

December 22, 2022

Something Wonderful Has Happened

A report from:



We have good news to report about Auburn Ravine!

Salmon can now access 4 times more spawning area than they have for decades.

Since the 1930's, a water-diversion dam about two miles east of downtown Lincoln has been a major problem for the salmon that swim up Auburn Ravine to spawn every fall and winter. In wet years, on average, 7 to 10 percent were able to get over that dam to reach good spawning areas upstream. In dryer years, none made it.

It was called the Hemphill Dam – probably named after a prominent Lincoln resident, Wallace Hemphill, who led various irrigation projects in the area around Lincoln in the 1920's and 30's.



Friends of Auburn Ravine photo

Hemphill Dam during a recent irrigation season (April 15 to October 15). After the upper steel and wood structure was removed in mid-October every year, it still blocked most fish that tried to get over it to the good spawning areas upstream.

The good news is that this dam has been removed. The site is now called the Hemphill Fish Passage Project. The salmon now have access to about eight miles of streambed. And they are using it!

The dam was replaced by a modern water diversion system that will allow fish like salmon, and steelhead to migrate upstream with ease while also allowing water delivery via the Hemphill Canal to continue as normal.



A salmon tries (and fails) to jump over Hemphill Dam in 2012. Photo courtesy of Phil Robertson.

The new system is called a Roughened Rock Ramp. It was installed in the streambed where the old dam used to be. It provides a gentle slope for the fish to swim up, and at its upper end it keeps the water high enough that it can still flow into the Hemphill Canal during irrigation season. A screen at the entrance to the canal will keep baby fish out of the canal so they can continue their trip down to the ocean. They will no longer die in the canal. To keep water flowing to customers along the Hemphill Canal, the screen is designed with mechanical wipers to keep itself free of leaves, sticks other debris and sediment that might clog it up.

The project was managed by Nevada Irrigation District (Headquartered in Nevada County, CA) and Westcon Construction of Newcastle, CA. They completed the project before the first big rains came in this fall. When the rains did come in, and the creek water rose, salmon began swimming up into Auburn Ravine from the Sacramento River. In early November, we started seeing them on the Salmon Cameras that we operate near downtown Lincoln. As of mid-December, we had confirmed sightings of at least 30 salmon swimming upstream past the cameras as they headed toward the Hemphill Fish Passage site and further upstream. That number is a bit low compared to average. For a full season (October to April) the average Auburn Ravine run is over 140 salmon. The ongoing drought has affected salmon runs in general and historically runs have rebounded after a drought ends.



In this early-December photo, the old dam has been removed and replaced with a gently sloping Roughened Rock Ramp. The concrete walls of the canal intake can be seen in the distance just to the right of center. (Friends of Auburn Ravine Photo.)

To find out where those salmon went, our volunteers conducted wading/walking surveys along many sections of the creek from Lincoln to the Hemphill Fish Passage site and on upstream. Each section was a mile or two in length. Our volunteers surveyed five sections, some more than once. We did not survey the entire 8-mile spawning area but the sections we surveyed are a statistically significant portion of it. We hope to be able to continue this monitoring project for at least four more years.

Based on those observations, we can say that the Hemphill Fish Passage Project is clearly a success!

Before the dam was removed no more than 10% of the salmon that tried to get past the dam succeeded. Now that the dam is gone, 79% of the fish are getting past the old dam site.

This success is the result of a multi-faceted decades-long effort. Community groups like Save Auburn Ravine Salmon and Steelhead, Friends of Auburn Ravine, and the Auburn Ravine Preservation Committee raised the issue and kept it on the agenda in many venues. Nevada Irrigation District (NID) conducted analysis and produced various designs. Local, State, and Federal agencies weighed in with expertise and approved final design. The California Department of Fish and Wildlife allocated funds for sediment and fish studies. Water Audit California gave the process an essential legal nudge. NID, and the California Wildlife Conservation Board allocated funds for construction. And, the Placer Conservation Authority facilitated the permitting process so that construction could begin this year.



A 36" long Chinook salmon swims past our Salmon Cameras in the Auburn Ravine Nature preserve.

This project is the latest in a series of fish passage improvements that have been completed along Auburn Ravine.

Kudos should also be given to:

The operators of the seasonal diversion dams west of Lincoln, who have for many years removed the upper sections of their dams in mid-October to allow salmon, and steelhead to get from the Sacramento River to the Lincoln area.

The Rancher who installed a fish screen in 2011 just west of the new route of Highway 65.

NID for the fish passage project that they completed in 2012 at their Lincoln Gauging Station near the Lincoln Dog Park west of Lincoln Blvd.

South Sutter Water District (SSWD) and Family Water Alliance (FWA) for the fish screens they installed at Pleasant Grove Canal in 2015.

Placer County Water Agency (PCWA) for further improvements to the Pleasant Grove site in 2020, and improvements they made at their New Moore water diversion site that year as well.

So, you ask, "When and where can I see these fine fish?"

After a "good rain" of 2-3 inches in the Auburn-Lincoln area in 2-3 days, salmon and steelhead will usually get to the Lincoln area about 2-3 days later. So, if you want to try to see them, the days to go look are when the water begins to clear after a good rain from mid-October through mid-April.

At present, public access to the creek is somewhat limited but there is a nice concrete trail from the Auburn Ravine Dog Park that goes upstream almost all the way to Lincoln Blvd. Along it you will find many places where you can see the creek. That is a good place to look. The best times of day to see fish moving upstream are around sunrise and sunset. But they can also often be seen at other times. We have proposed that the City of Lincoln extend its existing creek-side trail system up to the Hemphill Fish Passage site.

Most of the salmon are 24" to 36" long. You will be amazed the first time you see one!



A Salmon Survey team wades upstream along Auburn Ravine. (Friends of Auburn Ravine photo.)

And.....if you really want to get serious about seeing some salmon in Auburn Ravine, you can join a crew of volunteers working with Friends of Auburn Ravine (www.auburnravine.org). We have permission from many property owners along the creek to conduct Salmon Surveys every fall and winter. This is not a casual endeavor. Training is required and there are forms to fill out each time the volunteers see a living or dead salmon. And pursuant to our permit from the California Department of Fish and Wildlife, we dissect any dead salmon we see to collect DNA samples and/or tags for analysis.

These ongoing surveys provide data that help us, and the wildlife agencies better understand the fish and wildlife habitats of Auburn Ravine. That knowledge can support efforts to protect and improve wildlife diversity in such a way that human uses of the landscape can continue and grow.



**Friends of
Auburn Ravine**
AuburnRavine.org



Comments or questions can be addressed to:

James Haufler – President
Friends of Auburn Ravine
projects@auburnravine.org
916-672-9672