2024 Northeast District Sandhill Lakes Survey Summary

Phil Chvala, Fisheries Biologist
Jeff Schuckman, District Fisheries Supervisor
Rebecca Munter, Fisheries Biologist

This summary pertains to those Sandhill lakes located in the Northeast District that were surveyed in 2024. Panfish species and northern pike are sampled at various times in the spring with frame nets while largemouth bass are sampled in the spring with night-time electrofishing gear. Most of the lakes are sampled rotationally every 2-3 years but a few are sampled annually depending on their status. Many sandhill lakes were naturally formed but some were also formed when natural drainage areas were blocked. Sandhill lakes are typically shallow, many with maximum depths less than ten feet. Their shallow nature makes them extremely productive, producing fast-growing fish, but can also increase their susceptibility to fish kill issues. The primary species in most sandhill lakes are bluegill, yellow perch, and largemouth bass. Additionally, opportunities for black crappie and northern pike are also present in some of them. Current regulations include an aggregate 15 fish daily bag limit on panfish with a possession limit of 30. The statewide minimum length limit of 15 inches applies to our sandhill lakes for bass along with a daily bag limit of 5, of which, only one over 21 inches is allowed in the daily bag. The statewide daily bag limit for northern pike is 3 with only one 34 inches or longer.

Droughts and wet years can both wreak havoc with sandhill lakes, but both can also benefit them. Drought induces reduced water levels in these already-shallow waterbodies to the point where several adverse conditions can occur. Low water levels can potentially hamper angling due to increased vegetation growth but also increase the chance of summer and/or winter kills. For example, the winter of 2022-23 was not kind to many sandhills fisheries. Water levels were low and there was a fair amount of snow that piled up on the ice resulting in winterkills on several sandhill lakes. Drought years can, however, provide an excellent opportunity to conduct renovations to remove common carp from Sandhill lakes. In fact, drought years are the only time that many of them can be renovated. Alternately, wet years can create connections with other lakes or flowing waters that contain undesirable species such as common carp, thus allowing them access to new or previously renovated waters. Carp have very detrimental effects in these systems through their high reproductive rates and feeding mechanisms. They compete for space with more desirable sportfish species and they create a turbid environment that lacks vegetation and is no longer conducive to sportfish production. The flooding of 2019 allowed carp to access Twin Lakes and Peterson Lake. Wet years can, however, provide a boost to sandhill lake fisheries, as long as it's not so much that the aforementioned connections are created. Increased water levels can improve carrying capacity and flood additional structure and/or terrestrial vegetation which can provide for additional fish food items such as zooplankton and aquatic insects.

Sampling was limited to 5 sandhill lakes in 2024 including Goose, Peterson, Swan, North Twin, and South Twin lakes. Additionally, some lakes that have been included in this report in the past will no longer

appear here in the Northeast report. The fishery management district boundaries changed as of July 2024 and Brown County is one of those that was transferred to another district. It was moved to the Northwest District and will be managed by fisheries management staff out of the Valentine and Alliance offices. Brown County lakes that have been included in this report in the past include Willow, South Pine (aka Cozad), Tower (aka Yellowthroat), and Clear. Zac Brashears out of the Valentine office will be the new primary contact for those seeking information on these waterbodies.

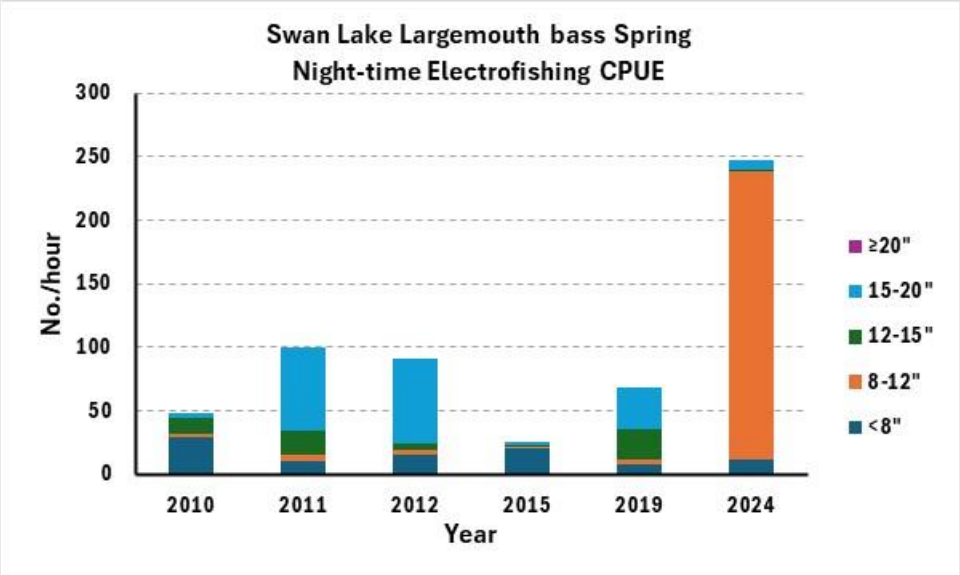
On an additional note, one of the waterbodies sampled, Goose Lake, is in the "rebuilding mode" following a renovation of the fishery in early May 2022 due to high numbers of common carp. Sampling to this point at Goose has been limited to early frame net sampling for northern pike and some day-time electrofishing effort to ensure no undesirable species have re-entered the lake. Restocking efforts were initiated in the latter part of May 2022 and a summary of those stockings is provided in the table below.

Year	Species	Number	Size (inches)
2022	Bluegill	2,937	4.5-6
2022	Largemouth bass	68,400	Fry
2022	Largemouth bass	25,126	1.25
2022	Yellow perch	61,736	2
2022	Northern pike	428	8.5
2023	Northern pike	12,876	2
2023	Yellow perch	68,299	1.5
2023	Largemouth bass	34,550	1.75

Largemouth bass

Largemouth bass are sampled in the spring of the year with night-time electrofishing. Swan Lake was the only sandhill lake sampled for bass with this method in 2024. The survey indicated a bass population with few fish exceeding 12 inches. However, a very strong year class was produced in 2022, and most of them were 9 to 10 inches in length. Body condition and growth rates were excellent so the size structure of the population should improve in relatively short order in Swan.

Alternate sampling gears and angler reports have indicated fairly high bass numbers in Goose Lake with a size structure that is similar to that of Swan Lake. As mentioned earlier, this population is still developing following the 2022 renovation and it's not surprising that most of the bass are on the small side. Some nice bass were observed in Twin Lakes while conducting some daytime electrofishing efforts. However, water clarity is currently quite poor due to abundant common carp which will make catching bass a challenging endeavor there.

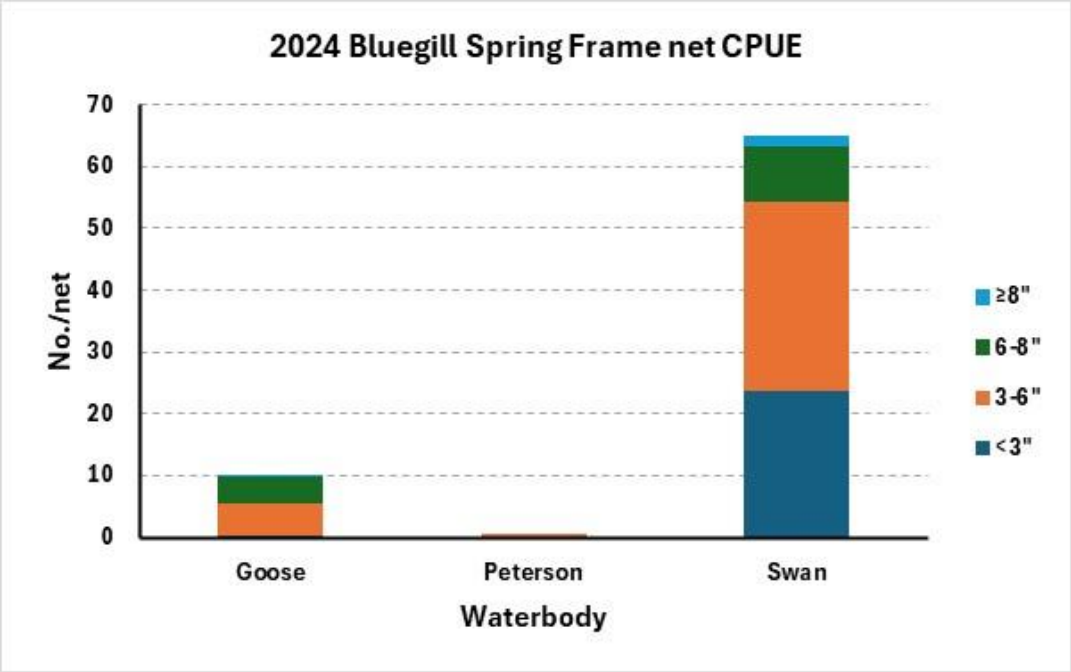


Bluegill

Frame net data for bluegill is provided from 3 of the 5 lakes. The numbers for Goose Lake are from a survey actually targeting northern pike that was conducted in March and we were unable to get back to the lake during preferred bluegill sampling time. The bluegill catch was low, as this was quite early to be sampling them, but does provide a bit of population information on this young, developing fishery. Most of the fish were in the 5-6-inch range but individuals up to 8 inches were observed. Bluegill were in excellent condition which should equate to continued good growth and some additional desirable-size fish in 2025.

Peterson Lake experienced a partial kill in the winter of 2022-2023 and subsequent sampling indicated extremely low bluegill (and largemouth bass) numbers. The lake was supplementally stocked with fingerling bass and bluegill in early summer 2023 to bolster those populations.

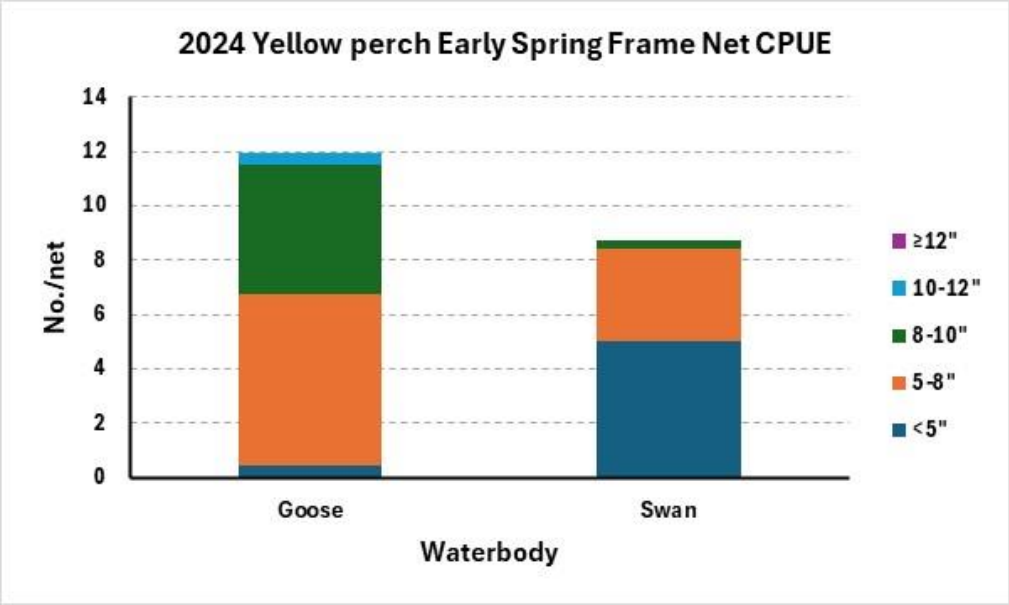
Swan Lake appeared to be a good destination for those interested in pursuing bluegill in sandhill lakes in the Northeast district. Not only good numbers, but size structure was quite good with a fair number exceeding 8 inches. In addition to those bona fide 8-inchers, most of the fish in the green portion of the Swan Lake bar were just under that 8-inch mark. Keep in mind that these sampling results are from the spring of 2024 so these fish have an additional full growing season on them. Nearly all sizes of fish also exhibited great condition, being "thick across the back" as some would say, and would provide a thick fillet for those who like to eat bluegill.

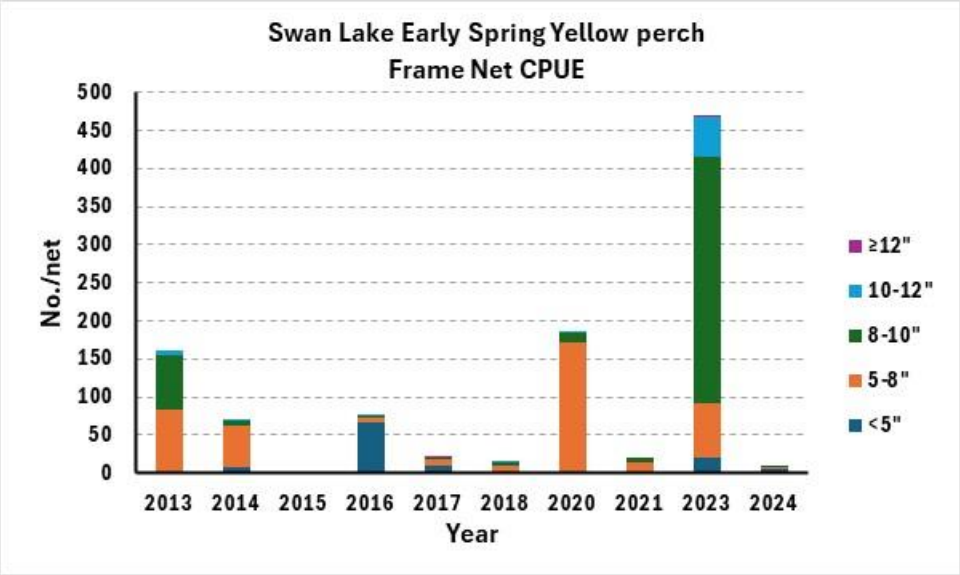


Yellow perch

A good perch population is developing in Goose Lake. The catch rate wasn't outstanding but the size structure appeared quite good with a fair number of fish between 9 and 10 inches. Those larger fish exhibited excellent growth that likely won't be sustained by subsequent year classes but was expected for these initially-stocked fish in a "new lake" environment following the renovation. The perch were in very good condition and should have added a fair amount of length over the 2024 growing season. Thus, there should be a fair number of them exceeding 10 inches, quite possibly even pushing 12 inches, this spring.

The catch rate at Swan Lake was much lower than desired with a mean catch of a little over 8 per frame net and was greatly reduced from what was seen in 2023. Catch rates have been somewhat dynamic over the years but the timing of the 2023 survey must have been "perfect" as that year produced an exceptional catch rate. The low catch rate in 2024 was likely influenced by weather as the first two days of the survey (setting of nets and first day running them) were cold and windy while the last day of netting was sunny with light wind. It was nothing near 2023 but the second day of running nets produced a substantially higher catch rate. Condition indices were also below desirable levels, indicating that the fish are a bit thin, but the sample size of fish determining those values was quite small.



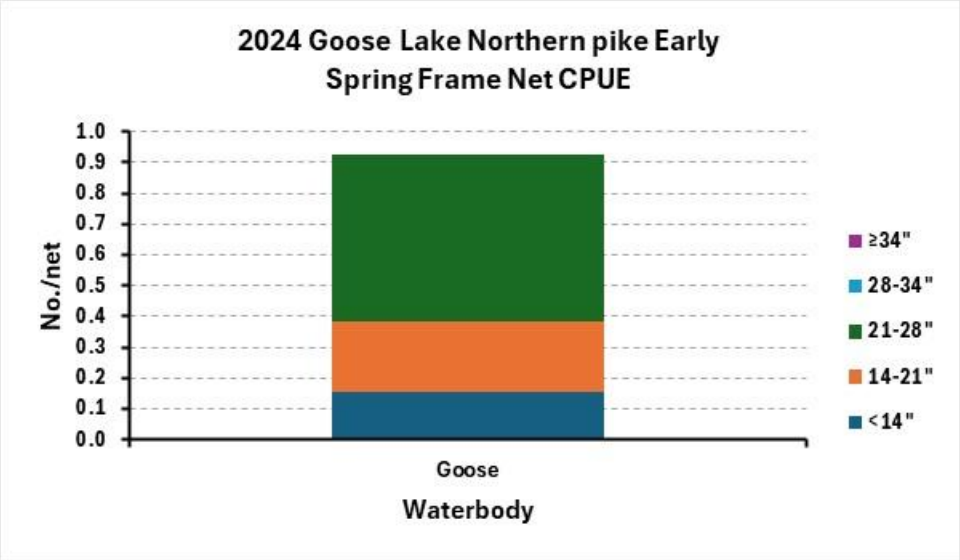


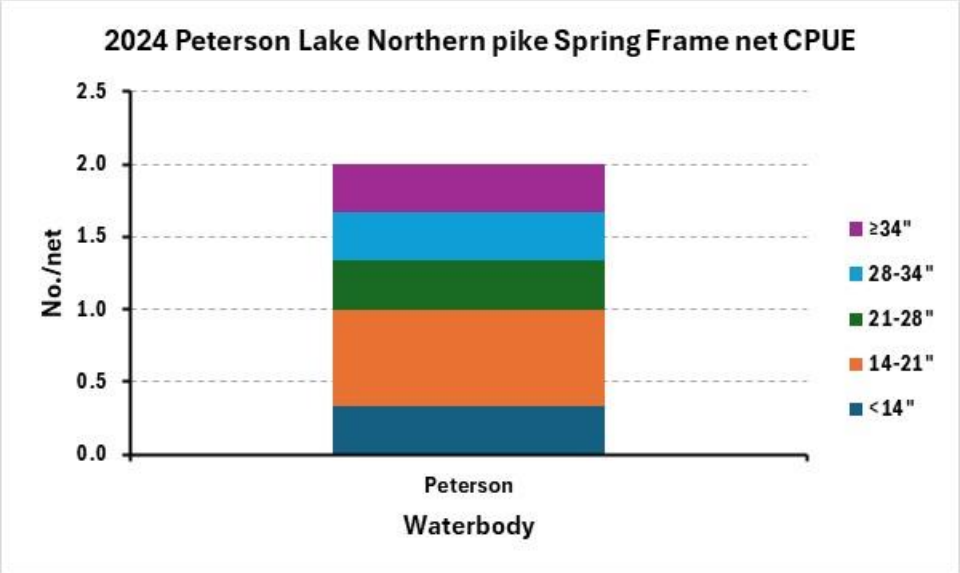
Northern pike

Northern pike were sampled in low numbers in Goose Lake in 2024, the only sandhill lake where early sampling was conducted for them that year. As can be seen in the post-renovation stocking table near the beginning of this report, the initial stocking of pike was low in number. Those fish did experience good growth and ranged from 24-26 inches at the time of capture in March while the 2023 stocked fish were between 16 and 18 inches at that time. At least some of those fish from that initial stocking will be over 30 inches this spring and that second stocking should range from 22-26 inches. Similar to the other species in the lake, the pike were also in excellent condition, looking extremely plump. Considering the low number of pike in the initial stocking, anglers seeking large pike may want to delay a trip to Goose until 2026. However, if just looking to catch some pike, it may be worth a trip this year. It is suggested to get there somewhat early, before mid-June or so, to beat the vegetation. The lake did fill to slightly over-full last summer but has since dropped back down 1.5 to 2 feet. Vegetation growth will be excessive if the lake remains low, not only impacting fishing but also the ability to navigate the lake by some watercraft.

Peterson Lake was not sampled in the typical time frame for pike but some were collected during frame net sampling later in the spring. Similar to Goose, they were sampled in low numbers, which could be a function of the 2022-2023 winterkill, harvest, or a combination thereof. However, historical sampling has revealed that catch rates are notably lower when sampling occurs late in the spring compared to earlier samples conducted in March. Peterson Lake pike did exhibit somewhat poor body condition in 2024, possibly indicating limited food resources as the panfish populations rebuild.

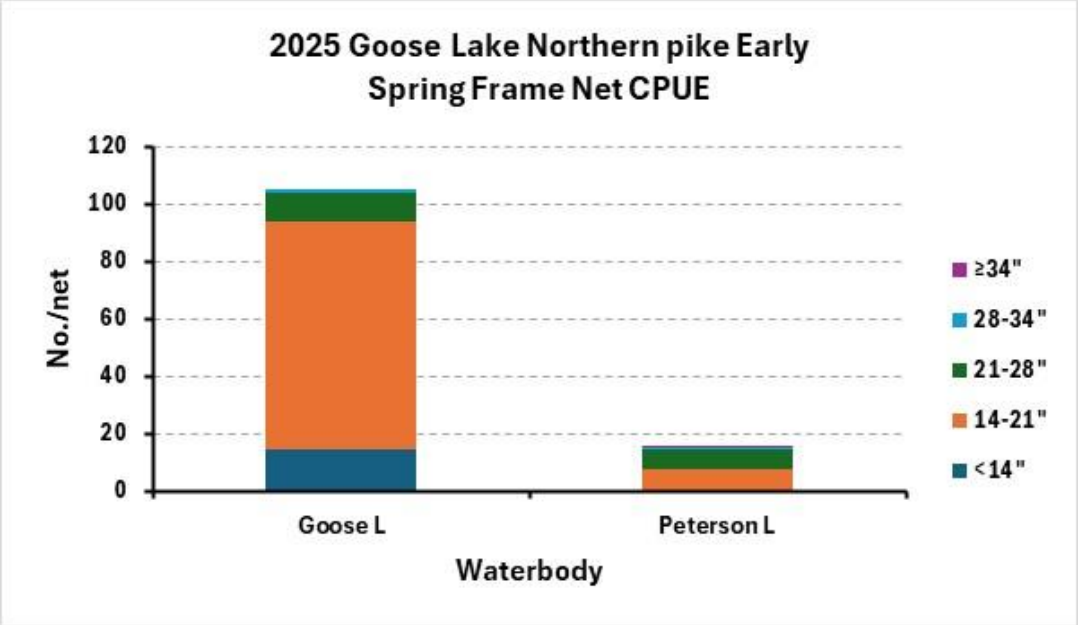
Both of these lakes should provide decent pike opportunities in 2025, Goose Lake for higher catch rates and Peterson for better size structure.





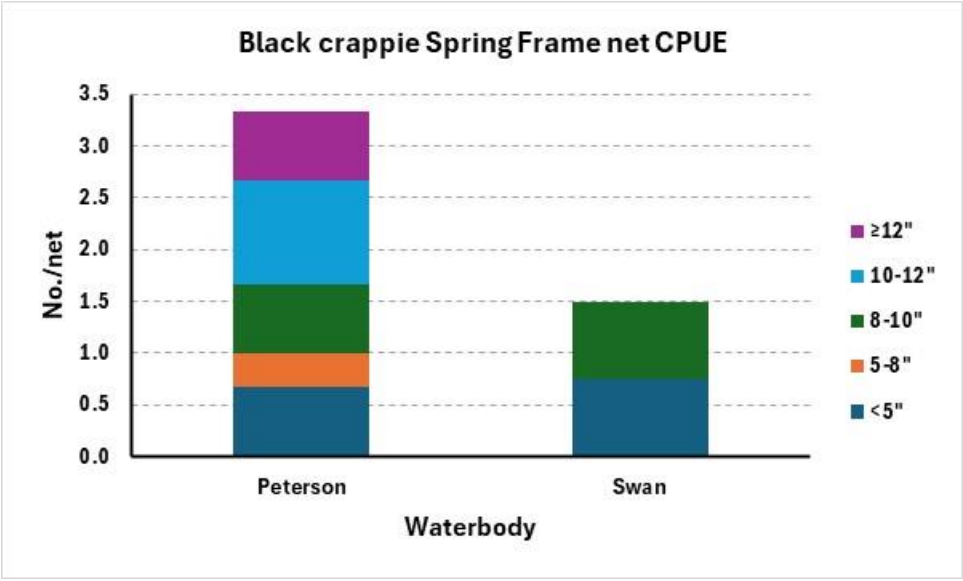
Northern pike update

The 2025 early spring pike sampling was completed just prior to finalizing this report and the following graph is included to give anglers an indication of what the current populations look like in the two lakes mentioned above. The total catch rate was around 105 pike per net in Goose and just over 15 per net in Peterson.

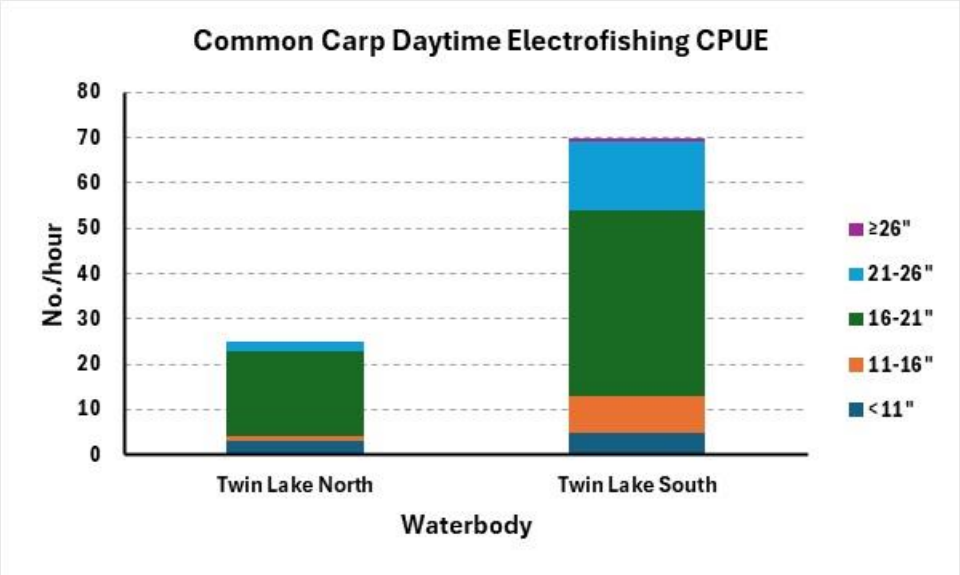


Other species

Black crappie were observed in both the Peterson and Swan lake surveys. Catch rates were low in both lakes. No crappie exceeded ten inches in Swan but Peterson samples indicated the opportunity for some quality fish, including some over 12 inches.



Common carp gained access to several sandhill lakes during the high-water events in 2019 including North Twin, South Twin, and Peterson in the Northeast District. Water quality degraded quickly in North and South Twin due to the carp and submergent vegetation, which is important for cover and food production, is nearly non-existent in those lakes at this time. Daytime electrofishing indicated a high-density population in South Twin with fewer observed in the north lake. The difference in catch between the two lakes could be a function of abundant cattails in South Twin as carp seemed attracted to the cover/structure that they provide. There is far less cattail-covered shoreline in North Twin to attract and hold them, thus making them less susceptible to our electrofishing gear in that lake. Peterson was not electrofished in 2024 but carp were observed while doing sandhill lake winterkill assessments in 2023. Despite the presence of carp, there was still ample submergent vegetation observed in Peterson during the frame net sampling in 2024. The lake will be monitored regularly to assess their numbers and their effect on the water quality and sportfish populations in the coming years.



Aquatic Invasive Species (AIS) are a concern for all recreational water users, including in the sandhill lakes. Common carp and their detrimental effects have already been discussed above. Most users have likely heard of zebra mussels and the problems that they pose. Zebra mussels are present in the several waterbodies in the eastern and northeastern part of the state, including the Missouri River, and have become widespread in surrounding states including South Dakota, Iowa, and Kansas. Those recreating in those areas need to be extra diligent in following the Clean, Drain, Dry protocol. Users also need to be aware of the multiple varieties of invasive vegetation present in the state and be sure to clean any accumulated weeds from trailers and boats. Additionally, waterfowl hunters need to be careful about the plant material used in blinds, being careful not to distribute plants such as invasive cattails or phragmites. Anglers, hunters, and boaters are encouraged to keep up to date and educate

themselves on aquatic invasive species. An excellent source of information regarding invasive species can be found at https://outdoornebraska.gov/conservation/conservation-challenges/invasive-species/aquatic-invasive-species/

For more information on fishing rules and regulations visit the Nebraska Game and Parks website at OutdoorNebraska.org.

For more information on the fisheries in the Northeast District contact:

Jeff Schuckman, Northeast Region Manager, Norfolk Office Ph: 402-370-3374, email: jeff.schuckman@nebraska.gov

Phil Chvala, Fisheries Biologist, Norfolk Office, Ph: 402-370-3374, email: phil.chvala@nebraska.gov

Rebecca Munter, Fisheries Biologist, Norfolk Office, Ph: 402-370-3374, email:

rebecca.munter@nebraska.gov