

Calamus Reservoir 2016 Fall Fish Survey/ Angler Creel

Nebraska Game and Parks Commission

Jeff Schuckman, Northeast Region Fisheries Manager

Phil Chvala, Fisheries Biologist

Andrew Glidden, Fisheries Biologist



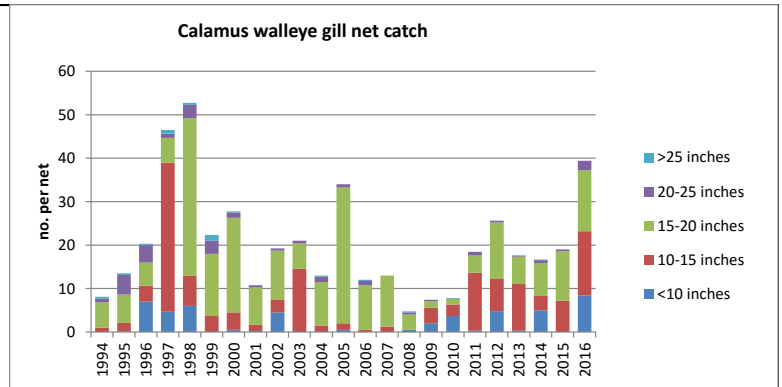
2016 Calamus Fish Management Summary

The following text and graphs are summaries from the 2016 fall gill net sampling conducted during October and 2016 angler creel data. Gillnets are used to sample fish species which primarily live in open water environments such as large reservoirs. Sampling effort in 2016 was 5 nets located in the mid to lower reaches of the lake from October 10-11. 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 2016, 8 million fry and 262,916 fingerling walleye; 13,194 fingerling wipers; 29,767 5.5-inch channel catfish; and 30 adult northern pike were stocked in the lake. Fish stocking in 2017 will include walleye, wipers, channel catfish, muskellunge and northern pike. **A new walleye regulation took effect beginning 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. With high angler catch rates of 15 to 18 inch walleye, we ask anglers to harvest those legal fish that may be injured or "bleeding" when caught. This may decrease the walleye mortality from angler catch and release.**

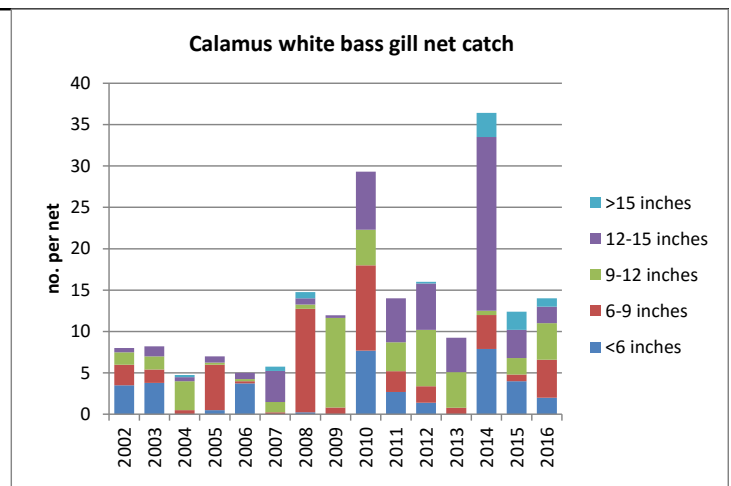
Walleye

The walleye fall gill net index was the highest recorded in the last 17 years. The number of young-of-the-year walleye is the highest ever recorded in the gill net sampling. With a mean length of 8 1/2 inches in October, these young-of-the-year fish should hopefully recruit well to age 1 and contribute to the fishery by 2018. There appears to be a balanced population when looking at the walleye size category distribution. Fifty nine percent of the sampled walleye were under the 15 inch harvest minimum length while 41 percent are in harvestable size groups. Of those 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 after four growing seasons. Body condition of walleye remains good with a population mean of 90% of optimal condition. The dual stocking of walleye fry and fingerling will continue in 2017 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

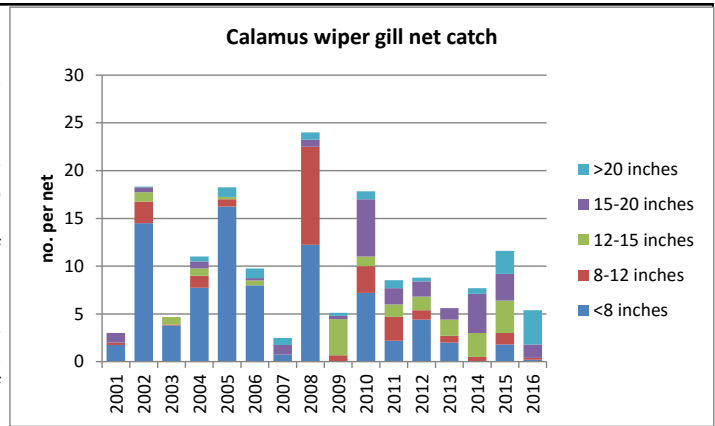
White bass numbers in the 2016 Fall survey were nearly right on the past five year average. There is a balanced population in terms of fish length groups with a good mix of recruitment of smaller fish and larger, harvestable fish (9-15 inches). White bass body condition is good indicating enough prey 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 over 13 inches as age 2 fish (three growing seasons). All this means white bass fishing in 2017 should be similar or slightly better than what anglers experienced in 2016. The 2016 Calamus angler creel survey showed an estimated angler catch of 29,364 white bass with and estimated 16,715 harvested. **Remember only 1 white bass/wiper greater than 16 inches is allowed in the daily bag limit.**



Wipers

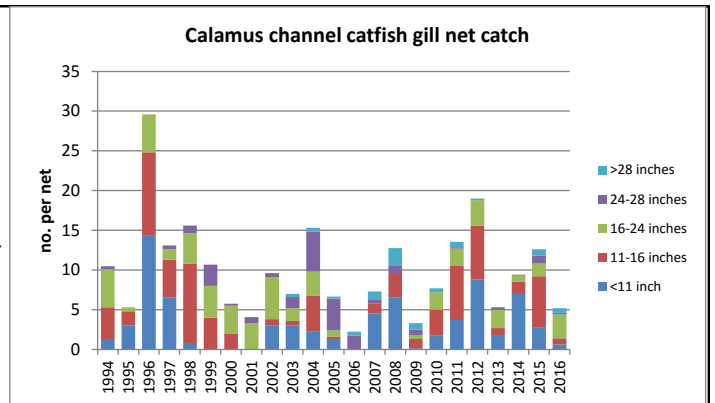
The wiper catch per net night in the 2016 sample was slightly below the previous five year average of 8.4/net. While high numbers of small wipers were not collected, the number of 20 inch and larger fish is the best net catch ever recorded. No wipers from the 2015 year class were collected during the 2016 Fall survey while all other year classes back to 2010 were represented in the sample. As always, wipers are a schooling fish and they can be a "hit or miss" sample. While overall numbers of wipers may be down slightly, anglers should have some excitement by catching large fish and should see wipers over 20 inches in length. Wipers exhibit much faster growth than white bass and current data indicated reaching 17–18 inches in three growing seasons and over 20 inches in four growing seasons. Like white bass, prey availability in the form of young gizzard shad influences year class survival and growth rates.

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



Channel Catfish

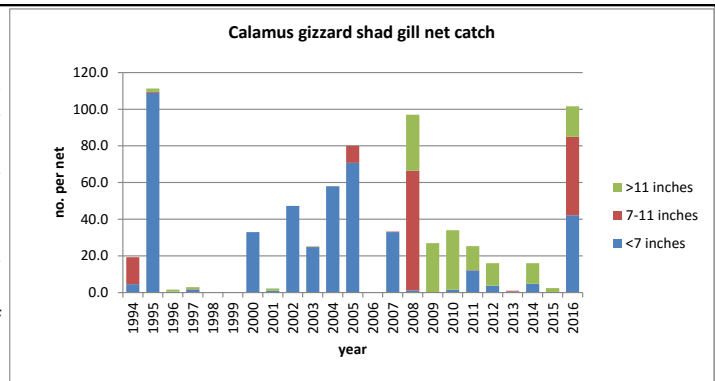
Channel catfish catch per net in the 2016 survey showed a decrease in numbers collected relative to 2014 and 2015. The difference in catch rates is due to the number of smaller fish found in the survey. The number of fish collected that were over 16 inches actually increased from the previous two years. The discrepancy in catch rate of small fish can partially be explained by the timing of stocking channel catfish. Previously, larger channel catfish had been stocked in the lake just prior to our Fall survey and the catch of those fish would be high. Currently we are stocking smaller fish earlier in the year and in a different location. Future sampling will indicate if the change in stocking strategy has been successful or if a change back to stocking larger fish is needed. As you can see from the graph, catfish sample catch numbers tend to vary widely. Mostly due to the numbers of small fish captured during the survey and not due to fluctuating numbers of larger fish. Trophy fish are present in Calamus Reservoir and catfishing can be quite good certain times of the year. We look for similar catfish angling opportunity in 2017 as was seen in 2016.



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. Shad numbers in the 2016 survey were very high—second highest of all survey years! There are a couple of reasons for this; there was a high number of one year old shad that made it through the winter of 2015/2016 and a high number of young-of-the-year shad produced in 2016. The small size of the carry-over shad resulted in them being subject to predation by fish such as walleye and wipers early in 2016 and, in our opinion, led to poorer than anticipated fishing success during May and into part of

June in 2016. In essence, the predator fish had plenty of natural food and simply were not hungry at times. A build-up of high numbers of larger shad is not a desirable situation for fish management at Calamus. Low numbers of large adults that result in high production of young-of-the-year shad is most desirable. Hopefully we see lower numbers of adult shad following the winter of 2016/2017.



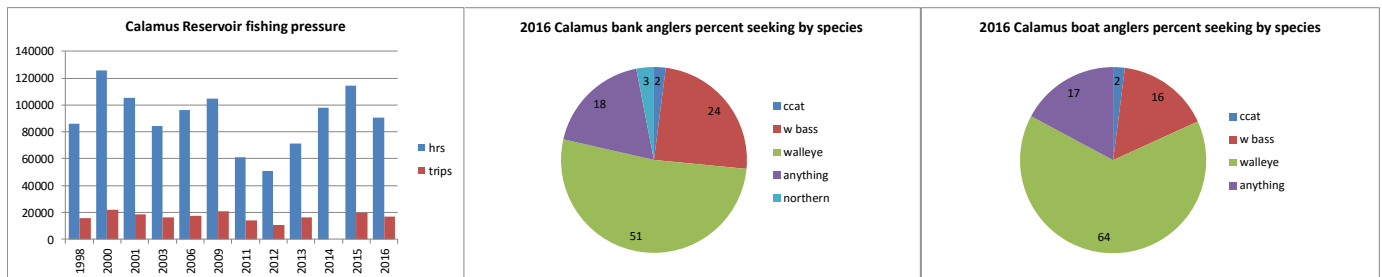
Other 2016 Activities

Fisheries Division conducted other activities at Calamus Reservoir in 2016. 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. In addition, the Game and Parks Commission had an Invasive Species Technician(s) 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.** Angler creel data assists us with management of the aquatic resources. 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.

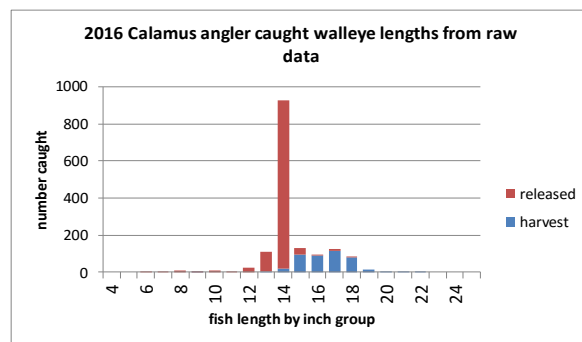
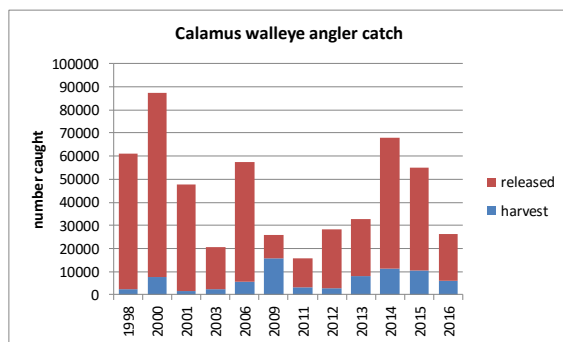
A short summary of the collected angler creel information is presented below.

2016 Angler Creel Summary

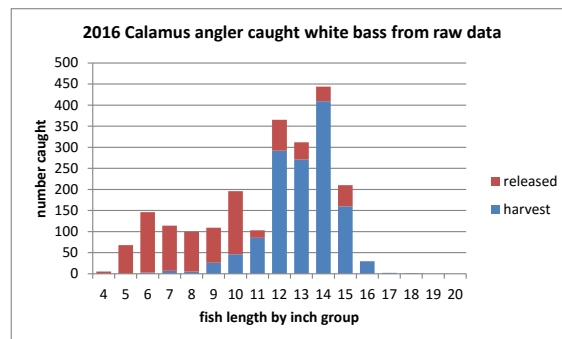
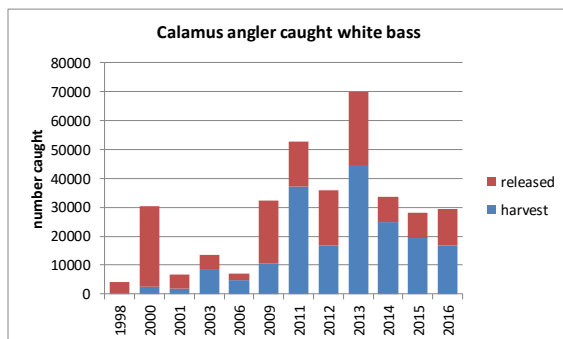
Fishing pressure was high at an estimated 90,450 angler hours. Normally fishing pressure has been between 80,000 to 100,000 hours annually. Of course, this depends on weather conditions and the fishing "bite" at any given time. Ninety-one percent of the angler pressure was expended by boat anglers. Most anglers were fishing for walleye and white bass (no surprise there!)



Anglers caught an estimated 26,416 walleye in 2016 and harvested 5,876. Catch and harvest was unexpectedly below that seen in 2015, likely due to the presence of high numbers of age 1 shad that survived the winter and were small enough for walleye to prey on in the spring and early summer of 2016.

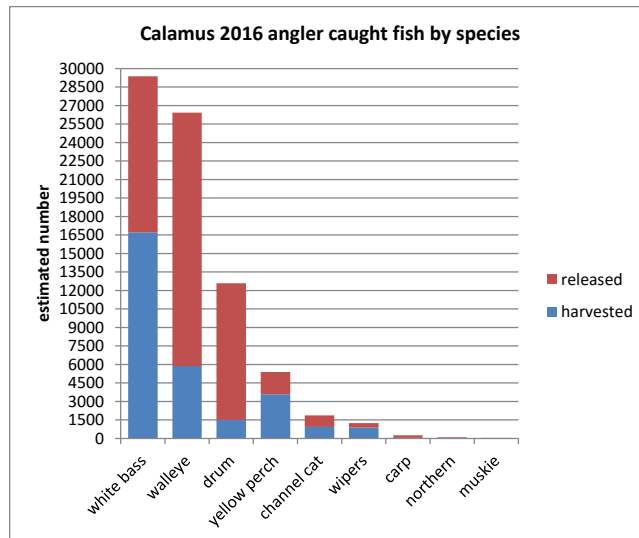


Anglers caught an estimated 29,364 white bass in 2016 and harvested 16,715 (57%).



2016 Angler Creel Data con't

The estimated number of fish caught at the Calamus Reservoir between April and October of 2016 exceeded 77,000. The following chart shows the estimated numbers harvested and released by species. An estimated 45 muskie were caught by anglers with no harvested fish observed by the creek clerk, although one was taken by archery and qualified as the new state record. An estimated 98 northern pike were caught by anglers with an estimated 48 harvested.



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 2016, including the Calamus, and zebra mussels are found in Lewis and Clark Lake and the Missouri River. Invasive species technicians will be inspecting boats at Calamus in 2017. 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.

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:

Jeff Schuckman, Northeast Region Manager, Norfolk Office Ph: 402-370-3374, email: jeff.schuckman@nebraska.gov

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.



