Connections





Improving Water Quality One Island at a Time

The second island project in Idaho Power's ambitious plan to improve water quality in the Snake River passed its first test during our hot, dry summer.

Rippee Island is a long, flat strip of land about 14 miles southeast of Marsing. Until a year ago, it was indistinguishable from the many other islands in this wide, shallow stretch of the Snake River.

But late last fall, Idaho Power completed the addition of more than 16 acres of seasonal floodplain around the island, using material from the river bottom and locally mined gravel. The new area was planted with willows, cottonwood trees and other native plants to stabilize the soil, improve wildlife habitat and eventually create additional shade along the water's edge.

"The new vegetation along the expanded floodplain is growing strong and thriving, even during this long, hot summer," said Jim Chandler, environmental manager for Idaho Power.

The project also narrowed and deepened the river channel, which is key to water quality improvements Idaho Power hopes to see as more of these projects are completed in the future. The Snake River is the ninth-longest in the United States, flowing more than 1,000 miles from western Wyoming, through Hells Canyon and into the Columbia River near Washington's Tri-Cities area.

As it flows across southern Idaho, the river becomes wide, shallow and relatively slow. This allows the summer sun to heat the water, and sunlight penetrates to encourage growth of invasive underwater plants, called macrophytes, that are a nuisance to anglers and boaters. When the plants die or become unmoored from the river bottom, they float downstream where they can choke irrigation pumps and collect on the intakes of hydroelectric dams.

They also settle to the bottom of reservoirs and decay, using up precious oxygen. The plants, such as pondweed and watermilfoil, also trap sediment and cover the river gravel that provides spawning areas for native fish and habitat for other aquatic species.

A deeper, narrower channel keeps the gravel cleaner, reduces vegetation and results in less warming during those hot summer days. Idaho Power's first island project, Bayha Island, was completed in 2017. The Rippee Island project is part of Idaho Power's Snake River Stewardship Program, a long-term, watershed-scale proposal that will be part of a new federal license to operate our most important hydroelectric resource, the three-dam Hells Canyon Complex.

In addition to a series of similar island projects planned over several decades, the program involves working with willing landowners to improve streambank habitat along key tributaries of the Snake River. This provides shade and reduces erosion.

"The Snake River is important to everyone in our region, and we take our commitment to stewardship of this vital resource seriously," Chandler said. "This is a long-term effort, but we believe it will be worth it, not only for the customers we serve today, but for their children and grandchildren as well."

For an up-close look at the Rippee Island project, visit Idaho Power's YouTube channel.

Learn more about Idaho Power's Snake River Stewardship Program at **idahopower.com/river**.

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Preparing for the Arrival of Fall Chinook in Hells Canyon

Idaho Power biologists and hydro operators are preparing for the annual return of fall Chinook salmon.

Chinook salmon return from the Pacific Ocean to lay their eggs in the Snake River below Hells Canyon Dam each fall. And each year, Idaho Power surveys this reach of the Snake River to count the salmon nests (called redds), in coordination with the U.S. Geological Survey.

Aerial surveys were once done with helicopters. Idaho Power pioneered the use of drones, which are safer and can capture images and video that are later analyzed for an accurate count.



When we began this voluntary monitoring program more than 30 years, ago, fewer than 50 redds appeared in this remote section of Hells Canyon.

Over the past 10 years, an average of 2,114 redds were recorded in the Snake River. Using science and experience to guide how we operate our hydroelectric facilities has contributed to this success.

We control the water released from Hells Canyon Dam from October through December to provide stable spawning conditions, then maintain a minimum flow to protect the eggs until they hatch in the spring.

This sometimes requires us to lower the water in Brownlee Reservoir upstream of Hells Canyon Dam. This enables Brownlee to absorb increased incoming flows while maintaining a steady outgoing flow. These lower water levels can limit the hydropower we generate at the three dams of the Hells Canyon Complex.

Learn more about our Fall Chinook Monitoring Program and our other fish conservation efforts at **idahopower.com/fish**.

> September 2022 Side Dish



2 cups sliced carrots 2 apples, cored and sliced 1/3 cup orange juice 2 tsp fresh ginger 1 tsp butter

In a skillet, melt butter over medium heat. Add carrots, orange juice and ginger. Cover and cook for five minutes. Add apple slices. Cover and simmer for 2-4 minutes. Makes six servings.

Recipe selected from Idaho Power's Centennial Celebration Cookbook.

SALVAGING FISH at Rippee Island

While Idaho Power crews worked on the Rippee Island project (learn more about that effort on the front page of this issue of *Connections*), biologists successfully saved hundreds of fish that otherwise would have been trapped in the construction area.

Idaho Power built a temporary coffer dam at the upstream and downstream ends of the island, diverting water so heavy equipment could deepen the river channel and build up the floodplain. Fish trapped in the area between the coffer dams were captured using nets and electrofishing equipment, and then relocated to the main channel of the Snake River.

Smallmouth bass, channel catfish, carp, sculpin and other fish species were successfully rescued by Idaho Power personnel — and the work performed at Rippee Island will result in better water quality and improved fish habitat for many years to come.

"We always want to be good environmental stewards," said Nate Seal, Engineering Leader, and project manager on the Rippee Island construction. "We want to get these fish back in the river."



Check out a video of the Rippee Island fish salvage project on our YouTube channel at **youtube.com/idahopower**.