

Conservation Action Plan

Loveridge's frog (*Phyllorhina loveridgei*)

This plan has been prepared in accordance with the requirements of s.78C of the National Parks and Wildlife Regulation 2019 (Reg.) in relation to an Asset of Intergenerational Significance (AIS) as declared under s.153G of the *National Parks and Wildlife Act 1974*.

Site details

AIS site	AIS-ES-099, AIS-ES-172, AIS-ES-177, AIS-ES-195
Site location	An area of 837 hectares in Border Ranges National Park An area of 182 hectares in Wollumbin National Park An area of 68 hectares in Mebbin National Park
NPWS contact	Project Officer, Threatened Species, North Coast Branch

Environmental values

This table sets out the environmental values for which the land was listed as an AIS (Reg. 78C(3)(a)).

Identified value(s)	Value description
Important habitat for Loveridge's frog	The endangered Loveridge's frog is a small, squat, ground-dwelling frog growing up to 30 millimetres in length. It is variable in colour and pattern from light grey to light brown with dark irregular patches on the flanks. Fingers and toes are un-webbed. The underparts are pale but may have a light mottling under the throat and hind limbs. There is a blackish band from the snout through the eye and down the side of the head. Some may have faint barring on the upper parts of their limbs. The species favours subtropical and warm temperate rainforest and wet eucalypt forest, but also occurs in moist eucalypt forest where rocky outcropping creates surface water. The species is dependent on high moisture levels, occurring in the headwaters of small streams and around soaks where groundwater is continually present and close to the surface.

Key risks to environmental values

This table sets out the key risks to the environmental values of the land (Reg. 78C(3)(b)).

Key risk(s)	Description
Inappropriate fire regimes	Fire may degrade the habitat of Loveridge's frog by removing understorey vegetation and groundcover, and through the reduction of moisture levels and water quality.
Feral pigs	Direct predation, competition and habitat degradation and/or disease transmission by feral pigs that leads to mortality of individuals and a reduction in the area suitable habitat may lead to a decline in Loveridge's frog at the sites. This risk is exacerbated by the severely restricted distribution and very small population size of the species at the sites.
Cane toads	Direct predation, competition, habitat degradation and/or disease transmission by cane toads may lead to a decline in Loveridge's frog at the sites.
Pathogens, diseases and microorganisms	Infection by amphibian chytrid fungus causing the disease chytridiomycosis leading to the mortality of individuals. This risk is exacerbated by the severely restricted distribution and very small population size of the species at the sites.
Anthropogenic climate change	Changes to weather patterns and climatic conditions as a result of anthropogenic climate change that alters microclimate and breeding habitat may exceed the adaptive capacity and reduce survivorship of Loveridge's frog at the sites. This risk is exacerbated by the severely restricted distribution and very small population size of the species at the sites.
Disturbance	Authorised infrastructure maintenance activities (e.g., road and trail construction or maintenance) that leads to degradation of habitat and damage to individuals by slashing and herbicide use, damage to substrate, and decreased moisture levels and water quality.

Conservation activities

This table sets out the conservation activities required to:

1. Control, abate or mitigate the key risks and
2. maintain, restore and remediate the environmental values of the land (Reg. 78C(3)(c)).

Key risk(s)	Impacted site(s)	Conservation activities
Inappropriate fire regimes	All sites	<ul style="list-style-type: none"> • Develop guidance on the appropriate fire management for the habitat of Loveridge's frog within 12 months of adoption of this plan and update as required. This guidance must provide for: <ul style="list-style-type: none"> – maintenance of an appropriate fire regime by developing and implementing a site-specific burn plan for the declared areas – implementation of any required fire protection and response measures in the declared areas – integration of site-specific requirements into NPWS and NSW Government bushfire planning, risk management and operational response arrangements. • Implement fire management consistent with the guidance.

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Key risk(s)	Impacted site(s)	Conservation activities
Feral pigs	All sites	<ul style="list-style-type: none"> To the extent practicable, reduce pig densities, to a level that is not having an ecologically significant impact on Loveridge's frog and maintain densities at or below this level, by trapping, baiting and shooting.
Cane toads	All sites	<ul style="list-style-type: none"> Design and implement cane toad management plan.
Pathogens, diseases and microorganisms	All sites	<ul style="list-style-type: none"> Implement hygiene protocols as outlined in the DPE Hygiene Guidelines (as published in April 2020) or as varied by any written advice from the Secretary for the purposes of this declared area.
Anthropogenic climate change	All sites	<ul style="list-style-type: none"> If a decline in species trajectory is attributed to impacts of anthropogenic climate change, investigate options for ex-situ management of population.
Disturbance	All sites	<ul style="list-style-type: none"> Undertake periodic reviews to identify whether infrastructure maintenance is having an adverse impact on Loveridge's frog. If adverse impacts are observed, implement actions to mitigate the impacts. This may include: <ul style="list-style-type: none"> – upgrade/realignment of trails to avoid known habitat – implement sediment and erosion control measures and establish buffer zones around habitat during breeding season – installing signage or more discrete marking systems to delineate exclusion areas to prevent slashing or herbicide use near sites. Implement guidance for staff, utility managers, council and contractors as required, about appropriate maintenance practices that minimise impacts to Loveridge's frog population and habitat.

Other land management activities

Within the declared land there are existing assets and infrastructure of NPWS and other external service providers, including public utilities.

Maintenance operations (including inspection, emergency works and routine and standard maintenance) that are exempt development in accordance with the *Environmental Planning and Assessment Act 1979*, and which are performed on and around existing assets and infrastructure, are authorised under this conservation action plan (CAP) provided such operations are undertaken in a manner that aims to minimise the risk to the declared environmental values of the land and with any other required consents or approvals.

All maintenance operations on the declared land are to be undertaken in accordance with this CAP.

Measuring and reporting

This table sets out the requirements for measuring and reporting on health and condition (Reg. 78C(3)(d)).

Attribute	Metric	Method
Health and condition of the Loveridge's frog population	Population estimate	Design, and implement every three years, monitoring to generate an estimate of the number of mature individuals in the population.
	Area of occupancy	Design and implement an assessment every three years, to calculate the area of occupancy of the Loveridge's frog at the sites.

A report on the health and condition of the value for which this AIS was declared will be prepared and published on the Department of Planning and Environment website: www.environment.nsw.gov.au. The report will summarise the baseline and current health and condition of the values of the declared land and its overall trajectory.

Evaluation of conservation action plans

This CAP will be amended or replaced as new information becomes available that helps improve our management of the identified assets (Reg. 78H).

The Secretary must appoint a scientist, or a panel of scientists, to conduct a review, as soon as possible after the period of five years from the first approval of a CAP, to examine whether CAPs have been effectively implemented (Reg. 78J(1)).

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Approved by	Atticus Fleming, Acting Co-ordinator General, Environment and Heritage
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