

Red Willow Reservoir 2019 Survey Summary



Sean Farrier, Fisheries Biologist

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 hybrid striped bass. Gill nets are set on approximately the same dates and locations each year to reduce variability.

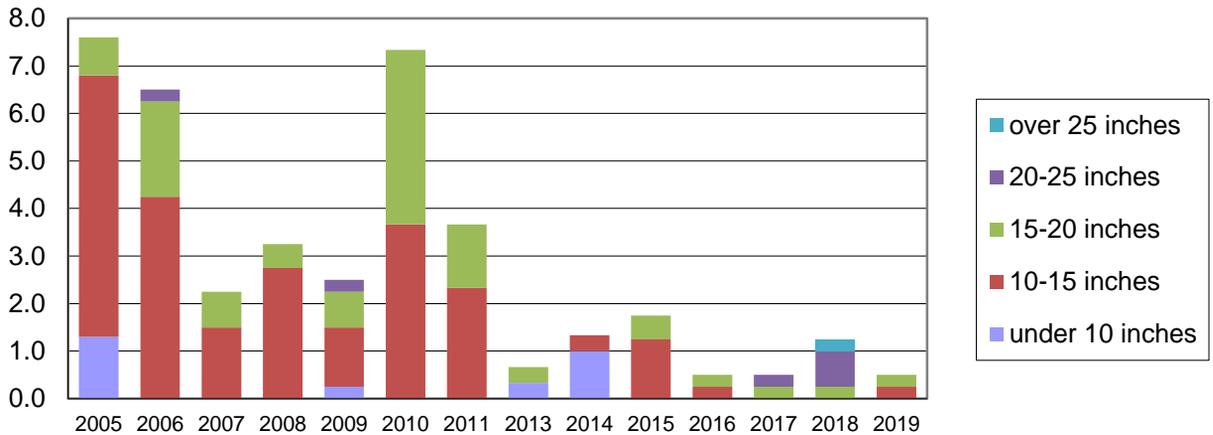
Repair work on the Hugh Butler Dam was completed in 2013 and water levels have taken time to return to where they were prior. As of January 2020, reservoir elevation is approximately 5 feet below where it was prior to draining for dam repairs. As water levels return, expect to see improvement in fish catch rates and size structure in Red Willow.

Overall, walleye and white bass populations have been slow to recover at Red Willow in the years since repairs were finished. This is probably due to a slow refill rate and low inflows. Walleye have really struggled since dam repairs with catch rates hovering around 1 per net. In an attempt to provide better opportunity for anglers, saugeye were introduced in 2017. Kansas has been stocking saugeye for several years and have experienced good results in irrigation reservoirs that are similar to Red Willow. Early results are positive with biologists sampling 2.5 saugeye per net in 2019. In the next 3-5 years, saugeye will be the primary stocking focus to allow further evaluation of their success in Red Willow. Alternative walleye stocking strategies could be implemented to help maintain those numbers while saugeye numbers continue to grow. Saugeye and walleye can be difficult to differentiate between but are managed the same so no concern with identification should arise among anglers. White bass were able to produce some natural recruitment in both 2018 and 2019 with higher inflows present. Biologists sampled over 9 white bass per net in 2019 and as long as water levels maintain, the fishery should continue to recover. Wiper numbers have continued to struggle and in 2019 a new stocking strategy was implemented by stocking fry. Fry stockings have been successful in both Harlan and Swanson in recent years and could help wiper numbers improve in Red Willow. Wiper will continue to be managed as a trophy fishery.

Staff also performed a spring survey focused on panfish in 2019. Several trap nets were set during the spring and catch rates were positive. A total of 58 crappie were sampled per net. A large portion of those fish were between 8-10 inches with a few sampled over 10 inches. Crappie have a tendency to be dominated by large year classes in reservoirs. That appears to be the case right now in Red Willow. In 2020, expect those 8-10 inch fish to begin to push up to the 12-15 inch range providing excellent opportunities for anglers.

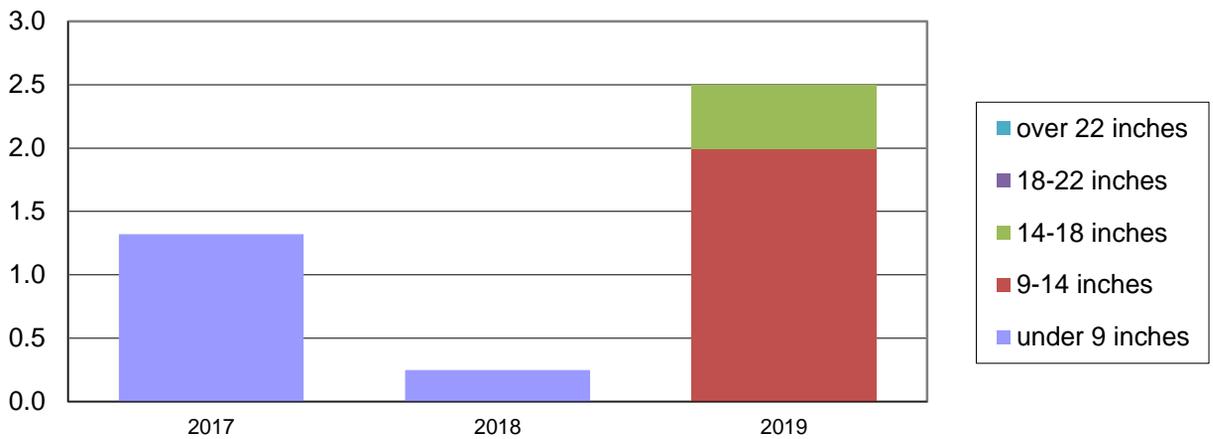
The following graphs show the average number of fish caught per net and the relative abundance of fish within several length categories. The text provides a brief explanation of the information shown in the graphs.

Walleye Catch Per Unit Effort



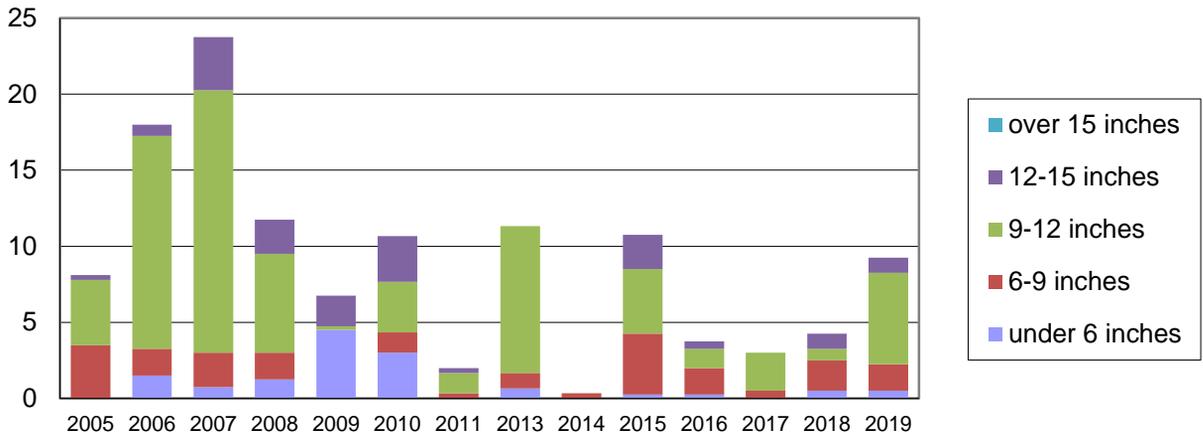
Biologists continue to struggle to sample walleye in Red Willow. In 2019, less than 1 walleye per net were sampled. Walleye populations have been down in Red Willow since draining for dam repairs. In an effort to improve angling opportunities for walleye anglers, biologists introduced saugeye to Red Willow in 2017. Both walleye and saugeye were stocked in 2017 and 2018. No walleye are requested for 2020.

Saugeye Catch Per Unit Effort



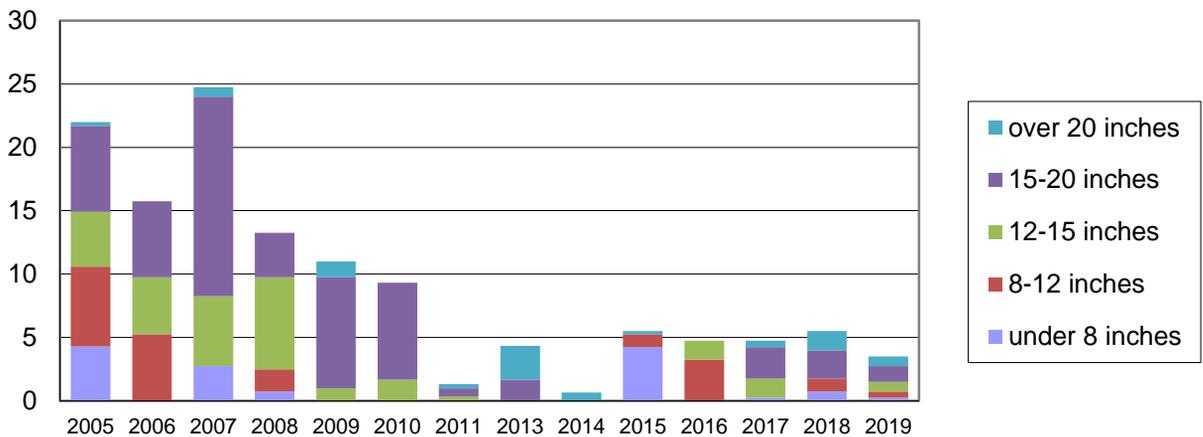
After being introduced in 2017, saugeye have appeared to thrive in Red Willow. Growth and recruitment have been very good. In 2019, biologists sampled 2.5 saugeye per net which would be the best walleye catch since 2011. Biologists observed several fish nearing 15 inches already. Collected age data suggested a majority of saugeye sampled came from a 2018 fry stocking. Due to saugeye already appearing to outperform walleye, they will be a focus of management for the next 3-5 years to allow for further evaluation. There are 2 saugeye stockings requested for 2020. In early spring, 1,000,000 saugeye fry are requested followed by a request for 140,000 saugeye fingerlings in late spring.

White Bass Catch Per Unit Effort



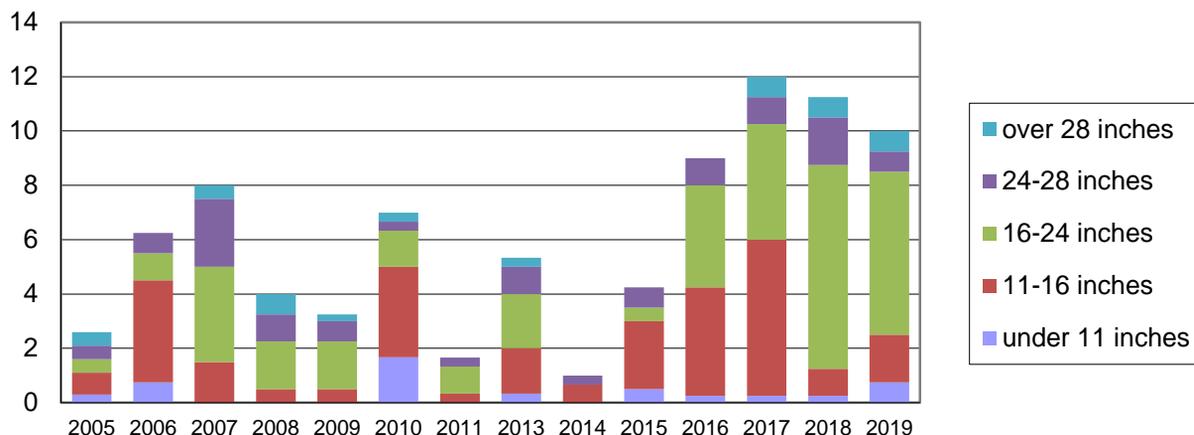
White bass catch rates were very good in 2019. Biologists sampled over 9 white bass per net. It was very encouraging to see fish in several length categories in the sample. This suggests consistent natural recruitment in recent years. Fish in both the 9-12 and 12-15 inch ranges were observed. The 2020 outlook should be very positive for anglers seeking white bass. Staff will continue to monitor the population and stock fish if it becomes necessary.

Wiper Catch Per Unit Effort



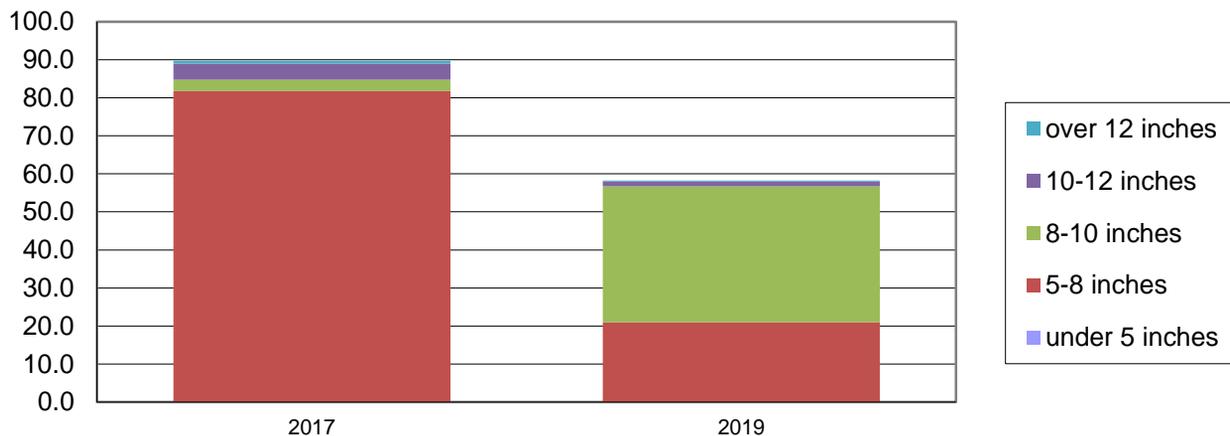
Biologists surveyed 3 wipers per net in 2019. Wiper numbers continue to struggle to rebound in Red Willow. In an effort to improve recruitment, wiper fry were stocked in 2019. Recent wiper fry stockings in Harlan and Swanson were very successful. Size structure was good for the fish sampled in 2019, with a few individuals being over 20 inches. Currently, there are 150,000 wiper fry requested for spring 2020. Stocking strategies will continue to evolve as we continue to try to return populations back to a more acceptable level for anglers.

Channel Catfish Catch Per Unit Effort



Biologists surveyed 10 channel catfish per net in 2019 that include a broad range of size classes including a few trophy size catfish. Channel catfish catch rates appear to have leveled off in Red Willow the past 3 years. However, Red Willow continues to provide ample opportunities for anglers looking for both trophy and harvestable size channel catfish. Channel catfish are stocked semiannually to supplement low natural recruitment. Channel catfish were stocked in 2019 and are requested for 2021.

Crappie Catch Per Unit Effort



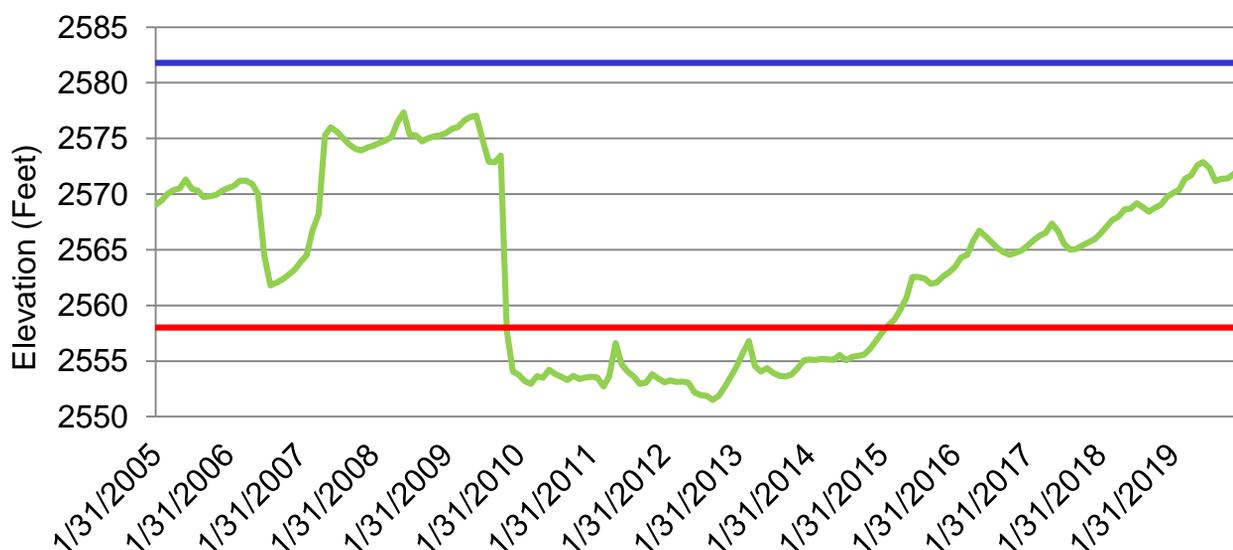
In an effort to get a better handle on crappie populations in Red Willow, biologists began setting spring trap nets semiannually in 2017. In 2019, spring trap nets caught 58.3 crappie per net. Size structure was positive with several fish between 8-10 inches sampled. Higher water levels should allow those fish to push over 10 inches in 2020, providing a very good crappie fishery for anglers to take advantage of. Spring trap nets are again scheduled for 2021 and will continue to be part of the plan at Red Willow in the future.

Red Willow Reservoir Fish Stocking Summary

Year	Walleye	Channel Catfish	Saugeye	Wiper	Yellow Perch	Largemouth Bass
2019		7,808 (5")	191,020 (1.25")	175,000 (fry)		
2018	54,926 (1.25")		350,000 (fry)	5,578 (1.25")		
2017	49,998 (1.5")	5,000 (5")	67,200 (1.25")	6,369 (1")	37,944 (1.5")	
2016	42,840 (1.5")					10,008 (3")
2015	32,500 (1.5")	7,012 (5")		6,500 (1.5")		

Above is a partial table of fish stockings for 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 2005-2019



Water levels have been 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](#)



STOP AQUATIC HITCHHIKERS!™

Prevent the transport of nuisance species.
Clean all recreational equipment.

www.ProtectYourWaters.net

Aquatic invasive species (AIS) have reached Nebraska! Zebra mussels are currently established in Lewis and Clark Reservoir, Offut AFB pond, and the Missouri River. Anglers and boaters should be on the look out for personnel performing boat inspections and decontaminations statewide. Follow the link: [Nebraska Invasive Species Program](#) or call 402-472-3133 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 from a boat or trailer to arrive or leave a launch area with any aquatic vegetation for 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 \$15 dollars and includes the \$2 issuing fee. Stamps can be purchased online or at Nebraska Game and Parks Commission Offices.



Left: Zebra Mussel
Right: Quagga Mussel