



Incilius campbelli. Photo: FUNDAECO.

Protecting Amphibian Habitats Now: A Canadian International Conservation Organization Weighs In

By Anne Lambert & Ariadne Angulo

When we founded the International Conservation Fund of Canada (ICFC) in 2007, we didn't need convincing that amphibians were a taxonomic group of particular concern. We knew of widespread declines in amphibian populations and that a much higher proportion of amphibian species were threatened with extinction than birds or mammals. We understood something of the special vulnerability of amphibians and the problems of habitat loss and fragmentation, deteriorating water quality, the spread of diseases, and rapid climate change.

ICFC aims broadly to protect the world's most threatened and diverse ecosystems and species, with most of our work in the biodiverse tropics where the funding gap for conservation needs is greatest. Amphibians have been a prime focus of several of our projects, as described below, and amphibians also benefit from our work in protecting landscape-scale reserves such as the Kayapo Indigenous Territories in Brazil (which span 11 million hectares—30% larger than the island of Ireland) and Peru's Los Amigos Conservation Concession, which spans 146,000 hectares of old growth Amazonian forest and indirectly protects an additional million hectares of state lands including Manu National Park and a large Territorial Reserve for Indigenous People in Voluntary Isolation.

MORNINGSIDE, SRI LANKA

One of our first two projects, with Conservation International and the Wildlife Heritage Trust (Sri Lanka), aimed to achieve protected status for the Morningside cloud forest in Sri Lanka. These government-owned lands, which lie east of the Sinharaja World Heritage Site, were known to be home to five amphibian, three lizard and three freshwater crab threatened species. (The project's biodiversity surveys also led to the discovery of three new species—a shrew, a gecko, and a frog.) With less than 5% of Sri Lanka's cloud forest remaining, with Morningside's importance as a center of endemism, and with the threat of timber production leases and conversion to agriculture, it was a clear conservation priority.

The joint initiative resulted in the land being turned over (at no cost) by the Land Reform Commission to the Forest Department. Thus, 1000 hectares, including all of the area in which Morningside endemics occur, is now under the Forest Department's jurisdiction and in better conservation shape than before the initiative took place.



Bradytriton silus. Photo: Robin Moore.

SIERRA CARAL, GUATEMALA

ICFC was proud to be one of the organizations involved in acquiring land to create the 1900-hectare Sierra Caral Amphibian Conservation Reserve in Guatemala, an achievement many *FrogLog* readers will have heard of (see *FrogLog* issues 95 and 111). Our able local partner is Fundación para el Ecodesarrollo y la Conservación (FUNDAECO), whose amphibian coordinator, Carlos Vasquez Almazán, Curator of Herpetology at the National University of San Carlos Museum of Natural History, drew international scientific attention to the conservation importance of Sierra Caral.

And its importance is indisputable. The 2012 list of threatened species at Sierra Caral included five Critically Endangered, four Endangered and two Vulnerable amphibian species. Sierra Caral is also important habitat for 120 Neotropical migratory bird species and it provides clean water and watershed protection, which benefits surrounding communities.

The conservation triumph at Sierra Caral was greatly magnified in 2014 when Guatemala formally established the encompassing 19,000-hectare Sierra Caral Water and Forest Reserve.

SAN ISIDRO, GUATEMALA

ICFC and others, including the Amphibian Survival Alliance (ASA), are now pursuing another important opportunity in Guatemala.

The Sierra de los Cuchumatanes in northwestern Guatemala is considered a “hotbed of unique and threatened amphibians” and is also an Important Bird Area, supporting populations of three globally threatened species. The remoteness of the region’s humid

subtropical forest has protected it to date, but there are increasing pressures to clear forests for coffee plantations. Once again, an expedition led by Carlos Vasquez was key in finding a prime piece of land, which happens to be in urgent need of protection (the present owners plan to clear it for coffee production within a year). The Vasquez team recorded 40 individuals (including egg-laying females) of the Critically Endangered Black-eyed leaf frog (*Agalychnis moreletii*). In total seven threatened amphibian species and seven endemic amphibians have been recorded there. ICFC hopes to contribute US\$75,000 toward the \$690,000 acquisition cost for the 2000-acre (809-ha) property.

DOING MORE FOR AMPHIBIAN CONSERVATION

At ICFC, we’re always thinking about how we can increase our impact. The equation is simple: increase revenues and spend each dollar well. But how?

On the revenue side, we are not experts! But I would comment that the general public is much less aware of biodiversity loss than biologists and conservationists seem to realize. Nor does biodiversity loss receive much media attention these days. Climate change gets top coverage among green issues and even that is under-covered. We need to get the facts of biodiversity loss out there but always accompanied by the good news that conservation is a superb investment, that it’s happening all over and that it can be easily ramped up with further support. As conservation advocates, we need to make an emotional as well as an intellectual connection with the general public.

Although their appeal is nowhere as broad as that of birds, am-



Sierra Caral waterfall, Photo: Robin Moore.

phibians are nonetheless a relatively “charismatic” and photogenic taxonomic group with fascinating life histories. We should perhaps move beyond the “canary in a coalmine” cliché to proclaim that this uniquely vulnerable group of organisms merits our attention for a host of reasons: because they are marvelous creatures facing difficulties because of human actions; because they have an important ecological role as part of the food chain; and because protecting amphibians protects myriad other species sharing their habitats as well as the important ecosystem services that wetlands provide to humans, such as water storage and filtration and climate regulation.

As to effectiveness, we look for good local partners and particularly good opportunities in terms of the long-term conservation benefits in relation to cost and risk. We now have relationships with some great conservation organizations in the areas where we work and they (and our conservation colleagues) bring us their best ideas. We also value groups like the IUCN SSC Amphibian Specialist Group, the Amphibian Survival Alliance and the Alliance for Zero Extinction that provide good information on current conservation priorities and opportunities. And the human component is vital. We look for ways to involve local communities directly in conservation efforts, and we’ve found that public outreach can be amazingly effective in boosting awareness of conservation needs and spurring conservation action.

A few tough questions that we ponder when considering support for reserves (and welcome input on):

When is it too late to save a species or ecosystem? Is there really the potential for a viable population of a species to be maintained long term? How do we assess that? Will the ecosystem survive future expected climate change?

What size of reserve, in combination with similar connected

habitats, is needed for long-term viability of an entire ecosystem (including sparsely distributed species)?

Are legal protections reasonably secure? Do our actions help or harm the interests of local communities? What are the best ways to address human threats? How can we best involve local communities? How can we get society to care about preserving nature?

Conservation is not an all-or-nothing, win-or-lose proposition. Extinctions will continue, but every durable conservation gain we make today will result in more biodiversity enduring for future generations. It all matters. And there is no longer-term impact than preventing extinctions.

For more information on ICFC and its projects please visit <http://icfcanada.org/>.