
CROAKS AND TRILLS

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From the Editor

Do you require additional copies of the Alberta Volunteer Amphibian Monitoring Program's observation data form?

To request an electronic or paper copy of the observation data form, simply contact the AVAMP coordinator:

kris.kendell@ab-conservation.com or
1-877-777-FROG

--- Kris Kendell

Buried treasure

By Waneeta Fisher

As one of Waterton Lakes National Park's outreach education officers, I spend a lot of time in classrooms. This past school year alone, I will have visited with nearly 4,500 students in southern Alberta and southeastern British Columbia. Each time I do a program I wonder: "Am I making a difference or at the very least, nudging young minds to view their world a little differently?"

On April 22, 2010 I received an email from Mr. Anderson, a teacher at Napi's Playground Elementary School in Brocket, Alberta. In his email he noted that a student of his found a Plains spadefoot (*Spea bombifrons*) while digging in the dirt at recess.

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A Plains spadefoot discovered near Brocket, Alberta is carefully handled by a student at Napi's Playground Elementary School. (Photo: Mark J. Anderson)

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Buried treasure (cont'd from page 1)

Wow, a Plains spadefoot in Brocket? Isn't that well outside of their known range? I had to phone Kris Kendell, the coordinator of Alberta's volunteer amphibian monitoring program. Initially, he too thought it was little far west and out of the species range, but asked if the teacher and students could send him some pictures. After some investigating, Kris confirmed that it was indeed a spadefoot and learned of only one other record for the species that far west.



Distribution of the plains spadefoot in Alberta, in 1999. Note pre-1980 record at Pincher Creek. (Map from: Lauzon 1999)

While on the phone, we spent a few minutes talking about keeping wild species as pets. This is something I've struggled with during my classroom visits—the merits and ethics of keeping wild amphibians in the classroom. Kris agreed that although it's important for the students to see and experience amphibians, it's far better for wild creatures to be in their own natural habitat.

The Plains spadefoot is also a species at risk in Alberta, meaning that it has low or declining populations and is sensitive to human disturbance and natural events. With this in mind, we asked the students to release it. Kris also suggested the class consider getting a non-native captive-bred amphibian that was legal to keep in captivity, which would be a better option for a classroom pet.

Mr. Anderson, the students' teacher, had been sure all along that it was a Plains spadefoot based on the 'Amphibians of Alberta' poster I left with them and on their own research. Although he thought the kids would be disappointed about the idea of freeing their captive spadefoot, he agreed they needed to put the toad back, giving it a chance to breed and play its role in the ecosystem. They took lots of pictures and an amazing video clip as they released it back exactly where they found it.



Plains spadefoot shortly after release by students at Napi's Playground Elementary School. (Photo: Mark J. Anderson)

After 30 years in Alberta I have never seen or heard a Plains spadefoot! Then again, not many people have since this amphibian spends most of its life burrowed deep underground and is largely active at night when it is above ground.

The students were thrilled to help a species at risk by contributing their findings to science through the Alberta Volunteer Amphibian Monitoring Program. A rare and special moment, one that couldn't have happened without a child's curiosity, some dirt, a toad, a teacher's insight, a scientist, and a classroom visit!

Literature cited:

Lauzon, R. D. 1999. Status of the Plains Spadefoot (*Spea bombifrons*) in Alberta. Alberta Environment, Fisheries and Wildlife Management Division, and Alberta Conservation Association, Wildlife Status Report No. 25, Edmonton, AB. 17 pp. ❖

Naturalist intelligence: frogs and students

By Daniel Verhoeff

Children today are constantly being bombarded with technology that makes it easier and easier for them to avoid playing outside or having any direct contact with their natural surroundings. Take a look at dissections in the biology classes. There is now a new trend moving towards “virtual dissections” with many benefits to doing it this way; but what has been lost along the way? The texture of the specimen, the smell of the formaldehyde, the variety of different tissues experienced; some of which will not be missed, however other aspects added to the “richness” and “authenticity” of the whole experience.

We learn so much in life by direct experience, and so many things that can't be recreated on a computer monitor. We need to find a way to keep our youth engaged in the environment that surrounds them. If not, we risk losing that interest forever, for they are the stewards of tomorrow.

Howard Gardener is an esteemed professor of Cognition and Education at the Harvard Graduate School of Education and has had a profound impact on thinking and practice in education through his research, work, and publications. In 2006, he added “naturalist intelligence” to his list of multiple intelligences. We must foster and nurture this intelligence among our student's, for it is the one that will ensure our existence as a species.

I am always looking for meaningful projects for my students, especially if they can help out locally or contribute to a greater cause. One day I was on the phone calling some organizations to find out what ways my grade nine Environmental Education classes could help them. Honestly, all I thought I was going to come up with were organizations that would want us to pick up trash or sort through recycling or something of the sorts. Boy was I wrong!

After speaking on the phone with Kris Kendell, the coordinator of the Alberta Volunteer Amphibian Monitoring Program (AVAMP), I was VERY excited.

He had told me that Alberta Conservation Association (ACA) coordinated and delivered an amphibian monitoring program and that I could incorporate the program into my classroom. The AVAMP has been an absolute blessing to my class!

The program has been designed for a variety of groups, including school groups like mine. All I had to do was request the information package, study it, and create a few lesson plans that would supplement the program materials and start this great adventure. This was it, a program that would make my students feel they are making a difference as they contribute to science and conservation, while rediscovering the joys of a simple “frog hunting” trip.



A wood frog discovered during a “frog hunting trip” as part of a school field trip. (Photo: Daniel Verhoeff)

I have now incorporated AVAMP into my grade nine Environmental Education class and have developed a few materials and activities that I use in the classroom to supplement all the great resources that I received from ACA.

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Naturalist intelligence (cont'd from page 3)

Two years ago I was at a loss for meaningful activities that would get my Environmental Education students thinking about, and involved in, their local environment. After discovering the amphibian monitoring program, my grade nine students were more excited than ever to go outside and learn about their local ecosystems! The days that they had their rubber boots on were also the days they were wearing huge smiles, and to me that is no coincidence, it just makes sense.

If you would like to learn more about my experience incorporating AVAMP into the classroom, please contact me: daniel.verhoeff@ei.educ.ab.ca ❖

Changes within the amphibian tree of life

By Kris Kendell

In the eighteenth century, a Swedish botanist, Carl Linnaeus, created a classification system for earth's organisms based on a hierarchical structure: kingdom-phylum-class-order-family-genus-species.

Within this hierarchical structure, a unique two-part Latin name is assigned to each living and fossil organism, consisting of a genus name that describes the group and a species name that describes the specific animal. Latin names are consistent and can be used all over the world and in all languages, allowing taxonomists to communicate effectively. Common names for organisms, on the contrary, are less formal and may vary between different geographical areas and even within local areas.

Recently, taxonomists have proposed that Alberta's toads previously classified under the genus *Bufo* now be classified under the genus *Anaxyrus*; and some of Alberta's "water frogs" previously classified under the genus *Rana* now be classified under the genus *Lithobates* (i.e., northern leopard frog and wood frog). Other recent Latin name changes for Alberta's amphibians include the wood frog's species name changing from *sylvatica* to *sylvaticus*. ❖

"Alien" turtle found in Alberta

By Kris Kendell

On July 14th, 2009, an "alien" snapping turtle (*Chelydra serpentina*) was discovered on the Blood Reserve southwest of Lethbridge.

While obviously not an extraterrestrial life form, this particular snapping turtle can nonetheless be legitimately described as "alien". In ecological terms, any species that has been introduced to an area outside of its natural known range, by human activity either deliberate or accidental, can be referred to as an *alien species*.



A photo of the snapping turtle discovered on the Blood Reserve, near Lethbridge, Alberta. (Photo: Diedre Big Throat)

The origin of the snapping turtle discovered on the Blood Reserve is unclear, but it is believed to have been introduced. There are at least two anecdotal reports of introduced snapping turtle in Alberta. However, at this time there are no other known occurrences or populations of the species in the province.

Alien species often have adverse effects on native species and their ecosystems as a result of competition, disruptions of gene pools, as well as the potential spread of disease and parasites.

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“Alien” turtle (cont’d from page 4)

For these reasons, releasing an unwanted pet or moving species from one area to another is both irresponsible and illegal under Alberta’s *Wildlife Act*.

The snapping turtle is Canada’s largest freshwater turtle and naturally occurs in the southern regions of central and eastern Canada. According to some sources, its range briefly approaches Alberta’s border in the extreme southwestern corner of Saskatchewan.



Distribution of the snapping turtle in Canada. (Courtesy: www.canadianbiodiversity.mcgill.ca)

Back to the alien analogy; for those that may believe in real aliens, the snapping turtle has one thing in common with extraterrestrials from outer space—it is quite capable of eluding detection!

Unlike “pond turtles” that often haul themselves well out of the water onto partially submerged logs, rocks or other objects to bask, snapping turtles rarely leave the water. In fact, snapping turtles are so aquatic that algae often grow on their shells allowing them to blend perfectly into their surroundings. This coupled with their reluctance to leave the water means that snapping turtles can be easily overlooked!

You can help ensure the health of your local ecosystem by letting wild animals be wild, finding appropriate new homes for unwanted pets, and reporting any observations of non-native reptiles and amphibians to the Alberta Volunteer Amphibian Monitoring Program, or directly to your local Alberta Fish and Wildlife office. ❖

Amazing amphibian and reptile facts

- As of 2009, scientists have described and named over 6,300 amphibian species, with the vast majority (approximately 5,600) belonging to the order Anura (frogs and toads). The other two orders of amphibians, Urodela (salamanders) and Gymnophiona (caecilians), account for the remaining species.
- Since the year 1500, according to the International Union for the Conservation of Nature and Natural Resources (IUCN), 22 reptiles and 39 amphibians are known to have gone extinct.
- Canada’s largest freshwater turtle is the snapping turtle (*Chelydra serpentina*) with some individuals growing up to 49 cm long and weighing up to 39 kg (86 lbs).
- Scientists have found that Atrazine, a widely used herbicide in North America, interferes with hormonal messages in amphibians, leading to abnormal development of the gonads and laryngeal organ in male frogs.
- One fifth of Europe's reptiles and nearly a quarter of its amphibians are threatened, according to new studies carried out by IUCN for the European Commission.
- Amphibians on the whole are intolerant of saline conditions, but the Crab-eating frog (*Rana cancrivora*) of Southeast Asia is among the very few exceptions. The tadpoles of the crab-eating frog have been observed in ponds with 8% seawater.
- According to Chesapeake Bay Field Office, U.S. Fish and Wildlife Service, a conservative estimate suggests that up to 50 million amphibians die in swimming pools each year in the USA alone (2008 data). This figure does not take into account amphibians that escape or that are rescued from pools, but may perish at a later date from exposure to pool chemicals. ❖

Backyard safety considerations for your amphibian neighbours

By Kris Kendell

Swimming pools

Amphibians trapped in swimming pools soon become exhausted and drown as they try to stay afloat and find escape. Building a Froglog for your swimming pool will allow amphibians that become trapped in your pool a means to climb out. The Froglog is simple device positioned along the edge of your pool and consists of a small floating platform with an attached fabric ramp. A sandbag weight is sewn into the fabric and holds the device in place on the pool deck. See: www.froglog.us for further information. When placed along the edge of a pool in the US, a brief experiment using a Froglog device demonstrated that it was 95% effective. Over a 27 day period, in this one pool, the device saved 47 American toads (*Anaxyrus americanus*) and 3 green frogs (*Lithobates clamitans*) from drowning!

Mowing the lawn

There are a few approaches you can consider to minimize amphibian casualties while mowing your lawn: 1) allocate certain parts of your lawn as 'wild' areas and mow them infrequently or not at all (especially around garden ponds); 2) mow at a time when amphibians are less active such as during hot and dry weather; 3) regularly mow any areas you want to keep as lawn to discourage amphibians from finding refuge in patches of long grass; 4) begin mowing at the center of the area to be cut, progressively mowing outwards to allow amphibians to flee in all directions; 5) leave cover objects, logs, or other potential amphibian shelters in place and undisturbed while mowing; and, 6) pre-scout the area to be cut and gently capture and carefully relocate amphibians that are in harms way. ❖



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www.edmontonreptiles.com

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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