

# NW District Irrigation Reservoirs 2015 Survey Summary



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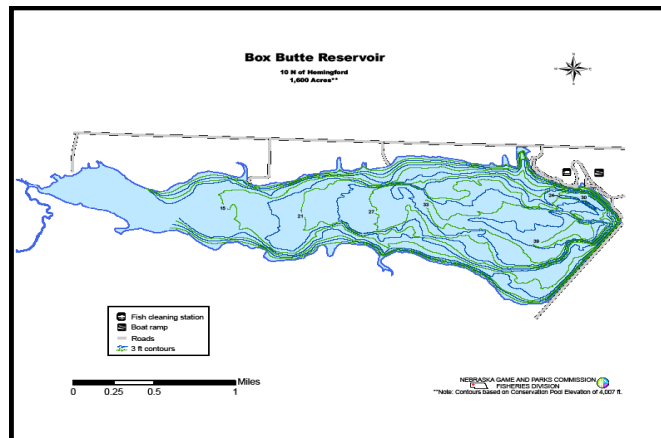
Several reservoirs located in the panhandle of Nebraska were built and managed for the primary purpose of water storage for irrigation. Water levels in these reservoirs can change drastically throughout a year and may make access difficult or impossible. The Bureau of Reclamation manages water in Box Butte Reservoir, Lake Minatare, Lake Winters Creek, and Big Lake Alice. Whitney Reservoir is managed by the Whitney Irrigation District. Oliver Reservoir was constructed by the Kimball Irrigation District and has been managed as a State Recreation Area by the Nebraska Game and Parks Commission until early 2014 at which time the South Platte Natural Resources District took over the maintenance and operation of the area for public use. A map of lake locations can be found at <http://maps.outdoornebraska.gov/fishing/>. Fishing opportunities exist in most irrigation reservoirs.

Box Butte Reservoir is located approximately 9 miles north of Hemingford on the western edge of the sandhills in the Nebraska panhandle. The reservoir was constructed in the early 1940's and impounds the Niobrara River which originates about 60 miles upstream. Box Butte Reservoir was designed for irrigation, flood control, and recreation. The lake levels can fluctuate drastically throughout the irrigation season.



Box Butte Reservoir SRA is owned by the Bureau of Reclamation and encompasses 2,212 acres while the reservoir itself impounds approximately 1,600 of those acres at full pool. A State Recreation Area (SRA) encompasses the northeastern portion of the reservoir and the rest of the property is managed as a Wildlife Management Area (WMA). These areas are all managed by the Nebraska Game and Parks Commission. The SRA offers electrical and primitive camping, water, boat ramp (located on the north side), fish cleaning station, swimming, picnic tables and shelters, and primitive restrooms.

Game fish species present in Box Butte Reservoir include: walleye, northern pike, channel catfish, blue catfish, yellow perch, bluegill, black crappie, rock bass, largemouth bass, smallmouth bass, and pumpkinseed sunfish. It is an excellent open water fishery for all game fish species as well as a top ice fishing destination for pike, bluegill, and yellow perch. Box Butte is also known for its water clarity, making it desirable for bow fishing, underwater powered spear gunning, and surface spear action. Box Butte Reservoir currently holds 16 state records in the above categories.



Lake Minatare State Recreation Area is located 6 miles east and 8 miles north of Scottsbluff, NE in the North Platte River Valley. The area encompasses 2,873 acres, including a 2,147-acre reservoir when full. The reservoir was built in 1915 by the U.S. Bureau of Reclamation primarily for irrigation purposes. In 1986, jurisdiction of the area was granted to the U.S. Fish and Wildlife Service as part of the North Platte National Wildlife Refuge (NWR). The lake and land adjacent to the reservoir is managed by the Nebraska Game and Parks Commission through a lease agreement for recreational activities while the Pathfinder Irrigation District controls water levels for irrigation.



Fishing is available at Lake Minatare for a variety of fish species which include walleye, white bass, wiper, channel catfish, blue catfish, smallmouth bass, largemouth bass, white and black crappie, northern pike, and yellow perch.

Big Lake Alice and Lake Winters Creek are both part of the North Platte NWR located above Lake Minatare and supplied with water from the Lake Minatare supply canal. Big Lake Alice is drained low enough each year thus very few fish survive the winter months. Therefore Big Lake Alice is utilized as a rearing lake for shad, walleye, and perch to be sent down the supply canal and into Lake Minatare.

As part of the North Platte NWR, Lake Winters Creek has a few special fishing regulations. The lake is only open during daylight hours and anglers are restricted to non-gas motors. Anglers may find a variety of species at Lake Winters Creek including yellow perch, black crappie, bluegill, walleye, largemouth bass, northern pike, and smallmouth bass. To provide a refuge for migrating waterfowl, Lake Minatare, Lake Winters Creek, and Big Lake Alice are closed to public use from October 15th through January 14th each year.

Oliver reservoir (Kimball Reservoir) is located 8 miles west of Kimball, Nebraska off highway 30. It is a 270 acre reservoir located on a 917 acre recreation area. The lease agreement for Oliver was not renewed turning the lake back over to the South Platte NRD on January 1, 2014. Oliver Reservoir was once a unique fishery providing both cool and coldwater fishing opportunities. The combination of drought and over appropriation of groundwater use has contributed to the loss of water inflows to the lake. Occasional strong storms produce flash flood events that has extended the life of Oliver Reservoir. One storm event in the early spring of 2014 filled Oliver Reservoir to within a foot of full pool. Water levels in Oliver Reservoir have steadily dropped since that event even with the above average rainfall in 2015. Game fish in Oliver Reservoir in 2015 may include walleye, white crappie, bluegill, largemouth bass, yellow perch, channel catfish, rainbow trout, and possibly an occasional musky.



Whitney Reservoir is a 900 acre lake located about 1 mile West of Whitney, Nebraska owned and operated by the Whitney Irrigation District. A Wildlife Management Area located on the NE corner of the lake provides angler access with a boat ramp and pit toilet. The lake has a drastic summer drawdown making access nearly impossible by late summer. Game fish species present in Whitney Reservoir include: yellow perch, bluegill, black crappie, white crappie, northern pike, largemouth bass, channel catfish, white bass, and walleye.



## Northern Pike

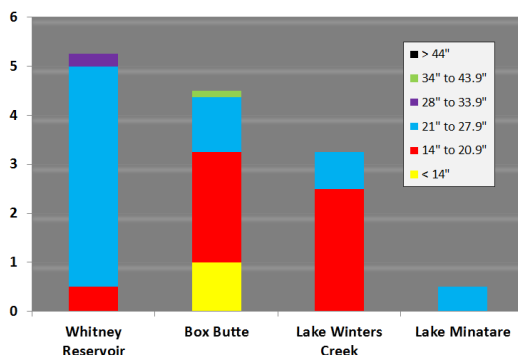
Northern pike are commonly found in Box Butte, Whitney, and Lake Winters Creek. A year-class of northern pike showed up in Lake Minatare in 2014. Although northern pike are present in Lake Minatare at a low density, limited spawning habitat during early spring makes recruitment unlikely within the reservoir. Historical data indicates that the species will likely disappear from the reservoir over time.

Northern pike sampling at Box Butte Reservoir is conducted in mid to late March or when the ice comes off, whichever comes first. The sampling gear consists of frame nets that are set perpendicular to the shoreline to intercept pike as they move into vegetated areas to spawn. Northern pike were not surveyed in Lake Winters Creek, Whitney, or Lake Minatare in 2015, but were documented during fall gillnet surveys while evaluating the walleye and channel catfish populations.

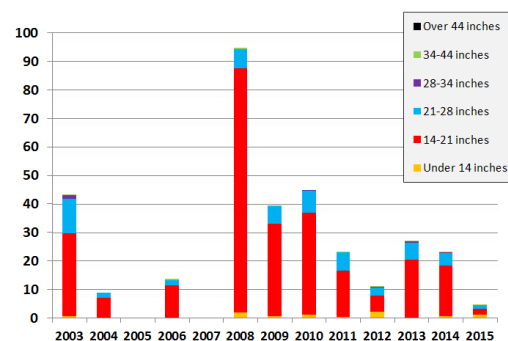
In 2008, fisheries management placed a special regulation for northern pike at Box Butte. The regulation was a protected slot of 28-34 inches and an increased bag limit of 10 fish (only one can be over 34 inches). This new regulation is experimental and was done to increase size structure of pike in the lake and produce a better quality pike fishery. Whitney Reservoir and Lake Winters Creek have a daily bag limit of 3 pike of any size. Since northern pike are not a priority species in Lake Minatare, a 10 fish daily bag limit with no size restrictions will go in affect January 1st 2016 to help reduce northern pike abundance. There is a statewide possession limit of 10 northern pike.

The 2015 pike survey on Box Butte Reservoir yielded the lowest pike catch in over 12 years with a catch rate of 4.5 fish per frame net. Most pike in Box Butte are small (< 21 inches) with a few big fish. The biggest pike collected in Box Butte Reservoir in 2015 was 34.8 inches and weighed 9.4 pounds. The protected slot limit will likely be re-evaluated in the near future. There were no slot fish sampled in 2015.

2015 Northern Pike Catch per Net



Box Butte Northern Pike Catch from 2003 - 2015



## Northern Pike (Continued)

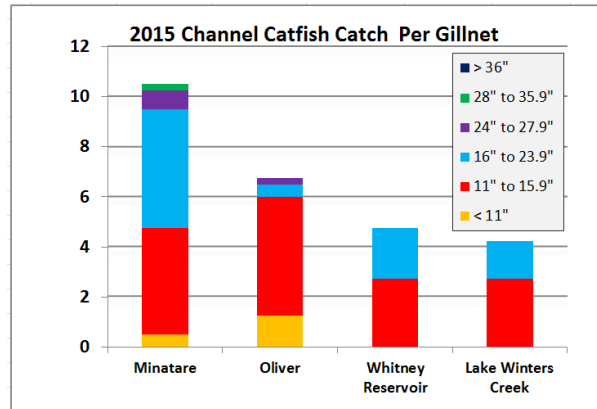
Although northern pike were not targeted in 2015 during the Whitney Reservoir fall survey, 5.25 pike were collected per gillnet while evaluating the walleye and white bass populations. The average size pike collected in Whitney was 23.7 inches with some fish over 28 inches. Lake Winters Creek should not be overlooked for a chance at a big pike. Although only a few little pike were observed during the walleye survey, the lake has received adult northern pike stockings over the last 3 years. Some of these stocked adults could be very large and Lake Winters Creek should provide a great chance for fish over 28 inches.



The 2014 year-class of pike from Lake Minatare are growing fast. These fish were averaging 22.6 inches during the fall gillnet survey. Their density remains extremely low with less than one fish captured per gillnet. With the increased daily bag limit of 10 pike beginning in 2016, few anglers will likely find limits.

## Channel Catfish

Lake Minatare had the highest density of catfish in 2015 with 10.5 fish per gillnet. It also had the best size structure with 55 percent of the population over 16 inches and 9.5 percent over 24 inches. Oliver Reservoir had the second highest density with most of the fish less than 16 inches. Anglers seeking trophy catfish should also consider fishing Box Butte Reservoir. Although the reservoir was not surveyed in 2015, Box Butte Reservoir consistently produces catfish over 10 lbs.



2015 Channel Catfish Stocking			
Lake	# Stocked	Size Stocked	Rate (# / Acre)
Box Butte	3241	9.5 inch	2.0
Minatare	8000	9 inch	4.0
Whitney	4600	9.5 inch	5.0
Lake Winters Creek	2000	9.8 inch	10.0
Oliver	1000	10 inch	4.0

Box Butte and Lake Minatare have also historically been stocked with blue catfish. Anglers are required to know the difference between blue and channel catfish since blue catfish are managed as a trophy fishery with a bag limit of 1, and channel catfish have a bag limit of 5.



### Blue or Channel?

1. Blue catfish have a long straight anal fin while a channel catfish's anal fin is rounded.
2. Small channel catfish will have spots across its body while blue catfish will not.

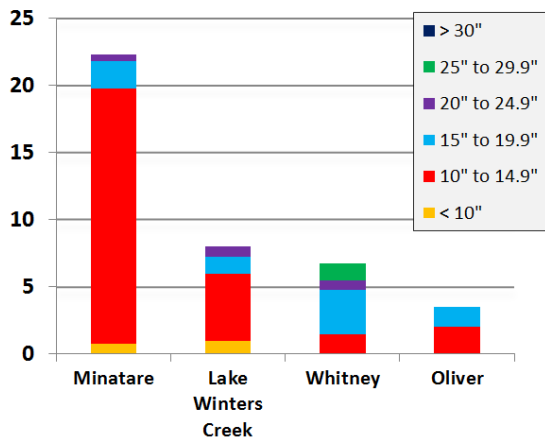
# Walleye

Walleye are found in Oliver Reservoir, Lake Minatare, Box Butte Reservoir, Whitney Reservoir, and Lake Winters Creek. No walleye surveys were conducted on Box Butte Reservoir in 2015.



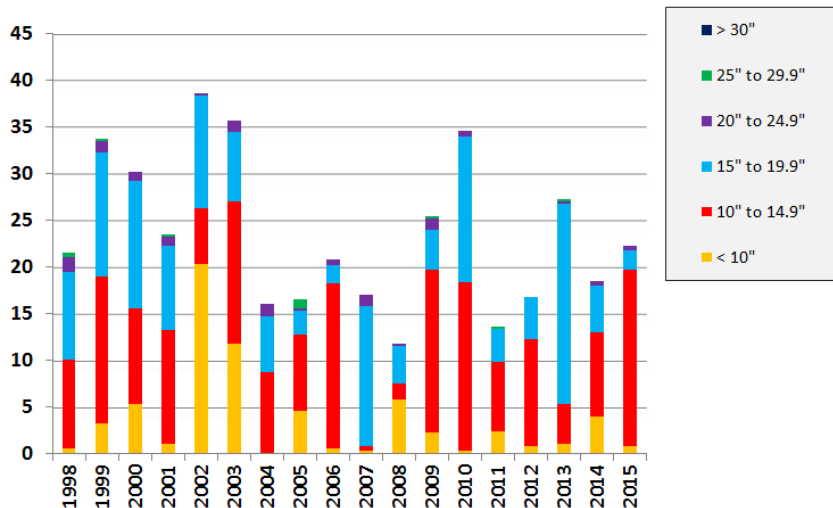
Lake Minatare continues to be the top walleye destination in the panhandle with 22.25 walleye per gillnet. The average size walleye sampled in Minatare in 2015 was 13.3 inches but only 11 percent of the walleyes surveyed over the minimum size limit of 15 inches. Due to heavy fishing pressure, Lake Minatare legal walleye are typically 15 to 17 inches with very few larger fish. Lake Minatare appears to be on year two of a three-year pattern. Every third year a strong year-class of walleye reach the legal length of 15 inches and reduces recruitment of young-of-the year walleye. The heavy fishing pressure typically eliminates those legal fish in one fishing season. Walleye recruitment is strong the following year starting the cycle over.

2015 Walleye Catch per Gillnet



After discovering a walleye population in Lake Winters Creek in 2012, walleye were added to the annual stocking schedule and are beginning to take off. The first stocking of walleye have grown over 15 inches and we are seeing consistent survival. The average size walleye collected in Lake Winters Creek was 13 inches with the largest over 22 inches.

Lake Minatare Walleye Gillnet Catch



## Walleye (continued)

Anglers looking for big walleye should consider Whitney Reservoir. Although the total abundance was less than 7 fish per gillnet, 78 percent of the population was over 15 inches with 30 percent over 20 inches. The average size walleye collected in Whitney in 2015 was 18.3 inches with the largest individual at 27.8 inches. The overall condition of these fish has improved from last year due to a good shad hatch.

The walleye population in Oliver Reservoir is still rebounding from extreme low water. The lake nearly refilled overnight in 2014 after record low levels in 2013. The water levels have steadily dropped throughout the season, but good moisture in 2015 has slowed the decline. Anglers fishing Oliver can still find some harvestable size fish.

2015 Walleye / Saugeye Stocking		
Lake	# Stocked	Size Stocked
Minatare	1,250,000	Fry
Lake Winters Creek	12,000	1.5 inch
Oliver	12,000	1.5 inch
Whitney (Saugeye)	45,000	1.75 inch

Walleye are stocked annually in Lake Minatare, and Lake Winters Creek. Oliver will continue to be stocked as long as water levels in the reservoir will support a walleye fishery. Box Butte Reservoir has a natural recruiting walleye population and does not require supplemental stocking.



Beginning in 2015, fisheries managers are re-trying an unique species in the state. Saugeye is a hybrid between a walleye and a sauger and although they were stocked for a period in the 1990's, evaluation resulted in mixed results and fisheries managers decided to give them another try. Although some saugeye can occur naturally in a system where both walleye and sauger exist, they are produced by crossing both species in a state hatchery. Research has indicated that saugeye are more of a shoreline oriented species where walleye tend to occupy open water most of the year. This behavior will hopefully increase bank angling success. Whitney reservoir was stocked with saugeye instead of walleye in 2015. Saugeye stockings will continue at Whitney for at least 3 years and evaluated for survival and growth.

## Black Bass

No bass surveys were conducted in 2015 on irrigation reservoirs. Fluctuating water levels make bass surveys difficult to perform in irrigation reservoirs as water levels are usually high, flooding terrestrial vegetation and timber during the spring and early summer when bass surveys are typically conducted. Largemouth bass can be found in all irrigation reservoirs while smallmouth bass are only found in Box Butte Reservoir and Lake Minatare. Anglers looking for bigger bass should concentrate efforts on Box Butte Reservoir.

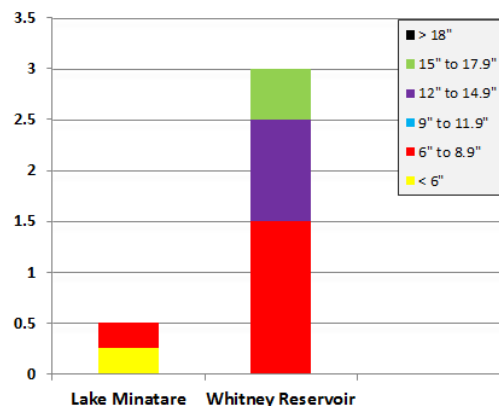
## White Bass and Wipers

White bass can be found in Whitney Reservoir and Lake Minatare. Wipers are only found in Lake Minatare. White bass were sampled in low abundance in 2015 in Lake Minatare with a catch rate of 0.5 fish per net. Although no white bass were collected over 9 inches, anglers consistently catch fish over 12 inches in the inlet canal during the spring pawning run. White bass are in great condition with relative weights over 100 for all sizes.

Whitney Reservoir also had a low abundance in 2015 with a gillnet catch of 3 fish per net. Half of the fish surveyed were over 12 inches with the biggest fish approaching 16 inches.

No wipers were collected during the fall survey in Lake Minatare. Wiper stockings were discontinued in Lake Minatare with management goals to rebound the white bass population. The inlet canal at Lake Minatare is a popular destination for white bass and wipers while the lake is filling. Whitney Reservoir can be a challenging lake to fish due to turbid water. Anglers do well trolling crankbaits and fishing live bait rigs with bright spinners.

2015 White Bass Catch per GillNet

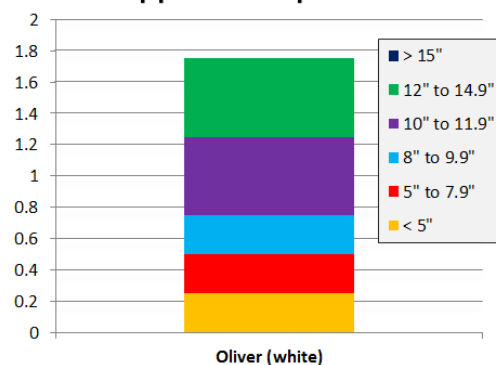


## Panfish

Oliver reservoir was the only irrigation reservoir surveyed for panfish in 2015 for white crappie. The density was very low with a total catch rate of 1.75 fish per frame net. However, crappie over 12 inches were collected. Although it wasn't sampled, Whitney Lake should be the top destination for crappie. In 2014 it had 29.75 crappie per net with some fish over 13 inches. Box Butte Reservoir and Lake Minatare also provide some quality crappie fishing.

No bluegill or perch surveys were conducted in 2015. Box Butte Reservoir will likely be the top destination for bluegill as it consistently produces bluegill over 8 inches. Both Box Butte and Lake Minatare should be great destinations for yellow perch approaching 12 inches this year.

2015 Crappie Catch per Frame Net



# Attention motorboat owners operating in Nebraska in 2016:



**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](http://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](http://www.neinvasives.com).



## Aquatic Invasive Species

Nebraska has 3 waterbodies with zebra mussel infestations: Offutt Airforce Base Lake in Bellevue, NE, the Missouri River, and Lewis and Clark Lake near Yankton, SD. Zebra mussels and quagga mussels are small fingernail-sized mussels and adults are usually  $\frac{1}{4}$  to  $\frac{1}{2}$  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.

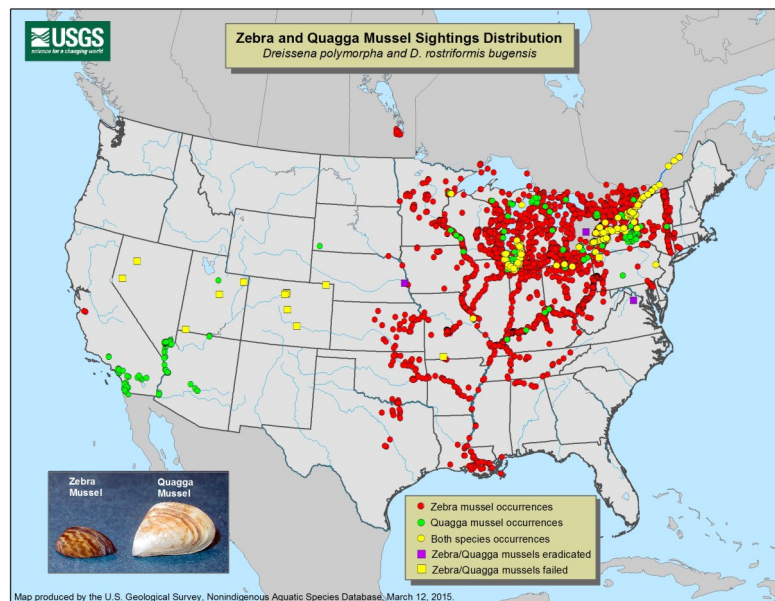


According to Nebraska State Law, **it is illegal for watercraft to enter a Nebraska waterbody or leave a launch area while containing water.** This includes all containers, compartments, and equipment that are permanently attached to the watercraft.

AND

**All aquatic vegetation must be removed from watercraft and trailers before leaving a launch area.**

Protect Your Waters—Remember to **CLEAN**, **DRAIN**, and **DRY!**



For additional information about fisheries management at Lake Minatare, Whitney Reservoir, Oliver Reservoir, Lake Winters Creek, or Box Butte Reservoir please contact the following personnel by phone or email addresses listed below.

District Supervisor: Al Hanson, (308)763-2940 [al.hanson@nebraska.gov](mailto:al.hanson@nebraska.gov)

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