

# Elwood Reservoir

## 2010 Fall Survey Summary



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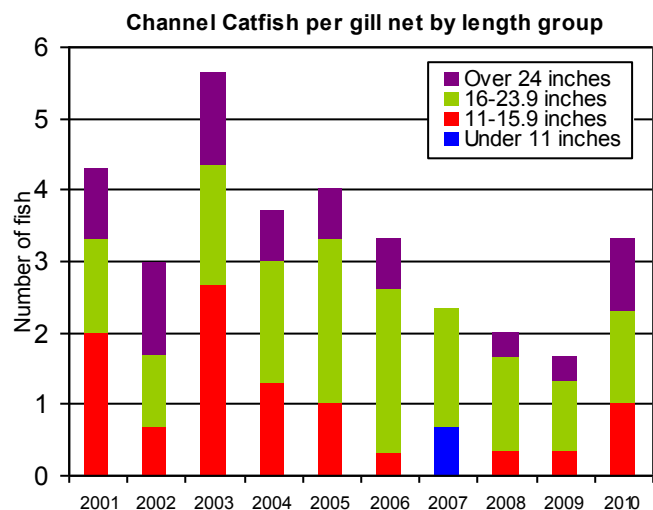
The following text and graphs are the result of netting surveys completed during October 2010 at Elwood Reservoir. For comparative purposes it also shows results from previous years. Fish populations are sampled each fall at Elwood using gill nets, which are used to capture species that live primarily in open water, such as walleye. The nets are set each year at approximately the same locations and dates as previous years, which reduces variability and allows for trend comparisons of species abundance and size distribution.

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

### Channel Catfish

Channel catfish abundance was higher, as the 2010 gill net catch improved to levels not seen since 2006. No catfish less than eleven inches were collected, but all other size categories showed improvement. Improved water levels and the supplemental stocking of 4,000 catfish in 2007 are likely contributing to this increase. The average length of catfish was 17 inches and the largest catfish was 27 inches.

Anglers should find improved success while fishing for catfish in 2011. Chances remain very good to catch a trophy size fish. Anglers are reminded that the daily bag limit for channel catfish was reduced to five fish per day effective January 1, 2011.



### Muskellunge

Advanced muskellunge fingerlings, which are about 12 to 14 inches long, were stocked in the spring of 1999, 2002, and 2004. Survival of these fish was excellent and anglers reported good success when targeting muskellunge during the 2000's. Due to low water conditions, muskellunge stockings were suspended. Now that Elwood's water operation has returned to normal, muskellunge stockings are scheduled to resume in the spring of 2011. Assuming the water operation remains normal, future management will consist of maintenance stockings every three years. Muskellunge are currently regulated with a statewide 40-inch minimum length limit and a daily bag limit of one fish.



## Walleye

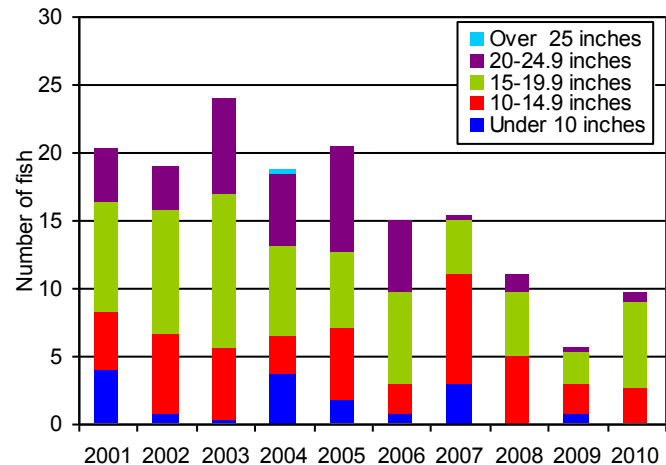
Walleye abundance has been on a downward trend since 2003 and reached a historic low in 2009. The 2010 survey indicated an improvement in walleye abundance, but the catch remains below the ten year average of 16 walleye per net. Most of the fish sampled were 10 to 20 inches long and once again there was poor representation of fish greater than 20 inches.

There were five age-classes of walleye collected; age-0 through age-4. Age-1 walleye were most abundant, providing 80% of the total catch. These fish range from 14 to 15.5 inches and will provide most of the harvest opportunities in 2011. The other year-classes were all equally represented in low abundance. Numbers of large walleye remain poor, as only four fish greater than 18 inches were sampled in the survey and no fish greater than 25 inches have been collected since 2004. The average length of walleye collected was 15.3 inches and the largest fish was 21 inches.

Elwood's protected slot limit (18 to 24 inches) for walleye has been in effect since 2003. The primary objective of this regulation is to protect walleye from age-4 through age-8, thereby increasing abundance of larger walleye available for angler catch. Survey results from the past four years have shown a declining abundance of walleye greater than 20 inches. Although recruitment continues to provide smaller walleye to the population, very few of these fish are surviving past age-4. Poor survival can possibly be contributed to the extended low water conditions from 2004-2009. Low water levels have reduced the amount and the quality of available walleye habitat. It has also reduced prey fish abundance, as alewife have not been collected in several years. The walleye are also more susceptible to anglers when the reservoir is drawn down. The return of higher water levels should help to improve the abundance and size structure of the walleye population. The protected slot limit will continue to be evaluated and future regulation changes will be dependent on the response of walleye population to the improved water levels and the normal operation of the reservoir.

Walleye anglers should find good numbers of 15 to 17 inch walleye available during 2011, but the abundance of fish greater than 18 inches is below average. Many acres of flooded vegetation and brush will make angling conditions difficult while the reservoir is full.

Walleye per gill net by length group

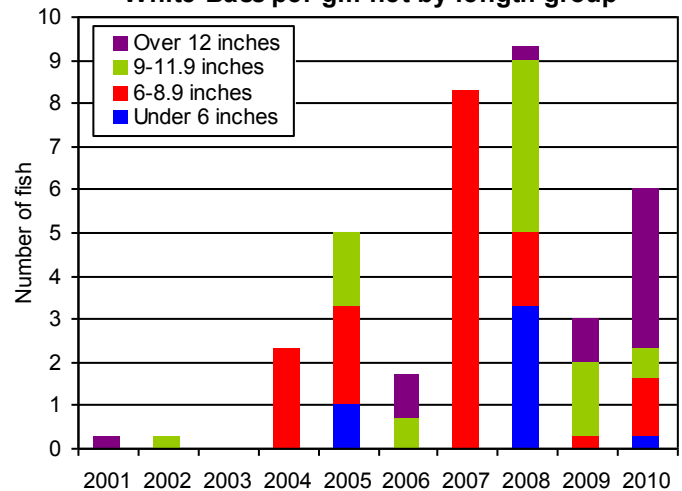


## White Bass

There has been a resurgence in the white bass population at Elwood over the past five years. A decline in alewife abundance has allowed for improved white bass recruitment since 2005. White bass of all size groups were collected during the survey. The abundance of white bass greater than 12 inches was highest recorded in the past ten years. The 2008 year-class provided more than half of the white bass collected, with fish ranging from 12 to 14.5 inches. The average length of white bass collected in the survey was 11.4 inches and the largest were 15 inches.

An improved white bass population should provide very good opportunities for anglers during 2011, especially for fish greater than 12 inches.

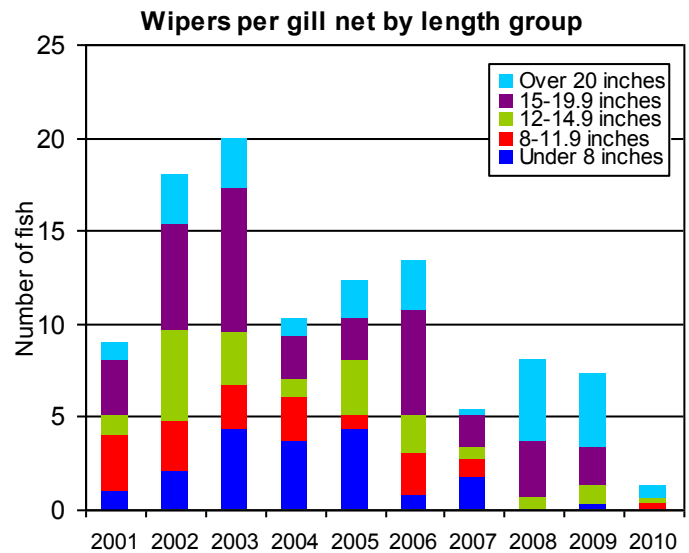
White Bass per gill net by length group



## Wipers

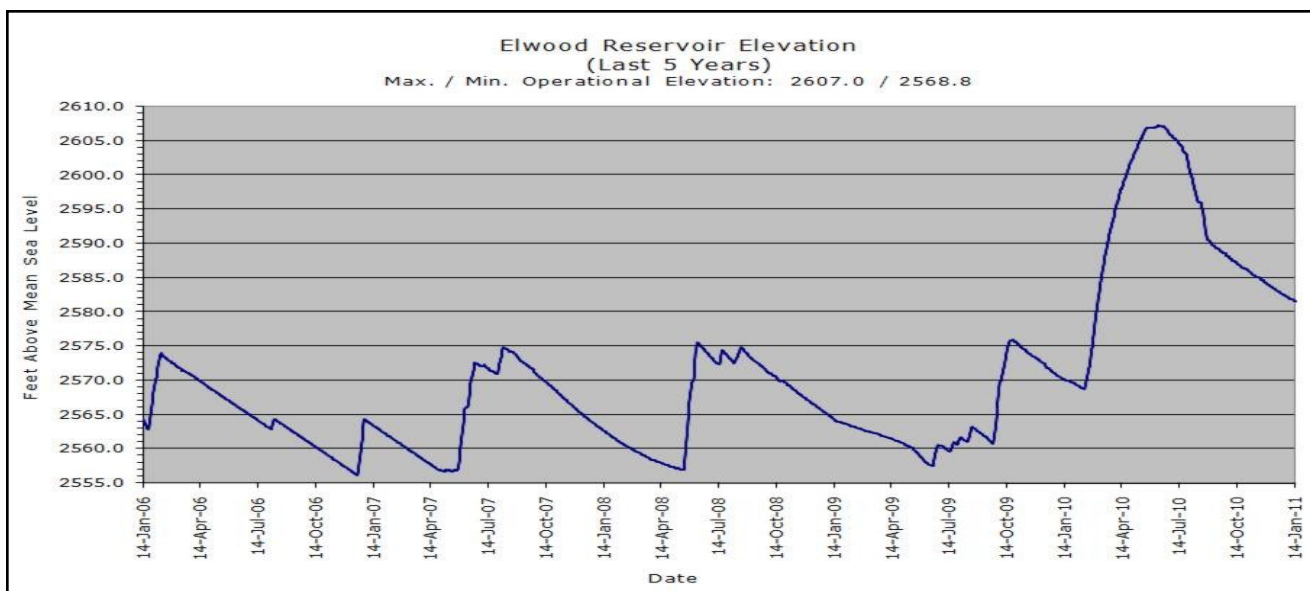
Wiper abundance peaked at Elwood Reservoir in 2003 and has since been on a downward trend. Sample results in 2010 indicate wiper numbers to be at an all-time low. The decline can be contributed to low water levels experienced from 2004 to 2009. The extremely low water level caused wiper stocking rates to be reduced and it also made the wipers more susceptible to angling pressure. Fish collected in the 2010 survey represented three size groups and four year classes: age-0, age-1, age-4 & age-6. Half of the wipers collected were greater than 20 inches and fish up to 24 inches were sampled. Improved water levels and increased stocking rates should help to improve wiper numbers in future years.

Lower wiper abundance will probably reduce angler success in 2011. Trophy opportunities still exist though, as fair numbers of 20 to 24 inch wipers are present. To preserve trophy wipers, Elwood anglers are encouraged to practice selective harvest and are reminded that the combined daily bag limit on wipers and white bass is three fish with only one larger than 18 inches.



## Additional Information about Elwood Reservoir

For the first time since 2004, Elwood Reservoir was filled to conservation pool during the spring of 2010. Improved water levels in Lake McConaughy allowed for Central Nebraska Public Power and Irrigation District (CNPPID) to once again use Elwood for irrigation deliveries. With Lake McConaughy anticipated to reach full capacity during 2011, it is expected that Elwood Reservoir will operate as it did prior to 2005 for the immediate future. Water levels at Elwood dropped 50 feet during the five years that it was not used for irrigation purposes. Partial filling was done in most years that brought the reservoir up to an elevation of 2575 msl, or 32 feet below conservation pool. Nebraska Game and Parks Commission and Tri-Basin NRD provided compensatory payment to CNPPID for most of the partial fills. These fills prevented any major fish kills from occurring and helped to improve angler access during the low water period. Re-filling of Elwood will start the end of February or first of March 2011. Current Elwood Reservoir elevations can be found on CNPPID's website: [http://www.cnppid.com/Elevation\\_Flows2.htm](http://www.cnppid.com/Elevation_Flows2.htm)



## Additional Information about Elwood Reservoir

A positive aspect of the extended drawdown of Elwood Reservoir was tremendous growth of terrestrial vegetation in the exposed lake bed. This vegetation was inundated with water during 2010 and has provided excellent habitat for various fish species. While the flooded vegetation has made fishing conditions difficult, this habitat should benefit fish for the next several years.

### Shoreline habitat in May 2010 at Elevation 2,605 msl



The flooding of this vegetation has created favorable spawning conditions for shoreline species, such as northern pike, largemouth bass, and panfish species. Benefits of this flooded habitat are already being seen. Fall netting results indicate increased abundance of northern pike, as numerous 13 to 19 inch pike were sampled. Good numbers of 3 to 12 inch largemouth bass were also collected during late summer electroshocking efforts.

Fish stocking plans have also been adapted to take advantage of these conditions. Yellow perch fingerlings were stocked in the fall of 2009 and pre-spawn adults were stocked in the spring of 2010. The 2010 survey revealed increased abundance of 8 to 10 inch perch and angler reports from the fall of 2010 indicated good angling success. Black crappie fingerlings were also stocked in 2010. Rock bass and spotted bass fingerlings are tentatively scheduled for stocking during 2011. It is anticipated that anglers will see an improvement in the panfish fishery at Elwood Reservoir for the next several years. Anglers are reminded that the daily bag limit for panfish was changed to 15 fish effective January 1, 2011.

Other fish stockings scheduled for 2011 include; walleye and wiper fingerlings and advanced fingerling muskellunge and channel catfish.

The low water conditions experienced at Elwood during 2004-2009 have had numerous impacts on the fishery. While no major die-offs of game fish were documented during the extended drawdown, survey results indicate that most species were negatively impacted. Most noticeable are walleye and wiper populations, which are both near all-time low levels. Poor habitat conditions, reduced prey fish populations, reduced stocking rates, and angling mortality have all contributed to the decline of these two species. Stocking rates have been increased to match the increased surface acres of the reservoir, which combined with increased water levels, should help to improve densities. There has also been a major shift in prey fish species composition. Alewife have not been collected in the past four surveys and gizzard shad now appear to be the predominant prey fish. The absence of alewife has allowed the white bass population to rebound, but has also reduced the body conditions of some of the predators. The absence of alewife will also likely change the way some anglers fish Elwood in the future. Channel catfish abundance also declined during the extended drawdown, but showed signs of improvement last fall. On a positive note, approximately 500-600 acres of vegetation was flooded when the reservoir filled in 2010. This shoreline habitat is already helping to improve populations of northern pike, largemouth bass, and panfish. While the presence of the flooded habitat and its associated benefits to shoreline species will only be temporary, it should create excellent angling opportunities for the next several years. Angler access is also greatly improved, as the concrete boat ramp and dock remained in service for all of 2010.

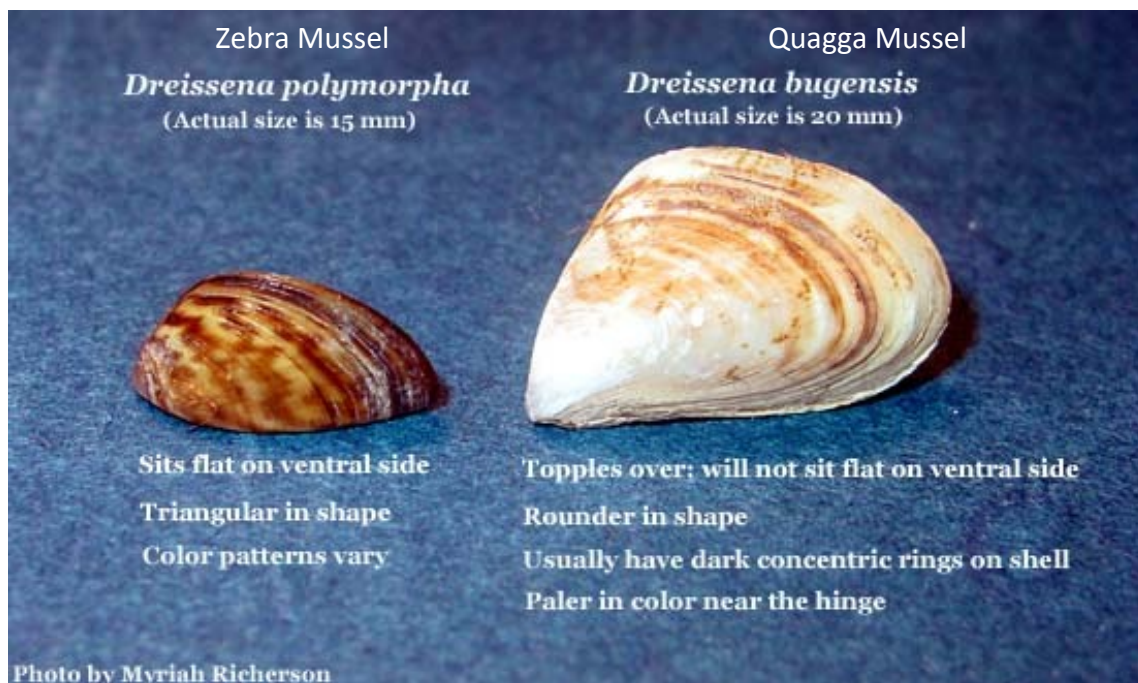
Boat ramp conditions in May 2010



## Zebra & Quagga Mussels

Anglers and boaters need to be aware of zebra and quagga mussels while using Nebraska Lakes. While no mussels have been identified at Elwood Reservoir, zebra mussels have been confirmed at Zorinsky Lake in Omaha and are present in several reservoirs in Kansas and Colorado. Monitoring was completed at several Nebraska reservoirs during 2010 and no evidence of mussels were found. Unfortunately, adult mussels were found during the fall of 2010 at Zorinsky Lake by a private citizen. This lake is currently closed to public access and efforts are being made to eradicate the mussel population. Statewide monitoring efforts will be expanded in 2011 to determine if mussels are present in other water bodies.

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://snr.unl.edu/invasives/>.



For additional information about fisheries management at Elwood Reservoir, please contact the NGPC Kearney office at 308-865-5310 or by email at the addresses listed below.

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