Calamus Reservoir 2017 Fall Fish Survey/ Angler Creel

Nebraska Game and Parks Commission

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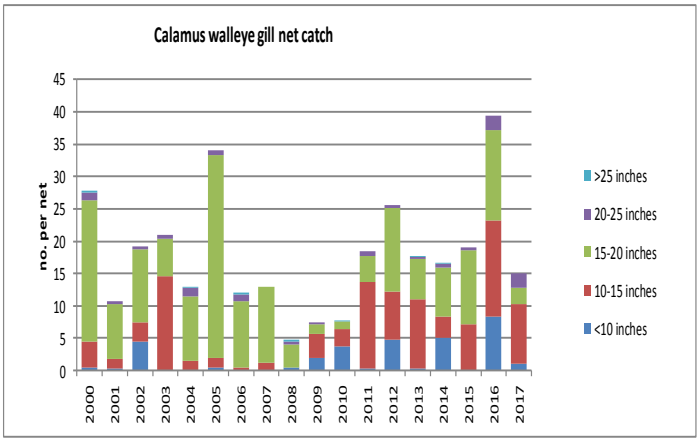
2017 Calamus Fish Management Summary

The following text and graphs are summaries from the 2017 fall gill net sampling conducted during October and 2017 angler creel data. Gillnets are used to sample fish species which primarily live in open water environments such as large reservoirs. Gill net sampling effort in 2017 was 5 nets located in the mid to lower reaches of the lake on October 10-11 along with walleye young-of-the-year nighttime electrofishing sampling on August 29 and September 26. The same general areas of the lake are utilized for sampling locations each year for standardization. Angler creel data was collected from April to October by a technician from the UNL Cooperative Fish and Wildlife Unit.

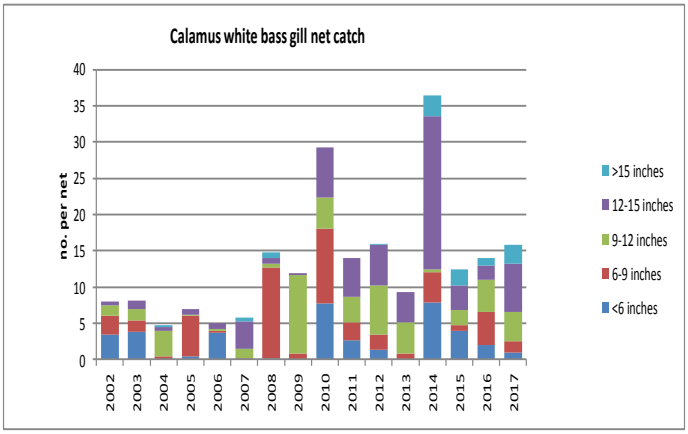
Walleye, channel catfish, and wiper populations are maintained through annual fish stocking. Muskellunge are stocked in low numbers biannually to maintain their population and angling opportunity. In 2017, 7.5 million fry and 25,000 fingerling walleye; 25,062 fingerling wipers; 25,850 5-inch channel catfish; and 2,104 12-inch northern pike were stocked in the lake. In addition, fish produced from the Calamus hatchery in 2017 excess to agency needs were stocked into the reservoir. This amounted to 76,439 yellow perch and 13,387 black crappie. Fish stocking in 2017 will include walleye, wipers, channel catfish, and muskellunge . **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.**

Walleye



The walleye fall gill net index decreased by over 50% from the record high seen in 2016. The numbers seen in the sample in 2016 are more in line with those seen from 2011 through 2015. In the 2017 sample the 10-15 inch fish made up 61% of the total walleye collected. Harvestable sized fish made up about 1/3 of the sampled walleye with an almost even split of those being 15-18 inch fish and fish over 18 inches. Of the harvestable sized fish , 60% are in the 15-18 inch range and 40% are over 18 inches. Walleye are reaching 15 inches during their third growing season and 18 inches between 4 and 5 growing seasons. Body condition of walleye remains good with a population mean of 94% of optimal condition. Population level and recruitment has remained relatively steady since 2011. The dual stocking of walleye fry and fingerling will continue in 2018 in an attempt to maintain high walleye recruitment levels and prevent a missing year class. **A new walleye regulation began in 2016. The daily bag 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.**

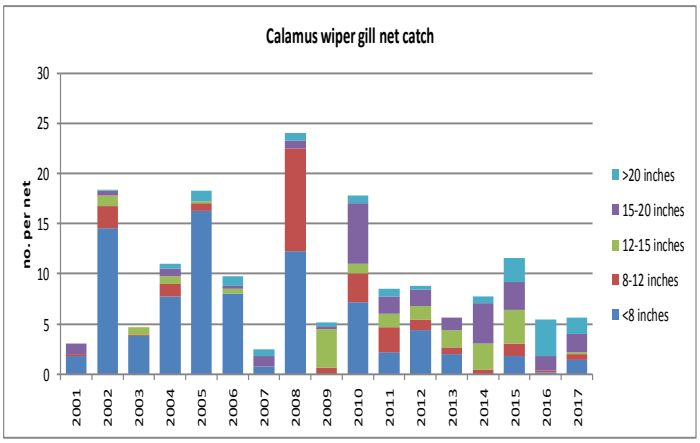
White Bass



White bass numbers in the 2017 Fall survey showed a slight increase over 2015 and 2016 and is near the long term average since 2008. There is a balanced population in terms of fish length groups with a good mix of recruitment of smaller fish and the larger, harvestable fish. A pleasant surprise is the number of fish over 15 inches seen in the 2017 sample. These are quality white bass. White bass body condition is good, especially for smaller fish, indicating enough prey availability. This is also evident in white bass growth rates with fish reaching over 6 inches by October as age 0 fish, ten inches as age 1 fish, and 12 inches as age 2 fish (three growing seasons) and 15 inches after 5 growing seasons. All this means white bass fishing in 2018 should be similar to what anglers experienced in 2017. The 2017 Calamus angler creel survey showed an estimated angler catch of over 88,000 white bass. **Remember only 1 white bass/wiper greater than 16 inches is allowed in the daily bag limit.**

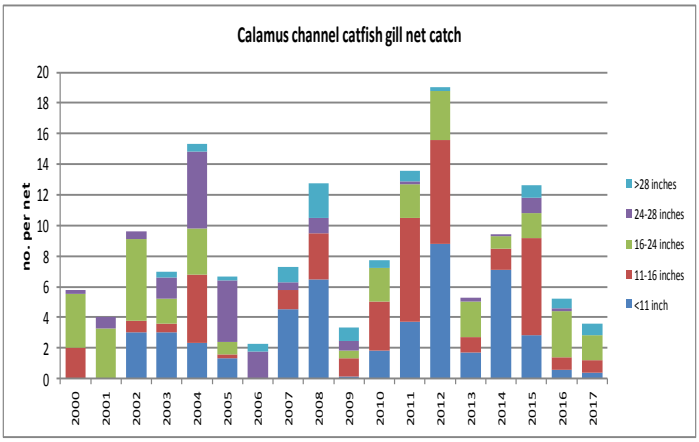
Wipers

The wiper catch per net in the 2017 sample was slightly below the previous five year average of 8.4/net and very similar in total numbers to the 2016 sample. Higher numbers of small wipers were collected in 2017 indicating good recruitment and survival of stocked fish. Fish were collected from all age groups 0 through 5. There was some natural mortality of wipers just after ice-out in the upper part of the lake in the Spring of 2017. Fish collected at that time exhibited clinical signs of a bacterial infection that seemed to affect larger fish. As always, wipers are a schooling fish and they can be a "hit or miss" sample. Angler success on wipers in 2018 should be similar to that seen in 2017. 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.



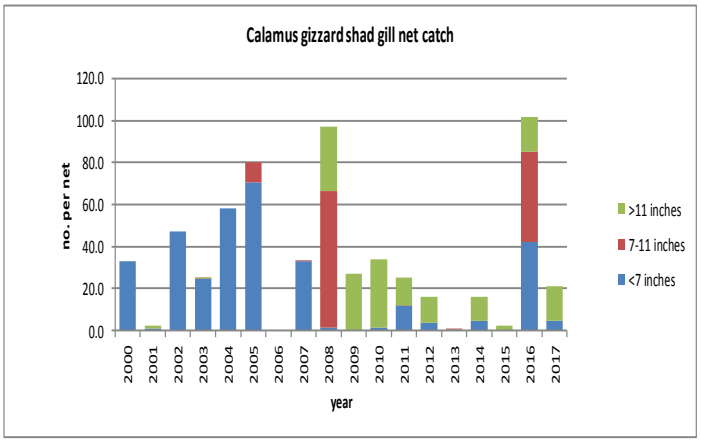
Channel Catfish

Channel catfish catch per net in the 2017 survey showed a decrease in numbers collected. The catfish catch has declined for the second straight year and is well below the 2010 to 2016 mean. The difference in catch rates is partly 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. Prior to 2016, larger ten-inch channel catfish had been stocked in the lake just prior to our Fall survey and the catch of those fish would be high. In 2016 and 2017, smaller 5 inch fish were stocked earlier in they year and in a different location from past stocking. It is possible this stocking strategy will not be as successful and discussions are under way to return to stocking some 10 inch catfish. As you can see from the graph, catfish sample catch numbers tend to vary widely at times so more years of survey data are needed to evaluate any stocking strategy. Trophy fish are present in Calamus Reservoir and catfishing can be quite good certain times of the year. We look for catfish angling opportunity in 2018 to be similar as that seen in 2017.



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 desirable sport fish such as walleye and white bass but lower adult numbers so as not to compete with desirable sport fish for space and food. Shad numbers in the 2017 survey is considered near optimal for numbers of adult shad. Although the gill net catch of smaller shad appears low, anecdotal information and observation during the summer of 2017 suggested adequate numbers of young-of-the-year shad. Sometimes the young shad are too small to be effectively sampled in our gill nets and that may have been the case in 2017. Shad effectively over-winter in the upper end of the reservoir and the number of adult spawners to produce abundant young shad is usually not a problem.



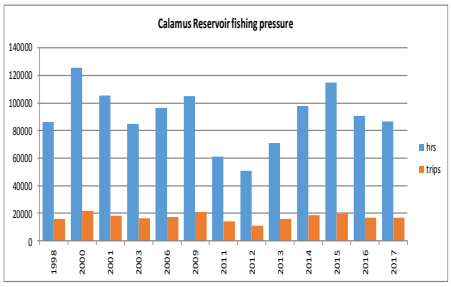
Other 2017 Activities

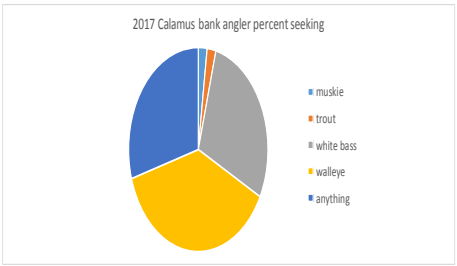
Fisheries Division conducted other activities at Calamus Reservoir in 2017. These included activities that affected boaters and anglers at the Reservoir and boat ramps. An angler creel survey was conducted through the UNL Fish and Wildlife Coop Unit from April through October. Angler creel data assists us with management of the aquatic resources. In addition, 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.

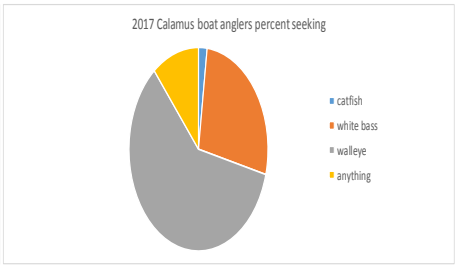
A short summary of the collected angler creel information is presented below.

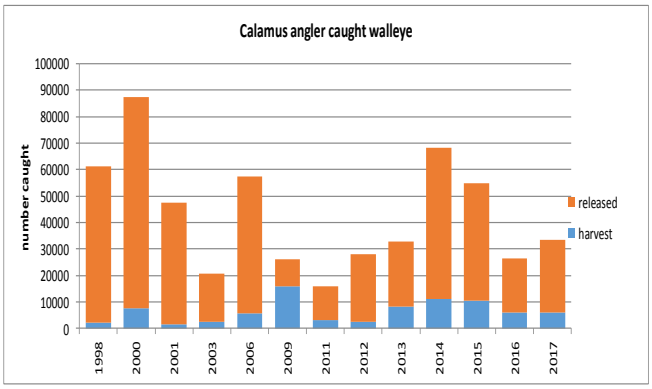
2017 Angler Creel Summary

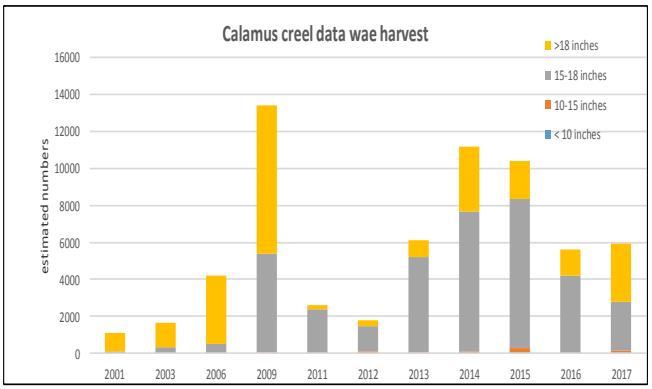
Fishing pressure was relatively high at an estimated 86,660 angler hours. Normally fishing pressure has been between 80,000 to 100,000 hours annually. Of course, this depends on weather conditions and the fishing "bite" at any given time. Ninety-two percent of the angler pressure was expended by boat anglers. Most anglers were fishing for walleye and white bass (no surprise there!)



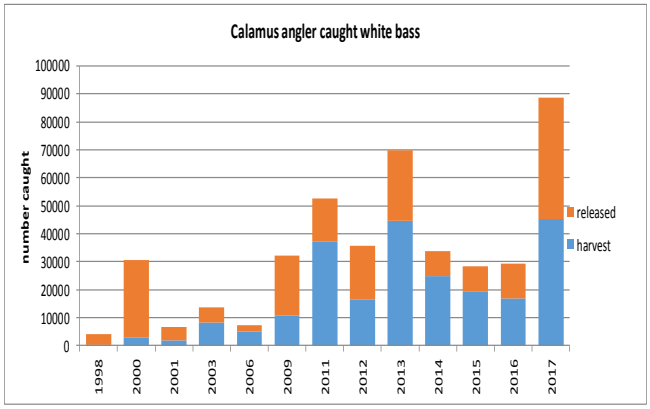


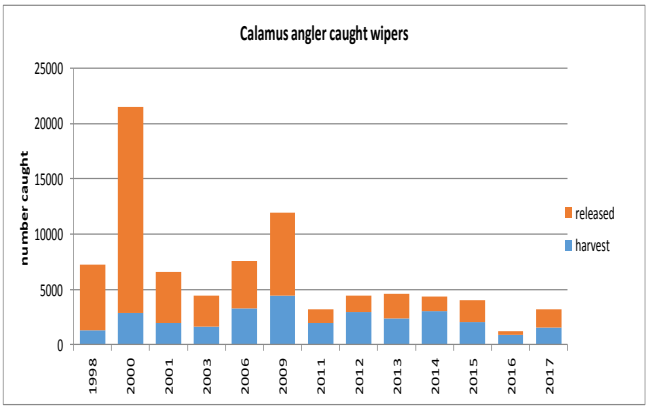






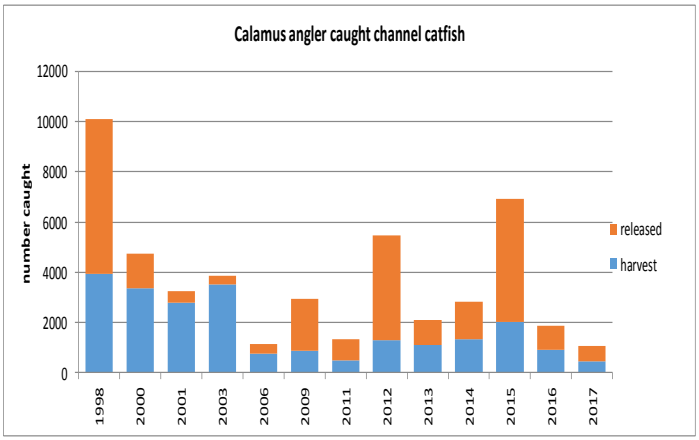
Anglers caught an estimated 33,440 walleye in 2017 and harvested 5,922. The total catch increased over that estimated in 2016 while the estimated harvest stayed nearly the same. About half the fish harvested in 2017 were over 18 inches.



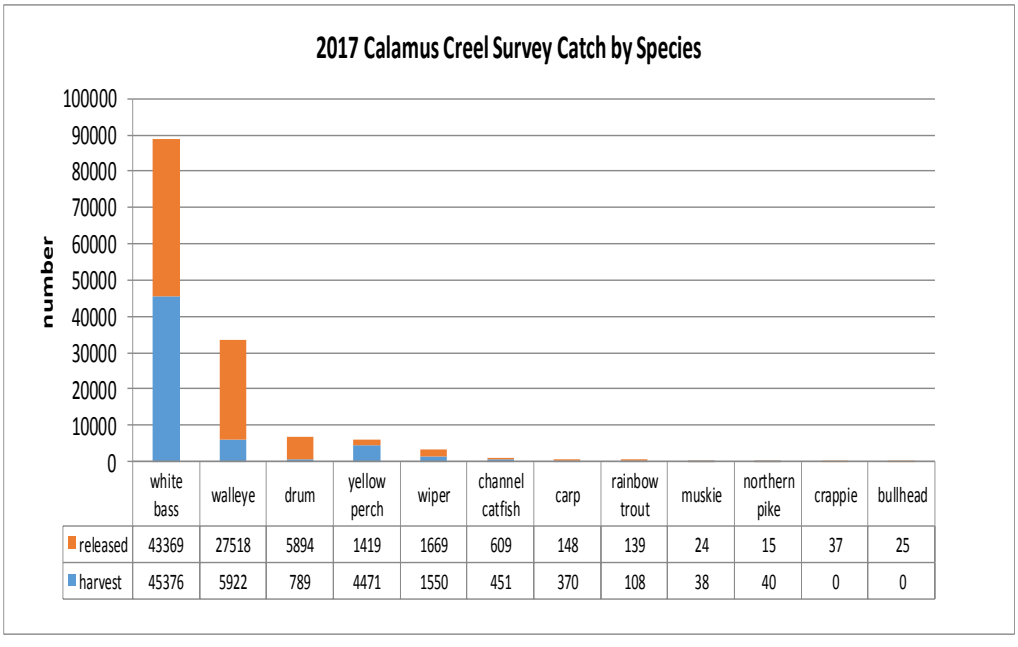


Anglers in 2017 enjoyed the highest catch of white bass at Calamus Reservoir in any of the creel surveys with a harvest of white bass similar to that seen in 2013. The creel survey data estimated a total white bass catch of 88,746 fish with over half of those fish harvested—45,376. Nearly 25 % of the harvested white bass were 15 inches in length or longer. All indications are that 2017 was a very good year for white bass fishing at Calamus Reservoir. The wiper catch has been pretty steady since 2011, with the exception of 2016 which saw a decrease in angler catch. About 17% of the wipers caught in 2017 were 20 inches or larger. Calamus Reservoir annually offers some quality wiper fishing.

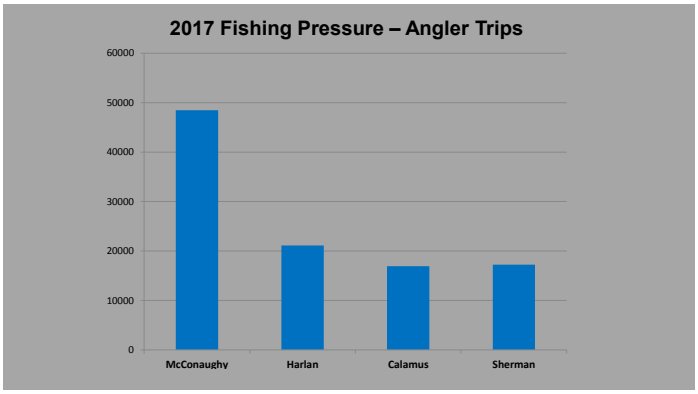
Channel catfish angler catch and harvest in 2017 was down from the past 5 creel surveys and is similar to estimates from 2006 and 2011. Further analysis is needed to determine if this was due to less angling effort directed toward catfish or if indeed population levels are lower. If the latter is the reason for the reduced catch of catfish, a change in catfish stocking strategy is needed.

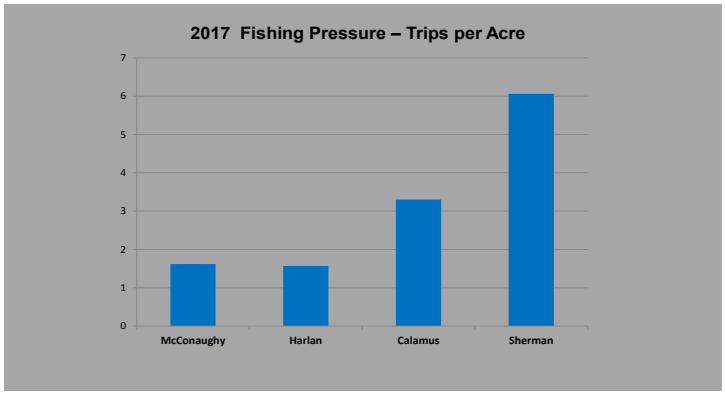


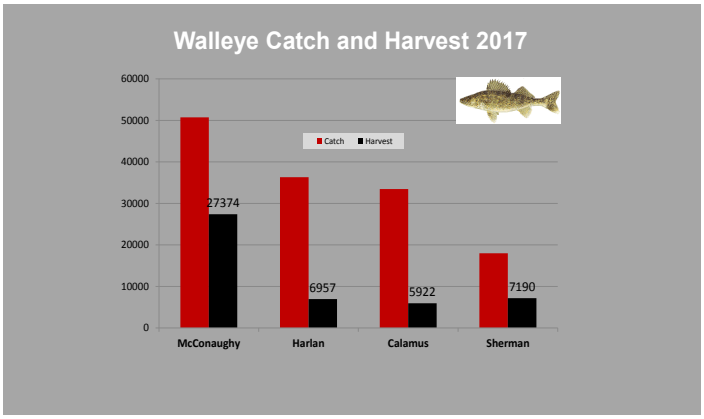
The chart below illustrates once again that white bass and walleye dominate the angler catch at Calamus Reservoir. As noted in an earlier graphic, these are the primary species of fish anglers are seeking. The 2017 creel survey data estimated anglers caught a total of 139,984 fish.

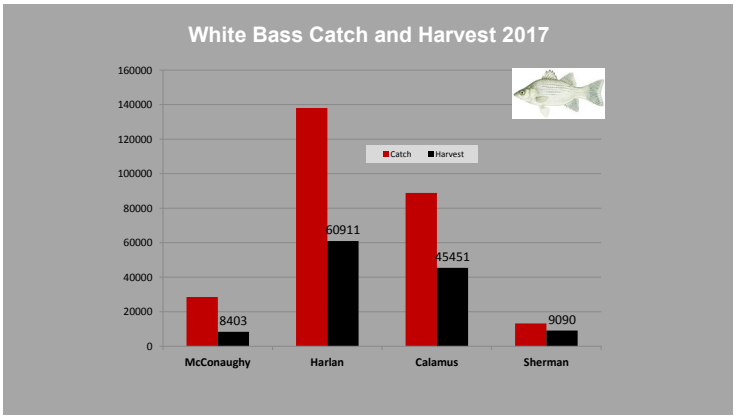


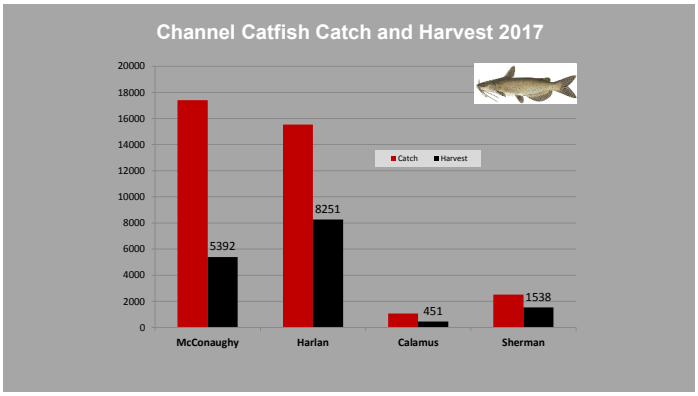
The charts below are a comparison of estimated fishing pressure and angler harvest between the four irrigation reservoirs surveyed in 2017. As you can see, Calamus Reservoir receives pretty heavy fishing pressure in terms of trips per acre. Walleye harvest is similar to that found at Sherman and Harlan County Reservoirs.











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 2017, including the Calamus. Zebra mussels are found in Lewis and Clark Lake, the Missouri River, and Offutt Air Force Base lake. Invasive species technicians will be inspecting boats at Calamus again in 2018. Thank you for your assistance and patience while these surveys are conducted. In 2017, AIS technicians completed 831 watercraft inspections at Calamus Reservoir. 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 domestic source. Invasive mussels have also been documented in several neighboring states including Iowa, Kansas, and Missouri.

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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Phil Chvala, Fisheries Biologist, Norfolk Office, Ph: 402-370-3374, email: phil.chvala@nebraska.gov

Andrew Glidden, Fisheries Biologist, Basset Field Office, Ph: 402-684-2921, email: andy.glidden@nebraska.gov

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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