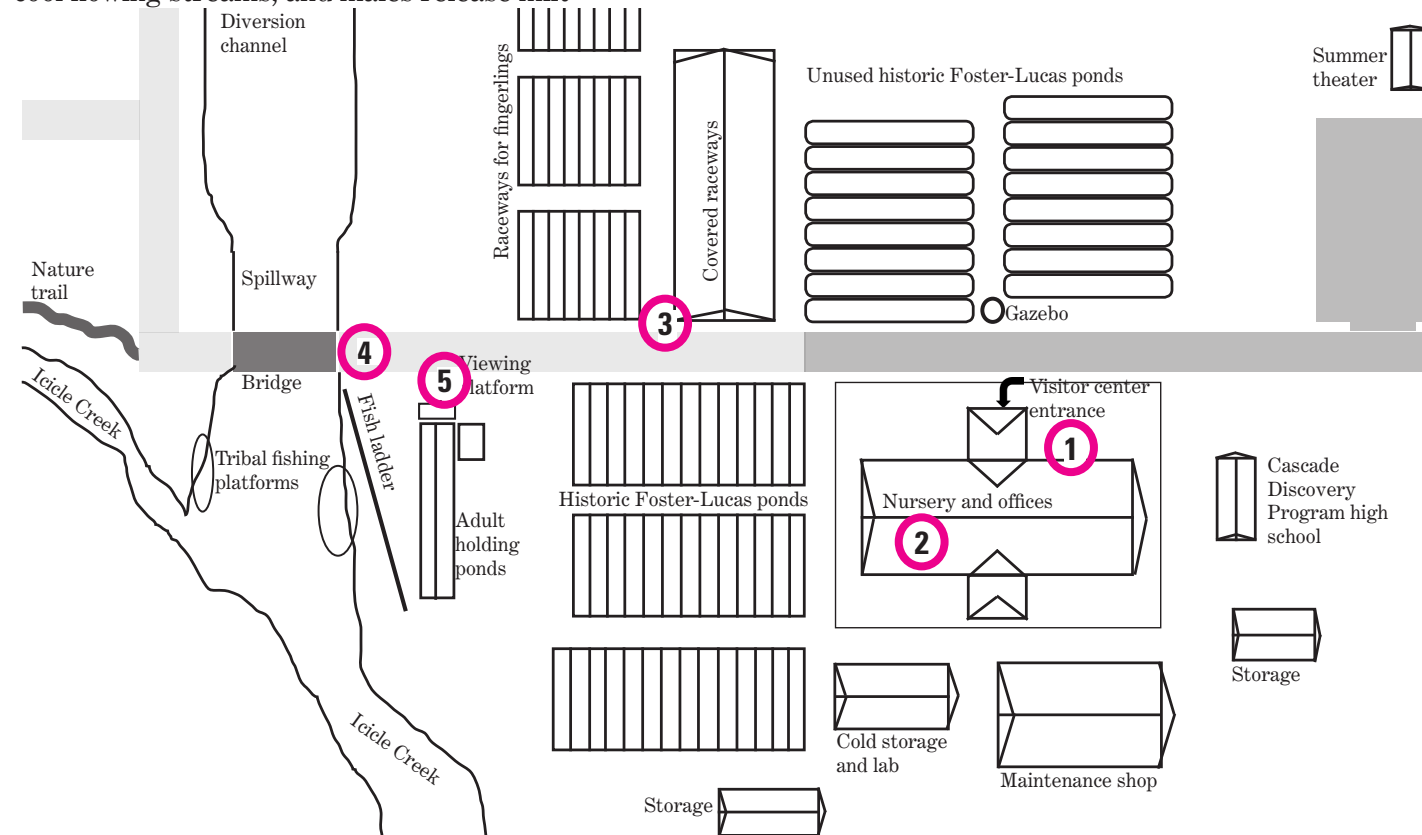
### Stop 3: Raising Fingerlings

For 14 months, young salmon live in these outdoor raceways. You may see our staff out here feeding the fingerlings, cleaning their raceways, and checking on their health. The fish need attention every single day. We protect them from predators like ospreys and otters, and watch for signs of illness. River and well waters are mixed to keep the temperature just right (below 60°F). Growing salmon are fed special diets that change as they develop.

When the fingerlings are 20 months old, their bodies begin to change, preparing for the long journey ahead of them. They shed scales and grow new ones, changing from mottled and dark to shiny silver. Wild fingerlings go through the same change, losing their stream camouflage and gaining coloring that will hide them better in the ocean.

We release our fish into Icicle Creek in April, sending 1.2 million young salmon downstream to the Pacific Ocean. The journey itself is important, helping the fish learn the route they will take to come back home 2-3 years later.

*Walk to the creek to reach Stop 4, at the edge of the bridge.*

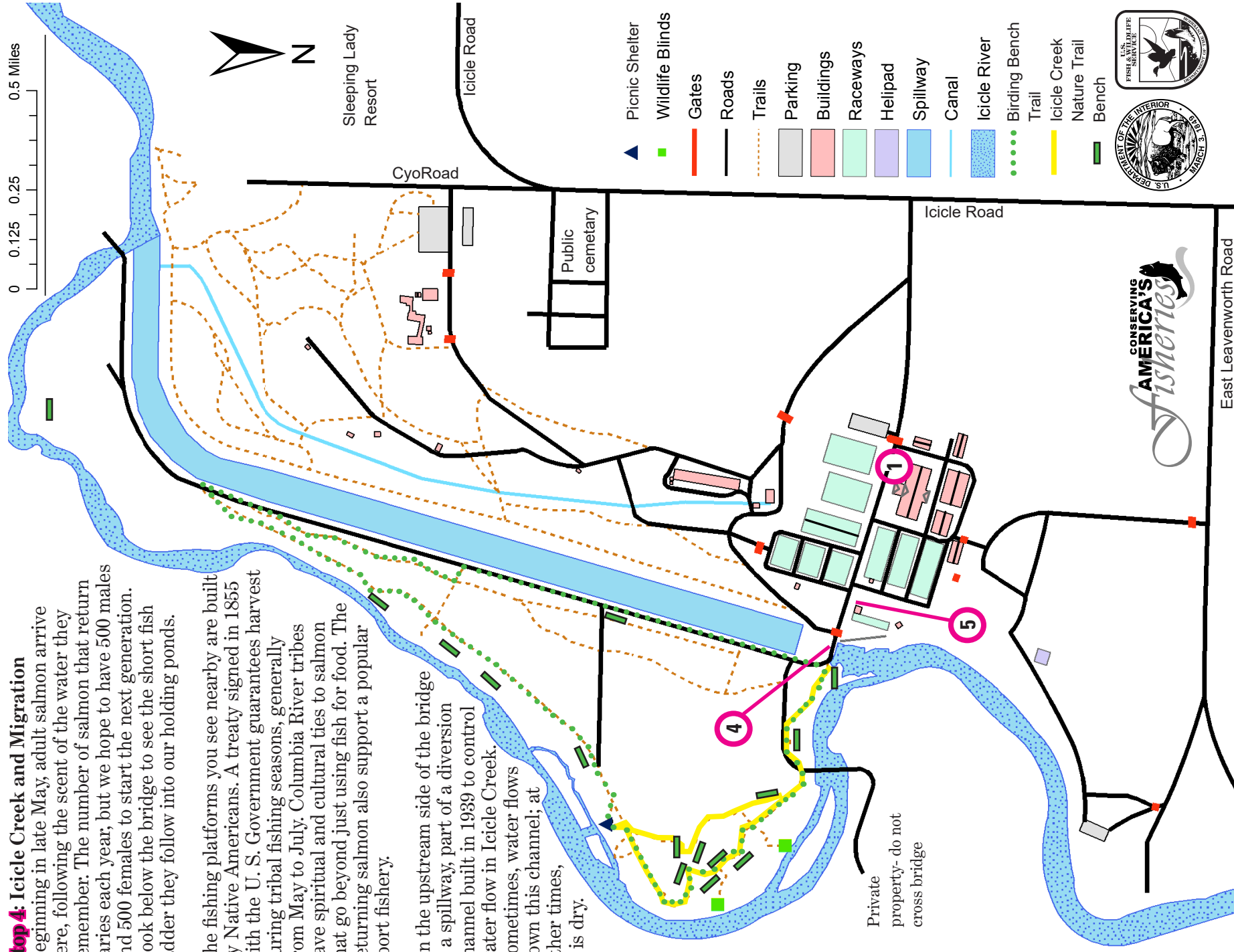


#### Stop 4: Icicle Creek and Migration

Beginning in late May, adult salmon arrive here, following the scent of the water they remember. The number of salmon that return varies each year, but we hope to have 500 males and 500 females to start the next generation. Look below the bridge to see the short fish ladder they follow into our holding ponds.

The fishing platforms you see nearby are built by Native Americans. A treaty signed in 1855 with the U. S. Government guarantees harvest during tribal fishing seasons, generally from May to July. Columbia River tribes have spiritual and cultural ties to salmon that go beyond just using fish for food. The returning salmon also support a popular sport fishery.

On the upstream side of the bridge is a spillway, part of a diversion channel built in 1939 to control water flow in Icicle Creek. Sometimes, water flows down this channel; at other times, it is dry.



**Walk back to the viewing platform overlooking the holding ponds.**

#### Stop 5: Spawning

Salmon that go up the fish ladder end their journey in these ponds. During the summer, we invite tribes and selected groups to come take surplus fish, leaving us with 500 males and 500 females to spawn in August. The spawning shed to your left is where life begins and ends for our hatchery salmon. The eggs and milt taken from the adults are mixed here before being carried to the nursery. Each female can lay up to 5,000 eggs! In the wild as well as in the hatchery, adults die after spawning. Dead salmon are food for wildlife, including aquatic insects that become food for young fry. The sacrifice of the adults is part of the cycle of success for salmon, bringing nutrients from the ocean up into the streams, nourishing not only their young but the ecosystem that supports them, too.

Thank you for visiting us today!

You can continue across the bridge for a walk on the Icicle Creek Nature Trail, a one mile paved trail with viewpoints along the creek. A longer route takes you to a series of benches, placed in good locations for spotting birds. Or you can walk back to the main hatchery building.

Hatchery staff can answer questions for you; or visit us online at our website: <http://www.fws.gov/leavenworthfisheriescomplex/index.cfm>. Like Leavenworth Fisheries Complex on Facebook.