Calamus Reservoir 2020 Fall Fish Survey Summary

Nebraska Game and Parks Commission

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2020 Calamus Fish Management Summary

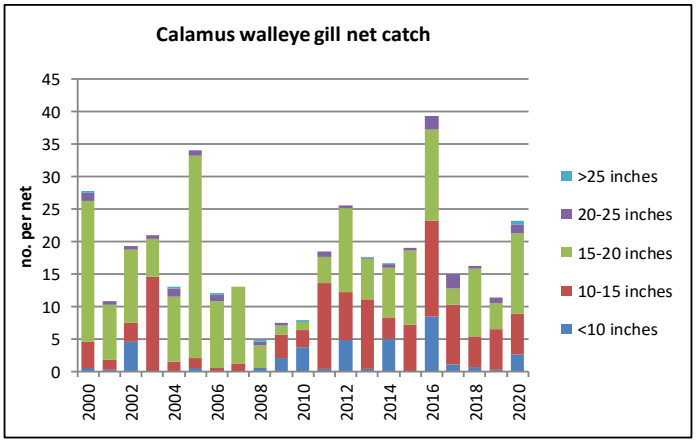
The following text and graphs are summaries from the 2020 fall gill net sampling conducted during October. Gillnets are used to sample fish species which primarily live in open water environments such as large reservoirs. Gill net sampling effort in 2020 was 5 nets located in the mid to lower reaches of the lake on October 7-8. Electrofishing for young-of-the-year fish was conducted on September 14 and 24. The same general areas of the lake are utilized for sampling locations each year for standardization. No angler creel survey was conducted in 2020.

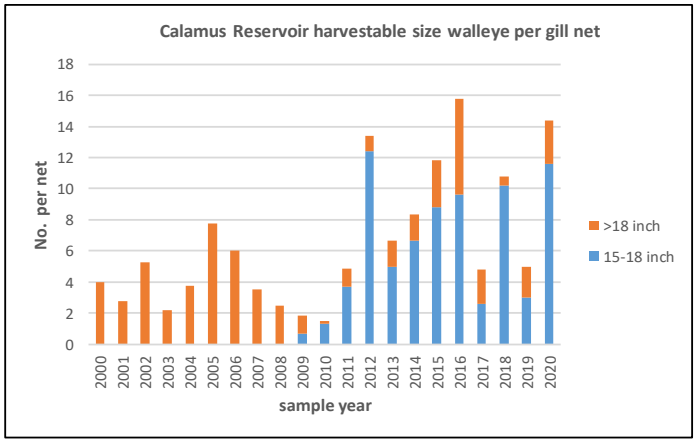
Walleye, channel catfish, and wiper populations are maintained through annual fish stocking. Muskellunge are stocked in low numbers biannually to maintain their population and angling opportunity. In 2020, only fingerling walleye were stocked due to Covid 19 restrictions. In all 259,527 fingerling walleye were stocked along with 40,606 fingerling wipers; and 13,353 10-inch channel catfish. Fish stocking in 2021 will include walleye, wipers, and channel catfish. **A new walleye regulation took effect beginning in 2016. The daily bag limit is 4 walleye, however, anglers may have no more than 2 fish between 15 and 18 inches and no more than 2 fish over 18 inches. Keep in mind only one fish in the daily bag may be longer than 22 inches in length. In addition, a new regulation is in place for channel catfish. Only 1 fish over 30 inches is allowed in the daily bag limit of 5 channel catfish. This regulation is designed to protect large channel catfish from overharvest.**

Walleye

The walleye fall gill net index increased over that seen the last three years. The 23 fish per net is the 5th highest seen since 2000. This catch level is slightly above the objective target rate of 15 to 20 per net. Harvestable sized fish made up about 60% of the sampled walleye with most of those harvestable fish in the 15-18 inch size range. Walleye over 18 inches made up about 12% of the sample and increased to about 3 fish per net. Since the inception of the concurrent fry and fingerling annual stocking and the change in length regulation allowing fish harvest in the 15 to 18 inch range, more walleye are available to harvest now than under the 18 inch minimum length limit. The chart to the right shows the catch rates of "keeper" walleye in annual gill net sampling. The mean number of harvestable walleye per net catch from 2000-2008 (18 inch minimum years) was 4.1. The mean net catch of harvestable sized walleye from 2011-2020 is 9.5. The number of harvestable sized walleye per net night in 2020 was the second highest recorded and the past ten year average catch is 2.5 times higher than the ten years previous to that. The harvest size slots appear to be doing what it was intended to do: allow harvest of abundant 15-18 inch fish while not reducing the overall walleye population level and maintaining some larger fish in the population. In nine of the last ten years the net catch-per-unit-effort has met or exceeded the objective level of 15 to 20 per net.

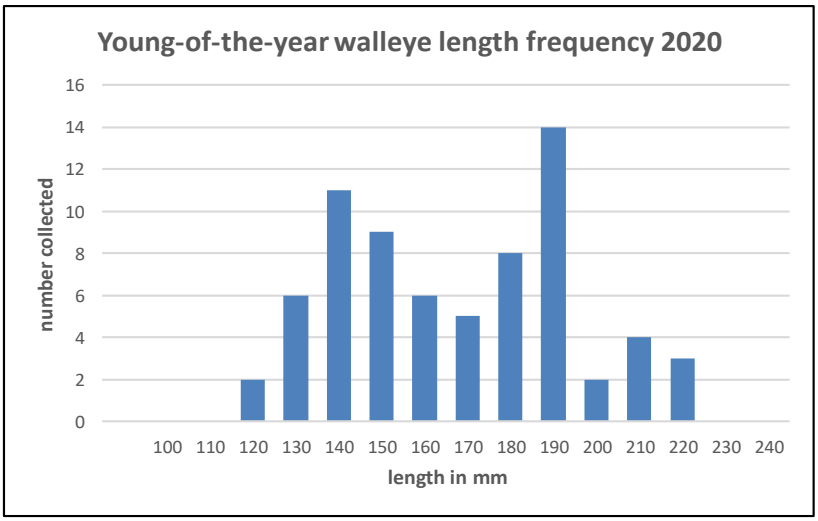
Eight year classes of fish were represented in the survey with age 0 to age 3 fish the most abundant. Walleye are reaching 15 inches in about 3 growing seasons with fish reaching 18 inches in 4+ growing seasons. The dual stocking of walleye fry and fingerling will continue in 2021 to maintain high walleye recruitment levels and prevent a missing year class. Anglers should find good fishing again in 2020with most harvestable fish subject to the 2 fish daily bag limit between 15 and 18 inches. However, anglers should find higher numbers of fish over 18 inches.





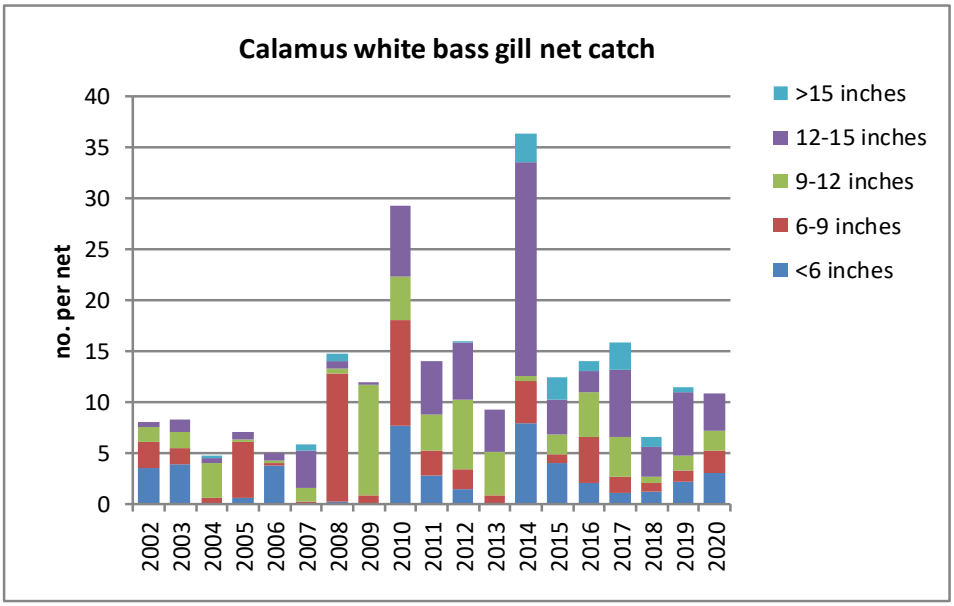
2020 Young-of-the-year Walleye Sampling

Age 0 walleye were collected by nighttime electrofishing on September 14 and again on September 24. Age 0 walleye were collected at a rate of 21 per hour. All walleye stocked in 2020 received a chemical mark that would indicate a stocked fish versus a wild spawned fish. Fifty of the collected age 0 walleye were examined for this chemical mark and 48 out of 50 (96%) were marked. This means 96% of the fish examined were stocked walleye. It also means perhaps some limited natural reproduction for walleye at Calamus Reservoir. However, not nearly enough to maintain the needed walleye population. There was a four inch range in sizes of age 0 walleye collected with 20% in the 190 mm group. That is great size for Calamus young-of-the-year walleye in September. Hopefully these fish from the 2020 year class will overwinter well and contribute to the future fishery.



White Bass

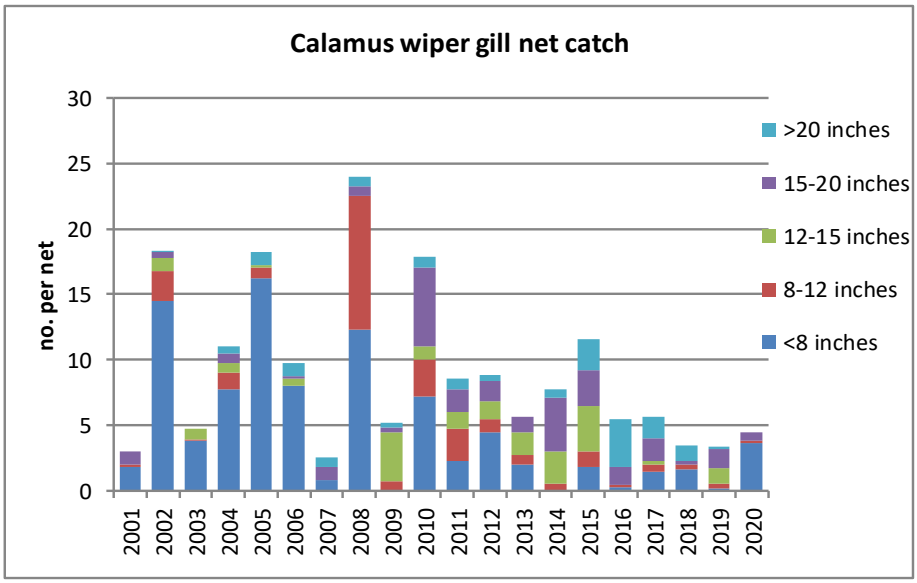
Net catch for white bass of 10.8 per net in 2020 was similar to that seen in 2019 and is near the previous five year average of 12. The size structure of white bass is excellent with good production and growth. Larger white bass in the 15 to 16 inch range have been present in recent years offering anglers good opportunity. A healthy, abundant white bass population is present in Calamus Reservoir. Some fish in 2021 will once again exceed 16 inches in length and anglers are reminded only 1 of these is allowed per day in the bag. White bass body condition is excellent, indicating good prey availability. White bass fishing in 2021 should be similar to the past few years. **Remember only 1 white bass/wiper greater than 16 inches is allowed in the daily bag limit.**



Wipers

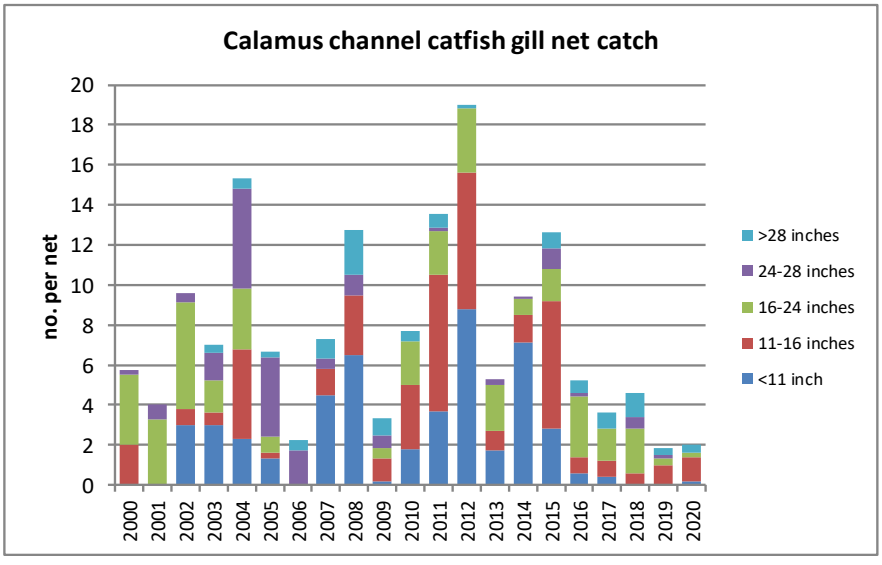
The wiper catch per net in the 2020 sample was similar to that seen since 2016. However, the size structure is quite different. The 2020 sample was mainly composed of age 0 fish and no fish over 20 inches were collected. There was some natural mortality of wipers just after ice-out in the upper part of the lake in the Spring of 2017 which may still be affecting numbers of larger wipers. As always, wipers are a schooling fish and they can be a "hit or miss" sample. Angler success on wipers in 2020 should be similar to that seen in 2019. Wipers exhibit much faster growth than white bass and current data indicated reaching 17—18 inches in three to four growing seasons and over 20 inches in four to five growing seasons. Like white bass, prey availability in the form of young gizzard shad influences year class survival and growth rates. The wiper stocking request in 2021 is for 25,000 fingerling (2 inch) fish. Extra wipers in the hatchery system allowed for a stocking of 40,606 fingerlings in 2020.

Only 1 wiper/white bass greater than 16 inches is allowed in the daily bag.



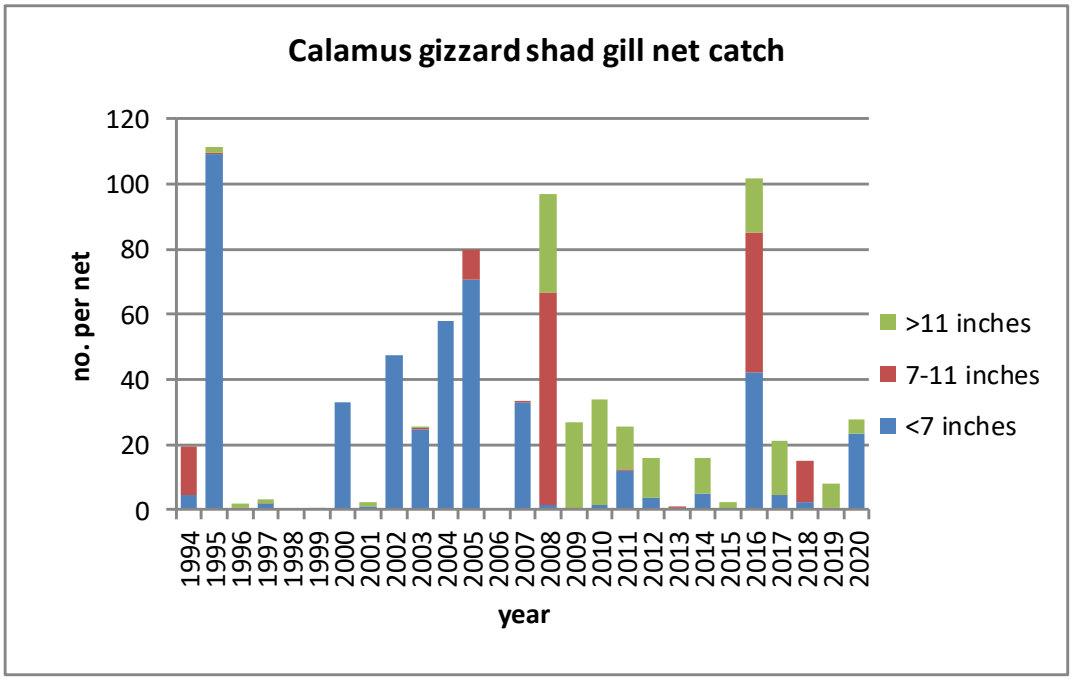
Channel Catfish

Channel catfish catch per net in the 2020 survey showed a slight increase in numbers collected over last year. The difference in catch rate is primarily due to the number of smaller fish found in the survey. The discrepancy in the catch rate of small fish can partially be explained by the timing of stocked channel catfish. To improve catfish recruitment, we have returned to stocking 10 inch size catfish and that is likely contributing to the catch of smaller fish in 2020. As you can see from the graph, catfish sample catch numbers tend to vary widely at times. Trophy fish are present in Calamus Reservoir and catfishing can be quite good certain times of the year. Calamus has become known as a catfish angling destination and the site of catfish tournaments. Our gill net sampling technique may not be conducive for good catfish samples looking into population levels and trends. Changes is sampling effort will be needed to properly sample the channel catfish population. We look for catfish angling opportunity in 2021 to be similar as that seen in 2020. A regulation change occurred for Calamus Reservoir beginning in 2020. **A "1 fish over 30 inches in the daily bag limit " regulation is now in place for channel catfish.**



Gizzard Shad

Gizzard shad are the primary prey for managed sport fish in Calamus Reservoir and their size distribution is critical for proper growth, recruitment and maintenance of desirable sport fish species. It is desirable to have high numbers of young-of-the-year shad to provide food for the sport fish such as walleye and white bass, but lower adult numbers so as not to compete with sport fish for space and food. A large die-off of adult shad occurred following ice out in the spring of 2020. Due to sedimentation in the upper end of the lake, adult shad are finding it more difficult to access the Gracie Creek area in the fall when reservoir water levels are still low. The Gracie Creek area is a major over-winter area for shad. We were concerned the die-off was too severe and may had depleted adult stocks. Subsequent electrofishing sampling in May indicated adequate numbers of adult shad survived and would be adequate for spawning. As most anglers know, young shad were very abundant in the summer and fall of 2020 and at least two spawns were seen. Small shad were evident in the lake in September and October which aided in sport fish growth and body condition going into the fall and winter. Moderate winterkill of adult shad is a good thing for fish management purposes because the surviving adults produce a lot of young to serve as food for sport fish. When adult shad numbers are too high much of the shad biomass is tied up in those large fish and reproductive success is reduced, resulting in reduced numbers of appropriate-sized prey to support the fish populations that rely on them. The 2020 shad catch in the fall gill net survey reflects the good numbers of small shad with low number of adults.



Other 2020 Activities

Fisheries Division conducted other activities at Calamus Reservoir in 2020. These included activities that affected boaters and anglers at the Reservoir and boat ramps. The Game and Parks Commission had an Invasive Species Technician conducting boat inspections and interviews for all boaters and lake users, primarily at boat ramps. **We appreciate your cooperation and patience when contacted by these technicians**. AIS technician boat inspections assist with zebra mussel prevention to protect our aquatic resources, protection of all water based recreation activity and protection of your personal property against these invaders.

Zebra & Quagga Mussels

Anglers and recreational boaters should continue awareness for zebra and quagga mussels while using Nebraska lakes. Monitoring was completed at many Nebraska reservoirs during 2020, including the Calamus. Zebra mussels are found in Lewis and Clark Lake, the Missouri River, Lake Yankton, and Offutt Air Force Base lake. Invasive species technicians will be inspecting boats periodically at Calamus again in 2021. Thank you for your assistance and patience while these surveys are conducted. Please clean, drain, and dry your water craft prior to leaving any water body and never arrive at a lake with water in your boat or live well from anything other than a bottled domestic source. Invasive mussels have also been documented in several neighboring states including Iowa, Kansas, Missouri, and South Dakota. **Zebra mussels have been found in Lake Francis Case and Lake Sharpe in South Dakota. If you fish those lakes please take extra precautions to drain and dry your watercraft and tackle before returning to our Nebraska lakes and reservoirs.**

Invasive mussels will attach to almost any surface and have detrimental impacts on industry (power plants, water intakes, irrigation, etc), native fish and mussels, and recreational users (fouling boat motors, impacting beaches, etc). Invasive mussels cause an estimated $5 billion per year in economic impacts in the United States for monitoring and control efforts. Inadvertent transfer by humans is the major source of new infestation for zebra and quagga mussels; primarily by boats, boat trailers, and fishing gear. Boaters and anglers are reminded that it is important to **clean, drain and dry** their equipment and boats before moving to different bodies of water. Anglers and boaters are encouraged to educate themselves on these and other aquatic invasive species. An excellent source of information regarding invasive species can be found on the University of Nebraska's Invasive Species Project website: http://www.neinvasives.com.

Regulations that took effect in 2013 mandate that all vessels and conveyance be drained of water prior to entering or leaving a lake to prevent the spread of invasive species. This means all livewells, baitwells, and boat hulls shall be drained and free of water except for water from a domestic source for bait fish. Additionally, all aquatic vegetation must be removed from boats and trailers prior to leaving a lake. Boats are subject to inspection by authorized personnel. Regulations will be strictly enforced. Remember to bring ice on your fishing trip to transport your fish home. All boats not registered in Nebraska must have a non-resident AIS sticker purchased and properly affixed to their watercraft.

For more information on fishing rules and regulations visit the Nebraska Game and Parks website at OutdoorNebraska.org.

For more information on the fisheries at Calamus Reservoir contact:

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Attention motorboat owners operating in Nebraska:

Starting in 2016, boaters whose motorized watercraft are registered in any state other than Nebraska must purchase and display a $15 Aquatic Invasive Species (AIS) Stamp each year they launch their boat in Nebraska. The stamp will help fund AIS education and inspection programs.

- Boat inspections for AIS prior to launch in Nebraska are NOT mandatory at this time.
- Personal watercraft registered outside of Nebraska must have this stamp.
- Non-motorized craft registered in any state are exempt from the stamp.
- Stamps are not required for boats registered in Nebraska. A $5 AIS fee is included on the residents' three-year boat registrations.
- Residents who register their boats in other states must have this stamp before launching in Nebraska.

This stamp is available online at **OutdoorNebraska.org** or at Nebraska Game and Parks permitting offices.

Learn more about invasive species at **neinvasives.com.**

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