

Hi, this is Valerie Fellows with the U.S. Fish and Wildlife Service's Office of Public Affairs. We're celebrating the Fisheries program 140th anniversary and talking to folks from around the country about ways that the Fish and Wildlife Service's Fisheries program conserves the resources. Today, I'm talking with John Rueth who is the Assistant Hatchery Manager at Livingston Stone National Fish Hatchery in Shasta Lake, California.

Valerie –Hi John!

John- Hi, how are you doing Valerie?

Valerie- Good , So I've been doing a little research and I'm learning that Livingston Stone National Fish Hatchery was named so after Livingston Stone, who was named the first hatchery manager of the very first fish hatchery--Baird National Fish Hatchery in California.

John-That's correct

Valerie- Ok, so why don't you tell me a little about Livingston Stone NFH today and what you're doing today?

John- ok, well Livingston Stone NFH is located on the Sacramento River at the base of Shasta dam, and the hatchery main goal is to produce the endangered winter Chinook salmon. And as a supplementation hatchery, what we are doing is assigned to supplement the wild population which has been reduced to very low numbers due to temperature problems within the Sacramento River.

Valerie- And why did those temperature problems occur?

John- Well, what they did when they built Shasta dam originally in the 1940's and 50's , they basically had no use for the cold water, and there was a lot of cold water coming down. And it has created an artificial habitat for the winter run (salmon). And the numbers (winter run salmon) sky-rocketed in the 1960's up to over 100,000. As the demand for power and water increased here in California for irrigation and for electrical use, the water was drawn from the top of the dam which is the warmest water, and, in turn, is too warm for the salmon and the numbers crashed--reaching a low in 1994 of 186 fish. Since then, the bureau has put in a temperature control device and allowed them to modify the temperature here so we can get adequate water temperatures here in the Sacramento river here and hopefully get the winter Chinook to rebound to higher numbers than they were then.

Valerie- So the winter Chinook (salmon) are considered an endangered species. So what kind of work are you doing at the hatchery? What kind of genetic work or propagation work do you do to help the population numbers increase?

John- well what we basically are is a conservation/ supplementation hatchery. So our goal is to produce fish to supplement the wild fish in the Sacramento River and to increase the number of winter run salmon. By doing that, we have a very matched genetically-based program. Our ideal is to take a limited number of fish out of the river, bond them with a real complex bonding matrix to keep the genetic diversity as high as possible, and then release limited numbers of fish back into the river to help increase the winter run numbers over time.

Valerie- So what kind of goals do you have to increase that population?

John- Well actually the goal here at the hatchery is to shut itself down, which really isn't much of a goal. This was considered an interim facility when it was built. And the Chinook population level is at a set level-- I believe that set level is 10,000 returning females for three years in a row. Then, the hatchery program would actually be considered successful, and be able to shut itself down.

Valerie- And how long have you been doing this work already?

John- Winter Chinook were originally propagated back at Coleman National Fish Hatchery, which is a little further down stream on Battle Creek, as far back as the 1950's with little or no success. Then the program was started up again down at Coleman (NFH) in 1989 -1991 with limited success. Then success increased in 1995. But some issues were brought up. Since it is a supplementation program, the fish were returning to Battle Creek, and not to the Sacramento River, which was the goal. So the program was shut down for a couple years until a new facility could be built. The new facility, Livingston Stone, was built in 1998 on the main stem of the Sacramento River, and we have been in operation since then. Our first year in operation we produced 150,000 sub-smolt salmon to be released into the river. And that's been our goal--about 150,000-250,000 per year.

Valerie- Wow , are there any other species besides the winter Chinook, or Chinook salmon that you have been working on there at the hatchery?

John- Yes, we have been tasked in 2006 to take on some work with threatened and endangered Delta Smelt. Delta Smelt are very unique to the San Francisco Bay area. Its the only place that they occur, and numbers have gotten very very low. So, in 2006, they pretty much stopped allowing the taking of any Delta Smelt for experimental research purposes. And we started a refugia population, very similar to what the Fish and Wildlife Service did for the California Condor. In conjunction with UC (University of California) Davis' Fish Culture and Conservation Laboratory in Byron, California, which is located near Sacramento. We are basically a back-up refugia population. So basically when they (delta smelt) go through their spawning and produce their fish for the next generation they send us a little copy of it, a little genetic copy of it. So in case anything were to happen to their fish, we could replace them and not lose the genetic material. Along with that we are doing work with fish health and tagging operations because no one has done any work with delta smelt.

Valerie- Wow, sounds like your hatchery, as one of the 70 units total in the National Fish Hatchery system, is doing amazing conservation and scientific research. So we thank you; and, I am really happy to have talked to you today. Again I am talking to John Rueth, Assistant Hatchery Manager at Livingston Stone NFH, which is located at the foot of the Shasta Dam, north of Redding California, and is part of the Coleman Fish Hatchery complex. The Livingston Stone NFH is not open to the public, but if you want information, or to set up a special tour , you can contact John at John_rueth@fws.gov. Thanks for joining us today. Again, this is Valerie Fellows with the USFWS Office of Public Affairs celebrating the 140th anniversary of the Services Fisheries program.