EXECUTIVE SUMMARY – Recovery strategy for the Jefferson Salamander (*Ambystoma jeffersonianum*) in Ontario

Prepared by the Jefferson Salamander Recovery Team

This recovery strategy outlines the objectives and strategies necessary for the protection and recovery of Canadian populations of the Jefferson Salamander (*Ambystoma jeffersonianum*). The strategy was developed with the goal of ensuring that existing threats to populations and habitat of this species are sufficiently removed to allow for long-term persistence and expansion of the Jefferson Salamander within its existing Canadian range. The strategy is based on a comprehensive review of current and historical population census data and research, in addition to genetic analyses that provide accurate identifications of this salamander species and members of the *Ambystoma laterale* (Blue-Spotted Salamander)–*jeffersonianum* complex.

Jefferson Salamander populations have a distinctive genetic evolutionary history. Ontario populations coexist with unisexual individuals that are mostly polyploids with a predominance of Jefferson Salamander chromosomes, and which together are referred to as members of the *A. laterale–jeffersonianium* complex. Jefferson Salamander and polyploids use the same habitat, and the polyploids are reproductively dependant on the Jefferson Salamander. That is, the presence of *jeffersonianum*-dominated polyploid eggs necessarily means that Jefferson Salamander is present as a sperm donor for those unisexual polyploids. For these reasons, the recommendations in this recovery strategy relating to the identification, mapping and protection of habitat apply to both Jefferson Salamander and *jeffersonianum*-dominated polyploids. The apparent absence or lack of documentation of a Jefferson Salamander individual is often the result of naturally low relative abundance and/or limited search effort (Bogart and Klemens 2008).

Major threats to the Jefferson Salamander in Ontario include habitat loss, habitat fragmentation and degradation/alteration, road mortality, impairment of wetland/hydrologic function and the introduction of fish to breeding ponds.

The conservation biology of the Jefferson Salamander is well known in comparison to that of other species at risk in Ontario. This recovery strategy provides the scientific basis with which to establish habitat protection guidelines and make recommendations to protect this species in Ontario. Toward this end, this recovery strategy also outlines and prioritizes recovery approaches and programs. Because known Jefferson Salamander populations exist in areas that are presently under development pressure, there is an urgent need to implement the recovery approaches and to communicate the recovery goals to municipalities, developers and other stakeholders where conflicts exist or are anticipated.

It is recommended that the habitat regulation for the Jefferson Salamander include:

- all wetlands or wetland features that provide suitable breeding conditions where the Jefferson Salamander and *jeffersonianum*-dominated polyploids occur;
- terrestrial habitat areas within 300 metres of the edge of breeding ponds that provide conditions required for foraging, dispersal, migration and hibernation; and
- corridors that provide contiguous connections between breeding locations (up to a maximum distance of 1 kilometre).

Any newly discovered breeding locations and associated terrestrial habitat, as well as extirpated and historical locations where suitable habitat remains, should also be included within the regulation.