



**UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
FISH AND WILDLIFE SERVICE
ENDANGERED SPECIES PROGRAM**

TELEPHONIC INTERVIEW (Time 10:15)

PALLID STURGEON (HOST SARAH LEON WITH GEORGE JORDAN)

This transcript was produced from audio provided by FWS Endangered Species Program.

P R O C E E D I N G S

(Music plays.)

MS. LEON: Hello, there. This is Sarah Leon with the Fish and Wildlife Service and I'm on the phone today with George Jordan, the Pallid Sturgeon Recovery Coordinator at the Billings, Montana Field Office.

Hi, George. How are you?

MR. JORDAN: Doing well. Yourself?

MS. LEON: I'm doing fine, thanks. I was just hoping you wouldn't mind talking to us a little today about the Pallid Sturgeon.

MR. JORDAN: Yes, that would be great.

MS. LEON: Deserved or not, the Pallid Sturgeon is perhaps best known as one of the ugliest fish in North America. What's your take on this and what else can you tell us about this species that's maybe a little more positive?

MR. JORDAN: Well, I'm probably somewhat biased on my preferences here, but I kind of disagree with it being one of the ugliest fish in North America. It's actually a fish that has evolved over millions of years to be uniquely suited to the habitat that it survives in. And in that regard it's kind of a beautiful organism. It may not be as glamorous as some of the colorful trouts or the salmon or desirable like walleye for recreational pursuit. It really is evolutionarily a beautiful specimen that is adapted to its environment.

The fossil record for the species is incomplete, but they indicate that at least the precursors to today's Pallid Sturgeon date back approximately 78 million years ago into the Cretaceous Period of the Mesozoic Era. That's why you'll often hear of Pallid Sturgeon kind of being referred to as living dinosaurs.

We can't definitively say that Pallid Sturgeon that we know today swam the rivers of North America at the same time dinosaurs were walking, but their ancestors did.

MS. LEON: Great. And you mentioned, you know, that this particular species has been around for quite some time withstanding events that have caused extinctions in many other fish, despite the sort of tenacity the Pallid Sturgeon is currently endangered. So why is this?

MR. JORDAN: Well, you know, available information really indicates that the species has been around for millions of years and it survived some major geological events like ice ages. But in that context, these events didn't happen overnight and so over thousands or tens of thousands of years, some of the most recent ice age events took a long, long time which provided ample opportunity for the species, in general, to adapt to these changing conditions. Now when we look at what's occurred in the Missouri and Mississippi River basin of today, human changes to these systems really occurred, I guess, in a geological blink of the eye, if you will. So it's only been during roughly the past 150 years that major changes have happened which occurred really much more rapidly than the species can adapt to.

And just looking at it historically, in the 18th century, French settlers on the lower Mississippi were making some small localized changes along the Mississippi River to accommodate their needs. A lot of these things were small irrigation projects or construction of levies to prevent their farmlands from being flooded. And then as we move through time it really is getting into the latter part of the 19th century and early 20th century where the habitat changes occurred quite rapidly. Most of these changes are associated with various acts to manipulate the Missouri and Mississippi Rivers in a fashion that would provide societal benefits like flood control, navigation, and things like that.

Just some of the examples of practices that have occurred, the Missouri River in Montana and through the Dakotas, six large dams were built which converted a fair amount of river habitat into reservoir habitat. Up and down the lower Missouri and Mississippi River, there's been extensive bank armoring to prevent erosion. Locks and dams were built in the middle and upper Mississippi River again to facilitate navigation. A lot of the in-channel natural habitat features like sand bars and log jams were either physically removed or structures were placed in the river to kind of control deposition. So cumulatively, these things happen very, very rapidly relative to the evolutionary timeframe for the species and that's really

one of the main factors of what's driving the concern and the decline of the species. And there's also some other stuff going on. We've all heard of the Clean Water Act and prior to the Clean Water Act there was a lot of contaminants or environmental chemicals that were finding its way into our nation's rivers. Those could have had some effects on the reproductive criteria for the species. They could have affected larva fish survival. And then we also have water development which reduces the amount of water in the river, particularly during drought period.

We also have commercial fishing activities that do result in the loss of some of our adult fishes and then another big factor is the introduction of invasive or not native species which are directly competing with a lot of our native fishes that seem to be declining.

MS. LEON: George, I understand the Pallid Sturgeon can grow to be one large fish. How big are we talking here and does this make propagation a challenge at our fish hatcheries?

MR. JORDAN: Yes, actually, Pallid Sturgeon can obtain quite a large size. Our length frequency data sort of tells us is that the maximum obtainable size is variable across the range. And just speaking in generalities, the largest documented Pallid Sturgeon to come out of the upper Missouri River in North Dakota and Montana and then maximum size tend to decrease in a downstream fashion. So roughly speaking, adult Pallid Sturgeon in the Upper Basin can exceed one meter which is about three feet. I think one of the largest fish we've documented was just about 1.6 meters or just a scosh over five feet. So what that means weight-wise is you're looking at fish that are somewhere in the neighborhood of 11 to 27 kilograms or 25 to 60 pounds.

So when you're dealing with a fish of this size, there's a couple of factors that play into it. One is not just the physical size of the fish, but those large females actually can produce an enormous amount of eggs, somewhere in the neighborhood of 120 to 150 thousand. So not only do you have to have a hatchery or a facility that can accommodate a handful of large adults, but you also have to be able to accommodate hundreds of thousands of fries as they hatch from eggs. And you know, really, the hatchery managers and the hatchery staff need to be given a huge amount of credit. Ten years ago, 12 years ago, roughly, we didn't know anything about propagating this species. And there was a steep learning curve and these guys stepped up and overcame a lot of the early issues. Through these guys' diligence, we were able to reproduce fish and get them out in the wild and protect the species from going extinct. So it's been an interesting process and again, the guys that do the hatchery stuff, my hats off to them.

MS. LEON: The Pallid Sturgeon's case is interesting because recovery planning and implementation is highly dependent on

partnerships across several state lines. Can you tell us a little about these partnerships?

MR. JORDAN: You bet. It is quite interesting and that's where my job comes in. Looking at the range of the species, you're dealing with 13 states. And you know, just in a nutshell, the progress that we've made towards recovery of the species absolutely would not be possible without the various partnerships that are out there.

So looking at the recovery program in general, 3,000 miles roughly of river in habitat, 13 states, it was really a challenge to figure out how to best facilitate and implement on the ground activities and what the recovery program did early on is they kind of broke the range of the species up into roughly thirds. And so what we have now is an upper, a middle, and a lower Pallid Sturgeon work groups that were geographically based and within those work groups you have then the associated state, Federal, local and nongovernment organizations as well as other interested parties.

So off the top of my head, some of the agencies and partners involved either directly or indirectly that help with Pallid Sturgeon recovery, first you have to mention the states, because without them I don't think anything would happen. So we have the States of Arkansas, Illinois, Iowa, Kansas, Kentucky, Louisiana, Mississippi, Missouri, Montana, Nebraska, North and South Dakota and Tennessee. So within those states you have their various agencies and departments. You have their wildlife management agencies. You have their Department of Environmental Quality or Water Quality and even in some instances, their Department of Transportation have been involved.

On the federal side, we've got the U.S. Department of Agriculture through their Natural Resources Conservation Service, the Army Corps of Engineers, the Bureau of Reclamation, the Environmental Protection Agency, Fish and Wildlife Service, U.S. Geological Survey, and Western Area Power Administration. Those are some of the main federal players involved with trying to recovery the species or other aspects that are going to provide a benefit to the 20 species. And then you start getting into the non-government organizations and that list gets to be quite large. Just a few of the notable ones that come to mind, the Nature Conservancy, the National Wildlife Foundation, our cooperative units with various universities. There's just a whole host of folks involved outside of the government arena that are also integral players in Pallid Sturgeon recovery. So I guess to conclude the scope of recovery is quite large. And through the cooperation of the federal, state, local entities, non-governmental organizations, I really think we are making progress.

MS. LEON: Thank you, George, for taking the time to speak with us today.

MR. JORDAN: Well, thank you. Appreciate it.

MS. LEON: This is Sarah Leon, for the U.S. Fish and Wildlife Service. Thank you for listening.

(Music playing, whereupon, the interview was concluded.)