



IOWA DEPARTMENT OF NATURAL RESOURCES

Sport Fish Restoration Research Findings

Assessment of Iowa's Shovelnose Sturgeon Sport Fisheries



Project Duration: 2014-2019

Locations: Upper Mississippi River (Jackson and Louisa County), Cedar River (Linn County), and Des Moines River (Wapello County)

Large Rivers

Fisheries Research Team:

Ryan Hupfeld, Fisheries Biologist

Gene Jones, Fisheries Technician 2

Royce Bowman, Fisheries Technician 2

For more information, please contact the Large Rivers Fish Research Station at (563) 872-4976.

Assessment of Iowa's Shovelnose Sturgeon Sport Fisheries

Shovelnose Sturgeon provide an important recreational and commercial fishery for the Upper Mississippi River and recreational fisheries in connected tributaries (e.g., Cedar and Des Moines rivers). However, Shovelnose Sturgeon distribution and abundance have been reduced over the last century due to habitat modifications and overharvest. Despite popularity and historical declines, limited population and sampling efficiency information exists on Shovelnose Sturgeon populations in the Upper Mississippi River and associated tributaries. This research studied which gears are best suited for monitoring Shovelnose Sturgeon populations, as well as evaluate population status at each location.

Goals

Gear evaluation

- To evaluate multiple sampling gears to develop sampling methods to monitor Shovelnose Sturgeon populations.

Population evaluation

- To evaluate Shovelnose Sturgeon populations in the Upper Mississippi River (UMR) and connected tributaries (Cedar and Des Moines rivers).



Results

Gear Evaluation

- Trammel nets were the most consistent gear with the lowest variation in catch. Thus, this gear requires the fewest number of samples to monitor a population. Trammel nets also captured the widest size range of fish and most proportionate male-to-female ratio.
- Electrofishing and trawling provided higher efficiency than trammel netting, but had higher amount of variation in catch. Thus, a higher number of samples would be needed to monitor a population.

Population Evaluation

- Since the larger minimum length limit (27 inches) was put in place on the UMR, evidence of increased natural reproduction has been documented.
- Growth of adult Shovelnose Sturgeon was slower in the Cedar River than in the UMR.
- In the Cedar River, females spawned on average once every two years.
- In the Cedar River, once sexual maturity was reached, growth slowed substantially. On average, individual fish grew ~0.1 inches per year.

Conclusions

Gear Evaluation

- Trammel nets should be used to sample Shovelnose Sturgeon populations when the goal is to monitor populations on an annual basis.

Population Evaluation

- Due to the slow growth of Shovelnose Sturgeon, this species likely lives much longer than previously thought. Because of slow growth and observed spawning periodicity, the population is likely more susceptible to overharvest or any changes to habitat that may negatively affect the populations.
- Monitoring and having appropriate regulations in place to protect a long lived species such as Shovelnose Sturgeon is imperative to provide sustainability for future generations.

