

Pallid Sturgeon Propagation - 1996 at Garrison Dam NFH

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Background/Introduction

Within the Pallid Sturgeon Recovery Plan (1993) guidelines were established for the collection and propagation of pallid sturgeon *Scaphirhynchus albus*. Prior to 1996 Garrison Dam had played a minor role in the recovery effort serving primarily as a holding facility for adult pallids and participating in a tag retention study of elastomer tagged fish from Blind Pony SFH, MO.

Objectives

The objective for 1996 was to collect and spawn four pallids using a single male/female breeding matrix. Initial incubation of eggs would occur at Garrison Dam NFH. The culture of fingerlings would be accomplished at Gavins Point NFH since the facility at Garrison Dam does not accommodate intensive sturgeon culture. Pallids would be used in the reintroduction effort and for captive brood development. Excess pallids would be used to fulfill research needs.

Methods and Results

Initial broodstock collection was accomplished during the period from April 27 through May 2. A total of 6 days were spent floating variegated gill and trammel nets within the first 12 miles of the Yellowstone River and 18 river miles at the confluence of the Missouri River (see Table 1). Once captured the sturgeon were injected with oxytetracycline at 0.045 ml/lb body weight and transported to Garrison Dam NFH in a seven foot circular transport tank. Two fish were captured held at the hatchery, one was presumed to be a ripe female. At the hatchery the fish were held in a 20 foot circular tank. Salt was added to the tanks routinely to alleviate stress associated with capture, transport, and spawning activities. Water temperature in the holding tank was gradually warmed from 40 degrees to 54 degrees to mimic natural spawning temperatures. On May 7, a biopsy was performed on the suspected female to determine the stage of egg development. The biopsy revealed that the suspected female was instead a mature male. Efforts were directed back to the capture of a female. On May 13-15 the Missouri River FWMO was back at the confluence floating nets. Four additional pallids were captured, three were transported to the hatchery, one was released at the capture site. On May 20 the suspected female was biopsied and determined to be an immature female. Attempts were made on two other occasions (May 23-24 & May 29-30) to capture brood without success. Netting operations were concluded on May 30 when river flow was too great to safely and effectively drift nets. All pallids were transported back to their capture site from Garrison Dam NFH.

Table 1. Pallid Broodstock Data

Tag Number	Date	Sex	Wt lbs.	Milt	Other Info	Capture site
1F4A0B1A72	04/27/96	M	45	N	No Injections	Yellowstone River mi 9
1F4A24076C	05/01/96	M	31.1	N	No Injections	Yellowstone River mi 5
1F47606357	05/13/96	U	57.8	N	No Injections	Yellowstone River mi 5
2204657963	05/13/96	F	58	-	No Injections	Missouri River mi 1557
7F7F056372	05/15/96	M	33.5	N	No Injections	Yellowstone River mi 9.5

Conclusions

There is a need for additional manpower to assist in the capture efforts in the early spring, prior to high flows. A technique to determine the sex of the fish and possibly even the stage of egg development in the field would be extremely beneficial.

Recommendations

- Attempt to capture at least two potential females in the spring of 1997.
- Attempt to capture pallid broodstock in the fall for spawning activities at Gavins Point NFH.
- Coordinate with other agencies and within the Service for additional manpower