

Peter Strohmeier,
Committee Administrator at Minnesota House of Representatives
CC Adam.Kopel

8 February 2021

Dear Peter Strohmeier

I am writing as PhD candidate and population ecologist who has been studying the demographics of northern populations of Painted and Snapping Turtles for the last 10 years in Ontario, Canada. I wish to express strong support for the legislation pending in Minnesota to finally end the commercial trapping of turtles.

In general, turtles are among the most imperilled animal groups in the world, with more than half of species threatened with extinction. Globally, the most critical threat, exceeding even habitat loss, is hunting and collecting (e.g., see Standford et al. 2020. *Current Biology* 30: R721-R735). Hunting is such a threat to turtles because their life-history strategy depends on very high adult survival, which means that turtle populations cannot support exploitation of adults or older juveniles.

I am concerned that the current management regime in Minnesota is based on poor information. For example, the DNR's website that presents the basis for delisting the Snapping Turtle (<https://www.dnr.state.mn.us/rsg/profile.html?action=elementDetail&selectedElement=ARAAB01010>) has unrealistic values for vital rates (the effect of hunting is determined by the vital rates) such as age at maturity and reproductive lifespan. The age at maturity is listed as 5-7 years, which is not plausible for MN. Studies in Ontario and Michigan suggest that realistic values would be two to four times higher: 10 to 25 years would be realistic. The stated value for reproductive lifespan is 5 to 10 years, which corresponds to an annual mortality rate of something like 10 to 15%. This is unrealistic for a stable population of Snapping Turtles. Actually stable populations probably require adult survivorship of over 94% (i.e., less than 6% mortality). The values listed by the DNR are over-optimistic and, therefore, are likely to underestimate the magnitude and long-lasting consequences of exploitation. My own research focuses on a Snapping Turtle population that was subject to increased mortality – 20 to 30% over three years in the late 1980s – and this halved the population, which has still not recovered after nearly 30 years. There is no reason to expect that similar consequences have not occurred in Minnesota repeatedly over decades of unsustainable harvest, and this depletion will continue as long as trapping continues.

The three species of turtle currently subjected to harvest in Minnesota are adaptable generalists, especially Painted and Snapping Turtles, that can persist successfully in many types of habitats and can cope with many types of ecosystem changes. This adaptability has made them familiar and appreciated wildlife to many people that live or visit lakes, rivers, and wetlands across their wide range, including Minnesota. However, the one category impacts that will quickly destroy populations is excess adult mortality. Hunting and trapping can cause extreme and long-lasting impacts on top of chronic problems such as road mortality, poaching, boat strikes, and by-catch by anglers and commercial fishers. While some of these problems are indirect and hard to mitigate, ending commercial exploitation is an achievable goal that will make a large contribution to protecting populations into the future. Therefore, I urge Minnesotans and their representatives state of Minnesota pass pass HF387 aimed at stopping the

commercial harvesting of freshwater turtles in Minnesota.

Sincerely,

Matthew G. Keevil

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