SARA REVIEW – BANFF SPRINGS SNAIL CASE STUDY

The Species at Risk Conservation Cycle

Introduction

The Banff Springs Snail has undergone the full *Species at Risk Act* (SARA) management cycle (assessment, listing and protection, recovery planning, implementation, and monitoring and evaluation). The Banff Spring Snail represents one of the simplest cases for the application and implementation of SARA because it is found only on federal land under Parks Canada's jurisdiction.

The Banff Springs Snail

The Banff Springs Snail (*Physella johnsoni*) is a small, globe-shaped snail endemic to Canada that has been documented in only nine thermal springs.

The Banff Springs Snail is found only in Banff National Park, which is managed by Parks Canada and protected under the *Canada National Parks Act*. Most existing snail populations inhabit the culturally significant Cave and Basin National Historic Site of Canada.

Within 70 years of the species becoming known to science, it disappeared from half of the known locations, and by 1996 was found in only five thermal springs. There are several threats to the Banff Springs Snail. Some thermal springs in Banff National Park are highly modified and regulated. The stoppage, redirection and reduction of thermal water flows can have a significant impact on snail populations. Visitor activities also disturb the snails and their habitat; soaking, swimming, trampling and limb-dipping (the dipping of feet or hands) have been recorded at all sites. Due to their small population size, the snails are susceptible to unpredictable large natural disturbances, population fluctuations and genetic inbreeding.

Assessment, Listing and Legal Protection

The Banff Springs Snail was classified as threatened by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) in April 1997. The species was re-assessed and classified as endangered in May 2000. This status was re-confirmed following a review of the updated status report by COSEWIC in April 2008.

The Banff Springs Snail was listed as endangered under Schedule 1 of SARA in December 2002. With this, the general prohibitions under sections 32 and 33 of SARA automatically applied to protect individual snails.

Recovery Planning

Parks Canada led the preparation of a joint recovery strategy and action plan with the Banff Springs Snail Recovery Team. The joint recovery strategy and action plan was posted on the SARA Public Registry on February 14, 2007.

The joint recovery strategy and action plan identified critical habitat for the Banff Springs Snail. Following this, a description of the species' critical habitat was published in the *Canada Gazette* in August 2008, as required by SARA; 90 days later, SARA prohibitions against the destruction of the identified critical habitat for the Banff Springs Snail came into force.

Implementation

Banff National Park began recovery and protection initiatives for the Banff Springs Snail long before it was listed on Schedule 1 of SARA. In 1996, a research and recovery program was initiated and in 2002, Parks Canada approved the Resource Management Plan for the Recovery of the Banff Springs Snail. The 2007 SARA-compliant Banff Springs Snail Recovery Strategy and Action Plan built on these earlier efforts, and incorporated most of the recovery and protection actions already underway while ensuring compliance with SARA.

Because the Banff Springs Snail habitat is found entirely within Banff National Park, the species and its critical habitat are protected under both the *Canada National Parks Act* (CNPA) and SARA.

There have been a number of initiatives related to habitat protection, including awareness, signage, fencing, surveillance and enforcement. Ongoing efforts to make the public aware of the snail and reduce incursions into thermal spring habitat have been successful. These actions have led to reduced prosecutions under the CNPA, and there have been no prosecutions under SARA.

Recovery initiatives include the successful reintroduction of the snail into two previously occupied habitats, the protection of habitat using signs and barriers, increased education and public awareness efforts, and increased scientific understanding of the snail and its thermal spring habitat. These recovery initiatives have also helped increase understanding of other thermal spring-dependent microbes, flora and fauna.

The Banff Springs Snail and its thermal spring habitat are easily viewed by the public at the Cave and Basin National Historic Site of Canada and the Banff Upper Hot Springs pool complex. Over 400 000 people visit these two sites each year, creating tremendous potential to highlight recovery efforts for the Banff Springs Snail and for species at risk

in general. Education and outreach efforts provide information to the public and have helped reduce disturbance to the snail and its habitat. Other initiatives, including brochures, posters, public and scientific presentations, press releases, fact sheets, and magazine and news articles in local, regional, national and international media continue to raise public awareness of this species.

Monitoring and Evaluation

Population monitoring and measurement of habitat conditions have been conducted regularly since the inception of the 1996 research and recovery program and are ongoing. The data gathered serve to inform park management and are shared with COSEWIC at the time of species re-assessment.

Evaluation of the overall approaches to recovery set out in the strategy and action plan will be accomplished largely through routine monitoring of the status of snail populations, hydrologic regimes and habitat trends through time. As mandated by SARA, the recovery strategy and action plan will be reviewed by 2012 to evaluate the progress on stated objectives and actions and to identify additional approaches and changes that may be required.