

Kansas
State Report
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Plains Minnows Successfully Spawned at KABC

KDWP's stream survey crews captured 75 Plains Minnows from the Salt Fork of the Arkansas River last summer and transported them to the Kanas Aquatic Biodiversity Center (KABC) in the southeast part of the state. KABC was constructed specifically to conserve imperiled aquatic species. The Plains Minnow is listed as threatened under the Kansas Nongame Threatened and Endangered Species Act of 1975, and part of a species recovery plan can include artificial propagation. In late June, these Plains Minnows successfully spawned at the center, producing approximately 2,700 fry. The new fish, measuring 13mm-16mm, appeared to be in great condition and were moved to a pond for grow-out. The adult brood fish were moved to a separate pond.

One part of the KABC's mission is to produce imperiled species that can be stocked back into suitable habitat in Kansas, with the ultimate goal of removing species from the threatened or endangered lists.

CCAA and SH Approved by USFWS

In February, KDWP completed a programmatic Candidate Conservation Agreement with Assurances (CCAA) and Safe Harbor (SH) proposal for 14 aquatic species on the species in need of conservation or threatened and endangered species lists. The public comment period ended Oct. 15, 2021, and now signed, the CCAA/SH will allow KDWP to work with willing private landowners on species recoveries. The aforementioned Plains Minnow is one of the species covered under the CCAA, opening the door for potential reintroductions on private streams.

Fisheries Staff Survey Flatheads

KDWP fisheries biologists are investigating the population dynamics of flathead catfish on eight state fishing lakes (smaller KDWP-owned lakes). It has been suggested that flathead catfish populations are down from historic levels, but robust historical data is scarce due to the fact that flathead catfish are notoriously difficult to sample. Goals of this project include: developing robust population estimates of flathead catfish in small Kansas impoundments, identifying the relationship between relative abundance as measured with low-frequency electrofishing and absolute population, and estimation of growth rates of flathead catfish in small Kansas impoundments.

Habitat First Enhances Wildlife Habitat on Private Land

In a state that is 98 percent privately owned, enhancing habitat on private land is necessary to significantly benefit Kansas wildlife. In addition to working in U.S. Department of Agriculture NRCS offices to deliver wildlife friendly Farm Bill programs, KDWP biologists work directly with landowners under KDWP's Habitat First (HF) Program. Through HF, biologists provide landowners with technical advice, as well as financial incentives, loaner equipment and labor to improve habitat. In 2021, more than 24,000 acres were treated and more than \$380,000 in incentives were paid. Materials valued at nearly \$92,000 were provided. Three hundred, ninety-four projects were completed with land management practices such as brush management; deferred grazing; forest thinning; interseeding; mowing; planting of cover crops, food plots, forbs, grass, pollinators and shrubs; and prescribed fire.

Kansas Bald Eagles Tracked

In Kansas, just two bald eagle nests were documented in 1990. Last year, 175 were documented statewide. In 2021, a three-year study began that should help wildlife managers and energy developers make science-based decisions when addressing potential conflict between bald eagles and energy development infrastructures. Last summer, 13 bald eagle nestlings in five different counties were banded and affixed GPS transmitters. The 7- to 9-week-old nestlings were captured in the nest, lowered to the ground in bags and fitted with identification leg bands and GPS transmitters. These units will provide data on the birds' location and flight altitude at intervals of 3-5 seconds in flight and 15 minutes at roost, giving details of eagle flight and flight response to topography, land cover, and weather. The detailed data will provide insight on where they fly and how they use airspace in the context of topography, weather, land cover, and energy infrastructure. The goal is to gain an understanding of what environmental conditions and eagle responses to those conditions may put them at risk from wind turbines, power lines, and associated features.

Don't Skip the HIP!

With assistance from the U. S. Fish and Wildlife Service (USFWS), KDWP developed an outreach campaign designed to improve data collected from individuals when purchasing a Harvest Information Program (HIP) Stamp. Anyone required to have a hunting license who hunts waterfowl and doves must purchase a HIP stamp and, at the time of purchase, are asked a short series of questions about the number of migratory birds they harvested the previous hunting season. That cursory information is used by the USFWS to determine which hunters receive more detailed harvest surveys after the seasons are completed. However, some vendors found a way to get through the sale process without asking the questions, reducing the value of the data. The campaign will help hunters and vendors understand the importance of answering the questions and how that data helps biologists make sound, science-based wildlife management decisions.



Protocols Established For Sampling Invasive Crayfish

KDWP staff recently designed a project to develop sampling protocols for long-term monitoring of native and invasive crayfish in Kansas. Almost immediately after the project began, university researchers collected multiple Rusty Crayfish, which are not native and had not previously been documented in the in Kansas.

This large, aggressive crayfish is known to outcompete native fish and crayfish species for forage and cause damage to aquatic vegetation. Monitoring and preventing the spread of invasive species is becoming increasingly important to protect native wildlife and habitats.

eDNA Sampled In Search For Aquatic Invasive Species

In collaboration with the U.S. Fish and Wildlife Service, KDWP Fisheries Division staff used cutting-edge environmental DNA (eDNA) sampling techniques to search for evidence that Silver and Bighead Carp exist in the upper Kansas River basin. Sampling focused on sites in the Kansas River basin above the Bowersock Dam in Lawrence, where few Silver or Bighead carp records have been documented. Results from this sampling will determine whether efforts to prevent invasive carp from establishing breeding populations above this location have been successful.

Alligator Gar Caught From Neosho River

KDWP Fisheries Division staff received an unusual report last fall when an angler reported catching an Alligator Gar from the Neosho River, which is in east-central Kansas. The non-native fish was caught on a setline in September.

Biologists took length, weight, girth, and fin clips. The fish was 55 inches long and weighed 39 pounds. A pit tag, which would have indicated the fish had been marked and stocked in another state, was not located.

Alligator Gar have never been documented in Kansas. Examination of the otolith allowed biologists to estimate the fish's age at 17 years, and microchemistry, although not conclusive, suggested it could have been moved at around age three.



Online Hunter Education Course Available

In October 2021, KDWP went live with a free online Hunter Education course for anyone 16 and older. Historically, KDWP has offered two delivery methods for Hunter Education certification: a traditional, 10-hour, in-person course and an internet-assisted option that requires an in-person field day. The online course selected was developed by the National Rifle Association (NRA) and is currently offered in 12 other states. It covers 14 subjects across four modules – Firearm Basics, Firearm Handling, Field Safety and Hunter Ethics.

The online option is not intended to replace traditional courses or internet-assisted courses; it is being offered in conjunction with previous course formats. However, it provided certification opportunities to students when in-person classes were suspended during the pandemic. From October through early March, the Kansas online course certified 2,463 Kansas residents over the age of 16, with an average age of 29.

Bighead Carp In The Neosho River

A small and unfortunately reproducing population of invasive bighead carp has inhabited the Neosho River/Grand Lake system in southeast Kansas and northeast Oklahoma for nearly 20 years. It represents the only known population of invasive bighead carp in the United States reproducing in a reservoir-river system that is completely isolated from other population sources. KDWP, in conjunction with the Oklahoma Department of Wildlife Conservation and Missouri State University (MSU), secured grant funding from the U.S. Fish and Wildlife Service (USFWS) to conduct a research project to:

- Identify upstream presence of bighead carp within the Neosho River – Grand Lake system;
- Collect baseline population demographic information, including relative abundance, age and growth, and size structure;
- Determine broadscale movements within the Neosho River system using otolith microchemistry;
- And identify potential locations within the Neosho River – Grand Lake system for containment, removal, and/or eradication efforts.

It is expected that upon completion of this two-year project, KDWP will have the information needed to pursue suppression and potentially eradication of this population of invasive bighead carp. Results of this project and subsequent management efforts should help other states faced with similar invasive species issues in the future.

Protecting The Kansas River From Invasive Carp

KDWP Aquatic Nuisance Species Program staff, with funding from the U.S. Fish and Wildlife Service (USFWS), have been working with Juniper Environmental and the Kansas Alliance of Wetlands and Streams to protect the Kansas River basin from further infestation by invasive silver and bighead carp. The feeding habits and population densities of these invasive carp species cause significant ecological harm, impacting native aquatic species and diminishing opportunities for fishing, boating, and other wildlife-associated recreation.

The Bowersock Dam at Lawrence generally prevents the upstream movement of these invasive carp; however, occasional high flows allow silver and bighead carp to cross the dam and migrate upstream. The goal of this project is to determine the feasibility of installing and operating an acoustic deterrent (sound barrier) system to prevent these fish from moving upstream of the Bowersock Dam and establishing breeding populations. Silver and bighead carp are acutely sensitive to certain sound frequencies and this type of cutting-edge technology has been successful in other states.

Scaled Quail Research Continues

Scaled quail are a shrub-dependent species of arid southwestern grasslands, which includes the southwest corner of Kansas. Following the dust bowl era of the 1930s, vegetation restoration, designed to reduce erosion and provide sustainable grazing, didn't include shrubs. Without this habitat component, the distribution and abundance of scaled quail and other shrub-dependent species was limited.

KDWP wildlife biologists are working with U.S. Forest Service personnel at the 100,000-acre Cimarron National Grasslands in southwest Kansas to increase the distribution of shrub cover and improve habitat for scaled quail. Artificial structures (wood post tee pees) have been utilized to create more immediate structure during shrub establishment or when shrub establishment isn't feasible. KDWP has also partnered with Oklahoma State University to evaluate the impact of shrub cover and artificial structures on overwinter survival and behavior of scaled quail. In the second field season for this research, 64 scaled quail have been captured and fitted with radio transmitters and 118 bobwhite quail have been banded. Trapping will continue until 80 scaled quail have been fitted with transmitters. These birds will be tracked throughout the winter to evaluate their use of natural and artificial structure, as well as other vegetation to determine how this influences survival and behavior. The results of this work will help guide public and private land managers that want to increase habitat for this species.

KDWP Biologists Test Live-imaging Sonar's Effectiveness

A team of fisheries biologists from KDWP and KSU developed a controlled, replicated experiment to measure how live-imaging sonar affected catch of crappie. Biologists from KDWP Fisheries Division, Wildlife Division, Kansas State University, and local volunteers met over a two-week period in early December at Cedar Bluff Reservoir to sample crappie with rod-and-reel, comparing angler success with and without live-imaging sonar. Initial results suggest that live-imaging sonar wasn't associated with increased catch of crappie. However, there were instances where live-imaging sonar was associated with increased catch of other fish species. These results represent KDWP's first effort into understanding this emerging technology and how it may influence long-term management of recreationally important fish populations across the state.

Aquatic Nuisance Species Cleaning Stations

KDWP purchased two CD3 stations (Waterless Cleaning Systems) for Coffey County (Wolf Creek) Lake and Crawford State Fishing Lake. These boat cleaning stations will provide the public with tools to clean their boats before or after launching on the lake. The lack of equipment has been found to be the biggest barrier for cleaning, draining, and drying boats after recreational use. These units will help to prevent the spread of aquatic invasive species in Kansas.

Cheyenne Bottoms Renovation Ongoing

Cheyenne Bottoms Wildlife Area, just north of Great Bend in Barton County, is the largest inland marsh in North America and one of the most important wetlands for waterfowl and shorebirds in the Central Flyway. KDWP owns and operates the 19,000-acre wildlife area, which

is a complex of seven pools, dikes, roads and water control structures. Managing the shallow pools to provide high-quality water bird habitat requires constant maintenance and renovation to control water levels, vegetation and silt build-up.

The current renovation involves removing silt from hubs (water transfer locations) and repairing or replacing 10 water control gates. Thirteen electric pumps and two propane engines that run large pumps on the east side were replaced. The drop structure west of the campground, which is the final step in getting water to the Bottoms, was replaced and the campground was expanded and a vault toilet was added. A new headquarters building with staff offices was also constructed and approximately 3,500 acres of cattails were cleared from pool 4A, 3A and 3B.

Most of the funding for the current renovation came from a \$6 million Pittman-Robertson (PR) grant. Ducks Unlimited initiated a “Bring Back the Bottoms” campaign that generated about \$600,000 dollars in donations, which was used as a portion of the 25 percent match required of the PR grant.