



## **Blomidon Naturalists Society**

# **Nova Scotia Herpetofaunal Atlas Project**

(Nova Scotia Herp Atlas)

## **Final Report**

### ***Project Delivery***

#### *Organizing and Managing Partners:*

- Acadia University Biology Dept. (Wildlife Museum; ACWERN, CWCB)
- Nova Scotia Museum of Natural History
- Wildlife Division, NS Dept. of Natural Resources
- Blomidon Naturalists Society

### ***Supporting Partners***

#### *Long-term (two or more years, or multiple contributions):*

- Government of Canada Habitat Stewardship Program for Species at Risk
- Atlantic Canada Conservation Data Centre
- Shell Canada Environmental Fund
- Mountain Equipment Co-Op
- Federation of Nova Scotia Naturalists

#### *Short-term (one year or single contribution):*

- Nova Scotia Habitat Conservation Fund
- The McLean Foundation, Toronto
- Science Horizons Canada
- Bowater Mersey Paper Company

### ***Brief Description of Project***

Little is currently known about the status of our herp populations, including their detailed distribution. We do not even know whether any of our species are actually in decline. Herps, and especially amphibians, are extremely sensitive indicators of environmental quality and

environmental change, including climate change, and are thus ideal candidates for this kind of survey. The diversity is low (22 native land or freshwater species), and most species are fairly easy to find and are reliably identifiable by sight or sound in the field.

The Nova Scotia Herpetofaunal Atlas Project is a five-year program (1999-2003) to map the distribution and status of Nova Scotia's amphibians and reptiles ("herps") to a national standard. Information was collected by trained volunteer atlasers and paid project staff. The end result will be an atlas publication, in hard copy and web-based formats, mapping and interpreting the data collected during the project and putting it in historic context. This project has also established the infrastructure, including a website database, for continued herp monitoring after the atlas is completed.

The project has detected significant breeding sites and areas of high species diversity for future monitoring and provided precisely georeferenced records with detailed ecological information for all the rare species and forms. There are four species that are considered at some degree of risk in the province: Blanding's Turtle (relict and disjunct); Wood Turtle; Northern Ribbon Snake (relict and disjunct); Four-toed Salamander.

As a community-based project, we have increased public awareness and appreciation of amphibians and reptiles through the participation of individuals in collecting valuable field data. This project involves people in their own communities in a way that enhances their knowledge and appreciation of local and provincial biodiversity, connects them with others, and empowers them in acting as community stewards of their natural heritage.

*1998 -- Preparation and trial year.* During this year we laid the foundation for the project with six essential steps:

- Established atlas structure, goals and methodology
- Obtained startup funding
- Hired a coordinator
- Began atlaser recruitment and training
- Created a database for entering and managing all records
- Created a comprehensive supporting website with online data entry and searchable database for planning field work

### ***Accomplishments***

#### **Goals**

*Coverage standards.* There are 648 atlasable 10 x 10-km squares in the province, including coastal ones that are at least 20% land. A randomly distributed and non-adjacent, subset of 115 of these was designated as *targeted squares* that must be completed to atlas standards (recording 75% of the species expected to occur in the square). There were no completion requirements for the remaining squares and records were accepted from most of them. See

the website at <http://landscape.acadiau.ca/herpatlas> for details, especially the database mapping function.

Common species were recorded as present in a square but did not have to be precisely located. However, a large minority of atlasers provided the same level of georeferencing for common species that was required for the starred species, i.e., a precise locality description and a complete UTM reference. We encouraged people to count or estimate numbers of each species and most of them did so, providing a substantial data set that has yet to be reviewed and analyzed. We also required atlasers to precisely record searching times in the field, but many did not do this correctly so it remains to be seen whether we will be able to calculate effort per record for any of the species.

### *Coverage Achieved*

We narrowly missed completing just 5 (4.3%) of the 115 targeted squares, 1 in the southwest and the other 4 in the eastern mainland and southwest Cape Breton Island (see attached map). In the latter 4, once we have analysed atlaser effort, it may be necessary to reduce the expected species, which may complete some of them. The species completion (sum of species actually found, divided by the sum of expected species for all targeted squares) is **99.3%**. Of the non-target squares, **521 (80.4%)** were visited at least once by an atlaser and many were close to completion (see attached atlas coverage map).

### *Records Collected*

Most were generated by actively searching for herps; the remainder were incidentals, animals seen in the course of some other activity.

Total Atlas Records	7,337
Starred Species Records	535
Atlassed Records	4,656
Incidental Records	2,681
Records Generated by Staff	1,260 (17.2%)
Records Generated by Volunteer Atlasers	6,077 (82.8%)

### **Communications About the Project**

There were no media interviews or communications within the period for which Habitat Conservation Trust funding was received. All our energy was devoted to getting our staff and volunteers into the field and finishing the squares. The regular project newsletters were distributed by mail and also posted on the project website (we have no paper copies remaining and cannot include them).

*F. Scott*

*Chair, Steering Committee*

**Date of Post: March 2004**

---