

2016 Survey Summary

Sandhill Lakes

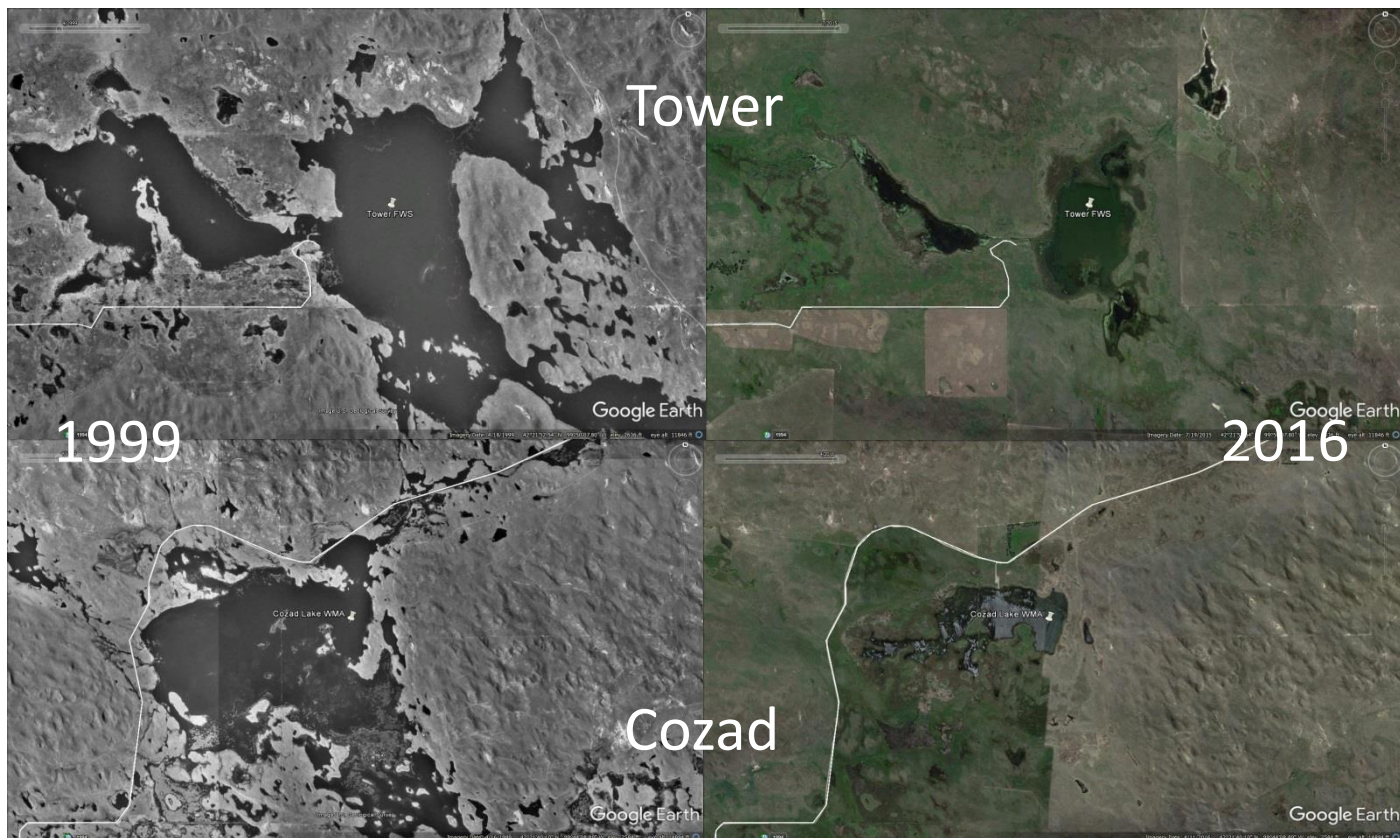
Northeast District



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This summary pertains to those Sandhill lakes located in the Northeast District that were surveyed in 2016. Earlier data has been retained for comparisons. Panfish species and northern pike are sampled in the spring with trap nets. Largemouth bass are sampled in the spring with night-time electrofishing gear. Not all lakes are surveyed annually due to man-power constraints. Sandhill lakes can be naturally formed and they are typically shallow and spring fed. Sometimes these lakes were formed when upstream hay meadows were ditched during the early settlement days or a drainage was blocked. These lakes are very productive and well suited to panfish species such as black crappie, bluegill and yellow perch as well as largemouth bass and northern pike. Master Angler sized fish are occasionally caught. Current regulations include an aggregate 15 fish daily bag limit on panfish with a possession limit of 30. State-wide regulations for bass are minimum length limit of 15" with a daily bag of 5 fish, only one can be over 21" and possession limit is 10. The statewide daily bag limit for northern pike is 3 with a possession limit of 10. Goose Lake is the only lake managed with a 28-34 inch protected slot length limit for pike.

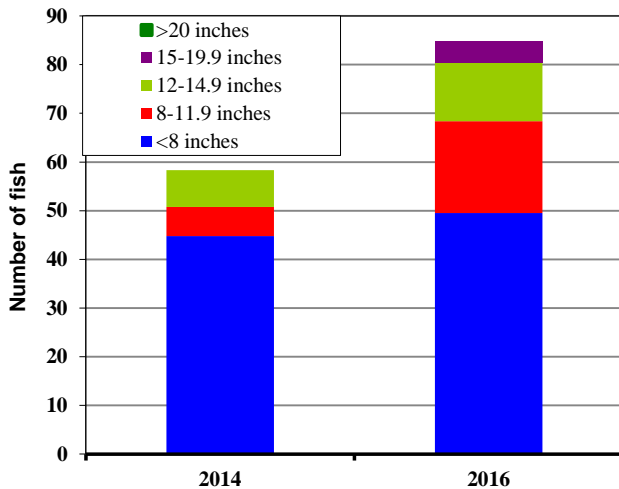
The drought of 2012 was very devastating for many lakes in the Sandhill region, extended periods of low water levels may lead to summer and/or winter kills. While rainfall was above average in 2013-16 in some areas, most of the lakes discussed in this report continued to decline in depth due to lower ground water levels. Of the 9 lakes discussed in this summary only Clear, Goose and Willow are near full pool. Some of these remaining lakes are 3-4 feet below 2011 water levels. Drought years can provide an excellent opportunity to conduct renovations to remove common carp from Sandhill lakes. Because renovations are so costly and very difficult for 100% success in large Sandhill lakes, anglers must not move carp or other unwanted species back into renovated lakes from a minnow bucket.



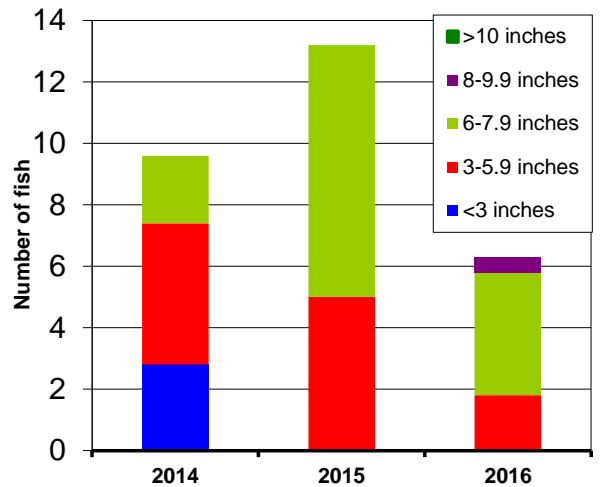
Clear Lake

Clear Lake is located approximately 19 miles south and 9 miles west of Ainsworth. It is a privately owned natural sandhills lake with no inflow or outflow. Carp had gained access to the lake and destroyed the water quality. The lake was renovated in December of 2012 by NGPC Fisheries Division. The New Clear Lake Club, the US Fish & Wildlife Service and the Sandhills Task Force, split the cost of the chemical (rotenone) that was used to remove the carp population. No carp have been sampled since the renovation. A year-round public fishing access on the east end of the lake has been provided through an agreement with the New Clear Lake Club. The lake has filled to within nearly a foot of "full pool".

Bass per 1 hr electrofishing by length category

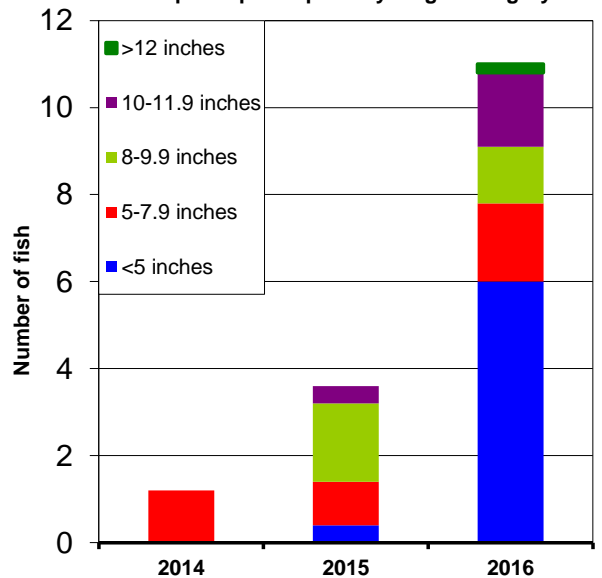


Bluegill per trap net by length category



Two black crappie were sampled during the 2016 frame netting. These fish were stocked prior to our state stocking. The larger bass were also a product of a well meaning but misguided angler. Early frame netting targets spawning perch and we would hope to see more than double this catch rate of fish over 5 inches. Timing is critical for catching perch in-shore and we may have missed that critical time period for getting a good sample on them. Forty-plus mph winds during the survey could have also limited catch. Due to time constraints we did not get back to sample in June, we would likely have seen higher catch for bluegill and possibly crappie at that time. We do see some bluegill moving past that 8 inch mark. The bass population looks good and is providing excellent catch and release fishing at this time. Water clarity is excellent, it is once again "Clear Lake".

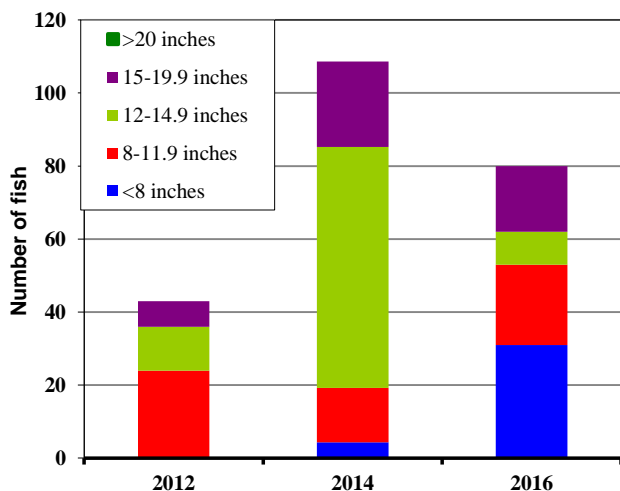
Yellow perch per trap net by length category



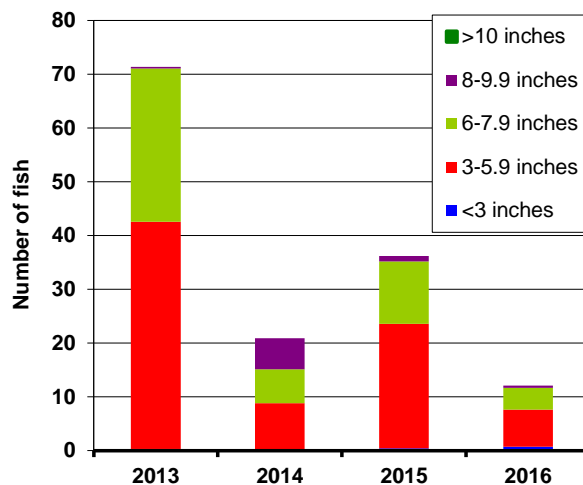
Cozad Lake

Cozad Lake is located approximately 12 miles south and 1 mile west of Long Pine. It is state owned and managed as a Wildlife Manage Area. It is a natural sandhills lake which typically has no inflow or outflow. During very high water events, water can come from a marsh to the south and runs out the northeast corner of the lake and flows down a ditch headed east. It has never had a carp population, water quality is excellent and it grows a tremendous amount of vegetation. A handicap accessible parking area and boat ramp was installed in 2001. The biggest challenge with this lake is related to water levels. In June of 2010 there was water over the road for almost a mile of the county road leading to the parking area. Access was not available until the summer of 2012. Currently the lake is more than 3 feet below the high water mark and the end of the boat ramp is several feet from the waters edge but still usable.

Bass per 1 hr electrofishing by length category

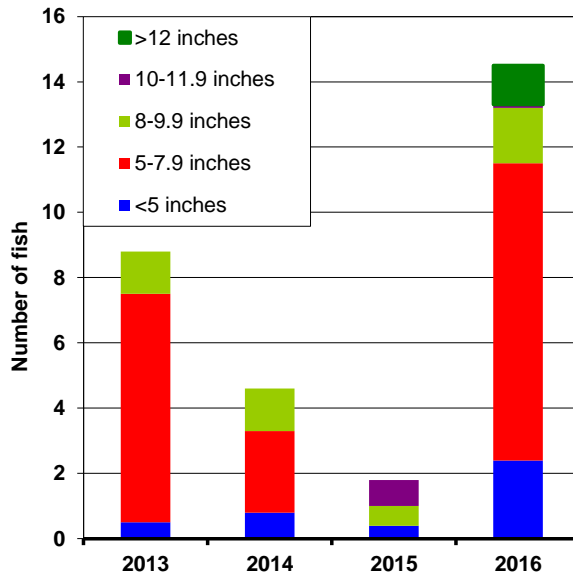


Bluegill per trap net by length category



Perch frame netting was conducted the end of March while bluegill and bass were sampled in June. Even though most size classes are represented for perch and bluegill, catch rates are somewhat poor. Low water conditions are not conducive to good panfish numbers. Bluegill condition (plumpness) tend to be below average in this lake, but with low numbers they showed some improvement for this survey. We ran into some weather issues in 2015 that was reflected in our perch catch but showed improvement for this survey. Bass numbers do not fluctuate as rapidly with the water levels and predators tend to capitalize on crowded panfish. This lake can produce fish over the 5 pound mark during those years with near or above average water levels. Bass numbers and size structure are good and thus anglers should see good fishing opportunity with the possibility of catching a larger fish.

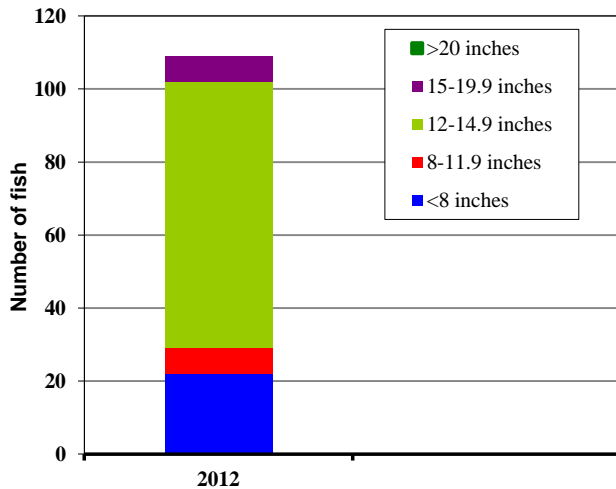
Yellow perch per trap net by length category



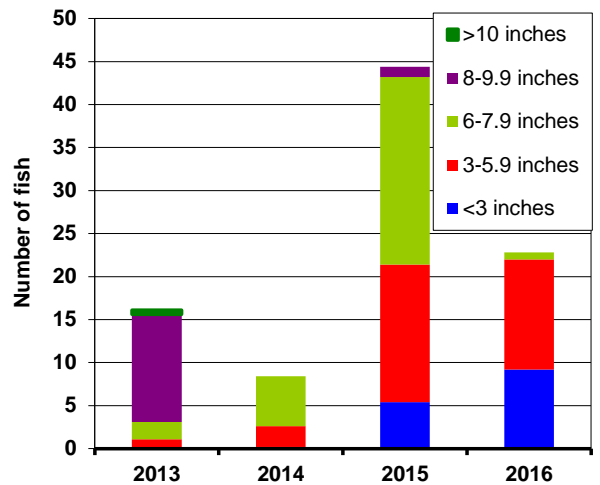
Goose Lake

Goose Lake is located approximately 23 miles south and 4 miles east of O'Neill. It is state owned and managed as a Wildlife Manage Area. It is a natural sandhills lake which has seasonal inflow and outflow. These channels are diked with screened flow-through outlet structures. Carp re-entered in 2009 & 2010 during an extreme flood event and have compromised the fishery. In fact, sport fish populations have decreased since then, along with degraded water quality. A potential fish renovation is planned for the Fall of 2017 to remove carp and improve the sportfish populations. In 2015 an infestation of Eurasian Water Milfoil nearly covered the lake but was successfully treated with an aquatic herbicide. A concrete boat ramp is available. There is an irrigation well that can be used to maintain water levels during low water years. Currently the lake is near "full pool" from a wet 2016.

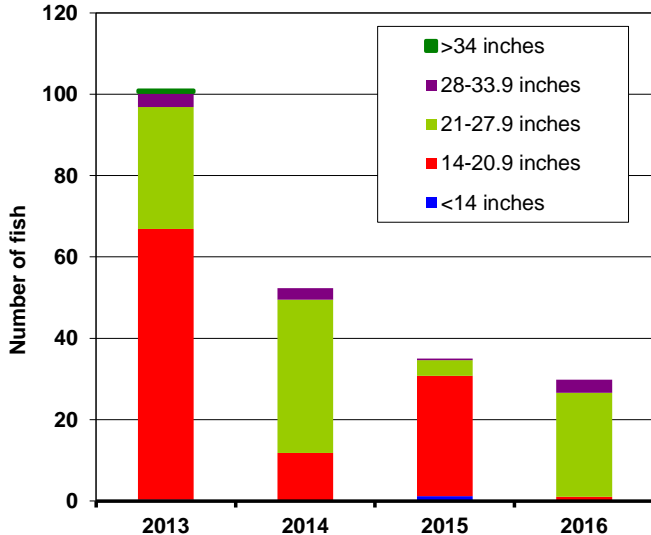
Bass per 1 hr electrofishing by length category



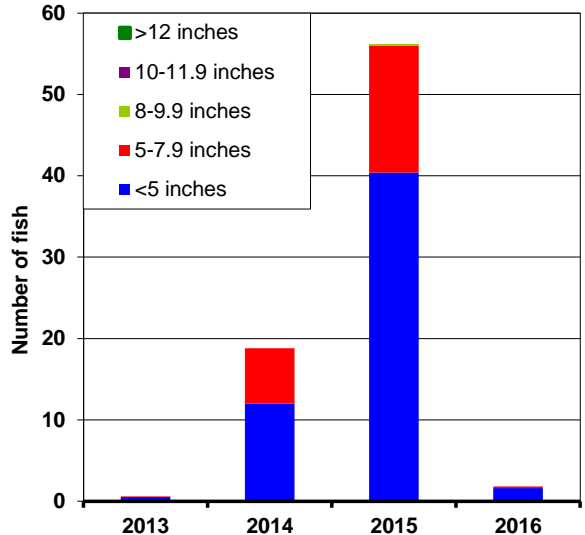
Bluegill per trap net by length category



Northern pike per trap net by length category



Yellow perch per trap net by length category

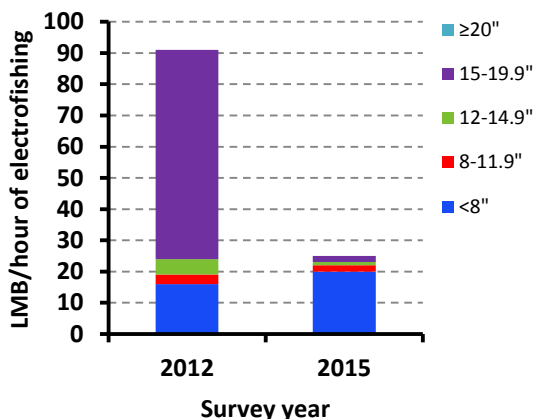


Frame netting was conducted in mid-March to target pike and perch. With the high carp densities in the lake all other fish species are in decline, which is especially noticeable in the pike graph above. In the absence of a carp population this lake is capable of growing thick stands of native aquatic vegetation and supporting a fast-growing bass and panfish fishery.

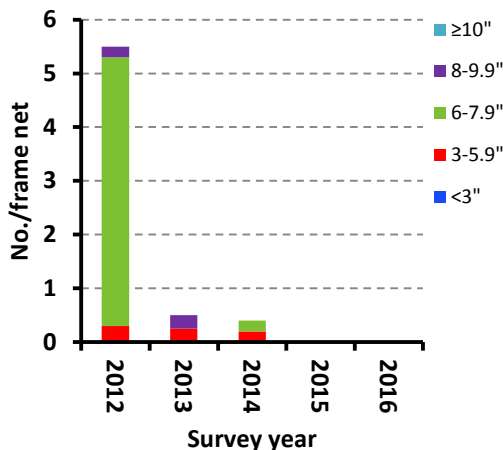
Swan Lake

Swan Lake is located 25 miles south of Atkinson and is a privately owned lake that is leased for public fishing access. In 2012 a berm and outlet modification project was completed that should result in keeping the lake carp free. The last fish renovation was in 2006. A primitive, gravel boat ramp is located on the north side of the lake off a blacktop road. The fish populations have been sampled with frame nets in early spring since 2012 and electrofishing for bass sampling is conducted periodically. Currently the lake is more than 3 feet below full pool.

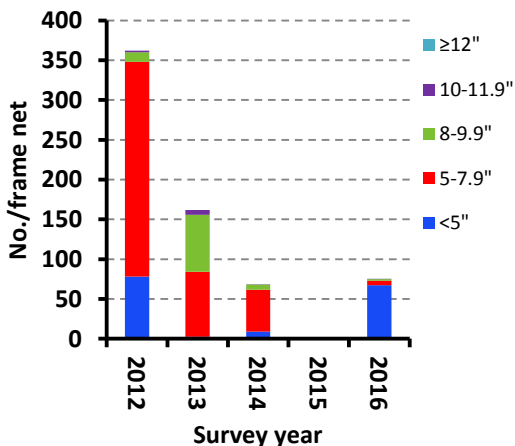
Largemouth bass CPUE



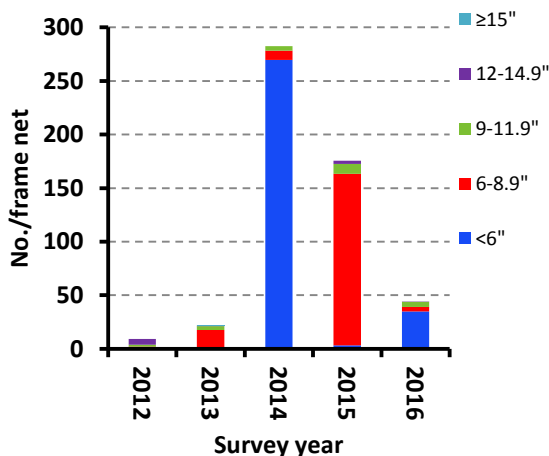
Bluegill CPUE



Yellow perch CPUE



Black bullhead CPUE



Fish populations are struggling due to low water and a recent fish kill that occurred during the winter of 2014-15 that resulted in high mortality of the sport fish community. Frame nets run in April collected no bluegill in 2015 and 2016 and most (89%) of the perch collected in 2016 were less than 5 inches in length. Bass sampling in 2015 collected mostly small fish as well and the black bullhead population has greatly expanded. Intense stocking of bass, bluegill and yellow perch were made in 2015 and 2016 in an effort to rebalance the fish community.

Peterson Lake is located 20 miles south and 4 miles east of Bassett. This is private lake that is leased for public fishing access through the Open Fields and Waters Program. This is a natural sandhill lake with no inflow but flows out to the north during extremely wet years. It is carp free and can grow tremendous amounts of aquatic vegetation. This lake's water level fluctuates widely with precipitation, currently it is approximately 3 feet below full pool. This lake has not been frame netted since 2012. The current fishery is composed of northern pike which can reach 36", but these fish are targeted heavily due to this lake being one of the closest pike fisheries for our heavier population centers. There is a good largemouth bass population, but not heavily targeted due to other populations which are easier to access. There are fair numbers of big bluegill and perch which are targeted heavily through the ice, for the same reason as pike.

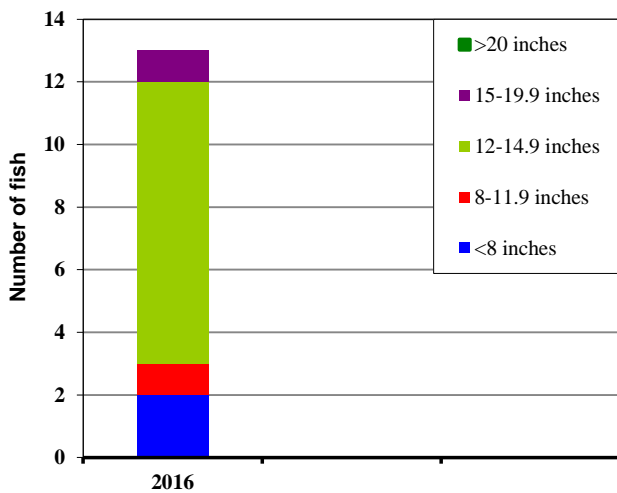
Tower Lake is located 12 miles south and 2 miles east of Ainsworth and is owned by the US Fish and Wildlife Service. This is a natural sandhills lake with no inflow or outflow. There is a berm that separates this lake from a marsh to the west with a drop-board structure to control flow into Tower. These lakes are carp free and can grow tremendous amounts of aquatic vegetation. These lake's water levels vary greatly in association with precipitation. Currently Tower is nearly 4 feet below full pool. We did not survey here in 2016 due to the low water levels. The last bass survey was in 2014 which showed a high catch of fish from 15 to 20 inches. Frame netting from 2015 showed a good catch of crappie and perch up to 10 inches and a lower catch of bluegill to 9 inches. This January the deepest water was 4 feet, with a foot of that being ice.

Twin Lakes North and South are located 18 miles south and 2 miles east of Bassett and are part of a state owned Wildlife Management Area. They are natural sandhill lakes but water levels fluctuate widely depending on wet or dry seasons. Water flows into the North lake from the west almost annually, but has only flowed out of that lake twice in the last 30 years. When that happens water floods the county road that passes alongside the west shore of each lake and flows out to the north-east corner, the last time was 2010—11. Currently both lake's water level is nearly 3 to 4 feet below that. In April of 2016 both lakes were trap netted to relocate as many adult bass, black crappie, yellow perch and northern pike to other nearby public fishing lakes prior to a complete chemical renovation. In March, both lakes and many small puddles in the watershed were renovated, the last couple marshes were renovated under the ice in February of 2017. As part of a project to eliminate carp from the Twin Lakes watershed, four larger private sandhill lakes and some associated marshes were renovated in 2015 by the NGPC, but as public fishing access was not to be allowed, the chemical was purchased by the Sandhill Task Force. Fish stocking began at Twin Lakes in April and continued through July with largemouth bass, bluegill, black crappie and yellow perch. An outlet structure project is in progress to prevent carp from re-entering Twin Lakes and the system above.

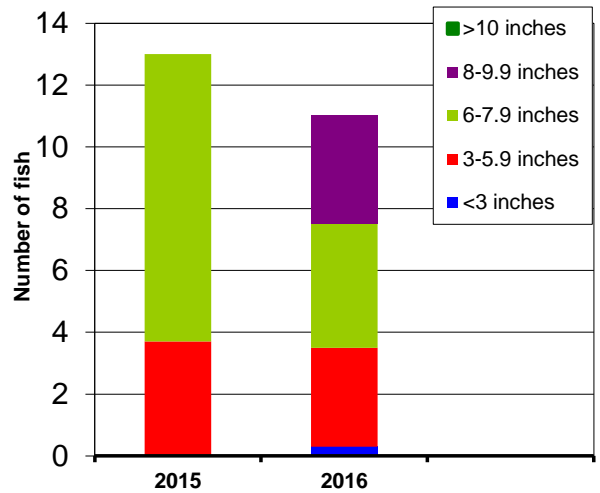
Willow Lake

Willow Lake is located approximately 21 miles south and 11 miles west of Ainsworth. This is a state owned WMA. It is a natural sandhills lake with seasonal inflow from the west. When the lake is full water passes through a drop-board structure in a berm on the east end of the lake, improvements to the berm and grated emergency overflow were made last year. The lake was renovated in September of 2013 and due to an unexpected rise in the lake level we were not successful in completely eliminating the carp population. Following the renovation, stocking of sport fish included black crappie, yellow perch, bluegill and largemouth bass. Walleye are stocked annually to provide an additional predator on small carp. The lake has filled to within nearly a foot of "full pool" after having been drawn down for the outlet work.

Bass per 1 hr electrofishing by length category

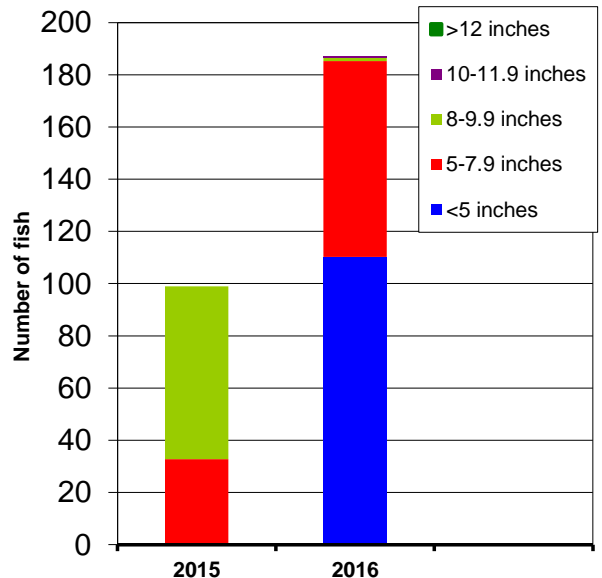


Bluegill per trap net by length category



Frame nets were set in late April to target the perch population while electrofishing was conducted in early June to sample largemouth bass and assess any carp recruitment. Our bass catch somewhat lower than expected but we did not sample any carp in either sampling effort. Size structure of bluegill and perch showed improvement but a later frame netting effort would provide a better look at bluegill and possibly crappie. We did sample one 9 inch walleye from the 2015 fingerling stocking, that year-class of fish may reach the state-wide minimum of 15 inches in the summer of 2017. Bluegill anglers will have opportunity for some nice sized fish in 2017 and some larger perch are present in the lake as evidenced in the 2015 sampling.

Yellow perch per trap net by length category



Invasive Species

Common carp find their way into many Sandhill lakes, sometimes they are unknowingly brought in a minnow bucket, but often they swim in during high water. They degrade water quality by disrupting the lake bottom, destroying water clarity. This limits aquatic vegetation growth and prevents other desirable fish from maintaining healthy populations. A large amount of fisheries biologists time and fishermen's money is spent controlling, eliminating and preventing carp from entering Game and Parks managed lakes. In the Northeast District, carp are still found in Long Lake SRA & Goose Lake as well as many private sandhills lakes. Overton Lake is once again contaminated with high numbers of carp. When funding allows, Overton and two small lakes in the Overton watershed will be renovated to restore sport fish populations. Carp are also present in all but a few lakes found on Valentine National Wildlife Refuge. Those lakes that have public fishing access will be targeted for carp renovations in the near future with joint funding from US Fish and Wildlife Service, Nebraska Game and Parks, Sandhills Task Force and possibly others. The Task Force has been approved for funding through the Nebraska Environmental Trust Fund to be directed at eliminating common carp from sandhills lakes.

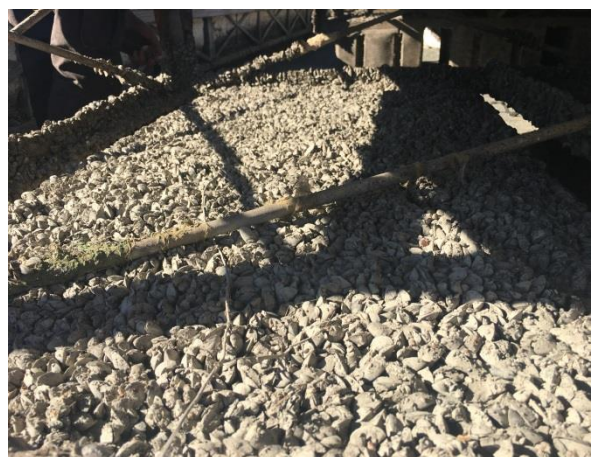
Eurasian Water Milfoil is an invasive species of aquatic vegetation that completely chokes out native plants. This plant can spread rapidly from a single fragment of stem or leaf which takes root and forms a new colony growing up to 2 inches per day. Once established, the plant can form dense surface mats that interfere with boating, fishing, swimming, and other forms of recreation. Plant fragments can be transported on boats, trailers, and other aquatic sporting equipment. **Zebra Mussels** have been found as close as Lewis and Clark Reservoir and are within 60 miles of Goose. Anglers must be careful to follow the Clean-Drain-Dry protocol to keep are lakes free of unwanted hitchhikers. **Fishermen and all other boaters must be diligent not to move unwanted or destructive species from one system to another by boat or bucket.**



Headwater lake for Twin renovation 2015



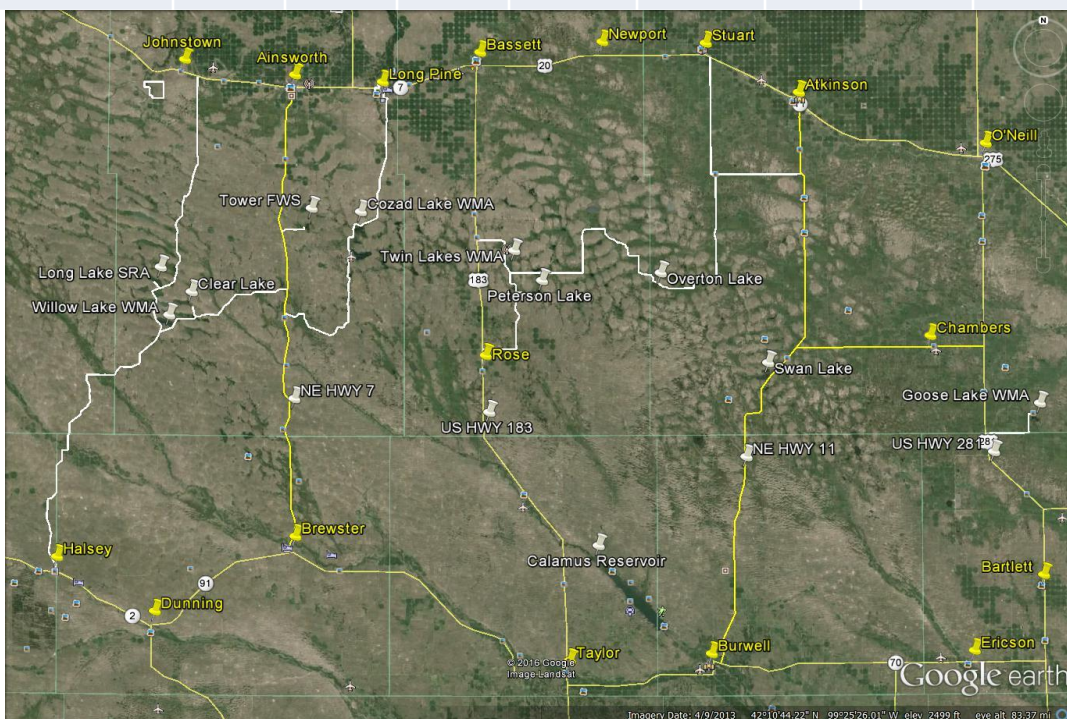
Eurasian Water Milfoil at Goose Lake 2015



Zebra Mussels at Lewis & Clark 2016

Access for these sandhill lakes vary due to ownership. Cozad, Goose, Twin & Willow are owned by the State of Nebraska and are managed under Wildlife Management Area regulations. Tower Lake is part of Yellowthroat WMA and is owned by the Fish and Wildlife Service. Clear, Overton, Peterson & Swan are privately owned lakes with public fishing agreements.

Access	Clear	Cozad	Goose	Overton	Peterson	Swan	Tower	Twin	Willow
Bank/Wading	NO	YES	YES	NO	YES	YES	YES	YES	YES
Boat	YES	YES	YES	NO	YES	YES	YES	YES	YES
Daytime Only	NO	NO	NO	YES	NO	NO	YES	NO	NO
Ice Fishing Only	NO	NO	NO	YES	NO	NO	NO	NO	NO
Modern Boat Ramp	NO	YES	YES	NO	NO	NO	NO	NO	NO
Primitive Boat Ramp	YES	NO	NO	NO	YES	YES	YES	YES	YES



Check the Boating Guide for details:

<http://mag.outdoornebraska.gov/i/747018-2017-boating-guide-web>

Nebraska Invasive Aquatics:

https://neinvasives.com/wp-content/uploads/2016/01/Aquatics-Field-Guide_2016-website.pdf

Fishing regulation & public waters information consult the 2017 fishing guide at:

<http://digital.outdoornebraska.gov/i/769053-fishing-guide-2017-web>

For more information contact the Game and Parks Fisheries staff:

Jeff Schuckman, Phil Chvala – Norfolk Regional Office – 402-370-3374

Andrew Glidden – Bassett Field Office – 402-684-2921

Please remember that these fishing areas have limited services and no trash pick up. If you pack it in, pack it out, and keep our wild places looking wild!