Valentine National Wildlife Refuge

2019 Fish Survey Report

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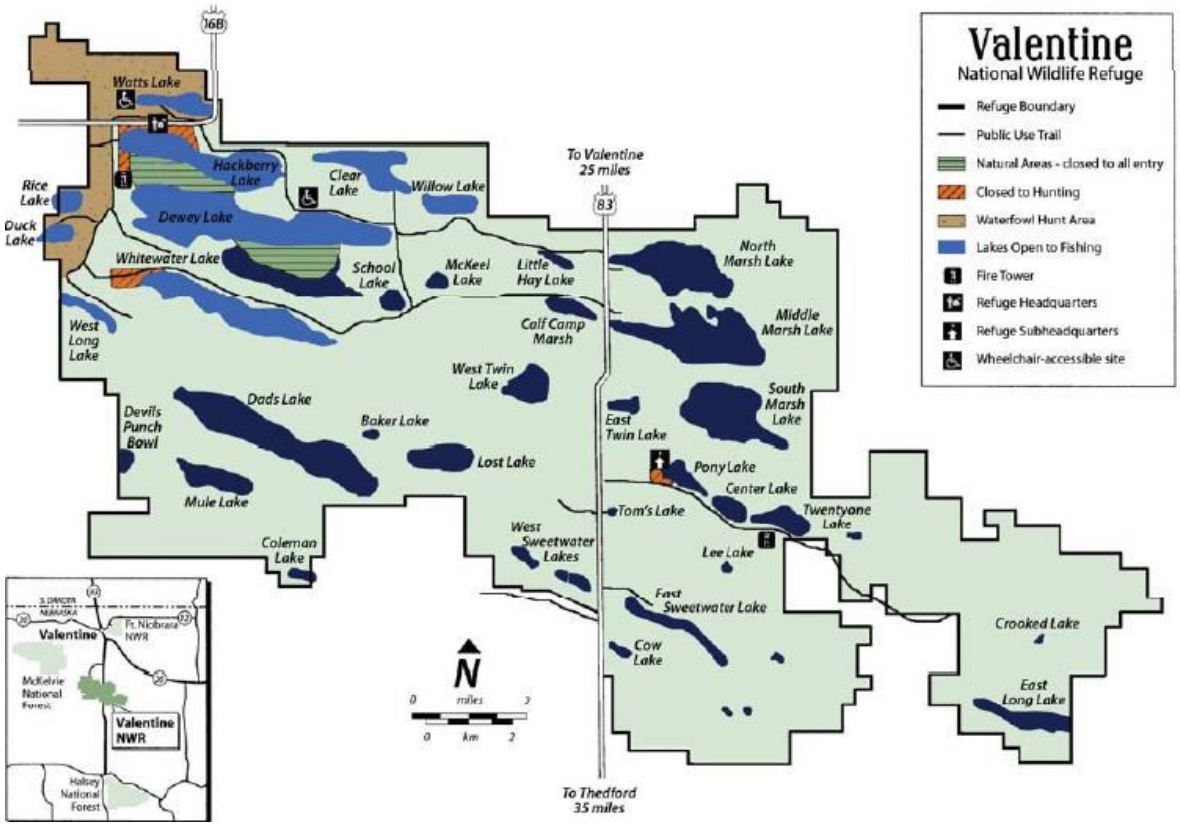
The Valentine National Wildlife Refuge (VNWR) is 71,516 acres in size. The refuge was established in 1935 to protect a portion of the Sandhills and provides a resting, feeding, and nesting area for migrating waterfowl. Lakes, marshes, mid and tall grass prairie, and meadows provide habitat for many species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

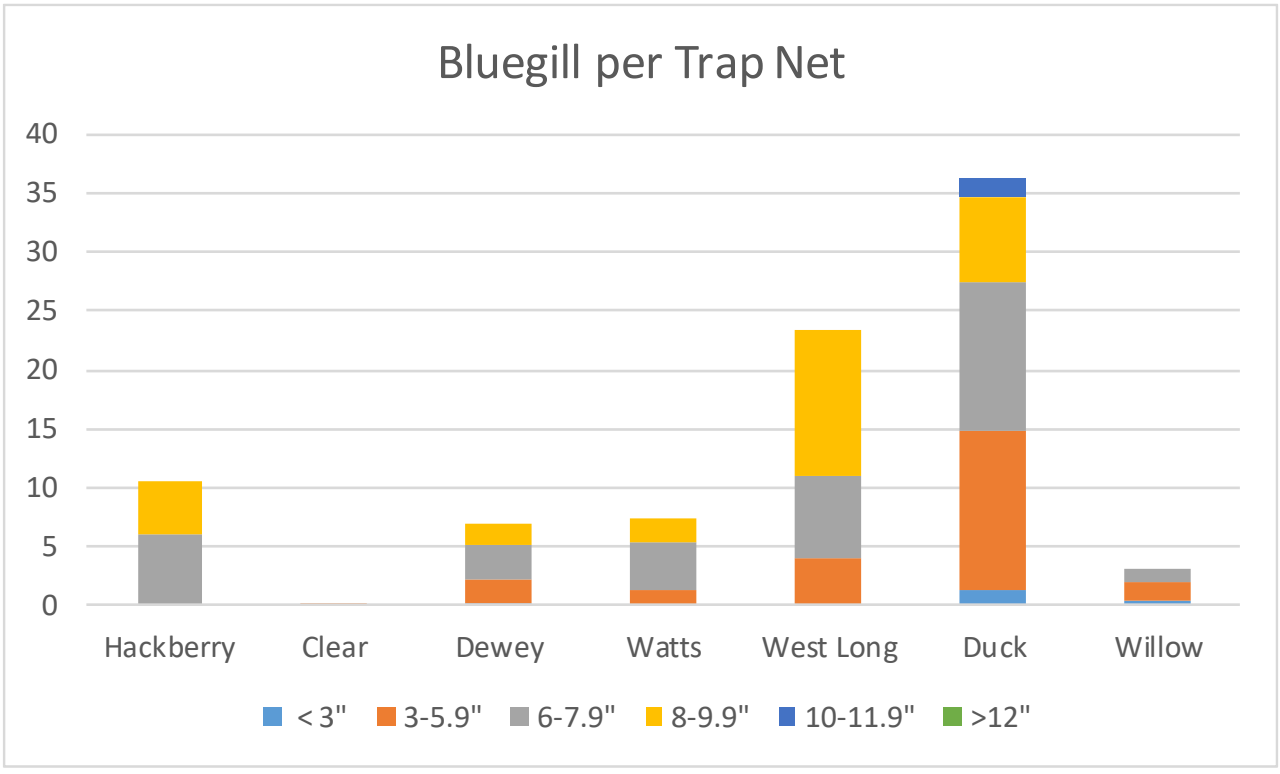
Survey Methods

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.

Bluegill

People often come to the VNWR in search of trophy bluegill over 10 inches. Unlike other eastern lakes the densities of bluegill in these systems is much lower. Overall productivity in these systems with aquatic vegetation and invertebrates give these lakes great growth rates of fish species present and potential to produce trophy fish. Some lakes produce better growth rates than others but that depends on a number of factors including water quality, vegetation, and other fish species present. In 2019, 7 of the 9 lakes open to fishing on the VNWR were sampled. Duck had the highest catch rates with a 36.3 bluegill per net and 24% of those fish were over 8 inches in length. West Long had the next highest catch rate, 23.5 bluegill per net and 53% were over 8 inches. The largest bluegill sampled came from Duck Lake and measured 10 3/4 inches.

Panfish Regulations: Bluegill, Yellow Perch, Crappie, Green Sunfish, Etc. Bag limit of 15 fish in combination and a possession limit of 30 fish. 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 populations exist in 5 of the 9 lakes open to fishing on the VNWR. 2019 surveys showed Clear with the highest crappie population at 29.4 crappie per net. Most of these fish sampled were under 10 inches in length. Dewey Lake had the next highest abundance of crappie with 10.6 crappie per net. Approximately 40% of these fish sampled were over 12 inches in length. Dewey Lake also had the largest fish collected with a crappie measuring 14.3 inches. Black crappie were not stocked into Dewey Lake but probably came downstream last fall while refuge staff was lowering Hackberry Lake for a potential renovation. Black crappie were stocked in 2018 in Pelican Lake post renovation but this lake was not sampled in 2019. These fish should provide an additional panfish opportunity at Pelican Lake and should produce quality fish.

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

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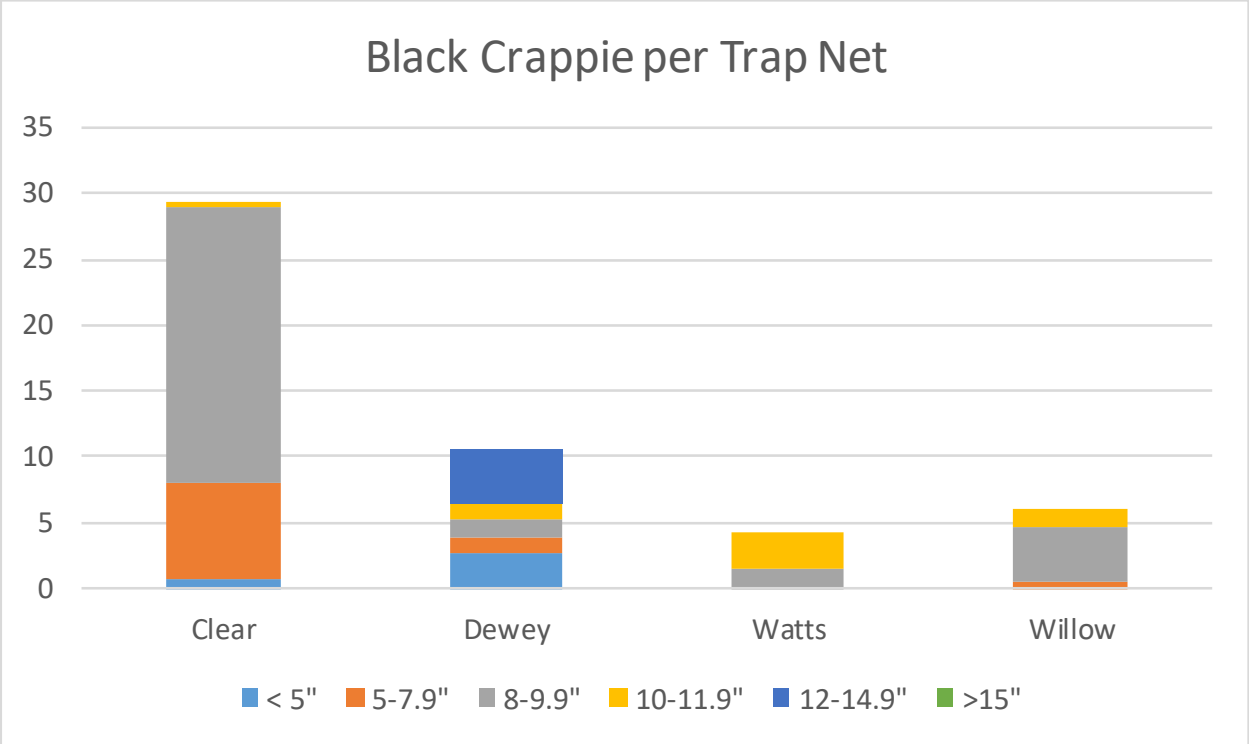

Yellow Perch

Yellow perch populations exist in all 9 lakes open to fishing on the VNWR. These fish are a favorite amongst anglers due to the fact they are easily cleanable and great table fare. Due to these facts perch populations fluctuate drastically from year to year due to pressure. Dewey Lake had the highest abundance of yellow perch in 2019 with 21.49 perch per net. Approximately one-third of the perch population in Dewey measured over 10 inches. West Long and Duck lakes should not be overlooked when targeting yellow perch and provide fairly consistent perch fisheries and fish exceeding the 12 inch mark. Watts Lake was renovated in 2015 and the fish population is still growing but should produce quality fish in the next few years. Yellow perch are sampled during the spring spawning period which is usually a very short window so numbers on these lakes may be misrepresented.

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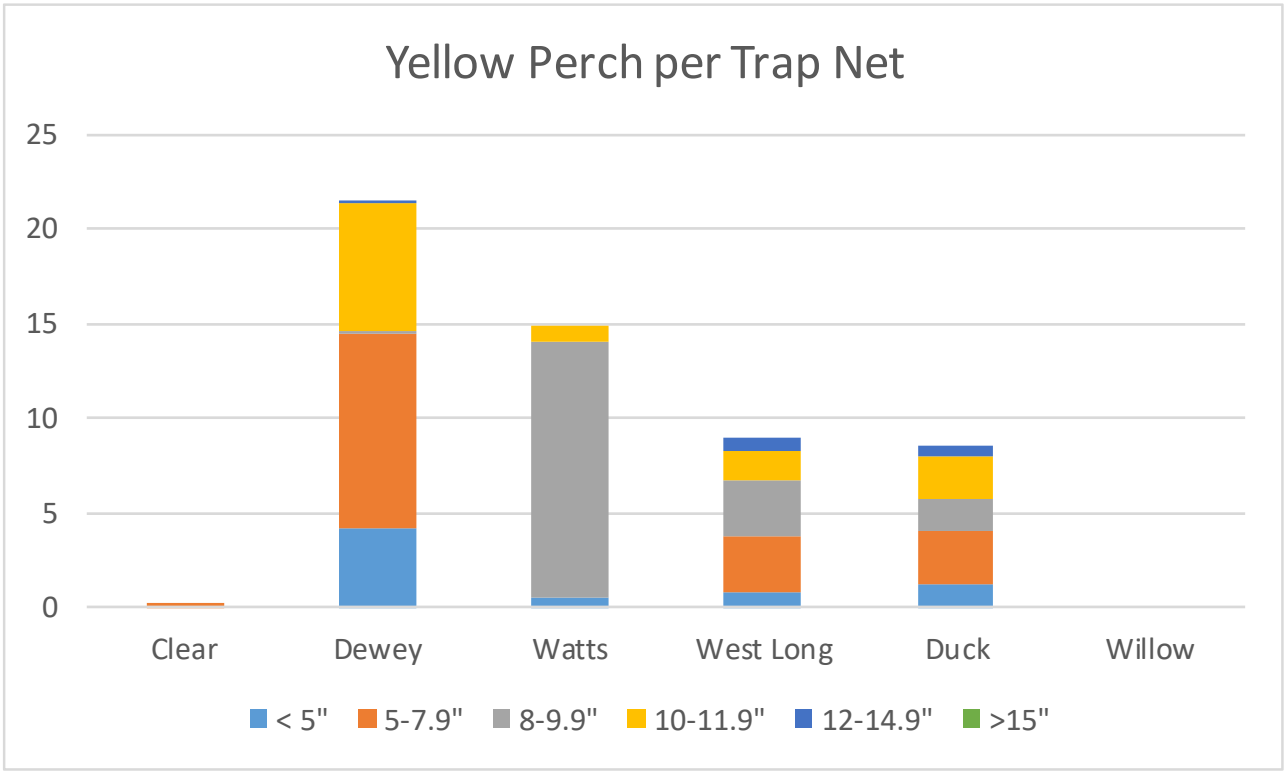


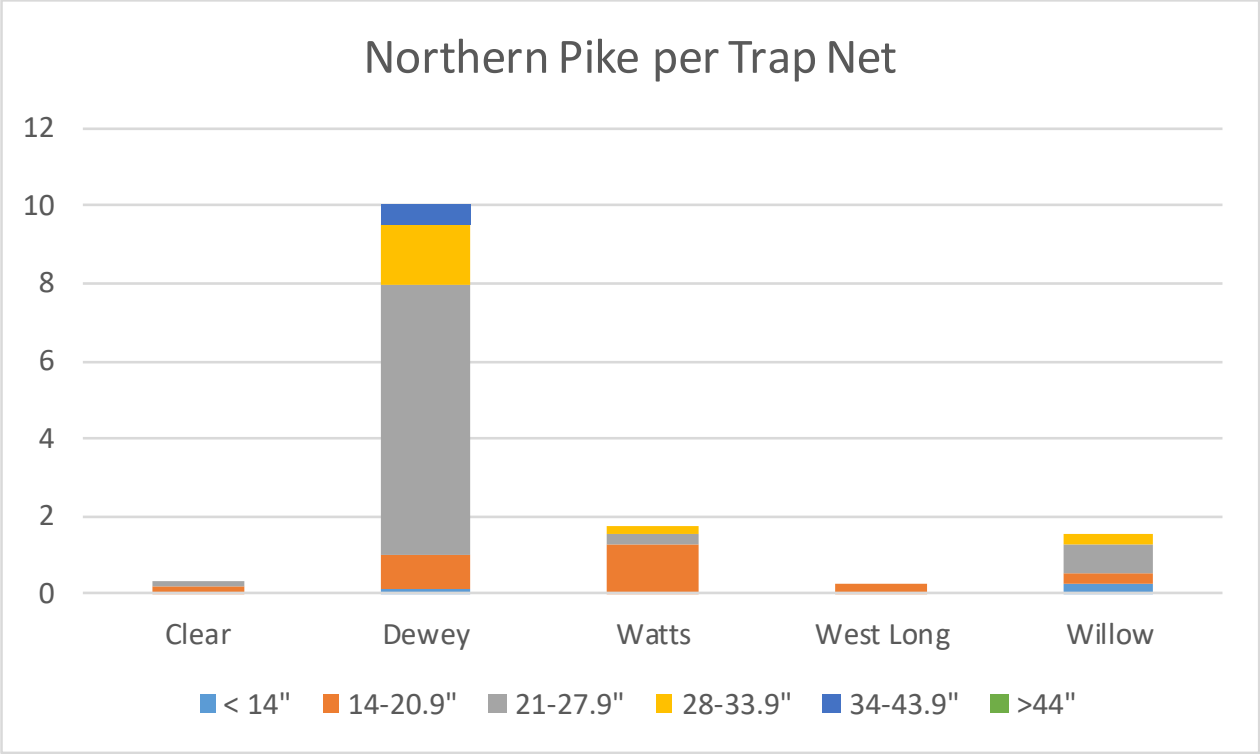
Northern Pike

Northern pike exist in several lakes on the VNWR even though this is on the southern end of their range. These fish draw anglers from all around usually during the spring and early summer as well as running tip ups during the winter months. These fish are managed on the VNWR as an additional sport fish and also as a management tool for common carp. Common carp control is a high priority on the VNWR as carp can be detrimental to aquatic habitats.

Pike are sampled with frame nets in mid to late March as these fish venture into spawn in the shallow vegetated areas of these lakes. This spawning activity can happen relatively fast and sometimes under the ice if conditions are favorable so survey results may be misrepresented. Dewey Lake had the highest catch rate in 2019 with 10 pike per net sampled. Of these fish sampled, 20% were over 28 inches in length and the largest pike sampled was at Dewey a 38 inch fish. Hackberry should not be overlooked when pike fishing and was not sampled in 2019 due to a planned renovation. This renovation did not occur in 2019 due to above average precipitation.

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.

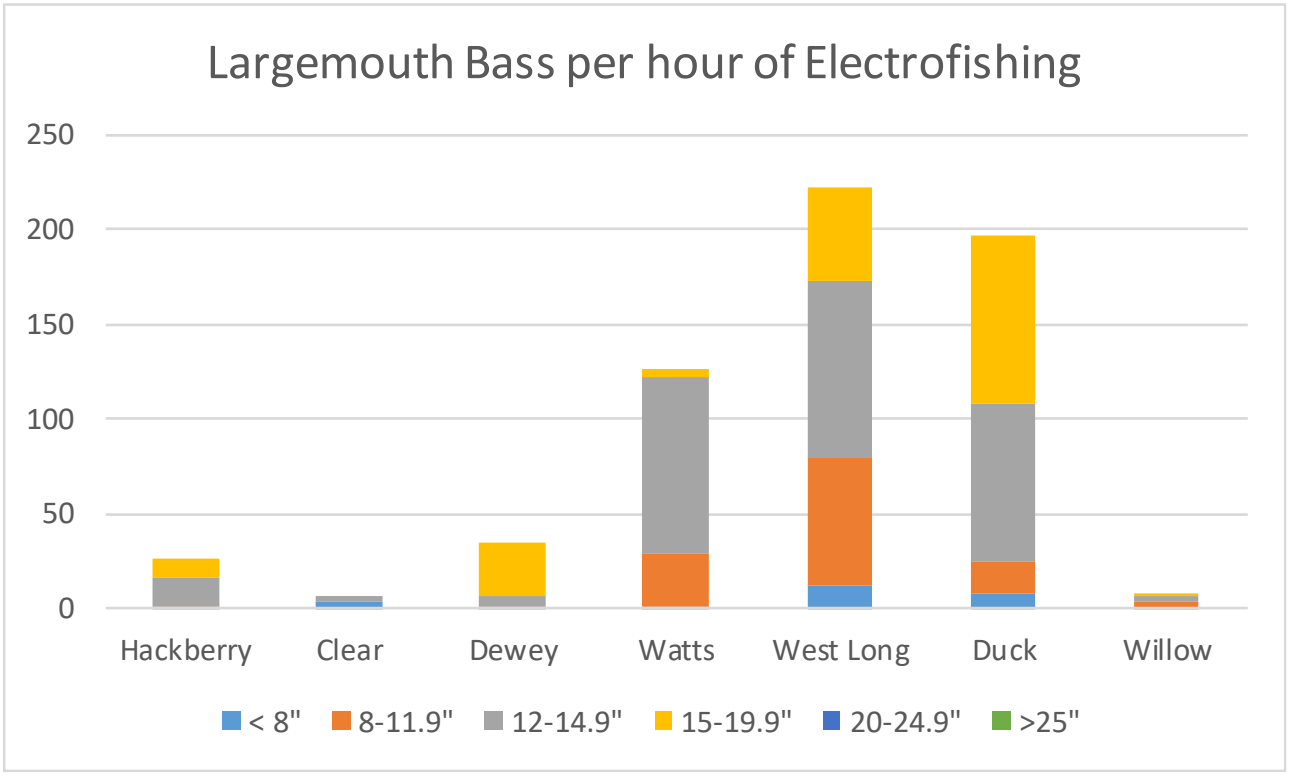


Largemouth Bass

Largemouth bass are sampled during the night-time hours as they venture into shallow water to feed. These fish are sampled with electrofishing gear. All 9 lakes on the VNWR have bass populations. Bass are the primary predator at these lakes and help to control unwanted species such as common carp. Largemouth bass also control panfish recruitment which allows these remaining fish to grow extremely well without competition for available food.

The top 3 largemouth bass abundances exist at West Long (222.5 bass per hour), Duck (198 bass per hour) and Watts population is building at 126 bass per hour. Size structure looked great at Duck lake with 45% of the population over 15 inches. The largest bass sampled in 2019 was not during our standard bass surveys but was sampled during the daytime while targeting common carp. This fish pictured right came from Dewey Lake and measured 21.8 inches and weighed 7.5 pounds.

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. 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.

Over the next several years, plans are to systematically treat the remaining lakes in the system to eliminate carp while still providing some fishing opportunity to anglers during this period. Watts lake was renovated in 2015 and is providing a fishery currently. Pelican, School, and Whitewater lakes were renovated in 2018. Hackberry Lake was scheduled for 2019 but due to above average precipitation was postponed and currently on hold due to above average precipitation and higher than normal lake levels. Once Hackberry is completed Dewey will follow the next year. After Dewey the final renovations will occur at Clear, Willow, and McKeel lakes. Several of the listed lakes are not open to fishing but connected during high water and contain carp populations. Several months prior to the renovations, length limits on largemouth bass and northern pike will be rescinded to allow anglers to harvest them using the normal methods. Fisheries staff will also conduct a salvage operation and transfer collected sportfish to other public waters.

The removal of common carp from the system will allow for more management options than available in the past. Current plans are to manage the upper lakes (Duck, Rice, Watts, West Long, Pelican, and Hackberry) for quality panfishing and largemouth bass with an emphasis on bluegill, black crappie, and yellow perch. The proposed fishing regulations for largemouth bass and panfish will follow the statewide regulations except on Pelican Lake. Pelican Lake will be managed for a trophy bluegill fishery returning it to its historical prominence by limiting bluegill harvest to a daily bag limit of 5 of which only one can be over 10 inches. The lower lakes (Dewey, Clear and Willow) would be stocked with bluegill, yellow perch, black crappie, largemouth bass and northern pike to provide anglers pike fishing opportunities.

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**! Curly leaf pondweed is established at Merritt Reservoir in Cherry County.

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:
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