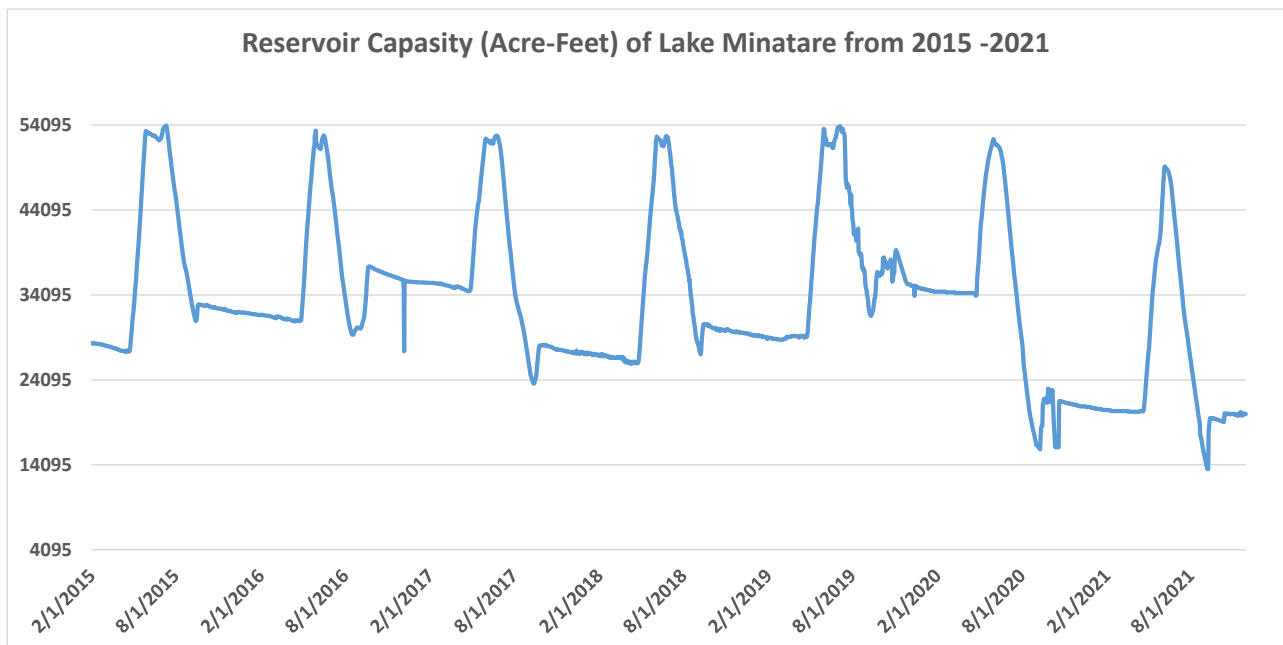


Lake Minatare 2021 Fall Survey Summary



Joe Rydell Fisheries Biologist

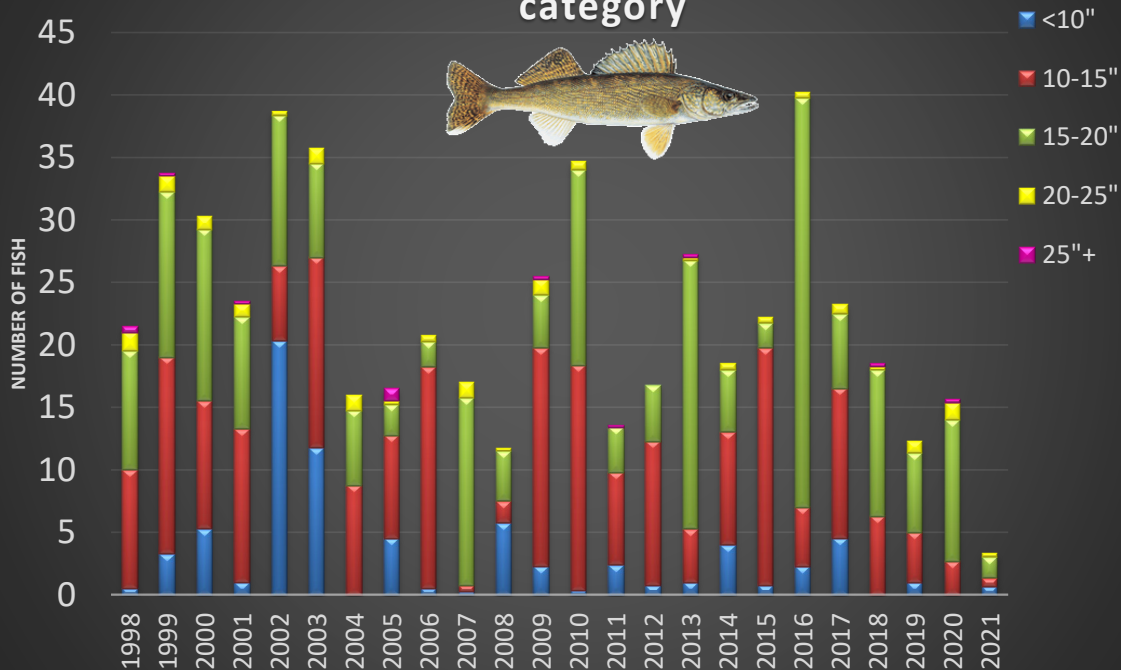
Lake Minatare State Recreation Area is located 6 miles east and 8 miles north of Scottsbluff, NE in the North Platte River Valley. The reservoir was built in 1915 by the U.S. Bureau of Reclamation primarily for irrigation purposes. The fishery and land adjacent to the reservoir is managed by the Nebraska Game and Parks Commission for recreational activities. Fishing is available at Lake Minatare for a variety of fish species which include Walleye, White Bass, Northern Pike, Channel Catfish, Smallmouth Bass, Largemouth Bass, Crappie, and Yellow Perch. The lake was once part of the North Platte Wildlife Refuge and because of its history as a refuge for migrating waterfowl, it is closed to public use from October 15 through January 14.



Lake Minatare has a total storage capacity of 58,795 acre-feet of water or 2,147 surface acres when at full pool. The water levels as of November 28th 2021 are approximately 32% of capacity at 20,080 acre-feet of water. This is below the average water levels for this time of year of 28,848 acre-feet. Drought conditions started in 2020 and continued through 2021. Water storage for the Nebraska region is determined from natural river flows in the North Platte River during the months of April and October. Due to drought, the amount of water allocated to the region resulted in less fill to the reservoir prior to irrigation season. Irrigation demands were also high resulting in lower reservoir levels going into the winter months.



Lake Minatare Walleye per gillnet by length category



Walleye

Walleye abundance at Lake Minatare in 2021 was the lowest documented in the last 24 years at 3.3 fish per gillnet. The last strong year-class of Walleye occurred in 2016. Age and growth analysis suggests that fish from age 0 to 5 years old made up the sampled population. Some fish older than 5 years are likely still in the lake but did not show up in the survey. The 2016 year-class (5 year-old fish) made up the majority of the catch and remains the last strong year-class to establish in the lake. Walleye continue to be stocked in Minatare at 50 / acre of fingerling size fish (1 to 2 inches long) on an annual basis. A fall electrofishing survey captured 51 young-of-the-year Walleye per hour of electrofishing. This is encouraging that 2021 might be a good year-class.

The average size of Walleye collected in the 2021 survey was approximately 15.5 inches and the largest collected was 21 inches.

Gizzard Shad

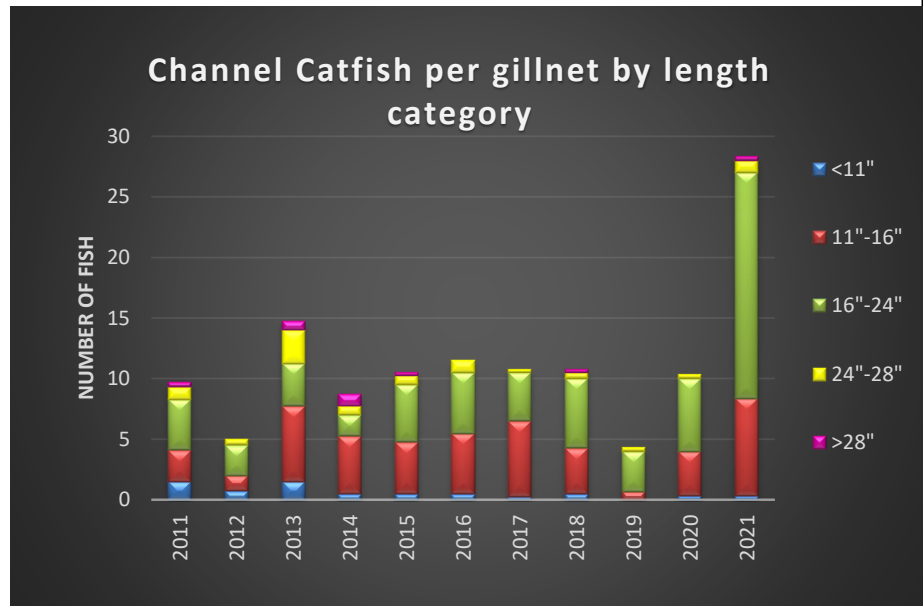
Gizzard Shad are a primary prey species in many Nebraska irrigation reservoirs and are the main food for the predator fish in Lake Minatare. This prey species sometimes has a tough time surviving the winter season due to Lake Minatare sitting on the northern edge of their geographic range. If dead Shad are observed by anglers, it is encouraged to contact the fisheries office and report the dead fish. If a die off occurs, adult Shad are stocked prior to them spawning to assure there is an adequate forage base for fish such as Walleye, White Bass, and Catfish. During the 2021 fall electrofishing survey, Gizzard Shad of all sizes were very plentiful in Lake Minatare.

Catfish

Channel Catfish get stocked at 10 inches in length to reduce mortality from predators and increase survival. With the low density of Walleye in Minatare, Channel Catfish survival has been excellent for the past few years. The Channel Catfish gillnet catch in 2021 was 28.3 fish per net and shows an increasing trend since 2019. The population has all sizes of Catfish with a few over 24 inches. The average length of Channel Catfish sampled in 2021 was 18.2 inches total length with the largest one collected at 28.6 inches. Lake Minatare will be continue to be stocked with Channel Catfish in 2022.

In 2007, 3,600 Blue Catfish were stocked into Lake Minatare. Although not many showed up in surveys after the first year, they are still persisting in the lake. One Blue Catfish was collected in 2021. It measured 25.4 inches and weighed just over 8 pounds. It is the anglers responsibility to be able to differentiate the species because Channel Catfish have a bag limit of 5 fish per day and Blue Catfish

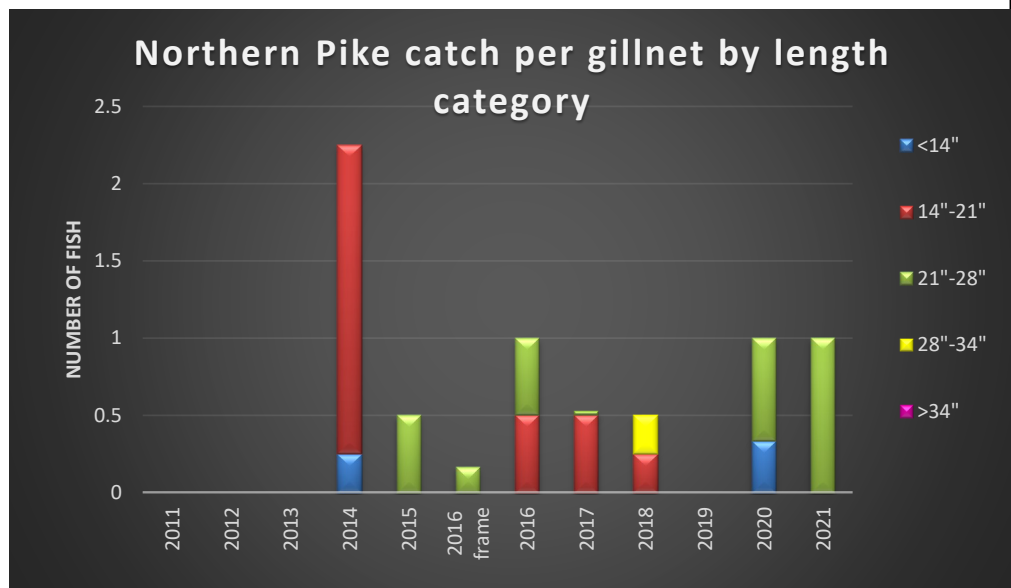
are managed as a trophy fish statewide with a daily bag limit of 1 fish per day. It is unfortunate that Walleye abundance is down, but the Catfish anglers can take advantage of the excellent opportunities while they last.



Northern Pike

Northern Pike abundance remains low in Lake Minatare at 1 per gillnet in 2021. The average size collected was 24.4 inches with some Pike over 34 inches reported annually from anglers. Pike are typically in excellent body

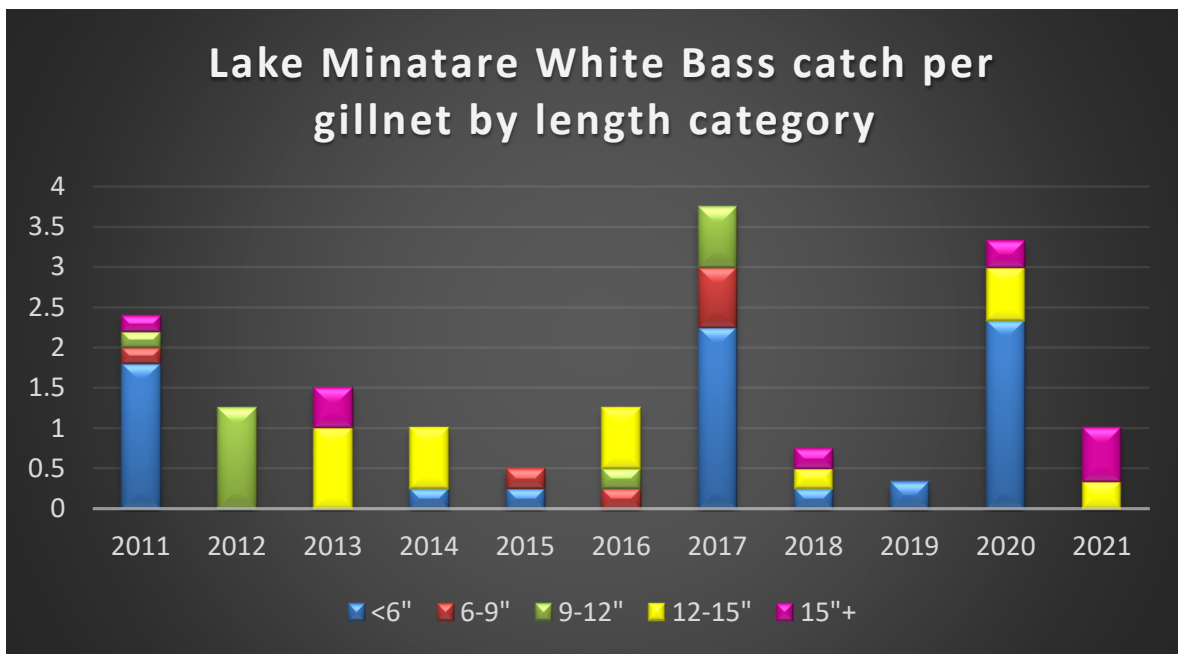
condition and can provide some action when fishing for other species is slow. Pike are also shoreline oriented most of the year, which provides bank anglers an opportunity to catch a large aggressive predator fish.



White Bass and Wipers

White Bass abundance in Minatare remains low at 1 per gillnet in 2021. White Bass can be difficult to sample due to their schooling behavior but trend data suggests that White Bass do not thrive as well in Minatare compared to other Nebraska reservoirs. Lake Minatare is an off-channel reservoir that receives water during particular times of the year rather than a constant inflow. Although Minatare fills during the time of year when White Bass reproduce, they do not get big year-classes like reservoirs with rivers flowing year-round into them. White Bass in Minatare do grow exceptionally well regularly producing fish over 15 inches. The average length of White Bass surveyed in Minatare in 2021 was 15.3 inches.

Wipers were last stocked in Minatare in 2011. They were discontinued in an attempt to reduce competition with White Bass and boost the White Bass population. A few large Wipers still persist although none were sampled in 2021. If anglers happen to catch one, they should find some quality fish. The largest Wiper collected in 2020 was 25.9 inches and pictured here.



Invasive Species

Over the past several years invasive species have become a rising concern in Nebraska. It is illegal to either arrive or leave any water body in Nebraska with water other than from a domestic source (water supply system, well or bottled) except for firefighting purposes.



Zebra mussels (pictured right) and quagga mussels are small fingernail-sized mussels and adults are usually ¼ to ½ inches long with alternating yellow and brownish colored stripes on their shell. 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. Sampling for these veligers occurs statewide from the months of May through September. At Lake Minatare Zebra mussels will be sampled bi-monthly in 2022 during those months.

Zebra mussels were first documented in Nebraska in 2006 at Offutt Air force Base Lake and have since been discovered at Zorinsky Lake (2010) (mussels eliminated via a winter drawdown that froze them out but has had a positive veliger sample since leaving it a suspect lake), Lewis and Clark Lake (2015), Lake Yankton (2017), Glen Cunningham Lake (2018) and below Gavins Point Dam in the Missouri River.

Aquatic vegetation such as Curly-leaf Pondweed and Eurasian Watermilfoil are also invasive species present in Nebraska. Both of these plant species form dense mats of vegetation near the water's surface which make recreational fishing, boating, and swimming difficult. Spread of these plants can happen through stem fragmentation. A single segment of plant material can be transferred to another water body and form a new colony therefore removing any visible plant material from boats and trailers is a must and remember to **CLEAN, DRAIN, and DRY!**

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. Remember to remove all boat plugs before leaving the boat launch area and don't put them back in until ready to launch again.

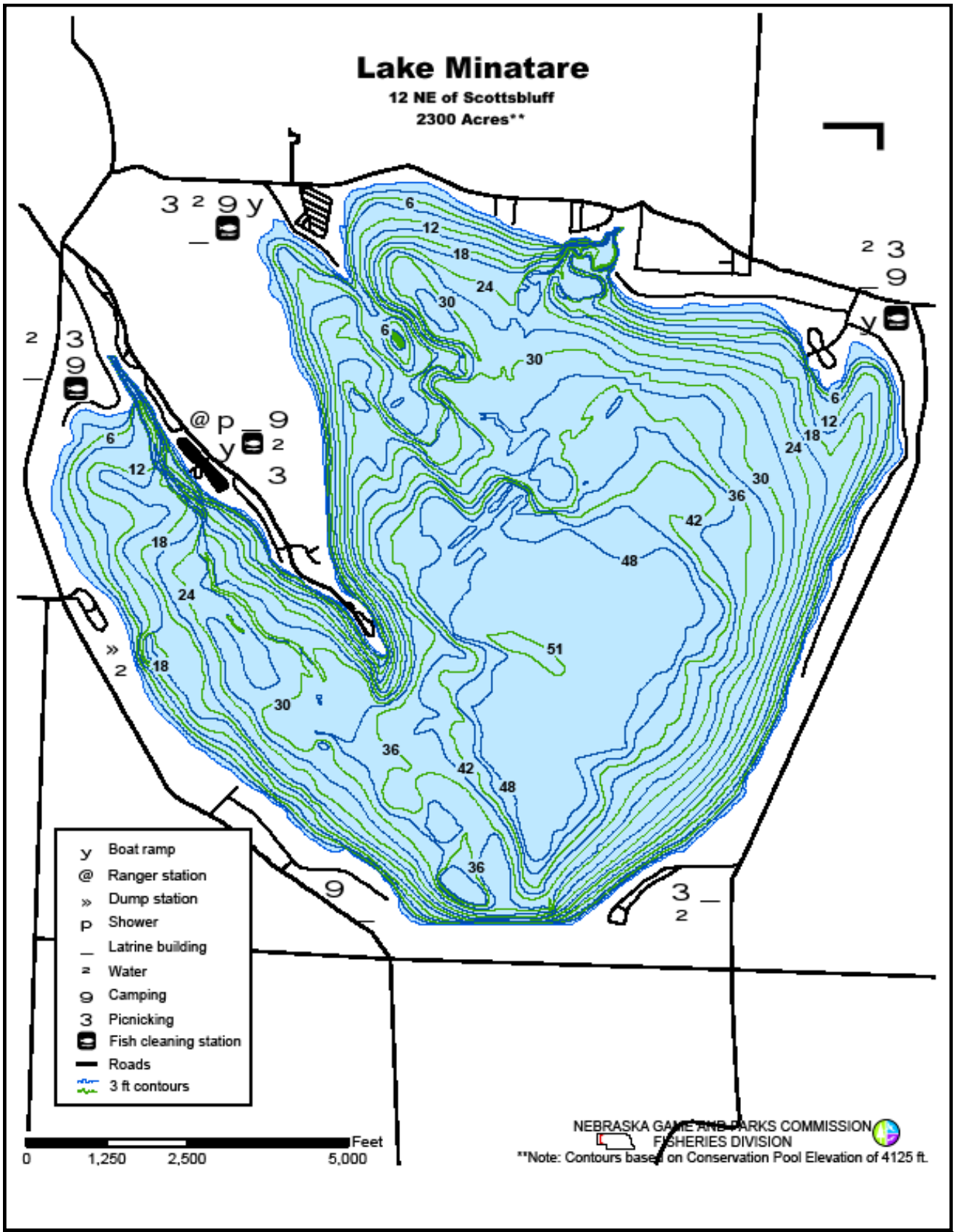
DRY- Allow all equipment to dry completely before launching into another body of water. Don't fish more than one body of water in a day without drying all equipment first.

For more information on invasive species in Nebraska visit neinvasives.com.



Don't forget to lower your outboard motor to drain all the water from your lower unit before leaving a boat launch facility.





For additional information about fisheries management at Lake Minatare please contact the following personnel by phone or email addresses listed below.

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

Fisheries Biologist: Joe Rydell, (308)763-2940 joe.rydell@nebraska.gov

Fisheries Biologist: Zac Brashears, (402)376-8080 zac.brashears@nebraska.gov