

The Burrow

An Update for Canada's *jeffersonii* Badger Recovery Team

Number 4. December, 2002.

Cross-border Badgers

Most RT members are aware of the translocation project initiated in the East Kootenay region this past summer. Augmenting populations is identified as a possible management tool in the draft Recovery Strategy. Discussion has identified it as an undesirable option, but one the Team will not hesitate to adopt when the need arises.

The project in the summer of 2002 involved live-capture of badgers west of Kalispell, MT. In all, seven adult badgers (5 male, 2 female) were transferred to the Upper Columbia Valley. Three males were released west of Canal Flats in the Findlay Creek area; the others were released in Spur Valley area north of Edgewater. These areas were identified as the most high quality, vacant badger habitat available in the Upper Columbia.

All badgers were fitted with radio transmitters and have been monitored regularly since their release. Currently, five badgers are still being monitored. Signals from two males (one from Findlay Creek, one from Spur Valley) have been lost indicating that they have left the study area or their radios have failed.

For the most part the released badgers have stayed close to home. A couple of the Findlay Creek males moved as far south as Wycliffe (a one-way, straight line distance of ~75 km) and returned to their Findlay Creek release site. These are movements typical of East Kootenay male badgers.

Special thanks are due to **Jim Williams, Tom Meier** and **Erik Wenum** with **Montana Department of Fish, Wildlife & Parks** for their support throughout this project. The State of Montana not only made badgers available for translocation, but also supplied financial and in-kind support. Badgers were live-trapped by **Dave Wallace** of Kalispell, MT, and **Richard Klafki** of Golden, BC.

Funding and supplies were also provided by the **Columbia Basin Fish & Wildlife Compensation Program** (Nelson, BC), **BC Ministry of Water, Land & Air Protection** (WLAP), **Parks Canada** and **Tembec Industries** (Cranbrook, BC).

The translocation project is featured in the October, 2002, issue of the **Canadian Wildlife Service's** newsletter *Recovery* (#22). The *Recovery* newsletter is available on-line at <http://www.speciesatrisk.gc.ca> The October issue is not yet available on-line, but check back soon. Back issues of *Recovery* are available under the 'Publications' tab at this site, including the March, 2002, issue which also features *jeffersonii* badgers (look under "Highlights").

Wycliffe Wildlife Corridor seeks Assistance

The Land Conservancy of B.C. (TLC) is working on purchasing 908 ha of prime grassland and open forest habitat between Cranbrook and Kimberley, B.C. The EK Badger Project has consistently identified this area as a key connectivity corridor for badgers between the southern Rocky Mountain Trench and areas to the north.

Starting in 1998, TLC and then B.C. Ministry of Environment, Lands & Parks initiated a process to purchase the lands from **Teck-Cominco, Ltd.** So far this year almost 250 ha have been purchased. TLC recognizes several important partners that have provided funding but continue a high-publicity fund-raising campaign to ensure the success of this land. Currently Phase 3 is nearing completion and TLC requires the **immediate** injection of \$60k (Canadian, less than \$40,000 US) to finalize the transaction with Teck-Cominco. For more information see TLC's website at www.conservancy.bc.ca or contact **Kathleen Sheppard** at 250-427-1974.

Draft Recovery Strategy Update

The draft Recovery Strategy still has not made it to the **RENEW** office in Hull, QC for independent review. It was submitted to Victoria for submission approval by the Biodiversity Branch, but was subsequently withdrawn following the Kamloops research meeting in early October (see *Whither Badger Research?* in this issue) to update the Knowledge Gaps section. It is currently back in Victoria awaiting approval and will be sent to Hull as soon as possible. While we still welcome all comments and suggestions for the strategy, we ask that you collect these for now and bring them to the RT meeting after the strategy is returned from independent review.

Jolly Ol' Badgers

University of Victoria grad student and RT member **Corinna Hoodicoff** travelled with her advisor and fellow RT member **Karl Larsen (University College of the Cariboo, Kamloops, BC)** to Canterbury, England, to present their work on badgers in the Kamloops area to the Society for Conservation Biology meetings in July, 2002. Theirs was the *only* badger presentation (American or European).

Corinna presented her work on landscape movements and conservation of badgers, how some animals are using large home ranges (compared to other studies) and are being killed on highways during movements between patches of habitat. She won runner-up in the student competition, scoring cash and a text book. Way to go Corinna (though we're not surprised)!

Corinna also visited Wytham Woods in Oxford, which apparently has the highest density of European badgers and one of the longest studies headed by David MacDonald.

"We went out to the setts at dusk to watch badgers and saw up to 6 badgers at a time. There are many setts on the property, approximately 200m apart, each with their own clan of badgers. At the sett we were watching, there were approximately 15 burrow entrances visible and I wouldn't doubt that they were all connected. As we were walking down to the sett, the oldest badger, a 12 year old female, trotted past stopping to sniff near us. As the badgers emerge, they spend the first 5 minutes scratching as they are loaded with external parasites – you can see the relief on their faces as they scratch! We watched them forage for worms, poking around like the American badgers do, and pulling in bedding to line their burrows. Their behaviour is much like American badgers although I suspect these ones are very used to being watched. They smell the same as American badgers (you can smell them when they come out of the burrows!). These badgers wouldn't lick your ear if you could pick them up, but did seem a lot tamer than the American badgers."

Meeting in Monterey to help put Badgers on the Map

At the recent Carnivores 2002 Conference hosted by **The Defenders of Wildlife** in Monterey, California, a meeting was held to discuss badger conservation issues across North America. The meeting was attended by twenty people from New Mexico to Kansas to British Columbia. In all there was agreement that badgers merit much more conservation effort than they are currently afforded in most jurisdictions.

One action from the meeting was to strike a Badger Working Group to help with communication among managers, biologists, researchers, and others interested in badger conservation, research, and management.

Discussion surrounded a number of themes familiar to the Canadian *jeffersonii* RT: persecution, road mortality, habitat use, inventory methods and increasing the profile of badger conservation. For a full set of minutes from the meeting, please contact Ian Adams (information at the end of this newsletter).

Whither Badger Research in B.C.?

Research biologist **Eric Lofroth** (WLAP, Victoria, BC) organized a B.C. badger research meeting in Kamloops, October 3 & 4, 2002. The purpose was to clarify research needs and prioritize upcoming funding opportunities. The meeting was very productive and led to a revision of the "Knowledge Gaps" section of the draft Recovery Strategy. The following broad topics (in no specific order) were recognized and each filled in with Existing Data, Questions and Needs. Appropriate funding sources to address these gaps were also identified.

- Diet
- Prey Ecology
- Mortality Factors
- Distribution and Abundance
- Inventory Development and Methodology
- Meta-population Structure and Genetics
- Atypical Habitat

If you are interested in a complete copy of the notes from this meeting, please contact **Ian Adams** (information at the end of this newsletter). Thanks to the Biodiversity Branch of B.C.'s Ministry of Water, Land & Air Protection for funding this meeting and Eric in particular for organizing it.

New North American Badger Discussion Group

One productive outcome of the Monterey meeting (see *Meeting in Monterey...* above) is a new e-mail list serve to discuss badger issues continent-wide. Thompson / Okanagan Badger Project leader and RT member **Rich Weir**, (with **Artemis Wildlife Consultants** in Armstrong, BC, and) chaired the Monterey meeting, and has subsequently set up a badger discussion group on Yahoo.ca. To sign up, send an email to **Badger_L-owner@yahoogroups.ca** with a request to join.

Rich notes, "The Group's primary objective will be to facilitate communication among people with a common interest in badger research, conservation, and management. Initially, the Group will operate to disseminate information and facilitate discussion through an e-mail list server, but we hope to expand to include an active web site with links to recent badger research and other relevant information available on the web."

Jeff Carroll, with the **US Bureau of Land Management** clearly thinks this is a good idea. In encouraging colleagues to join, he notes that badgers occur "in the prairie ecosystems which BLM authorizes many actions in (Oil & Gas, Grazing, etc.), so I'm sure that this species will be coming up on the "hot" radar screen in the future. It would be good to begin conservation planning early instead of late."

Cartwright's unfortunate home reno's.

In a sadly ironic twist, a new store built by do-it-yourself home renovation giant **Home Depot** has destroyed a commonly used burrow for a Kamloops area badger.

Cartwright is adult male badger and one of the mainstays of the Thompson / Okanagan Badger project. He lives partially within Kamloops city limits and has shown an uncanny knack for urban survival. However, this summer and fall another piece of his home range was lost when an oft-used burrow was developed as part of the building process of the new Home Depot store on Hillside Dr. Unfortunately, news of the work came too late for researchers who would have made the best of the situation by excavating Cartwright's burrow prior to development in the hope of obtaining scat samples and other useful data.

Habitat loss to urbanization continues to be one of the major threats to badgers in British Columbia.

Badgers are “Identified”

Recovery Team chair Ian Adams teamed up with Trevor Kinley (Sylvan Consulting, Invermere, BC) to draft a species account for badger for the Identified Wildlife Management System under B.C.’s Forest Practices Code. This will help raise the profile of badgers with forest and range managers as well as larger scoped land-use planning processes throughout their range in the southern and central interior of the province. Thanks to **Kathy Paige** (WLAP, Victoria, BC) for initiating the process and securing funding. Badger RT member **Wayne Erickson** (BC Ministry of Forests, Victoria, BC) also played a pivotal role in the process.

Habitat links to Badgers at the Kimberley Golf Course

This fall, **Kimberley Golf Course** players were yelling “There’s one in a hole!” rather than “A hole in one!”

In the November, 2001 issue of *The Burrow* (number 2), we reported on efforts by the Kimberley Golf Course (in Kimberley, BC) to maintain ground squirrels and badger habitat. Rather than take the “Caddyshack” approach to ground squirrel extermination, course managers have left the rough alone and tried to encourage nature to control the rodents. This policy is paying off!

Course superintendent **Tim Foley** was very pleased to inform EK Badger Project leader Nancy Newhouse of several badger sightings in late September. A couple golfers sent in pictures from the walk between the 14th and 15th holes. For more on this story, check out the Kootenay National Park website (see *Badgers on the Web* immediately below).

This is great news and wonderful demonstration of the positive outcomes that can be achieved through effective stewardship. We hope they can be a model for all courses in British Columbia and elsewhere. Congratulations to the Kimberley Golf Course and Nancy for their excellent work!

Badgers on the Web

One of the RT’s wishlist items is to produce a stand-alone website for badger science and conservation in British Columbia. Sort of a virtual burrow with lots of side channels leading readers to a wealth of information and background on this endangered species.

However, to date we have not achieved this, although we have applied for funding to do so. But this does not mean the internet is devoid of BC badger info. Not at all! There are excellent sites documenting badgers, their habitat and the challenges both face:

1. Parks Canada:

www.worldweb.com/parkscanada-kootenay This site, prepared by Parks Canada communication specialist **Jenny Klafki**, provides an excellent backgrounder in badger basics. Click on the “Nature” link and look for “Badgers – A species at Risk” under Wildlife. Once there, check out the “Golfers & Gophers” link on the left side for pictures and details on the Kimberley Golf Course story (see *Habitat links to Badgers ...* immediately above).

2. Artemis Wildlife Consultants:

www.artemiswildlife.com Details on the Thompson / Okanagan Badger Project. Click on the “Badgers in BC” link on the left hand menu.

3. East Kootenay Environmental Society:

www.ekes.org For a link to details on the East Kootenay Badger Project, click on the badger picture.

4. BC Grasslands Conservation Council:

www.bcgrasslands.org **Taylor Zeeg** (Communication and Extension Co-ordinator for the GCC) maintains current information on a wide range of grassland and open forest issues in British Columbia. A badger summary (and links to the above three sites) is found under the *Grassland Species at Risk* tab on the left.

Thompson / Okanagan Badger Project Update

Field work has wrapped up for the Thompson / Okanagan Badger Project. Rich Weir and **Helen Davis** (with Artemis Wildlife Consultants in Armstrong, BC) tidied up telemetry work with locations here and there and said good-bye to their furry friends they came to know over the past 3-4 years. Habitat plot work scheduled for our final field season is finalized. With the field portion of the research finished, they are now hitting the computers to get analyses done. Rich & Helen look forward to providing some solid conservation strategies over the next five to six months.

The Thompson / Okanagan Badger Hotline (**888-223-4376**) continues to be active. This year over 80 calls have been fielded from people reporting 53 badger sightings, enquiring about the project, and relaying recent badger activity in their area.

Five radio-tagged badgers were tracked between 1 April and 12 October 2002 for a total of 89 locations. The very dry-warm subzone of the Bunchgrass biogeoclimatic zone was most common biogeoclimatic unit used by radio-tagged badgers, although resident badgers were documented in nine other biogeoclimatic units as well.

One mortality among the five radio-tagged badgers was recorded during 2002. An adult male was struck and killed on the TransCanada Highway east of Kamloops near Pritchard on 9 May. Unfortunately, the carcass was removed by someone else before it could be recovered. There were four other known road-killed badgers in during 2002: a female killed near Aspen Grove in July, a female killed near Falkland in August, a male killed near Beaverdell, and an unknown badger killed on the TransCanada Highway near Kamloops. Three of these dead badgers were collected for future ageing, stomach content analysis, tissue (DNA) samples, and toxicology analyses.

East Kootenay Badger Project Update

Currently, the EK Badger Project is monitoring twelve radio transmitted badgers. This includes five animals translocated from Montana (see *Cross-border Badgers* on page 1) and seven residents. The translocation project was a large part of their work this year. Aerial monitoring of all badgers with active radio-transmitters continues at least once a month throughout the winter.

There is some good news from the East Kootenays. EK Badger Project leader Nancy Newhouse reports that no mortalities have been detected since December, 2001. Also, reproductive estimates continue to climb. In 2001, there were 19 known kits, up from 10 in 2000. In 2002, 31 kits were recorded from 13 adult females (average 2.4 kits per female). Nancy cautions that these results are likely due to two factors. First, most field work is now in the southern Rocky Mountain Trench, south of Wycliffe. Results in this area have shown greater reproduction and smaller home ranges. Secondly, this year's numbers also include sightings recorded on the EK Badger hotline. All sightings of 2 or more individuals are assumed to be females with kits.

One of the most successful additions to the East Kootenay Badger Project this year has been their Badger Sightings Hotline. Set up in June, the hotline (**866-EK-Badger**) allows East Kootenay residents to phone in their badger sightings. The hotline has been very successful, taking numerous calls (~60) and increasing our knowledge of badger abundance and distribution throughout the East Kootenays and Elk Valley. For example, only three of the thirteen litters mentioned above were from tagged research females. The other ten litters were known only as a result of the Hotline.

Cariboo Badger Update

The Cariboo region of central British Columbia continues to be an area of promise for badgers. Ecosystem Officer **Roger Packham** (WLAP, 100 Mile House, BC) has been collecting sighting and burrow information. He reports that many of the threats to badgers elsewhere in BC are not as predominant in the sparsely populated (by humans) Cariboo. Road densities are lower, so road kill is not as great a threat. There is much less urbanization and land holdings tend to be in relatively large parcels. However, there is extensive cattle grazing and there are concerns about its impact on the habitat for badgers and their prey.

Columbian ground squirrels have been identified as a key prey component elsewhere in B.C. but are absent in the Cariboo. Badgers there are likely keying in on microtine rodents and a variety of other prey species, including amphibians and invertebrates. Microtine rodents in particular require well-structured, later seral grasslands which can be easily damaged by poor range practices.

Roger has applied for funding to increase field activity on badgers in the Cariboo. If successful, this work will greatly increase our understanding of the species in this region which occurs at the extreme northern limits of *jeffersonii* badger range.

Hot off the Press

Recovery Team member and East Kootenay Badger Project leader **Nancy Newhouse** (of **Sylvan Consulting**, Invermere, BC) has published a paper on habitat associations of badgers with co-authors **Clayton Apps** (of **Aspen Wildlife Research**, Calgary, AB) and **Trevor Kinley** (also with Sylvan Consulting). The paper, entitled *Habitat associations of American badgers in southeastern British Columbia*, appears in the July, 2002, issue of the Canadian Journal of Zoology (volume 80, number 7, pages 1228-1239). It can be accessed for free on the National Research Council of Canada's website http://www.nrc.ca/cgi-bin/cisti/journals/rp/rp2_desc_e?cjz (note: if this URL shows as a hyperlink, spaces are underscores). Click on 'Contents' on the left side of the screen to get a listing of current and back issues. And apologies for the horrific URL.

Also out this summer is an updated 6-page brochure on BC Badgers, produced by BC Ministry of Water, Land & Air Protection. Hardcopies are available from Ministry offices or a PDF version can be downloaded from the Ministry's website at <http://wlapwww.gov.bc.ca/wld/list.htm>. Thanks to **Laura Friis** (WLAP, Victoria, BC) for coordinating this project!.

Future Diggings

- The next Recovery Team meeting will be held in Penticton B.C. A date is unknown at this point. We may wait until the strategy is returned from RENEW to discuss comments and edits.
- Should winter ever arrive, Roger Packham has planned an aerial survey flight for the 100 Mile House Forest District area. Badger diggings following an initial snowfall is highly visible from the air and provide some estimate of badger abundance across a landscape.

***The Burrow* is produced semi-annually by Ian Adams, Chair of Canada's *jeffersonii* Badger Recovery Team.**

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