



"Inspiring a Healthy Environment"

RE: Comment on EBR Registry Numbers: 012-9170 and 012-9169

Snapping Turtle

The Ontario government has proposed changes to the Snapping Turtle harvest in Ontario under the Fish and Wildlife Conservation Act. The changes are being sought under "guidance provided by the draft Small Game and Furbearer Management Framework, in consideration of the biology of the species, and consistent with recommendations in the Proposed Management Plan for the Snapping Turtle (*Chelydra serpentina*) in Canada." Unfortunately, the proposed changes do not go far enough to stabilize and protect this Species at Risk. Therefore, the Upper Thames River Conservation Authority, along with a number of other organizations and biologists across Canada, is calling for an end to the harvest of Snapping Turtles in Ontario.

In 2009, the Snapping Turtle was listed as a Species At Risk (Special Concern) in Ontario by the MNRF and federally under the Species At Risk Act, due to multiple threats to the population and an inability to withstand increasing adult losses. By continuing to allow a legal harvest, despite ongoing population declines and contrary to available science, the provincial government is supporting a very real threat to the continued existence of Snapping Turtles in Ontario.

The government is also sending a confusing message to Ontario residents about efforts to protect declining species. The cost of recovering species at risk can be high, and tremendous efforts are put forward by dedicated people in communities throughout Ontario. We want to ensure these significant contributions are not in vain.

The Upper Thames River Conservation Authority (UTRCA) leads one of the largest and longest running reptile research and recovery programs in Canada. Since the mid-1990s, UTRCA staff has conducted extensive reptile surveys and research throughout many areas of southwestern Ontario, including multiple river watersheds and reptile hotspots along Lakes Erie, Huron and St. Clair. Turtles have been at the forefront of these efforts. Over nearly 25 years of surveys, research, community education, landowner contacts and partnerships, we have observed first-hand the suite of obstacles threatening the long-term persistence of Snapping Turtle populations in this region. In 2016 alone, we received multiple reports from the public about wetlands being targeted to remove multiple adult Snapping Turtles. While these removals were done legally, they have likely resulted in the loss or limited viability of the local populations affected.

Although the Snapping Turtle is still found in many areas of Ontario, the species is declining, with populations unable to counter growing anthropogenic stressors. Snapping Turtles face many threats including road and boat mortality, by-catch from commercial fisheries and recreational angling, mortality from dredging, dewatering and other construction practices, invasive species, persecution, illegal collection for pets/medicine/food, increasing rates of egg and hatchling mortality from subsidized predators, exposure to toxic contaminants, and habitat loss and fragmentation. Scientific studies on turtles clearly illustrate the inability of turtle populations to sustain increased adult losses, even losses as low as 1-3%. Snapping Turtle studies in Ontario have shown that, even after 25 years, a population that had lost multiple adults previously, has still not recovered despite being in an area with otherwise limited threats.

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Globally, turtles are the most threatened group of animals, with a life-history strategy that makes them exceptionally vulnerable to declines. Snapping Turtles may take 17 to 20 years to reach maturity and, even then, most of their eggs and young will be lost to predators, human activity or environmental conditions. Adult Snapping Turtles are being lost before they are able to replace themselves in the population. The presence of older animals in a population is the key to the species' survival, since turtles that are many decades old can have higher reproductive potential than young adults.

Snapping Turtles are an important component of our local ecosystems, creating habitat and acting as predator, scavenger and prey within a complex network of countless species. There is no way to halt all losses on roads, from poaching or from habitat loss. A multi-pronged conservation approach is needed, one that will not only decrease the loss of adult turtles wherever these losses occur, but also will educate the public about this declining turtle.

There is an opportunity to work together to make effective and appropriate changes based on the best available information. We need to adjust current legislation to align with what we now know about these animals. They are unlike any other game species in Canada, and their life history characteristics, combined with large scale threats, make them an inappropriate candidate for harvest. We ask that the Snapping Turtle harvest be ended immediately.

American Bullfrog

Available information on the American Bullfrog, from both biologists and harvesters, has shown that declines have occurred over many parts of their range in Ontario. The current harvest is not based on science and there is an increasing number of threats affecting this species: continuing loss of habitat, increasing road development, increasing amphibian diseases worldwide, climate change, and habitat changes due to invasive plant species. Based on these factors, and until appropriate scientific information becomes available to suggest a harvest would be sustainable, the UTRCA recommends an immediate halt to the harvest of Bullfrogs in Ontario.

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Literature Used in Drafting this Submission

- Berrill, M., Bertram, S., Tosswill, P. and Campbell, V., 1992. Is there a bullfrog decline in Ontario?. Pages 32-36 In: Bishop, C.A., Pettit, K.E. (eds) Declines in Canadian amphibian populations: designing a national monitoring strategy. *Canadian Wildlife Service. Occasional paper. 76. Ottawa ON. 1992.*
- Blaustein, A.R. and J. Kiesecker. 2002. Complexity in conservation: Lessons from the global decline of amphibian populations. *Ecol. Lett.* 5: 597-608.
- Brooks R.J., D.A. Galbraith, E.G. Nancekivell, and C.A. Bishop. 1988. Developing management guidelines for Snapping Turtles. Pp. 174-179, in R.C. Szaro, K. E. Severson, and D.R. Patton (eds.). Symposium on Management of Amphibians, Reptiles, and Small Mammals in North America (July 19-21, 1988), Flagstaff, Arizona. USDA Forest Service General Technical Report RM-166.
- Brooks, RJ, G.P. Brown, and D.A. Galbraith . 1991. Effects of sudden increase in natural mortality of adults on a population of the common snapping turtle (*Chelydra serpentina*). *Canadian Journal of Zoology* 69: 1214-1320.
- Compton, B. 1999. Ecology and conservation of the Wood Turtle (*Clemmys insculpta*) in Maine. M.Sc. Thesis, University of Maine.
- Congdon, J.D., R.D. Nagle, O.M. Kinney, R.C. van Loben Sels, T. Quinter, D.W. Tinkle. 2003. Testing hypotheses of aging in long-lived painted turtles (*Chrysemys picta*). *Experimental Gerontology* 38: 765-772.
- Congdon, J.D., R.D. Nagle, O.M. Kinney, and R.C. van Loben Sels. 2001. Hypotheses of aging in a long-lived vertebrate (Blanding's turtle, *Emydoidea blandingii*). *Experimental Gerontology* 36: 813-827.
- Congdon, J.D., A.E. Dunham, and R.C. van Loben Sels. 1993. Delayed sexual maturity and demographics of Blanding's turtles (*Emydoidea blandingii*): implications for conservation and management of long-lived organisms. *Conservation Biology* 7: 826-833.
- Congdon, J.D., A.E. Dunham, and R.C. van Loben Sels. 1994. Demographics of common snapping turtles: Implications for conservation and management of long-lived organisms. *American Zoologist* 34: 397-408.
- Doroff, A.M., and L.B. Keith. 1990. Demography and ecology of an ornate box turtle (*T. ornata*) population in southcentral Wisconsin. *Copeia* 1990: 387-399.
- Galbraith, D.A., R.J. Brooks and G.P. Brown. 1997. Can management intervention achieve sustainable exploitation of turtles? In *Proceedings: Conservation, Restoration and Management of Tortoises and Turtles – an International Conference*, edited by Van Abbema, J. New York Turtle and Tortoise Society, New York. Pp. 186-194.
- Gibbs, J.P., and W.G. Shriver. 2002. Estimating the effects of road mortality on turtle populations. *Conservation Biology* 16: 1647-1652.

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Hayes, T.B., P. Falso, S. Gallipeau, and M. Stice. 2010. The cause of global amphibian declines: a developmental endocrinologist's perspective. *Journal of Experimental Biology* 213: 921–933.

Harding, J. 1997. *Amphibians and Reptiles of the Great Lakes Region*. MI: The University of Michigan Press.

Hecnar, S.J., and R.T. M'Closkey. 1997. Changes in the composition of a ranid frog community following bullfrog extinction. *American Midland Naturalist* 137:145-150.

Herman, T.B., J.A. McNeil, and D.D. Hurlburt. 2004. Blanding's turtle population viability analysis: Development and application of a stage-classified transition matrix. Final Report to Parks Canada SARRAEF 03- KEJ03-004.

International Union for Conservation of Nature (IUCN). 2007. IUCN Red List of Threatened Species. <www.iucnredlist.org>.

Keevil, M.G., R.J. Brooks, and J.D. Litzgus. Post-catastrophe patterns of long-term abundance and survival reveal no evidence of population recovery in a long-lived animal. In prep (Ecology).

Livaitis, J.A., and J.P. Tash. 2008. An approach toward understanding wildlife-vehicle collisions. *Environmental Management*, 42: 688-697.

May, R. M. (2010). Ecological science and tomorrow's world. *Philos. Trans. R Soc. B Biol. Sci.* 365 , 41-47.

Midwood, J.D., N.A. Cairns, L.J. Stoot, S.J. Cooke, and G. Blouin-Demers. 2015. Bycatch mortality can cause extirpation in four freshwater turtle species. *Aquatic Conservation: Marine and Freshwater Ecosystems* 25: 71-80.

Pauly, D. 1995. Anecdotes and the shifting baseline syndrome of fisheries. *Trends in Ecology and Evolution*, 10: 430.

Raby, G.D., A.H. Colotelo, G. Blouin-Demers, and S.J. Cooke. 2011. Freshwater commercial bycatch: An understood conservation problem. *BioScience* 61: 271- 280.

Reed, R.N., J. Congdon and J.W. Gibbons. 2002. The alligator snapping turtle [*Macroclemys (Macrochelys) temminckii*]: A review of ecology, life history, and conservation, with demographic analyses of the sustainability of take from wild populations. Report to: Division of Scientific Authority, United States Fish and Wildlife Service.

Roberts, C. 2007. *The Unnatural History of the Sea*. Island Press, Washington, D.C. 435 pp.