The Committee on the Status of Endangered Wildlife In Canada (COSEWIC) considers 19 of the 33 species of amphibians in Canada at risk of extinction. One of these 19 species, the western toad, is also considered by the World Conservation Union (IUCN) to be endangered.

Historically, four species of amphibians occurred in Elk Island National Park (EINP), the Canadian toad, wood frog, chorus frog and tiger salamander. In recent surveys western, but not Canadian, toads have been captured in EINP. Although the larger western toad may compete with the Canadian toad, the exact timing of the western toad colonization and Canadian toads extirpation at EINP are not known. The Canadian toad experienced dramatic declines throughout the Aspen Parkland mainly in areas without western toads.

We conducted visual surveys for amphibians at 232 ponds in EINP and 7 ponds at a pasture site on county land along Range Road 205 in 2003 to search for toads. Western toads were only observed at 40 ponds (17%), while wood frogs or chorus frogs were found at 98% and 86% of ponds surveyed, respectively. Habitat availability may be behind toad distributions, however, habitat requirements of the western toad are not known. In 2004, we documented habitat use of western toads to determine what habitat features they select during the breeding (May-June), foraging (June-September), and hibernation (winter) seasons.

We attached the one-to-two gram radio-transmitters to 32 western toads, using a belt system, for varying lengths of time between May 17 and Oct. 23, 2004. The transmitters emit a signal that can be detected from up to one km. We tracked toads in the northeastern part of EINP and at a pasture site along Range Road 205 (surveyed in 2003). We located the toads every two to three days to record characteristics of the microhabitats occupied.

Toads congregate at breeding ponds for a few weeks every year. Data from visual surveys conducted in 2003 were used to select toad ponds. We captured breeding toads, for radio tracking, along the edges of ponds in late May to early June. We tracked a total of 10 females and 12 males in the EINP Park and 5 females and 5 males in the pasture. We were able to track 10 park toads and 2 pasture toads to hibernation.

Movement patterns differed between park toads and pasture toads. After the breeding season was over, park toads stayed relatively close to breeding ponds while pasture toads completely left the breeding site. They traveled long distances in short periods (199-782 metres within two days) to adjacent forest or crop fields. Overall, our western toads selected aspen or spruce forests, grass/sedge pond edges, stream bank shrubs, or agricultural fields during the foraging season. They avoided open areas such as pastures and roads, crossing through them only when necessary.
One of our major goals was to determine where toads hibernate. We think that hibernation sites could be an important factor limiting toad distribution. Toads, unlike the wood and chorus frog, cannot withstand sub-zero temperatures and must find locations that have adequate oxygen and moisture levels.

Six of the 12 toads that we followed hibernated in the same location within a complex crevasse system in a nettle stand on dried lakebed. The other six toads all entered different hibernation sites. One park toad chose an abandoned beaver lodge. Three park toads were all found in muskrat dens near the pond edge. The two pasture toads hibernated in different locations but both selected a small mammal burrow under a spruce tree in a dry section of muskeg just outside the pasture. One of these root tunnels contained three other, unmarked toads.

Our work will take us to Lac La Biche next summer. We plan to find a pond supporting both western toads and Canadian toads, and radiotrack individuals of each species to compare habitat patterns. This work will be important to evaluate a plan to reintroduce the Canadian toad to EINP. It will allow us to identify critical habitat features required by this species. In future work we plan to examine competition between the two species to assess if the western toad played a role in the disappearance of Canadian toad in EINP and whether a reintroduction of Canadian toad is feasible in areas now occupied by western toads.

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Location points for Li'l' Ross, a male western toad tracked in the park from May 17 until Oct. 19. He was captured at the point in the bottom right corner and moved across the pond and along its edges frequently during the breeding season then settled at the cluster of points on the left side for the remainder of the summer and for hibernation.