



Neosho National Fish Hatchery NEWSLETTER

September and October 2015

Autumn is a beautiful time of year here in Neosho. As always, the maples were in full color as are some other vibrant species. It is a time of crisp mornings and warm, sunny afternoons - perfect to enjoy and take in the outdoor sights.



It is the perfect time to spot wildlife, even here in the midst of a city context. Herptiles:





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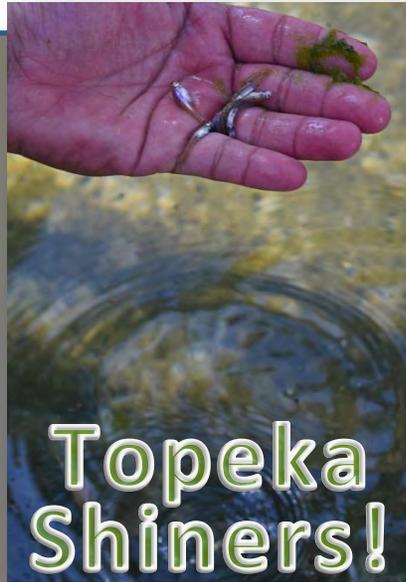
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For over a year, the Neosho hatchery had been anticipating the arrival of our latest federally endangered species to assist. Around the transition from 2013 to 2014, conversations were happening regarding some empty raceways that were used years ago for breeding brown trout. That trout project came and went, like many others in the 127 years of the hatchery's history, and for more than a decade, its deeper raceways have been unused.

Enter the diminutive Topeka shiner to Neosho. This fish is a minnow - hardly one that you might take notice of - and yet it is in serious trouble and headed for extinction. In 1998, this little fish was officially placed on the list that no species wants to make.

When a plant or animal or other organism is formally designated as "endangered," there are all sorts of ways to proceed to help things get better. For these fish, a recovery plan was established in 2004 that identified its critical habitat needs and this helped each affected state move into action. So the shiner has been on the radar for a while, but in March the stars all aligned and we received about 200 for the purpose of breeding them.

The fish have been happily living in that unused raceway, eating bugs that were attracted to the water as well as flaked fish food. We even opened up the roof with window panels so the sun could warm the water up to a shiner-pleasing 80°F which triggered their reproductive behaviors. Soon their fins showed the characteristic red coloration, and they were seen to be active in our breeding boxes.



Finally, after numerous observations, the fry appeared. We scooped them up and moved them to another raceway where they would be safe from possible predation from the larger fish. And last week, after many weeks of watching the babies grow, we did an official inventory to count all we had. It took several hours, but for our first attempt at doing this, we counted about 3100 Neosho-produced Topeka shiners, and almost 1900 orange-spotted sunfish (a partner fish that help the shiners spawn). This is way above and beyond our hopeful expectations, and represents a huge boost for this troubled fish.

Why care about this little minnow? Biologists have determined that it is an excellent indicator for ecological problems that will likely cause bigger issues if left unchecked. Helping this fish is a way of helping many more plants and animals, and ultimately, it helps us humans as well.

And Neosho National Fish Hatchery is right there in the middle of all this helping!





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Bird sightings:



Creepy-crawlies:





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Because of the Service-wide initiative to help the declining Monarch butterfly, we planted a Missouri native pollinator garden. Among other plants, we chose butterfly weed – a type of milkweed used by the butterfly’s larvae. Sure enough, in late summer we saw the positive results we were hoping for.



September and October are busy months for school visitations. We have hundreds of kids of all ages come to tour the hatchery to see what we do, why we do it and how it benefits everyone!





In the vast expanse of conservation work, innumerable factors are at work both helping and hurting the survival chances of all the various plants and animals. When an organism has been identified as declining steadily in a region or in its entire natural range, it can be designated as “endangered” to receive additional attention and assistance. But due to our finite resources, we simply can’t manage for every species, or account for every factor influencing complex natural systems. Indeed, conservation work is a daunting task. It is truly amazing we see as much success as we do!

For the U.S. Fish and Wildlife Service, the branch that runs the Neosho hatchery, a current method of attacking the problems of our natural resources is called Strategic Habitat Conservation. This method involves working with state agency partners to identify a subset of species that can effectively represent other species or aspects of the environment. Conserving habitat for these species or conservation targets should positively address the needs of a larger group of species that share the landscape with them.

In a similar line of thinking, the hatchery has been utilizing “surrogate” species for years. These are organisms that are similar in many ways to an endangered one, but are not themselves in danger of extinction. For example, the hatchery used paddlefish and lake sturgeon as surrogates for the pallid sturgeon we currently breed for recovery and restoration.

Back in 1995 we first got the related paddlefish (some call them spoonbill because of their unique shape) and quickly learned how to raise and breed them. Then in 1998, lake sturgeon were added to the mix. We raised both for a number of years, all the while honing our skills and getting our facility set for what was to come.

Finally, in 2002, with most of the “bugs” worked out plus our tank and building setup complete, we were entrusted to care for one of the rarest fish in our nation. We no longer needed to “practice” with the surrogates, and we switched over full time and haven’t looked back for thirteen years and counting.

Despite our success with these special fish, we still haven’t eliminated the need for hatchery intervention for them. There has been almost no documented wild reproduction in or around their Missouri River home, so we’re looking for ways to improve our operation. We are currently monitoring the effects of spring water versus well water in the development of their skin and fin health. There is still so much to learn about these and our other aquatic projects here in Neosho! Ultimately, working toward shared, measurable outcomes for these and other species will enable the Service to make smarter, more cost-effective conservation and management decisions and investments and improve our ability to sustain abundant, diverse and healthy populations of fish, wildlife and plants now and in the future for the American people we serve.



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Neosho NFH is always wanting to be on the cutting edge of fish culture. To this end, all employees partake in annual training related to their job descriptions. In the past month or two, we've had staff learning about mussels, water circulation techniques, and (as shown with assistant manager Rod May) sturgeon.



Trout fry:



The Final Word, from hatchery manager David Hendrix.



Hi Everyone ☺

The Chinese Academy of Fishery Sciences has invited a team of six FWS fishery specialists to visit China to evaluate conservation and management of the critically endangered Chinese sturgeon (*Acipenser sinensis*) in the Yangtze River region. I am honored to be selected for this group. Topics to be covered include pollution, genetics, captive broodstock, cryopreservation, aquaculture and restoration. We should see research and field sites including a sturgeon preserve and see the giant Three Gorges Dam. Since Missouri's pallid sturgeon is not the only species in trouble, this tour and our meetings should help all of us understand our problems clearer and find more workable solutions. I'll share more about this amazing opportunity upon my return!

Until Next Time, Take Care☺!!!!!!!

Newsletter and photos by Bruce Hallman,
Environmental Education Specialist

