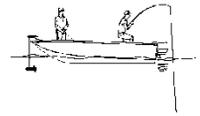




Lake McConaughy



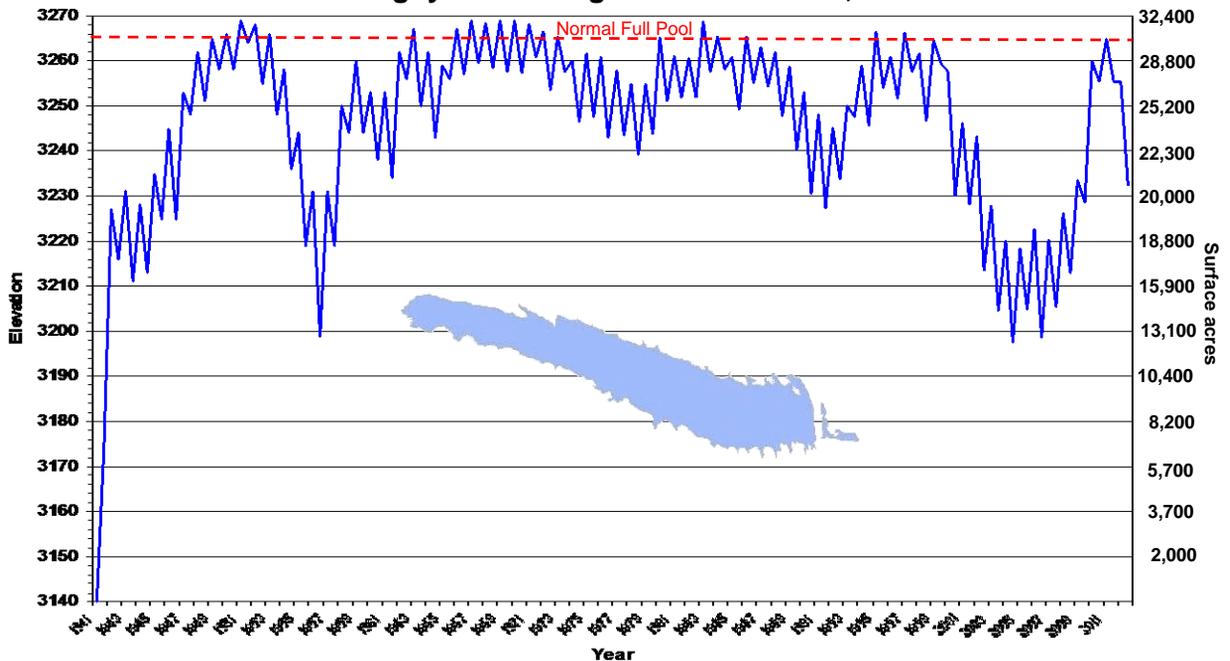
2012 Fall Survey Summary

Nebraska Game and Parks Commission

Darrol Eichner, Fisheries Biologist

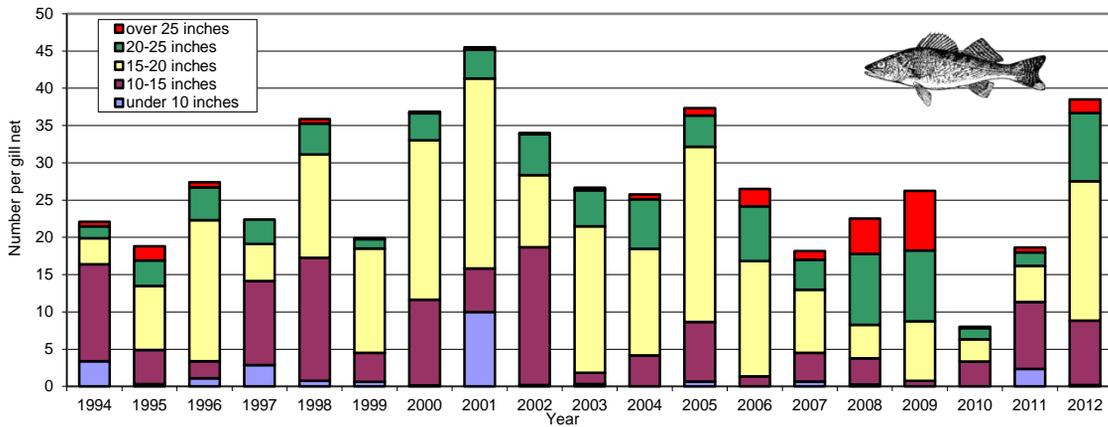
The following text and graphics is an effort to provide anglers with recent background on lake water levels and historical fall fish sampling efforts conducted by the Nebraska Game and Parks Commission. Lake McConaughy is Nebraska's largest reservoir and has a long history of being a very high quality sport fishery. Since completed construction in 1941 it also has a history of dramatic water level fluctuation as a result of drought related poor inflows and significant releases of stored water for downstream surface water irrigation. An additional negative factor is the reduced river and stream inflow related to increased upstream groundwater pumping.

Lake McConaughy Annual High-Low Elevations, 1941-2012



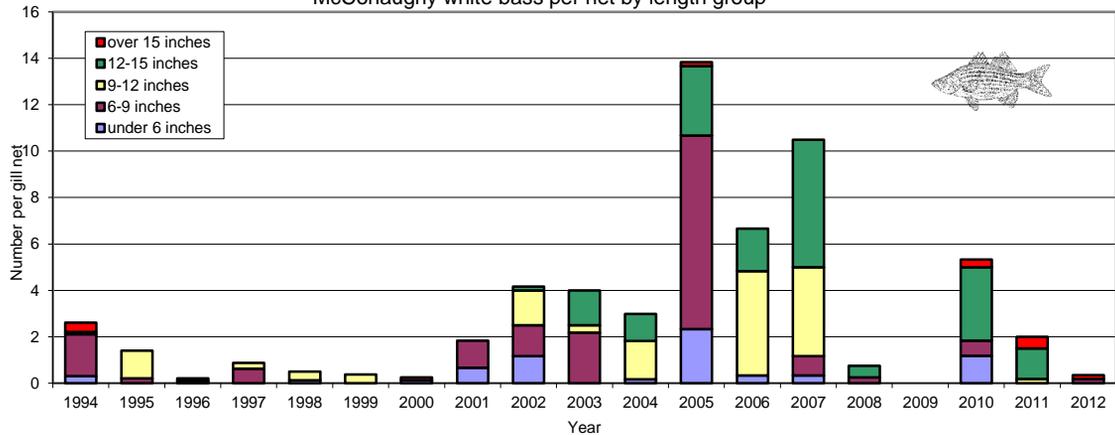
At normal full pool elevation 3265.0 Lake McConaughy has a surface area of 30,000 surface acres and storage volume of 1,743,000 acre feet (ac/ft) of water. The average annual summer irrigation drawdown since construction is 13.9 feet. As recently as 2004 McConaughy reached a new record low elevation of 3197.6, a loss of 67.4 feet of vertical water column over a four year period. The respective surface area was reduced to 12,400 acres with 340,000 ac/ft of storage. This put the reservoir at 41% of it's normal full pool surface area and 20% of normal full pool storage volume which can have a dramatic negative impact on both sport and prey fish populations. Increased natural mortality and fish escapement undoubtedly were factors but are not accurately measurable. After 2004 the reservoir never recovered above elevation 3233.5 until June of 2010 when it reached elevation 3260.0 which put it at 90% of normal full pool surface area. This was a one year gain of approximately 8,000 surface acres which covered vast areas of terrestrial vegetation that had established on the exposed lake bed over a period of nearly nine years. An additional 2,000 surface acres of water was added in 2011 when the lake elevation reached normal full pool 3265.0. From a fish management perspective it was hoped that the reservoir would maintain some resemblance of a full reservoir that would keep most of the established brush inundated for a period of years. However in 2012 the lake level declined 23.0 feet to elevation 3232.3. A loss of approximately 7,000 surface acres, putting it at 68% of normal full pool acres and 53% of volume.

McConaughy walleye per net by length group



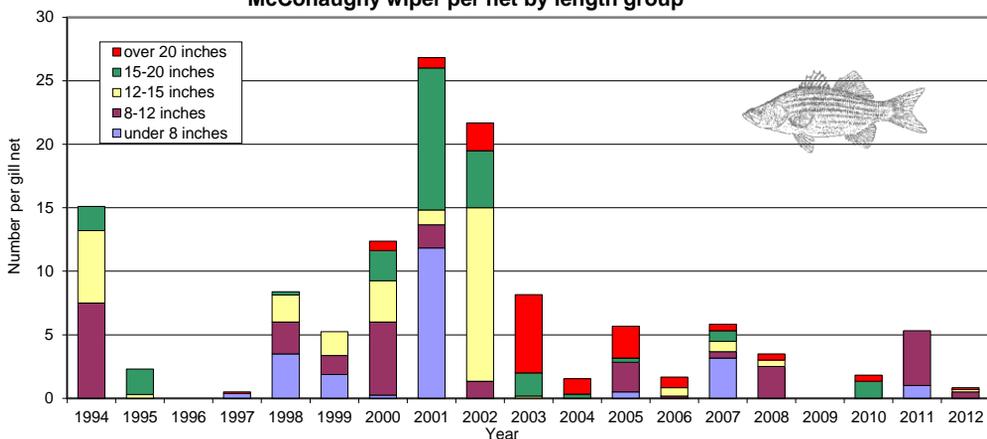
Standardized fall fish sampling methods involve the use of experimental mesh gill nets placed at historical stations utilizing GPS coordinates. It needs to be noted that dramatic changes in lake elevation, as have been experienced, can add variability when comparing yearly catch numbers. With that consideration the 2012 walleye total catch was significantly higher than the last two years which were influenced by a dramatic increase in surface acres during that time frame. The past 10 year average catch is 24.8/net. Walleye in the 15-20 inch length group for 2012, primarily 3-4 year old fish, were the most strongly represented length category. Trophy size walleye over 25 inches are also better represented in the catch. A calculated relative weight (Wr) index based on a length-to-weight ratio is used to measure the degree of 'plumpness,' or lack of, for an individual or group of fish. Applying that calculation to the 2012 walleye catch indicates older fish in the 20 inch and larger length categories had elevated Wr values of 108 or above, higher than the theoretical optimum standard value of 100. Walleye in the other length groups were slightly under the 100 Wr value in 2012.

McConaughy white bass per net by length group



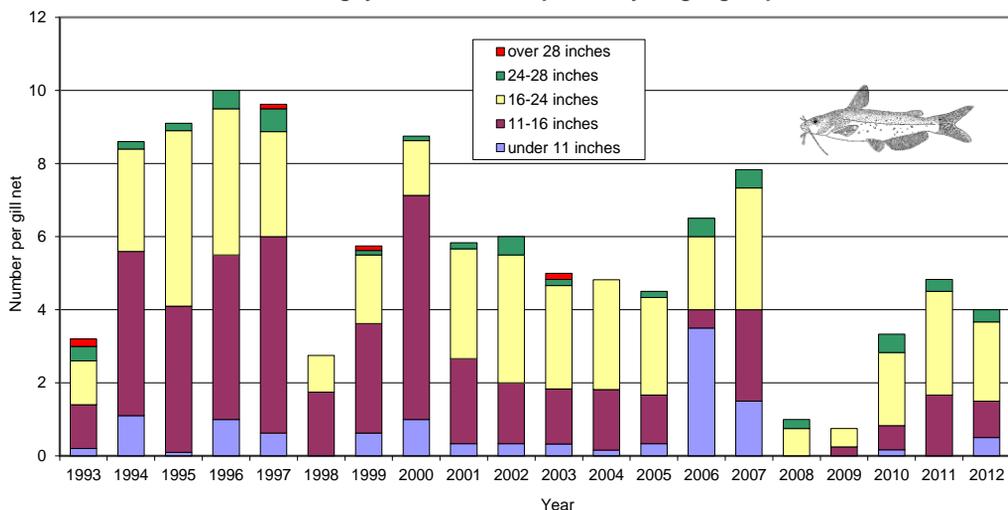
White bass survey catch rates at Lake McConaughy can be quite variable for a schooling fish in a large fluctuating reservoir and have remained generally low since the introduction of alewife in the early 90's. A number of factors can affect natural recruitment and establishment of strong annual year-classes of white bass. These include weather related cold fronts during the spawning run and egg incubation, declining change in reservoir elevation, lack of high river inflow, predation and food availability for larval/juvenile fish. Some of the zero catch in 2009 can be attributed to a much later survey sampling date than normal. Size structure for larger 12-15 inch fish desired by anglers are present, but not in strong number. That size range of McConaughy fish are generally in the 3-5 year old age brackets. With consideration for the small number in the sample all white bass length categories sampled in 2012 had Wr values below 100. **Anglers are reminded of a new 2013 statewide regulation: no more than one wiper/white bass/striped bass 16 inches or longer in the daily bag limit.**

McConaughy wiper per net by length group



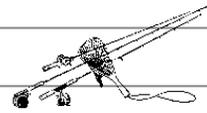
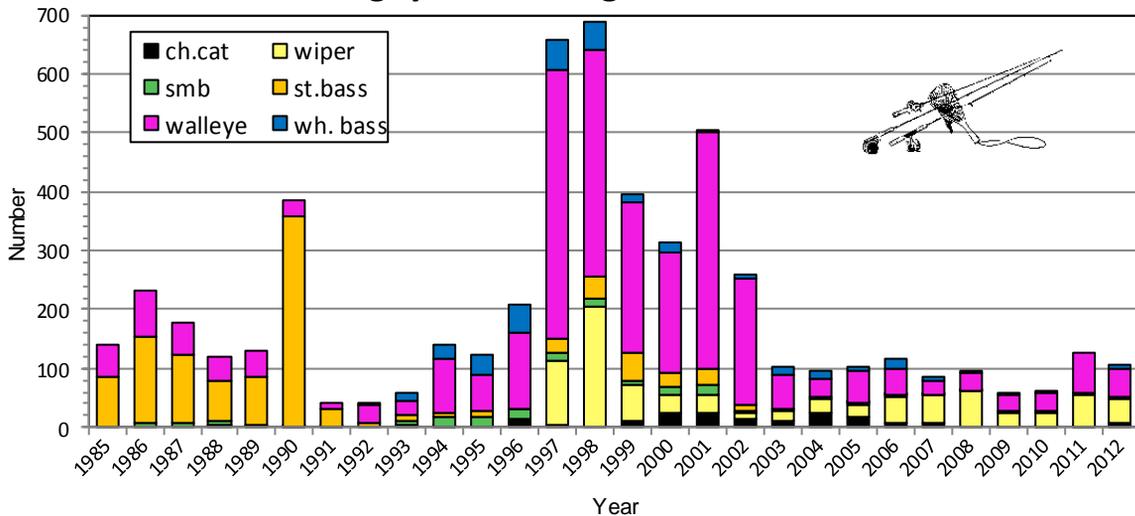
The historical wiper survey data also shows variable survey catch rates over time similar to that of white bass. The zero catch in 2009 can also be attributed to a later than normal survey sampling date. The low catch rates of larger wiper from 2010 - 2012 are not indicative of what is available in the reservoir based on angler catch success. McConaughy wiper generally reach a length of 20 inches at age 4 or 5. The W_r values for the larger length categories have remained above the theoretical optimum 100 value over a period of years. **Anglers are reminded of a new 2013 statewide regulation: no more than one wiper/white bass/striped bass 16 inches or longer in the daily bag limit.**

McConaughy channel catfish per net by length group



With the exception of 2008 and 2009 channel catfish survey catch rates have been consistent most years with two length groups, representing fish from 11-24 inches, making up a majority of the catch. McConaughy channel catfish historically have been a slow growing population with fewer fish found in the two larger length categories. Long term fall survey age and growth analysis indicates that a length of 16 inches is generally not reached until age 6-7 with fish 20 inches or larger at age 9 and older.

Lk. McConaughy Master Angler Awards, 1985-2012



A total of 47 master angler walleye were recorded from Lake McConaughy in 2012 representing 41% of the entire statewide listing. Twenty-one of the 25 largest walleye recorded in the state came from McConaughy with a 30 inch 12 pound 2 ounce fish being the largest recorded by weight. McConaughy has averaged 41 master angler walleye per year in the past 10 years. McConaughy also had 54 master angler wipers recorded representing 30% of the total statewide. Fifteen of the largest 26 wipers recorded statewide came from McConaughy. The largest wiper recorded from McConaughy in 2012 was a 33 inch fish weighing 15 pounds 2 ounces. The largest McConaughy master angler smallmouth bass was an 19 inch 3 pound 6 ounce fish with a 35 inch 15 pound 13 ounce channel catfish recorded as the largest for that species.

Fish stockings

As is the case with environmental and biological factors having an influence on natural reproduction and recruitment of larval/juvenile game fish, supplemental fish stockings can have similar degrees of success or failure. Walleye fingerlings are stocked annually at McConaughy with a large 2012 request of 1,500,000 fish based on a per acre stocking rate at an expected 30,000 surface acres. A total of 1,594,800 fingerlings were stocked. Available surplus production in the 2011 hatchery system brought the total number stocked that year to 2,225,364. The walleye stocking request for 2013 is 1,250,000 based on the expectation of a reservoir below full pool at the time of stocking. Stocking requests for white bass or wiper are on an alternating year schedule. The white bass stocking request for 2012 was 300,000 fingerlings however limited hatchery production did not provide any fish in 2010 or 2012. All wiper recruitment into the reservoir population is supported by stockings and the 2011 request for wiper was 90,000 fish. Only 24,350 fish were stocked again as a result of limited hatchery production. The 2013 request will also be for 90,000 fingerlings. With nearly 8,000 acres of newly flooded brush a request for 90,000 black crappie fingerlings and identical number of white crappie fingerlings was submitted for 2010. A total of 92,574 black and 85,735 white crappie were subsequently stocked that year. Identical requests were made for 2011 and 2012 with 72,238 black crappie and 7,740 white crappie fingerlings stocked in 2011 with 97,450 black crappie and 53,064 white crappie in 2012. Evaluation of those stockings will continue and no request will be made for 2013



Aquatic Invasive Species

Because of Lake McConaughy's status as a popular destination for anglers and recreational boaters it draws visitors from a large geographic area making it very vulnerable to introduction of a number of threatening aquatic invasive species. To protect this very valuable resource it is important to adhere to recommended '**Clean-Drain-Dry**' protocol for all boats and watercraft.



With emphasis on cleaning and drying livewells, bilge water areas and motor cooling systems. **A new regulation for 2013 states that any conveyance (boats) that has been on a waterbody must drain all water from their compartments, equipment or containers before leaving the launch area. Felt sole boots or waders are not allowed to be used on Nebraska waters.**

STOP

Zebra Mussel

Stop the Invasion of Harmful Aquatic Plants & Animals

You can help protect our waters.
Before entering and when leaving waterbodies, please:

- **CLEAN** *all mud, plant and animal material from boats, trailers, boots, gear and equipment.*
- **DRAIN** *all water from bilges, live wells and ballast tanks.*
- **DRY** *all equipment completely before entering a new body of water.*

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STOP AQUATIC HITCHHIKERS!
Prevent the transport of invasive species.
Clean all recreational equipment.

For more information, please contact the Nebraska Game & Parks Commission 402-471-5552