
CROAKS AND TRILLS

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From the Editor

Do you need additional data sheets?

Data sheets can be printed directly from the Alberta Volunteer Amphibian Monitoring Program's web page:

www.ab-conservation.com/frog/monitoring

Please remember to send in your data from this year!

Every record is important to us and is put to good use in creating current distribution maps and improving our understanding of the general status of Alberta's amphibian species.

--- Kris Kendell

Badlands: Alberta's reptile hotspots?

By John Acorn

For most Albertans, reptiles remind them of badlands. That's what the owners of "Reptile World" thought when they opened Canada's largest reptile zoo in the town of Drumheller, just across town from the phenomenal paleontology displays at the Royal Tyrrell Museum. The connection is obvious—badlands are hot, hot places have snakes, snakes are primitive reptiles, and so were dinosaurs.



Trees, shrubs and other plants colonize the river valley of the Red Deer River as it winds its way through the dry badlands. (Photo by David Fairless)

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The truth is, however, that if you're interested in seeing wild snakes, the badlands may not be the best place to look. It's also true that living birds are closer related to dinosaurs than are snakes and lizards.

Sure, there are plenty of rattlesnakes, bullsnakes, and wandering garter snakes in most of our badlands, but these animals are just as easy to find on rangeland out in the rolling prairies. Our other species of garter snakes, the red-sided and the plains, are almost never found in badlands, and the red-sided is found near water in forested areas, right up to the northern tip of the province.

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Badlands *(continued from page 1)*

Sand dunes and open grasslands are home to the western hog-nosed snake, a very rare find indeed, and our rarest snake of all, the eastern yellow-bellied racer, is so-far known only from a half eaten carcass at an owl nest along the Milk River.

For most of us, seeing a snake means finding one crossing a road (hopefully before it gets killed). In general, vehicles are the biggest threat to snakes in developed areas. With practice, you get good at telling snakes from fan belts, twigs, and tie-down straps at 110 km/h, and I almost always stop when I see a live snake, and try to coax it off the road and out of danger.

Usually, snakes are most active late on warm days, and this is also a time of warm lighting and good photography. Just make sure that you don't endanger yourself, or other drivers, and you'll soon find more snakes than you ever imagined possible just by watching the road in front of you as you drive.



A respectable distance is maintained between a biologist's camera lens and a prairie rattlesnake that was observed crossing a highway in southern Alberta. (Photo by Ian Gazeley)

And yes, I know, snakes are not the only reptiles in Alberta. Ponds in the city of Lethbridge are now the best place to look for the western painted turtle (which was introduced there, but not far from its natural range). As for our one and only lizard, the greater short-horned lizard, well, let's just say that if you find one in the southeast corner of the province, you are one lucky reptile fan! But they may or may not turn up in badlands, and don't say I didn't warn you that was the case. ❖

A salamander fairy tail

By Jill Yanch

“And they lived happily ever after” isn't a common ending to a story about an amphibian species threatened by human actions – but in this story it's true.

It began one dark and rainy night in Waterton Lakes National Park when a couple of people on a walk in the downpour stumbled across a large number of long-toed salamanders piled against a road curb. The newly erected curb stood as an impenetrable obstacle on the salamanders' migration route from upland habitat to Linnet Lake, their breeding ground.



A trio of long-toed salamanders. (Photo by Stephen Hanus)

Derek Tilson, a long-time warden with Parks Canada, explains that the park was not aware of the migration route, or even of a substantial salamander population, prior to building the curb in 1991 and that action was taken immediately to rectify the problem.



A curb can be a substantial barrier to a long-toed salamander. (Photo by Janice Smith)

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Fairy tail (continued from page 2)

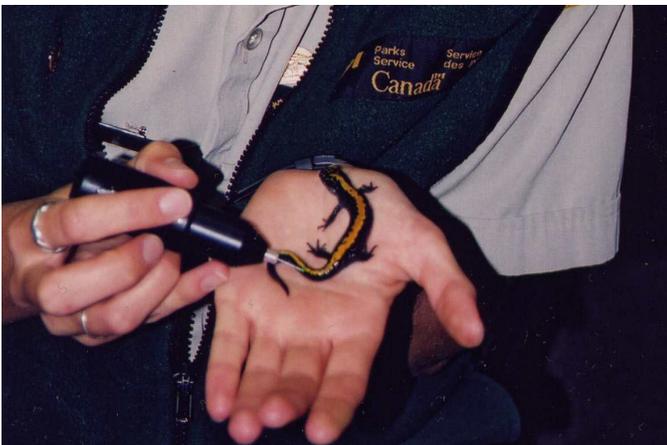
Temporary ramps were constructed, and when this didn't help, Park staff and Waterton community members rose to the challenge, manually lifting up to eight hundred salamanders over the curb and on their merry way.



Temporary ramps along the roadway. (Photo by Janice Smith)

Several options were considered before a new curb was put in place – sloping on both sides and textured so the salamanders could grip it easily. This has proven helpful together with other measures including the addition of extra drains along the road to reduce the water flow through the original drains and prevent salamanders from washing away in a rainstorm. These additional drains also served as passageways for the salamanders, offering another option for crossing the road and improving dispersal movements.

Monitoring of the migration route continues to ensure road mortality does not become a problem, and the population seems to be doing well.



A seasonal park warden marks a long-toed salamander for a research project on the population. (Photo by Kim Pearson)

“The Park really put their money where their mouth is in this instance,” says Tilson. And thanks to that, this long-toed salamander population in Waterton has a better chance for success.

Although some road mortality is still being observed, monitoring continues and further conservation measures may be carried out in the future, including actual tunnels under the roadway to allow safe passage of the salamanders.

For more information on long-toed salamanders in Waterton Lakes National Park contact: Cyndi Smith (Conservation Biologist - Parks Canada, Waterton Lakes National Park) ph: 403-859-5137, e-mail: cyndi.smith@pc.gc.ca ❖

Amphibian and reptile factoids

- In 1972, it is estimated that 49,907 kg of northern leopard frogs were collected in Manitoba for dissections in high schools and other educational institutions, representing approximately 1.2 million frogs. This is based on the fact that, on average, each kilogram of frogs collected in the province is made up of approximately 20–26 frogs. Source: Alberta Environment web site.
- In some loud-voiced species of frogs, sound pressure levels of breeding calls may be around 90 decibels (dB) to an ear-splitting 120 dB (when measured at 25 cm from the source).
- Ten of Canada's frog and toad species have been designated Species at Risk by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).
- Nearly one-third (32%) of the world's amphibian species are threatened, representing 1,856 species. By comparison, just 12% of all bird species and 23% of all mammal species are threatened. Source: Global Amphibian Assessment.
- Boreal toads (*Bufo boreas*) have disappeared from many parts of their range in western North America. They are now on the Colorado State (USA) endangered species list. Causes for their decline may include, acid precipitation, elevated levels of UV radiation, fish stocking and egg mortality from fungal infections. ❖

Southern Alberta's rare lizard

By Larry Powell

Alberta's long cold winters and short summers make it a difficult place to live for most reptiles, but we do have one hardy lizard species dwelling here. The greater short-horned lizard (*Phrynosoma hernandesi*) is found in a few scattered localities throughout the southeast corner of the province, south of the South Saskatchewan River.



A female (left) and a male (right) greater short-horned lizard are measured next to a ruler. Females attain a greater size than males. (Photo by Larry Powell)

Here the lizard favours coulee edges, upper canyon slopes and Bearpaw shale badland areas, generally places where there is a good southerly exposure and thin vegetation, with plenty of bare patches of ground for basking.



Greater short-horned lizard habitat on the north side of the South Saskatchewan River. (Photo by Larry Powell)

Although such places appear to be plentiful in southeastern Alberta, greater short-horned lizards are found in only a few of them, and they are not abundant even in the localities where they do occur. An experienced lizard-catcher can spend an entire day searching one of these sites and catch only three or four lizards, or fewer, or none. A greater short-horned lizard is very well-camouflaged – the mottled earth colours of its back enable it to blend seamlessly into the open ground and scanty vegetation of its habitat – and its response to the approach of a potential threat is to remain still and, hopefully, go unnoticed.

Therefore, greater short-horned lizards may be more abundant than we realize in southeastern Alberta. However, the consensus among biologists who have worked on the species is that its apparent rarity is real. A large part of this rarity is undoubtedly due to the marginal habitability within its range in Alberta.

While greater short-horned lizards are remarkably cold hardy for a reptile, the northern prairie climate is still extreme and variable, and difficult for a small reptile to deal with. It is likely, for instance, that many lizards die in the course of hibernating each year as they bury themselves in the soil near the surface to over-winter, and rely on a deep snow pack (which may not materialize) for insulation against the cold.



The author holds a large female greater short-horned lizard in the hand. (Photo by Larry Powell)

A species that is rare to begin with can easily be pushed over the edge by human activity in its habitat. Ranching is the most common land use over much of the short-horned lizard's range in Alberta; however, it has very little influence on the species.

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Rare Lizard *(continued from page 4)*

In fact, greater short-horned lizards and cattle get along quite well. Oil and gas development, on the other hand, is likely the greatest threat to short-horned lizard populations in Alberta, particularly in some of the most important lizard habitat that we have. The impact of roads and vehicle activity associated with increased industrial development and general human activity on their habitat may be an additional challenge that greater short-horned lizards in Alberta cannot deal with.

The short-horned lizard is legally designated as a Non-game Animal (animals that may not be killed, possessed, bought or sold without a permit) under Alberta's *Wildlife Act*. However, the Endangered Species Conservation Committee (ESCC) will be evaluating the status of this species in late October 2005 to see if it should be designated as Endangered or Threatened.

For more information on the short-horned lizard in Alberta, visit Alberta Sustainable Resource Development's Alberta Wildlife Status Reports web page:

www3.gov.ab.ca/srd/fw/status/reports/rep/index.html

Or, contact Larry Powell (Department of Biological Sciences, University of Calgary); ph: 403-220-2687, e-mail: lpowell@ucalgary.ca ❖

Thinking of importing a reptile or amphibian into Canada?

By Bruce Chisholm

You can safely bring many plants and animals into Canada, but the Canadian Food Inspection Agency (CFIA) regulates many species because they may be harboring a microscopic disease, pests or otherwise threaten native species and ecosystems, and seriously harm Canada's agriculture industry and the environment. Most people are unaware of these hazards, but the risks are real.

Some of the world's worst invasive exotic species are already established in Canada, including Dutch elm disease, purple loosestrife, rainbow trout, starlings, house sparrows and rats (to name just a few). According to the Wild Species in Canada report, two reptiles and four amphibians are listed as exotic in

Canada (i.e., species that has been moved beyond their natural range as a result of human activity). The bull frog (*Rana catesbeiana*) is one such example. It is native to the eastern United States, but has been introduced into the western U.S. and western Canada. It is the largest frog in North America and because it consumes any animal that can be swallowed, including other frogs, it has been implicated in decline of native amphibians and other wildlife.

The most widespread exotic reptile species in Canada is the red-eared slider (*Trachemys scripta elegans*), a turtle native to the southeastern USA and popular in the pet trade. In some regions of Canada, the introduction of sliders is believed to have resulted in the displacement of native aquatic turtle species. Their importation to Canada is now banned, although eggs are still imported but require a CFIA Import Permit for personal importation and research.



CFIA seized these young red-eared slider turtles.
(Photo by Bruce Chisholm)

The CFIA delivers all federal inspection services related to food, animal health, and plant protection. This includes issuing permits for the importation of certain amphibians and reptiles.

The importation of reptiles and amphibians, as with other animals and plants, into Canada is also subject to the control of the Canadian Wildlife Services Convention on International Trade in Endangered Species (CITES). CITES is an international agreement that protects endangered and threatened species of animals and plants from over-exploitation by regulating international trade.

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Importing a reptile or amphibian into Canada *(continued from page 5)*

In addition to CFIA and CITES regulations, provincial regulations must also be considered when importing an animal or plant into Alberta. Provincial regulations are administered and enforced through Alberta Fish and Wildlife Division and can range from permits to environmental impact studies. Regulations within any agency can change rapidly as disease and pests are on the move globally.

Exotic species are continually arriving at Canada's borders by air, land and water. Species may also become invasive when moved across provincial and territorial boundaries within Canada, or between ecosystems within a region. CFIA works on many cases where attempts to smuggle reptiles and amphibians (and other animals and plants) into Canada, or more rarely, between provinces, have been made. One example involved an endangered soft-shelled turtle from Vietnam that a passenger traveling into Canada did not declare and tried to smuggle by hiding it in a container of frozen fish. The passenger was fined under the Health of Animals Act and Administrative Monetary Penalties Act, and the animal was seized by the CFIA. Because the turtle was listed under CITES, it was placed under permanent quarantine at a zoo.

Importation of exotic species can also be accidental. Recently, Cuban tree frogs (*Osteopilus septentrionalis*) were discovered in a tropical plant shipment at a "box" store in Alberta. Although there is no risk of this species becoming established in Alberta, this species has been widely introduced throughout the Caribbean and into southern Florida where they have a negative impact on the ecosystem because of predation of native frog species and competition for resources. The tree frogs were subsequently turned over to Environment Canada.



A Cuban tree frog discovered in a tropical plant shipment in Alberta. (Photo by Bruce Chisholm)

To learn more about the Canadian Food Inspection Agency and the regulations associated with the importation of various animals and plants, log on to the CFIA's website (www.inspection.gc.ca).

Please Remember Disease and Pest Prevention is a Shared Responsibility.

Bruce Chisholm: Multi-Commodity Inspector for the past 33 years with the CFIA in Edmonton, Alberta. ❖

CROAKS AND TRILLS is the official information newsletter of the Alberta Volunteer Amphibian Monitoring Program, a program delivered by the Alberta Conservation Association.

For more information on:

- the Alberta Volunteer Amphibian Monitoring Program
- amphibians and reptiles of Alberta
- how to submit monitoring data, or other amphibian and reptile observations

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