

# LONG-TOED SALAMANDER (*AMBYSTOMA MACRODACTYLUM*)

## SPECIES OF SPECIAL CONCERN

### Description

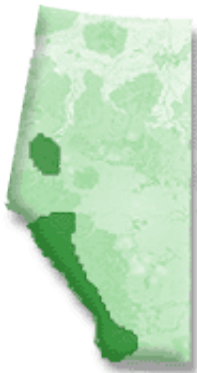
The long-toed salamander needs both aquatic and terrestrial habitats for its survival. It is almost entirely nocturnal. This species breeds in the shallow area of lakes or permanent ponds, or in wetlands. Large permanent lakes without predatory fish support the most long-toed salamanders. Eggs are laid singly or in clumps on aquatic vegetation, twigs, logs or rocks. The eggs hatch after a few weeks into larvae, which usually overwinter before changing form.

In the summer, juvenile or adult long-toed salamanders find shelter under rocks, rotting logs or other debris in areas with high soil moisture and thick leaf litter near relatively permanent water bodies.

Little is known about this species' overwintering habits except that adults probably spend winter underground where the soil is moist but won't freeze.



### History



There are nine population groupings of the long-toed salamander in Alberta, most of which are found in the front range of the Rocky Mountains (Waterton Lakes, Castle River, Crowsnest Pass, Kananaskis Valley, Spray Lakes, Bow Valley, and Athabasca Valley). Some isolated outlying populations are also found elsewhere in the western part of the province (Stavely and Peace River).

There is no population estimate for this species in Alberta; however, limited studies indicate the population likely exceeds 10,000 individuals. There is also minimal information on population trends and changes in distribution. However, several sites with breeding populations have been drastically altered recently, with loss of the salamanders.

The main problems faced by long-toed salamanders are the introduction of predatory game fish in breeding ponds and lakes, habitat loss because of wetland drainage for industrial and recreational development, and road-building that separates breeding and hibernation habitats, and drought.

It is possible that the nine groupings of long-toed salamanders are isolated. Because this species has little ability to extend its range, it is highly unlikely an extirpated grouping would be recolonized from another area. Therefore, the population is vulnerable to regional extinction should breeding ponds or hibernation sites be disturbed or degraded. The loss of a single breeding pond becomes significant.

### Management

The Endangered Species Conservation Committee (ESCC) has recommended that the long-toed salamander be recognized as a "species of special concern." At present, this salamander is designated as

a "non-game animal" under Alberta's [\*Wildlife Act/Regulation\*](#). As a result of the ESCC recommendation, Alberta Sustainable Resource Development will identify and implement conservation and management measures for this species.

For example, more specific information is needed about the size of the population of long-toed salamanders and population trends. The rate of decline that is suspected from information that several breeding sites have recently been degraded needs to be quantified. Alberta Sustainable Resource Development will collect more information on the population size, distribution and trend of this species. It could be assisted in this effort by the volunteer network of the Alberta Amphibian Monitoring Program. Alberta Sustainable Resource Development will also undertake active management of known breeding sites of this species, wherever possible, and ensure that the needs of the long-toed salamander are addressed in land use decisions and approvals.

## Status

<b>Alberta:</b>	Species of Special Concern; recommended in 2000
<b>British Columbia:</b>	Yellow List (not at risk, will be protected through ecosystem management)
<b>Canada (COSEWIC):</b>	Not yet assessed
<b>USA:</b>	California ( <i>Ambystoma macrodactylum croceum</i> )—Endangered

## WHAT YOU CAN DO TO HELP

- As a land manager:
  - Your cooperation in reporting any observations of long-toed salamanders or breeding ponds, to the nearest Fish and Wildlife Division office is encouraged.
  - Your cooperation in adopting grazing management practices that keep livestock away from breeding ponds or at least isolate access to one area of the pond, especially during egg laying (late April to early June, depending on location) will benefit long-toed salamanders.
  - Your cooperation in refraining from stocking breeding ponds, as well as draining them or drastically changing their water level, is requested. Please avoid impeding the path from forest to ponds, and ensure terrestrial habitat surrounding the ponds remains undisturbed, as they are known to move quite far between over-wintering and breeding sites. Voluntary active management to ensure ponds don't dry up would be a great help, if workable. Large ponds can obviously support larger numbers and won't dry up, but small water bodies may also be used, and can be quite important to the population.
  - You can improve habitat by laying a few pieces of wood (logs) in the water for salamanders to lay their eggs on. Please feel free to contact wildlife management staff at your nearest Fish and Wildlife Division office for more information on ways that you can minimize impacts on long-toed salamanders, ways that you can help long-toed salamanders, and ways that you can assist in monitoring the status of long-toed salamander populations.
- As a member of the public:
  - Your voluntary cooperation in restricting your access to long-toed salamander breeding ponds during the egg-laying period is requested. Tramping around the edges destroys the eggs, which are typically near shore.
  - Your cooperation in reporting any observations of long-toed salamanders or breeding ponds to the nearest Fish and Wildlife Division office is encouraged.
- As an industrial developer:

- You should be aware that long-toed salamander eggs are susceptible to shoreline activity in spring.
- You can assist in long-toed salamander management efforts by reporting any sightings of salamanders or breeding ponds to the nearest Fish and Wildlife Division office.
- Please contact wildlife management staff in the nearest Fish and Wildlife Division office to discuss ways that you can modify industrial activity to minimize impacts on long-toed salamanders and ways that you can help monitor populations or assist in long-toed salamander management.

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ALBERTA'S ENDANGERED SPECIES CONSERVATION COMMITTEE