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LIVING

A fading chorus

As if to advertise the annual celebration of Earth Day and the first true burst of spring weather, wetlands throughout the Kawarthas are reverberating right now with



OUR CHANGING SEASONS

Drew Monkman

the calls of countless amphibians. Although the dominant voice is that of the spring peeper, another singer delivers an equally distinctive song. Sounding like someone running a fingernail over the small teeth of a pocket comb, the "crrrreeek" call of the western chorus frog (*Pseudacris triseriata*) is usually heard a

few days before the peepers become vocal. Quite often, there are still patches of snow on the ground and ice on pond edges when the "creakers" start calling. Hearing them among the sleigh bell notes of the more common spring peeper is an assurance that frog diversity is still healthy.

Only about three centimetres in length, the chorus frogs packs a huge amount of song for such a small animal. Imagine a cricket on steroids and you'll get a good sense of just how loud and strident the call can be. To accomplish this, the frog takes in air to inflate its lungs and throat pouch. It then closes its nostrils and forces the air back and forth between the lungs and the pouch. In doing so, the air passes over the vocal cords, causing them to vibrate. The throat pouch, inflated almost to the point of bursting, serves as a resonator and increases the volume of the call many fold. In addition to attracting the attention of curious human passersby, the chorus of song attracts female frogs for the purpose of mating. Chorus frogs are one of the few amphibians that sing both in the evening and during the day.

To listen to the western chorus frog online, go to www.carcnet.ca and follow the links to Tour of Canadian Amphibians. Click on Ontario and then on Western Chorus Frog. To hear them live and in person, you may wish to try the small marsh on the left-hand side of the road leading into Gzowski College at Trent University. The entrance to the college is off of Pioneer Road.

The chorus frog, for those lucky enough to actually see one, is light brown and has three solid or broken dark stripes running down the back. There is also a white line along the side of the body, extending from the tip of the snout to the groin. Being a member of the tree frog family, it also has adhesive toe pads which allow the frog to climb. However, being very much a frog of open spaces — it is most abundant in the southern prairies of central Canada — its climbing is usually restricted to scaling tall grasses.

Chorus frogs can be found throughout the Kawarthas. Although they sometimes frequent swampy, wooded habitats, they are most common in grassy areas with shallow ponds, ditches and other

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Along with the spring peeper, the trilled call of the chorus frog (above) means spring has arrived in the Kawarthas.

temporary collections of water. By laying their eggs in temporary bodies of water that often dry up by summer, there is far less chance of the eggs being eaten by other predators such as fish. There is a trade-off, however. These stands of water can sometimes dry up unexpectedly early, resulting in reproductive failure for that year. Also, this same habitat tends to attract human development of all kinds.

Females lay 500 to 1,500 eggs in gelatinous clusters which are attached to submerged grasses or sticks. By anchoring the eggs underwater, there is less chance that they will be killed by ice should the pond freeze over during the night. Depending on water temperature, the eggs hatch in three to 14 days, and the tadpoles transform into tiny froglets anywhere from 40 to 90 days later. Chorus frogs stay close to their breeding grounds throughout the year and hibernate in the leaf litter or under logs. They are freeze-tolerant.

Seeing a chorus frog is no easy task; in fact, I've never seen one. Not only are they tiny and dressed in protective colouring, but they tend to call from under vegetation like a clump of grass. They also

disappear beneath the surface of the water at the slightest threat. However, just hearing this time-honoured voice of spring's arrival is enough to reassure us that the amphibian world is healthy and there to serenade the change of season.

Unfortunately, the voice of the chorus frog is falling silent in many parts of its eastern Canadian range. This is both surprising and unsettling. The chorus frog is a species that has long been thought to be quite tolerant of human activities, given its presence in agricultural and suburban areas. According to Mike Oldham of the Ontario Natural Heritage Information Centre at the Ministry of Natural Resources, this species has declined drastically in the past couple of decades in southern Quebec (where it is officially listed as a species at risk) and in southeastern Ontario. For example, of 20 sites in the Cornwall area where chorus frogs were heard calling in 1990, the species was calling at only one of these sites in 2007, and this despite habitat that was still suitable and appropriate weather conditions. Because of dramatic declines such as these, COSEWIC (Committee on the Status of

Endangered Wildlife in Canada) is now in the process of assessing the status of the chorus frog.

Amphibian enthusiasts in the Kawarthas are heading out this month to try to see if there has been a decline in chorus frogs locally. They will visit sites where chorus frogs were heard calling in the 1980s and 1990s in order to listen and tell if the frogs are still present.

Oldham would also like to receive reports of chorus frogs from the public this spring. The reports are most useful, however, when the precise location is included, preferably with UTM or latitude/longitude co-ordinates. Please also include the date, time, observer's name and the approximate number heard or seen. The reports should be e-mailed to Michael.oldham@ontario.ca.

Ideal conditions for calling are mild, calm evenings (dusk to midnight), particularly during or after rain. During the peak breeding season, chorus frogs will call during the day, too. The calling continues through April and much of May.

As has been well documented in the media in recent years, amphibian populations are in a precipi-

tous decline throughout the world. These are organisms that watched the dinosaurs come and go. Ironically, they themselves are now rapidly disappearing. Numerous places that used to have healthy, diverse amphibian populations now have fewer, and in some cases no, salamanders, frogs and toads. It is hard to believe, but almost half of the 5,743 known amphibian species worldwide are threatened with extinction. Spectacular species such as Australia's gastric brooding frog and Costa Rica's Monteverde golden toad are already gone forever.

Amphibians have permeable skin that absorbs water and oxygen, which makes them very susceptible to contaminants and other changes in the environment. In this way, frogs act as a critical indicator species. Their relative abundance and diversity allow us to determine the overall health of both aquatic and terrestrial ecosystems, since they spend part of their lives in both. Amphibians are also a critically important source of food for all kinds of birds, mammals, reptiles and fish, to name a few.

The main causes of amphibian declines are known to include habitat loss, climate change, UV radiation, contaminants and pollutants, disease and predation by invasive species. In many cases, these various causes work together. The latest, most pressing threat is a rapidly spreading fungal disease known as Chytridiomycosis which severely damages the skin and quickly leads to death. This pathogen is already associated with the worldwide loss of hundreds of species of amphibians and there is no known way to stop it. Chytridiomycosis has already wiped out populations in Australia and, closer to home, has spread throughout much of Central America.

However, researchers believe that the underlying culprit here is really climate change. For example, warmer temperatures at many highland localities, such as pristine national parks in Panama, are creating conditions that optimize the growth of the fungus, thus encouraging outbreaks. The urgency of reducing greenhouse gases is therefore greater than ever.

In an unprecedented project known as Amphibian Ark, select amphibian species that would otherwise go extinct will be maintained in captivity with the hope that some day they can be safely reintroduced into the wild. Without immediate captive management as a stopgap measure, hundreds of species could become extinct. Many people believe that addressing the amphibian extinction crisis represents the greatest species conservation challenge in the history of humanity. To learn more about Amphibian Ark, go to www.amphibianark.org.

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