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23 February 2016

Representative Matthew L. Lesser
Connecticut House of Representatives
Hartford, CT 06106

This letter is in support of CT House Bill 5315 preventing the commercial taking of the Common Snapping Turtle, *Chelydra serpentina* (Linnaeus, 1758). I wish to applaud the CT House of Representatives for extending the protections afforded to other wildlife to the Common Snapping Turtle.

I take this position based upon: i) the ecology of the Common Snapping Turtle and the health of aquatic ecosystems; ii) the lack of knowledge about Common Snapping Turtle populations in CT; iii) their conservation status; iv) public safety; and v) the patrimony of our state.

The Common Snapping Turtle is a top predator as well as a scavenger in aquatic ecosystems. The species is a long-lived species, known to exceed 75 years of age in the northern parts of its range. Unfortunately, their reproductive biology makes their sustainability as a species vulnerable to harvesting by humans. It requires 12-19 years for females and males to become sexually mature (1). Although a female in northern waters can lay on average 22 eggs per clutch, only about 14% of all clutches hatch successfully (2). The low rate of hatching success is due to nest predation and by environmental conditions (weather, shade, soil moisture, etc.). Top predators and large-bodied, long-lived species, such as the Common Snapping Turtle, require special protection. Such species are diminishing in all habitats in our state and in the world because of overharvesting and destruction of habitats. The Common Snapping Turtle plays a key role in maintaining the health of our aquatic ecosystems not only because of their role as predator and scavenger but also because they serve as a long-term carbon sink. As we reduce the number and density of large-bodied, long-lived species, carbon cycles through ecosystems more rapidly and ecosystem degradation ensues.

While it is true that *Chelydra serpentina* is listed by the International Union for the Conservation of Nature (IUCN) as a species of least concern (<http://www.iucnredlist.org/details/163424/0>), this listing does not take into account the population status within regions or within watersheds. Such broad listings of conservation status are important for the preservation of a species *across* its range. Our concern, however, must be to preserve viable populations here in CT. It seems to me

based upon my observations in the lower Mattabeset and lower Coginchaug rivers, that there are 2-3 trappers working those areas. Over the 13 years of my studies, I have noticed a drastic diminution of size of the Common Snapping Turtles caught in the traps. This indicates that the populations are shrinking. Both the number of eggs and success of eggs to hatching of the Common Snapping Turtle is positively related to size of the female (1,3). Thus, as the size of individuals within a population diminishes, so does reproductive success. Others who have studied the Common Snapping Turtle in detail have concluded that, especially in northern waters, trapping threatens the population integrity and viability of the species. For example, according to a US Forest Service Report, "Developing Management Guidelines for Snapping Turtles", the authors (2) state: "northern population of snapping turtles cannot sustain even minimal exploitation by humans". Other studies have also concluded that northern populations of snapping turtles need to be completely protected to continue to exist (4).

The demand for Common Snapping Turtle flesh has increased precipitously since the protection of marine turtle species (5). Leg meat is sold to supply Asian markets and restaurants in the greater NY and Philadelphia areas. At best, turtle meat contributes to a luxury or specialty market; it is not a staple food item. The trapping is undertaken not for subsistence (economic or food) but as a hobby or a way to supplement income. Furthermore, I surmise from witnessing the nature of the traps and having interacted with a number of trappers that the turtle meat industry does not represent a substantial economic boon for CT. I suspect that most trappers are not declaring the income and the middlemen are not paying taxes to the State of Connecticut on the sales. If my suspicions are born out, why does the state wish to basically condone an industry that is potentially harmful to the species and to the environment?

There are also two issues of harm to consider. The first is to the turtles themselves. In addition to potentially significant effects upon their population health, individual Common Snapping Turtles are dispatched in the cruelest of manners. This is because the turtles are dangerous when in traps. The second is that because Common Snapping Turtles bioaccumulate heavy metals their safety as a food source depends upon the habitats from which they are taken (6). Two researchers found that the Common Snapping Turtle from southeastern CT lakes accumulated mercury in their muscle tissue in proportion to the mercury available in those lakes (6). Because the accumulation was not correlated with size, meat from even small adult snappers could represent a health threat to humans. We do know that mercury contamination of wetlands and river habitats does occur in Connecticut (for example, 6, 7).

In conclusion I prefer a total ban on the taking of *Chelydra serpentina* in CT waters. Other states such as Maine and New York have already taken this step. Regulations in other states have increased the pressure on Connecticut populations of the Common Snapping Turtle. The Common Snapping Turtle is no longer an important part of subsistence (either economic or food) for Connecticut residents. Further, because the Common Snapping Turtle accumulates heavy metals such as mercury, it poses a potential danger as a food source for those who consume it. There, why should we endanger a species that has a critical role in maintaining the proper functioning of aquatic ecosystems in the State of Connecticut.

I urge the committee and the State House of Representatives to support House Bill 5315 to afford the Common Snapping Turtle the protections that are granted to other wildlife.

I thank you for your careful consideration of this matter. I am sincerely yours,



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References

- (1) Congdon JD, Dunham AE, van Loben Sels RC 1994
Demographics of Common Snapping Turtles (*Chelydra serpentina*): Implications for Conservation and Management of Long-lived Organisms. *Amer. Zool.* 34:397-408.
- (2) Brooks RJ, Galbraith DA, Nancekivell EG, Bishop CA 1988
Developing Management Guidelines for Snapping Turtles. In: Szaro RC, Severson KE, Patton DR (eds.) Management of Amphibians, Reptiles, and Small Mammals in North America. Proceedings of the Symposium, July 19-21, 1988, Flagstaff, Arizona. USDA Forest Service General Technical Report RM-166, pp174-179.
- (3) Obbard ME 1983 Population ecology of the common snapping turtle, *Chelydra serpentina*, in north-central Ontario. Ph.D. dissertation, University of Guelph, Guelph, Ont. 182 pp.
- (4) Brooks RJ, Brown GP, Galbraith DA 1991 Effects of sudden increase in natural mortality of adults on a population of the common snapping turtle (*Chelydra serpentina*). *Can. J. Zool.* 69:1214-1320.
- (5) Gilbert B 1993 The reptile that stakes its survival on snap decisions. *Smithonian* 24:93-99.
- (6) Golet and Haines 2001 Snapping turtles (*Chelydra serpentina*) as monitors for mercury contamination of aquatic environments. *Environmental Monitoring and Assessment* 71: 211-220.
- (7) Varekamp et al. 2003. Mercury contamination chronologies from Connecticut wetlands and Long Island Sound sediments. *Environmental Geology* 43: 268-282.