

The Burrow

An Update for the Badger (*jeffersonii* subspecies) Recovery Team

Number 2, November, 2001.

Team Badger back in Business!!

The *jeffersonii* Badger Recovery Team is back! The official side of Badger recovery in British Columbia was temporarily put on hold in July when the BC government terminated several species at-risk positions with the Wildlife Branch of the Ministry of Water, Land & Air Protection. However, this did not stop conservation efforts for the Badger. Most importantly, the research projects continued in the East Kootenay and Thompson/Okanagan, as their funding was entirely independent.

As detailed below, funding is now secure to prepare the Recovery Strategy and run the Recovery Team. A draft strategy will be distributed to RT members (and other interested parties) in early February, 2002. An RT meeting to review and discuss the draft strategy will take place in the East Kootenays during late February, 2002. **Please keep Friday, February 22 tentatively open for a meeting.**

New funding for Badger RT

The unfortunate, but undeniable reason for the Badger RT's dormant state through much of the summer and fall of 2001 was a lack of funding. That situation has been rectified with an influx of funds to oversee preparation of a Recovery Strategy and cover costs for running the team through March, 2002.

Parks Canada has been a generous sponsor of the East Kootenay Badger Project since its beginnings over 5 years ago. They have come through again! Parks' Species At-Risk Recovery Fund has granted \$10,000 to the project, \$7,000 of which will go toward preparing the Recovery Strategy. Many thanks are owed to **Alan Dibb** (Kootenay National Park), **Nancy Newhouse** (Sylvan Consulting) and **David Poll** (Parks Canada, Western Region, Calgary) for their on-going efforts and support for Badger conservation in British Columbia.

World Wildlife Fund Canada has also supported Badger Recovery efforts. They have granted \$1,500 toward expenses for a Recovery Team meeting in later winter, 2002, to review the Recovery Strategy. Acquiring funds to administer Recovery Teams is very difficult. With 352 species listed by COSEWIC, there are many demands on money to run RT's. In the face of the loss of financial support from the BC provincial government, WWF-Canada has stepped in to help maintain the fledgling Badger RT and get it off the ground. Efforts to acquire these funds were initiated by **Rich Weir** (Artemis Wildlife Consultants) with the Thompson/Okanagan Badger Project. **Cathy Merriman** with WWF-Canada facilitated the application process. Many thanks to both of you as well!!

Badgers to be TV Stars!!

We all know Badgers are dashing handsome. Now the rest of the world will learn of their good looks and fascinating ways. Even more important, the conservation challenges facing Badgers in British Columbia will soon receive widespread attention. The popular Discovery Channel TV show *Champions of the Wild* will feature Nancy Newhouse, Wanda the Badger, her kit Mickey and the East Kootenay Badger Project in January, 2002.

Recovery Team Chair

In July, **Ian Adams** resigned as chair of the RT, when his position with the Wildlife Branch of BC's Ministry of Water, Land & Air Protection (WLAP) was terminated. The hope at the time was that he would be able to resume duties as chair but not until funding was located to cover, most importantly, the preparation of the Recovery Strategy. **Mike Badry** (Furbearer Specialist with the Wildlife Branch) became interim chair.

As just noted, funding to prepare the Strategy has been secured from Parks Canada, and from World Wildlife Fund Canada to cover RT expenses for the remainder of the 2001/02 fiscal year. Ian has resumed administrative duties as chair of the Recovery Team. If anyone disagrees with this decision and would prefer that it be made at the next RT meeting (planned for March 2002), please notify Ian (ianadams@cintek.com, 250-426-7185) and/or Mike (Mike.Badry@gems4.gov.bc.ca, 250-387-9793).

Spreading the Word on Badgers in BC

Engaging the public and, in particular, private landowners is a critical aspect to Badger conservation in British Columbia. Both Projects have maintained busy presentation schedules over the summer and fall. Here's a sampling:

- BC Grassland Council (Kelowna)
- Society for Northwest Vertebrate Biologists (Victoria)
- Wycliffe Landowners (Cranbrook, with The Land Conservancy)
- Osoyoos Desert Centre (Osoyoos)
- Kenna Cartwright Park (Kamloops)
- Living With Wildlife Weekend (Radium)
- Y2Y Conference (Nelson)

There have also been numerous newspaper articles (an example follows), magazine and television coverage. Another shameless plug for the upcoming Discovery Channel's *Champions of the Wild* episode featuring the East Kootenay Badger Project in January!

Jefferson's Sad Tale

In July's *The Burrow* newsletter, we told you about an orphaned Badger kit, named Jefferson, being raised on **Chris Leeder's** property near Pritchard, just east Kamloops. His mother was killed by a vehicle in May, but Jefferson was captured by Thompson/Okanagan Project staff. A 10m² holding pen was built where Jefferson was tended and raised. He fared well, digging lots, grew to full size and lived as a Badger, given live ground squirrels to learn how to hunt.

He was released to Lac du Bois Provincial Park, well removed from the perils of a highway. He move little, but otherwise seemed to be doing quite well on his own in the big world. Although safe from highways, he wasn't safe from other predators and about three weeks after being released was predated, likely by a coyote.

Did his missing a mother leave him 'uneducated' in the avoidance of predators and how to hunt effectively? What is learned and what is innate to animals remains a large debate in behavioural ecology. We do know that being a juvenile male Badger is a perilous fate, and survival rates are lowest for this sex and age class. Even with a mother, Jefferson faced long odds.

However, his short life was certainly not in vain. We now have an excellent Badger pen, well suited to a burrowing animal. While we hope not to have to do it again, we have learned much about raising orphan Badgers. If nothing else we know it's possible.

For the complete story of young Jefferson, visit: www.artemiswildlife.com/Badgers/jefferson.htm

Rodents now welcome at Kimberley Golf Course

Working with endangered species is often a job pervaded with bad news. Ongoing government cutbacks don't help. This next story is completely different: a welcome dose of very good news and an example of the small steps taken to achieve success.

Golf courses represent a substantial amount of potential Badger habitat in BC. The work done by East Kootenay Badger Project leader Nancy Newhouse is an important first step in bringing golf course owners 'on side' in protecting Badgers, and their chief prey – the ground squirrel. The following article by **Carolyn Grant** ran in the *Kimberley Daily Bulletin* and *Cranbrook Daily Townsman*, November 16, 2001. The story will receive even wider attention next spring with a feature in *Greensmaster* magazine.

“Ground squirrels have been a fact of life and major irritant to groundskeepers at golf courses since golf began. Who can forget the insane groundskeeper Bill Murray in Caddyshack waging his own personal war against them? While many golf courses gas or poison ground squirrels, the Kimberley Golf Course is actually getting involved in a project to preserve the species.

Kimberley Golf Course Superintendent **Tim Foley** was approached by Invermere biologist Nancy Newhouse, who is conducting a multi-year Badger conservation project that has led to the provincial red-listing of the East Kootenay Badger population [all Badgers in BC are red-listed]. What do ground squirrels have to do with endangered Badgers? According to Newhouse, ground squirrels are the food lifeline for Badgers.

"As the ground squirrel populations disappear, so goes the future of the East Kootenay Badger," Newhouse said.

Foley is seeing the squirrels in a whole new light since Newhouse asked him to participate in the project. "Our golf course has been grappling with this rodent problem for a while," Foley said. "We weren't aware that an endangered Badger species in our area was so dependent on the squirrels for its survival."

So, instead of gas pellets and poisoned bait, Foley will now manage the golf course for its wildlife too. Posters and signs to raise awareness of the ecological importance of ground squirrels with golfers will be placed around the golf course."

Most ground squirrel burrows here are in the rough," Foley said. "We are leaving those animals as part of the ecosystem. The few animals that insist on digging in the fairways are now live-trapped and relocated."

The kind of cooperation received from the Kimberley Golf Course is what is needed if the East Kootenay Badger is to survive says Newhouse. "Many of the factors that have caused the East Kootenay Badger to become endangered are human caused, including urbanization, pest control, hydroelectric developments, road and rail kill and incompatible private development," she said. "These are triple whammies because they impact on the carnivore's main food source and critical habitat as well as the Badger itself."

Newhouse says she would welcome similar partnerships with Crown land users, ranches, acreages, Indian reserves and BC Parks in the area.

"We are trying to conserve an entire population of less than 60 adult Badgers in a 3,000 square kilometre area with very low reproduction rates, declining habitat and a diminishing food supply," Newhouse said. "A significant reduction in human-caused mortalities can help bring back this population from the brink of disappearing in the wild."

"The bad news is that at the current rate of the Badger population's decline, we only have a small window of opportunity to reverse the trend. The good news is we have a growing number of partners who recognize the urgency and want to be part of the solution."

Thompson / Okanagan Project Update

The summer of 2001 was a busy time for all involved with the Thompson-Okanagan Badger Project. Our activities focussed on collecting sightings, educating the public about Badger and grassland ecology, and collecting more information on the radio-tagged Badgers. These activities have been crucial in developing support for Badger conservation and will help foster the implementation of any management recommendations that are produced from the study. In the last year, we intensified our efforts in the radiotelemetry research study, spending considerable time radio-tracking the tagged Badgers.

We captured 5 new Badgers in 131 trap nights (3.8 captures/100 trap nights) between 15 May and 26 June 2001. We had 34 traps operational for 1,623 hours during this time. Our traps were set very specifically for Badgers; we had 3 incidental captures of non-target species: one Columbian ground squirrel, and two yellow-bellied marmots. Information collected during the capture and handling phase may be used in the future to develop transplant methods.

M.Sc. candidate **Corinna Hoodicoff** and her crew continued to collect the majority of the radiotelemetry and habitat data on the Badgers during the summer of 2001. We collected 151 locations of 9 radio-tagged Badgers between 1 April and 29 October 2001 (Table 1). We estimated minimum convex polygon (MCP) home ranges for several of the Badgers and recorded considerable data on the movements of study animals through the landscape. In addition to the radiotelemetry monitoring, we completed 148 habitat plots during July and August 2001.

For full details on the T/O Project, check out their website at www.artemiswildlife.com/Badgers/badgers.htm, especially the 'What's New' section.

Table 1. Summary of locations and home ranges of radio-tagged badgers, Thompson/Okanagan Badger Project, 1999-2001. MCP – minimum convex polygon home range.

| ID | Name | Age/sex | Locations | | | Total | MCP (km ²) | Current status |
|-------|--------------|---------------|-----------|------|------|-------|------------------------|-------------------------|
| | | | 1999 | 2000 | 2001 | | | |
| B01 | Tucker | adult male | 3 | 5 | -- | 8 | 232.0 | dead – road-kill |
| B02 | Monte | adult male | 4 | 1 | -- | 5 | | transmitter malfunction |
| B03 | Rexford | adult male | 5 | 37 | 14 | 56 | 197.0 | alive |
| B04 | Frederick II | subadult male | 2 | -- | -- | 2 | | dead – predation |
| B05 | McGregor | adult male | 9 | 26 | 30 | 65 | 53.6 | alive |
| B06 | Belle | adult female | -- | 59 | -- | 59 | 10.5 | dead – road-kill |
| B07 | Griffin | juv. female | -- | 12 | -- | 12 | 1.3 | dead – road-kill |
| B08 | Zorro | subadult male | -- | 19 | 12 | 31 | 87.9 | unknown |
| B09 | Berton | male | -- | -- | 26 | 26 | 44.5 | alive? |
| B10 | Cartwright | adult male | -- | -- | 35 | 35 | 11.3 | alive |
| B11 | Juniper | subadult male | -- | -- | 2 | 2 | | dead – road-kill |
| B12 | Jamieson | adult male | -- | -- | 11 | 11 | 11.8 | alive |
| B13 | Jefferson | juv. male | -- | -- | 2 | 2 | | dead – predation |
| B14 | Tax | adult male | -- | -- | 22 | 22 | 64.4 | alive |
| TOTAL | | | 23 | 161 | 151 | 335 | | |

Out-of-print Badger Book now available

The book, *Badgers of the World* by Long and Killingly (1983) has been out of print for some time. It covers historic perspectives, status, natural history and behaviour of American Badgers, European Badgers, Ferret Badgers, Stink Badgers, Hog Badgers, and Honey Badgers. The cost is \$54.65 US, roughly \$90 CDN.

Nancy Newhouse contacted the publisher who agreed to print more with a 10 copy order minimum. Anyone interested in purchasing a copy for themselves, or having their institution's library do so should contact Nancy at: sylvan@rockies.net or 250-342-3205.

East Kootenay Badger Project Update

As mentioned in July, the EK Badger Project headed into new ground this summer, working in the southern part of the Rocky Mountain Trench, near Cranbrook. Overall, the season was successful. Fourteen radio-transmitted Badgers are now "on the air." A successful field season recorded five Badger kits from three mothers. Considering the general lack of females captured throughout the province, this is very good news.

On a similar theme, there was an unconfirmed report of 5 (!) Badgers observed at one time near Elkford, in the Elk Valley of southeastern B.C.. This area is outside the EK Project study area, but is known to support Badgers. Most likely, the sighting was of a mother with four (count 'em 4!) kits. There's an answer to your 'gopher problem'!

Equally important, the Project recorded no mortalities of marked Badgers this year. Two road-kills of unmarked individuals were known to occur on the periphery of the study area.

Two kits from one litter have dispersed, as Badger juveniles normally do in the fall. However another pair remained with their mother until she eventually moved a kilometre or so away herself after the family spent most of the summer in one field. This is unusual behaviour for Badgers who are, for the most part, solitary animals once weaned.

Project leader Nancy Newhouse made significant advances with local land owners this summer and fall. As mentioned earlier, the Kimberley Golf Course is a partner in Badger conservation with a new policy to protect the wildlife species that use its fairways and natural areas. An evening with land owners in the Wycliffe area between Cranbrook & Kimberley was also a successful event.

Next year, the Project hopes to develop a hair snagging method to census Badger populations. There are large areas of Badger habitat within B.C. where little is known of the species' status. Development of a cost-effective method of censusing Badgers will help improve our understanding of their status throughout B.C.. Using the current radio-tagged individuals, different methods can be tested in acquiring hair from Badgers at burrow entrances known to be occupied. DNA from the hair samples are then used to identify individuals and, with enough samples, estimate population size.

Future Diggings

- A draft of the Recovery Strategy will be prepared by early February, 2002. The draft will be distributed to RT members and interested parties for review.
- A Recovery Team meeting to discuss the strategy is being planned for late February, 2002. A full Recovery Strategy is planned for March 31, 2002.
- On-the-ground conservation efforts continue via the two ongoing research projects.
- Grant applications and other funding options are always being pursued.