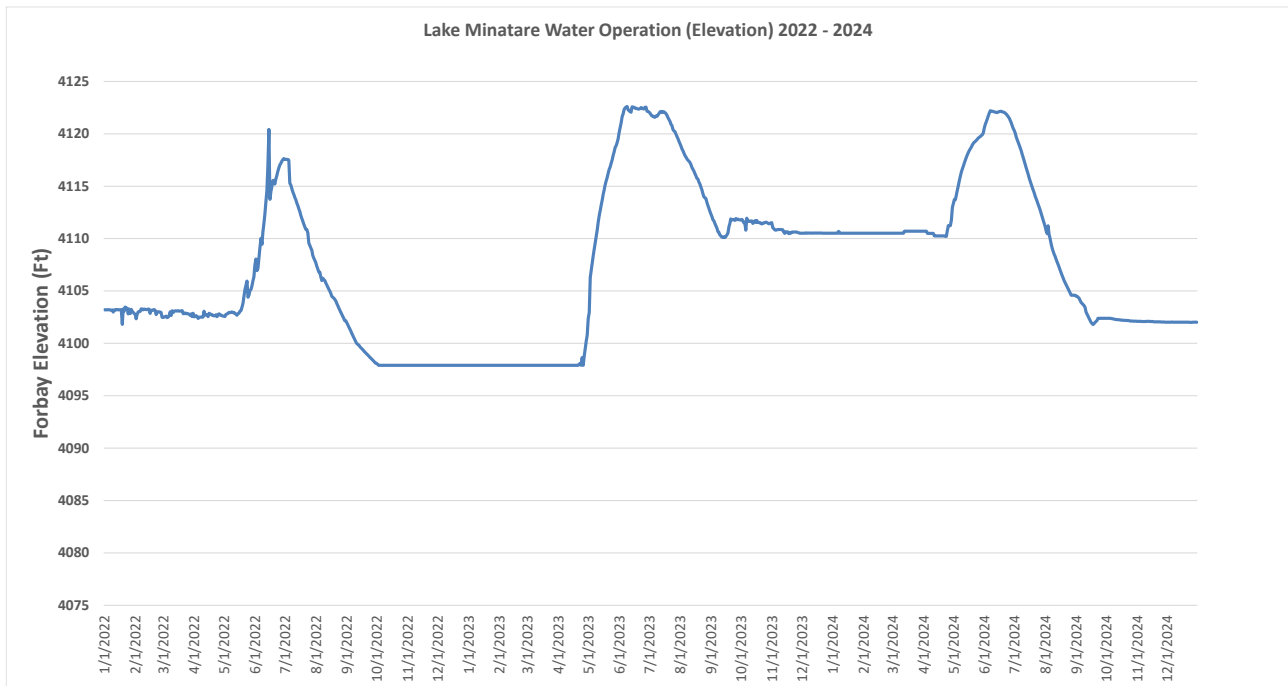


Lake Minatare 2024 Survey Summary

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 National Wildlife Refuge and maintains an agreement to act as a refuge for migrating waterfowl and 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. Full pool elevation is at 4,125 feet above sea level with a dead pool elevation at 4,075 feet. The water levels as of January 1st 2025 are approximately 31% of capacity at 18,475 acre-feet of water. Although 2023 showed some relief from drought, 2024 was another dry year for the Panhandle of Nebraska. Lake Minatare peaked at elevation 4122.2 ft on June 18th and irrigation demands left the reservoir about 5 feet lower than the 10-year average at the end of irrigation season. Lake Minatare is unique as its water levels spend the majority of the year at low levels with a flash fill and draw down during irrigation season. Low over winter levels reduces habitat and productivity for the fishery.



Fish Sampling

Several fish sampling techniques are used to monitor populations. Gillnets are set in the fall to evaluate off shore and pelagic species such as walleye, channel catfish, white bass, hybrid striped bass and shad or alewife. Night-time electrofishing is used to monitor bass populations in the spring and evaluate young-of-the-year (YOY) walleye populations in the fall as YOY walleye are not represented in the fall gillnet surveys. Frame nets are typically used to monitor near shore species such as yellow perch, bluegill, crappie, and northern pike when they are shallow during their spawn. Surveys are conducted the same time of year in the same locations to compare population trends. In Lake Minatare a fall gillnet survey was conducted on October 22, 2024 to evaluate the walleye, white bass, wiper, and catfish populations. A fall electrofishing survey was conducted on October 10, 2024 to evaluate the YOY walleye recruitment and determine the contribution of walleye stockings from Big Lake Alice into Lake Minatare. The following narrative and graphs are the results of those surveys.



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 as Lake Minatare is 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. No gizzard shad were collected in the gillnet survey in 2024 but gillnet catch is typically low in Minatare as most of the shad are small enough to swim through the mesh. Fall electrofishing did not detect as many shad as previous years but some were detected. Healthy body condition indices on predator species such as walleye, white bass, and channel catfish, also indicate an adequate forage base population currently in Lake Minatare.

Walleye

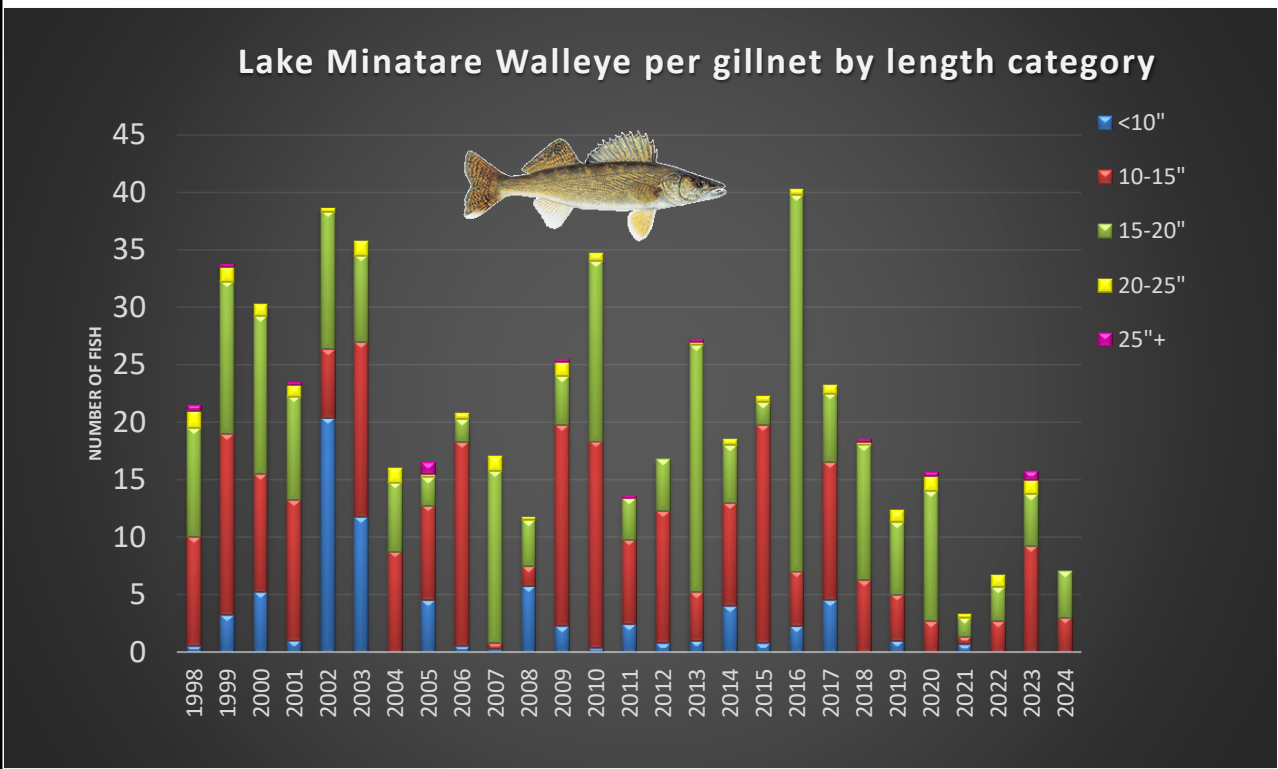
Walleye catch at Lake Minatare in 2024 was down to 7 fish per gillnet. This is well below the 20-year average of 18.2 walleye per net. The average size walleye collected in the gillnet survey was 15.5 inches with the largest fish at 17.6 inches. Although abundance was low, 57% of the catch was over the 15 inch minimum length limit regulation. It looked like things were improving with the increased catch in catch in 2023, but the 2024 catch was similar to the low abundance observed in 2021 and 2022.



Fall electrofishing survey captured 48 Young-of-the-year (YOY) walleye per hour. This catch was similar to 2021 and 2022 abundance.

Lake Minatare was stocked with 110,000 walleye fingerlings (1 to 2 inches long) in 2024. This combination has been the most consistent stocking rate over the years to maintain the walleye population in Lake Minatare and will continue into 2025. Big Lake Alice also gets stocked with walleye on an annual basis with hopes that some get flushed into Minatare to supplement the Minatare population with more advanced fish. In 2024, the Big Lake Alice stocking was marked with Oxytetracycline that puts a mark on stocked fish that can be identified under a special light filter. The YOY walleye collected from Minatare in 2024 were examined for marks and 29.2% of the YOY walleye collected were marked, indicating they came from Big Lake Alice.

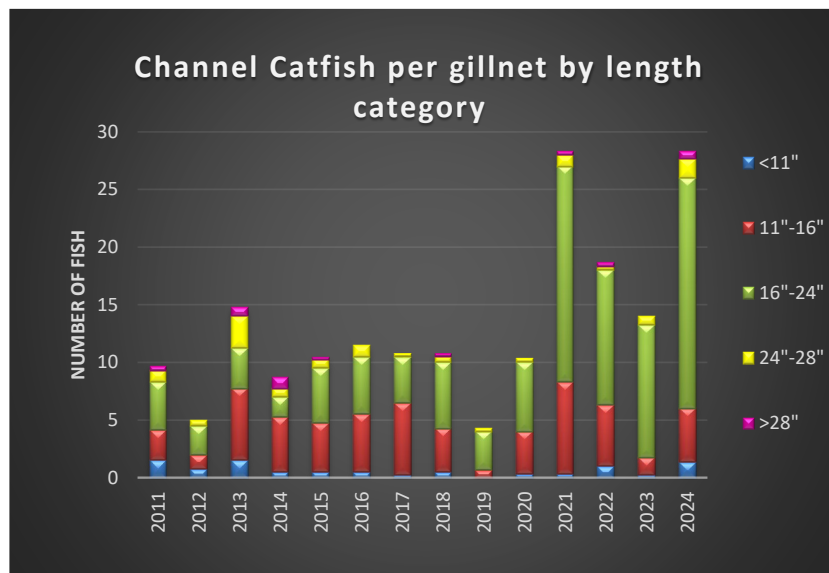
Walleye daily bag limit in Lake Minatare allows for 4 fish over 15 inches of which only one may be 22 inches or longer. The possession limit for walleye, saugeye, and sauger is 8 fish in combination.



Catfish

For the past 4 years, the channel catfish gillnet catch has been higher than the 15 year average. The gillnet catch in 2024 was 28.3 fish per net. This abundance continues to exceed the management goal of 10 fish per net. Catfish size structure looked good with all sizes represented in the sample. The largest catfish sampled measured 29.3 inches with over 70% of the catch between 16 and 24 inches. Body condition was excellent with smaller fish in slightly better condition than larger fish. Lake Minatare will continue to be one of the top destinations in northwest Nebraska to target and harvest catfish in 2025.

Channel catfish typically 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. In 2022, the size of catfish stocked was reduced to 8 inches to reduce crowding in the hatcheries. Lake Minatare will be stocked with 4,000 8-inch channel catfish in 2025.



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 sampled in 2024 measuring 35.8 inches and weighed 22.2 pounds and is pictured below.



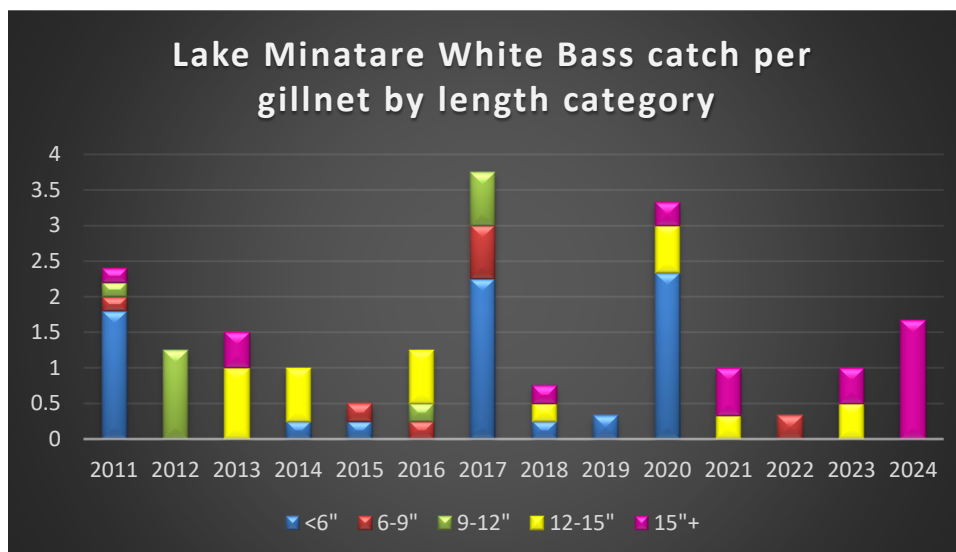
It is the anglers responsibility to be able to differentiate between the two species since channel catfish have a bag limit of 5 fish per day and blue catfish are managed as a trophy fish statewide with a daily bag limit of 1 fish per day.

White Bass and Wipers

White bass abundance in Minatare remains low at 2 per gillnet in 2024. 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 biggest white bass collected in the gillnet survey in 2024 was 17 inches.

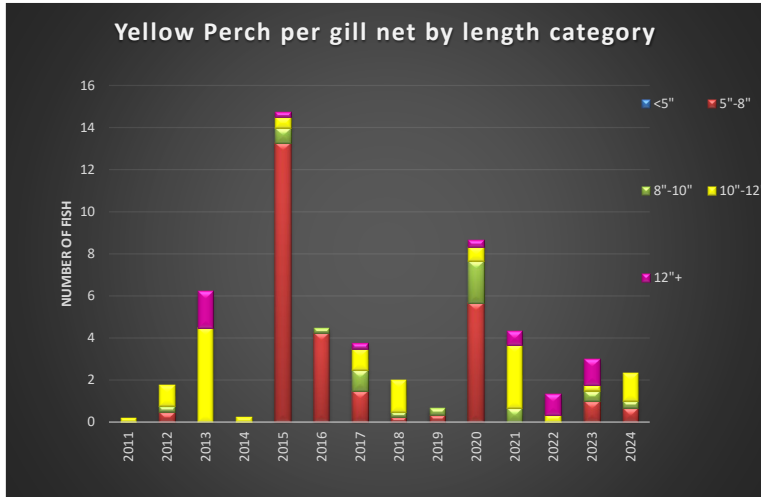
Hybrid striped bass (wipers) stockings were discontinued after 2011 in an attempt to reduce competition with white bass with goals to see a boost in the white bass population. After 11 years, the white bass population remained unchanged and angler requests for wipers led to adding wiper back into the stocking plans for Lake Minatare. A few large wipers still persist in the fishery. In 2024 less than one wiper was sampled per net but all wipers collected were over 24 inches. In an attempt to provide a better pelagic fishery wiper stockings will continue in 2025 at 8 per acre.

The daily bag limit for striped bass, white bass, and wipers (striped bass hybrids) is 15 fish with no more than one 18 inches or longer. This increase in the one over regulation from 16 to 18 inches is to allow more harvest opportunities on wipers.



Other angling opportunities

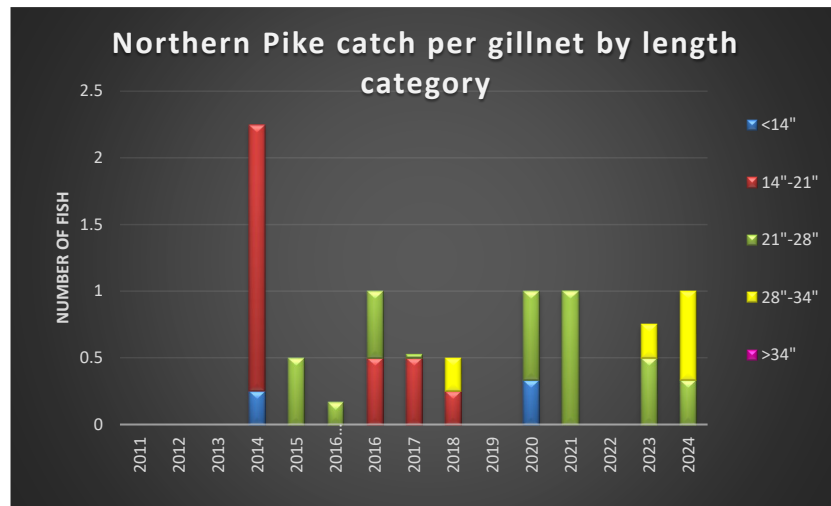
Yellow perch are not a top priority species in Lake Minatare but provide some additional angling opportunities and are one of the most sought after species during the ice fishing season. Yellow perch gillnet catch was low in 2024 at 2.3 fish per gillnet. Most of the perch collected were 10 to 12 inches with the possibility of some larger individuals left in the fishery as observed in 2023.



Lake Minatare also offers some great black bass opportunities. Although no bass surveys were conducted in 2024, angler reports suggest excellent catch rates in 2024 for smallmouth bass. Largemouth bass are also present in Lake Minatare although in lower densities than smallmouth.



Northern Pike



Northern pike abundance remains low in Lake Minatare with 1 pike per gillnet in 2024. Although abundance is low, pike grow quickly in Lake Minatare proving some trophy potential. The largest pike sampled in 2024 was 31.4 inches and weighed 5.6 pounds, but angler reports often suggest larger fish present in the fishery. Northern pike 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.

The daily bag limit of pike in Lake Minatare is 10 fish of which no more than one may be 34 inches or longer. The possession limit for Northern Pike is 10 fish.

Lake Mapping Project

Fisheries staff collected sonar data from transects at Lake Minatare in 2024 to update the bathymetric map and evaluate fish habitat availability within the reservoir. Analysis of this project will provide information for future goals to enhance fish habitat and determine the optimal locations to benefit the fisheries as part of the 3rd edition of the Nebraska Aquatic Habitat Plan. Updated bathymetric maps will be available to the public at outdoornebraska.gov when analysis is complete.



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 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 when water temps exceed 50 °F. At Lake Minatare Zebra mussels will be sampled monthly in 2025 during those months.



Zebra mussels were first documented in Nebraska in 2006 at Offutt Air force Base Lake and are now also located in Lewis and Clark Lake, Lake Yankton, and the Missouri River. Zebra Mussels are spreading quickly in nearby South Dakota with expansion up the Missouri River Reservoirs, eastern South Dakota Glacial Lakes, and Pactola Reservoir in the Black Hills.

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. Both or some of these species have been documented in western Nebraska at Box Butte Reservoir, Walgren Lake, Smith Lake WMA, Cottonwood SRA, Merritt, and on Fort Robinson.

It is important to do your part as a boater, hunter, and anglers by practicing **CLEAN, DRAIN, and DRY** every time!

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

DRAIN - Drain all water before leaving, including livewells, 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.

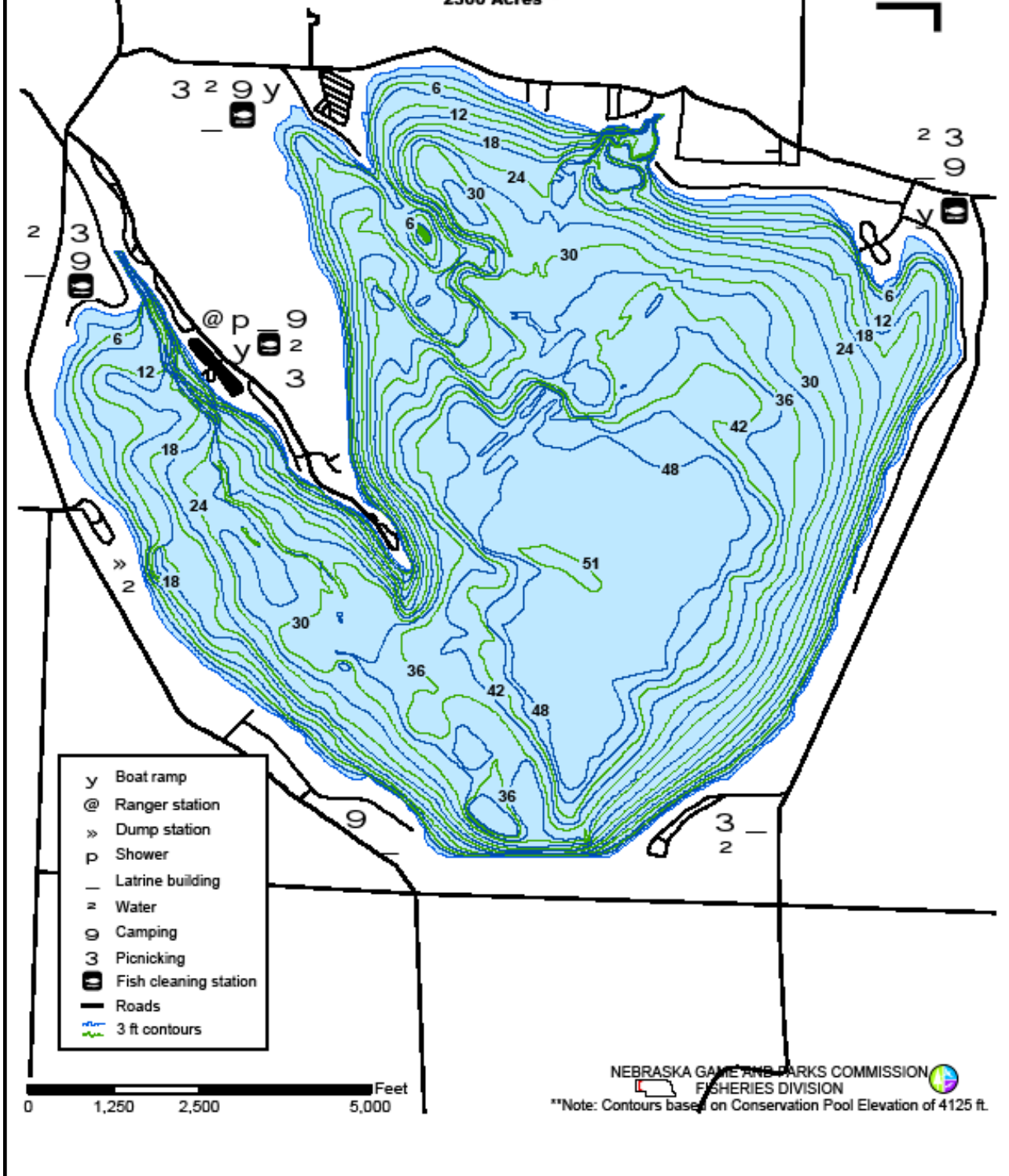
Anglers may encounter Nebraska Game and Parks staff conducting boat inspections and interviews to monitor risk of invasive species and help prevent the spread to Lake Minatare in 2025.

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



Lake Minatare

12 NE of Scottsbluff
2300 Acres**



NEBRASKA GAME AND PARKS COMMISSION
FISHERIES DIVISION

**Note: Contours based on Conservation Pool Elevation of 4125 ft.

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

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

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