

Pigeon Lake Carp Removal Summary

Highlights:

- WDNR staff ran fyke nets and electrofished between Monday, October 5 – Thursday, October 8 to remove as many common carp from Pigeon Lake as possible. WDNR staff spent approximately 65 – 70 hours on Pigeon Lake actively setting/checking nets and electrofishing.
- WDNR staff greatly thank all Pigeon Lake District members who helped with the removal efforts.
- **A total of 2,499 common carp were removed! This is nearly 15 common carp per surface acre of Pigeon Lake.**
 - The vast majority (2,484) of the common carp removed were hatched during the summer of 2019 (2019 year class) shortly after the lake was refilled. These carp were primarily 7 – 12 inches long.
 - 15 adult common carp (ranging in size from 24 – 38 inches) were also removed.
- Electrofishing was much more effective than fyke nets at capturing common carp. WDNR staff set 5 fyke nets on Monday, October 5. Those 5 nets were checked on both Tuesday, October 6 and Wednesday, October 7. The fyke nets were baited with corn to try to increase numbers of carp captured. Only 85 carp were captured between the two days. One was an adult and the rest were from the 2019 year class. Fyke nets were removed on Wednesday to spend more time electrofishing.
- A total of 20.281 miles of shoreline were electrofished to remove carp. 2,414 carp were captured and removed via electrofishing.
- **No carp that were hatched this spring/summer were captured!** Good numbers of predators (largemouth bass and northern pike) and panfish (crappie, bluegill, pumpkinseed, and yellow perch) likely ate most of the common carp eggs and newly hatched carp this past summer. This indicates that the likelihood of strong year classes of common carp in the future is low.
- WDNR staff collected data on numbers and sizes of all gamefish and panfish species captured in the fyke nets. A summary report of this data will be written later this winter and should be available in spring 2021. Overall, gamefish and panfish populations look great following the drawdown. The picture below is of some northern pike and panfish that were captured in a fyke net. **The recovery of the fishery in Pigeon Lake is coming along nicely!**



Common Carp Catch Rates:

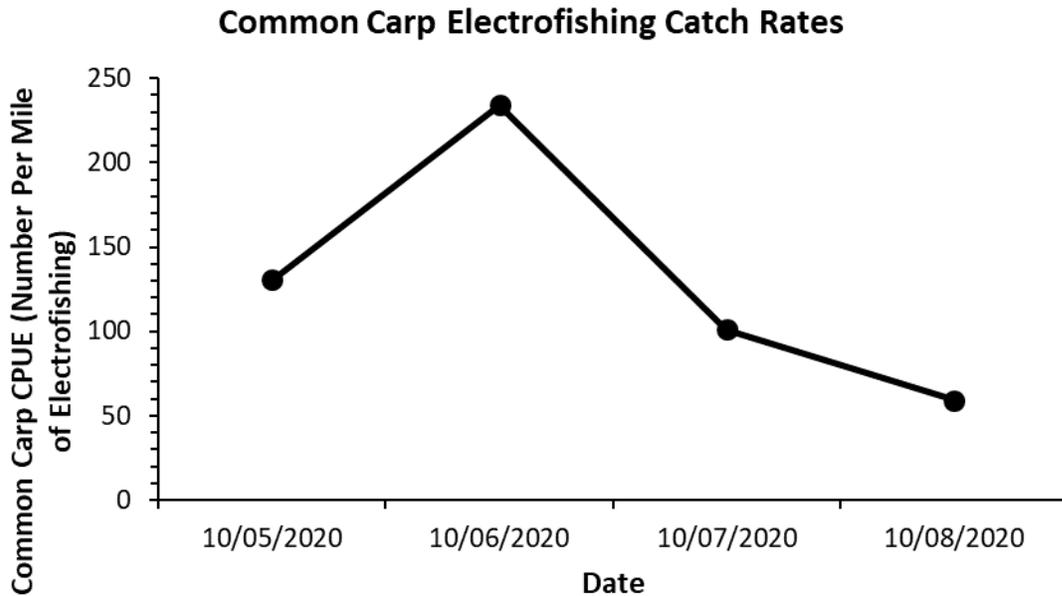


Figure 1. Common carp catch-per-unit-effort (CPUE) indicated as the number of common carp captured per mile of electrofishing on the four days that carp were removed from Pigeon Lake.

On Monday, October 5, catch rates were approximately 130 common carp per mile of electrofishing. Catch rates of common carp increased and peaked on Tuesday, October 6, when approximately 235 carp per mile of electrofishing were captured. Catch rates were higher on Tuesday compared to Monday because WDNR staff spent some time on Monday electrofishing all habitats to determine what habitats most of the carp were living in. Starting Tuesday, efforts were made to target these key habitats to remove as many carp as possible. Catch rates of common carp declined on both Wednesday and Thursday. Catch rates of common carp on Thursday had declined to 59 common carp per mile of electrofishing, which is only approximately $\frac{1}{4}$ of the peak catch rate of 235 common carp per mile of electrofishing. Declines in catch rates on Wednesday and Thursday may be a result of some carp leaving the areas that were being intensively shocked. Efforts were made to shock all habitats on Wednesday and Thursday with most effort being targeted in the best habitats for carp. However, the observed declines on Wednesday and Thursday were more likely a result of the significant number of carp removed from the system on Monday and Tuesday leaving a lot fewer carp available for capture by the end of the week.

Pigeon Lake Carp Removal Length Frequency

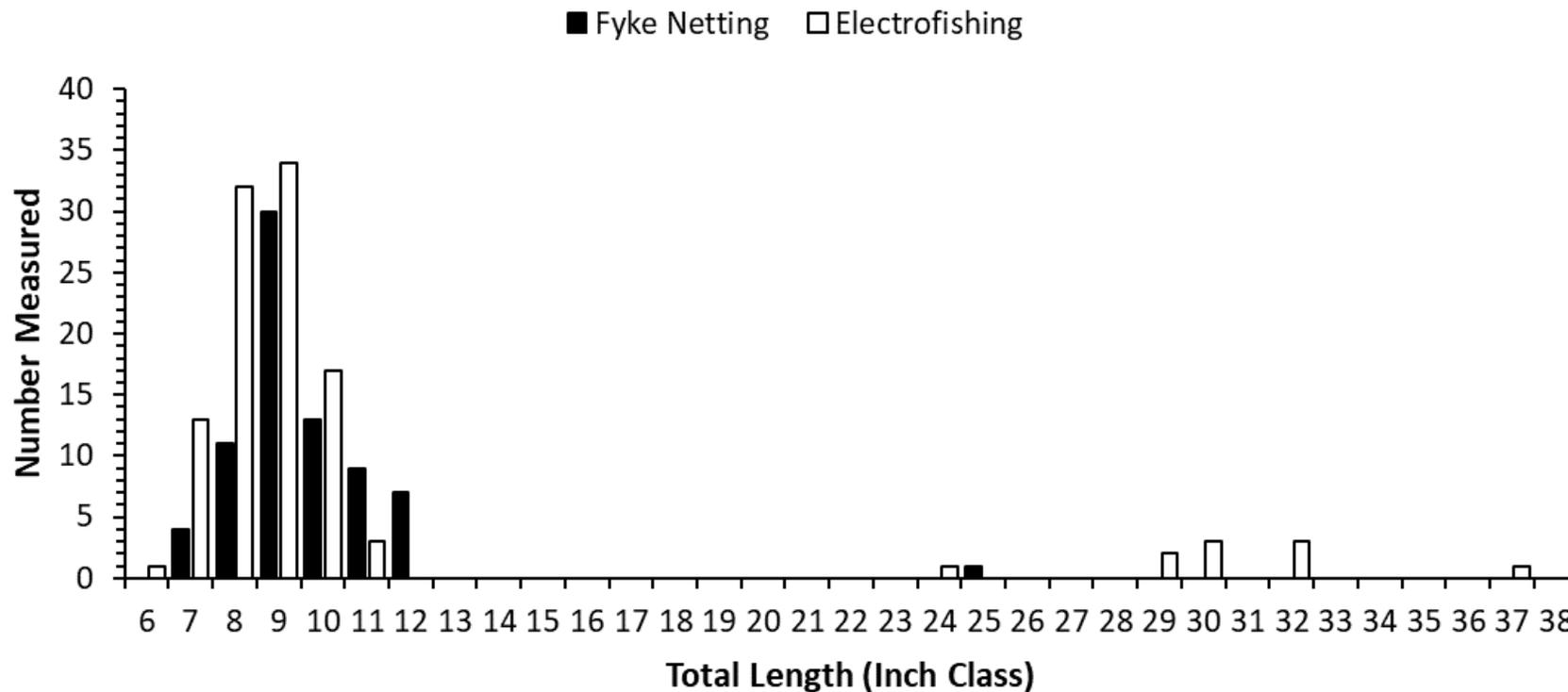


Figure 2. Number of carp measured in various inch classes from both fyke netting (solid black bars) and electrofishing (white bars with black border).

Figure 2 is a length frequency distribution that shows the size structure of the carp that were measured as part of the removal. The bars represent the number of carp measured in a given inch class (i.e., 7.0 – 7.99 inches). Solid black bars were carp captured with fyke nets whereas white bars with a black border were carp captured with electrofishing. A representative sample of approximately 175 carp that were from the 2019 – year class and 11 adult carp were measured. The 11 adult carp that were measured ranged in size from 24 – 38 inches. Most of the carp from the 2019 year class were between 7 – 12 inches. A total of 2,484 carp from the 2019 year class were removed from Pigeon Lake.

Some members of the Pigeon Lake District expressed interest in continuing to work to remove carp via traps/nets. WDNR staff will look into what permits may be needed to do this as well as best potential designs for traps/nets that could be used. While WDNR staff wish that all carp could be removed from Pigeon Lake, at this point it is unknown how effective additional efforts to remove carp will be. Spring 2021 may be the best time to target additional removal efforts. Below are some points to consider.

- Common carp have been in Pigeon Lake for decades and will likely always be in Pigeon Lake in the future. The goal of the removal was not to eradicate common carp, it was to reduce the densities of carp to minimize the impacts that carp will have in the future.
- Baited fyke nets were largely ineffective at capturing carp during the removal efforts. Only 85 carp were caught despite setting 5 baited fyke nets on Monday and removing carp from them on both Tuesday and Wednesday. Setting and checking fyke nets is a time-consuming process. The likelihood of traps/nets being effective at capturing carp in Pigeon Lake in the future is low. Baited traps typically work best when carp are food limited, which is likely not the case in Pigeon Lake given how small the carp still are.
- Also, 2,499 carp were removed from Pigeon Lake as part of the recent efforts, meaning any future attempts to capture more carp may be less effective because there are thousands less carp in the lake.
- The WDNR and Pigeon Lake District have stocked a lot of gamefish and panfish in Pigeon Lake, including thousands of yellow perch that were purchased by the Pigeon Lake District and stocked on Saturday, October 10. The size of yellow perch that were stocked are notorious for getting wedged/gilled in the mesh of the fyke nets that the WDNR uses. Setting additional nets/traps to remove more carp runs the risk of having these perch and other desirable panfish and gamefish get stuck in the mesh of the nets/traps and dying. Designs of nets/traps used could minimize the impact to desirable gamefish and panfish.
- Continued carp removal by Lake District members in the future would require significant commitments of time and resources.