



U.S. FISH AND WILDLIFE SERVICE COLUMBIA FISHERY RESOURCES OFFICE ACCOMPLISHMENT REPORT

...Dedicated to Conserving Big River Ecosystems in America's Heartland.

Partnerships and Accountability

Project Completed; Spring Sampling on the Missouri River at Fort Leavenworth, Kansas.

Despite high water, spring sampling on the Missouri River near Fort Leavenworth, Kansas was conducted the week of May 16, 2005. The main stem of the Missouri River and the lower portions of tributaries, tributary mouths and potential staging areas associated with these tributaries were targeted during this sampling effort. The spring sampling included 22 drifted trammel nets which captured 37 fish representing five species. Seventeen hoop nets were set overnight and captured 18 fish representing eight species including a recaptured pallid sturgeon. The sturgeon's PIT tag indicated it was raised at Garrison National Fish Hatchery and stocked in the Missouri River at Booneville, Missouri on April 3, 2002.



Working cooperatively with the Department of Defense at Ft. Leavenworth to recover an endangered species fulfills the 'Partnerships and Accountability' and 'Aquatic Species Conservation' goals of the 'Fisheries Program Vision for the Future'.

Andrew B. Starostka



Fish and Wildlife Research Exposition

Representing the Columbia FRO, Fishery Biologist, Jennifer Johnson presented a poster entitled "Reproductive Development of Missouri River Chubs in Relation to Environmental Variables" at the second annual Fish and Wildlife Research Exposition on May 19th. The Expo was held at the University of Missouri's School of Natural Resources as part of the Annual Cooperators Meeting of the Missouri Cooperative Research Unit. The Cooperative Research Units Program is a working partnership between USGS, state natural resource agencies, host universities, the Wildlife Management Institute, and the US Fish and Wildlife Service.

The poster presentation provided a valuable opportunity to interact with other graduate students as well as scientists and decision makers from federal and state agencies to answer questions regarding Jennifer's research and provide information to interested parties. Comments and suggestions were taken from guests that can be used to improve current research. The event supports the Service's 'Partnerships and Accountability' goal of the 'Fisheries Program Vision for the Future'.

Jennifer L. Johnson

Aquatic Species Conservation and Management

Columbia FRO Collects Record Number of Endangered Sturgeon



Though their methods and sampling effort has varied over the years, Columbia FRO has been searching for pallid sturgeon since 1991. Various funding sources, project goals, technological advancements and an ongoing refinement of techniques have kept the station actively involved in pallid sturgeon tracking and recovery efforts for over a decade. Sampling techniques used over this time period have included gill nets, trawling, trammel nets, hoop nets and set lines (Table 1).

Table 1. Sturgeon sampling effort from 1999 to May 9, 2005 on the Missouri River from river mile 0 to 250. Gillnets are by 100ft net sets and trawls are by individual tow haul. (* = data not available).

Gear	Sturgeon Sampling						
	MICRA	DOT (total	Pallid Sturgeon Monitoring Project				
		hours)	2001	2002	2003	2004	2005
Gill net	1999	2000					
nights	213	355	6	232	310	425	*
Otter Trawl			65	228	354	352	*
Beam Trawl		4	12	7		181	
Trammel net		4			296	360	*
Hoop net							
nights	18	24	8.8		298	349	
Set Lines	76						



Until recently the station's record catch was 25 pallid sturgeon collected from the river in 2004. Since May of this year the station shattered the old record by collecting 30 pallid sturgeon and the sampling year is only half over. The catch this year includes wild pallid sturgeon, recaptured pallids previously tagged and hatchery stocked sturgeon. The hatchery recaptures were from 1994 and 1997 stocks reared by the Missouri Department of Conservation and from fish reared by the USFWS stocked from 2000 to present. All but one of these sturgeon were captured as part of the *Pallid Sturgeon and Associated Fish Community Project*. The other was captured during the *Ft. Leavenworth Missouri River Survey*.

From February 26, 1999 to May 9, 2005; a total of 78 pallid sturgeon were captured between river miles 0 to 250. These captures included: coded wire tagged fish from 1992, 1997, and 2004 stockings, elastomer tagged hatchery fish, wild fish, and pallids of unknown origin (fish that were not scanned for tags) and four pallids have been captured twice.

Columbia FRO also captured 99 pallid/shovelnose hybrids. Character Index (CI) values proposed for Middle Mississippi fish were used to classify these sturgeon. Biologist's field classifications were changed if CI values showed a different designation. However, in rare cases, we felt the index did not work and biologist's classification was kept based on strong pallid-like characteristics of the fish.



Comparisons of known age 1992 and 1997 year class hatchery pallids (recaptured in 2005) to wild fish captured in 2005 suggests a successful spawning event occurred around 1997. An increase in size of the larger hybrids over the last six years may also add support for a spawning event around this time. Our ability to capture adult broodstock will increase as we identify spawning grounds, incorporate telemetry data and identify seasonal opportunities related to habitat use. We are still in a period of refining sampling techniques to better target adult pallids.

The scientific expertise obtained by Columbia FRO in the ongoing quest to learn more about pallid sturgeon has placed them on the forefront of recovering this endangered species. These ongoing efforts and other programs associated with Big River biology are in full collaboration with the Native Species goal of the 'Fisheries Program Vision for the Future'.

Corey W. Lee and Nicholas K. Frohnauer



Unusually Large Lake Sturgeon Captured on Missouri River

On May 26th, Fishery Biologists Cliff Wilson, Corey Lee, and Andy Plauck from Columbia FRO captured a large lake sturgeon below Hartsburg, MO near river mile 153.3. Its fork length measured 1,348mm and it weighed an estimated 50-55 lbs. Based on data from other lake sturgeon projects, biologist predicted its age at 25-30 years. To date, this is the largest lake sturgeon captured by the Columbia FRO.



While recording routine data, the lake sturgeon was examined to determine if it was stocked or wild. No elastomer tags, pit tags, coded wire tags or remnant scars from tags were found therefore the sturgeon was assumed to be wild. Damage was found on the left pectoral spine, possibly indicating prior capture and data collection. The sturgeon was pit tagged to allow future identification if recaptured and released.

Though they are known to get much larger in other areas, lake sturgeon over 900mm are rarely seen in the Missouri River today. The information from this lake sturgeon in addition to scientific information and data from all fish species in the Missouri river assist the Columbia FRO in supporting the ‘Aquatic Species Conservation and Management’ goal of the Fisheries Program Vision for the Future’.

Cliff D. Wilson

Public Use

Recreational Fishery Enhancement on Big Muddy Refuge

Columbia Fishery Resources Office worked collaboratively with Big Muddy Refuge staff and a private land owner to electrofish and transplant 1000 largemouth bass and 300



redeer sunfish from an overpopulated privately owned lake to two refuge owned lakes. Refuge lakes were created by flooding events on the Missouri River and contain a variety of big river fish that recreational anglers generally do not find appealing. This stocking effort is the beginning of a plan to enhance these fisheries. Additional removal of unwanted river species and shoreline enhancement will allow these lakes to provide better fishing opportunities in coming years. This generous donation of mature fish by an individual represents the public’s support of the Fish and Wildlife Service in our mission to provide fishing opportunities for the next generation.

These mature sport fish will quickly provide recreational fishing opportunities for the public. Increased interest in these lakes will generate interest in the Big Muddy Refuge and Columbia FRO. Collaborative work between Refuges and Fisheries offices enhances our ability to do more for the public. Working with private land owners will bring us closer to the people we serve and provide an opportunity to share our vision.

Wyatt J. Doyle



Columbia FRO Participates in Missouri River Relief Clean Up

Fishery Biologists Geno Adams and Louise Mauldin took part in the Missouri River Relief clean up day on May 14 at Cooper's Landing (Columbia, MO). The event was one of four Missouri River clean up days planned during 2005, all of which are sponsored by Missouri River Relief. The event brought together multiple agencies and retailers such as the Missouri Department of Conservation, the Missouri Department of Natural Resources, and Bass Pro Shops along with over 150 volunteers throughout the morning to help pick up trash along the river. Columbia FRO provided two boats to shuttle volunteers to and from trash collection sites.



This event provided an opportunity for Geno and Louise to discuss Missouri River issues and the role the U.S. Fish and Wildlife Service fulfills in managing the river to concerned citizens. More specifically, our participation allowed us to meet objective 3.3, action 3.3.2 of the recreational fishing goal: Working with partners to identify and implement outreach and education activities regarding the concept, value, and importance of responsible recreational fishing to the American public.

W. Geno, Adams

Columbia FRO Partners with MDC in Third Annual Catfish 101

The Missouri Department of Conservation held an introductory course on Catfishing in the Missouri River the weekend of May 21st. The course, aptly named, Catfish 101, began in 2003 with only a handful of applicants in an effort to promote awareness of the Missouri River's recreational fishing opportunities. Fishery Biologist Jeff Finley served as an instructor for the course in 2004 while employed with MDC. A need for assistance with the course in 2005 was identified when an overwhelming 33 applicants signed up. MDC contacted Finley at Columbia FRO office to enlist their support and expertise on Missouri River catfish.

The course began Thursday evening, May 19th. Participants were presented with classroom courses on catfish species identification, management, regulations and safety. They enjoyed a hefty sample of delicious fried catfish provided and cooked by Columbia FRO Project Leader Tracy Hill and Fishery Biologist Jeff Finley. After the tasty break the participants then attended a block of instruction on gear construction and were given the materials provided by MDC to make their own trot lines, bank poles and throw lines.

The next morning course instructors from MDC and Columbia FRO set sample gear at the Overton Bottoms Unit of the Big Muddy National Fish and Wildlife Refuge for students to check that evening. At 6:00 pm the participants arrived with their own gear,



boarded the boats to check the previously set gear and to set their own. Fishery Biologists Wyatt Doyle, Geno Adams and Jeff Finley each guided a crew, setting trot lines, bank poles and throw lines. The crews then fished late into the night using rods and reels and discussed the finer points of Missouri River management and the adjacent mitigation projects on the Big Muddy Refuge.

A few of the participants from Catfish 101 with their catch.



The participants returned Saturday to check and pull their lines, attend a fish cleaning class, take pictures and swap stories. The 2005 Catfish 101 course was an overwhelming success bringing people who normally do not participate in fishing or river related activities to discover a deeper appreciation of the Big Muddy; the Missouri River.

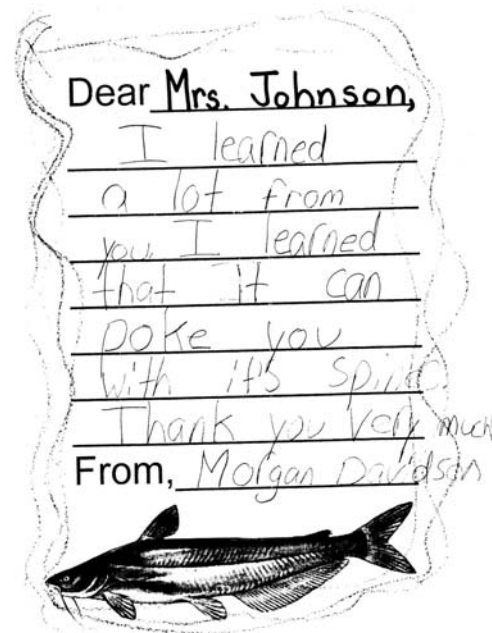
The cooperation of MDC and Columbia FRO in Catfish 101

is an example of promoting fishing advocacy highlighted in the Public Use Goal of the Fisheries Program Vision for the Future.

Jeff M. Finley

Students Discover Fun Facts About Missouri River Fish

On May 4th Columbia FRO was visited by the 1st Grade students of Mary Paxton-Keeley Elementary School, located adjacent to our office. The students recently finished a unit of study on living organisms and were invited to attend a session on big river fish hosted by Project Leader, Tracy Hill, Fishery Biologists, Jeff Finley, Geno Adams and Jennifer Johnson. The students were divided into four groups of 15 and rotated through stations with live shovelnose sturgeon and blue catfish. At each station an overview of the fish's anatomy, diet, habitat requirements and fun facts were presented to the students. The children were especially curious about what these fish eat, how they 'breathe' and their unique anatomical structures. They enjoyed touching the fish and seeing first hand an example of living organisms from the Missouri River. On completion of the presentation the children were given a worksheet





to reinforce learning and to share some of the things they discovered. This was the first opportunity for Columbia FRO to reach out to our neighbors at Paxton-Keeley and was a huge success.

Through this event a great relationship was established with the staff and teachers of Mary Paxton-Keeley Elementary School laying a foundation for future educational opportunities in keeping with the aquatic education objectives of the ‘Public Use’ goal outlined in the ‘Fisheries Program Vision for the Future’.

Jeff M. Finley

Leadership in Science and Technology

Dispersal of Pallid Sturgeon Presented at Missouri River Conference

Columbia FRO Fishery Biologist Andy Starostka presented “Dispersal of hatchery reared pallid sturgeon from a stocking site on the lower Missouri River” at the Missouri River Natural Resources Conference held in Pierre South Dakota May 22-26, 2004.

Information used in this presentation was derived from the Sturgeon Monitoring



Pallid sturgeon fingerling with elastomere tags

Program. The presentation included data provided by Nebraska Game and Parks Commission on recaptured sturgeon from the upper portion of the channelized river and hatchery reared pallid sturgeon stocked at Booneville, Missouri. Fish from this stocking effort were captured up to 400 miles upstream near the Platte River while the farthest down stream fish was captured less than 100 miles from the stocking site. Concerns from some managers that hatchery reared fish would be “flushed” down

stream appear to be unfounded at this time. Fish from multiple year classes and various hatcheries have been recaptured indicating that all stocking efforts are making contributions to the population.

This information will allow biologists and hatchery managers to refine their efforts for propagation and stocking of pallid sturgeon, and are helping to guide our efforts in Leadership in Science and Technology to recover an endangered species as outlined in the Fisheries Program Vision for the Future.

Andrew B. Starostka



Habitat Use by Sturgeon Presented at Missouri River Conference

Project Leader Tracy Hill of the Columbia FRO presented results on: “Microhabitat use of shovelnose and pallid sturgeon in the Lower Missouri River” at the 9th Annual Missouri River Natural Resources Conference in Pierre, South Dakota. This presentation was a culmination of a collaborative effort with Dr. Craig Paukert Assistant Unit Leader of the Kansas State Cooperative Unit and Fishery Biologist Wyatt Doyle also of the Columbia FRO to present biologists with new information relative to the habitats used by big river sturgeon.

The MRNRC meeting was attended by over 300 biologists and researchers from Montana to Missouri and reflected an intense effort by all to bring new information to the forefront of Missouri River recovery efforts. This type of new information will allow other biologists to refine their efforts in collecting information related to the biology of the endangered pallid sturgeon. Participating in Natural Resource Conferences such as MRNRC allows the Columbia Fishery Resources Office to assist the Service’s Fishery program with achieving its “Leadership in Science and Technology” priority of the Fisheries Program Vision for the Future.

Tracy D. Hill

Aquatic Habitat Conservation and Management

Spring Electrofishing of Missouri River Side Channels

The Columbia Fishery Resources Office conducted an electrofishing survey across nine side channels in the lower Missouri River to examine species richness and assemblage similarity within and among side channels during spring. This is the second year of a two year survey. The uppermost side channel sampled was located at Baltimore Bend near RM 301 and the lowermost at Johnson Island near RM 42. Selected side channels were representative of the wide array of large secondary channels present in the lower river. Few studies have addressed fish community structure and their relationships in side channels along the lower Missouri River. These side channels play an important role in the lower river ecosystem, providing off-channel habitat for various native fishes. Freshwater drum, river carpsucker, and small buffalo were common among early spring samples. Shortnose gar, common carp and catfish were increasingly common as water temperatures increased. This study should provide a baseline understanding of which species are using the various side channels and how the assemblages are changing throughout the spring as fish are moving toward feeding, staging and spawning areas.

Science and technology form the foundation of successful fish and aquatic resource conservation. Assessment of native fish communities in these side channels will provide river managers with the sound science that is needed to evaluate current management actions and guide future decisions.

Louise M. Mauldin



Johnson Attends Missouri River Conference

Jennifer Johnson, Fishery Biologist, of the Columbia Fishery Resources Office attended the 9th Annual Missouri River Natural Resources



Conference in Pierre, South Dakota. The conference provided a forum to exchange information, share perspectives and solve problems. Jennifer attended a short course on Methods for Riverine Habitat Assessment on Great Rivers. The short course provided an overview of physical habitat, habitat classification and methods of habitat assessment. Jennifer also presented a poster entitled "*Reproductive Development of Missouri River Chubs in Relation to Environmental*

Variables" which was awarded third place in the best poster contest. Jennifer attended presentations on biology, habitat and environmental assessment and monitoring programs.

The short course provided basic concepts, definitions and examples from the Missouri River, including emergent sandbar habitat, shallow-water habitat and side channels. The ability to quantify physical habitat helps in understanding, rehabilitating, and managing rivers. Knowledge gained through the short course will help the Columbia FRO in future habitat assessments. The poster session allowed for interactions among fisheries professionals and for explanation of current research at the Columbia FRO.

Jennifer L. Johnson

Road-Stream Crossings Training to Benefit Threatened Niangua darter



Joanne Grady of Columbia FRO attended the Forest Service's Aquatic Organism Passage Inventory and Assessment of Road-stream Crossings course in St. Louis, Missouri. The goal of the course was to provide participants with the skills necessary to prioritize road-stream crossings to eliminate the adverse effects of crossings on the physical, chemical and biological components of stream-riparian ecosystems. Joanne delivered a presentation on Region 3's Fish Passage Program and sat on

panels to discuss partnering to fund crossing replacement projects. Columbia FRO and Missouri Department of Conservation staff will use the skills acquired during the training course to prioritize road crossing replacement projects to benefit the Threatened Niangua darter.

Joanne M. Grady



Workforce Management

Columbia FRO Welcomes New Biologist

The Columbia FRO welcomes Fishery Biologist Nick Utrup to the staff on May 16th, 2005. Nick comes to Columbia from Stillwater, Oklahoma where he received his M.S. degree in Wildlife and Fisheries Ecology from Oklahoma State University. His Master's research dealt with developing rapid bioassessment protocols for sampling and assessing fish assemblages in large prairie rivers of the southern Great Plains. Nick received his B.S. degree in Zoology from The Ohio State University in June of 2002. Nick has worked as a research assistant at the Aquatic Ecology Laboratory in Columbus, OH; as a teaching and research assistant at F.T. Stone Laboratory (Ohio State's biological field station on Lake Erie); and as an assistant fish biologist for the Ohio Environmental Protection Agency. Nick has a diverse background in monitoring and assessing fish assemblages in large rivers, lakes, and small streams and is skilled at using statistics and geographic information systems to analyze and interpret data.



Nick's technical expertise, field experience, and enthusiasm for fishery resources fully support the "Workforce Management" goal of the Fisheries Program Vision for the Future.

Nicholas J. Utrup

Biological Science Technician Completes Boat Safety Training



Fishery Biologist, Jennifer Johnson, of the Columbia Fishery Resources Office successfully completed the DOI Motorboat Operator Certification Course. The course was offered in Columbia, MO by USGS Safety Officer Paul Heine. The course provided information on safe operation of motorboats and included a review of legal requirements, preparations, navigation, operations, emergency procedures, rescue, self rescue, trailering, fire suppression and basic seamanship. The course included both classroom and on-the-water instruction.

The course provided skills and knowledge on making decisions regarding personal safety, the safety of other crew members, and the safety of the boat. Demonstration and actual use of watercraft safety equipment and other gear provided valuable experience in the use of such devices. Through a written exam and physical demonstration adequate motorboat handling techniques and knowledge to safely operate a motorboat in a normal work environment was gained. Maintaining well trained staff fulfills the Service's Workforce Management component of the Strategic Vision.

Jennifer L. Johnson



Columbia FRO Welcomes New Fishery Biologist

Fishery Biologist Andrew Plauck joined the staff of the Columbia FRO on May 16th, 2005. Andrew is a 2001 graduate of Southern Illinois University (SIU) where he earned a Bachelor's of Science in zoology. He then moved to the U.S. Fish and Wildlife Service at the Carterville FRO and worked as a Biological Tech on the Illinois and Mississippi Rivers. After a short time with the USFWS he returned to SIU to pursue a Master's Degree. As part of the "River Team" at SIU he worked on the Ohio River, studying winter habitat use of fish, and Mississippi River, working with shovelnose and pallid sturgeon.



His interest in large river fish species will be beneficial to the Columbia FRO while working on the Missouri River Pallid Sturgeon Project. Andrew is looking forward to having a "big time" gaining valuable experience at the Columbia FRO and working with their knowledgeable staff.

Andy T. Plauck

Biological Science Technician Receives Safety Training

Jennifer Johnson, Fishery Biologist, of the Columbia Fisheries Resources Office successfully completed eight and a half hours of safety training in May offered online through the DOI University. Jennifer also volunteers at the USGS Columbia Environmental Research Center which required the additional training. Courses completed included: Authorities, Roles and Responsibilities, DOI Safety and Occupational Health Overview, Hazard Communication, USGS Industrial Hygiene Program, USGS Safety and Occupational Health Program, and USGS Safety Program Requirements.

The courses provided information on safety and occupational health rules, regulations, procedures and safe behaviors to protect employees. Course work offered information to ensure potentially hazardous chemical and physical situations could be recognized and corrective action implemented. Overall the courses will help to achieve and maintain a safe, healthful and environmentally positive workplace while accomplishing DOI's safety motto, "Safety First, Every Job, Every Time." This training fulfills the Service's Workforce Management component of the Strategic Vision.

Jennifer L. Johnson



Secured Parking Area Installed at Columbia FRO

Due to an increase in public activities around the Fish and Wildlife Service facility located in Columbia, Missouri it became necessary to have secured parking for boats and vehicles. Project Leader Tracy Hill worked during the Month of May with a local contractor and personnel from Contracting in the Regional Office to get a 73' X 42' concrete parking area constructed. The parking area is surrounded with a 6' high wood fence. Location of the Fish and Wildlife facility adjacent to an elementary school with a population of 900 students and a middle school with a population of 900 students necessitated the need for the secured parking area to keep students off of boats and vehicles when crossing the property on their way to and from school. Providing employees with access to facilities and equipment needed to effectively, efficiently and safely perform their jobs is consistent with the "Workforce Management" goal of the Service's Fisheries Program Vision for the Future. The Fisheries Program will provide its employees with state-of-the-art biotechnology, computers, and maintenance and safety equipment.



Tracy D. Hill

Columbia FRO Bids Farewell to Biologist

Fishery biologist, Colby Wrasse left the Columbia FRO after seven months of service.



He is returning to Illinois to work on a Master's Degree in Education with aspirations of becoming a High School Science and Biology Teacher. Wrasse, a 2001 graduate of Southern Illinois University, started his career with the Carterville FRO, working on the Mississippi and Illinois Rivers investigating the effects of dredge spoil placement on fish communities. For the past two years he has conducted research on federally endangered pallid sturgeon in the Mississippi and Missouri Rivers. During his

career with the USFWS, Wrasse has also provided sport fish management assistance for federal lakes and ponds.

Colby's positive attitude, friendly smile and pleasant demeanor will be missed. On behalf of the Columbia FRO we wish you the best of luck.

Jeff M. Finley





Columbia FRO Staff

Tracy D. Hill – Project Leader
Joanne M. Grady – Branch Chief, Fisheries Conservation
Wyatt J. Doyle – Branch Chief, Corps Operations
Louise M. Mauldin – Team Leader, Refuge Assistance
Andrew B. Starostka – Team Leader, ANS/Habitat Assessment
Jeff M. Finley – Fishery Biologist
Corey W. Lee – Fishery Biologist
(Geno)Wells E. Adams – Fishery Biologist
Nicholas K. Frohnauer – Fishery Biologist
Nicholas J. Utrup – Fishery Biologist
Andy T. Plauck – Fishery Biologist
Colby J. Wrasse – Fishery Biologist
Cliff D. Wilson – Fishery Biologist
Jennifer L. Johnson – Fishery Biologist
Casey L. Bergthold – Fisheries Biological Sciences Technician
Ryan P. Tilley – Fisheries Biological Sciences Technician
Devin B. Preston – Fisheries Biological Sciences Technician