

# Species at Risk

## 2013-14 Recovery Action Summary



### Northern Leopard Frog



#### Background

The provincial designation for the Northern Leopard Frog is Threatened under Alberta's *Wildlife Act*. This listing is due to the decline in populations and areas of occupancy, population fragmentation, and limited dispersal and exchange capabilities. Federally, the western boreal/prairie population is listed as a species of Special Concern under the *Species at Risk Act*. In Alberta, northern leopard frogs have seen abrupt and dramatic population declines. Though surveys were not conducted before the 1980s, sources

indicate the species was widely distributed and locally abundant in the Grassland, Foothills, and Parkland Natural Regions of central and southern Alberta. A 2005 province-wide survey observed frogs at 73 (41 per cent) of the 177 historical sites, and only 56 per cent of sites known to be occupied in the 2000-2001 survey were occupied in 2005. Surveys show that the provincial population has contracted from the historical range, and the species has disappeared from most central and western areas of the province, now largely restricted to major river drainages in the Grassland Natural Region and on the Canadian Shield in the far reaches of northeast Alberta. As is the case with numerous amphibian populations around the world, the cause of decline of the northern leopard frog in Alberta is unclear. Climate change, widespread disease, habitat degradation, and reduction in



water quality are some of the factors considered to be contributing to the decline. To improve the management and recovery of this species, it will continue to be important to fill knowledge gaps on population and habitat through research.

#### Recovery Plan

An Alberta recovery plan was prepared by a multi-stakeholder team, and received Ministerial approval in August 2012. This was an update from the 2005-2010 recovery plan that was prepared for the species in 2004.

#### Recovery Goal

The recovery goal for the northern leopard frog is to achieve well-distributed and self-sustaining populations throughout its historical range in Alberta.

#### Strategies

The main strategies being used to conserve and recover the northern leopard frog in Alberta are as follows:

1. Population Conservation and Management
2. Habitat Conservation and Management
3. Information and Education
4. Research



## Actions

Numerous actions are described in the recovery plan. Management of actions is led by Alberta Environment and Sustainable Resource Development and the Alberta Conservation Association. Other agencies such as the Calgary Zoo and the Alberta Research Council are involved in some research programs. A short summary of progress on actions is provided below, organized by the main recovery strategies.

### 1. Population Conservation and Management

- Reintroductions were done until 2010, and the program is currently in a monitoring phase to determine its efficacy. Preliminary results show that four out of 10 sites have been successful, but evaluations are still underway. Success has been high in monitoring these sites, as well as others, with sound recorders to enhance foot surveys.
- Opportunistic surveys have been conducted each year since 2005 with over 75 sites visited, some every year while others just a single time. These surveys have helped clarify the status of the species in Alberta, and identify at least 27 previously unknown sites since 2005.
- Leopard frog populations currently appear to be stable in the province, though their range has been greatly reduced from what it once was in the 1960s.

### 2. Habitat Conservation and Management

- Three cooperative stewardship projects with landowners have been completed to protect key breeding ponds from the impacts of cattle grazing.
- Habitat modelling from 2010 has identified many areas of potential habitat in southern Alberta that have not yet been surveyed.
- New land use guidelines protect leopard frog sites by ensuring developments are at least 100 meters away from wetlands.

### 3. Information and Outreach

- Various newspaper articles, radio and television spots, and magazines have all detailed information on management and research on the northern leopard frog.
- A part of the 2005 survey aimed to gauge the knowledge of leopard frogs by landowners, and their interest in habitat conservation. Though 63 per cent of respondents were interested in participating in habitat conservation, only 45 per cent were aware that the species occurred on their property. About two-thirds of landowners that had frogs on their land showed positive interest towards conservation.

### 4. Research

- Radio telemetry of wintering frogs began in 2011, with information on the characteristics of these sites being gathered to better understand the needs of frogs at this critical time of year.
- Research conducted at the Calgary Zoo confirmed that northern leopard frogs in Alberta are operating as metapopulations, and study continued into 2013. These results reaffirm that it is typically necessary to survey an area multiple times to confirm the presence of frogs; this research also provided suggestions for effective timing and techniques for surveying.
- Research has been conducted into calling behavior to better understand breeding phenology and timing of spring surveys to identify breeding location.
- A three year study to determine the prevalence of chytrid fungus in amphibians was completed, revealing it to be in many key leopard frog populations in Alberta.  
Although the threat is serious, no known die-offs have occurred to date.

## Upcoming

Efforts in habitat management and population augmentation are ongoing, and the success of the reintroduction program is currently being assessed. For further information visit [www.esrd.alberta.ca](http://www.esrd.alberta.ca).