

2017 Survey Summary

Sandhill Lakes

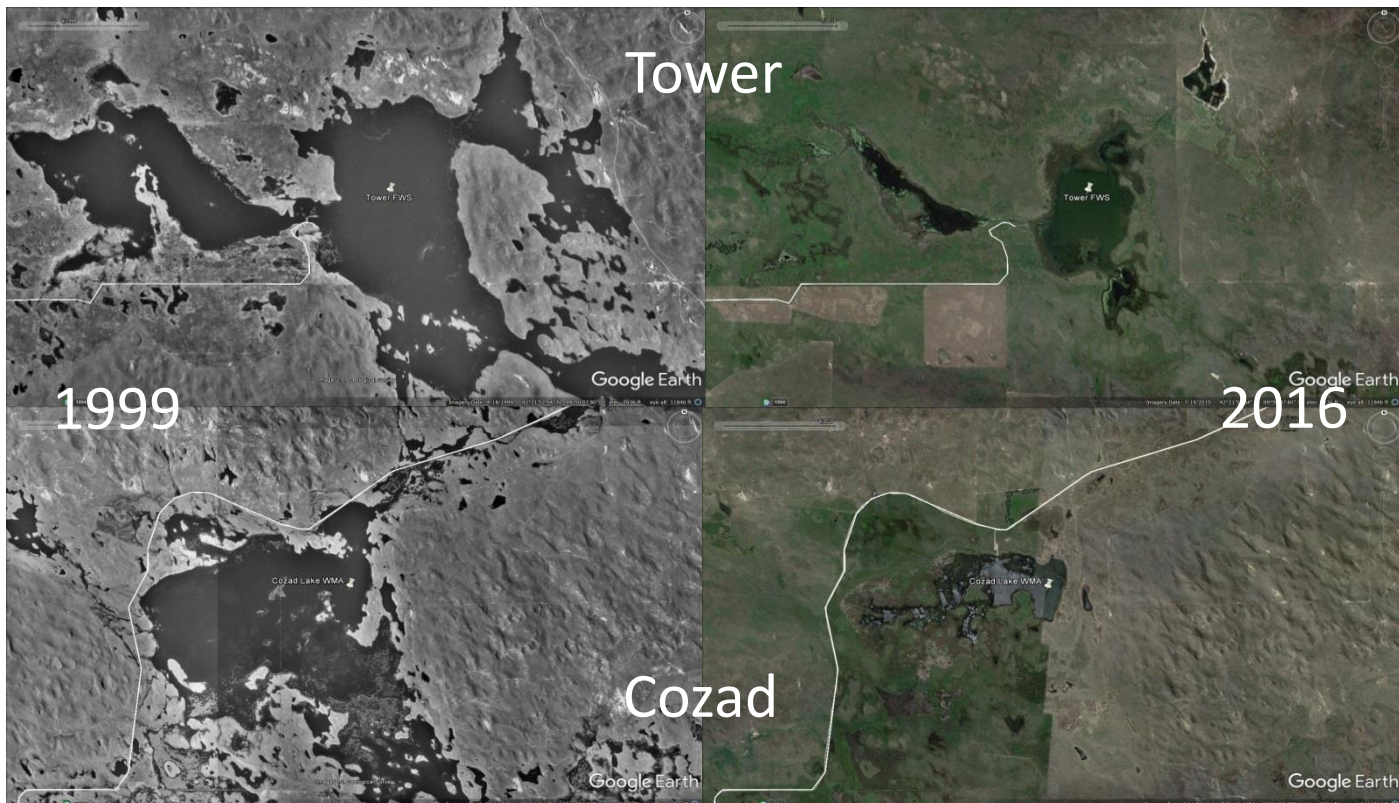
Northeast District

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This summary pertains to those Sandhill lakes located in the Northeast District that were surveyed in 2017. Earlier data has been retained for comparisons. Panfish species and northern pike are sampled in the spring with frame nets. Largemouth bass are sampled in the spring with night-time electrofishing gear. A few of the lakes are sampled annually but most are surveyed on a rotational basis, either every other year or every 3 years. 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 in the district managed with a 28-34 inch protected slot length limit for pike.

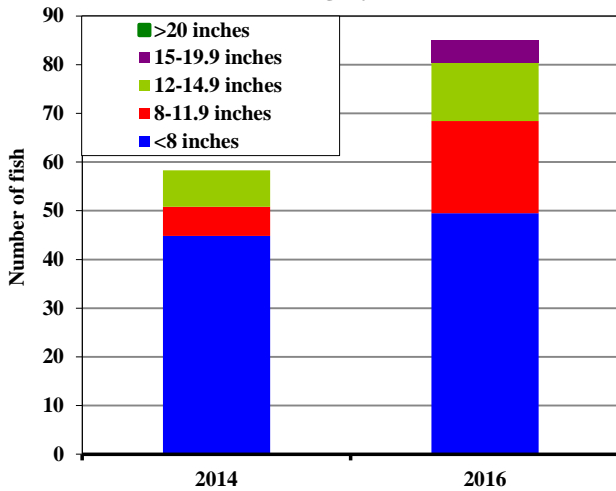
The drought of 2012 is still affecting many lakes in the Sandhill region, extended periods of low water levels may lead to summer and/or winter kills. While rainfall was above average in 2013-16 in some areas, most of the lakes discussed in this report continued to decline in depth due to lower ground water levels. In 2017 Brown County recorded the driest spring on record, then after late July, one of the top 7 wettest falls. 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.



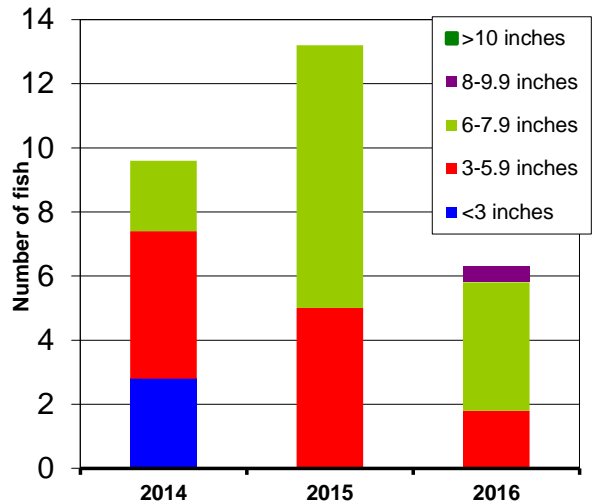
Clear Lake

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 via a man-made ditch and destroyed the water quality. This ditch access has been since blocked. 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 though an agreement with the New Clear Lake Club. The lake is not yet filled to “full pool” with current maximum depth of 10.5 feet.

Bass per 1 hr electrofishing by length category

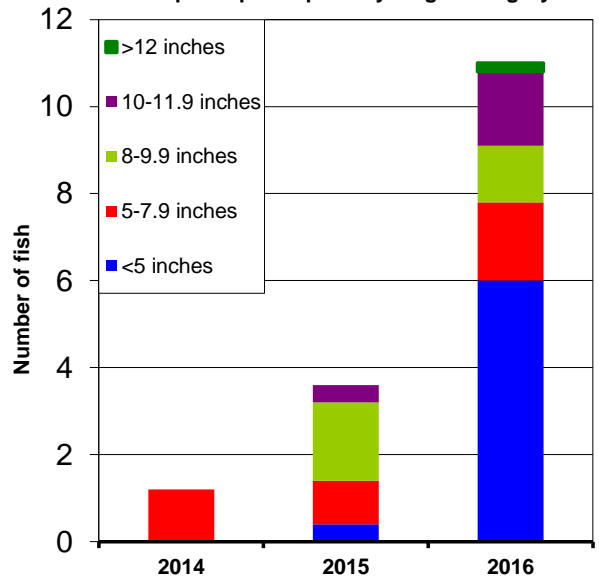


Bluegill per trap net by length category



Most lakes are sampled on a rotational basis so Clear was not sampled in 2017, but is on the schedule for 2018. Only two black crappie were sampled during the March 2016 frame netting. These fish were illegally introduced prior to our state stocking and quite possibly have been a hindrance to the establishment of our stockings. The larger bass were also a product of a well meaning but misguided angler. This fish population has struggled to take off when it should have boomed following a renovation. This early frame netting targets spawning perch, we would hope to see more than double this catch rate of fish over 5 inches. Due to time constraints we did not get back to sample in June, but anglers had excellent success for bass, bluegill and perch this fall. Ice anglers are currently catching quality bluegill and perch. The bass population looks good and will have their work cut out for them to control panfish numbers as aquatic vegetation returns to it's pre-carp quantities. Water clarity is excellent, it is once again “Clear Lake”.

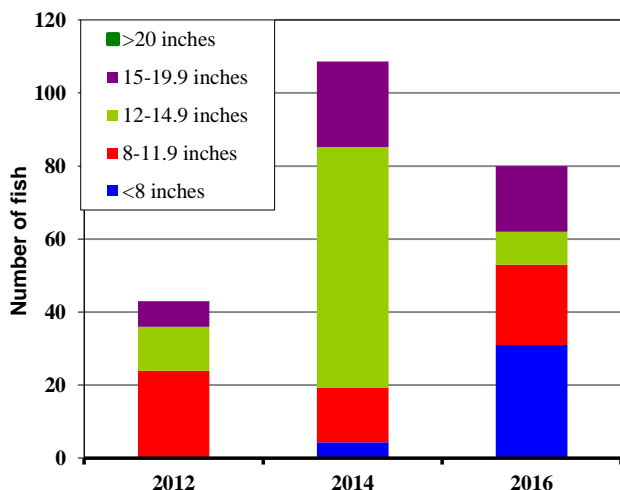
Yellow perch per trap net by length category



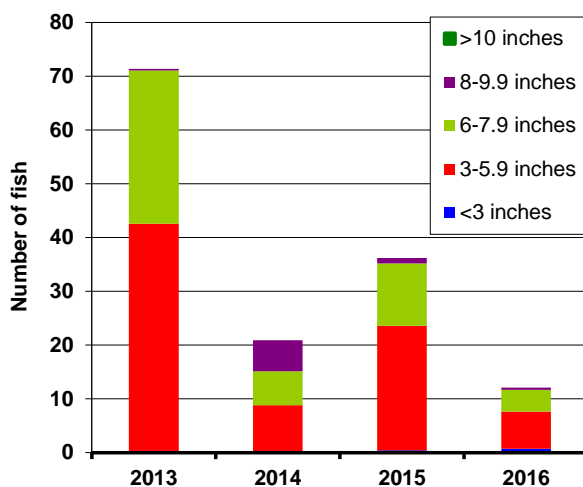
Cozad Lake

Cozad Lake is located approximately 12 miles south and 1 mile west of Long Pine. It is state owned and managed as a Wildlife Management 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 bar 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. 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.

Bass per 1 hr electrofishing by length category

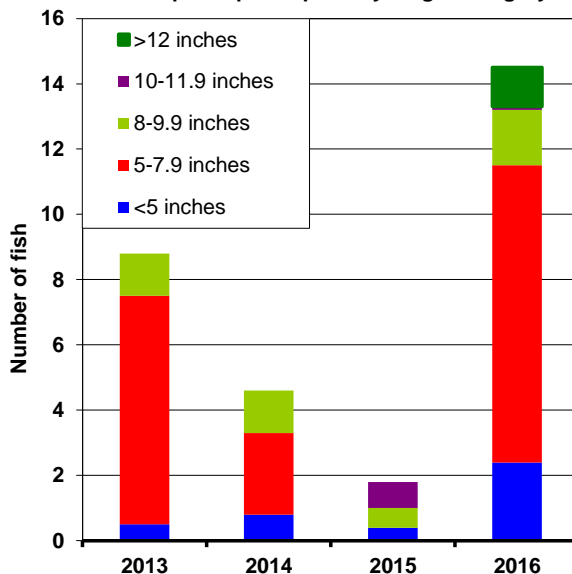


Bluegill per trap net by length category



This lake was not sampled in 2017. Perch frame netting was conducted the end of March of 2016 while bluegill and bass were sampled in June. Even though most size classes are represented for perch and bluegill, catch rates are very poor. Similar to some of the other sandhill lakes (Tower, Overton), the water level is currently quite low at Cozad which will limit fish production in the lake. 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. This ice season has been excellent for quality perch and some bluegill.

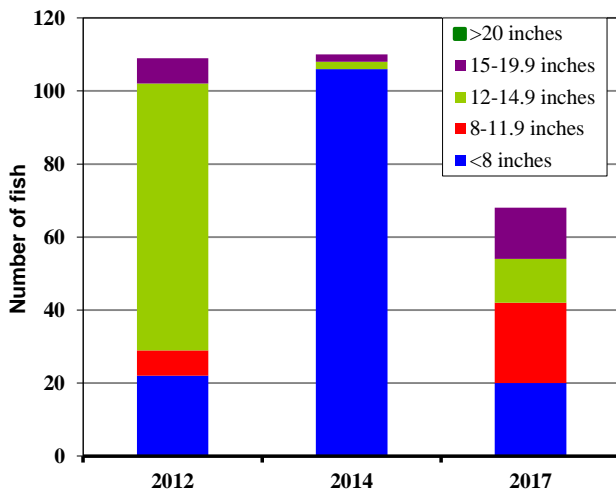
Yellow perch per trap net by length category



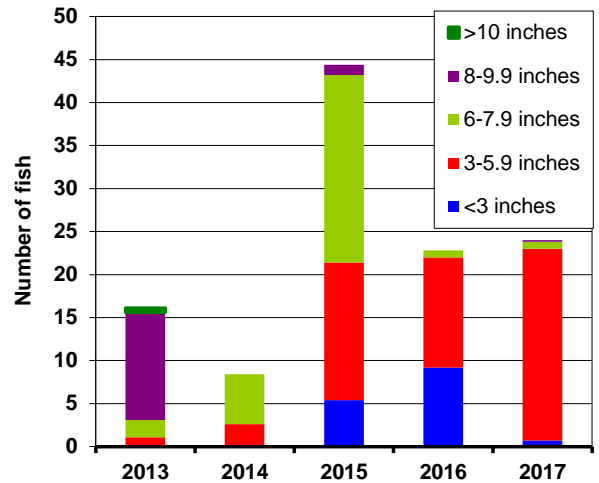
Goose Lake

Goose Lake is located approximately 23 miles south and 4 miles east of O’Neill. It is state owned and managed as a Wildlife Management Area. It is a natural sandhills lake which has seasonal inflow and outflow. These channels are diked with a screened flow though outlet structures. Carp re-entered in 2008 & 2010 during extremely high flooding event and they swam around these structures. In 2015 an infestation of Eurasian Water Milfoil completely 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. During wet seasons the area may not be accessible. Currently the lake is near “full pool” from a wet 2016. A renovation that was planned for the fall of 2017 has been postponed due to extremely high precipitation this spring. Water levels permitting it is currently scheduled to be renovated in the fall of 2019.

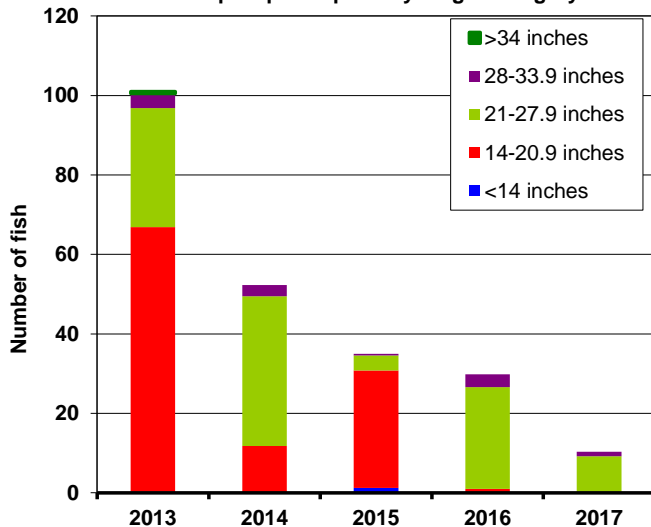
Bass per 1 hr electrofishing by length category



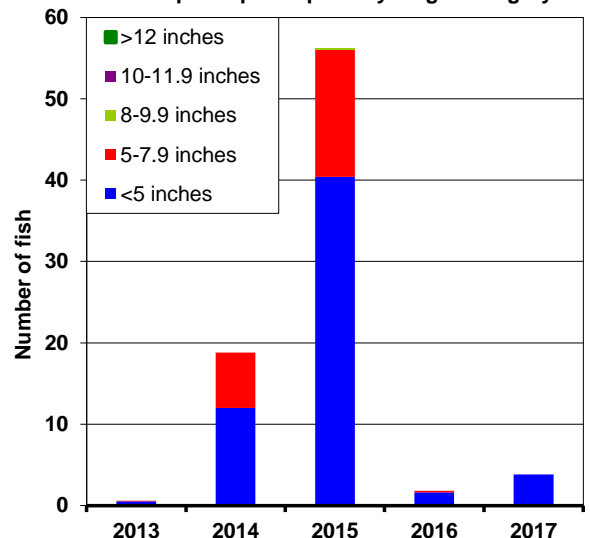
Bluegill per trap net by length category



Northern pike per trap net by length category



Yellow perch per trap net by length category

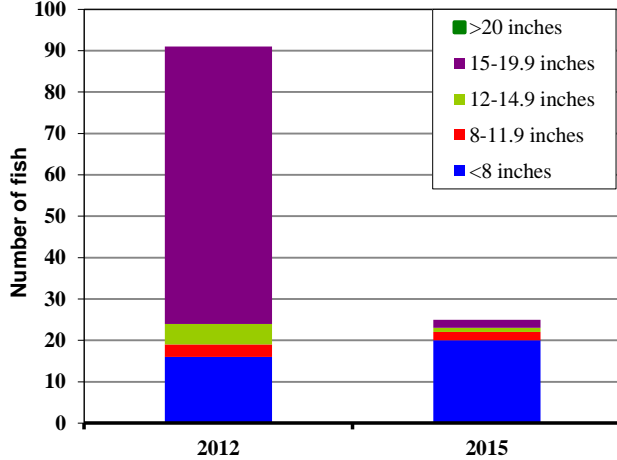


Frame netting was conducted in early March to target pike and perch. With the high carp densities in the lake all other fish species are in decline. Largemouth bass were collected by daytime electrofishing due to poor water clarity. Without a carp population in the lake it is capable of growing thick stands of native aquatic vegetation and supporting fast growing bass and panfish fishery. Fishermen are currently struggling to catch fish at this lake, previous renovations have provided fantastic fishing opportunities within 3 years.

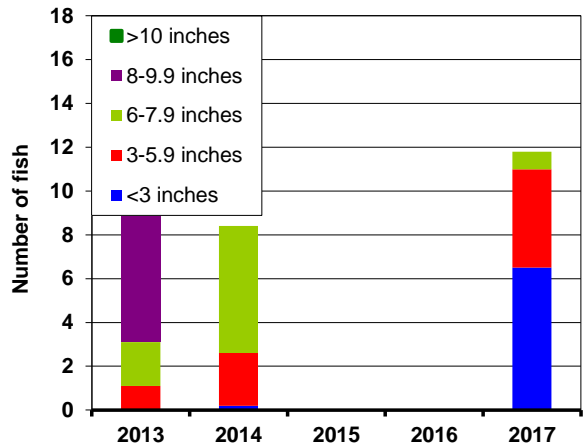
Swan Lake

Swan Lake is located 25 miles south of Atkinson and is a privately owned lake that is leased for public fishing access. It was renovated to remove carp in 2006 and they have not been sampled since, one made it to the east side of the outlet structure in 2010, but does not appear any were able to swim into the lake. In 2012 improvements were made to the berms and outlet to prevent carp from re-entering the lake following the renovation in September of 2006. Heavy fall rains this fall and a fairly wet winter has nearly filled the lake, this has not happened since 2012. The lake could fill another foot before running out the new emergency outlets. A primitive gravel boat ramp is located on the north side of the lake and a bank anglers can access a parking area directly across the lake on the south shore.

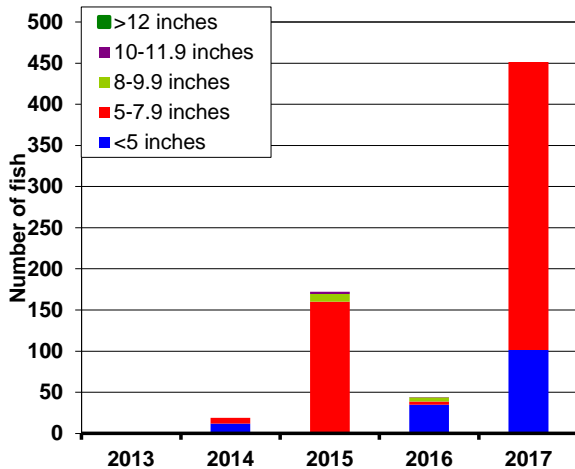
Bass per 1 hr electrofishing by length category



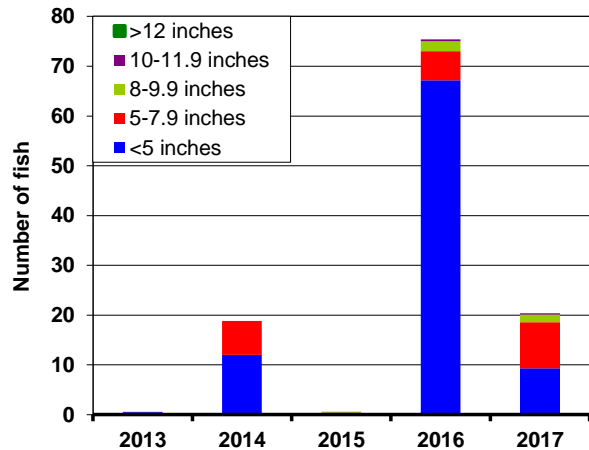
Bluegill per trap net by length category



Bullhead per trap net by length category



Yellow perch per trap net by length category

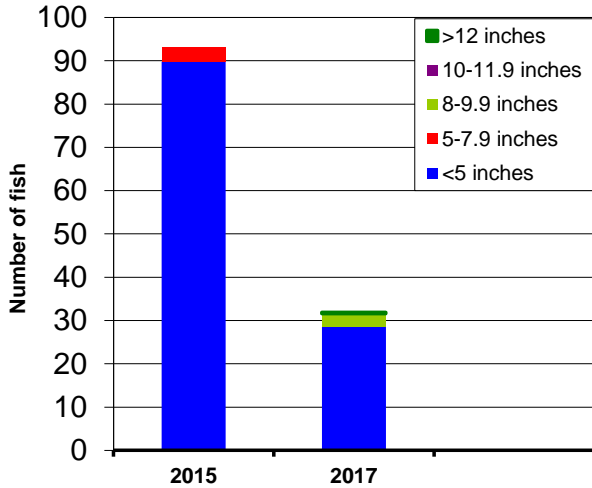


Fish populations in Swan are struggling due to water quality issues. A partial summer kill in 2009 along with 2014-15 partial, but substantial, winter kill has hindered establishing all game species. Bass sampling in 2015 collected mostly small fish and has not been sampled since. The black bullhead population has exploded and can be a hindrance for establishing aquatic vegetation as well as being a tremendous predator on small fish and eggs. No bluegill were collected in either the 2015 or 2016 frame net efforts but rebounded this year following restocking efforts in 2016. The perch population rebounded in 2016 but 90% were in the smallest size class. It appeared that some of those fish did recruit and contributed to the larger size classes observed this year. These panfish catches are most likely due to the stockings of over 250,000 bass, bluegill and yellow perch that were made in 2015-17 to supplement those fish populations. Stocking will continue, and be evaluated, to try to address the apparent recruitment issues that the fish populations in the lake are experiencing. Evidence of ice-fishermen can be seen on the lake this winter but no reports have been given.

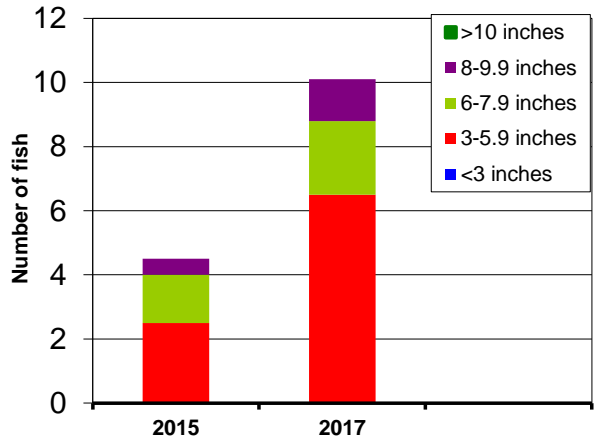
Tower Lake

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 and resulting poor access. The last bass survey was in 2014 which showed a high catch of fish from 15 to 20 inches. We found some 5 feet deep water while setting trap nets this spring.

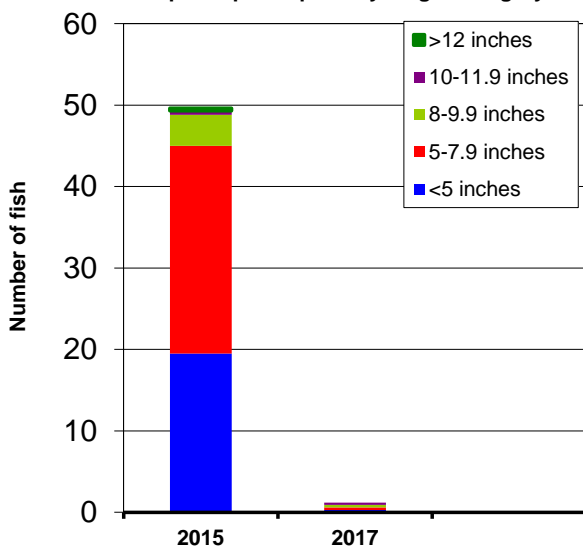
Black crappie per trap net by length category



Bluegill per trap net by length category



Yellow perch per trap net by length category

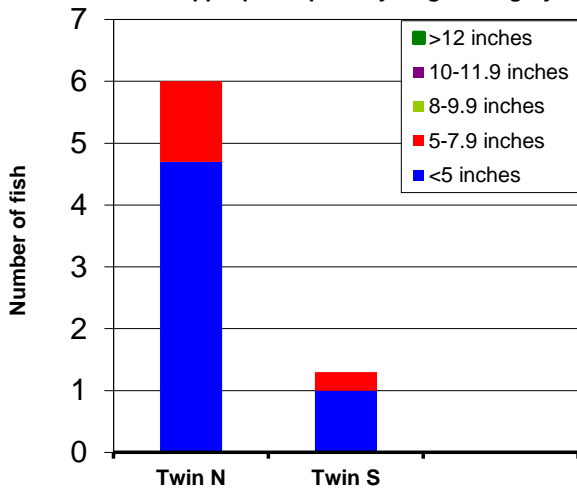


This lake has been on the short end of the stick for precipitation and did not reach "full capacity" following the very high back-to-back water years in 2010-11. Sampling has not been accomplished consistently due to water elevations. The lake was frame netted in mid-April and had an acceptable catch of crappie, but most of them were juvenile fish. Bluegill size structure was acceptable but catch could have been twice as high. We collected one perch, in every size-class. I don't know where these fish were hiding, but anglers have been having some success in the fall, as well as hard water fishermen. There was some success on larger bluegill through the ice as well.

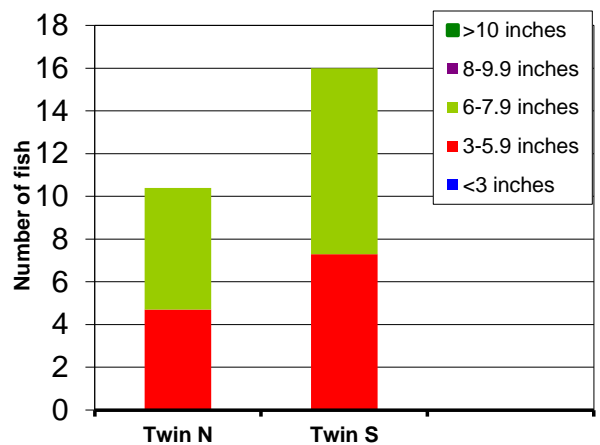
Twin Lakes

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 with average precipitation, but has only left that lake twice in the last 30 years. On those occasions water floods the county road to the west of each lake and flows out to the north-east, the last time was 2010-11. Currently the North lake is 6'6" max depth & the South is 5'6", both are nearly 3' to 4' below full pool. In April of 2015 we relocated as many adult bass, black crappie, yellow perch and northern pike to other nearby public fishing lakes. In March, 2016 both lakes and many small puddles in the watershed were renovated, the last couple marshes were renovated under the ice in February of 2017. 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, 2016 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.

Black crappie per trap net by length category

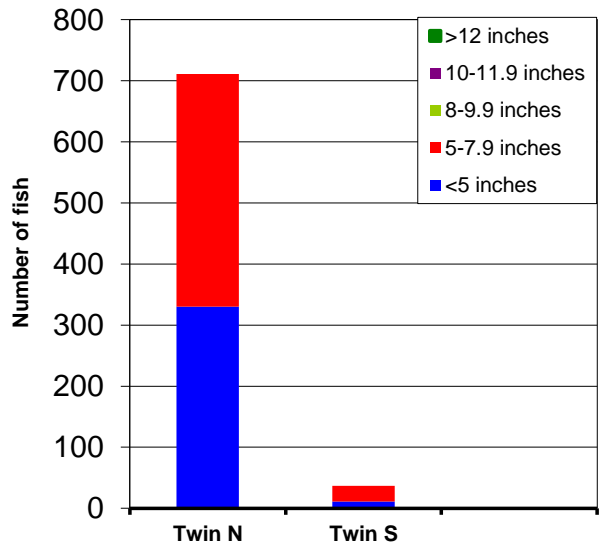


Bluegill per trap net by length category



Sampling was conducted in mid-April, 2017 to target perch, a later time frame could possibly see higher catches for crappie and bluegill. We would have liked to see a higher catch for perch in the south lake. With this summer's growth, these fish should be over nine inches, but there have been no reports of any success through the ice this winter. A handicap accessible concrete boat ramp and a vault toilet was installed at Twin South and a concrete ramp at Twin North. Both are accompanied by larger designated parking areas. These ramps are designed & located to be user friendly for vessels large and small. Funding was provided in part from the boat launch facility deferred maintenance & matching U.S. Coast Guard boating safety dollars.

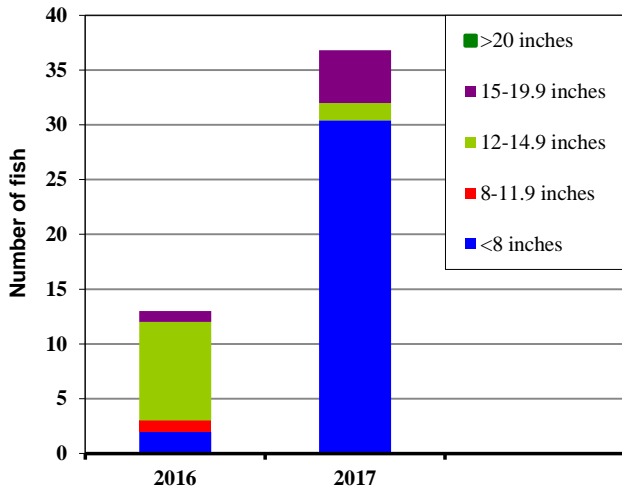
Yellow perch per trap net by length category



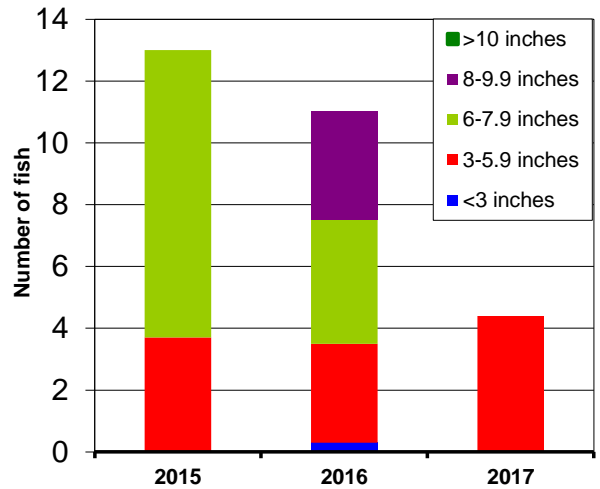
Willow Lake

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 raise in the lake level we were not successful in eliminating the carp population. Besides stockings of black crappie, yellow perch, bluegill and largemouth bass, walleye were added to provide an additional “toothed” predator to help limit carp recruitment. 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

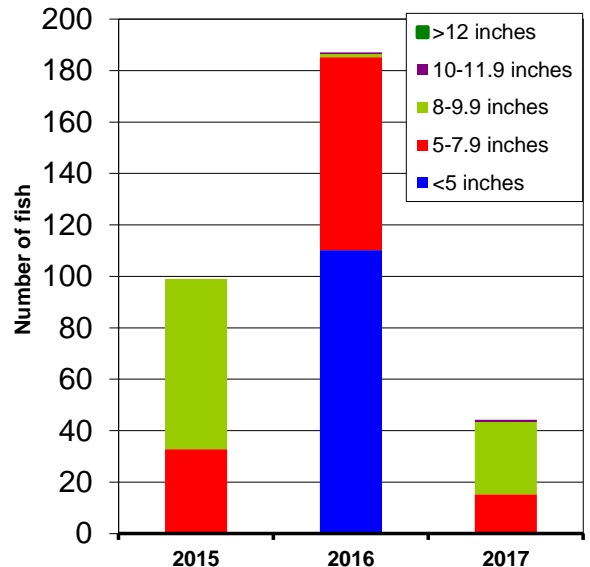


Bluegill per trap net by length category



Frame nets were set in mid-April, 2017 to target the perch population while electrofishing was conducted in mid-June to sample largemouth bass and assess any carp recruitment. Our bass catch was far below what was expected, but we did see a rebound in juvenile fish. Unfortunately, we sampled 642 carp in frame nets, all juvenile fish. Electrofishing collected 39 carp, only 2 were adults. We also collected 17 juvenile walleye, we hope these fish can help limit carp recruitment in the future. The original 2015 stocking should now exceed the state-wide minimum of 15 inches. Bluegill and perch size structures and catch declined from 2016, but a later frame netting would provide a better look at bluegill and crappie. Due to the presence of common carp, the future stocking of northern pike is being considered.

Yellow perch per trap net by length category



Peterson Lake

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 was frame netted in 2012 and electrofishing collected bass in 2013. The current pike population is composed of fish up to 36" but these fish are targeted heavily due to this lake being one of the closest pike fisheries to 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.

Attention motorboat owners operating in Nebraska:

Starting in 2016, boaters whose motorized watercraft are registered in any state other than Nebraska must purchase and display a \$15 Aquatic Invasive Species (AIS) Stamp each year they launch their boat in Nebraska. The stamp will help fund AIS education and inspection programs.



- Boat inspections for AIS prior to launch in Nebraska are NOT mandatory at this time.
- Personal watercraft registered outside of Nebraska must have this stamp.
- Non-motorized craft registered in any state are exempt from the stamp.
- Stamps are not required for boats registered in Nebraska. A \$5 AIS fee is included on the residents' three-year boat registrations.
- Residents who register their boats in other states must have this stamp before launching in Nebraska.

This stamp is available online at OutdoorNebraska.org
or at Nebraska Game and Parks permitting offices.

Learn more about invasive species at neinvasives.com.



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 biologist's time and fishermen's money is spent trying to control common carp. In the Northeast District, carp are still found in Long Lake SRA & Goose Lake as well as many private sandhills lakes. Carp swam back in Overton Lake from upstream sources, but we hope to renovate, when funding is available, all of the lakes in the watershed. An Aquatic Habitat Project on Valentine National Wildlife Refuge has installed water control structures that are also carp barriers. Over the next few years eight lakes will have rotenone treatments, all but 3 will have public fishing access. Future barriers and renovations on other sandhill lakes maybe possible with joint funding and other assistance from Ducks Unlimited, Sandhills Task Force, US Fish and Wildlife Service, NE Environmental Trust, NE Dept. of Environmental Quality, NE Game and Parks and possibly others. A study will be conducted to document the benefits of eliminating common carp from sandhills lakes.

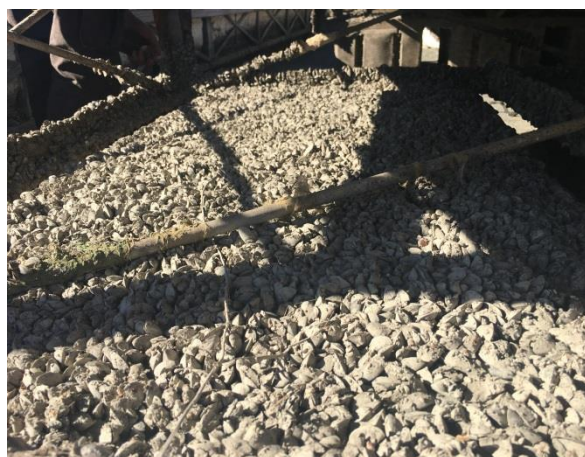
Eurasian Water Milfoil is an invasive species of aquatic vegetation that completely chokes out native plants. This plant can spread rapidly from a single fragment of stem or leaf which takes root and forms a new colony growing up to 2 inches per day. Once established, the plant can form dense surface 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 100 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



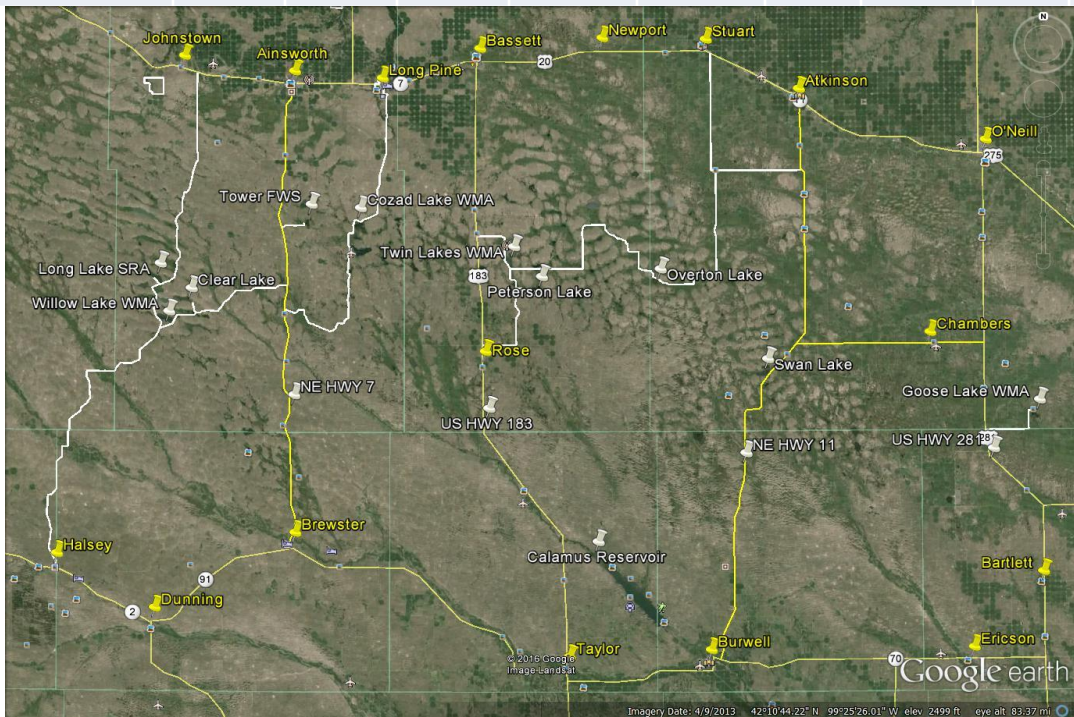
Eurasian Water Milfoil at Goose Lake 2015



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		YES	YES	NO				YES	
Primitive Boat Ramp	YES			NO	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 2016 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!