Valentine National Wildlife Refuge

2016 Fish Survey Report

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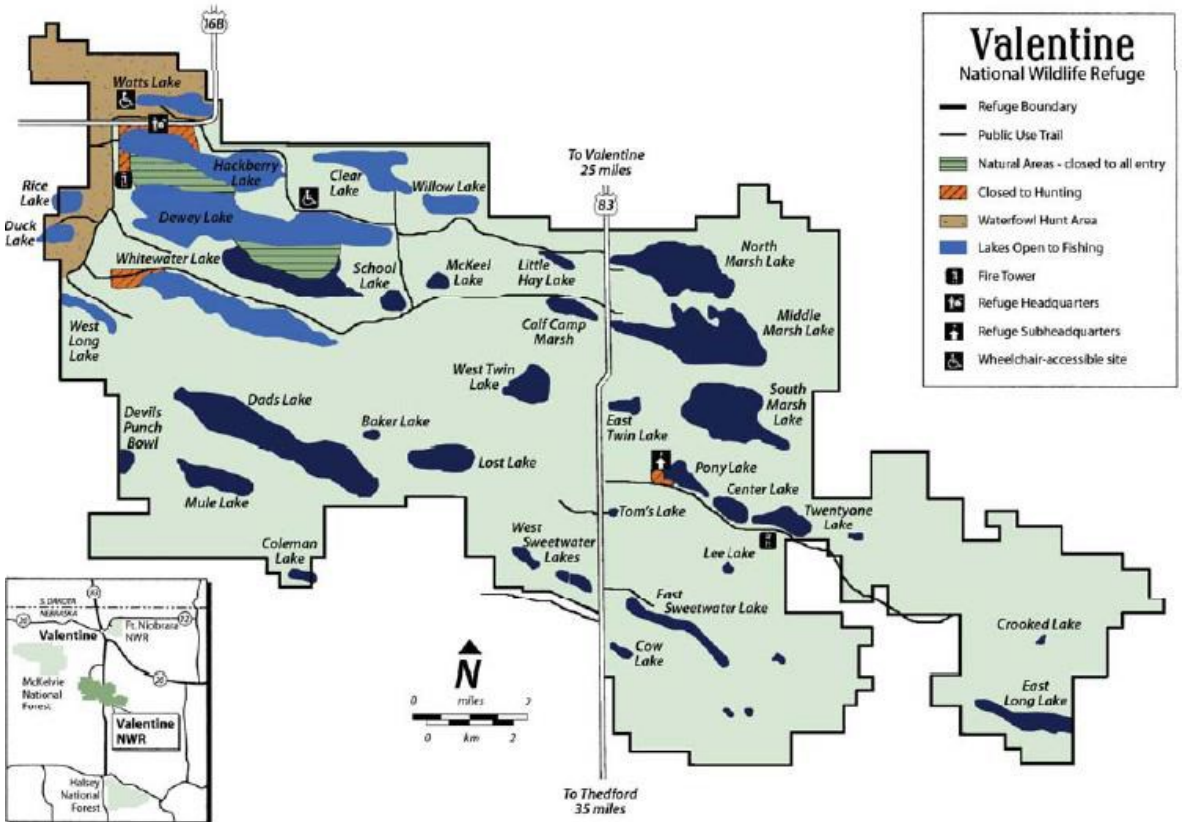
The Valentine National Wildlife Refuge (VNWR) is 71,516 acres in size. The refuge was established in 1935 to protect a portion of the Sandhills and provides a resting, feeding, and nesting area for migrating waterfowl. Lakes, marshes, mid and tall grass prairie, and meadows provide habitat for many species 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).

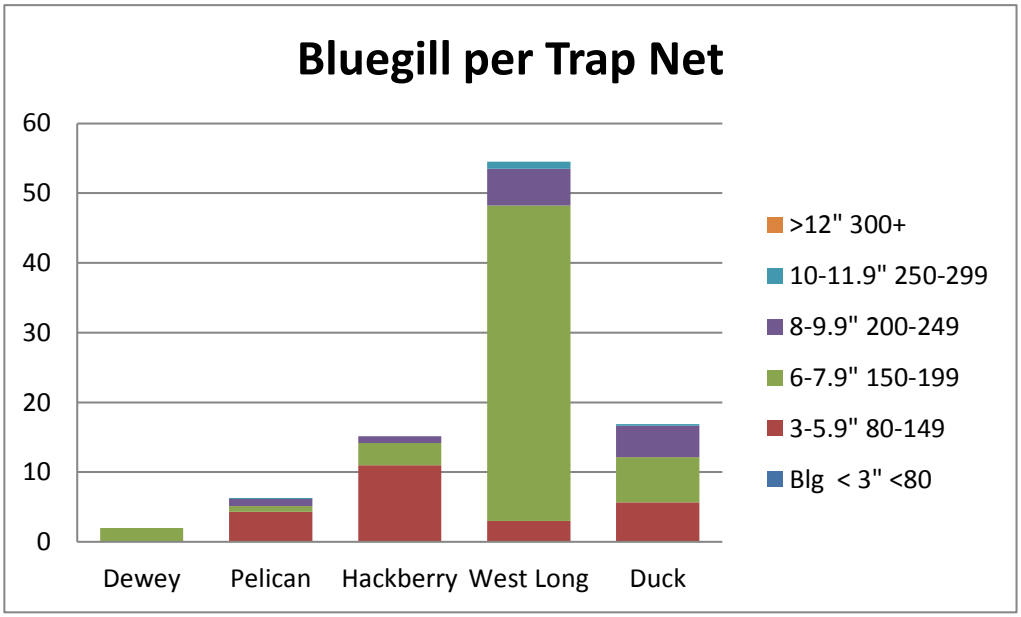
Survey Methods

Nebraska Game and Parks personnel took over fish population surveys on the VNWR in 2014. Prior surveys had been 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.

NGPC personnel measure a common carp at Pelican Lake

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

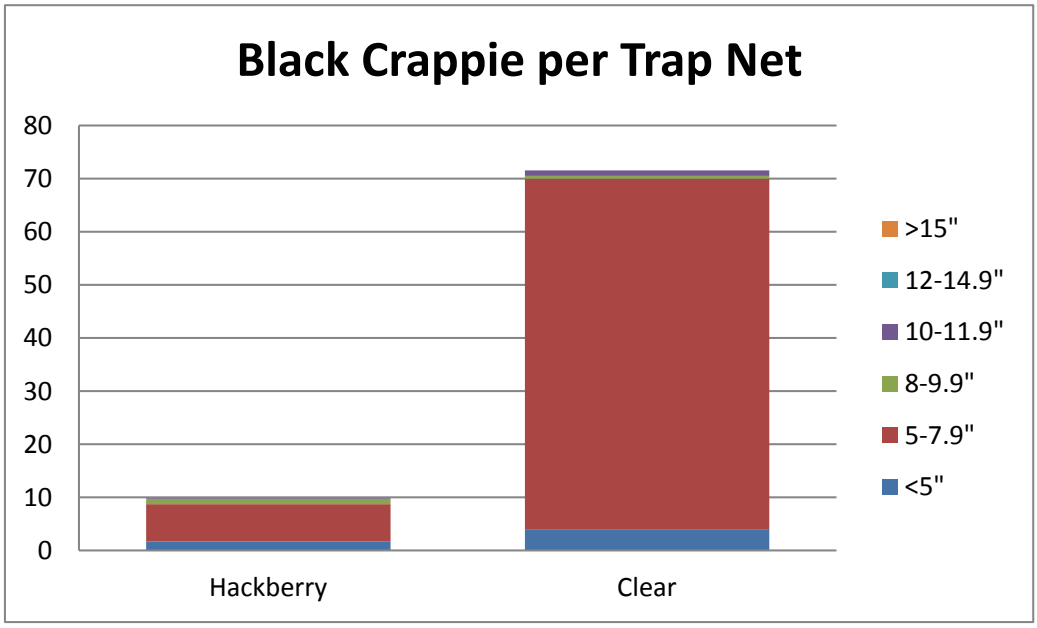
Bluegill



Bluegill are targeted year round by anglers and people often travel to the VNWR in search of trophy bluegill over ten inches. Although densities are lower these aquatic systems are highly productive and have the potential to produce trophy bluegill. In 2016, five of the nine lakes open to fishing were surveyed for bluegill. As can be seen from the graph, West Long had the highest density of bluegill with a catch rate of 54.5 fish per net. Approximately 81% of the bluegill sampled were between 6-7.9 inches although 1 fish over the ten inch mark was caught per net. The next highest abundance occurred at Duck with at catch rate of 16.91 fish per net and 28% of the fish sampled there were over 8 inches. Hackberry and Pelican lakes should not be overlooked as reports of big bluegill come from these lakes each year usually during the ice fishing season. The largest bluegill sampled during the 2016 surveys came from Pelican lake and measured 10.8 inches.

Anglers typically target these fish through the ice although fishing can be fun at times during the spring and summer months utilizing a small boat or waders.

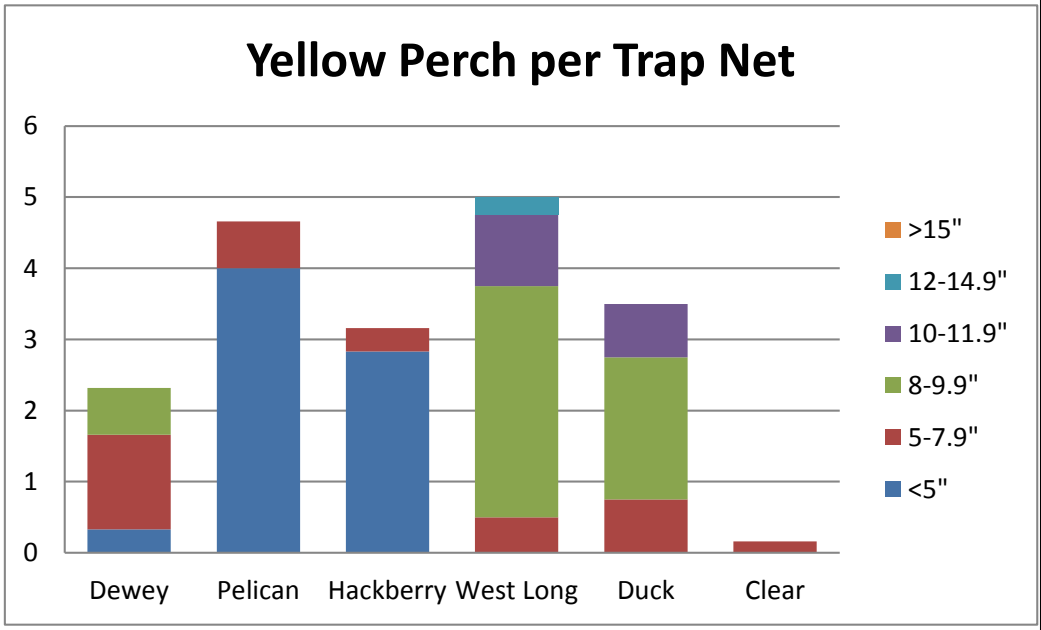
Black Crappie



Black crappie are present in three lakes on the VNWR (Hackberry, Clear, and Watts). These fish provide an additional panfish opportunity for anglers and seem to persist in the presence of common carp. Higher water levels in Clear Lake over the past several years has provided additional spawning habitat and in return strong year-classes of 5-7.9 inch fish are contributing to the population. Although they were never stocked, a few crappies were collected in the 2011 surveys at Hackberry and have continued to increase in abundance. Anglers are reminded that is illegal to transfer fish from one body of water to another. Even though the crappie population in Hackberry is mostly made up of fish in the 5-7.9 inch range, fish over 12 inches exist such as the one pictured below.

Anglers should target these fish with small jigs that represent small baitfish such as bluegill which is a primary prey item for these fish.

Yellow Perch

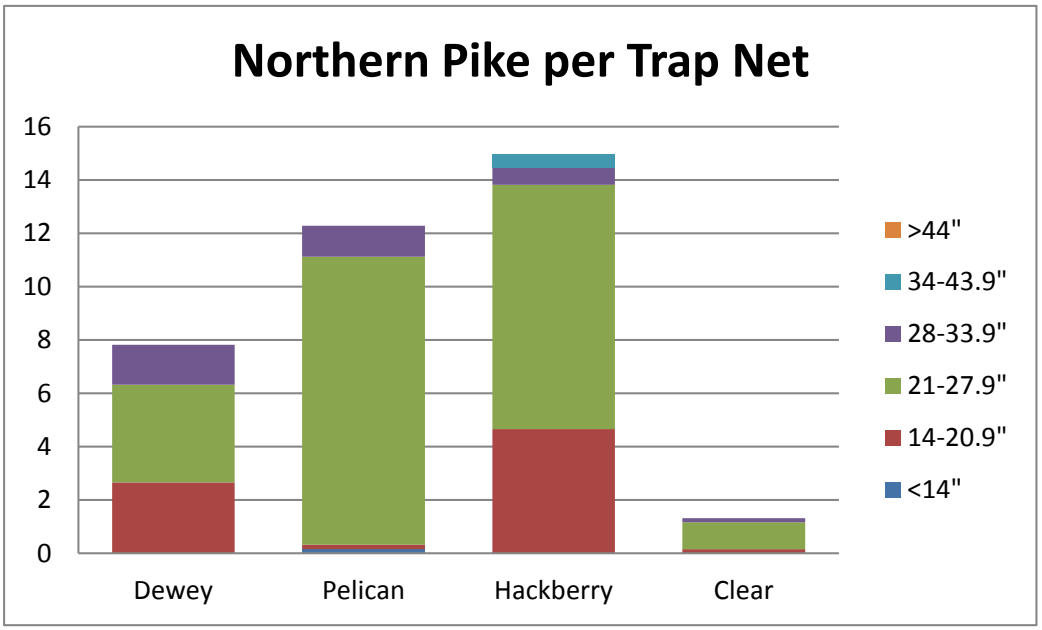


Yellow perch are found throughout the nine lakes open to fishing on the VNWR. The 2016 surveys showed similar catch rates throughout the 6 lakes that were sampled. West Long did have the highest catch rate with 5 perch sampled per net. The biggest perch sampled also came from West Long and measured 13.9 inches. Pelican Lake showed the next highest abundance for yellow perch sampled at 4.66 fish per net although most of the population was made up of fish less than 5 inches in length. West Long and Duck lakes showed the best size structure for fish sampled in 2016 and were the only lakes where perch over ten inches in length were sampled. Yellow perch abundance looked similar throughout the refuge this year but anglers are reminded these surveys are done during a short-time frame during the spawning period and actual numbers may be misrepresented.

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

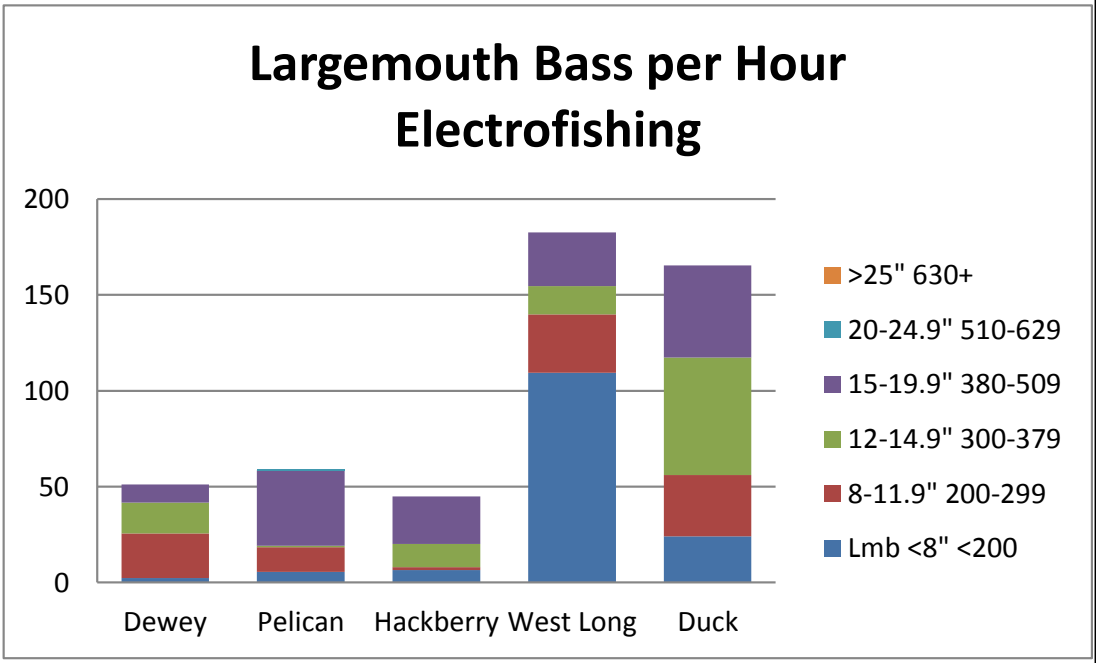
Northern pike can be found in several of the lakes on the VNWR even though Nebraska is on the southern end of their native range. These fish are managed on the VNWR as an additional sport fish for anglers and also as a management tool for common carp control. Common Carp control is a high priority and is the reason for a maximum size limit of 28 inches on the VNWR.



Pike are sampled with frame nets in mid to late March when these fish are venturing into spawn in the shallow vegetation of these lakes. The highest density of pike during the 2016 surveys was at Hackberry Lake even though pike have never been stocked there. Hackberry showed excellent size structure and also had the biggest pike sampled of 39.7 inches which weighed approximately 13 1/2 pounds. Pelican and Dewey also have relatively decent pike populations and should not be overlooked for anglers looking to target open water pike or through the ice with tip-ups.

Largemouth Bass

Largemouth bass exist in all nine lakes that are open to fishing on the VNWR. Bass are the primary predator on these lakes and help to control unwanted invasive species such as common carp. Largemouth bass also control panfish recruitment which allows those remaining fish to grow extremely well without competition for available food.



The highest abundances of largemouth bass were in West Long (182.5) and Duck (165.33) fish per hour. Both of these lakes showed excellent size structure of fish from 8 –19.9 inches in length. Anglers looking for trophy largemouth bass should not be afraid to try Dewey, Hackberry, or especially Pelican as 67% of the fish sampled in Pelican were over 15 inches in length.

Anglers should know as they read through this report that common carp do not exist in West Long and Duck lakes and is the reason higher abundances of both panfish and largemouth bass exist.

Jaci Edis with a largemouth bass sampled from Hackberry Lake in 2016.

Aquatic Habitat Plan

An aquatic habitat project began in 2015 at the VNWR and will finish in 2017. The project is to address the presence of common carp in the system and their passage through the existing water control structures.

Control structures, berm improvements, fish barriers and dredging were planned at Watts, Hackberry, Dewey, Whitewater, Clear, Pelican, and Willow lakes. Channel clean-out has been completed at Watts and Hackberry lakes which will allow USFWS personnel the ability to manage lake water levels, sport fish populations and waterfowl habitat more effectively in the future. A new water control structure was also constructed on the lower end of Willow Lake which will limit upstream carp passage and control carp migrating to the refuge lakes.

Construction and equipment along the public roads and trails will be happening again in the winter of 2016 and spring of 2017. Visitors are reminded that road and trail closures could occur for short periods as the project progresses. The Nebraska Game and Parks Commission and United States Fish and Wildlife Service appreciate the public's patience during this project.

This project is a cooperative partnership between the Commission using Aquatic Habitat Program funds and assistance from the U.S. Fish and Wildlife Service.

Picture from Juancarlos Giese of excavation at the VNWR Aquatic Habitat Project

Angler Access Projects

As part of the overall Aquatic Habitat Plan the first initial step implemented was angler access projects across the VNWR. Completed in 2014, concrete boat ramps were installed at Watts, West Long, Pelican, Hackberry, and Clear lakes. Each ramp complies with the American Disabilities Act (ADA) with a concrete parking area and concrete sidewalk connecting to a roll out dock. This portion of the project was funded by the USFWS Visitors Facilities Enhancement Funds and the NGPC Angler Access Program which is funded through the purchase of Aquatic Habitat Stamps. During the spring of 2016 USFWS and NGPC personnel along with volunteers worked together to build a ADA accessible pad and sidewalk leading to the dock at Duck Lake.

Watts Lake Renovation

Watts Lake was chemically renovated during the spring of 2015 to restore the recreational fishery. The lake was pumped down over several weeks to save on chemical costs and also allow NGPC and USFWS personnel the ability to treat the lake more effectively. Watts Lake had a partial winter-kill and summer-kill in 2013 and the fishery had become out of balance. Unwanted species such as common carp, northern pike, and black bullhead were also present in the lake. The fishery should recover quickly and have harvestable fish in 3 years. Anglers, hunters, and outdoor enthusiast should see improved water quality, increased amounts of aquatic vegetation, increased waterfowl usage and an improved fishery. The lake was restocked in 2015 with bluegill, yellow perch, and black crappie and largemouth bass in 2016. This stocking regime allows the panfish to become established before stocking a predator.

For more information on fisheries management or activities on the Valentine National Wildlife Refuge contact:
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Juancarlos Giese (USFWS refuge manager), (402) 376-1889 Juancarlos_giese@fws.gov

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) 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.

Pictured Left: Photo of Eurasian Watermilfoil at Goose 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, 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.