



Columbia Fishery Resources Office Accomplishment Report

December 2004



Partnerships and Accountability

Columbia FRO Works with Computer Programmers to Enhance Understanding of Paddlefish Stocks

Assistant Project Leader, Joanne Grady, worked during the month of December with Tom Slavens and Debin Benish of Delta Systems Group, Inc. on the national paddlefish stock assessment database. The database contains the collective efforts of 22 state fish and game agencies in the Mississippi River Basin to stock, tag, collect and recapture paddlefish. Unlike anadromous salmon stocks which were the basis for this tag study design, paddlefish do not routinely travel from their natal river to an offshore site and then return. Paddlefish have been documented to travel from South Dakota to Tennessee. Fish have been recaptured and assigned new tag codes at multiple locations and dates. The computer programmers' new code simplifies the linking of capture information which allows Columbia FRO to serve the database to the state agencies in user friendly Microsoft Access format. In return, Tom and Debin learned a lot about paddlefish, starting with what the fish actually look like! This project allows the Service to work with state partners to develop regional paddlefish management plans. Work on this project is an example of Columbia FRO's commitment to the Service's Fisheries Program Vision for the Future priorities of "Partnerships and Accountability", "Aquatic Species Conservation and Management" and "Leadership in Science and Technology".

Contact: Joanne Grady

Aquatic Species Conservation and Management

Pallid Sturgeon Stocking Plan Meeting

Project Leader Tracy Hill traveled to South Sioux City, NE to participate in development of a draft stocking plan for pallid sturgeon for the Missouri River Basin. Goals of the plan include establishment of a pallid sturgeon population capable of natural reproduction and preservation of the sturgeon's genetic diversity throughout the Missouri River basin. Pallid sturgeon were listed as endangered in 1990 by the U.S. Fish and Wildlife Service. The primary cause for the decline in population abundance is attributed to habitat loss. Partners involved in development of the draft plan include Army Corps of Engineers, Nebraska Game and Parks Commission, and USGS Columbia Environmental Research Center. The Service hopes to have the plan in final form by early Spring 2005. Developing a stocking plan for pallid sturgeon will aid managers in their efforts to restore this critically endangered aquatic species. This outcome is consistent with the Service's goal of maintaining self-sustaining populations of native fish species under the "Aquatic Species Conservation and Management" priority of the Fisheries Program Vision for the Future.

Contact: Tracy Hill

State Endangered Lake Sturgeon Collected in Missouri River



Fishery Biologist Wyatt Doyle holds large lake sturgeon collected in Missouri River.

A large lake sturgeon was caught by Columbia FRO during its mid-December pallid sturgeon sampling efforts. Fishery Biologists Wyatt Doyle and Colby Wrasse along with Biological Science Technician Corey Lee encountered one lake sturgeon in over fifty 200 foot gillnet sets, confirming their rarity in the Missouri River. The state threatened lake sturgeon, which is endemic to the Missouri River, is suspected to have been extirpated for decades. The Missouri Department of Conservation began stocking lake sturgeon during 1992 in an effort to restore a population of these native fish to the Lower Missouri and Middle Mississippi Rivers. Though most of the 150,000 fish stocked were small in size, many of these fish have reached impressive lengths of over 4 feet and are quickly becoming a source of fish-tales among local anglers. Information related to recaptures and the relative number of fish stocked can be applied to pallid sturgeon restoration efforts, giving biologist target goals for stocking of pallids. Columbia FRO is the main source of recapture information for the State of Missouri, which monitors growth and movement of these fish. Future cooperative efforts will expand our understanding of habitats used by lake sturgeon and their potential to establish a naturally reproducing population. Recapture information expands our knowledge about current stocking needs related to pallid and lake sturgeon. This project is an example of Columbia FRO's commitment to the Service's Fisheries Program Vision for the future priority of "Aquatic Species Conservation and Management".
Contact: Wyatt Doyle

Winter Pallid Sturgeon Monitoring on the Missouri River

Biological Science Technician Corey Lee and Fishery Biologists Wyatt Doyle and Colby Wrasse of the Columbia Fishery Resources Office were gillnetting on the Missouri River in St. Charles, Missouri during the week of December 13, 2004. Experimental gillnets are a standard gear type for the Pallid Sturgeon and Associated Fish Community Assessment Project. A hatchery-reared, endangered pallid sturgeon was captured in one of the gillnets. This pallid sturgeon had a fork length of 571 mm and was tagged with a coded-wire tag. The Missouri Department of Conservation released 2,400 pallid sturgeon with coded-wire tags in 1994 in Missouri's section of the Missouri River (River Mile 0.0 to 552.7) and 1,600 pallid sturgeon in 1997. During the last year, Columbia FRO has captured four coded-wire tagged pallid sturgeon ranging in size from 571 mm to 660 mm. These fish have the potential to be at or near sexual maturity. Male pallid sturgeon reach sexual maturity between the ages of five to seven years or approximately 533 mm to 584 mm. Female pallid sturgeon reach sexual maturity between the ages of 13 to 15 years or approximately 850 mm. Work on this project allows Columbia FRO to assist the Service's Fishery program to achieve its goal of identifying priority actions to eliminate the threats causing declines of native fish species.
Contact: Corey Lee



Corey Lee with pallid sturgeon just removed from gillnet in Missouri River.

Public Use

Columbia FRO Highlights 2004 Activities on Refuge Lands

An annual narrative report is produced by the Big Muddy National Fish and Wildlife Refuge outlining the activities and highlights from each fiscal year. Big Muddy was established in 1994 for the development, advancement, management, conservation, and protection of the Missouri River fish and wildlife resources. The refuge manages eight units along a 300-mile stretch of river from just east of Kansas City to Chesterfield, Missouri. Currently, Columbia FRO monitors changes in local fish communities and changes in habitat use on six of the eight Big Muddy units. Each year, Fishery Biologist Louise Mauldin provides a summary to the Refuge to include in their "Monitoring and Studies" section of their report. Columbia FRO is working with Big Muddy to identify and implement opportunities for increasing the quantity and improving the quality of aquatic and riparian habitats on Service lands. Work on this project is an example of Columbia FRO's commitment to the Service's Fisheries Program Vision for the Future priorities of "Public Use" and "Aquatic Species Conservation and Management."

Contact: Louise Mauldin

Iowa Army Ammunition Plant fisheries Management Plans Complete



Mathis Lake, Iowa Army Ammunition Plant

Columbia FRO has a long standing relationship with the Iowa Army Ammunition Plant, assisting this DOD facility with fisheries management objectives. The most recent management plans have been completed for Mathis Lake, a well developed fishery and the newly renovated Stump Lake. Mathis Lake is very popular with local sport anglers for its crappie and largemouth bass fisheries. Both species are doing well in the lake, though over harvest may be an issue. Stump Lake had silted in over time and therefore it was drained in 2002; sediments were removed and used to cap a land fill on the installation. The contractor left most of the large wood during the excavation and dug many pits and mounds to increase habitat diversity in the lake. A new water control structure was installed that increased the lake depth by an additional two feet. After filling, several recreational fish species were stocked including bass, walleye, bluegill and catfish. Stump Lake should provide a tranquil location and excellent fishing in the near future. Quality opportunities for recreational fish enjoyment on military lands is a recreational fishing goal of the Service. Work on this project is an example of the Columbia FRO's efforts to assist the Service's Fisheries program with enhancing recreational fishing opportunities on Department of Defense lands.

Contact: Andy Starostka

Leadership in Science and Technology

Coded-Wire Tags Entered into MICRA Stock Assessment Database

Biological Science Technician Jennifer Johnson entered sequence codes from coded-wire tags for thousands of paddlefish into the Mississippi Interstate Cooperative Resource Association's stock assessment database. The database is the largest inland fishery coded-wire tagging database in the world and is jointly managed by the Columbia and Carterville FRO's. Delta Systems Group, Inc. created computer programming which made data entry more efficient. The tag codes allow fish to be linked to the specific time and place where they were tagged. The database will improve the sharing of information between partner agencies which will lead to a better understanding of population trends and paddlefish movement in the Mississippi River Basin. Work on this project demonstrates Columbia FRO's commitment to assist the Service's Fisheries Program with accomplishing goals in our Vision for the Future.

Contact: Jennifer Johnson

Age and Growth Analysis begun for Missouri River Fish Species

Fishery Biologist Colby Wrasse of the Columbia FRO began age and growth analysis for selected native Missouri River fish species as part of the long term pallid sturgeon population assessment project. Due to extremely low abundances of pallid sturgeon, targeting this native species exclusively would most likely provide inadequate data to evaluate restoration efforts. A long-term population assessment approach was adopted to address this concern and evaluate the benthic fish community in the Missouri River. The native fish selected for study include: shovelnose sturgeon, sauger, sand shiner, sicklefin chub, plains minnow, western silvery minnow, speckled chub, sturgeon chub, blue sucker, and bigmouth buffalo. Columbia FRO staff is preparing fin spines from shovelnose sturgeon and sauger and scales from minnow and sucker species for age and growth analysis. Evaluation of the growth of these native fishes will provide information on the fish community's response to changes in habitat or flow modifications. In other studies there was found to be low agreement among readers when ageing spines from large shovelnose sturgeon. By examining shovelnose less than 550 mm, it is hoped that Columbia FRO can effectively evaluate spawning success and recruitment of shovelnose sturgeon. This project is an example of Columbia FRO's commitment to the Service's Fisheries Program Vision for the Future priorities of "Leadership in Science and Technology" and "Aquatic Species Conservation and Management."

Contact: Colby Wrasse

Workforce Management

Columbia FRO increases access to scientific information

Jennifer Johnson, Biological Science Technician, has obtained fisheries related journals such as, Regulated Rivers Research and Management, River Research and Applications, Journal of Fish Biology, and Ecology of Freshwater Fish. The journal articles will be entered into Columbia FRO's searchable article database to allow staff to quickly and effectively search for articles related to ongoing research at the station. These journals will not only provide easy access to articles related to our research but also to other research throughout the country. Addition of this information is consistent with the Workforce Management priority of the Service's Fisheries Vision for the Future.

Contact: Jennifer Johnson