Northwest District Sandhills Lakes

2018 Survey Summary

Prepared By Joe Rydell- Fisheries Biologist

Introduction

The sandhills region of Nebraska is a unique geographical region comprised of stabilized sand dunes, exposed groundwater lakes in the valleys, and perched mineralized lakes on poorly drained soils. A few lakes are watered by artesian wells and springs while the majority of lakes depend on the water table and fluctuate with its seasonal levels. Most lakes in the sandhills region are either too shallow or too alkaline to support a long-term fishery. Sandhills lakes are typically shallow, vegetated, highly productive systems with fisheries that usually consist of yellow perch, bluegill, black crappie, largemouth bass, northern pike, black bullhead, and green sunfish. The following summary is for sandhills lakes with public access that were surveyed in 2018. Fisheries data from the Valentine NWR is also included in this report. An interactive map of lake locations and species composition can be found at http://maps.outdoornebraska.gov/fishing/.

Sampling Methods

Sandhills lakes typically get surveyed at least once every 3 years for each priority species. Largemouth bass are surveyed at night by electrofishing while shoreline oriented species (bluegill, crappie, yellow perch, and northern pike) are sampled using frame nets. A couple sandhill lakes have walleye or saugeye that get sampled by gillnets in the fall. Species collected during a survey are counted, measured, weighed, and some scales removed for aging before releasing them back. Biologists use this information to monitor the health and size structures of each fish population. The following graphs and commentary are from surveys conducted in 2018 with suggestions on which sandhill lakes should produce quality fishing for each species. Anglers are reminded they should not rely solely on what the surveys indicate as patterns of weather and timing of the surveys could have effects on catch rates for certain species. For example yellow perch and northern pike are sampled in late March or early April when they are moving into the shallows to spawn; this can happen relatively quickly even within a few days making sampling of these species in several waterbodies relatively difficult.

Sandhill Lakes Projects.

Beginning in 2018, extra sampling was conducted in conjunction with a big research project in the sandhills of Nebraska. The project is designed to evaluate the impact that invasive common carp have on water quality, vegetation, fish communities, and water bird communities. This project will examine both the effects of wetland and lake renovation (pre- and post-carp removal and/or exclusion) in addition to examining different levels of carp abundance on those parameters in non-renovated wetlands and lakes. A total of 24 lakes and wetlands will be studied including 17 with fish communities. These 17 lakes will be surveyed for multiple fish species annually for the next 3 years. This may take up extra time and some lakes not in the project may not get surveyed as often as normal until the project is complete. The Valentine National Wildlife Refuge Aquatic Habitat Project lake renovation schedule provides several opportunities to evaluate lakes with carp both pre and post renovation.

The first series of lakes on the Valentine Refuge were renovated in 2018. Pelican Lake was renovated during the first week in September using rotenone. Valentine NWR staff estimated over 20,000 adult carp were killed and only 5,700 game fish. This came out to over 240,000 pounds of carp in the 800 acre lake. Even during a record wet year, Pelican Lake was drawn down outside of the vegetation line to help facilitate a complete fish kill. Only time will tell if the renovation was a success. Once it was determined detoxified, Pelican Lake was restocked with bluegill, black crappie and yellow perch. Largemouth bass will be stocked in 2019.

During the first week in November, Whitewater and School Lakes were renovated. Although these two waterbodies are not open to fishing, they are interconnected to other fishing lakes down the line and must be cleaned out to prevent carp from re-infesting those lakes following a renovation. No fish are to be restocked into these two lakes. Renovations will continue in the next few years in Hackberry, Dewey, Clear and Willow Lake on the Valentine NWR. Contact fisheries biologists or Valentine NWR staff if you would like more information on the Valentine Aquatic Habitat Project.

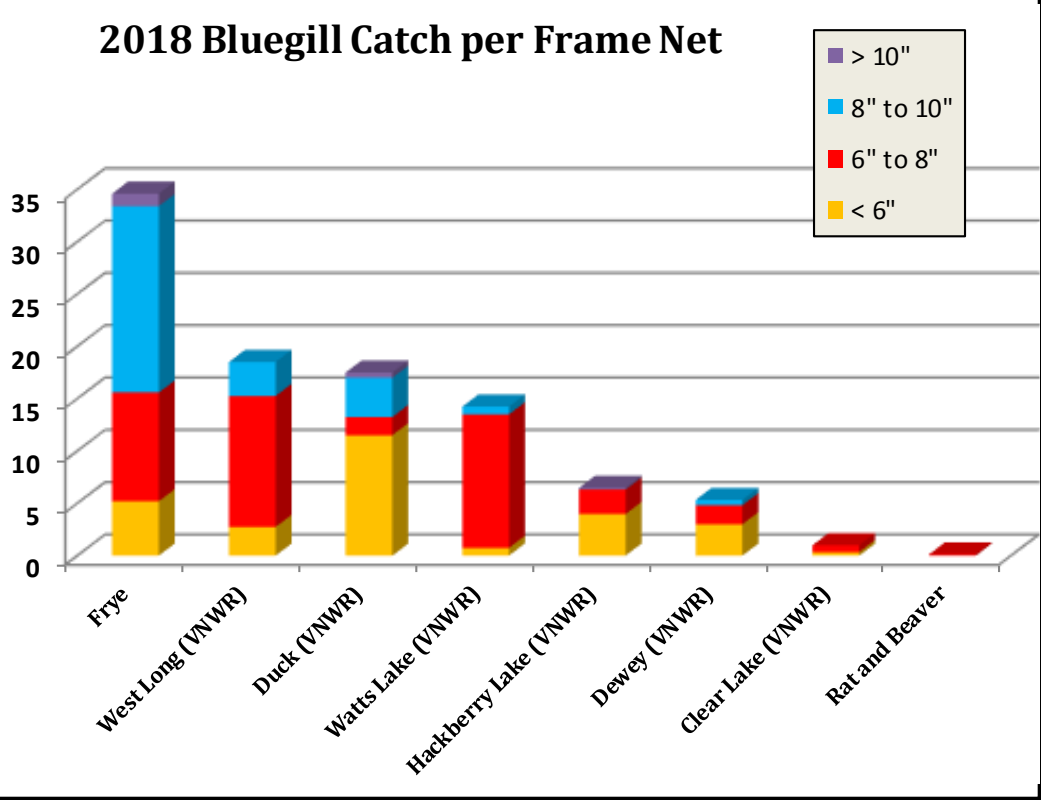
Bluegill:

Eight sandhill lakes were surveyed for bluegill in 2018. The best lakes to fish for bluegill are all carp free systems. Frye Lake had the highest density of bluegill at 34.6 fish per frame net. Over half the catch was over 8 inches long and several bluegill over 10 inches were captured.

Anglers fishing bluegill on the Valentine NWR should try West Long or Duck Lake. Both of these lakes had a good abundance of bluegill over 8 inches. Heavy fishing pressure has reduced the big bluegill off these lakes but anglers may still encounter an occasional fish over 10 inches. Watts Lake was recently renovated in the spring of 2015 and the bluegill are doing well. Some bluegill are already over the 8 inch mark and in excellent body condition.

Smith Lake Wildlife Management Area in Sheridan County was not surveyed for bluegill in 2018 but should produce some excellent fishing in 2019. With the infestation of the invasive curly leaf pondweed in Smith Lake, summertime fishing can be difficult. Anglers should fish early (March—April) before the curly leaf reaches the surface or late summer (after July) when the curly leaf dies back. Remember to remove all vegetation from your boat, trailer and fishing equipment before leaving the boat launch facility to prevent the spread of curly leaf to other lakes.

Anglers fishing from the bank seeking bluegill should consider Island Lake or Walgren Lake as both of these lakes have fishing piers. Shore fishing on most sandhill lakes is challenging due to abundant vegetation and is best approached with waders or a float tube.



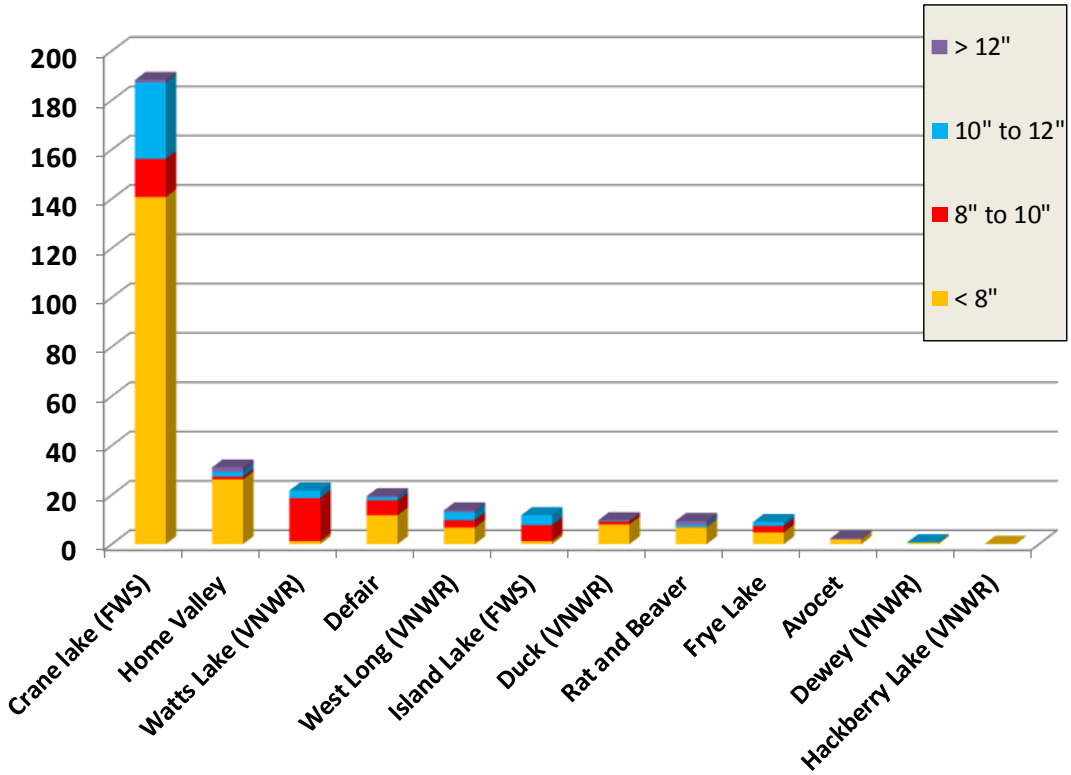
Yellow Perch

Yellow perch are one of the most sought after panfish species in the sandhills. Yellow perch are aggressive most of the year making them a great species to start new anglers on. These highly productive lakes have the potential to grow perch between 12 and 15 inches if they can evade anglers long enough. Perch harvest over the past few years has removed most of the larger perch in the public sandhills lakes.

Crane Lake on the Crescent Lake National Wildlife Refuge had the highest density for perch of the lakes surveyed in 2018 with 188 fish per frame net. Although most of the perch were less than 8 inches long, 17% of the catch was over 10 inches with some over 12 inches. Crane Lake is only open to fishing from November 1st until February 15th during daylight hours. With the high water in the Sandhills this year, access trails to Crane may be closed to vehicle travel. Contact the Crescent NWR office for updates on the trail status.

Anglers looking for big perch should try Home Valley. Although most perch are under 8 inches, Home Valley will be the best bet at finding some perch over 12 inches. Access to Home Valley is allowed via ATV across the ice surface of Cottonwood and Steverson Lakes. Angler wanting to hike across the ice will expect a 2.3 miles trip or 1.75 miles if traveled across the hills to reach the lake.

Frye Lake, Island Lake, Defair, West Long and Watts Lake all had good catchable numbers of perch over 8 inches. These will be the best bet for anlgers looking for some good eating size perch in 2019.

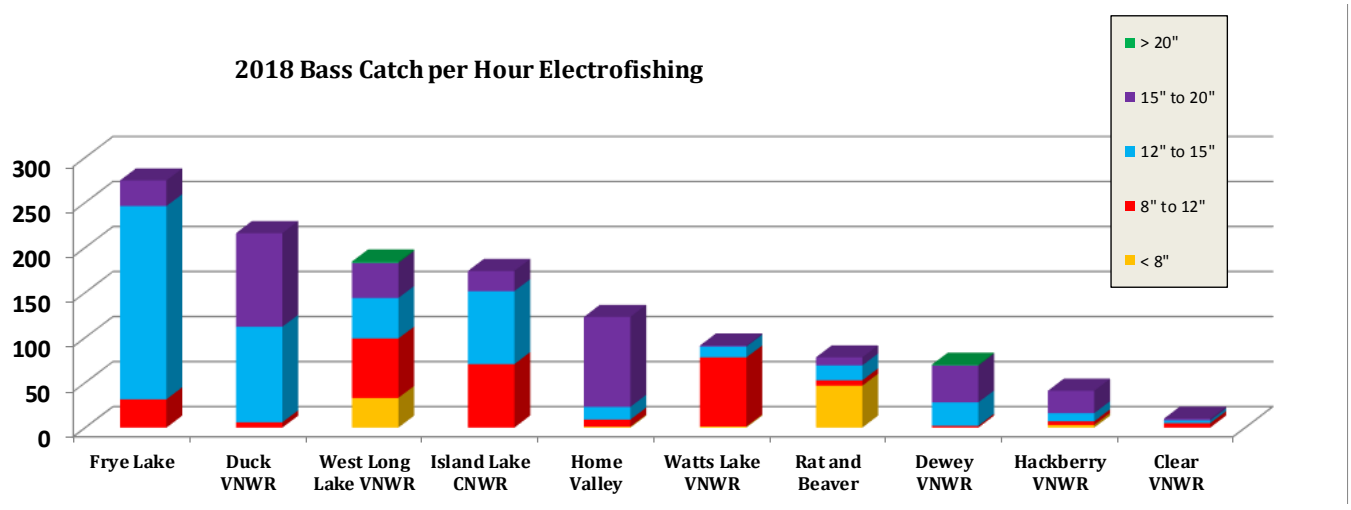


Largemouth Bass:

The new sandhills research project provided an opportunity to get a good assessment of largemouth bass populations in several lakes in 2018. Ten lakes were surveyed for bass in 2018. Frye Lake had the highest density of largemouth bass at 274 fish per hour electrofishing. Although most fish were between 12 and 15 inches, anglers can find some bass over 15 inches. Bass numbers were excellent in most sandhill lakes but some have noteworthy populations. On the Valentine NWR, Duck and West Long had high densities of bass with great size structures and plenty of fish over 15 inches. The biggest bass on the Valentine Refuge were sampled in West Long and Dewey where fish over 20 inches were collected. Island Lake on the Crescent Lake NWR has come on as one of the best bass fisheries in the panhandle with a catch rate of 174 fish per hour electrofishing. Although the average size bass sampled was 12.4 inches, fish up 19.7 inches were collected. Several angler reports suggest that it will be possible to catch a master angler in Island Lake in 2019.

Home Valley is a tough lake to access in the summer but may be worth the extra effort and adventure. A big year-class of bass in Home Valley are ranging from 15 to 17.5 inches. Anglers willing to hike in to fish with a float tube, waders, or drag a kayak over the hill from Cottonwood Lake are likely to find good bass success and most likely the lake to themselves. Although not surveyed in 2018, anglers targeting bass should also try Smith Lake WMA or Avocet WMA. Both of these lakes should produce bass over 15 inches in 2019. Blue Lake is a unique bass fishery as it has both largemouth and smallmouth bass. Largemouth bass made up the majority of the bass population, however the smallmouth were in good condition with most fish just under 15 inches during the last survey conducted in 2016. Due to high water and good spring flows, the access trail to Blue Lake was closed all year in 2018. Contact the Alliance District office prior to fishing Blue Lake for trail updates.

Largemouth bass can be caught year-round in the sandhills but the best fishing times are typically early in the year as they concentrate in the shallows getting ready to spawn. Popular spring baits include spinner baits, jigs, or plastic worms and creature baits. As the summer progresses, and vegetation increases, anglers can have great success using weedless topwater baits. Try fishing plastic worms and creature baits hooked weightless and weedless. Topwater baits such as frogs, mice, and hardbaits work great in open pockets around dense vegetation.



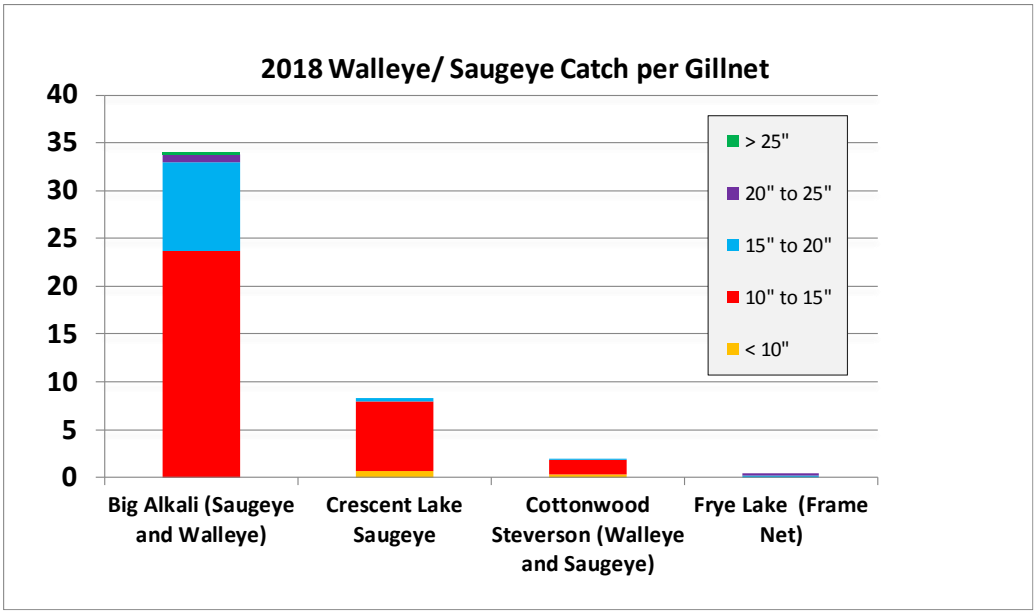
Walleye & Saugeye:

Frye Lake, Cottonwood-Steverson WMA, Home Valley, Big Alkali, and Island Lake all contain fishable walleye populations. Crescent Lake WMA was stocked with sauger in 2013, and 2014 . In 2015 walleye and sauger stockings were replaced with saugeye in Cottonwood-Steverson WMA, Big Alkali, and Crescent and Blue Lake was added to the list starting in 2017. Saugeye is a hybrid between a walleye and a sauger. These fish seem to be more shoreline oriented and Fall electrofishing surveys indicate excellent survival in these sandhill lakes. However, saugeye are not showing up in the gillnet surveys in Cottonwood-Steverson and may not be surviving long term. In 2018 stockings for Cottonwood-Steverson switched back to walleye.

Big Alkali had the highest catch in 2018 of 34 fish per gillnet consisting of both walleye and saugeye. Thirty percent of the catch was over the minimum size limit of 15 inches. Crescent Lake had a saugeye catch of 8.33 fish per gillnet. These fish are growing slower than the average walleye would in a sandhill lake and are still shorter than 15 inches after their 3rd growing season. If saugeye don't improve in abundance or growth rates, walleye may be stocked instead in the near future.

Cottonwood-Steverson is a popular sandhill lake to fish for walleye. Gizzard shad were introduced in 2017 into Cottonwood-Steverson to create a pelagic prey base with hopes to boost body condition and survival for walleye and saugeye. Current abundance remains low with a fall gillnet catch of 2 fish per net in 2018.

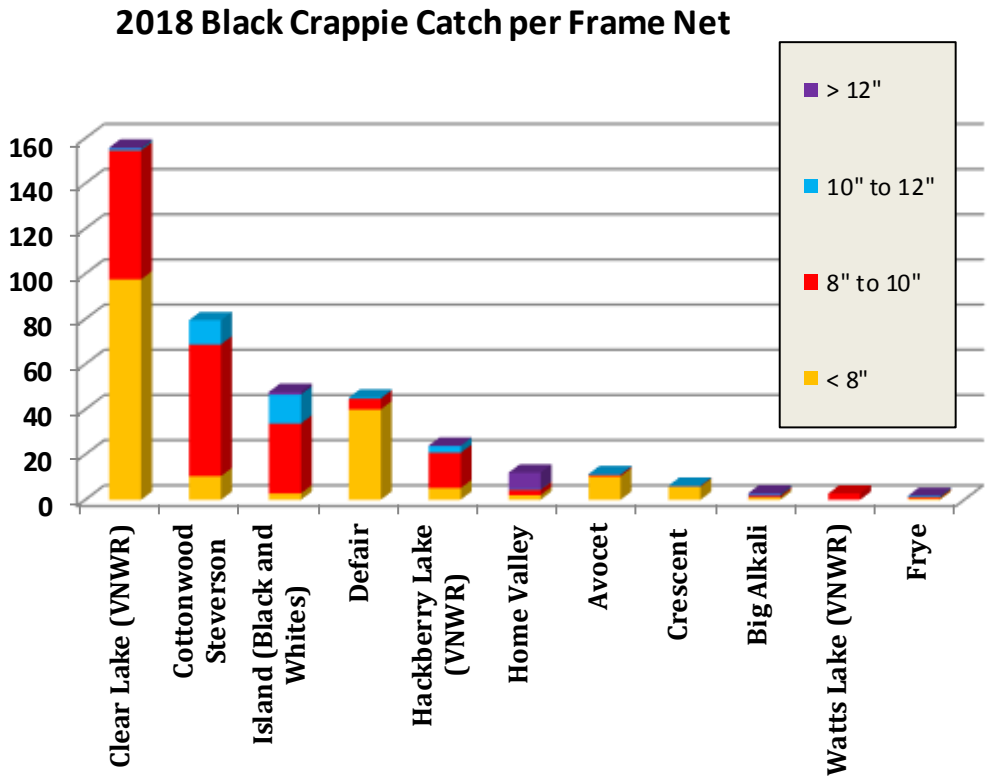
Island and Blue Lake were not surveyed for walleye or saugeye in 2018. Island Lake had a good walleye catch in 2017 with a catch rate of 9 fish per gillnet. Anglers targeting walleye in Island had fair success in 2018.



Crappie:

Clear Lake on the Valentine NWR had the highest density of crappie in 2018 with 156 fish per frame net. However, nearly all of the catch was less than 10 inches. Cottonwood Steverson had the second highest density in 2018 with 79.5 fish per frame net. After introducing gizzard shad into these lakes in 2017, body condition on crappie has improved. The average size crappie in Cottonwood Steverson was 8.8 inches with 13 percent of the catch over 10 inches.

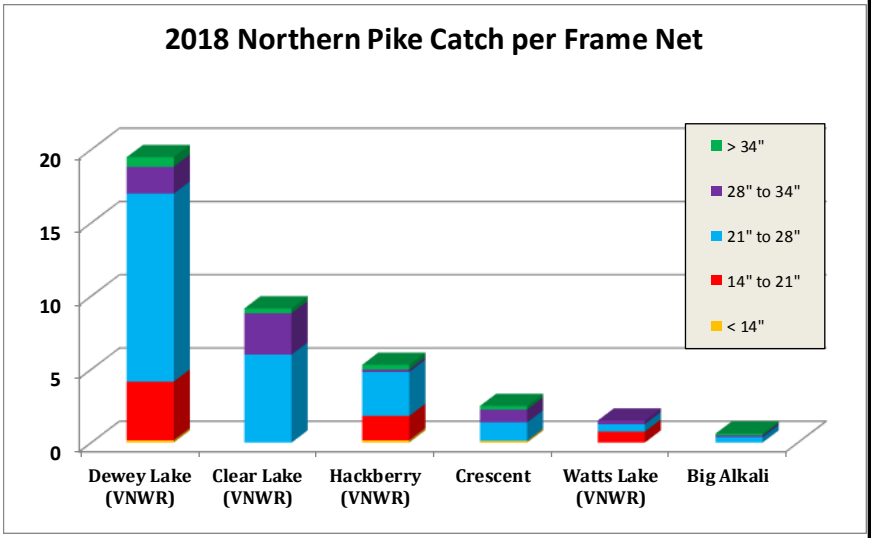
The biggest crappie surveyed in 2018 came from Home Valley. Most of the catch was over 12 inches with an average size of 11 inches. The largest crappie sampled were over 13 inches. Island Lake on the Crescent Lake NWR is another fishery worth mentioning for anglers targeting crappie. The Island Lake population consists of both black and white crappie with a catch rate of 48 fish per net. Not only does this lake have a good size structure with some fish over 12 inches, but it also is one of the best sandhill lakes for bank access. Water levels in 2018 were extremely high and the south fishing pier has been underwater. However, bank fishermen can still find good access from the metal barge access point on the west side of the lake.



Early May is the best time of the year to target crappie in the sandhills. Fishing small jigs, inline spinners, beetle spins, and minnows on a bobber where live baitfish are allowed are all popular methods for catching crappies.

Northern Pike:

Northern Pike were sampled in six sandhill lakes in 2018. The Valentine NWR will be the top destination for pike anglers in 2019. Most carp lakes still have healthy populations of northern pike. Dewey Lake had the highest abundance with 19.5 fish per net and an average size of 23.4 inches. Almost all pike surveys documented some northern pike over 34 inches. An Aquatic Habitat project is in place on the Valentine NWR and will work on eliminating common carp. Pelican Lake was renovated in 2018 and Hackberry is planned for 2019. Although, these two lakes will be managed for panfish and wont be restocked with pike, northerns will be restocked in the lower lakes (Dewey, Clear, and Willow) following those renovations in the near future.



Cottonwood State Recreation Area, Blue Lake, Walgren, Ballards Marsh WMA and Smith Lake WMA also have fishable pike populations.

The northern pike daily bag limit regulation for sandhill lakes will change in 2019 to a 3 fish daily bag of which only one fish may be over 34 inches total length. This regulation will also be in effect on the Valentine NWR lakes.

Top: Nice pike sampled from Smith Lake WMA.

Right: Healthy pike sampled at Crescent WMA.

Invasive Species

Over the past several years invasive species have become a rising concern in Nebraska. In 2015, a new regulation was established to help prevent the spread of invasive species via boats and trailers. The new regulation states: 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. Zebra mussels were first documented in Nebraska in 2006 at Offutt Airforce 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. Carter Lake is also a suspect lake where veligers were sampled. No evidence of these mussels has been discovered in any other lakes sampled.

Aquatic vegetation such as curly-leaf pondweed and Eurasian water milfoil are also invasive species present in Nebraska. Both of these plants 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.

DRY-Allow all equipment to dry completely before launching into another body of water.

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

Pictured Left: Photo of curly leaf pond weed at Smith Lake Wildlife Management Area

Attention motorboat owners operating in Nebraska :

Boaters whose motorized watercraft are registered in any state other than Nebraska will be required to display a $15 Aquatic Invasive Species Stamp each year they boat in Nebraska.

This stamp will help fund Aquatic Invasive Species education and inspection programs.

- Note that boat inspections to launch in Nebraska are NOT mandatory at this time.
- This applies to all *motorized* watercraft. Non-motorized craft are exempt.
- Personal watercraft (Jet Ski, Wave runner, Sea Doo, etc.) are required to have this stamp.
- Boats registered in Nebraska pay the fee via their registrations and are exempt from displaying the sticker.

This stamp is available online at

www.outdoornebraska.org

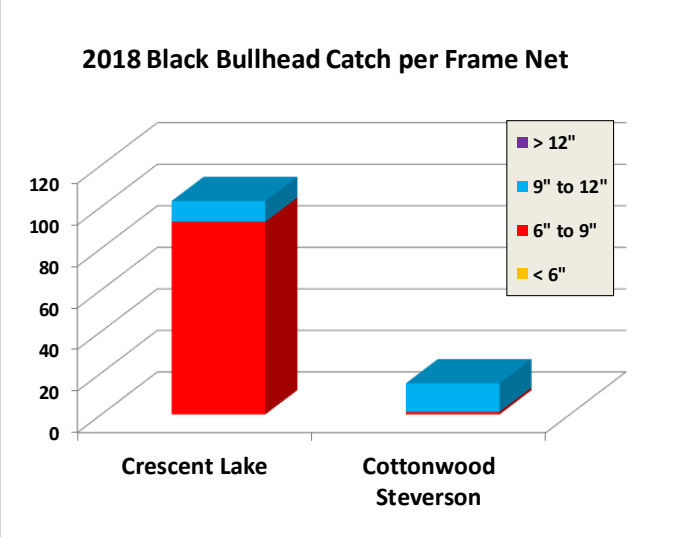
and at some agency offices.

Learn more about invasive species at www.neinvasives.com.

Other Species

Green sunfish and black bullheads are two native species to the sandhill region of Nebraska and several lakes provide fishing opportunities. Crescent Lake had the highest abundance of bullheads in 2018 with 102 fish per frame net. Most of these bullheads were just under 9 inches.

Common carp are plentiful in many sandhill lakes and can cause undesirable impacts to the fisheries. Anglers are encouraged to fish for and keep carp from sandhill lakes. Contact the local fisheries offices for tips on where to look for these species.



Both Cottonwood- Steverson WMA and Crescent Lake have been stocked with muskellunge. Crescent has only had one year of stocking, but Cottonwood-Steverson has a good musky population with some fish over 40 inches.

Top: 13inch bullhead from Crescent Lake

Left: 47 inch musky surveyed in Cottonwood– Steverson in 2018.

For additional information about fisheries management in the sandhills please contact the following personnel by phone or email address 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