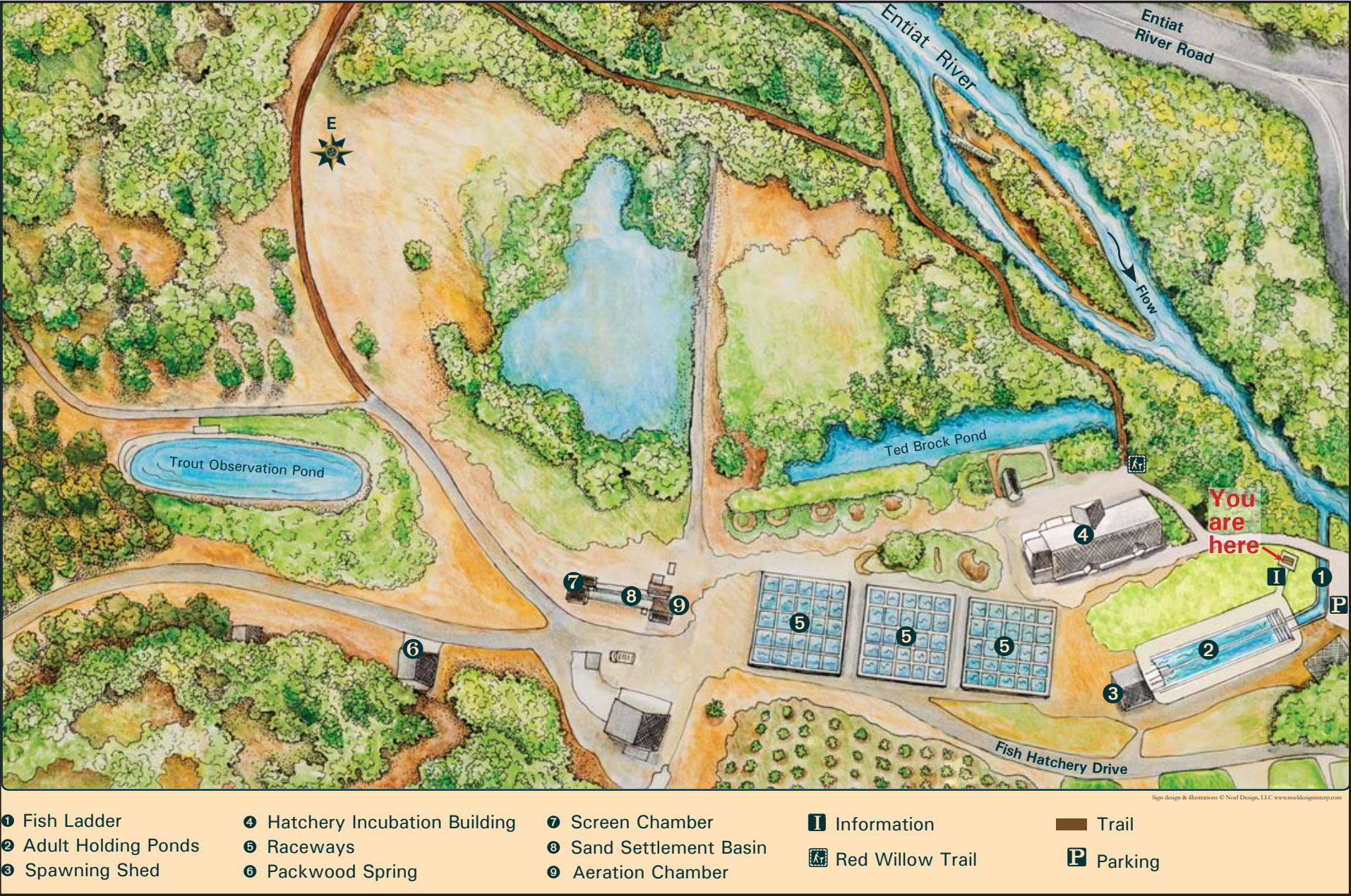


Entiat National Fish Hatchery

Self-Guided Tour Flyer



Welcome to Entiat National Fish Hatchery! This hatchery is part of an effort to keep salmon in our streams. The hatchery was built in 1940 because construction of Grand Coulee Dam was cutting off nearly half the Columbia River

to migrating fish. Hatcheries are one way of mitigating for that impact. Today, we raise summer Chinook salmon, releasing them into the Entiat River to make their way to the Pacific Ocean. They

return as adults, and we collect them to start a new generation. There's always something to see here! Stroll around the grounds with this guide, or take a walk on the Red Willow Trail.

1) Our Salmon Ladder is the last hurdle for returning summer Chinook salmon. Salmon navigate their way back to where they were born when it is time to spawn, driven by determination, instinct, and memory. These powerful fish must travel upriver 490 miles and pass 8 dams to reach this place. The final step of the journey is guided by their ability to smell the water they remember from when they were small.

Of the 400,000 salmon smolts we release each year, some 2,000 adults will find their way back to this facility. Many are harvested in commercial, sport, and Tribal fisheries from the Entiat River to Southeast Alaska.

2) Our Adult Holding Ponds are the final destination for returning salmon. July and August are the best times to look for adults. Another pulse of adults arrives in October. Why the gap? During times of warm, low water, returning Chinook find cool, deep pools to wait in until conditions are better. Once fall brings cooler weather and more water, the waiting adults finish their journey home.

Several hundred adults may be in the holding ponds at any given time throughout the collection season, which runs from early July through the end of October. To protect them from sun and keep them calm, shade cloths are draped over the ponds. People viewing fish look like predators to salmon, and the cloths help lower their stress levels. Salmon in the wild hide under trees and bushes to

avoid predators.

3) The Spawning Shed is where our salmon end their journey. Once adult salmon re-enter fresh water and begin swimming upstream, they stop eating. Using stored energy, they press forward, putting everything they have into reaching their home stream and spawning. In the wild, salmon die after spawning. At our hatchery, salmon are killed humanely and the eggs and milt (sperm) are mixed by our crew.



300 adults are spawned here annually in order to keep the program running. Each female can produce between 3,000 and 6,000 eggs.

4) Fertilized eggs are carried promptly to the Hatchery Incubation Building. Each female's eggs are placed in a separate tray, and left to develop in chilled water running through the stacked trays.

The young salmon (now called alevins or sac-fry) hatch in the trays and continue to develop while absorbing their yolk sacs for nutrition and growth. Once they have absorbed all their stored food, they are called fry and are ready for ponding.

5) Young fry are moved out into the Raceways (ponds) in May when they have outgrown their trays. Once here, they will remain for a year, scheduled for release in mid-April. By release time, they will be active, silvery smolts, eager to leave.

Fish growth and feed amounts are carefully monitored throughout the rearing cycle. Young fry are fed up to 8 times a day, while larger yearlings are only fed 2 to 3 times per day. This is all done to help ensure the proper size and condition at the time of release.

6) Packwood Spring (also known as Limekiln Spring) is one of the sources of water used at the hatchery. A lot of the early concrete in the Entiat Valley was made here within the remains of the kiln visible on the hill beside the spring. Groundwater is better than river water because it carries no diseases. We do not have enough groundwater alone to run operations here.

7) In the Screen Chamber, water from Entiat River is coarsely filtered, ensuring that debris and other fish are kept out of the water flowing into the raceways.

8) Any sediment in our incoming water is allowed to drop out of the water column in the Sand Settlement Basin. Sediment stresses the fish and warms the water. Salmon do best at temperatures below 60F (15.5 Celsius).

9) In the Aeration Chamber, we make sure the water is charged with plenty of

oxygen for our fish to breathe. Cold water holds more dissolved oxygen—another reason we monitor water temperature carefully.



Not much was known about raising salmon in a hatchery in 1940. Entiat NFH became a center for research, trying out different feeds, treatments, and techniques. The research done here was foundational for salmon hatcheries everywhere.

We hope you enjoy your visit! You can learn more about our operations by visiting our website: <https://www.fws.gov/leavenworthfisheriescomplex/>. You can also visit our Facebook page: <https://www.facebook.com/LeavenworthFisheriesComplex/>.

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