

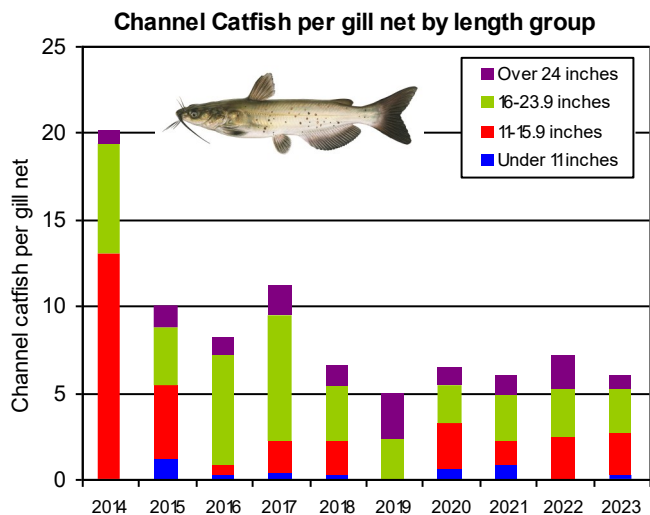
Channel Catfish

Gill net catch of channel catfish has remained stable the past six years, but overall the catch remains lower than results seen during the 2014-17 time period. The ten year average catch is 8.7 catfish per gill net.

In 2023, most catfish ranged from 13 to 23 inches and the average catfish length was 17.8 inches. The largest catfish sampled was 30.7 inches. Catfish fingerlings were stocked in 2019, 2021, and 2023 to improve abundance. The catfish population will continue to be monitored to determine if future stocking is warranted.

Current fishing regulations for channel catfish include a daily bag limit of five fish in the reservoir and a daily bag limit of ten fish in the Republican River west of the Highway 89 Bridge.

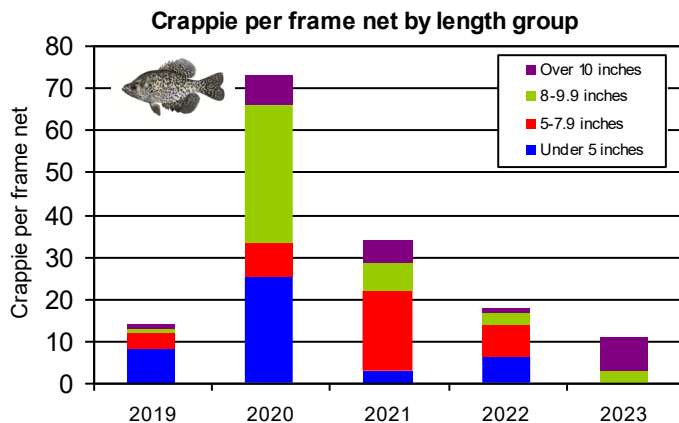
New for 2024: only one channel catfish 30 inches or longer can be included in the daily bag limit.



Crappie

Trap nets are used to sample crappie populations when reservoir levels are high enough to use standard net locations in the major coves. Sampling in the spring of 2023 indicated overall abundance was lower than what has been sampled in the previous four years. On the bright side, there was an increased catch of crappie greater than ten inches, with some fish approaching 13 inches. Successful crappie recruitment and growth is highly dependent on high reservoir levels and may be negatively impacted if reservoir levels continue to decline.

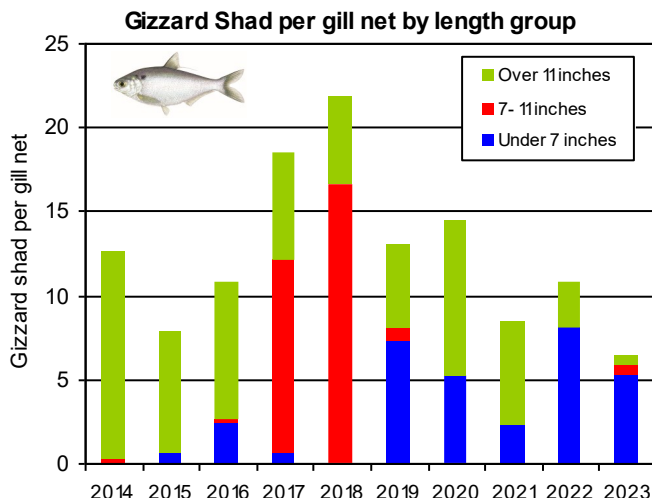
The bag limit for crappie is 15 fish per day.



Gizzard Shad

Gizzard shad are the primary prey species found in Harlan Reservoir and serve as the food source for all major game fish populations. Ideal shad populations consist of a few breeding adults and an abundant population of small young-of-the-year shad. High abundance of intermediate-sized shad (7 to 11 inches) can result in competition for food resources with juvenile gamefish and tends to reduce survival of young-of-the-year walleye and white bass.

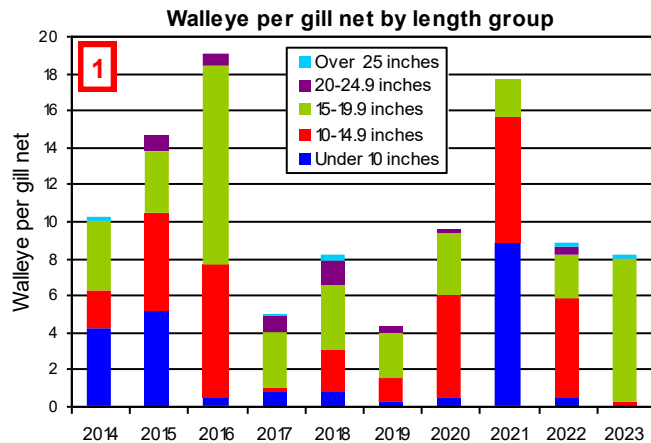
Current gizzard shad abundance and size distribution continues to remain in good balance and the population contains adequate numbers of small individuals to maintain healthy predator populations.



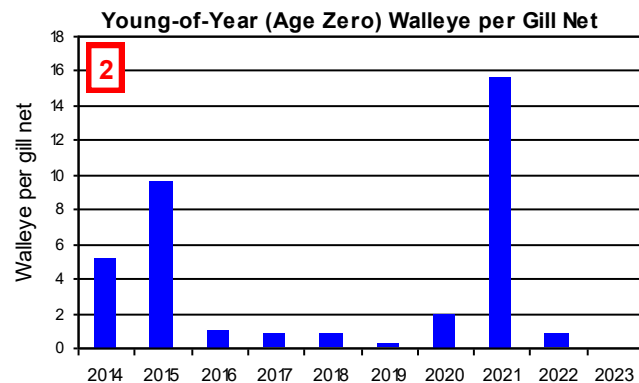
Walleye

The following four graphs depict the walleye catch from the fall of 2023.

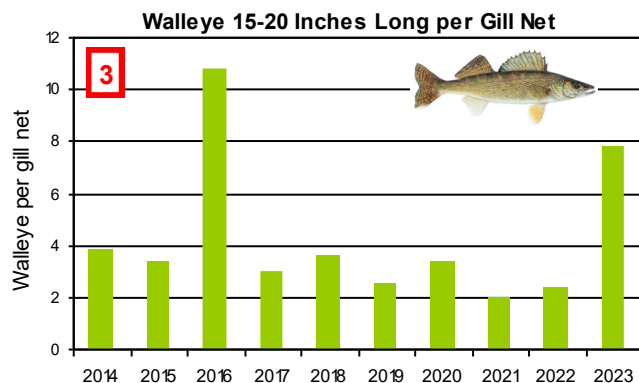
GRAPH 1: The 2023 catch of 8.2 walleye per net was slightly below the ten year average of 10.5 walleye per net. Nearly the entire catch was comprised of fish from the 2021 year-class, which range from 15 to 18.5 inches. The average length of a walleye collected during the 2023 survey was 16.7 inches. Fish of legal harvest size (>15 inches) comprised about 98% of the total number of walleye sampled last fall.



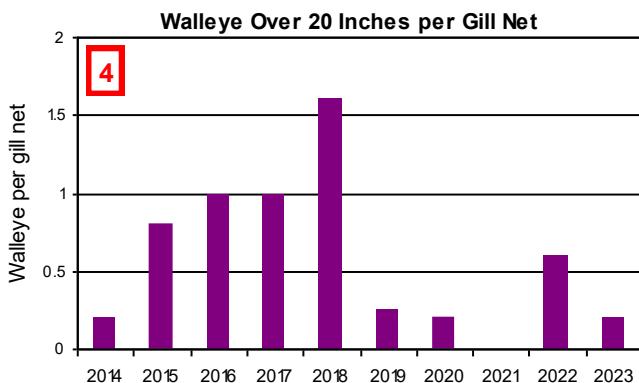
GRAPH 2: After sampling the largest year-class of young-of-the-year walleye in recent history in 2021, results from the past two years indicate very poor walleye recruitment. Large numbers of fry were stocked in both 2022 and 2023 and there were also a small number of fingerlings stocked in 2023, but unfortunately it does not appear that survival was good during either year. This could potentially negatively impact walleye angling success the next couple years.



GRAPH 3: Numbers of walleye between 15 and 20 inches long are presented in graph 3. The 2023 gill net catch of fish in this size group was much higher than previous years due largely in part to the strong 2021 year-class. This year-class has dominated the gill net catch the past two years. It also provided excellent angling opportunities during the latter half of 2023 and should provide the majority of the catch for the next year or two.



GRAPH 4: Walleye over 20 inches long are displayed in the fourth graph. Catch of these larger fish have been lower than average the past five years. Most walleye in this size range are age five or older. These large fish can be more difficult to sample in standard survey gear as they are less abundant and sometimes occupy different habitats within the reservoir. High angling related mortality also negatively impacts the abundance of these larger fish.



The walleye regulation for Harlan allows the harvest of one fish from 15-18 inches and three longer than 18 inches; or four longer than 18 inches. Only one fish larger than 22 inches is allowed.

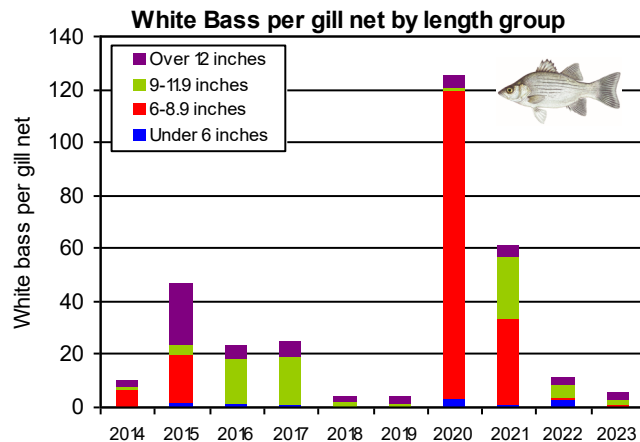
White Bass

After a couple years of abnormally high catch of white bass, the catch the past two years has been closer to what was observed during the 2014 to 2019 time period. While the ten year average gill net catch is 31.5 white bass per net, that number is greatly influenced by the high catches in 2020 and 2021.

White bass of all sizes were sampled last fall, but most ranged from 10 to 12.5 inches. The average length of a white bass collected was 11.7 inches and the largest individuals were 16 inches. Six different year-classes of white bass were sampled and the 2021-2022 year-classes were the most abundant ages collected. Fair natural reproduction was documented in 2023.

White bass angling success was excellent during 2023 and it appears that angler harvest may have played a significant role in reducing overall abundance. Although numbers may be down, average size continues to be very good and anglers should find some decent sized fish to catch during 2024.

The statewide daily bag limit for white bass is 15 fish per day, with only one fish greater than 16 inches.



Wipers

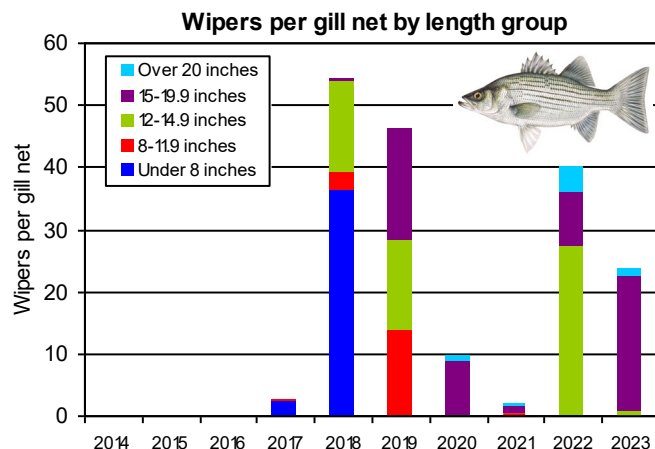
The 2023 wiper catch was considerably lower than 2022 results and consisted of 23.6 fish per net. The majority of the catch was from the 2021 stocking. Fish from the 2017 and 2018 stockings were much less abundant and only comprised 11% of the gill net catch. Wiper lengths ranged from 14 to 22 inches. The average catch of wipers since 2017 is 25.4 fish per net.

Wiper fry stocking was re-instated in 2017 as poor survival was observed with the prior fingerling stockings. In 2017, there were 3.4 million fry stocked and in 2018 there were 2.6 million stocked. These two stockings were extremely successful and created large year-classes. Additional fry were stocked in 2021 at a much lower rate (850,000) and another strong year-class was created, most of which are currently ranging from 14 to 17 inches. Wiper fry are scheduled to be stocked in 2024. Due to high survival rates of previous wiper stockings, rates will be further reduced, and only 500,000 fry are being requested.

The wiper management goal is to maintain a sustainable population that provides a viable sport fishery with opportunity for trophy fish and also to maintain angler tolerance for those who prefer to fish for other species. Food habit studies at Harlan Reservoir and other reservoirs have shown that there is generally minimal competition between wipers, walleyes, and white bass for food resources. Gizzard shad abundance in Harlan is currently high and can support all the predator species present in Harlan without compromise.

Anglers pursuing wipers at Harlan during 2024 should continue to have excellent success on fish ranging from 15 to 24 inches.

The daily bag limit for wipers at Harlan is 15 fish per day, with only one fish greater than 16 inches.



Additional Information about Harlan Reservoir

Walleye Stocking

Walleye fry have been stocked at Harlan annually since 2009 (except 2020 due to Covid-19), with about 10 to 14 million stocked each year. Walleye recruitment has been documented in most of these years, including a record number of young-of-year walleye in 2021. Special research sampling of young-of-year walleye from 2011 through 2018 indicated that over 90% of sampled young walleye originated from stocked fish. Based on overall recruitment success with walleye fry stockings, this stocking strategy has been annually used at a rate of 1,000 fry per surface acre of available water. During 2023, Harlan was stocked with 14.6 million walleye fry in April. Due to hatchery surplus, an additional 244,100 1-inch fingerlings were also stocked in early June. Due to anticipated lower reservoir levels, there are approximately 12 million fry scheduled to be stocked in 2024. All fry are boat stocked in the upper end of the reservoir to improve their chances of survival.



Channel Catfish Stocking

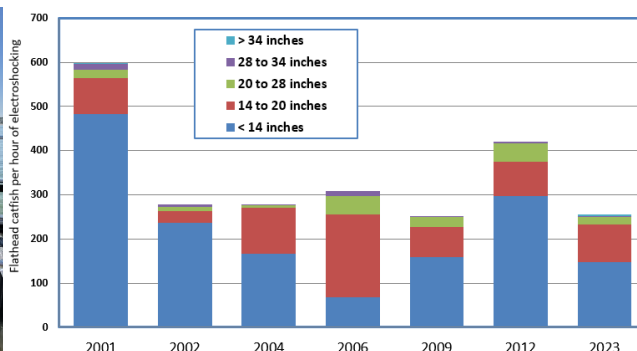
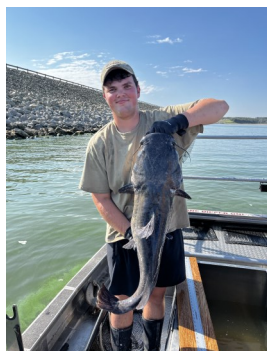
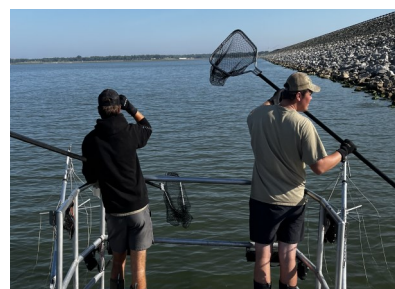
Due to declining catfish numbers since 2014, supplemental catfish stocking were completed in 2019, 2021, and 2023. The 2019 stocking consisted of 9,500 10-inch fish, the 2021 stocking consisted of 82,618 3.5-inch fish, and the 2023 stocking consisted of 42,900 5-inch fish. Channel catfish populations are annually monitored to determine if future stocking is necessary.

Wiper Stocking

Based on results of several years of research of predator fish interactions in Harlan Reservoir, wiper stockings resumed in 2005. Fingerling stockings during the 2005-2016 time frame were not very successful. Wiper fry were stocked in 2017 and 2018 with excellent success. Wiper fry were again stocked in 2021 at a reduced rate. The wiper management plan calls for wiper fry to be stocked every three years, with the next stocking scheduled for 2024. Stocking rates will be greatly reduced from levels stocked in previous years with only 500,000 fry scheduled to be stocked.

Flathead Catfish Sampling

Flathead catfish sampling was completed at Harlan during the summer of 2023 utilizing low-frequency electroshocking along the dam. This survey is normally completed every several years to monitor abundance and size structure of this predacious catfish species. Results indicate that flathead populations are relatively stable at Harlan, recruitment is excellent as plenty of small fish were collected, and the abundance of larger fish is good. The largest flathead collected during the survey was 39 inches and weighed 25 pounds.

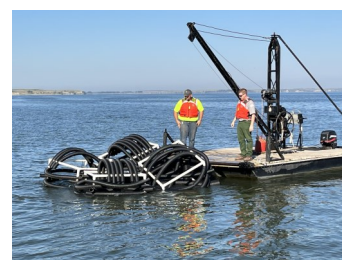
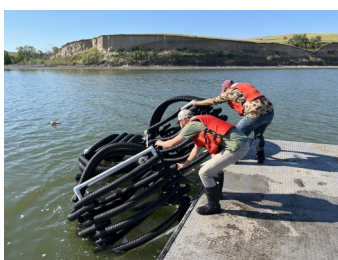
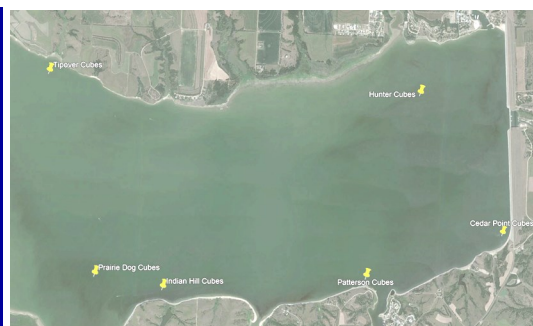


Additional Information about Harlan Reservoir

Artificial Fish Attractors

Over the past several years, staff from the Corps of Engineers (COE) and Nebraska Game and Parks have worked together to construct artificial fish attractors commonly referred to as “Georgia Cubes”. Recently the COE have utilized volunteer labor to assist with construction of these structures, which has saved a significant amount of money and has allowed for many more cubes to be constructed. During 2023, crews from the COE and NGPC teamed up to add approximately 50 more cubes to three locations in the reservoir. Below is a table of the approximate GPS points for the locations where 155 cubes have been added in recent years.

| Location | Latitude | Longitude | # of Cubes |
|-------------|----------|-----------|------------|
| Cedar Point | 40.05445 | -99.21189 | 31 |
| Patterson | 40.04707 | -99.23727 | 25 |
| Indian Hill | 40.04443 | -99.27525 | 27 |
| Hunter Cove | 40.07369 | -99.22858 | 20 |
| Tipover | 40.07448 | -99.29833 | 28 |
| Prairie Dog | 40.04572 | -99.28819 | 24 |



Aquatic Habitat Project— Methodist Cove Section 1135 Project

The Game and Parks Commission and the U.S. Army Corps of Engineers (COE) are partnering on a largescale aquatic habitat restoration project at Methodist Cove that is intended to restore and protect aquatic habitat that has been negatively impacted by sedimentation and shoreline erosion. A major component of the project will involve removing accumulated sediment from Methodist Cove and reconnecting the cove to the main reservoir. Breakwaters will be constructed to prevent the newly deepened cove from future erosion, as well as providing improved angling access. Improved spawning habitat will be added to the deepened areas of the cove to benefit species such as crappie, while deep water fish attractors will be placed in the main reservoir near the mouth of the cove to provide overwintering habitat. Construction of the project began in December 2023 and is tentatively scheduled to be completed in 2025.

Most of the funding for this 12 million dollar project is being provided by a Section 1135 grant administered by the COE to restore and enhance degraded aquatic ecosystems on projects that are owned by the COE. NGPC will provide matching funds through the Aquatic Habitat Fund, which is funded by the sale of Nebraska fishing permits.



Aquatic Invasive Species – Zebra Mussels

Anglers and recreational boaters should be aware of the threat of zebra and quagga mussels while using Nebraska waters. Boaters using Nebraska waters need to be aware of current regulations dealing with aquatic invasive species. The following regulations are in effect to help prevent the spread or introduction of unwanted species in Nebraska waters.

- It is unlawful to arrive at or leave any waterbody in Nebraska with water other than from a domestic source (such as a water supply system, well, or bottled), except for fire-fighting purposes. This applies especially to boats, their compartments, equipment or containers that may hold water.
- Any watercraft that has been on a Nebraska waterbody must drain the lake water from their compartments, equipment or containers before leaving the launch area. It is illegal to dump baitfish into a Nebraska waterbody.
- Livewells need to be drained prior to leaving a launch area: plan ahead and bring a cooler for harvested fish.
- All aquatic vegetation from that waterbody attached to the watercraft and/or trailer must be removed before leaving the launch area.

A good source of information about invasive species can be found on the Nebraska Game and Parks Commission website: <http://outdoornebraska.gov/aquaticinvasivespecies/>

Technicians have been hired the past few years to conduct interviews of boaters and help provide more information about aquatic invasive species. During June and July 2023, the AIS technician completed 348 inspections and interviews at the three major boating access sites at Harlan. Inspections included a visual examination of the boat and trailer, as well as questions to boat owners to determine their residence, last water body visited, when boat was last used, and determination of boat type. Of all the boats sampled, a significant number (93%) of them had only visited Harlan during the prior three weeks. Conversely, there were two boaters interviewed that said that they had visited a zebra mussel infested lake within three weeks prior of visiting Harlan. This illustrates that the risk of mussels being introduced into Harlan by an irresponsible boater is a real possibility.

The following tables list residency of Harlan boaters and the types of boats used to recreate on the lake.

| State of Residence | Frequency |
|--------------------|-----------|
| Nebraska | 93% |
| Kansas | 4% |
| Colorado | 1.5% |
| Other | 1.5% |

| Boat Type | Frequency |
|-----------------|-----------|
| Fishing | 41% |
| Pontoon | 24% |
| Pleasure | 22% |
| Ski / wakeboard | 7% |
| PWC | 6% |



Harlan Reservoir remains a priority location for AIS work and efforts will continue during 2024 to inspect boats, educate boaters, and to conduct sampling for veliger's, adult mussels, and other types of aquatic invasive species.

For additional information about fisheries management at Harlan Reservoir, please contact the Nebraska Game and Parks Commission office in Kearney at 308-865-5310, or by email at the addresses listed below.

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Biologist: Alex Engel, alex.engel@nebraska.gov