

Rehydrating habitat for the white-bellied frog (*Anstisia alba*)

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Introduction

The white-bellied frog (*Anstisia alba*) is a critically endangered frog species with a very limited distribution in the lower South West corner of Western Australia. In fact, the combined area of habitat it occupies is less than 2km²!

The white-bellied frog grows to 25mm – no bigger than an adult thumbnail – and as its name suggests, it has a distinguishing white belly.



Anstisia alba (White-bellied frog)
(Credit: DBCA)



White-bellied frog juvenile
(Credit: Perth Zoo)

The problem

Between 2007 and 2018, 62 of the 102 known, naturally-occurring subpopulations of the species went extinct, many due to sites becoming too dry for the species, following reduced rainfall and increasing temperatures resulting from climate change.



Project partners Shire of Augusta Margaret River's Community Emergency Services Manager - Adam Jasper & Water Corporation's Leeuwin District, Operations Manager - Josh Jackson. (Credit: Supplied by Water Corporation).

What we are doing

With funding support from the Australian Government's Saving Native Species Program, South West NRM (SWNRM) has joined forces with the Department of Biodiversity, Conservation and Attractions in a 15-month project designed to develop a technique for rehydrating habitat for the white-bellied frog.

Along the way, SWNRM has recruited local organisations including the Water Corporation and Shire of Augusta Margaret River who are contributing to the project through the provision and cartage of non-potable water.



White bellied frog broader riparian habitat. (Credit: Lorraine Duffy)

Why?

Funding will enable the development and testing of a soil rehydration method, allowing for reintroduction of the species to areas where it has previously become extinct.

The technique also aims to maintain soil water potential close to saturation (-8 to -11kPa) to extend breeding opportunities for the species.

Learnings to date

- Locating a sufficient supply of suitable non-potable (non-chlorinated), surface water supply was more difficult than expected. State and Local Government Authorities do not generally own/manage water storage dams. Groundwater was also not suitable due to high Iron and Manganese levels locally.
- Cartage of a non-potable water supply is uncommon commercially. Potable water truck haulage operators do not move non-potable water due to Department of Health regulations designed to prevent cross contamination.
- Local bushfire brigades do have water supply trucks, and some are willing to volunteer their time for community projects.
- The white-bellied frog, like many threatened species, occur in Ecologically Sensitive Areas which heavily restrict the range of activities that can occur within them.

Rehydration

The rehydration site has been selected on Department of Biodiversity Conservation and Attractions (DBCA) land where the white-bellied frog was previously known to exist.

Two control sites have also been selected - one upstream and the second downstream of the rehydration site. Soil water potential monitoring probes will be installed at all sites to monitor soil water potential and to gather background soil moisture data.

The rehydration site will consist of a water tank, solar pump and panels, irrigation system and monitoring system with satellite connectivity so the tank water level and soil moisture status can be monitored remotely.

Records will be kept on the volume of water used, distance travelled, time and maintenance costs for the system. This data will be used to develop a full annual costing for the rehydration of the site allowing for informed decisions on the future financial viability of this site rehydration method.



Site selection meeting SWNRM and DBCA (Credit: Robyn Nicholas)



Decommissioned Water Corporation water storage tank, Margaret River (Credit: Lorraine Duffy)

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Australian Government



Department of Biodiversity, Conservation and Attractions

