

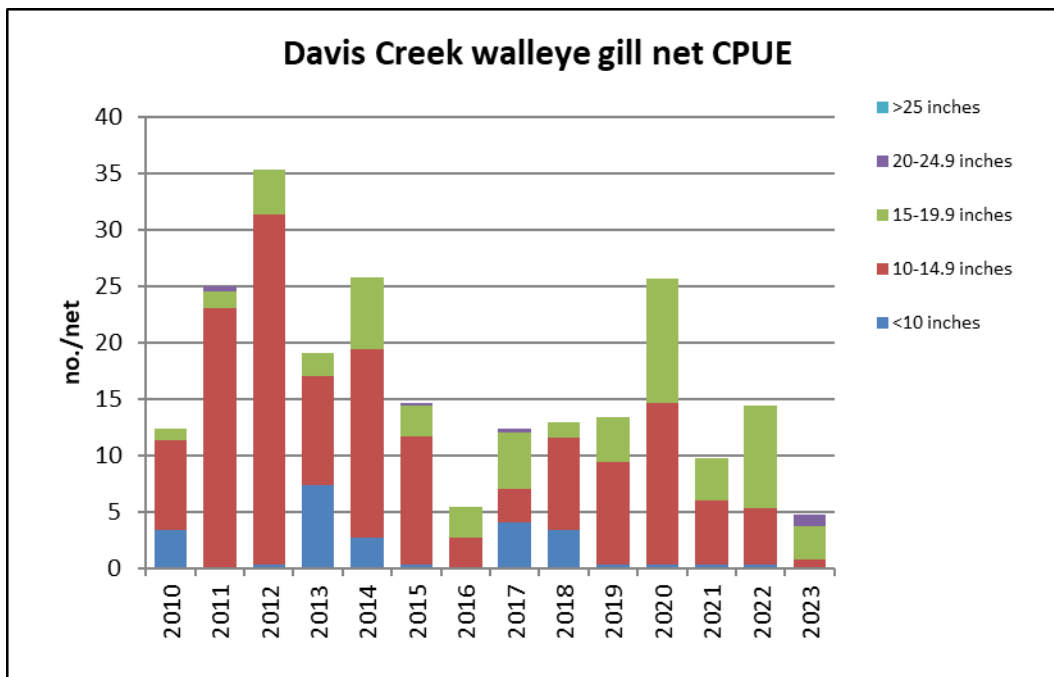
2023 Davis Creek Reservoir
Fishery Survey Summary

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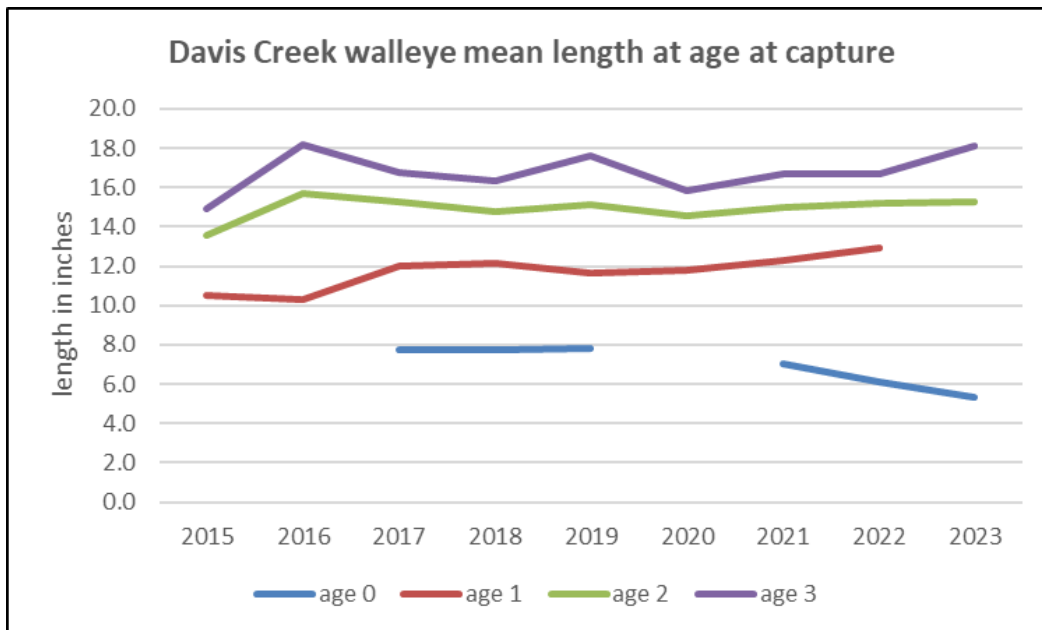
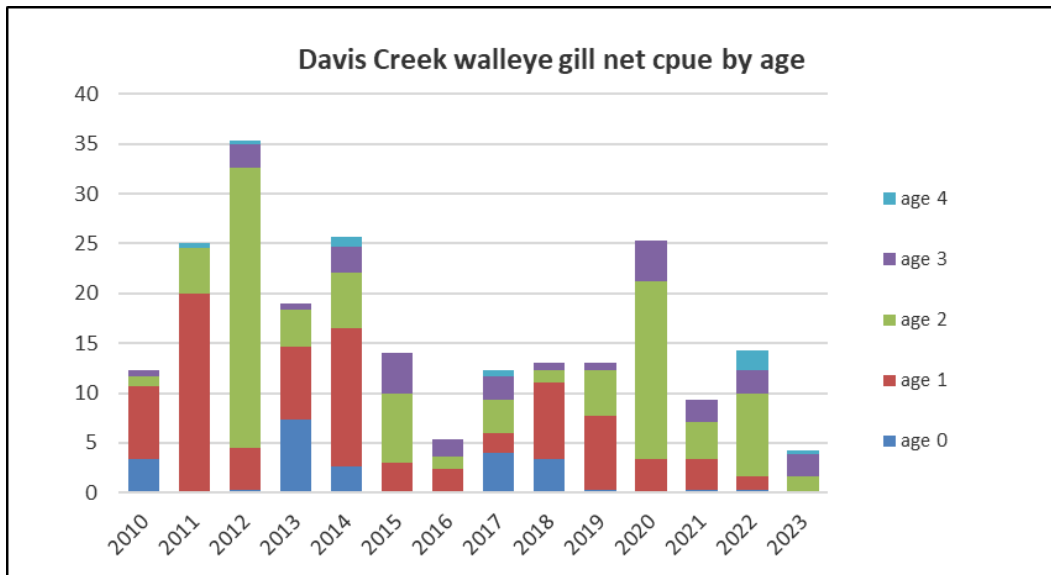
The following text and graphs are the result of netting surveys completed in April (electrofishing shad), May (frame nets), August (nighttime young-of-the-year collections) and September (gill nets) at Davis Creek Reservoir in 2023. For comparative purposes this report shows results from previous sample years. Fish populations are sampled annually at Davis Creek using gill nets, frame nets and electrofishing. Gill nets are used to sample fish species found primarily in open water, such as walleye and white bass, while frame nets are used to sample shoreline oriented species, such as crappie. Electrofishing is conducted for young-of-the-year fish and gizzard shad. The following graphs show the mean number of fish caught per net and the relative abundance of fish within several length categories. The text provides a brief explanation of the information shown in the graphs. A fish stocking summary is presented on page 7 of this report. Daytime electrofishing surveys for shad in April provides data on population levels prior to shad spawning season. Gizzard shad are a very important prey fish in Davis Creek and winterkill of shad can be an issue. If adult numbers are low, shad will be transferred from Calamus Reservoir.

Walleye



Walleye net catch was down nearly 70% from the 2022 catch and far under our target objective level of 15-20 per net. Legal sized fish (those over 15 inches) make up the majority of walleye in the sample. No young-of-the-year fish were collected in gill nets despite decent numbers collected in August nighttime electrofishing. Additionally, no age 1 fish (2022 year class) were collected in the 2023 gill net sample either. Poor shad production in 2023 likely had a negative effect on walleye survival and growth, particularly for younger fish. Angling success at Davis Creek in 2024 should be more in line with that seen in 2016 and less productive than the previous few years. 2015 was the last time there was poor shad production due to a winterkill of adult shad the previous winter. Efforts for future walleye management will center around maintaining recruitment and insuring adequate prey numbers. The management philosophy at Davis Creek is to have a lake where we hope to maintain high walleye recruitment rates and cycle fish through to the angler for harvest on a sustained annual basis. Walleye in Davis Creek are reaching 15 inches in about 2

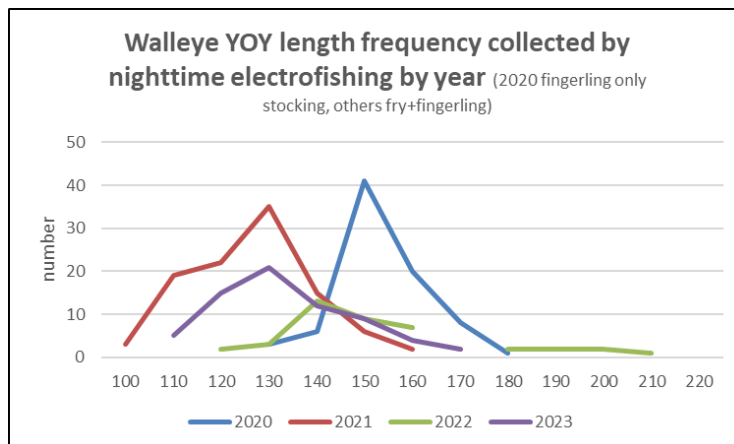
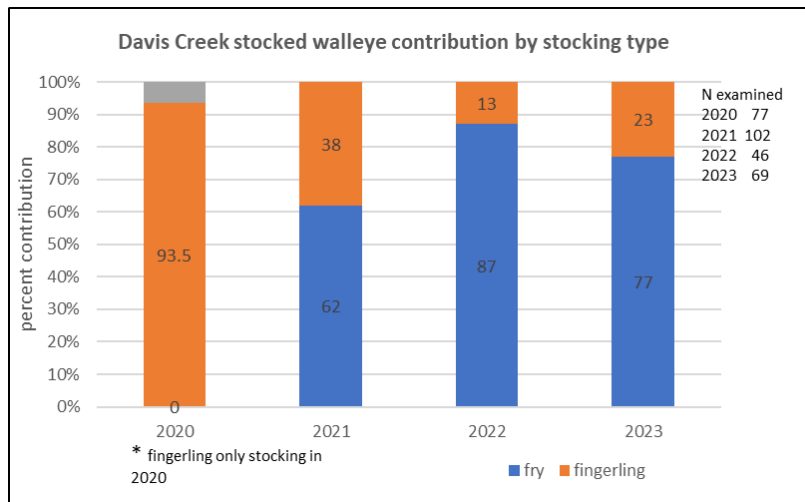
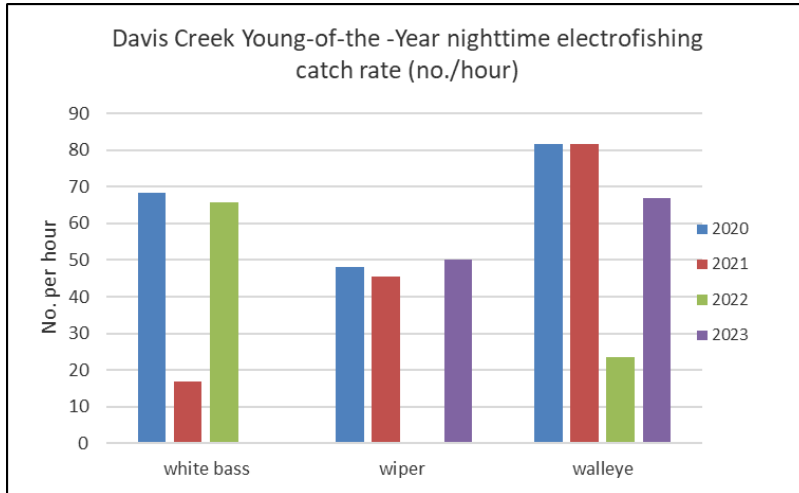
1/2 growing seasons. In 2024 fisheries staff will index adult shad numbers in the Spring to ensure spawning fish are present and a sufficient prey base will be produced.



Walleye Recruitment Evaluation in 2023.

Nighttime electrofishing was conducted in 2023 to gather information on relative density of walleye young-of-the-year (YOY) and to determine contribution of stocked fish by stocking strategy (fry or fingerling). The fingerling stocked walleye contained a chemical mark located in the otolith or “ear stone” of the fish. By examining the otoliths under a specialized scope, we were able to identify marked fish and determine which stocking strategy contributed fish. In 2023 fry stocked fish contributed 77% of those collected and analyzed while fingerling stocked fish made up 23%. As indicated in the graph below, fry stocked walleye accounted for the majority of fish collected in August. In 2020, only marked fingerling fish were stocked which allowed

us to determine if any natural recruitment was occurring. It appears natural recruitment of walleye is very low or non-existent. Walleye YOY were collected at a rate of 66 per hour and most were 5-6 inches long at the time of sampling in late August. However, YOY walleye growth has been slower for some of the years when the concurrent fry/fingerling were conducted compared to fingerling only stocking. Smaller sized fish can lead to higher winter mortality the first year and ultimately lower recruitment to the sizes anglers can keep. Data will be further analyzed to determine the best stocking scenario for Davis Creek.

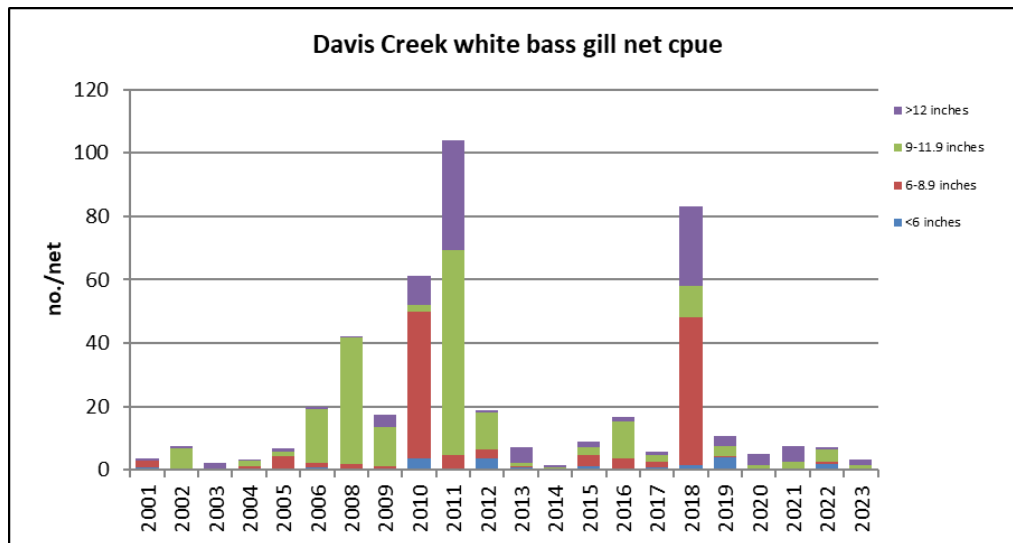


White Bass

White bass numbers in the gill net sample continued to decline in 2023 compared to the last five years and much below the previous five year average of 7.2 per net (not including 2018 data). Other than years when it seems every white bass in the lake swims into our nets, white bass gill net catch rates tend to be in the range of 5-10 per net and are pretty consistent.

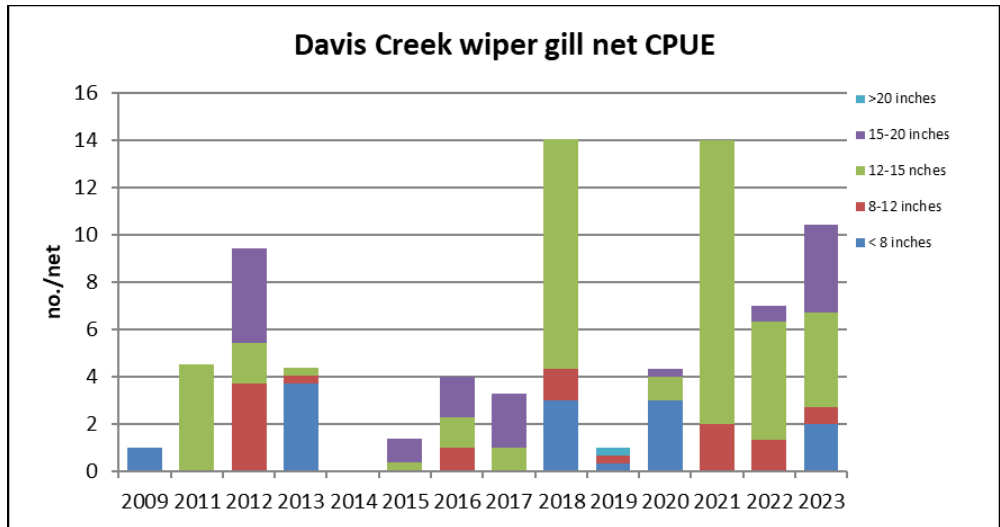
Anecdotal information and angler contact indicates white bass are common in Davis Creek but do not always show up in the net survey. White bass are a schooling fish and can be hit or miss with nets. White bass natural reproduction was poor in 2023 (see above graph). No age 0 white bass were collected during the fall electrofishing survey

Anglers will likely find white bass success somewhat poor compared to the past few years with the inlet area in the springtime still the best bet. Young-of-the-year white bass data collections will continue for the next three years in conjunction with the walleye stocking evaluation.



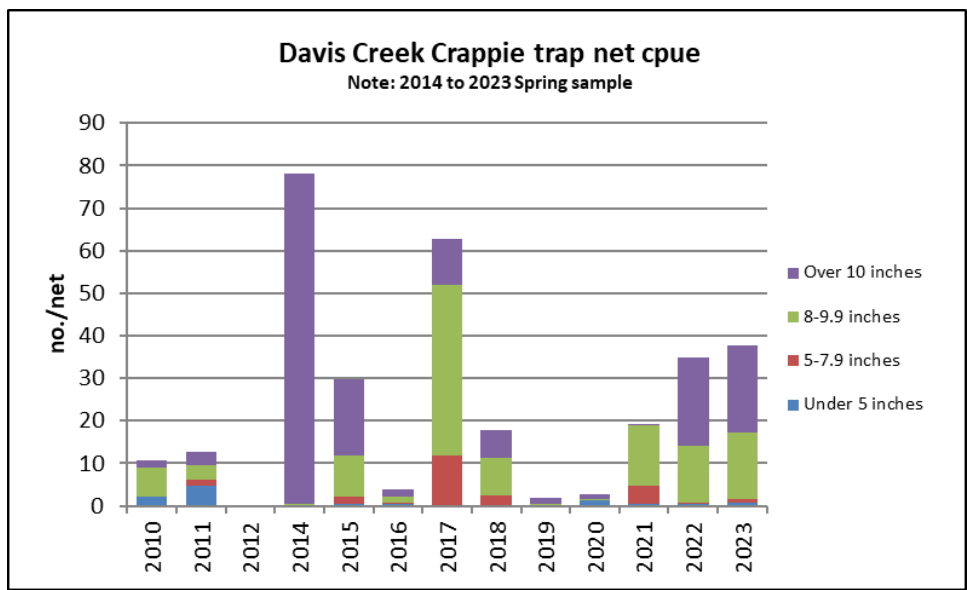
Wipers

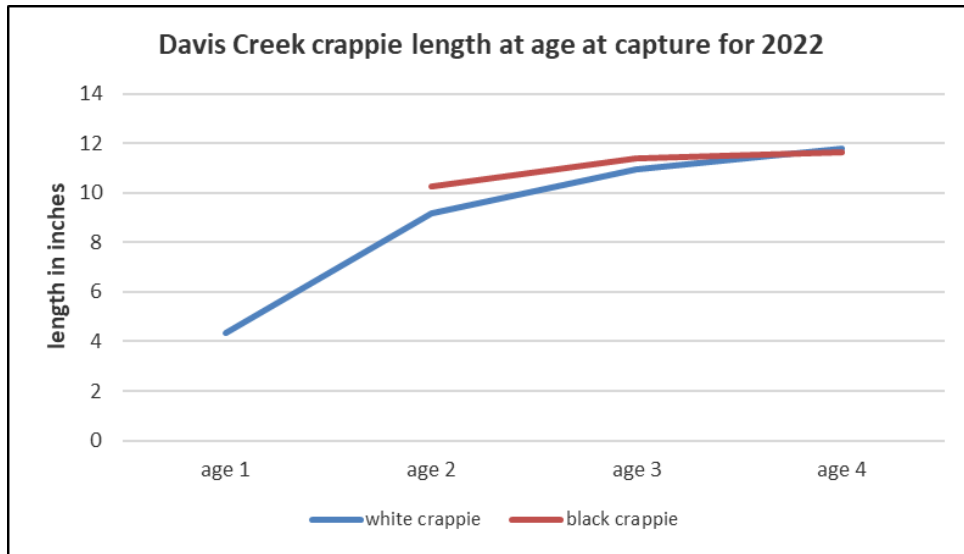
Wiper numbers in Davis Creek continue to remain strong with a 2023 sample catch rate of 10.3 per net. The gill net catch rate for the past three years is relatively high for Davis Creek and some quality fish are present for anglers. Young-of-the-year (YOY) wipers have been collected by electrofishing gear at rates of 40-50 fish per hour which indicates our stocking is surviving well. We will continue to request wipers for stocking on an annual basis to maintain a fishable population for anglers to enjoy. The wiper request for 2024 is 5,725. **Anglers are reminded that only one white bass/wiper over 16 inches is allowed in the daily bag limit.** Problems are encountered at the inlet area in the Spring when anglers were violating the "one over" part of the daily bag limit for wipers. Please report all violations to the local Conservation Officer whose name and number can be found in the fishing guide.



Crappie

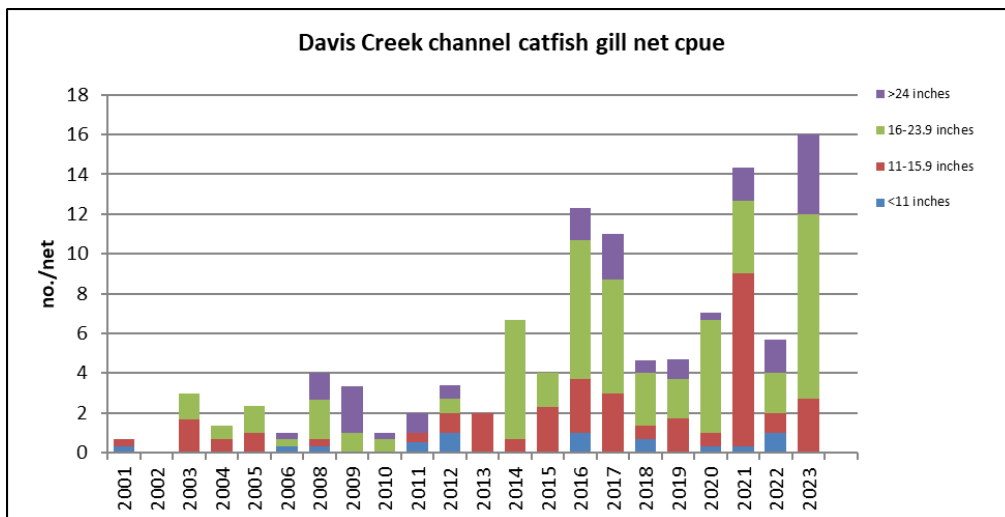
Crappie are sampled with shoreline frame nets in May. Water temp and lake elevation are crucial to getting a good sample. The last three years crappie numbers have been on the upswing and 2023 was one of the better years. Not only did the catch increase to 38 per net, over half the fish sampled were 10 inches or more in length. The 2021 year class for both black and white crappie is strong and driving the population levels. Additionally the 2020 year class for white crappie is a major contributor to crappie numbers. Fingerling black crappie were stocked in 2021 and 2022. Due to strong crappie numbers no black crappie will be stocked in 2024. We will continue to monitor the crappie populations and determine if future stocking is necessary. Past data shows that Davis Creek crappie growth rates are very good and crappie fishing can be excellent when numbers are higher. Natural reproduction in recent years has been somewhat sporadic and we may need to improve crappie recruitment at times through supplemental stocking. We try to sample crappie the same time of year with closely similar water temperatures but it is difficult to duplicate exact conditions from year to year. Look for good crappie fishing at Davis Creek in 2024.





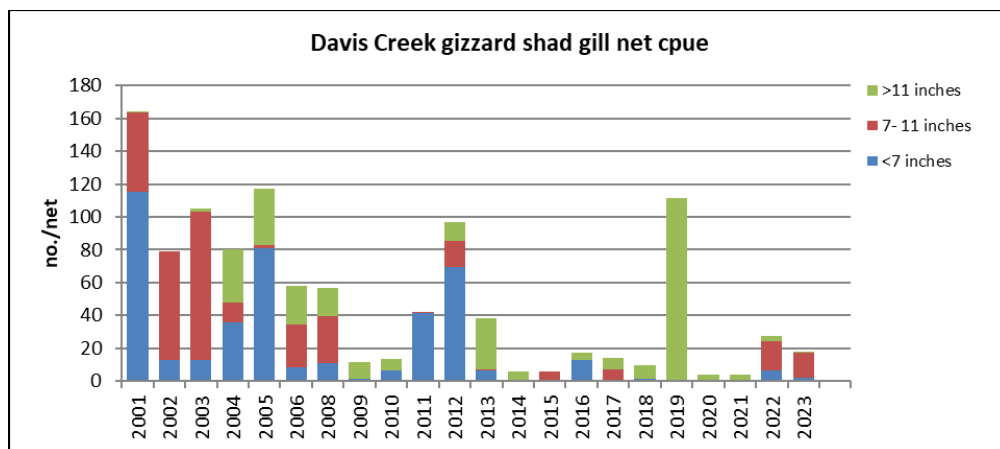
Channel Catfish

Channel catfish abundance has been on the increase at Davis Creek Reservoir. The 2023 gill net catch is the highest recorded during a Fall survey. Quality fish are present in the population and available to anglers. It is common to see catfish 30 inches and larger during the Spring electrofishing shad survey near the inlet. Stocking that began in 2012 appears to be paying off in terms of higher catfish numbers seen from 2014 through 2023. Channel catfish are stocked as ten-inch fish in late summer on an every-other-year basis during even numbered years. Body condition for catfish is adequate but not as good as anticipated. Most likely body condition in 2023 was related to poor shad production and therefore lack of adequate prey. Anglers are reminded that the daily bag limit for channel catfish is five fish per day with **1 over 30 inches allowed in that daily bag**. The next stocking is scheduled for 2024 and 3,300 ten inch fish are requested.



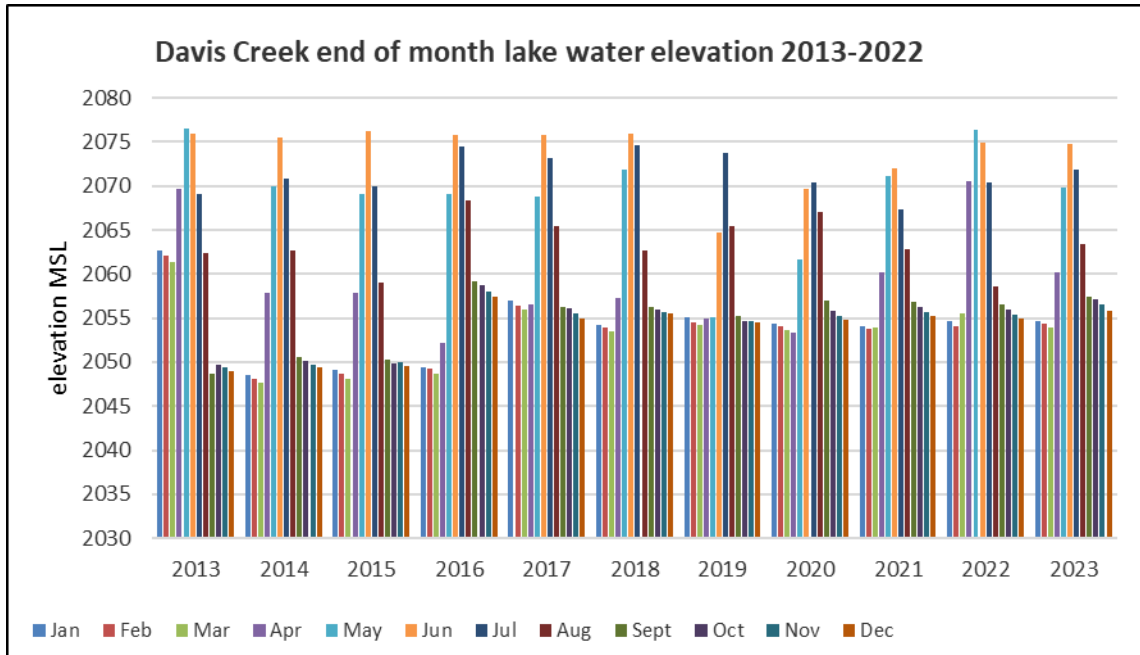
Gizzard Shad

The gizzard shad population is monitored because they serve as the primary food source for walleye, white bass, crappie and wipers at Davis Creek. Shad abundance in the 2023 gillnet sample was about normal but low numbers of age 0 fish (the main prey size) was low. Adult gizzard shad were not found in the early Spring electrofishing sample and the decision was made to collect spawning adults from Calamus Reservoir and stock in Davis Creek. Young shad production was poor throughout the reservoir in 2023 with the highest small shad numbers seen in the inlet area during summer sampling. Schools of shad were difficult to locate in the main lake until late August. Poor body condition index for many predatory sport fish species was likely due to poor gizzard shad production in 2023. A preferred gizzard shad population is one dominated by young-of-the-year fish with moderate adult numbers. Sport fish survival, growth rates and body condition decrease if abundant young shad are not available. The high numbers of shad seen in the lake prior to 2009 was prior to the annual stocking of predator fish species. We will continue to monitor gizzard shad numbers and stock adults if deemed necessary. Stocking numbers of walleye, wipers, and channel catfish may be adjusted based on gizzard shad numbers and production.



Reservoir Water Levels

Reservoir water level management at Davis Creek has an effect on fishing activity and success as well as overwinter survival of fish. Normal operation is to fill the irrigation reservoir in April and May, usually reaching full pool sometime in June. Full pool is elevation 2075 but that is not achieved in some years and over-reached in others. Water levels in 2020 and 2021 were topped at nearly 5 feet below full pool while in 2022 over-full was reached in May. The reservoir level is generally held at elevation 2055 for the winter which is about 20 feet below full pool. Beginning in 2016, winter water levels were increased about 5 feet and wells monitored by Twin Loups Irrigation and Lower Loup NRD and USBOR to guard against any water mounding due to higher lake levels. Higher winter water level is better for overwintering fish. Annual water level manipulation is controlled by Twin Loups Irrigation District.



Additional Information about Davis Creek Reservoir

Fish Stocking

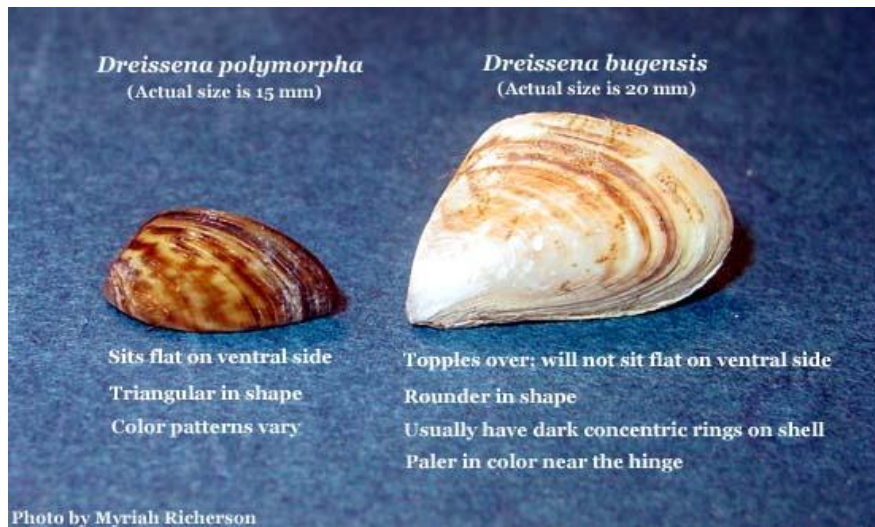
Walleye have been stocked annually from 2009-2023 at a rate of 50 fingerling per acre or about 60,000 per year and beginning in 2018 an additional annual stocking of walleye fry was added. Due to Covid-19 shutdowns, only fingerling walleye were stocked in 2020 which allowed the evaluation of any natural recruitment. Wipers have been requested annually since 2010 but were only available for stocking in 2010, 2013 and 2015–2021 and again in 202023. Wipers are requested for stocking at about 10 fingerling per acre or about 11,000 fish. Channel catfish supplemental stocking began in 2012 and will be conducted in even years at 3,300 ten-inch fish. Black crappie will be stocked when deemed necessary to boost numbers. Fish stocked in 2023 were 63,896 walleye fingerling, 1.1 million walleye fry, 23,548 wipers, and 278 adult gizzard shad. Fish requested for 2023 stocking are walleye, channel catfish and wipers.

Zebra & Quagga Mussels

Anglers and boaters need to be aware of zebra and quagga mussels while using Nebraska Lakes. While no mussels have been identified at Davis Creek Reservoir, zebra mussels have been found in Lewis and Clark Lake on the Missouri River, have now been found in high numbers in Lakes Sharpe and Francis Case in South Dakota, and are present in several reservoirs in Kansas. Monitoring was completed at several Nebraska reservoirs during 2023, including Davis Creek Reservoir, and no evidence of mussels were found at Davis Creek. An aquatic invasive species inspection technician will periodically be contacting boaters and anglers at Davis Creek in 2024. We appreciate your patience and participation with these inspections and ask for your help to please Clean, Drain, and Dry and stop the spread of invasive species! If you find any organism that you think may be a zebra or quagga mussel please contact the Norfolk Game and Parks office or contact your local conservation officer to report the finding.

Invasive mussels will attach to almost any surface and have detrimental impacts on industry (power plants, water intakes, irrigation, etc) native fish and mussels, and recreational users (fouling boat motors, impacting beaches, etc). Invasive mussels cause an estimated \$5 billion per year in economic impacts in the United States for monitoring and control efforts. Inadvertent transfer by humans is the major source of new infestation for zebra and quagga mussels; primarily by boats, boat trailers, and fishing gear. Boaters and anglers are reminded that it is important to **clean, drain and dry** their equipment and boats before moving to different bodies of water. Anglers and boaters are encouraged to educate themselves on these and other aquatic invasive species. An excellent source of information regarding invasive species can be found on the University of Nebraska's Invasive Species Project website: <http://www.neinvasives.com/>

****Special Note to Boat Anglers****—>As of January 1, 2013, new regulations require that any boat that has been on a waterbody must drain all water from all compartments, equipment, or containers before leaving the launch area and that all aquatic vegetation must be removed from the boat and trailer before leaving the launch area. Boats will not be allowed to launch without decontamination if water is found in the boat or livewells. More information on aquatic invasive species, including regulations can be found at the Game and Parks website at <http://outdoornebraska.gov/aquaticinvasivespecies/>



For additional information about fisheries management at Davis Creek Reservoir, please contact the NGPC Norfolk office at 402-370-3374, or by email at the addresses listed below.

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