

Summary of Species at Risk Proceedings from the 8th Annual Meeting of the Canadian Amphibian and Reptile Conservation Network (CARCNET/RÉCCAR) Meeting and the 3rd Annual Pelee Island Winery Endangered Species Festival September 11-14, 2003 Pelee Island, Ontario



This joint event was historical in many respects; its legacy will undoubtedly be the positive fusion of the community of Pelee Island and conservation scientists from across Canada and abroad. The struggling rural, island community of Pelee boasts one of the highest diversities of rare species in Canada. Some of these species have contracted in range and population size. The community also faces a declining number of families among other economic and social challenges that threaten the near 10,000 year history of the presence of humans in the ecosystem of Pelee Island. September 11th - 14th 2003 saw a passionate group of scientists promoting the conservation of species at risk across Canada, while participants learned about the local commitment of the Township of Pelee and the Federal Government in creating a wetland for species at risk and the treatment of waste water effluent. Giving thanks to this commitment, participants of the conference banded together in a 'giving back' pond construction. In 3 hours, conference participants dug, lined, filled and planted a small wetland. The small wetland was symbolic of the 4-hectare wetland that will be constructed by the Township and its partners (Federal Government, Wilds of Pelee Island) later this fall. At the end of the construction a sign was erected with the following text:

Until the 1890s, nearly half of Pelee Island was a vast wetland. Like many places in North America, the marshes were drained on Pelee Island creating agricultural opportunities that vitalized the community. In recent years, the value of wetlands, and the role they can play in helping to re-vitalize our current communities, has become more apparent.

In 2003 the Federal Government provided funds to help the community of Pelee Island become a leader in employing wetlands to cleanse water that has been disturbed by human activities, while providing habitat for many species at risk.

The Canadian Amphibian and Reptile Conservation Network (CARCNet) has identified Pelee Island as the first *Important Amphibian and Reptile Area (IMPARA)* in Canada. This wetland was created by the 'hands-on' efforts of dozens of people from across Canada and the United

States to give 'passers by' a beautiful space just as the island community makes home to some of the rarest and most unique amphibians and reptiles in Canada.

Two-thirds of the talks and all three keynote addresses were partially or entirely about species at risk. Pelee Island is a unique setting for any conference focussing on rare species because of the high number of species at risk found there. Populations of nearly 40 COSEWIC-listed species occupy an area of only 4000 ha.

Amphibians

Northern leopard frogs are listed as Endangered by both COSEWIC and the province of British Columbia. Their distribution in British Columbia is now limited to a single small population located in the Creston Wildlife Management area. Since 2001, this population has been the subject of a successful captive breeding program, with the goal of releasing frogs into previously occupied habitat (Adama). Husbandry and success rates were discussed. Attempts at locating northern leopard frogs in Waterton Lakes National Park in Alberta have so far been unsuccessful (Taylor).

Dr. Jim Bogart's keynote address illuminated some of the fascinating genetic history of the blue spotted and smallmouth (Threatened - THR) salamanders, as well as the six diploid, triploid and pentaploid genomic hybrids found on Pelee Island.

An intensive survey of the Monteregian Hills of Quebec provided evidence of the decline, and in some cases disappearance, of several amphibian populations including the provincially vulnerable chorus frog (Galois).

Reptiles and Amphibians- General

GIS was used to address three key conservation issues: 1) the development of habitat sensitivity indices for amphibian and reptile populations in the Hamilton area; 2) assessing the sensitivity of historic errors in mapping species ranges and 3) applying the concept of habitat suitability index models to predict potential habitat for eastern spiny softshell turtles in Hamilton Harbour (Galbraith). A poster was presented on the role of Ontario's Natural Heritage Information Centre in housing and disseminating information on species at risk (Ramster).

Reptiles and Amphibians in the Okanagan Valley, BC

Various amphibian and reptile species at risk projects in the south Okanagan Valley of British Columbia were the subject of several talks. This is another hotspot of species at risk diversity in Canada, with 38 COSEWIC-listed species in the area. Nationally endangered herpetofauna in this region include the tiger salamander, night snake and formerly the leopard frog. Also present is the Great Basin spadefoot toad (THR), Great Basin gopher snake (THR) and the western toad (SC) [painted turtle, western rattlesnake. In 2003, 24 ponds were surveyed for breeding adults and larval productivity to determine relative population densities. Habitat assessment, water chemistry and sediment sampling was conducted at each site. All moribund and road-killed amphibians found in agricultural areas are to be analyzed for pesticides (Ashpole¹).

The Osoyoos Indian Band Nk'mip Desert and Heritage Centre Rattlesnake Program incorporates research, education and an outreach component, using the western rattlesnake as a focal species. The Okanagan-Similkameen Stewardship Program Project is a demonstration

project at Tinhorn Creek Vineyards in the south Okanagan that is intended to raise awareness about the value of snakes and appropriate snake management techniques including snake barrier fencing and creation of artificial cover objects to attract snakes and reduce encounters. The South Okanagan Puddle Project is a collaborative effort of several agencies whose goal is to encourage private landowners to protect the small wetlands which provide habitat for several puddle-dependent species at risk (Ashpole³).

Inventory work was also undertaken to fill data gaps regarding the geographic distribution and critical habitats of the night snake, Great Basin gopher snake, tiger salamander and Great Basin spadefoot toad (Cunnington D).

Reptiles

Dr. Ron Brooks' keynote address focused on the broad subject of reptile conservation and the severity of the challenges that lie ahead. The essence of his talk is summed up in the last line of his abstract: "I will review the status and prospects of Canadian reptiles and use these remnant creatures to illustrate how self-deception, greed, self-interest and social and economic pressures assure the human footprint will remain a rubber, circular jackboot for Canada's reptiles." Despite Ron's pessimism, it was pointed out while he was being introduced that he has dedicated several decades of his life working toward reptile conservation (Brooks).

Dr. Richard King's keynote address incorporated 23 (yes, twenty-three) years of data on the Lake Erie water snake (END). His research has encompassed many broad areas including the evolutionary processes responsible for colour pattern variation, population sizes, diet, movements, use of hibernation sites and recovery planning. One of his most interesting findings is that the diet of the Lake Erie water snake consists largely (~85%) of a very recently introduced species, the round goby. It appears that the snakes may actually be increasing in number because of this new food source (King, Ray).

Wood turtles (SC) were the subject of several talks. A study of the demography and spatial ecology of the Algonquin Provincial Park population found 82 turtles with very large average home range sizes compared to most other populations (Barrett). An analysis of a 14-year data set on the last southern Ontario wood turtle population produced the sobering estimate of population extirpation within 50 years (Cameron). Wood turtles were also unfortunately represented in a study of road-killed turtles in the Outaouais region of Quebec (Desroches¹). A study of the validity of carapacial growth lines to determine age in wood turtles revealed that the practice generally yields adequate results for juvenile turtles, with decreasing accuracy after the turtles reach adulthood (Wesley).

Map (SC) and eastern spiny softshell turtles (THR) were among the species used in modelling the distribution of oviparous reptiles as it relates to summer length (Holt).

The genetic structure of five-lined skinks (SC) was examined using microsatellites, and the results showed that populations as close as 5 km to each other were genetically distinct (Howes). On a broader scale, studies using a short segment of mitochondrial DNA revealed the existence of east and west clades, with a contact zone which extends into Ontario (Lindsay).

Black ratsnakes (THR) were the subject of talks on juvenile movement patterns and habitat use (Bjorgan), long-term effects of radio-telemetry (Blouin-Demers¹), phenotypic consequences of

nest site selection (Blouin-Demers²) and reproductive ecology of an ophidian egg parasitoid (Bulte).

The spatial ecology and reproductive behaviour of the eastern hog-nosed snake (THR) was documented at Wasaga Beach. This is the longest freshwater beach in the world, a feature which attracted more than 2.3 million human visitors to the area last year (Cunnington G, Doucette).

Several snake microhabitats (hibernation sites, nesting piles and 'hot rocks') were created on Pelee Island. So far, one snake species at risk (eastern fox snake, THR) has been documented using the structures, and hopefully blue racers (END) and Lake Erie water snakes (END) will follow in the future (Fortner). Posters were presented on the natural history and conservation of blue racers and Lake Erie water snakes (both END) on Pelee Island (Porchuk¹ , Porchuk²). Eastern fox snakes were also studied in Georgian Bay, where they were found to move up to 32 km+ over the course of the active season, including swims in water as cold as 6°C (Lawson).

Surgical techniques, guidelines and recommendations for the use of radio-telemetry in snakes were discussed using experiences with eastern massasauga rattlesnakes (THR), eastern fox snakes and eastern hog-nosed snakes as a basis for discussion (Willson).

As indicated at the beginning of this summary article, the 4-day conference was historic, including another legacy; the TD Friends of the Environment Community Dinner. This foundation who has supported the Endangered Species Festival since its inception in 2001, provided funds to pay for dinner tickets on Friday September 12th for over 100 members of the local community. The result was a dinner of over 210 people, with each table occupied by roughly half island residents and half CARCNet / ESF participants. As the organizers of the event summarized the conference / festival missions and presented awards, a live band began to play, and people from all walks of life shared food, friendship and thoughts about the special place in the middle of Western Lake Erie. Certainly a highlight, this dinner was the talk of the island for weeks following the event and many community members have expressed interest in repeating this set-up for next year and well into the future. More importantly, many community members have become more interested in helping out with local conservation efforts and supporting those who already do so.