MS. LEON: Hello there, this is Sarah Leon for the U.S. Fish and Wildlife Service and I am on the phone today with Rob Holm, hatchery manager of Garrison Dam National Fish Hatchery. Hi Rob, how are you today?

MR. HOLM: Doing great. It is a wonderful day, the fish are spawning and the weather is cooperating, so things are good.

MS. LEON: That’s great. I actually hear that you are doing a lot of fantastic things at Garrison Dam. To get us started though, could you tell us a little about the hatchery?

MR. HOLM: Yeah. You can tell by the name of the hatchery, The Garrison Dam National Fish Hatchery, we’re obviously associated with the dam, and the reason for the hatchery was to provide fish to offset some of the impact when the reservoir was created. Garrison Dam was completed as part of the Pick-Sloan project. It is one of a series of six dams in the Missouri River, located in North Dakota, and it is actually the fourth largest man-made reservoir in the United States. So, we are pretty sizeable as far as water bodies.

I guess some more of the history: The construction began on Garrison Dam in 1961. The first year we produced fish here was in ’62 and those fish were stocked in to what was called Garrison reservoir at the time. The fish that we produced were walleye and other pike and oddly rainbow trout. The reason I say oddly is North Dakota is really not noted for trout or salmon, but with the creation of these reservoirs and the changing of
the systems we have out here, we have actually created a lot of cold water habitat and stuff that is suited for trout and salmon.

When you have a river like the Missouri River, prior to impoundment, it transported a lot of silt downstream, a lot of sediments. In fact, the nickname for the Missouri River was the Big Muddy. If you take that Big Muddy River and you stick six major reservoirs in line, it does a lot to that river. It changes its behavior considerably. One of the things that it will do is drop out all of the sediments. We went from a river that was flood every spring and transported a lot of sediments downstream, and was a fairly warm water river, and we've changed it into a series of impoundments that are deep water, cold and clear. As a result of that, we have some different opportunities for fish species. Following the construction of the reservoirs, we introduced a lot of non-native fish to provide fishing opportunities in these reservoirs that had changed so much. The native fish could not adapt to those changes and so we provided a fish species that could.

Then twenty years later, we began to realize the consequences of doing that, and one of those consequences is the identification of threatened and endangered species. For here, the one that really impacted us was the pallid sturgeon. Beginning in probably the mid to late '70s, we started noticing a decline in the number of pallid sturgeon that was present in our sampling. By the late '80s we realized this fish was in trouble and so on September 6, 1990, the pallid sturgeon was officially listed as an endangered species. The only one listed on the Missouri River. That began a new history in propagation programs here at Garrison Dam.

MS. LEON: When did the hatchery begin its work with this species?

MR. HOLM: The propagation was first attempted in 1996 here at Garrison. We were seeing a need for sturgeon production. In 1996, we opened up a twenty-foot circular tank for bringing adult pallid sturgeon in and we gave it a whirl. That year we went out and spent a week on the river looking for pallid sturgeon. In six days we ended up collecting five fish, four of them were males and one of them a female.

I will give you a little bit of history on sturgeon. Female sturgeons typically do not spawn every year. In fact, typically it is more like every second or third or even more years in between spawning cycles. It just happened that this female that we collected in 1996 was a year off from spawning so we actually had no luck that year with the propagation program.

The following year we did collect a female that was ready. She had mature eggs in her and we did spawn her but the eggs that were collected were not viable. So again, two years down the road and we still did not get the first eggs to hatch. We were getting a little bit concerned. The next year we went out and we had luck that was 1998. We went out and collected two males and two females. We were successful in getting both the females to spawn, and so we made some pallid for the first time in our history. It was a real exciting event for us. It marked kind of a change in the whole pallid program,
because it had been several years’ worth of attempts that we had no success with and then all of a sudden we are in business.

It is a combination of good fortune and good water and some good science that kind of went together and enabled us to be kind of a leader in the propagation program. So far, we have actually put out more than twice the number of pallid sturgeon of all the other hatcheries combined. Therefore, we have been a vital part of the recovery effort.

Let me just say it is not like any of the other species we have ever raised. The early years were definitely a steep learning curve. As I mentioned earlier, the fish do not spawn every year, and they also do not exhibit a sexual dimorphism. You cannot tell the males from the females when you bring them in. Through time, we have gone to use either ultrasound or a biopsy technique to even identify whether or not you have a male or a female. Then getting this wild fish to spawn in a hatchery environment was not easy either. What we have come to do is actually rely on hormone therapy to initiate ovulation or expermiation in the adults.

We found, like with any fish, that you can actually make them ovulate but if your timing is not correct then the eggs that are produced are not viable. Stress is a big factor in these fish and even with all the proper timing and everything, if the fish does not want to respond, she does not necessarily respond. Therefore, sometimes we are successful and sometimes we are not. Over the years, we have become much more successful.

Some other things, too: the males are different then the females in that they do spawn every year. We have been fairly successful with that program. In fact we have a graduate student from Georgia came up, doing his masters on cryopreservation—something that had not been done with sturgeon species in North America before. I believe it was 1999 when we were first successful. We had him come up here. We froze some pallid sturgeon smelt, we thawed it out and used it to fertilize eggs, and off we were with a cryopreservation program, and that has been a huge asset to the recovery as well.

MS. LEON: What sort of visitor opportunities are there at the hatchery? What about the month of June can people actually come and see the pallid sturgeon?

MR. HOLM: Oh, definitely. In fact, the month of June you would likely see us in there spawning fish. We typically will go out in April and start a collection in April and May. We would have pallid sturgeon in two twenty foot circular tanks swimming around anticipating a spawning date. Before April, you would see actually the pallid sturgeon juveniles in the hatchery. But, it would not be the only fish you would see here. We also are raising northern pike, walleye, and other species like your perch and bluegill and crappie and that kind of thing. So, you would have the opportunity to see other fish at the hatchery.

Then come October we begin our Chinook salmon spawning. Through this month, you will see a bunch of the fish that we have stocked into Lake Ahwahnee return back to the
hatchery. We actually have a stream that leads on to the Missouri River, and as part of the smelting and imprinting process these fish think that the Garrison Dam Fish Hatchery is a place to come and spawn. That is what they learned through their imprinting process. So, they come up in to our effluent channel where we can collect them again and then bring them into the building and spawn them. It is really kind of a neat thing. I mean the creek is less than a foot deep and you have these fifteen-pound schnook salmon making their way up through the rocks and so forth trying to get back in to the hatchery. It is pretty awesome.

We have put in a hiking trail, a couple of them in fact. A couple of them parallel the wetlands going down to the Missouri River and the other one follows the Missouri River back to the hatchery. Along the trails you would see all kind of animals. The deer of course would be down there and beaver. You would see all kinds of geese and ducks and so forth down there as well as the eagle. In fact, we have nesting pairs of bald eagles along the trail that you would see in the spring. It is pretty remarkable, and it is fun. It is a fun hike.

MS. LEON: So, there is a lot to see here at Garrison Dam year round?

MR. HOLM: There is and it changes with the seasons. You can come and visit us in the spring and it is a whole different story when you come back in the fall or in the winter. So, there’s something new all the time.

MS. LEON: Wow! Well, thank you so much for your time today. I was a real pleasure having you on, and of course, thank you and all the staff there at Garrison Dam for all of the work that you are doing for the pallid sturgeon.

MR. HOLM: Well, I appreciate that.

MS. LEON: For the U.S. Fish and Wildlife Service, this is Sarah Leon. Thanks for listening.