Red Willow Reservoir 2023 Survey Summary

Sean Farrier, Fisheries Biologist

Phone: 308-221-6149 Email: sean.farrier@nebraska.gov



Fish populations are sampled each fall at Red Willow Reservoir using gill nets, a method commonly used to sample fish such as walleye, white bass, channel catfish and wipers. Gill nets are set on approximately the same dates and locations each year to reduce variability.

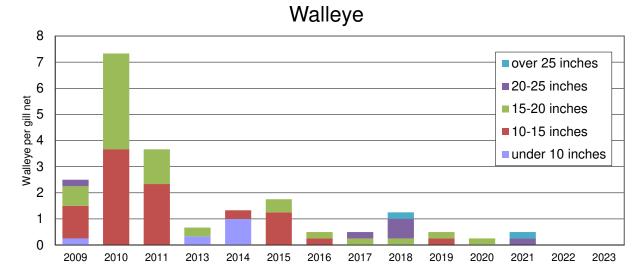
Repair work on the Hugh Butler Dam was completed in 2013 and water levels have taken time to return to where they were prior. As water levels return, expect to see improvement in fish catch rates and size structure.

In response to walleye populations struggling to recover after dam repairs were completed, saugeye were introduced to Red Willow in 2017. Initially stocked alongside walleye, evaluations identified saugeye as the more successful option. Due to the overall success of saugeye stockings, the decision was made to eliminate walleye stockings for the time being. Since their introduction, saugeye have consistently exceeded historical walleye catch rates. After seeing steady increases in catch rates from 2019 to 2021, we observed a slight dip to just over 2 saugeye per net in 2022. However, the population bounced back to 3 per net in 2023 and appears healthy. There are 500,000 fry and 50,000 fingerling saugeye requested for spring 2024.

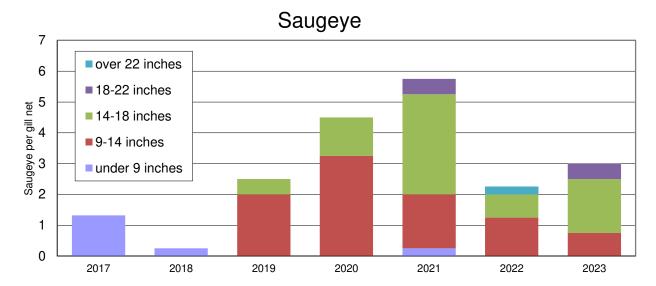
White bass catch was low again in 2023 with just over 1 per net sampled. Fall age-0 electrofishing surveys have shown consistent natural recruitment even though they are not being observed in fall gill nets. In 2023, just under 20 wipers per net were sampled with most fish between 12-15 inches. Typically, we don't survey many wipers over 20 inches in gill nets, but fishing reports at Red Willow are positive for anglers seeking trophy wiper opportunities in 2024. Fry stocking evaluations have shown consistent recruitment of wipers and the future of the fishery at Red Willow is positive. To avoid overabundance, wiper stocking will be paused in 2024.

In 2020, the decision was made to introduce tiger muskellunge into Red Willow. They were stocked at 5.25 inches in 2020 and 15 inches in 2021. These fish have been stocked at a very low rate and will provide the potential for anglers to catch a trophy fish. Biologists handled a couple individuals during fall surveys in 2023 and found them to be healthy and growing well with fish already over 30 inches. There are 500 tiger muskellunge requested for fall 2024.

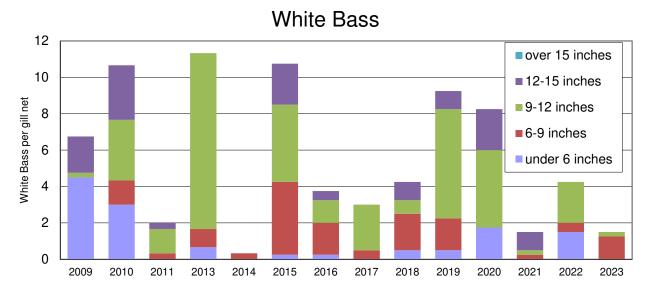
The following graphs show the average number of fish caught per net and the relative abundance of fish within several length categories. The text provides a brief explanation of the information shown in the graphs.



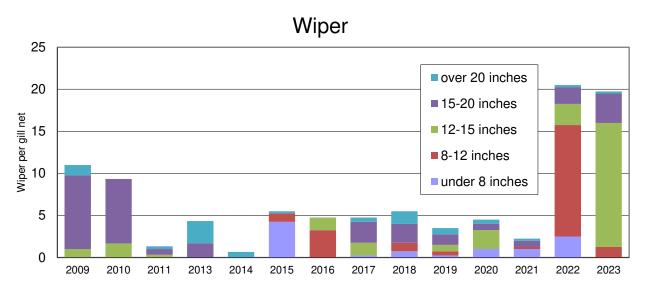
Walleye catch rates have been low in Red Willow since draining for dam repairs. To improve opportunities for walleye anglers, saugeye were introduced to Red Willow in 2017. Both walleye and saugeye were stocked in 2017 and 2018. Due to saugeye outperforming them, walleye were removed from stocking plans in 2019 to allow focus on building saugeye populations. Strategies will continue to be evaluated and will be adjusted if deemed necessary. No walleye are requested for 2024.



Since their introduction in 2017, saugeye have consistently exceeded historical walleye catch rates in Red Willow. In 2023, saugeye catch rates rebounded to 3 per net. There are two saugeye stockings requested for 2024. In early spring, 500,000 fry are requested followed by a request for 50,000 fingerlings in late spring.

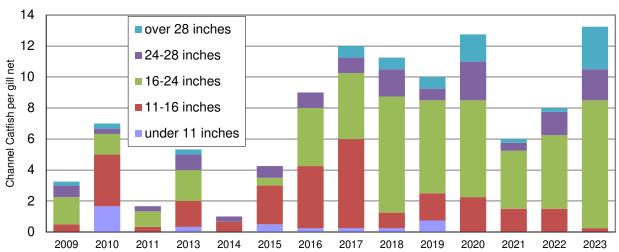


White bass catch can be variable year to year in fall gill nets and catch was low again in 2023 with just under 2 per net surveyed. Most fish sampled were between 6 and 9 inches and should reach keepable sizes in 2024. We will continue to monitor the population and make changes to white bass management if deemed necessary.

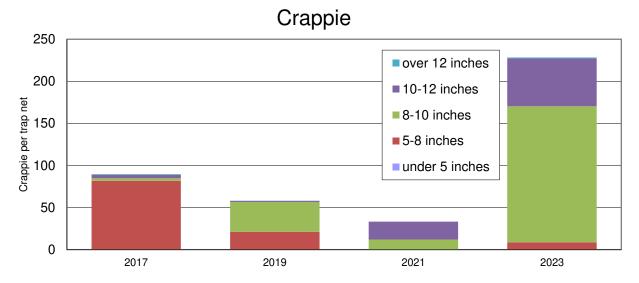


Wipers were sampled at just under 20 per net in 2023. It appears fry stockings are helping to improve the inconsistency we were observing with recruitment in past years. We will continue to evaluate the stocking success moving forward. There are no wipers requested in 2024 to help avoid overabundance.

Channel Catfish



Red Willow continues to produce excellent channel catfish. In 2023, biologists surveyed just over 13 per net. Channel catfish populations are stable and show good length distribution for sustained success. Anglers will find fish over 28 inches and plenty of smaller fish for the frying pan as well. Channel catfish are stocked semiannually to supplement low natural recruitment. There are no channel catfish requested for 2024. New in 2024, channel catfish are now protected with only 1 fish over 30" allowed within the daily bag limit of 5 fish.



To gain a better understanding of crappie populations in Red Willow, biologists began setting spring trap nets semiannually in 2017. In 2023, spring trap nets caught just over 228 crappie per trap net making Red Willow the top crappie fishery in the state. Anglers will be able to find plenty of fish over 10 inches with a large group of fish between 8 and 10 inches making the future outlook of the fishery positive. Spring trap nets are next scheduled for 2025.

Red Willow Reservoir Fish Stocking Summary

Year	Chan Walleye Catfi		Saugeye	Wiper	Tiger Muskellunge	
2023		5,053 (5")	1,016,000 (fry) 50,000 (1.25")	3,600 (1.25")		
2022			1,000,000 (fry) 100,000 (1.25")	100,000 (fry)		
2021		5,001 (4.25")	1,576,724 (fry) 104,557 (1")	175,000 (fry)	774 (15")	
2020			168,000 (fry) 140,874 (1")	175,000 (fry)	3,622 (5.25")	
2019		7,808 (5")	191,020 (1.25")	175,000 (fry)		

Above is a partial table of fish stockings over the last 5 years at Red Willow Reservoir. The species stocked, number stocked, and fish size are presented in the table. Multiple species are stocked annually at Red Willow and a comprehensive database of fish stockings can be found at the Nebraska Game and Parks website or by following this link: Fish Stocking Database

End of Month Elevation, Red Willow Reservoir 2009-2023



Water levels were extremely low at Red Willow due to structural repairs of the dam that began in 2009. Construction was finished in 2013 and lake elevations have started the road to recovery. The green line indicates end of month elevation, the blue line indicates the top of the conservation pool elevation, and the red line indicates the top of the inactive pool elevation. Current elevation data can be found by following this hyperlink: Current Elevation

Southwest Reservoir Georgia Cube Project



As part of a grant awarded by the Bureau of Reclamation a fish attractor project was completed in the Southwest Reservoirs in 2023. Using this funding, a total of 100 Georgia Cubes (25 at each reservoir) were constructed with the help of the McCook Work Ethic Camp. These cubes were placed in deep water to provide structure for fish as reservoir elevations decline in dry years when habitat becomes limited. To create a larger footprint, 6 to 7 cubes were attached to one another and sunk creating four cube complexes in each reservoir that anglers can target. Below are the GPS locations of each cube complex to assist anglers in finding this new structure.

Enders		Medicine Creek		Red Willow		Swanson	
N	W	N	W	N	W	N	W
40.42028	-101.52442	40.39978	-100.23357	40.35930	-100.68447	40.16356	-101.06689
40.42202	-101.52390	40.39761	-100.23526	40.35819	-100.67515	40.16517	-101.06628
40.42833	-101.52896	40.39441	-100.23548	40.35502	-100.68016	40.16706	-101.06657
40.43204	-101.52546	40.38652	-100.22448	40.36283	-100.67201	40.16874	-101.06654



Aquatic invasive species (AIS) have reached Nebraska! Zebra mussels are currently established in Lewis and Clark Reservoir, Lake Yankton, Offutt AFB pond, Beaver Lake, and the Missouri River. Anglers and boaters should be on the look out for personnel performing boat inspections and decontaminations statewide. Please email: ngbc.ais@nebraska.gov or call 402-471-7602 to report any possible AIS sightings or for more information about AIS in Nebraska.

Preventative Steps and Regulations

- It is unlawful for a boat to arrive at or leave any body of water in Nebraska with water other than from a domestic source except for fire-fighting purposes. Drain water before leaving an area
- It is unlawful for a boat or trailer to arrive or leave a launch area with any aquatic vegetation from that waterbody still attached. Boat blinds cannot use plants listed as invasive species or noxious weeds
- Wash mud off waders. Felt-sole waders are not allowed

Nonresident Aquatic Invasive Species Stamp

Motorized watercraft registered outside Nebraska are required to purchase and display the Aquatic Invasive Species Stamp before launching from any Nebraska boat ramp. Stamps must be affixed on the starboard side toward the rear of the boat above the waterline. The fee for each stamp is \$18 dollars and includes the \$3 issuing fee. Stamps can be purchased online or at Nebraska Game and Parks Commission Offices.



Left: Zebra Mussel Right: Quagga Mussel