

## **USING INCUBATION AND HEADSTARTING AS CONSERVATION TOOLS FOR NOVA SCOTIA'S ENDANGERED BLANDING'S TURTLE, (*Emydoidea blandingii*).**

*Michael Lawton<sup>1\*</sup>, Michael Brobbel<sup>2</sup> and Thomas B. Herman<sup>1</sup>.*

*<sup>1</sup>Department of Biology, Acadia University, Wolfville, NS, B4P 2R6, mike.lawton@acadiau.ca, tom.herman@acadiau.ca ; <sup>2</sup>Oaklawn Farm Zoo, Reptile Department, Aylesford, NS, M1B 5K7, mbrobbel@ns.sympatico.ca.*

In 2005, the Committee on the Status of Endangered Wildlife In Canada (COSEWIC) changed the designation of Nova Scotia's three sub-populations of Blanding's turtles from threatened to endangered. This change in status resulted in part from a population viability analysis (PVA), developed by Herman et al in 2004. It predicted that over a 100 year period, without further intervention the population will continue to decline, and may eventually. The model identified early life history stages as being susceptible to effective manipulation and proposed that combining two or more management regimes at this stage greatly reduces the risk of decline. Laboratory incubation of eggs and the head-starting of hatchling turtles were the two most effective regimes examined in the model. The objective of hatchling head-start programs is to raise neonatal turtles to a size that will reduce their vulnerability to predation. Previous studies suggest that accelerated growth increases the initial survivorship of hatchling turtles. The long term dietary, internal development and morphological effects of this accelerated growth are not yet known. Enhancing survivorship without head-starting could avoid health risks and reduce effort and costs associated with recovery. Current literature shows that incubation environment for several species of turtles is more critical for hatchling growth than the head-starting environment. If this remains true the survivorship of hatchling turtles could be enhanced by incubating eggs alone. This research combines laboratory incubation and a controlled two year head-start program to study the growth dynamics of hatchling Blanding's turtles from two of Nova Scotia's sub-populations. Comparing incubated and wild hatchlings in a controlled head-start environment will allow us to determine the ideal combination of methods which yield the most conservation benefit, possibly helping to reverse the probability of decline in the Nova Scotia population.