

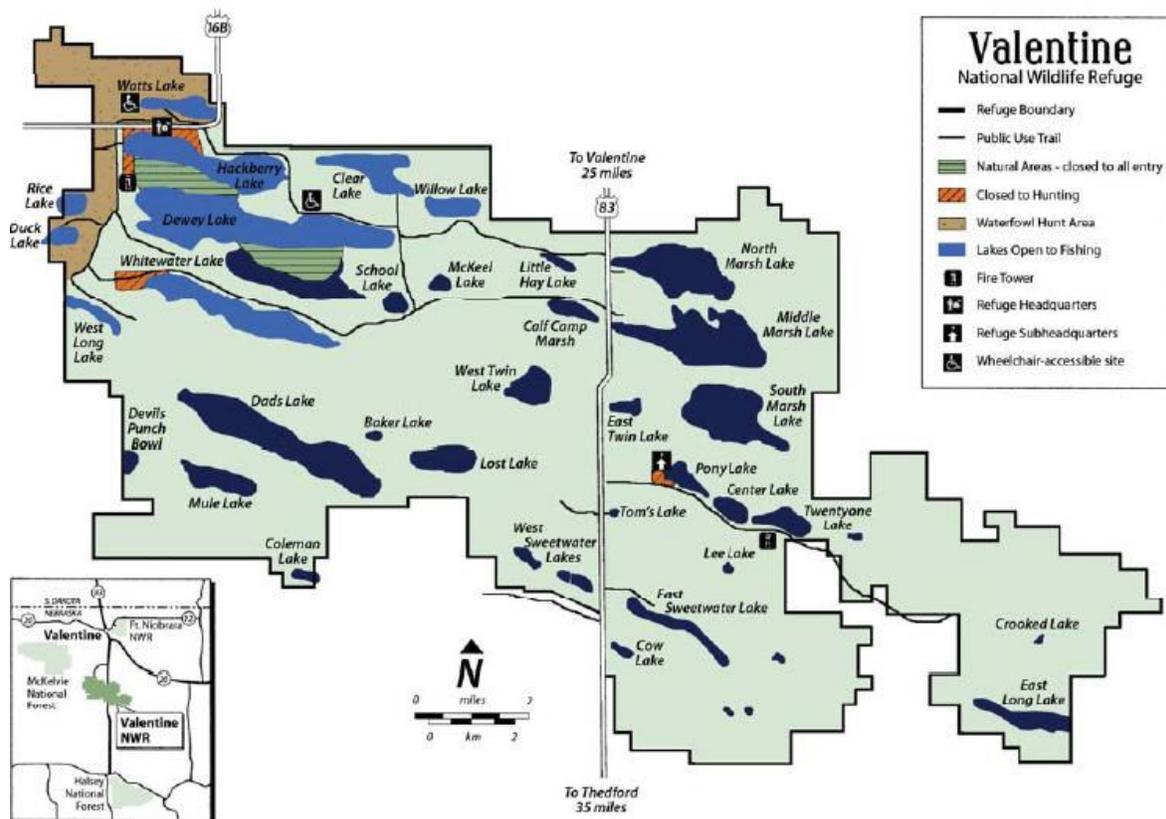
Valentine National Wildlife Refuge

2017 Fish Survey Report

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The Valentine National Wildlife Refuge (VNWR) is 71,516 acres in size. The refuge was established in 1935 to protect a portion of the Sandhills and provides a resting, feeding, and nesting area for migrating waterfowl. Lakes, marshes, mid and tall grass prairie, and meadows provide habitat for many species of wildlife. Public recreation including hunting and fishing is promoted. Management of the fisheries is defined in a Cooperative Agreement between the U.S. Fish and Wildlife Service (USFWS) and the Nebraska Game and Parks Commission (NGPC). NGPC manages the lakes for recreational fishing in cooperation with the USFWS. The VNWR contains 39 lakes of which 9 of them are open to fishing. Some of these lakes are too alkaline to support fish and a majority of the lakes are very shallow and can be heavily vegetated which makes them susceptible to frequent winter-kills and summer-kills. Those lakes that are open to fishing are: Watts, Hackberry, Dewey, Clear, Willow, Rice, Duck, West Long, and Pelican. Fish species found in these lakes include largemouth bass, bluegill, yellow perch, northern pike, black crappie, grass pickerel, black bullhead, and common carp. Fishing is permitted on the refuge from 1/2 hour before sunrise to 1/2 hour after sunset. The use of internal combustion motors is prohibited on all Refuge lakes. Boats propelled with oars, paddles, or electric motors may be used. The possession or use of live or dead minnows and the possession of any fish not taken from Refuge waters is prohibited. Frozen or dead smelt may be used as bait.



Map of the Valentine National Wildlife Refuge south of Valentine, Nebraska with lakes open to fishing shown in the light blue (image credit: <http://www.visitvalentine.com/Attractions/VRefuge.aspx>).

Survey Methods

Nebraska Game and Parks personnel took over fish population surveys on the VNWR in 2014. Prior surveys were conducted by USFWS personnel out of the Pierre, SD office. Biologists use electrofishing to target largemouth bass at night and common carp during the day. Frame netting surveys are used to target shore oriented species such as bluegill, yellow perch, black crappie, and northern pike. Once these fish are collected they are weighed, measured and a few scales are removed to determine the age of the fish and evaluate growth compared to other lakes. 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 this species in several waterbodies relatively difficult.



Frame net set at Dewey Lake to target northern pike in late March

Bluegill

Bluegill are one of the major species found throughout all of the refuge lakes that are open to fishing. These fish are targeted year round and draw anglers from all over the country in search of a bluegill exceeding 10 inches in length.

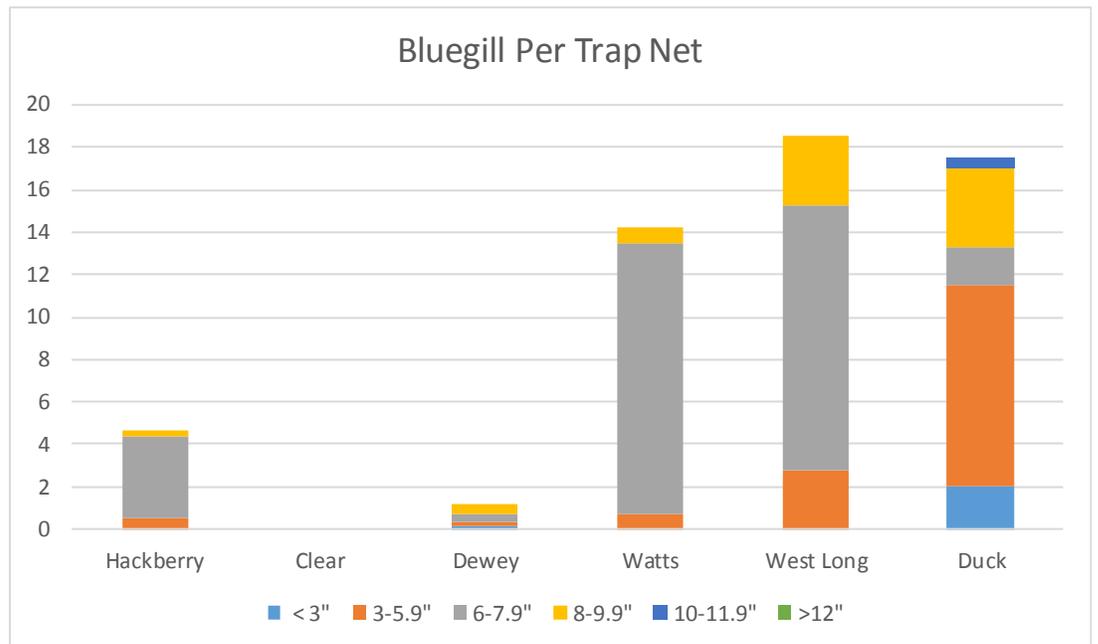
Although densities of bluegills in these

systems are lesser when compared to lakes in the eastern part of the state, they are very productive and bluegill grow relatively fast in these environments.

In 2018, 6 of the 9 lakes open to fishing were sampled for bluegill densities and lakes on the VNWR with no common carp and low or pike free lakes are the lakes that produce more bluegill. West Long Lake had the highest catch rate of 18.5 fish per net although Duck Lake was a close second with a catch rate of 17.5 fish per net and had a better size structure of bluegill. The largest bluegill sampled came out of Duck Lake and measured 263 mm (10.3 inches). In the West Long bluegill population 17% of the fish sampled were over 8 inches in length and 24% of the Duck Lake bluegill were over 8 inches. Watts Lake came in third with 14.25 bluegill per net. This lake was renovated in 2015 and is still building but these fish are growing fast and this lake should reach its potential in the next year or two.

Panfish Regulations: Bluegill, Yellow Perch, Crappie, Green Sunfish, Etc. Bag limit of 15 fish in combination and a possession limit of 30 fish.

New Regulation 2019: Effective January 1, 2019, the daily bag limit shall include only five bluegill of which only one fish can be 10 inches or greater in length at Pelican lake.



Black Crappie

Black crappie are another panfish species present on several of the lakes on the VNWR.

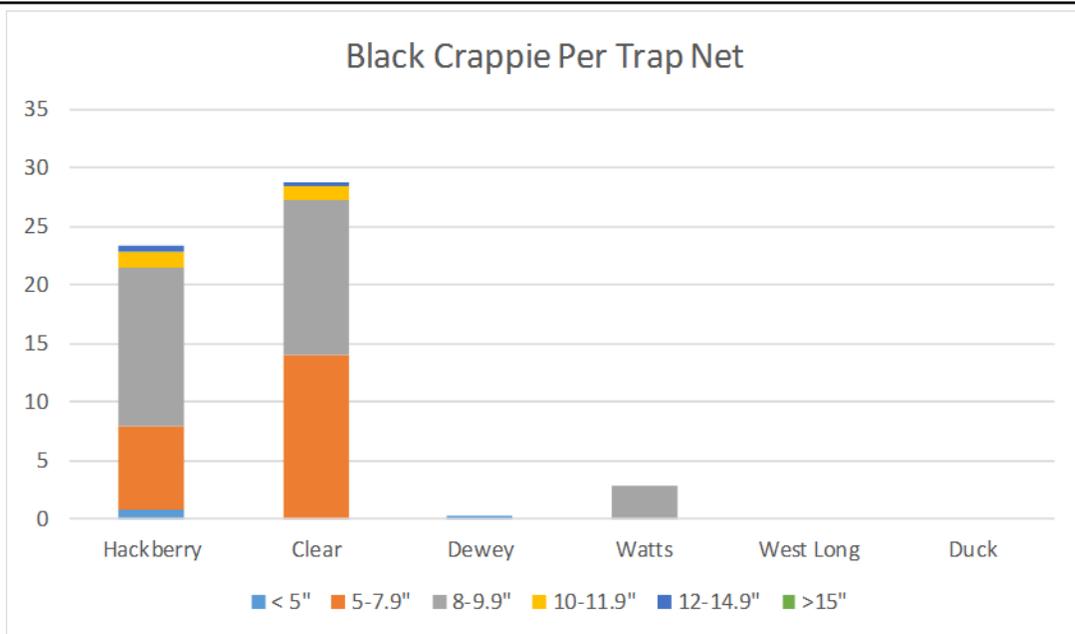
These fish provide additional opportunities for anglers and seem to persist in the presence of common carp.

Crappie populations exist in Hackberry, Clear, Watts, and Dewey where they were

sampled for the first time in 2018. Black crappie were also stocked in Pelican Lake post renovation (2018). The highest populations of crappies were sampled in Clear Lake (28.8 fish per net) and Hackberry Lake (23.3 fish per net). Hackberry Lake was never stocked with black crappies but since their introduction in 2011 have recruited into the fish population. Anglers are reminded it is illegal to transfer fish from one body of water to another. Both crappie populations in Clear and Hackberry are mostly made up of fish between 5 and 10 inches although there are a few fish exceeding the 12 inch mark.

Crappie are usually targeted during the spring spawning period by throwing small jigs and fake minnows around submergent vegetation but also can be targeted through the ice if you are lucky enough to find a school of actively feeding fish.

Panfish Regulations: Bluegill, Yellow Perch, Crappie, Green Sunfish, Etc. Bag limit of 15 fish in combination and a possession limit of 30 fish.

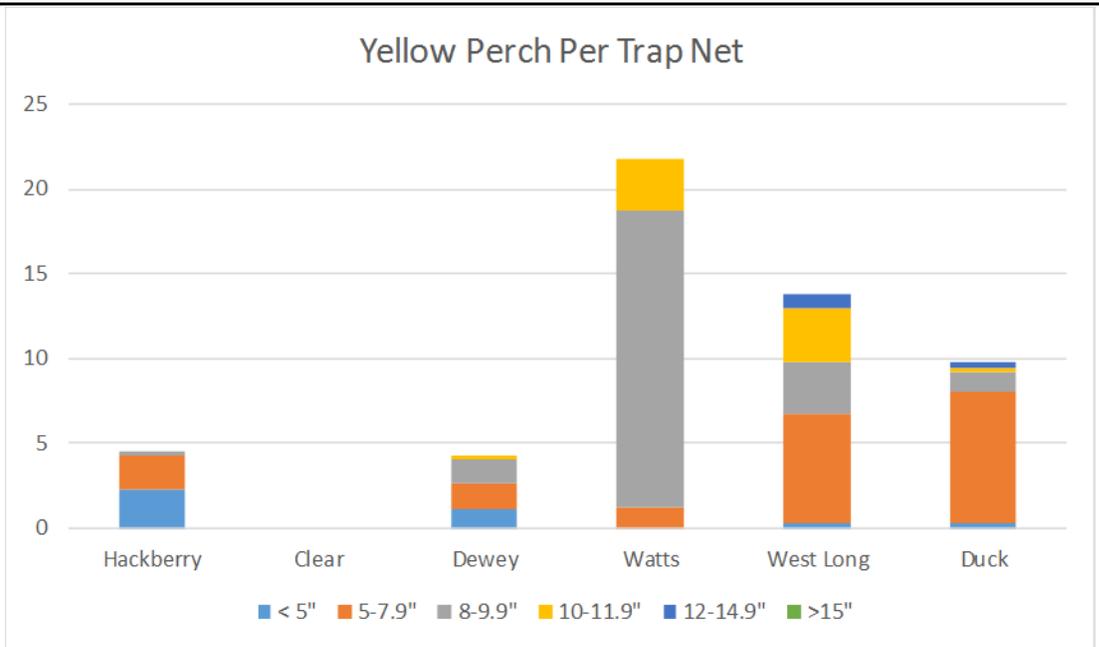


Black Crappie sampled at Watts Lake 2018

Yellow Perch

Yellow perch are by far the most targeted fish on the VNWR especially during the ice fishing season. These fish are very aggressive and very good table fare. Anglers are reminded to use selective harvest of these fish populations which can be very vulnerable to over harvest. Watts Lake had

the highest population of perch sampled (21.75 fish per net) but as mentioned earlier this lake was renovated in 2015 and is still building a strong population of yellow perch. The yellow bar shows fish in the 10-12 inch range although most of these fish sampled were under 11 inches in length. West Long Lake still has a pretty good perch population despite the fishing pressure it has received over the past couple seasons. West long had a catch rate of 13.75 yellow perch per net and also had the largest perch collected measuring 326 mm or 12.8 inches. There are probably some bigger perch in West Long they just weren't sampled in 2018.



Panfish Regulations: Bluegill, Yellow Perch, Crappie, Green Sunfish, Etc. Bag limit of 15 fish in combination and a possession limit of 30 fish.

Northern Pike

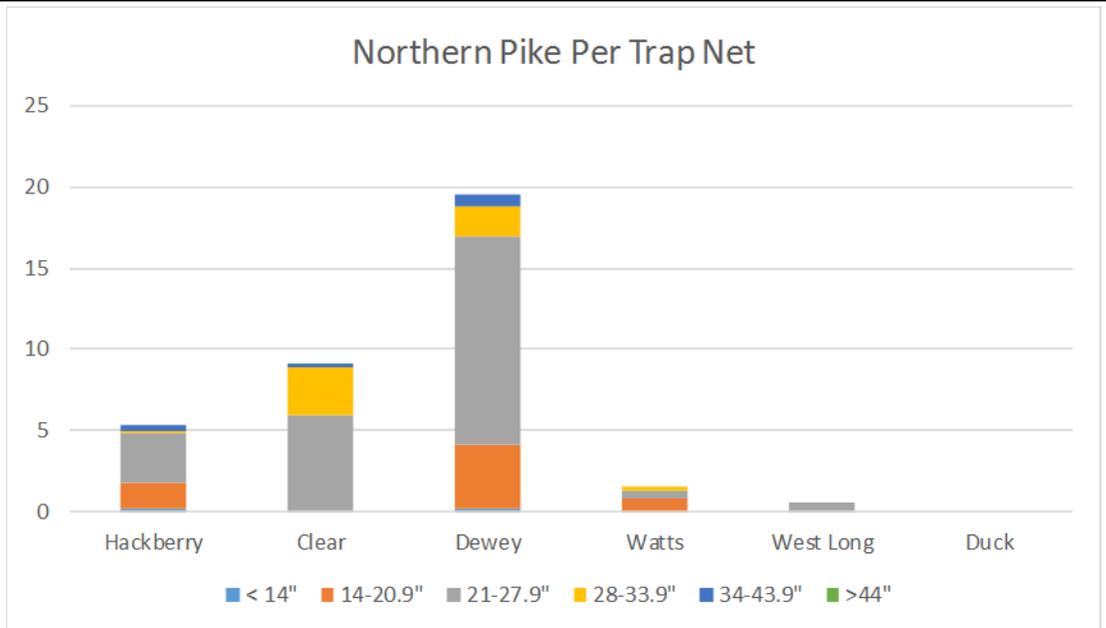
Northern pike are another fish present at the VNWR that many anglers come to fish for both during the spring and summer months as well as during the winter months through the ice.

Northern pike are managed on the refuge as a sport fish and also as a

management tool for common carp control. Common carp control is a high priority from both USFWS staff and NGPC staff. Northern pike fishing opportunities will still exist across several of the lakes open to fishing on the VNWR once these systems are renovated to remove common carp.

Northern pike are sampled in mid to late March when these fish are venturing into spawn on the shallow vegetation of these lakes so anglers are reminded to not necessarily rely on the graphs for populations of these fish. The spawning of these fish can happen relatively quick within a few days and sometimes the peak of the spawn is missed with netting operations. In 2018 surveys indicated the highest density of pike at Dewey Lake with a catch rate of 19.5 fish per net. Approximately 65% of the pike population is made up of fish between 21 and 28 inches in length although a few fish were sampled over 34 inches. The largest pike sampled came out of Clear Lake in 2018 and measured 1006 mm or 39.6 inches in length (pictured below).

New Northern Pike Regulations: Daily bag limit of 3 fish with a possession limit of 10 fish. The daily bag limit shall include not more that one fish 34 inches or greater in length.



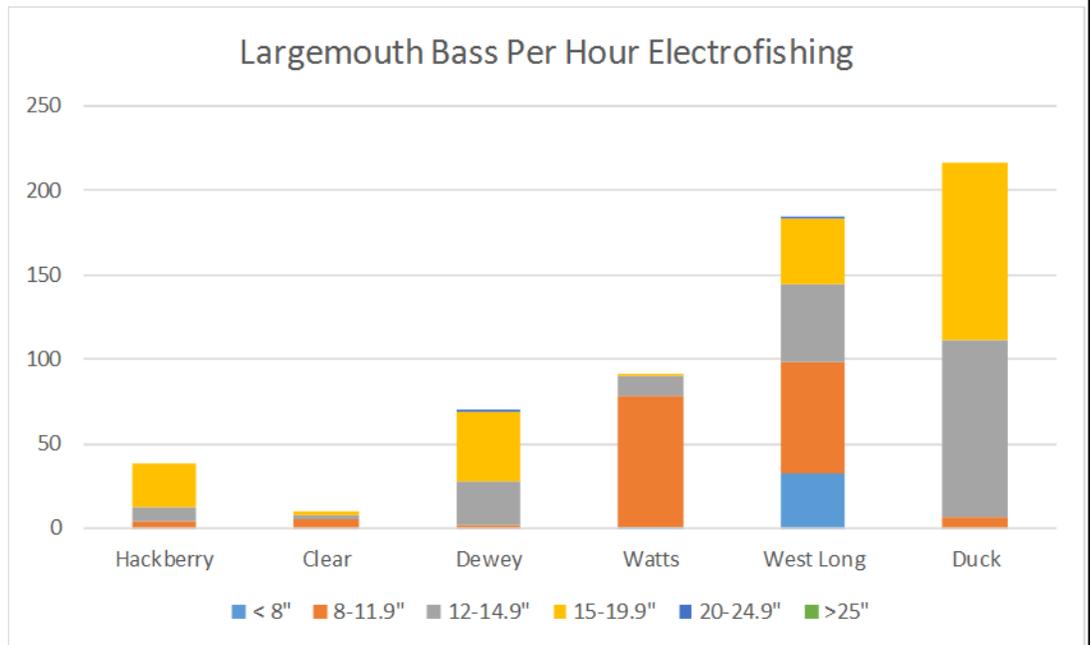
Largemouth Bass

Largemouth bass like other species of fish flourish in these productive systems. Small fish, birds, insects, frogs, and a number of other things allow these fish to grow extremely well and provide anglers opportunities at catching some very healthy bass. Anglers usually target these fish during the

open water periods before the lakes become heavily vegetated although fishing for them on top of the vegetation casting weedless spoons and frogs can be rather exciting.

All nine lakes open to fishing on the VNWR have bass populations. However, these fish also do better when no common carp are present. The highest bass population in 2018 was at Duck Lake with a catch rate of 216 per hour electrofishing and 48 percent of the fish collected were between 15 and 20 inches. West Long came in second on catch rates with 184.5 fish per hour electrofishing. West Long also showed an excellent size structure of fish caught with 5 of the 6 categories sampled. The biggest largemouth bass observed in 2018 was a 23 inch bass in Dewey Lake which weighed approximately 7.5 pounds (pictured right).

Largemouth Bass regulations: Daily bag limit of 5 with and possession limit of 10. The daily bag limit shall include no more that one black bass 21 inches or greater in length.



Aquatic Habitat Plan Phase II

Over the past several years there has been a lot of work completed on the portion of the refuge that contains the nine public fishing waters. Area users have seen improvements on the roads and angler/boater access and recently dredging of channels to improve movement of water between lakes and the installation of carp barriers. Of the nine fishing lakes, four are currently free of common carp, those being Duck, Rice, West Long and Watts with the latter recently renovated in 2015. The overall goal of this large interagency project is to eliminate common carp from this segment of the refuge with work starting in the upper part of the watershed and proceeding downstream.



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 USFWS 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 at Hackberry, Dewey, Clear, and Willow Lake on the Valentine NWR. Contact fisheries biologists or Valentine NWR staff if you would like more information on Valentine Aquatic Habitat Project.



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) 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 and haven't been sampled since), Lewis and Clark Lake (2015), Lake Yankton (2017), Glen Cunningham Lake (2018) and below Gavins Point Dam in the Missouri River. 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. 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.



For more information on fisheries management or activities on the Valentine National Wildlife Refuge contact:

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

Al Hanson (NGPC Manager) or Joe Rydell NGPC Biologist, (308) 763-2940 al.hanson@nebraska.gov, joe.rydell@nebraska.gov

Juancarlos Giese (USFWS refuge manager), (402) 376-1889 Juancarlos_giese@fws.gov

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, Waverunner, 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.

From the “Buy A Permit” page, look for this link:



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