**Title:**

Long live the Bigmouth Buffalo

**Abstract:**

Fish have long been a major part of human cultures around the world whether it be food, sport, pets, or scientific study. In most human-fish relations, fish are exploited to human’s benefit. Apart from fisheries that target invasive species, arguably their most important characteristic is sustainability, so that future generations can reap the rewards over long time periods while the species persists. Thus, crucial information such as the exploitation rate, along with an accurate understanding of specific biological parameters such as the population size, age demographics, maturation, year-class recruitment, and natural mortality rates of harvested populations is necessary. When any of this data is lacking or wildly inaccurate, fisheries collapse. This has happened time and time again in both marine and freshwater, causing major economic, ecological, and scientific losses including extinction. All these biological parameters, except for immediate population size, are based on accurate age data. Bigmouth Buffalo (*Ictiobus cyprinellus*) are a freshwater fish native to North America that are natural counterparts in the fight against invasive fish such as the Asian carps, and whose young are forage for predatory gamefish. Bigmouth Buffalo have long been mistakenly believed to be a fast-paced fish. It was recently documented and validated that they instead have life history attributes that differ by an order of magnitude than what was previously assumed, beginning sexual maturity near the end of their first decade of life and able to live 112 years. Several populations across northwestern Minnesota (Hudson Bay drainage) show evidence of episodic recruitment that spans 40-80 year time intervals. During 2019-2020 we found similar evidence of episodic recruitment across a widespread region of the upper Mississippi drainage in northcentral MN with pulses of year classes from the 1940s and 1970s, and <1% of the total fish having hatched post-1980. Using the MN Department of Natural Resources 28-year dataset (1993-2020) of size-catch data on Bigmouth Buffalo, we find that juvenile *I. cyprinellus* have never been captured in the same regions that we have documented widespread recruitment failure that spans the past 40-80 years. This is extremely concerning since it is currently legal to harvest Bigmouth Buffalo with virtually no restrictions in MN, as there are literally no limits established on their take. Bigmouth Buffalo are valued both as a commercial food-fish, and recently became a valued sportfish as bowfishing has become a multimillion-dollar sport in just the past 10 years. Although the commercial fishery, which occurs almost exclusively in Southern MN, is strictly monitored, there are currently no harvest-reporting mechanisms in place for bowfishing, a sport that is surging in popularity across the nation with hauls from single outings often exceeding a ton of fish with bowfishers themselves already voicing concerns regarding their Bigmouth Buffalo quarry. Precautionary measures must be taken soon, otherwise Bigmouth Buffalo will likely be extirpated from regions of their natural range, a failure for all.