GAIA RESEARCH
ENVIRONMENTAL CONSULTANTS
[redacted]
Ph.
Mob:
E mail

18 September 2015

Mixophyes balbus toolbox

Dear [redacted],

In regard to the *Mixophyes balbus* landscape species toolbox I made a submission on-line the other day but I believe that additional comments are necessary.

- Genetic work has shown that this is probably a species composite or at least subspecies (Donnellan 2008) that have discrete, non overlapping distributions. The status and management of these subpopulations are different as the northern species appears to be common to abundant in areas of its range (Dorrigo NP), whereas the southern subpopulation/species has had a marked decline in distribution and abundance being locally extirpated from south of Sydney (with the exception of the Mt Werong). Given the genetic difference the recovery plan and tool box should be amended the reflect this difference.
- For the northern subspecies an action is the assessment of the distribution and abundance of the species and review of its listing on both federal and state acts.
- For the southern subspecies/species the current toolbox actions are highly skewed to actions at Mt Werong, a small isolated population west of Sydney. Five of the seven actions relate to one site will not facilitate recovery for this landscape species.
- The action to collect and analyse samples from all monitoring programs for the species across the state to test for the presence of chytrid fungus has largely been done. The results indicate chytrid is endemic in all populations (Mahony 2013, M. Mahony pers. comm.).
- Based on distribution and habitat use Red Fox and feral cats occupy all sites where *M. balbus* persist. Red Fox eat frogs and it is highly likely that *M. balbus* forms a portion of the species diet. Using remote cameras will only provide data on presence/absence of feral carnivores and no understanding of predation.
- Recommended replacement tools box actions for the state is survey known sites and report on the presence of the yabbie *Cherax destructor*, which has been introduced to many eastern drainage lines and predates on frogs eggs and tadpoles. Develop

GAIA RESEARCH
ENVIRONMENTAL CONSULTANTS
[redacted]
Ph.
Mob:
E mail

conservation and management guidelines for habitat protection and restoration for public land management agencies and private land managers;

- Promote public education and awareness of the Stuttering Frog and the actions required for its recovery
- Recommended replacement tools box actions for the southern population include:

  From the The National Recovery Plan:
  As knowledge and understanding of key threatening processes improves, it may be possible to undertake re-introductions at extinct sites to increase the geographic security of the species. Experimental reintroductions may also be used to experimentally test the effects of specific threatening processes, such as fish predation, or Bd infection and mortality rates.
- Establish captive populations that may be used to gain a better understanding of the species ecology (Banks et al 2014) and for re-introduction programs.

Yours sincerely,

Garry Daly Director: B.Sc., Dip. Ed.

Banks, V.C. Traher, R. and Hobbs, R. (2014). Captive management and breeding of the stuttering frog *(Mixophyes balbus)* at Melbourne Zoo. *Herpetological Review* 45: 43-49.

Donnellan, S. (2008). Genetic analysis of *Mixophyes balbus* from the Sydney Basin to far northern NSW. South Australian Museum. Unpublished Report.

Mahony. M, (2013) Report to NSW NPWS and QLD DEC: Status of Chytrid fungus in endemic frogs on the Gondwana Rainforest World Heritage Areas of Australia.

Survey Name:	Proposed amendments to the Priorities Action Statement
Submitted On:	10/09/2015 4:40:20 PM

Q 1: Title:

Mr

Q 2: Surname:

Daly

Q 3: Given name:

Garry

Q 4: Company/organisation:

Gaia Research

Q 13: Please add your comments here:

Mixophyes balbus: genetic studies now show two clades/species. This MUST be reflected in the recovery actions for the species. The southern clade has had a huge reduction in abundance and distribution but the northern clade has recovered. Actions: habitat has been modelled and targeted surveys conducted for southern clade at Mt Werong and on the south coast by the author. The most recent site (Macquarie Pass NP) has been monitored annually and no tadpoles present. Also searches at Kellets Creek and Big Belimba Creek, Narooma - no tadpoles. Impact of predation by cats/foxes not realistic due to low population levels at most populations. Chytrid sampling has been done by Mahony - chytrid is endemic in all populations and they have evolved with the pathogen. The majority of populations are on land managed by NPWS and Forests NSW. Not practicable to conduct aerial culls for wild cattle / feral pigs and no evidence that they are causing degradation of habitat at breeding sites.

Q 14: Or, upload your comments:

N/A