

# Conservation Action Plan

## Nightcap oak (*Eidothea hardeniana*)

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-114
Site location	An area of 683 hectares in Whian Whian State Conservation Area An area of 727 hectares in Nightcap 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 Nightcap oak	Nightcap oak is an endangered tree belonging to the Proteaceae family and can grow up to 40 metres tall. Small nocturnal beetles usually pollinate the plant with flowering occurring from mid-October to mid-November and fruiting in mid-December.  Nightcap oak has only been recorded in the Nightcap Range north of Lismore and has core habitat in warm temperate rainforests in the upper catchment and wet sclerophyll in the lower catchment, most commonly near creek lines.

## 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	<p>Inappropriate fire frequency and/or intensity that kills adult plants may lead to a decline of Nightcap oak population at the site.</p> <p>This risk is exacerbated by the severely restricted distribution and very small population size of the species at the site.</p>
Weeds	Habitat degradation and competition through invasion, establishment, intensification and/or spread of weeds (e.g. camphor laurel) to the extent that recruitment or establishment of plants is impaired.
Interactions with native species	Competition with other native shrubs including non-rainforest native species for light, space and resources may impede regeneration and impact persistence of Nightcap oak at the site.
Anthropogenic climate change	Changes to weather patterns and climatic conditions as a result of anthropogenic climate change that increases frequency and severity of drought conditions or frequency, intensity and/or extent of fire may exceed the adaptive capacity and reduce survivorship of Nightcap oak at the site.
Disturbance	Authorised infrastructure maintenance activities (e.g., road and trail construction or maintenance) and visitor use that leads to degradation of habitat and damage to individuals by slashing and herbicide use and trampling of individual plants.

## 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)).

Nightcap oak (*Eidothea hardeniana*)  
Conservation Action Plan

Key risk(s)	Impacted site(s)	Conservation activities
Inappropriate fire regimes	All sites	<ul style="list-style-type: none"> <li>Develop guidance on the appropriate fire management for the habitat of the Nightcap oak within 12 months of the adoption of this plan and update as required. This guidance must provide for: <ul style="list-style-type: none"> <li>maintenance of an appropriate fire regime by developing and implementing a site-specific burn plan for the declared areas</li> <li>implementation of any required fire protection and response measures in the declared areas</li> <li>integration of site-specific requirements into NPWS and NSW Government bushfire planning, risk management and operational response arrangements.</li> </ul> </li> <li>Implement fire management consistent with the guidance</li> </ul>
Weeds	All sites	<ul style="list-style-type: none"> <li>Remove weed species to the extent required to ensure weeds do not have a negative impact on nightcap oak, by targeted application of physical, biological and chemical weed control.</li> </ul>
Interactions with native species	All sites	<ul style="list-style-type: none"> <li>Where impacts on Nightcap oak and its habitat are observed, reduce competition by removal of native (non-rainforest) species.</li> </ul>
Anthropogenic climate change	All sites	<ul style="list-style-type: none"> <li>If a decline in species trajectory is attributed to impacts of anthropogenic climate change, investigate options for ex-situ management of the population.</li> </ul>
Disturbance	All sites	<ul style="list-style-type: none"> <li>Undertake periodic reviews to identify whether infrastructure maintenance is having an adverse impact on nightcap oak. If adverse impacts are observed, implement actions to mitigate the impacts. This may include: <ul style="list-style-type: none"> <li>upgrade/realignment of trails to avoid known plants/habitat</li> <li>installation of signage or more discrete marking systems to delineate exclusion areas to prevent slashing or herbicide use near site.</li> <li>installation of barriers or other suitable protective structures around plants to minimise impacts from authorised and unauthorised visitor use.</li> </ul> </li> <li>Implement guidance for staff, utility managers, council and/or contractors as required, about appropriate maintenance practices that minimise impacts to Nightcap oak population and habitat.</li> </ul>
All risks	All sites	<ul style="list-style-type: none"> <li>Establish ex-situ living collection and seedbank from genetically representative sample of the population.</li> <li>If required, augment the existing population or establish a new population with ex-situ material.</li> </ul>

## 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 Nightcap oak population	Population count	Design, and implement annually, monitoring to count the number of mature plants and seedlings in the population.

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](http://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 asset (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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Conservation Action Plan

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Date prepared	August 2022
Date approved	17 December 2022
Approved by	Atticus Fleming, Acting Co-ordinator General, Environment and Heritage
Due for review	August 2027