

# Returning corroboree frogs to the wild

November 2011

In late November 200 200 captive-bred northern corroboree frogs will be released back to the sphagnum moss bogs in Namadgi National Park, where their parents were collected as eggs. This is the first time northern corroboree frogs have been released back to the wild as part of the Northern Corroboree Frog Captive Breeding and Release Program, which is undertaken by the ACT Government with funding support from 'Caring for our Country'. It is anticipated that this release will be the first of a series of annual experimental releases back to Namadgi National Park.

In 2003 the ACT Government established a captive colony of endangered northern corroboree frogs at Tidbinbilla in response to continuing declines of wild populations. The captive population serves as a 'survival assurance' colony, helping to prevent the loss of corroboree frogs in the ACT should wild populations become extinct. The captive colony also serves as a source of captive-bred frogs for the recovery of the species, which focuses on releasing frogs back to the wild to help bolster the size of wild populations. There are currently around 1000 northern corroboree frogs in captivity at Tidbinbilla.

This release is the culmination of eight years work raising and breeding corroboree frogs by ACT Government ecologists and wildlife officers at Tidbinbilla. Corroboree frogs are slow growing (they take around five years to reach breeding age) and lay only around 25 eggs each year. After collecting corroboree frog eggs in 2003, it was a five year wait until the frogs reached breeding age and ACT ecologists could begin experimenting with recreating the right breeding conditions for the captive colony. Attempts to breed the related southern corroboree frog at other institutions had been largely unsuccessful. In 2008 the corroboree frogs were successfully bred at Tidbinbilla. It was another three years before a sufficient number of offspring had been produced and had reached the right age for release.

## ***Where are corroboree frogs found?***

Corroboree frogs are small (25–30 mm) distinctively striped yellow and black frogs. They occur in high-altitude, sphagnum moss bogs and other waterlogged areas, and in woodlands surrounding these wet areas. There are two species of corroboree frogs; both are endangered. Southern corroboree frogs are found in Kosciusko National Park, whereas northern corroboree frogs are found in the ACT and nearby NSW. Northern corroboree frogs in the ACT occur in high elevation areas (along the top of the Brindabella range) and these 'high elevation' frogs are genetically different to the NSW form, which occur in lower elevation areas.

## ***How many corroboree frogs are there in the wild?***

During the 1960s and 1970s northern corroboree frogs were common in suitable habitat, with several thousand estimated to have been in the ACT. Widespread and severe population declines occurred during the 1980s and populations are continuing to decline. There are currently estimated to be less than 100 adult northern corroboree frogs remaining in the wild across the species' range in the ACT. The actual number remaining is possibly as low as 50 individuals. The species is expected to become extinct in the wild in the ACT within the next 10 years if current trends continue. The same pattern has occurred for the southern corroboree frog in NSW.

## ***Why have wild populations of corroboree frogs declined?***

The decline of corroboree frogs is largely due to disease caused by the introduced amphibian Chytrid (pronounced 'Kit-rid') fungus, which attacks the skin of the frogs and usually results in death. This water-borne fungus has only recently spread around the world by the live trade in amphibians and has caused amphibian declines and extinctions in many countries. Frog species vary in their susceptibility to the disease; corroboree frogs are highly susceptible, whereas the common eastern froglet (which also occurs in the same habitats as corroboree frogs) is apparently relatively unaffected. Chytrid fungus is well established in the Australian environment and is likely to remain so.

### ***How will releasing corroboree frogs to the wild help the species?***

Recovery efforts for frogs around the world are focussing on enabling frogs to overcome the disease so that they can live in the wild with Chytrid fungus present, given that the fungus is unlikely to ever be eradicated. Experts recommend that problem be tackled in the laboratory (artificial selection of resistant genes, developing vaccines or pro-biotic cures) and in the field (such as using natural selection for disease resistance). There is evidence that some frog species in northern Queensland are developing disease resistance to the fungus. The aim of releasing corroboree frogs to the wild is to restock the species at two key breeding sites to enable breeding and facilitate natural selection for disease resistance. The adult corroboree frogs currently in captivity have survived in the wild with Chytrid fungus for over 20 years, and thus they (and their offspring) are likely to contain the most disease resistant genes from the former wild corroboree frog populations. Captive-bred individuals will be released as young frogs, which are likely to have a substantially higher survival rates and a lower risk of contracting the fungus than tadpoles (tadpoles have a higher risk of contracting the fungus from pools).

### ***How long will these releases go on for?***

The aim is to release around 100 or more corroboree frogs to the wild each year for the next four years (until 2014) at which time monitoring will be used to assess whether or not the program the program is successful in maintaining increased population sizes or increased persistence of populations at release sites. These results will be used to decide the future direction of the program.

### ***What monitoring will be done?***

Corroboree frogs will be monitored at release sites and control (non-release sites) to determine survival rates, infection rates with Chytrid fungus and whether releases are helping to increase population size, numbers breeding, or persistence of populations at release sites. The size of populations will be monitored from calling frogs and also individual frogs will be identified from their underside patterns (which are unique to each individual, like a fingerprint). Prior to release, all corroboree frogs have their underside patterns photographed and placed into a photographic database for future reference.

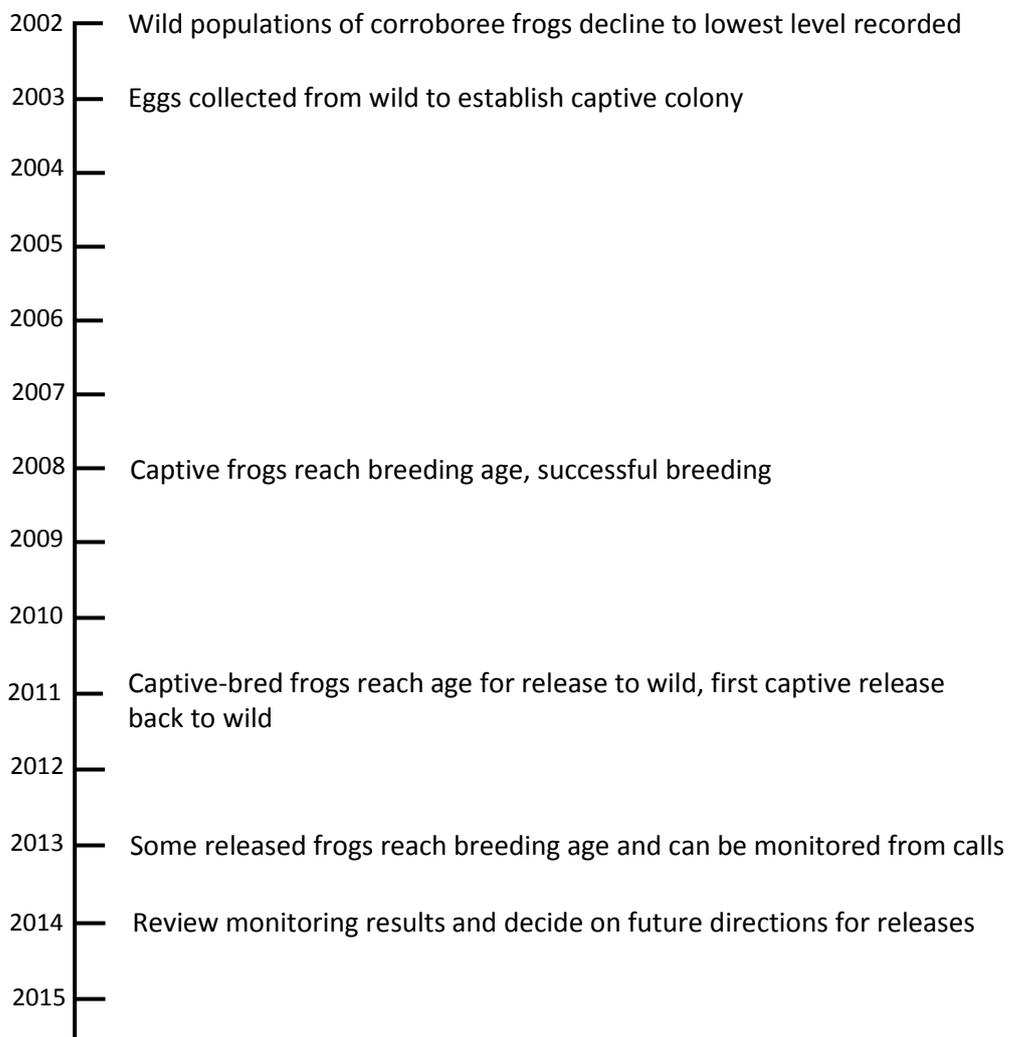


Captive bred corroboree frogs – each individual has a unique underside pattern.



Captive-bred corroboree frog at Tidbinbilla

### ***Project Timeline***



## ***Acknowledgements***

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