

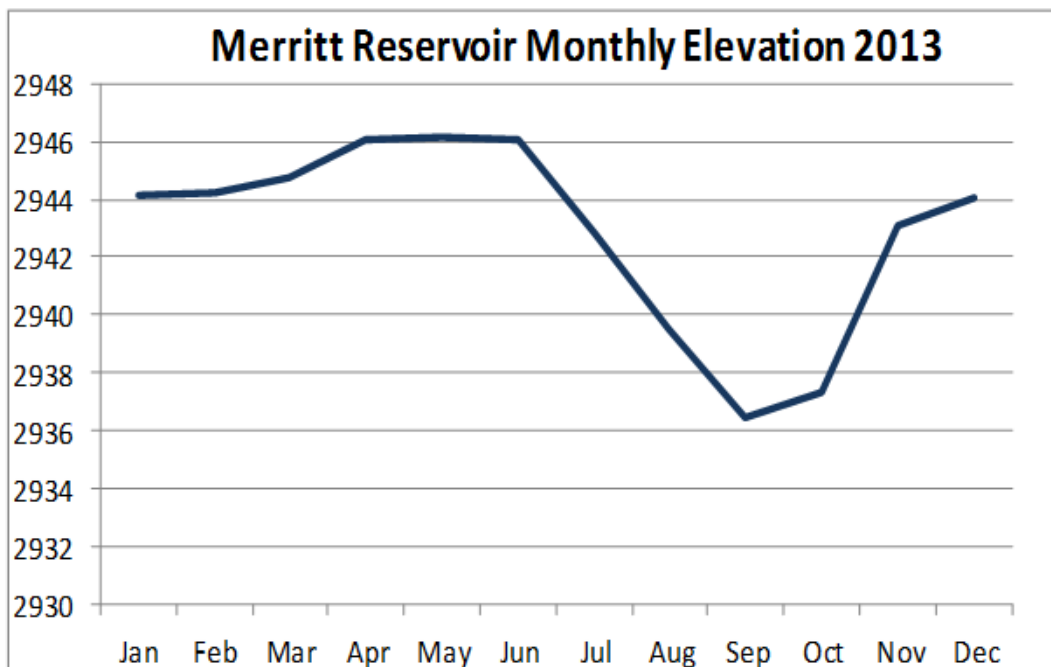
# Merritt Reservoir 2013 Fall Survey Summary

Zac Brashears Fisheries Biologist



Merritt Reservoir is located in the Nebraska sandhills approximately 26 miles southwest of Valentine, NE. The area is comprised of 2,905 acres of water with 6,000 acres of land adjacent to the reservoir. The reservoir was built in 1964 by the Bureau of Reclamation for irrigation purposes. When built, the Snake River was dammed near its confluence with Boardman Creek, flooding both valleys along with the Powder Horn arm of the reservoir. Flows from both the Boardman Creek and Snake River contribute to filling the reservoir to full pool each year. A graph showing fluctuations in lake levels over the last year can be seen below. The water and land adjacent to the reservoir is managed by the Nebraska Game and Parks Commission for fishing, hunting, and recreational activities. Fishing is available year round and several different fish species are present in Merritt Reservoir which include: alewife, walleye, white bass, muskellunge, northern pike, yellow perch, bluegill, pumpkinseed, black crappie, largemouth bass, smallmouth bass, freshwater drum, black bullhead, white sucker, and common carp.

Facilities at Merritt Reservoir include eight campgrounds (two with electrical hookups and one with ADA accessible shower), one dump station, vault toilets, picnic shelters, two fish cleaning stations, five boat ramps with lighted parking lots, and an area concessionaire which provides permits, groceries, fee camping with RV hookups, boat rentals, fuel, cabins and guide services.



The following text and graphs are the results of netting surveys completed during October 2013 at Merritt Reservoir. For comparative purposes it shows the results from previous years. Biologists use gill nets to sample species that are primarily found in open water such as walleye and white bass and trap nets to sample shore oriented species such as bluegill, black crappie, yellow perch and northern pike. Electrofishing surveys will be conducted every other year at Merritt Reservoir to sample species such as largemouth and smallmouth bass. The nets and electrofishing stations are sampled each year at approximately the same locations and dates as previous years to allow for trend comparisons.

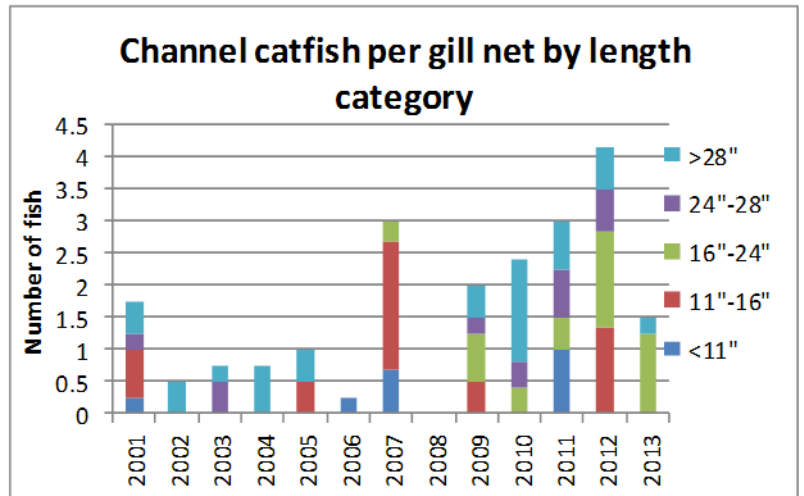
## Channel Catfish

Anglers in search of trophy catfish have always relied on Merritt Reservoir as one of their favorites. The state record channel catfish was caught there in 1986 and weighed 41.5 pounds.

During the 2013 survey channel catfish CPUE (catch per unit of effort) decreased to 1.5 fish per net. This catch rate is average when comparing it to the 2001 to 2013 average of 1.6 catfish per net. The average catfish collected measured 21.3 inches and the biggest fish was 29.5 inches.

Anglers are reminded there were some changes to fishery regulations for the 2013-2014 fishing seasons. The daily bag limit for channel catfish is 10 on rivers, streams and canals but the daily bag limit of five is still in effect on reservoirs, lakes, ponds and pits. The possession limit on channel catfish was increased in 2012 from 10 fish to 20. Merritt Reservoir was stocked annually with 14,250 fish (5 per acre) to maintain the population. Since abundance has always remained low in Merritt, beginning in 2014 channel catfish will be stocked at 7.5 fish per acre (21,750 fish). Channel catfish abundance will continue to be monitored to determine if stockings are successful in providing quality channel catfish angling opportunities at Merritt Reservoir.

Even though abundance of channel catfish has remained low anglers should see similar opportunities as the past several years with chances at fish over 28 inches in length.

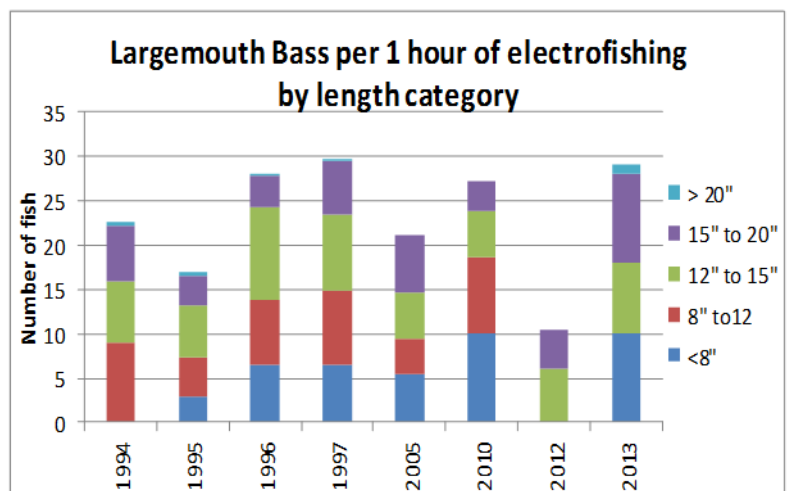


## Largemouth Bass

Dense vegetation in 2012 made sampling difficult and the catch rate could be a reflection of that, therefore sampling was conducted again in 2013. Black bass densities have always remained low in Merritt however electrofishing data shows excellent size structure. A catch per unit effort of 29 largemouth per hour in 2013 is above the average since 1994 of 23 bass per hour. All length categories were sampled except 8-12 inches. Approximately 37% of the fish collected were over the statewide minimum of 15 inches. The largest

fish surveyed was 21.2 inches in length and weighed 5.8 pounds. Smallmouth bass are also present in Merritt Reservoir and provide some additional angling opportunity. Electrofishing surveys in 2013 indicated only 2 smallmouth bass per hour which averaged 14.2 inches. Larger fish do exist but are difficult to sample.

Statewide regulations for black bass species on inland waters are a daily bag limit of 5 fish with a minimum length limit of 15 inches and only one fish may be over 21 inches.

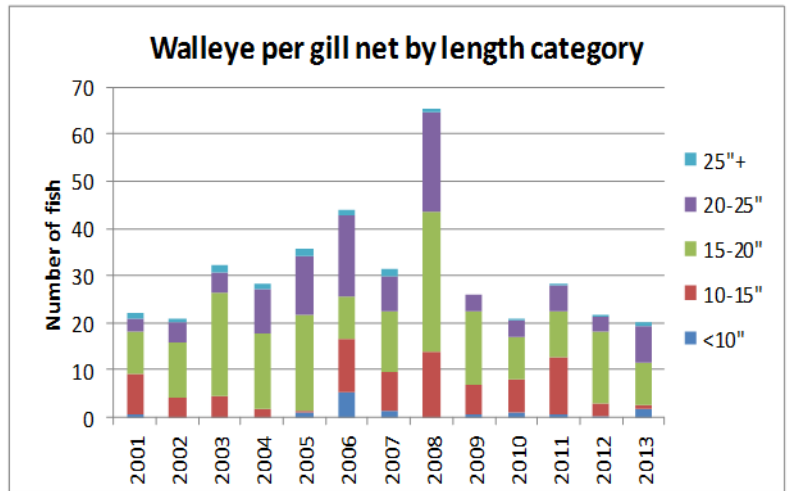


## Walleye

The walleye gill net catch in 2013 was 20.25 fish per net and all size categories were collected. This catch remains below the average since 2001 of 30.5 fish per net and continues on a downward trend since 2008. Of the fish that were sampled, 86% of them were over the statewide minimum of 15 inches and 43% of them were over 20 inches in length. Twelve different year classes of walleye were sampled and the average size of walleye collected was 18.8 inches. Merritt Reservoir has been stocked with 142,250 (50 per acre) fingerling walleye (2 inches) in June to maintain the population. Beginning in 2014 walleye will be stocked at a rate of 75 per acre (217,500 fingerling) to determine if walleye abundance can be increased and maintained. This supplemental stocking may take several years to determine if successful.

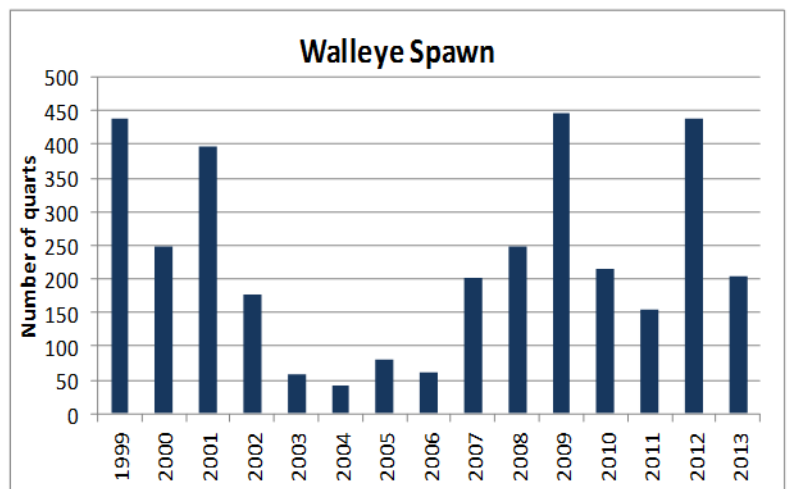
The walleye regulation at Merritt allows a daily bag limit of four walleye which may include one from 15 to 18 inches (it is allowable to have all fish over 18 inches) but no more than one fish over 22 inches in length is allowed in the daily bag.

Even though walleye abundance is lower than the past several years, Merritt continues to be one of the top walleye fisheries in the state. Anglers who fish Merritt in 2014 should see decent opportunities for harvesting fish over 15 inches and good opportunities on fish over 20 inches.



## Walleye Spawn

Fisheries Division will again be conducting walleye spawn operations at Merritt, Sherman, and possibly McConaughy Reservoirs during 2014. This occurs during late March or early April and lasts until hatchery production needs are met. Nets are set parallel to the dam or shore line in order to collect females as they come in to spawn. These nets are marked with a buoy on each end so anglers are reminded not to cast between the buoys or lures will be lost. In 2013 fishery personnel collected 204 quarts of walleye eggs from Merritt Reservoir.



## Northern Pike and Muskellunge

Merritt Reservoir is one of the top places in Nebraska for anglers to target trophy muskellunge and over the past several years Northern Pike numbers have increased adding additional angling opportunities.

Northern pike and muskellunge are both collected from Merritt Reservoir to produce northern pike, pure strain muskellunge, and hybrid tiger muskellunge (northern pike x muskellunge) production needs. The largest northern pike collected during March measured 39 inches and weighed

approximately 16 pounds. During the spring walleye spawn a total of 9 muskellunge were collected. The largest of these fish was 41 inches and weighed approximately 32 pounds. Muskellunge are stocked on alternate years with 1,400 fish (12 inches) to maintain the population.

Regulations for northern pike allow a daily bag limit of 3 fish with a possession limit of 10 fish. Muskellunge regulations allow a daily bag limit of 1 fish with a minimum length of 40 inches.



## White Bass

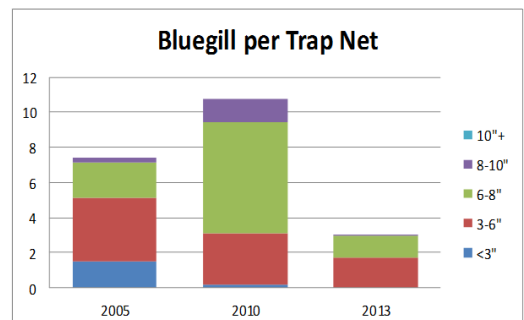
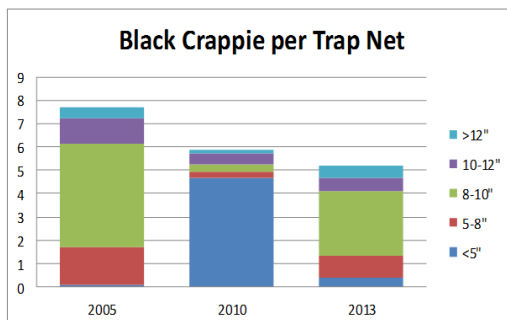
White bass numbers have remained low in Merritt Reservoir even with the aid of supplemental stockings over the past several years. This was an effort to provide an additional summer angling opportunity once walleye angling success tapers off during the late summer months. Our fall gill netting survey only collected one white bass. This fish was 12.1 inches long and weighed approximately 1 pound.

Regulations for white bass allow a daily bag limit of 15 fish and only one fish may be over 16 inches in length. For more information on white bass fishing be sure to check out the Merritt Creel Summary.



## Panfish

Angling for panfish (yellow perch, black crappie, and bluegill) is also popular at Merritt Reservoir. Black crappie are generally targeted during the early spring spawning period or through the ice during the winter months. Bluegill and yellow perch are caught year round. Sampling of these species will occur every other year to better assess bluegill and black crappie populations. During the 2013 survey the catch per unit of these species showed 5.18 crappie per net and 3.0 bluegill per net. Average size of black crappie collected was 8.7 inches and bluegill was 5.4 inches. Statewide regulations allow a daily bag limit of 15 fish in combination (all panfish species). More information for these species is available on the Merritt Creel Summary.



## Angler Creel Survey

A five year angler survey was just completed at Merritt Reservoir. The study was done by an agreement with the Nebraska Game and Parks Commission and the Nebraska Cooperative Fish and Wildlife Research Unit through the University of Nebraska at Lincoln. The 5 year survey ran from April 1 through October 31 during the years of 2009-2013. During this time, anglers are counted and interviewed for twenty randomly selected days per month, fourteen week days and six weekend days. Information gathered from this survey allows fisheries managers to look at estimates of angling pressure, size structure of fish caught, catch and harvest, and catch rates per hour. The information collected is used to compare to historical creel data. Plans are for the creel to continue for another 5 years (2014-2018) at Merritt Reservoir with the same agreement. Anglers are encouraged to cooperate with creel clerks: it will only take a few minutes of their time. Information gathered from the creel survey will help managers provide an optimum sport fishery.



## Zebra and Quagga Mussels

Anglers and boaters should know that AIS (Aquatic Invasive Species) issues have become a rising concern in Nebraska. Zebra mussels (pictured right) and quagga mussels are small fingernail-sized mussels and adults are usually 1/4 to 1/2 inches long with alternating yellow and brownish colored stripes on their shell. State-wide monitoring in Nebraska has begun since the zebra mussels were confirmed in Nebraska at Offutt Lake and Zorinsky Lake near Omaha and are present in several reservoirs in Colorado and Kansas. Sampling for veligers (free-swimming larvae of adult mussels) occurs statewide from the months of May through September. No evidence of these mussels has been discovered in any other lakes sampled.



These mussels can spread in their immature form known as veligers by being transported in bilge, ballast, or live-well water or as adults attached to boat hulls, engines, aquatic vegetation, or other surfaces. Once established these mussels can cause millions of dollars in damage to recreation, water systems, and fisheries. Anglers should always remember to **CLEAN DRAIN DRY** which will help to prevent the spread of these unwanted invasive species.

**CLEAN**– Remove plants, animals, mud, and thoroughly wash equipment that came into contact with the water.

**DRAIN**– Drain all water before leaving, including wells, bilge, ballast, and any parts or equipment that can hold water.

**DRY**– Allow all equipment to dry completely before launching into another body of water.

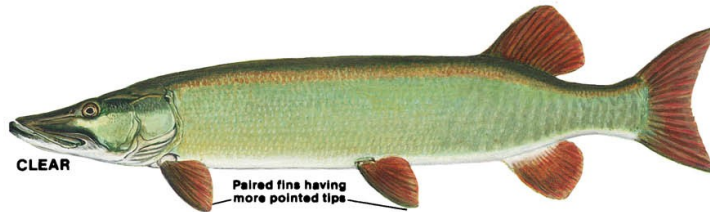
For more information on invasive species in Nebraska make sure to visit [neinvasives.com](http://neinvasives.com).

**NEW REGULATIONS 2013/2014:** Any conveyance (boats) that has been on a waterbody must drain all water from their compartments, equipment or containers before leaving the launch area. All aquatic vegetation from that waterbody must be removed before leaving the launch area. Felt sole boots or waders are not allowed to be used on Nebraska waters.



# MUSKELLUNGE - NORTHERN PIKE

## Know How To Tell The Difference!



**CLEAR**

Paired fins having more pointed tips

**NOTE:** Faint indication of marking pattern is sometimes present on posterior 1/3 of body in "clear" variation of muskellunge.

**MUSKELLUNGE**  
(*Esox masquinongy*)

**3 COMMON PATTERN VARIATIONS**

**SPOTTED**

Coloration with vertical dark markings on a light background (Juvenile pattern similar to that of adults)



Caudal fin with pointed tips

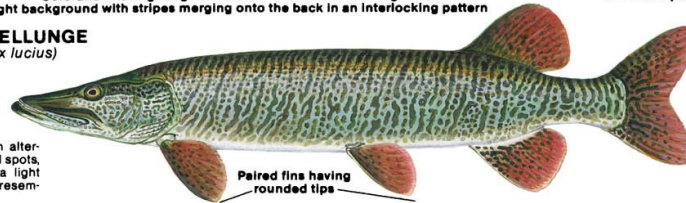
**BARRED**



**NOTE:** Background colors of fish can vary slightly depending on environmental characteristics of the water body and its geographic location. One marking pattern may dominate in an area, but all 3 can be present.

Coloration having irregular narrow vertical dark markings on a light background with stripes merging onto the back in an interlocking pattern

**HYBRID "TIGER" MUSKELLUNGE**  
(*Esox masquinongy* X *Esox lucius*)



Caudal fin with rounded tips

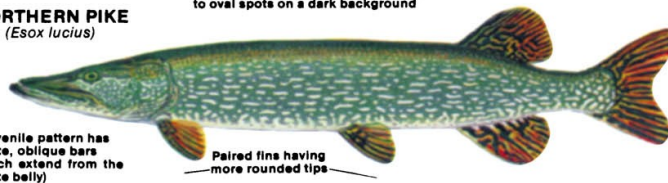
**NOTE:** Sides sometimes exhibit an alternating pattern of stripes and spots, or narrow paired-bars on a light background. Pattern never resembles that of northern pike.

Paired fins having rounded tips

Coloration with pattern of horizontal rows of light round to oval spots on a dark background

**NORTHERN PIKE**  
(*Esox lucius*)

(Juvenile pattern has white, oblique bars which extend from the white belly)



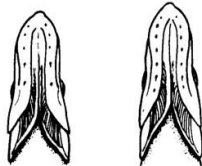
Caudal fin with more rounded tips

**NOTE:** Some areas may contain "Silver Pike" which is a mutant color variation of northern pike that lack the characteristic spots and have dark to light greyish/blue sides. Fin coloration normal for northern pike is exhibited in the "silver" variety.

Color illustrations by:  
**IMC BECK DBG**

**IN MOST AREAS THESE FISH HAVE MINIMUM SIZE RESTRICTIONS, MAXIMUM POSSESSION LIMITS, AND SPECIAL OPEN SEASONS... CONSULT LOCAL FISHING REGULATIONS FOR SPECIFIC DETAILS.**

Location of submandibular pores on under side of lower jaw...



**NORTHERN PIKE** 5 or fewer pores  
**MUSKELLUNGE** 6 to 9 pores

**NOTE:** Hybrids have 5 to 8 pores on each side of lower jaw.

For further information please contact the Nebraska Game and Parks Commission or...

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NEBRASKA GAME AND PARKS COMMISSION



**MUSKELLUNGE**

Upper half of cheek and operculum with scales



**NORTHERN PIKE**

Entire cheek and upper half of operculum with scales

**NOTE:** Hybrids have 1/2 or more of cheek and upper half of operculum with scales.

For additional information about fisheries management at Merritt Reservoir please contact the following NGPC personnel by phone or email addressees listed below.

District Supervisor: Al Hanson, (308) 763-2940 [al.hanson@nebraska.gov](mailto:al.hanson@nebraska.gov)

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