Review of Environmental Factors

Proposed Fire Buffer Construction Works (Stage 2), Eurobodalla National Park, NSW Far South Coast Region

A report prepared for NSW Office of Environment and Heritage

APRIL 2014

Report No. REF.0558

Citation

EnviroKey (2014) Review of Environmental Factors: Proposed Fire Buffer Construction Works (Stage 2). A report prepared by EnviroKey for NSW Office of Environment & Heritage. Report No. REF.0558. Final Report. Version 1.0. 21/04/2014.

Document Control

EnviroKey	Project Title: Potato Point Fire Buffer Construction Works (Stage 2)
Project Identifier :	REF.0558
Project Location:	\\ENVIROKEY\Public\Projects\OEH\Potato Point REF_SIS

Revision	Date	Prepared by (name)	Reviewed by (name)	Approved by (name)
Draft	12/04/2014	CM, AC, MH, SS	LS	Steve Sass
Final	21/04/2014	SS	-	Steve Sass

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Front Cover Image

Left: Pitfall traps used to target White-footed Dunnart. Right: Glossy Black-cockatoo female with fledgling.

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Definitions & Acronyms used within this REF

AHIP - Aboriginal Heritage Impact Permit

APZ - asset protection zone

BBAM - Biobanking Assessment Methodology

CMA - Catchment Management Authority

DGR - Director-General's requirements

EEC - endangered ecological community

EP&A Act - NSW *Environmental Planning and Assessment Act 1979*.

EPBC Act - Commonwealth *Environment Protection and Biodiversity Conservation Act 1995*.

LGA - Local Government Area.

Likely - taken to be a real chance or possibility.

Locality - means the area within a 5 kilometre radius of the proposed works.

local population (migratory or nomadic fauna) - the population comprises those individuals that are likely to occur in the study area from time to time.

local population (resident fauna) - the population comprises those individuals known or likely to occur in the study area, as well as any individuals occurring in adjoining areas (contiguous or otherwise) that are known or likely to use habitats in the study area.

local population (threatened flora) - the population comprises those individuals occurring in the study area or the cluster of individuals that extend into habitat adjoining and contiguous with the study area that could reasonably be expected to be cross-pollinating with those in the study area.

migratory species - a species specified in the schedules of the EPBC Act.

NP - National Park

NPWS - National Park and Wildlife Service

NP&W Act - *NSW National Park and Wildlife Act 1974*

NV Act - NSW *Native Vegetation Act 2003*

OEH - NSW Office of Environment & Heritage

PoM - Plan of Management

RCP - Regional Conservation Plan

REF - Review of Environmental Factors

region - means a biogeographical region that has been recognised and documented such as the Interim Biogeographical Regions of Australia (IBRA) (Thackway and Creswell 1995). The study area is located within the South-East Corner Bioregion.

SEPP - State Environmental Planning Policy

SF - State Forest

SFAZ - Strategic Fire Advantage Zone

SIS - Species Impact Statement

SOFF - Swamp Oak Floodplain Forest

subject site - the area to be directly affected by the proposed activity. That is, the footprint of the proposed works.

study area - includes the subject site and any additional areas that are likely to be affected by the proposed activity, either directly or indirectly.

threatened biota - means those threatened species, endangered populations or endangered ecological communities considered known or likely to occur in the study area.

threatened species - a species specified in the schedules of the TSC Act or the EPBC Act.

TSC Act - NSW *Threatened Species Conservation Act 1995.*

Declaration

This Review of Environmental Factors provides a true and fair review of the proposed activity in relation to its potential effects on the environment. It addresses to the fullest extent possible, all of the factors listed in Clause 228 of the Environmental Planning and Assessment Regulation 2000.

Signed:

Name: Steve Sass

Delegation: Director / Principal Ecologist, EnviroKey Pty. Ltd.

Date: 21st April 2014

I have examined this REF and the certification and accept the REF on behalf of NSW Office of Environment & Heritage (OEH).

Signed .....

Name TIM SHEPHERD .....

Delegation REGIONAL MANAGER, FSC NPWS .....

Date 22 APRIL 2014 .....

Fees

OEH is the proponent for the proposed works. No fees apply.

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1 INTRODUCTION

EnviroKey Pty. Ltd (EnviroKey) was engaged by the New South Wales (NSW) Office of Environment & Heritage (OEH) to prepare a Review of Environmental Factors (REF) for the proposed construction and operation of the Potato Point Fire Buffer (Stage 2) within Eurobodalla National Park (NP) on the far south coast of NSW (now referred to as the "proposed works"). A regional setting detailing the study area used for this REF is provided (**Map 1**).

For this REF, the '*Proponents Guidelines for the Review of Environmental Factors'* prepared by the Department of Environment and Climate Change (now Office of Environment and Heritage (OEH)) was followed given that the proposed works are located within a National Park and that OEH will be the determining authority (DECC 2008). The standard template for preparing REF in lands reserved or acquired under the NSW *National Parks and Wildlife Act 1974* (NP&W Act) was also adopted in the preparation of this REF (DECCW 2011).

Accordingly, this REF will:

- Undertake an analysis of the environmental, economic, physical and social implications of the proposed works; and
- Describe the environmental impacts associated with the proposed works and to develop environmental safeguards for each environmental component where deemed necessary.

This REF has been prepared in accordance with the requirements of Section 111 of the *Environmental Planning and Assessment Act* 1979 and Section 228 of the *Environmental Planning and Assessment Regulation 2000* specifying a "duty to consider environmental impact" and was prepared by suitably qualified and experienced personnel details of which are provided within **Appendix 1**.

1.1 BRIEF DESCRIPTION OF THE PROPOSED WORKS

The proposed Stage 2 works are to create a fire buffer to provide fire protection to the village of Potato Point in addition to that undertaken in Stage 1 works. This will be achieved by removing 80 percent of the cover of standing vegetation and the removal of understory vegetation with the retention of high environmental value vegetation and vegetation. Stage 1 of the fire buffer works were the subject of a previous REF (NGH 2013) and the on ground works associated with Stage 1 are now complete. The Stage 1 REF recommended that a Species Impact Statement (SIS) be prepared for the proposed Stage 2 works (NGH 2013). That recommendation was based largely on the potential impacts to Swamp Oak Floodplain Forest (SOFF), an endangered ecological community (EEC) listed under the NSW *Threatened Species Conservation Act 1995*. EnviroKey were subsequently engaged to prepare the SIS (EnviroKey 2014).

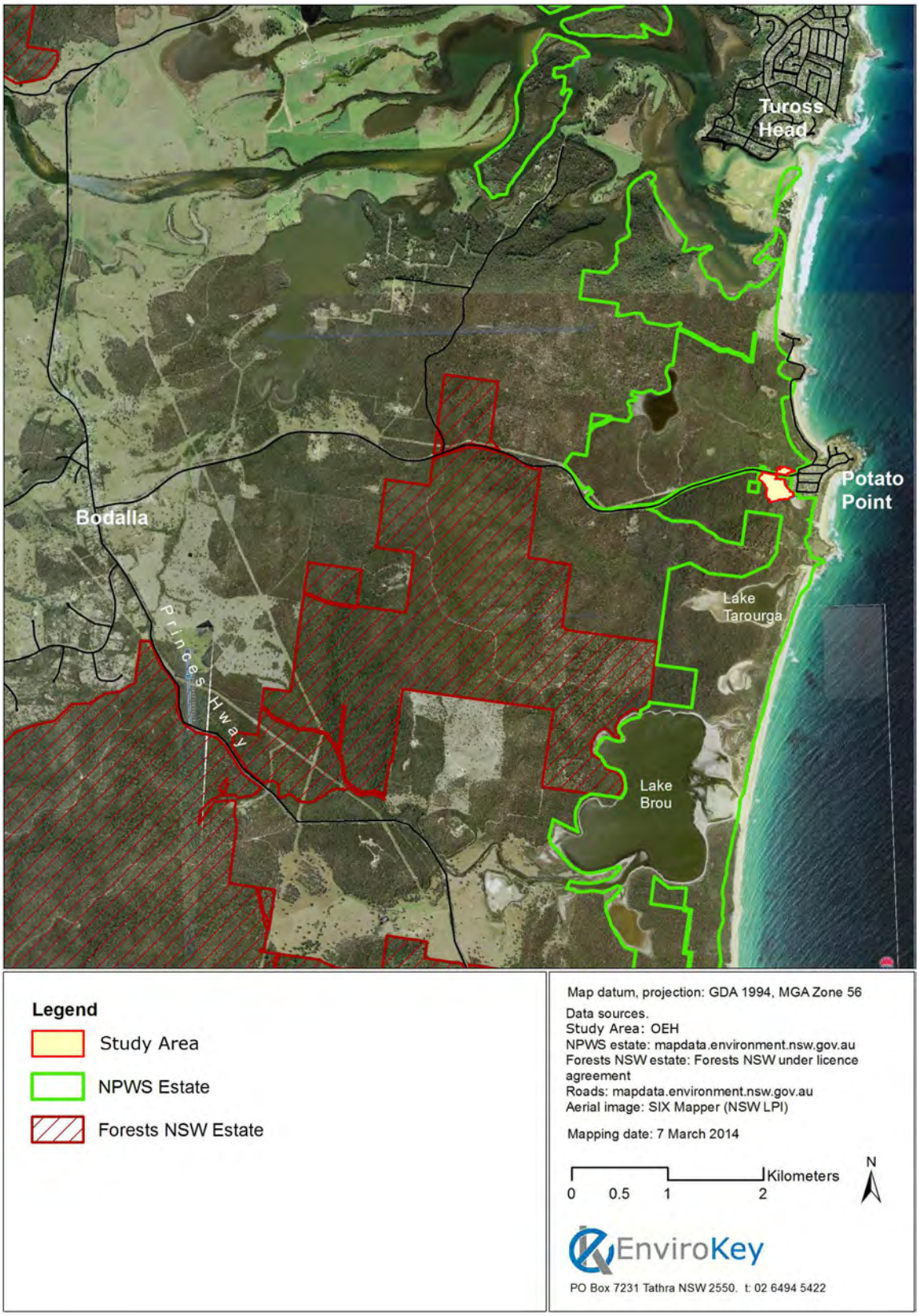
An Aboriginal Cultural Heritage Assessment and subsequent Aboriginal Heritage Impact Permit (AHIP) was also recommended for the Stage 2 works (NSWArchaeology 2014). These were prepared by New South Wales Archaeology Pty. Ltd.

1.2 PROPONENTS DETAILS

The proponent for the proposed works is NSW Office of Environment & Heritage. Full details of the proponent are provided within **Table 1**.

Table 1: Proponents details.

Item	Details
Proponent	NSW Office of Environment & Heritage (OEH)
Contact	Mr Tim Shepherd
Address	PO Box 656, Merimbula NSW 2548
Phone	+61 (0)2 6495 5000
Facsimile	+61 (0)2 6495 5055



Map 1: Regional setting of the study area applied to this REF.

2 PERMISSIBILITY

2.1 LEGAL PERMISSIBILITY

2.1.1 NSW National Parks and Wildlife Act 1974

The NSW *National Parks and Wildlife Act 1974* (NP&W Act) is administered by OEH and provides the basis for the legal protection of flora and fauna in NSW. Unless a licence is obtained under the Act (or the TSC Act), it is an offence to harm any animal that is protected or is a threatened species, population or ecological community. It is also an offence to pick any plant that is protected or is a threatened species, population or ecological community. In addition, a person must not, by act or omission, damage any critical habitat. Activities in accordance with a Part 5 Assessment do not require a licence under the Act. The NP&W Act also protects Aboriginal heritage values.

The following matters have been considered when assessing permissibility under the Act:

Objects of the Act (s.2A)

The proposed works are broadly consistent with the objects of the Act.

Objects – Reserve management principles (s.30E – 30K)

The proposed works are broadly consistent with national park management principles.

Relevant section of a plan of management

The proposed works are broadly consistent with the Eurobodalla National Park Plan of Management (POM) (NPWS 2000).

Leasing, licensing and easement provisions

The proposed works would not conflict with any of these provisions of the Act.

Management powers and responsibilities of NPWS

The proposed works are consistent with the management powers and responsibilities specified within the Act.

2.1.2 NSW Environmental Planning and Assessment Act 1979

The NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) forms the legal and policy platform for development assessment and approval in NSW and aims to, inter alia, 'encourage the proper management, development and conservation of natural and artificial resources'.

The proposed works will be determined by OEH under Part 5 of the Act. OEH, as the determining authority, must 'examine and take into account to the fullest extent possible all

matters affecting or likely to affect the environment by reason of that activity' pursuant to Section 111 of the Act. Clause 228 of the *Environmental Planning & Assessment Regulation 2000* (EP&A Regulation) identifies matters that 'must be taken into account concerning the impact of an activity on the environment'.

The decision to prepare an SIS was based on preliminary estimates of potential impacts of the proposed Stage 2 works. Specifically, the proposed works were considered 'likely' to impose 'a significant effect' on SOFF EEC (NGH 2013).

This decision is informed by reference to Section 5A of the EP&A Act, which contains seven factors to be considered by determining authorities when considering the significance of impacts on threatened biota associated with activities under Part 5 of the Act (the '7-part test'). Should the 7-part test determine that a 'significant effect' on any threatened biota listed under the TSC Act is likely, then the authority must prepare a SIS. A SIS was prepared for the proposed works the subject of this REF.

The EP&A Act provides the framework for environmental planning in NSW and includes provisions to ensure that proposals which have the potential to significantly affect the environment are subject to detailed assessment.

2.1.3 NSW Wilderness Act 1987

The objectives of the NSW *Wilderness Act 1987 are*:

- To provide for the permanent protection of wilderness areas.
- To provide for the proper management of wilderness areas.
- To promote the education of the public in the appreciation, protection and management of wilderness.

No portion of Eurobodalla NP is listed under the NSW *Wilderness Act 1987*.

2.1.4 NSW Threatened Species Conservation Act 1995

The NSW *Threatened Species Conservation Act 1995* (TSC Act) provides legal status for biota of conservation significance. The TSC Act aims to, inter alia, 'conserve biological diversity and promote ecologically sustainable development'. It provides for:

- The listing of threatened species, populations and ecological communities.
- The listing of key threatening processes.
- The preparation and implementation of Recovery Plans, Threatened Abatement Plans and Priority Action Statements.
- Guidelines for the preparation of SIS.

The TSC Act has been addressed in this REF and the accompanying SIS by undertaking database searches and desktop analysis for any threatened species, populations or communities previously recorded within the locality and targeted field surveys in accordance

with the DGR. Key threatening processes listed under Schedule 3 of the Act relevant to the proposed works have been identified as part of the SIS assessment of potential impacts.

2.1.5 Commonwealth Environment Protection and Biodiversity Conservation Act 1999

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) enables the Australian Government to join with the states and territories in providing a national scheme of environment and heritage protection and biodiversity conservation to ensure that actions likely to cause a 'significant impact' on matters of national environmental significance (NES) undergo an assessment and approval process. Under the Act, an action includes a project, undertaking, development or activity.

An action that has, or is likely to have a significant impact on a matter of NES may not be undertaken within the prior approval from the Australian Government Minister for the Environment (DEWHA 2009).

The nine matters of NES that are protected under the EPBC Act are:

- Listed threatened species and ecological communities
- Listed migratory species
- Wetlands of international importance
- Commonwealth marine environment
- World heritage properties
- National heritage places
- The Great Barrier Reef Marine Park
- Nuclear actions
- A water resource, in relation to coal seam gas development and large coal mining development.

The Significant Impact Guidelines for the EPBC Act (DEWHA 2009) set out criteria to assist in determining whether an action requires approval and in particular, whether a proposed action is likely to have a 'significant impact' on a matter of NES.

If a proposed action is likely to have a significant impact on a matter of NES, referral of the proposal to the Department of the Environment (DotE) is required to confirm whether the Commonwealth considers the proposal a 'controlled action' and subsequently requiring the Ministers approval under the EPBC Act.

This REF provides an assessment to ascertain whether the proposed works will require referral to the Commonwealth.

2.1.6 NSW Fisheries Management Act 1994

The NSW *Fisheries Management Act 1994* (FM Act) aims to conserve fish stocks, key habitats, threatened species, populations and ecological communities of fish and marine

vegetation. It also aims to promote viable commercial fishing, aquaculture industries and recreational fishing.

As a public authority, the OEH does not require a permit for dredging and reclamation works within 'water land' under Clause 200 (1) of the FM Act. However, under clause 199 a public authority must give the Minister written notice of any proposed dredging or reclamation work in 'water land'. Water land is generally taken to include all drainage lines and waterways that are indicated on 1:25,000 topographic maps, and is likely to include the drainage line in the study area. The proposed works will involve the clearing of surface vegetation, but not dredging or reclamation work in 'water land'.

2.1.7 NSW Heritage Act 1977

The NSW *Heritage Act 1977* defines 'environmental heritage' as those places, buildings, works, relics, moveable objects and precincts. A property is a heritage item if it is:

- listed in the heritage schedule of the local council's Local Environmental Plan (LEP).
- listed on the State Heritage Register, a register of places and items of particular importance to the people of NSW.
- listed in the National Heritage Database.

Searches of the relevant Heritage databases found no items within the direct vicinity of the proposed works. Additionally, no potential heritage items were observed during the extensive field surveys conducted for the REF and accompanying SIS.

2.1.8 NSW Rural Fires Act 1997

The objects of the NSW Rural Fires Act 1997 (RF Act) are to provide:

- For the prevention, mitigation and suppression of fires.
- For the coordination of bush firefighting and bufe fire prevention throughout NSW.
- For the protection of persons from injury, death and property from damage as a result of fires.
- For the protection of the environment by having regard to the principles of ecologically sustainable development.

Under the RF Act, OEH is a prescribed fire authority and is responsible for the control and suppression of all fires on land managed by OEH.

2.1.9 NSW Coastal Protection Act 1979

The *Coastal Protection Act 1979* is the principal legislation relating to coastal management in NSW. Key provisions of the Act including requirements relating to concurrences with the Minister for certain developments in the Coastal Zone.

Division 1, section 6, subclause 1(e) states that for the purpose of this Act, a Coastal Authority is:

- A public authority that is the owner of, or has care, control or management of, land within the coastal zone.

Accordingly, OEH is the authority of the Eurobodalla NP and therefore, a Coastal Authority to enable determination of the proposed works.

2.1.10 NSW Marine Parks Act 1997

The Batemans Marine Park extends from a three nautical mile offshore limit of NSW waters within all rivers, estuaries, bays, lagoons and inlets, and saline and brackish coastal waters from Bermagui to Bawley Point.

The proposed works would be conducted adjacent to waters that are currently defined as General Use Zone and Sanctuary Zone within the Batemans Marine Park.

Clause 20 Development affecting a Marine Park, subclause 3, states:

A determining authority must not carry out, or grant an approval to carry out, an activity on land that is in the locality of a marine park in purported compliance with Part 5 of the EP&A Act unless:

a) The determining authority has taken into consideration the objects of this Act, the regulations and any advice given to it by the Authority on the impact on the marine park of the carrying out of an activity in the locality; and

b) If the determining authority is of the opinion that the proposed activity is likely to have an effect on the plants or animals within the marine park of their habitat, the determining authority has consulted with the authority.

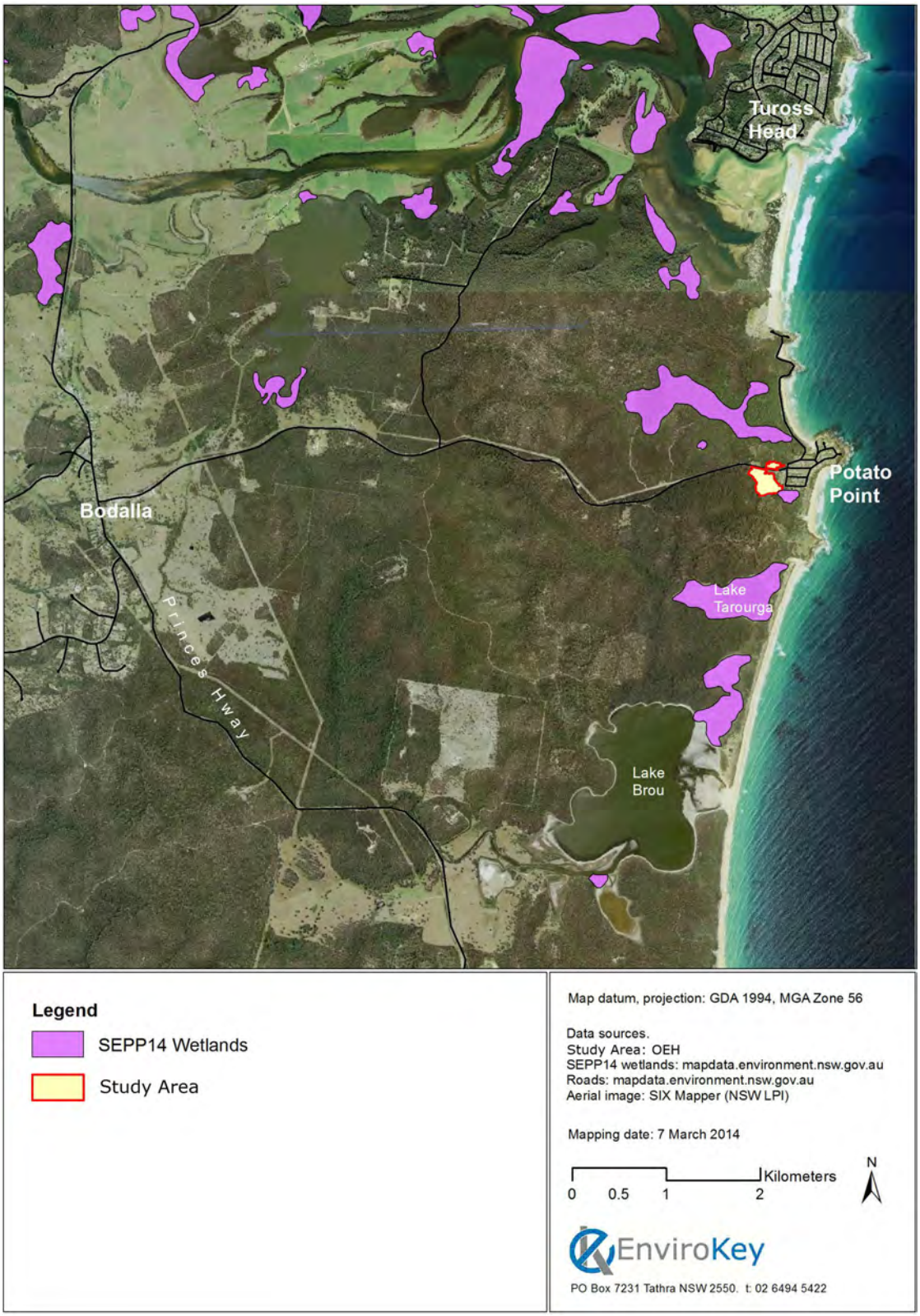
Given this, OEH would undertake consultation with the Marine Park Authority with regard to the proposed works.

2.1.11 State Environmental Planning Policy No. 14 – Coastal Wetlands

The aim of State Environmental Planning Policy No. 14 – Coastal Wetlands (SEPP 14) is to ensure that coastal wetlands are preserved and protected in the environmental and economic interests of NSW. SEPP 14 wetlands are threatened by coastal development, road construction, erosion and sediment and other forms of pollution and climate change. SEPP 14 wetland No. 136 is located directly adjacent to the proposed works (**Map 3**).

While SEPP 14 does not apply to land gazetted under the NP&W Act, the Plan of Management for Eurobodalla NP states that all wetlands, estuarine lakes and creeks will be managed according to the principles of SEPP 14 (NPWS 2000).

This REF is intended to meet the assessment requirements specified in SEPP 14.



Map 2: Extent of SEPP 14 wetlands within the vicinity of the study area. SEPP 14 wetland no. 136 is located directly adjacent.

2.1.12 State Environmental Planning Policy No. 71 – Coastal Protection

The aim of State Environmental Planning Policy No. 71 – Coastal Protection (SEPP 71) is to ensure that development in the NSW coastal zone is appropriate and suitable located, to ensure that there is a consistent and strategic approach to coastal planning and management. The application of this policy will ensure there is a clear development assessment framework for the coastal zone (land within one kilometre of a tidal water body or inlet as defined by the NSW *Coastal Protection Act 1979*).

Under Part 2 Matters for Consideration of this SEPP, Clause 7 Application of clause 8 matters, *(b) "are to be taken into account by a consent authority when it determines a development application to carry out development on land to which this policy applies".* OEH is the consent authority for the proposed works as defined by the EP&A Act, and therefore OEH must take into account *Clause 8 matters for consideration*. This REF addresses SEPP 71.

2.2 CONSISTENCY WITH OEH POLICY

2.2.1 South Coast Regional Conservation Plan

The key objective of the South Coast Regional Conservation Plan (RCP) is to protect high value environments including coastal lakes, estuaries, threatened species, vegetation communities and habitat corridors by ensuring that new development avoids these important areas and their catchments (DECCW 2010). The RCP is consistent with a number of federal and state biodiversity strategies including the National Local Government Biodiversity Strategy, Australia's Biodiversity Conservation Strategy, the NSW Biodiversity Strategy, and the Southern Rivers Catchment Action Plan.

Specific to biodiversity, the RCP has the following principles:

- To improve or maintain ecological processes and the dynamics of terrestrial ecosystems in their landscape context.
- To improve or maintain viable examples of terrestrial ecosystems.
- To improve or maintain viable populations.

The RCP also identifies key priorities in relation to maintaining or improving biodiversity values. These being:

- The first priority is to avoid losses to biodiversity and promote protection of biodiversity values insitu.
- Where the first priority is unachievable, the second priority is to mitigate against adverse impacts to biodiversity.
- The last resort is to compensate for unavoidable losses to biodiversity by applying offsets in priority locations identified by the RCP.

This REF is consistent with the RCP as it considers core environmental values identified in the SIS when evaluating the preferred option for the proposed works.

2.2.2 Eurobodalla National Park Plan of Management

The NP&W Act requires that all activities on reserved land are consistent with an adopted plan of management for the area. Under sections 81 and 81A of the NP&W Act, all operations on the park must be in accordance with the plan of management. The 'Eurobodalla NP Plan of Management' (POM) outlines key values and management objectives for the area within the National Park (August 2000) and was adopted by the Minister on 23rd August 2000 (NPWS 2000).

Eurobodalla NP covers 2,220 hectares of coastal land between Moruya and Bermagui and includes 27 hectares of land within the intertidal zone as well as a number of coastal lakes (NPWS 2000).

Specific management objectives relating to biodiversity for Eurobodalla NP are identified within the POM as follows:

- The protection of Eurobodalla National Park as part of a regionally important system of national parks and reserves on the south coast of NSW.
- The maintenance of high water quality in the freshwater wetlands and coastal lagoons within the park.
- The management of vegetation to:
  - Maintain natural floristic and structural diversity.
  - Conserve rare, vulnerable or otherwise significant species.
  - Conserve communities of significance that are known to occur.
  - Regenerate disturbed areas that have been cleared or grazed previously.
  - Maximise habitat values for native species.
- Maintenance of fauna diversity with priority given to endangered species including the Glossy Black Cockatoo and White-footed Dunnart.

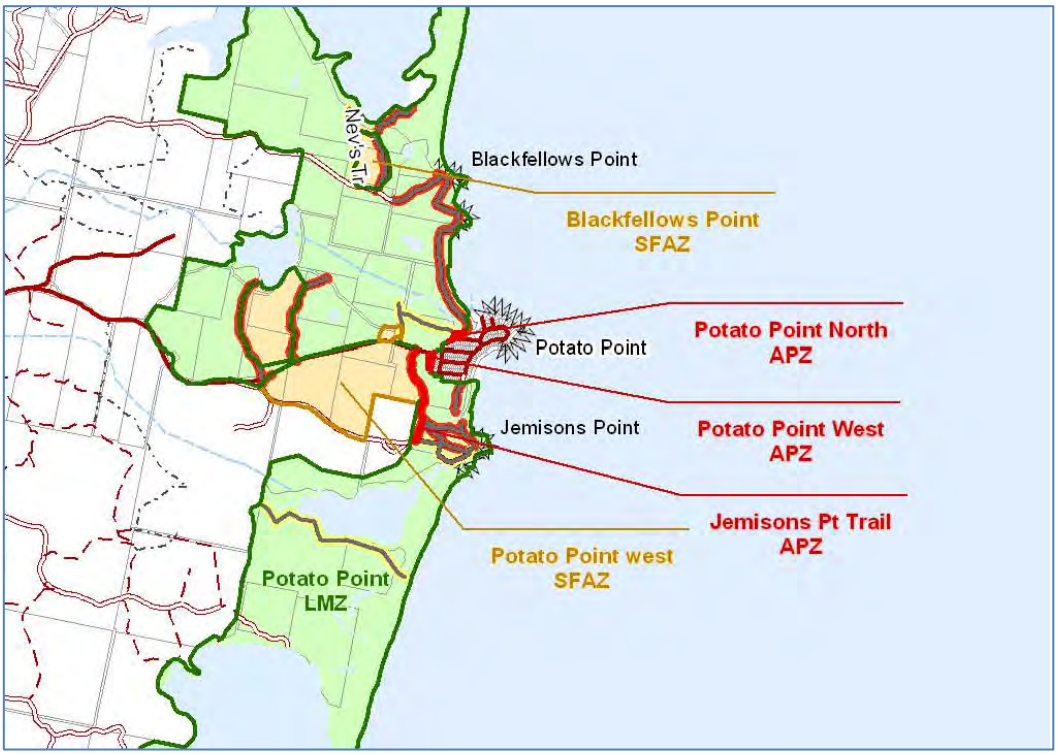
This REF is consistent with the Eurobodalla NP POM as it considers core environmental values identified in the SIS when evaluating the preferred option for the proposed works.

2.2.3 Eurobodalla National Park Fire Management Strategy

The Eurobodalla National Park Fire Management Strategy (FMS) details the fire history, vegetation types, bushfire behaviour potential, time since fire, access points and fire control advantages (OEH 2013).

At Potato Point, three Asset Protection Zones (APZ) are identified within the FMS. These being being Potato Point North APZ, Potato Point West APZ and Jemison's Point Trail APZ. West of Jemison's Point Trail is a Strategic Fire Advantage Zone (SFAZ).

On the basis of the Stage 2 works, the FMS would require amendment and subsequent approval by the Regional Manager of NPWS to alter the area of the Stage 2 works from Land Management Zone (LMZ) classification to SFAZ.



Map 3: Extract from the Eurobodalla National Park Fire Management Strategy.

2.3 OTHER RELEVANT LEGISLATION, POLICIES OR PLANS

2.3.1 Potato Point Village Fire Protection Plan

The Potato Point Village Fire Protection Plan aims to:

- Establish a safe and effective fire response strategy.
- Establish a protocol for fire threat mitigation.
- Establish a joint fire management approach with the local community, Rural Fire Service, National Parks and Wildlife Service, Forests NSW and Eurobodalla Shire Council to protect Potato Point from bush fire events (PPRFS 2010).

The proposed works are consistent with the objectives of this plan.

2.3.2 Ecologically Sustainable Development

Ecologically sustainable development (ESD) involves the effective integration of social, economic and environmental considerations in decision-making processes. In 1992, the Commonwealth and all state and territory governments endorsed the *National Strategy for*

Ecologically Sustainable Development. In NSW, the concept has been incorporated in legislation such as the EP&A Act and Regulation.

For the purposes of the EP&A Act and other NSW legislation, the Intergovernmental Agreement on the Environment (1992) and the *Protection of the Environment Administration Act* 1991 outline the following principles which can be used to achieve ESD.

(a) The precautionary principle: that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

In the application of the precautionary principle, public and private decisions can be guided by:

(i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and

(ii) an assessment of the risk-weighted consequences of various options,

(b) Inter-generational equity: that the present generation should ensure that the health, diversity and productivity of the environment are maintained or enhanced for the benefit of future generations,

(c) Conservation of biological diversity and ecological integrity: that conservation of biological diversity and ecological integrity should be a fundamental consideration,

The aims, structure and content of this REF are guided by these principles. The precautionary principle has been adopted in the assessment of impact; all potential impacts have been considered and mitigated where a risk is present. Where uncertainty exists, measures have been suggested to address it.

3 CONSULTATION

3.1 STATE ENVIRONMENTAL PLANNING POLICY (INFRASTRUCTURE) 2007 (ISEPP)

Part 2 of the *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP) contains provisions for public authorities to consult with local councils and other public authorities prior to the commencement of certain types of development.

Clauses 13 to 17 of ISEPP identifies consultation requirements for works which may be carried out without consent but which in the opinion of the public authority trigger the items listed in Table 3-1. If any of these items are triggered, the public authority, or person acting on behalf of the public authority, would not be able to carry out the proposed work unless the authority or the person has:

> "(a) given written notice of the intention to carry out the development to the council for the area in which the land is located, and
>
> "b) taken into consideration any response to the notice that is received from the council within 21 days after the notice is given."

Table 2 details whether these would be substantially impacted by the proposed works.

Table 2: Assessment of items of clause 13-17 of the ISEPP.

Clause	Response
Clause 13: 1(a): Substantial impact on stormwater management services provided by a council.	The proposed works would not involve impacts to any stormwater system.
Clause 13: 1(b): Likely to generate traffic to an extent that will strain the capacity of the road system in a local government area.	The works would not generate additional traffic (either during the construction period or in the long term) that would strain the capacity of the road system.
Clause 13: 1(c): Involves connection to, and a substantial impact on the capacity of, any part of a sewerage system owned by a council.	The proposed works would not involve any works in relation to a sewerage system owned by the council.
Clause 13: 1(d): Involves connection to, and use of a substantial volume of water from, any part of a water supply system owned by a council	The proposed works would not involve the connection or use of water from a water supply system owned by the council.
Clause 13: 1(e): Involves the installation of a temporary structure on, or the enclosing of, a public place that is	The proposed works would not require structures that would enclose a public place under council's

Clause	Response
under a council's management or control that is likely to cause a disruption to pedestrian or vehicular traffic that is not minor or inconsequential.	management or control.
Clause 13: 1(f): Involves excavation that is not minor or inconsequential of the surface of, or a footpath adjacent to, a road for which a council is the roads authority under the *Roads Act 1993* (if the public authority that is carrying out the development, or on whose behalf it is being carried out, is not responsible for the maintenance of the road or footpath).	The proposed works would involve no impacts to roads or pathways that are under the authority of council.
Clause 14: Development that is likely to have an impact that is not minor or inconsequential on a local heritage item (other than a local heritage item that is also a State heritage item) or a heritage conservation area.	The proposed works are not likely to have an impact on a local heritage item.
Clause 15: Development on flood liable land.	The proposed works are not being undertaken on flood liable land.
Clause 16: Development adjacent to land reserved under the *National Parks and Wildlife Act 1974.*	The works are being undertaken on land considered under the NPW Act. OEH is the proponent and determining authority for the proposed works.
Clause 17: Development adjacent to a marine park declared under the *Marine Parks Act 1997.*	The proposed works would be undertaken on land adjacent to the Batemans Marine Park. OEH would be required to undertake consultation with the Marine Park Authority.

Accordingly, consultation with Eurobodalla Shire Council is not considered necessary, nor has it been undertaken with regard to the proposed works. Consultation by OEH with the Marine Park Authority is required.

3.2 LOCAL COMMUNITY

The OEH has regularly consulted with the Potato Point residents and the Potato Point Community Association through direct contact and a series of community meetings.

As detailed in the Stage 1 REF, a community meeting was held on 6th November 2013 (NGH 2013). As part of the Stage 2 proposed works, two community meetings have been

conducted. These were held on the 25th January 2014 and 22nd March 2014. Matters discussed during community consultation have been included, where relevant, in this REF.

General information collected from the Stage 2 community meetings are provided in **Appendix 2.**

4 THE PROPOSED WORKS

4.1 ANALYSIS OF THE OPTIONS

Stage 1 of the Fire Buffer Construction Work resulted in the 80 percent removal of overstorey vegetation, and the removal of ground cover vegetation.

Three potential options have been identified in relation to the proposed works on the basis of the rationale applied for Stage 1: Option 1, Option 2 and the 'do nothing' option. Within each 'treatment' area, it is proposed that these would be subject to a regime of thinning of the overstorey vegetation (removal of 80 percent of the overstorey) and the removal of mid-strata and groundcover vegetation

This section summarises each option proposed by OEH for the Stage 2 study area.

4.1.1 Option 1: Clearing of vegetation east of Jemison's Point Road and south of Bodalla-Potato Point Road

Option 1 has the proposed works being confined to the area east of Jemison's Point Road with the retention of high quality SOFF EEC and threatened species habitat. The remainder of land within the Stage 2 area east of the Jemison's Point Road would be subject to the 80% treatment (as described above).

This option would impact a proportion of the SOFF EEC but not the core area considered essential to the long-term viability of the SOFF EEC, retains important habitat for threatened species and provides protection of SEPP 14 wetland no. 136 from potential erosion and sedimentation.

Advantages

- Minimises impacts on SOFF EEC, threatened species habitat, SEPP 14 wetland no. 136 and the surrounding environment.
- Provides a level of fire protection similar to what exists post Stage 1 works including a decrease in the Ember Attack Index.
- Minimises impact to Aboriginal cultural heritage.
- Consistent with commitments to the community to carry out fire protection works east of Jemison's Point Road.
- Generally consistency with the South Coast Regional Conservation Plan.

Disadvantages

- Loss of a portion of SOFF EEC. Likely to increase the threat of weed invasion to remaining portion of SOFF EEC.

The spatial extent and management regime for Option 1 is detailed in **Map 4**.

Map 4: Spatial extent and management regime for Option 1.

4.1.2 Option 2: Clearing of vegetation detailed within Option 1 as well as selected areas west of Jemison's Point Road and north of Bodalla-Potato Point Road

Option 2 has the proposed Stage 2 works being undertaken east and west of Jemison's Point Road with the retention of an area deemed high quality SOFF EEC and threatened species habitat.

This option would affect a larger proportion of SOFF EEC as well as direct and indirect impacts to known threatened species habitat.

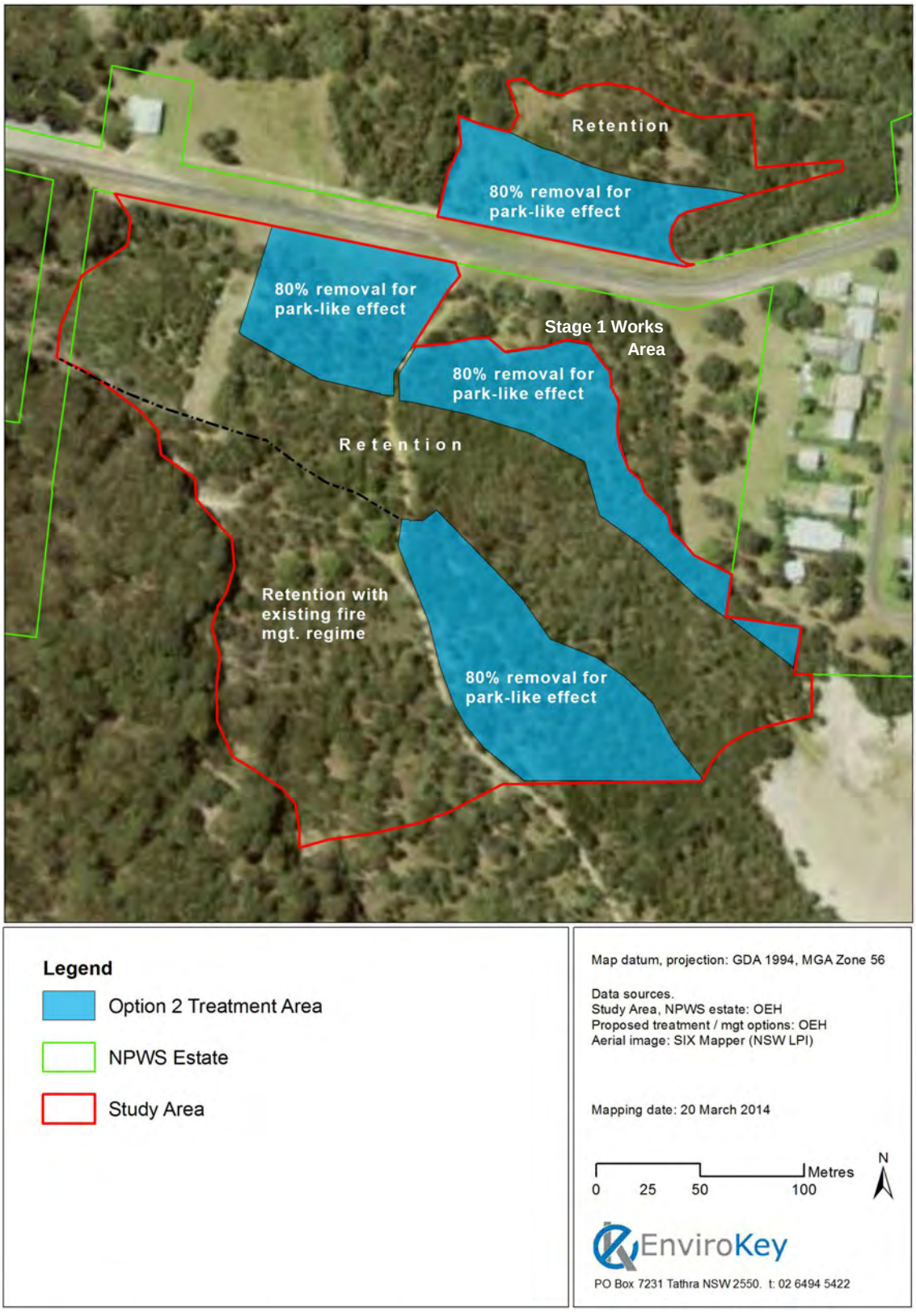
Advantages

- Exceeds the commitment to the community to carry out enhanced fire protection works east of Jemison's Point Road.

Disadvantages

- Greater direct and indirect impacts to SOFF EEC, threatened species habitat and the surrounding environment.
- Likelihood of greater risk for erosion and subsequent sediment movement into SEPP 14 wetland no. 136.
- Impacts on Aboriginal cultural heritage.
- Increase construction and maintenance costs.

The spatial extent and management regime for Option 2 is detailed in **Map 5**.



Map 5: The spatial extent and management regime for Option 2.

4.1.3 Option 3: Do nothing

The “do nothing” option is an option that OEH are legally obliged to consider under the EP&A Act. With consideration of the ‘do nothing’ option, existing levels of concern amongst some members of the Potato Point community would remain.

Advantages

- No impact on SOFF EEC, threatened species habitat, SEPP 14 wetland no. 136 and the surrounding environment.
- No impact on Aboriginal cultural heritage.
- No construction or maintenance costs.
- Likely to be acceptable to a proportion of the Potato Point community.

Disadvantages

- Not consistent with the commitment of the Minister for Environment and Heritage.

4.1.4 Preferred Option

After careful analysis of each option, OEH as the proponent, have determined that the preferred option is Option 1.

Option 1 meets the objectives of the proposed Stage 2 works, is consistent with the decision of the Minister for Environment and Heritage and maintains core environmental values identified within the study area through the SIS process.

For the purpose of this REF, Option 1 is the preferred option for the proposed works.

4.2 OBJECTIVES OF THE PROPOSED WORKS

The proposed works are intended to enhance bushfire protection for Potato Point village and address the concerns of Potato Point residents while protecting core environmental values.

The proposed Stage 2 works would establish a SFAZ within the Option 1 treatment area (as identified on **Map 4**). To support maintenance of the SFAZ in the long-term, the Eurobodalla NP FMP would require amendment.

4.3 DESCRIPTION OF PROPOSED WORKS

The proposed works would involve the clearing of up to 80% of the overstorey vegetation within the areas identified on **Map 4** as the Option 1 Treatment Area. All ground cover and midstorey vegetation would also be removed. Based on spatial analysis, a total of 1.47 hectares of native vegetation would be removed including 1.03 hectares of SOFF EEC.

It is likely that larger trees would be removed using a chainsaw. For the remainder of the vegetation, a tritter mulcher with rubber tracks would mulch all vegetation onsite. This would

result in a mulch layer up to 20 centimetres in depth. This approach would minimise ground disturbance and the potential for erosion.

The Stage 2 area would require regular maintenance over the long term, given that native vegetation, in particular flammable species such as Bracken fern, will continue to regenerate as they have done in the Stage 1 area. Maintenance would be undertaken by mechanical slashing.

4.4 REASON FOR THE PROPOSED WORKS

The proposed works are intended to enhance bushfire protection for Potato Point village and address the concerns of Potato Point residents while protecting core environmental values. The Minister for the Environment and Heritage has committed NPWS to undertake the proposed works after submissions made by the Potato Point Community Association, subject to environmental assessment and the protection of core environmental values.

The proposed works would result in the Potato Point fire buffer exceeding the requirements details within the Planning for Bushfire Protection guidelines and are in excess of the requirements of the Eurobodalla Bush Fire Risk Management Plan (RFS 2011).

However, it should be noted that the Stage 2 works are not intended to provide complete defence against bushfire as it is likely that ember attack may still pose a significant risk under extreme and catastrophic conditions and does not alleviate the need for landholders to carry out fire protection works close to structures.

4.5 TIMING OF THE PROPOSED WORKS

It is anticipated that subject to approval, Stage 2 works would be completed by Spring 2013. Generally, the proposed works would be undertaken during standard construction hours. These being:

- Monday to Friday 7am to 6pm.
- Saturday 8am to 1pm.
- No work on Sundays or public holidays.

5 EXISTING ENVIRONMENT

5.1 METEOROLOGICAL DATA

The climate within Potato Point is mild, being located on the coast, with mean maximum temperatures ranging from 23.6°C in summer down to 16.1°C in winter (BOM 2014). The Narooma (Marine rescue) station (Station No. 69022) has collected meteorological data since 1910. **Figure 1** represents the average daily temperatures while **Figure 2** details the average monthly rainfall at Narooma (Marine Rescue) weather station.

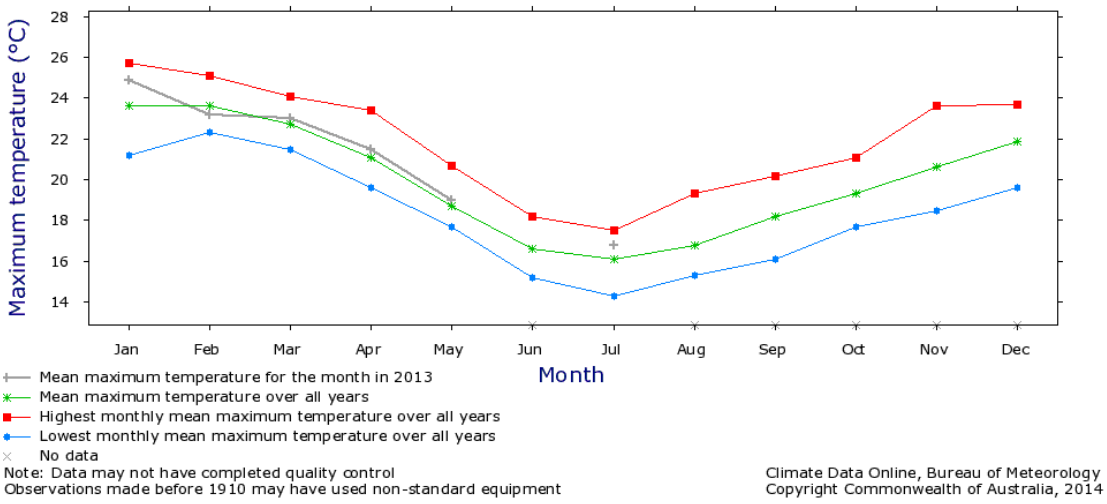


Figure 1: Average daily maximum temperatures (degrees Celsius) at the Narooma (Marine Rescue) weather station.

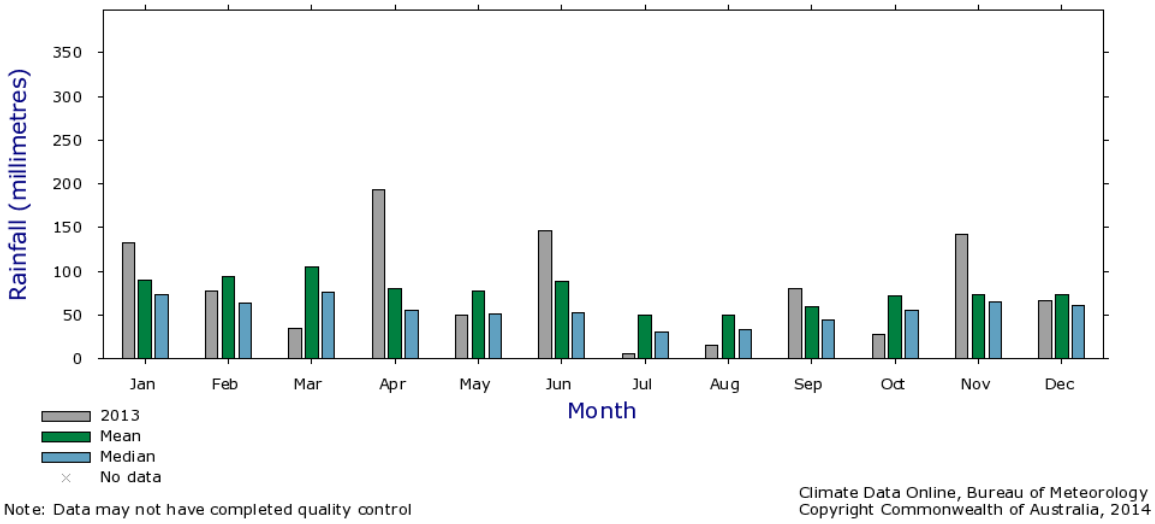


Figure 2: Average monthly rainfall (mm) at the Narooma (Marine Rescue) weather station.

5.2 TOPOGRAPHY

The landform of the study area is generally low lying. It is in close proximity to the ocean and there are large areas of wetlands nearby. The study area naturally drains to the east out towards the ocean through an ephemeral drainage line traverse the study area and into SEPP 14 wetland no. 136.

Slopes are generally low within the study area, ranging from between 0 and 5 degrees. Elevation is between 5 and 20 metres above sea level.

5.3 SURROUNDING LAND USE

Eurobodalla NP covers approximately 30 kilometres of coastline and adjoins a number of lands, the uses of which include Bodalla State Forest (SF), agriculture and the residential area of Potato Point.

Potato Point is a small coastal village that comprises around 150 dwellings with a large proportion of these used as holiday homes (PPRFS 2010).

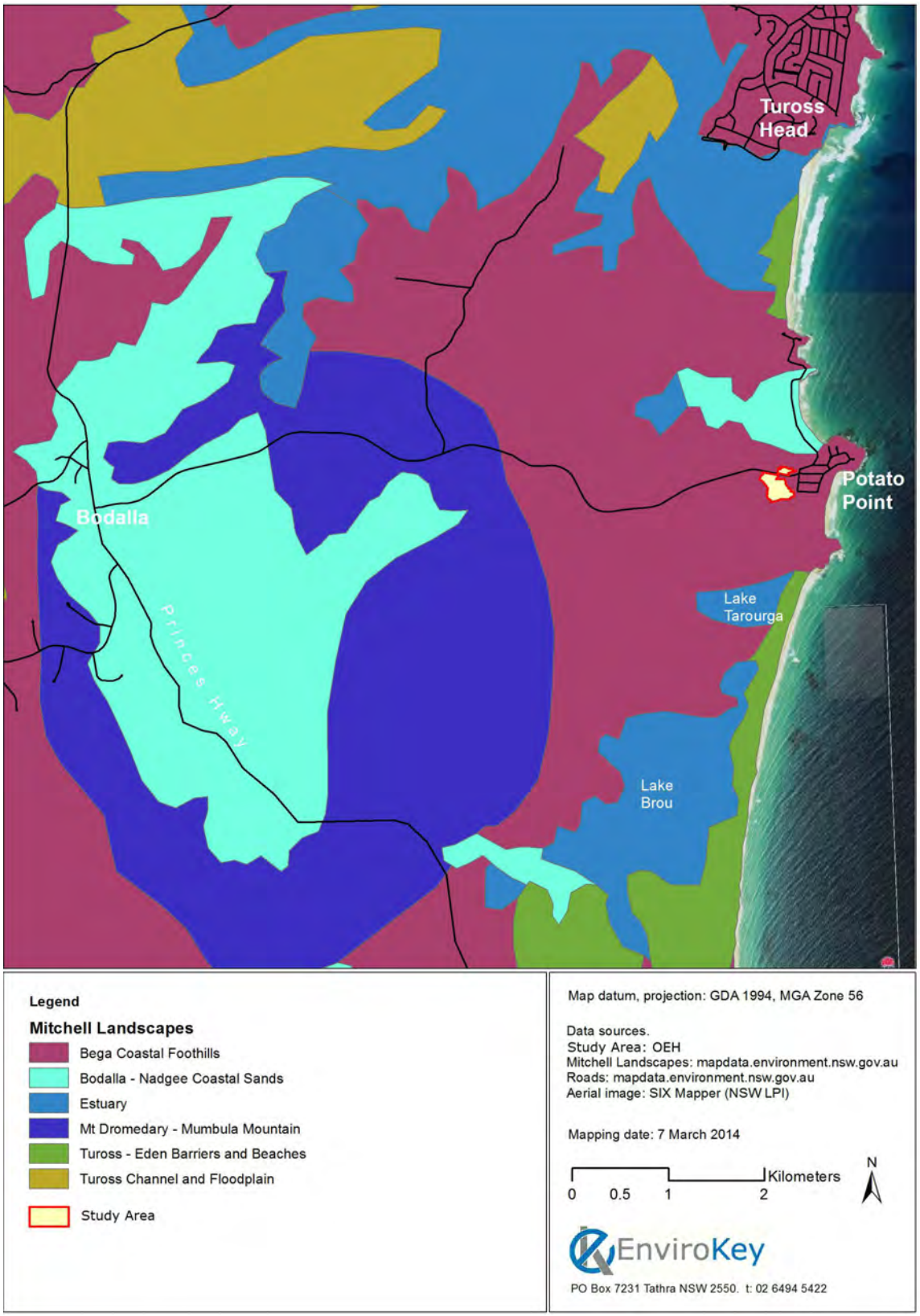
5.4 GEOLOGY/GEOMORPHOLOGY

Eurobodalla NP exists within the Narooma and Molong-Monara terranes (NPWS 2000). The geology in the general area consists of igneous and sedimentary rock ranging in age. Just north of the study area, the Coila Lake sandbar exists as part of the Devonian granites of the Moruya batholith, which is between 410 and 390 million years old (NPWS 2000).

To gain a more detailed understanding of the landscapes within the study area, information was taken from the NSW Mitchell Landscapes (Mitchell 2002). These provide a geological description of the landscapes of each bioregion within NSW. The study area, in its entirety, is within the South Eastern Corner Coastal Ranges and the landscape is classified as the Bega Coastal Foothills.

5.5 SOIL TYPES AND PROPERTIES

The study area is located wholly within the Bega Coastal Foothills landscape (Mitchell 2002), which is typically known for its thin stony red and red-yellow texture contrast soils (**Map 6**). The areas of Moruya batholith contain deeper and a better developed texture contrast soil (NPWS 2000). Where SOFF EEC occurs, grey-black sandy loams dominated influenced by waterlogging and periodical inundation.

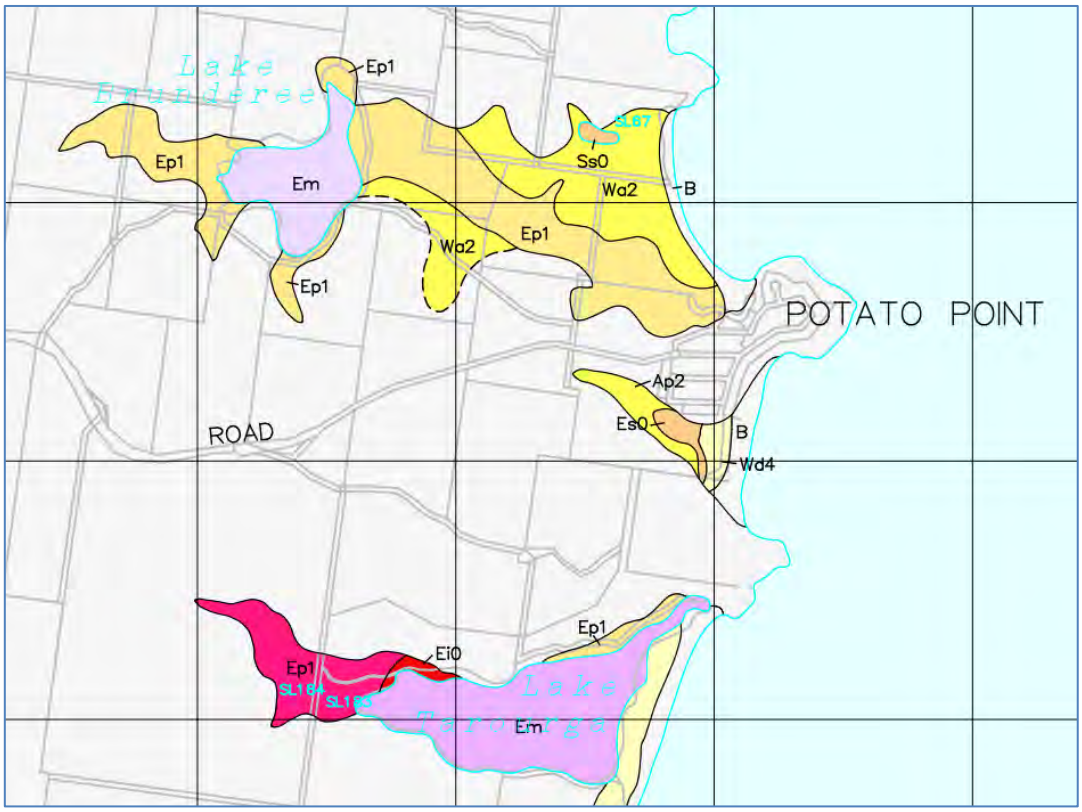


Map 6: Mitchell landscapes of the locality.

Acid Sulfate Soils (ASS) covers approximately 600,000 hectares of the NSW coastline and were formed over the last 10,000 years. ASS are not harmful unless disturbed. Disturbance is where soil is exposed to the air and oxidisation occurs resulting in sulphuric acid forming which has the potential to leach and affect areas nearby.

The mapping that covers the study area is the Department of Land and Water Conservation Acid Sulfate Soils Risk Map, Edition Two, for the Bodalla-Nerrigundah area at a scale of 1:25,000 (**Map 7**).

According to **Map 7** and **Figure 3** , the study area is likely 'low probability' for ASS potential and this occurs at between one and three metres below the ground surface. As the soils will not be disturbed as part of the proposed works, it is not anticipated that there will be any impacts to ASS.



Map 7: Acid Sulphate Soils (ASS) Map

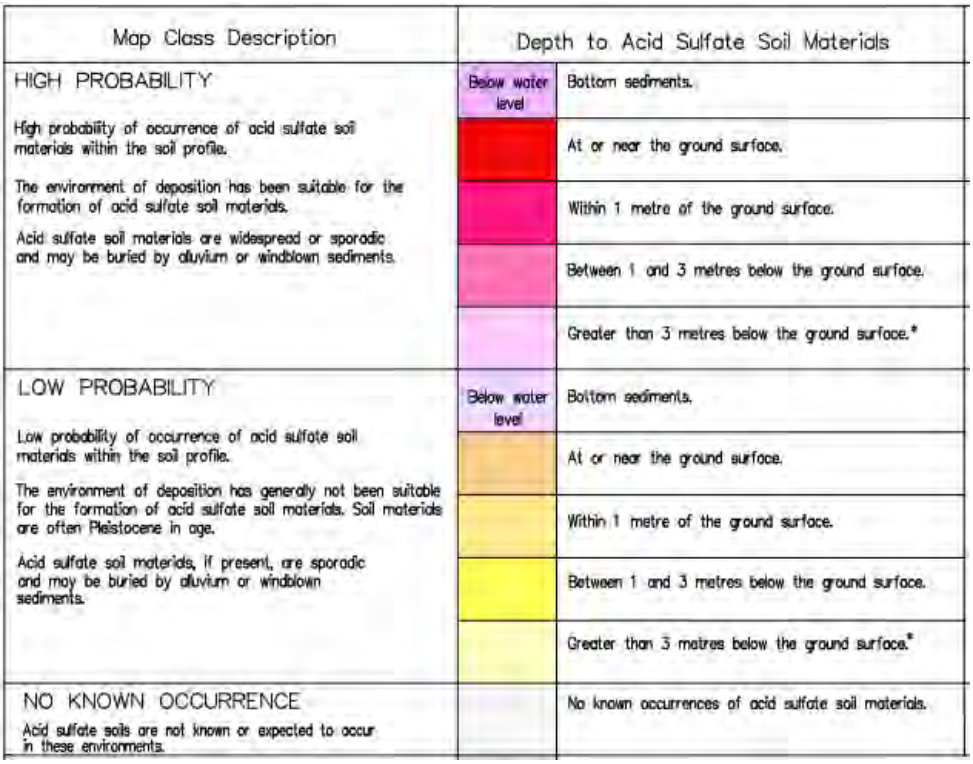


Figure 3: Key to ASS Risk Mapping.

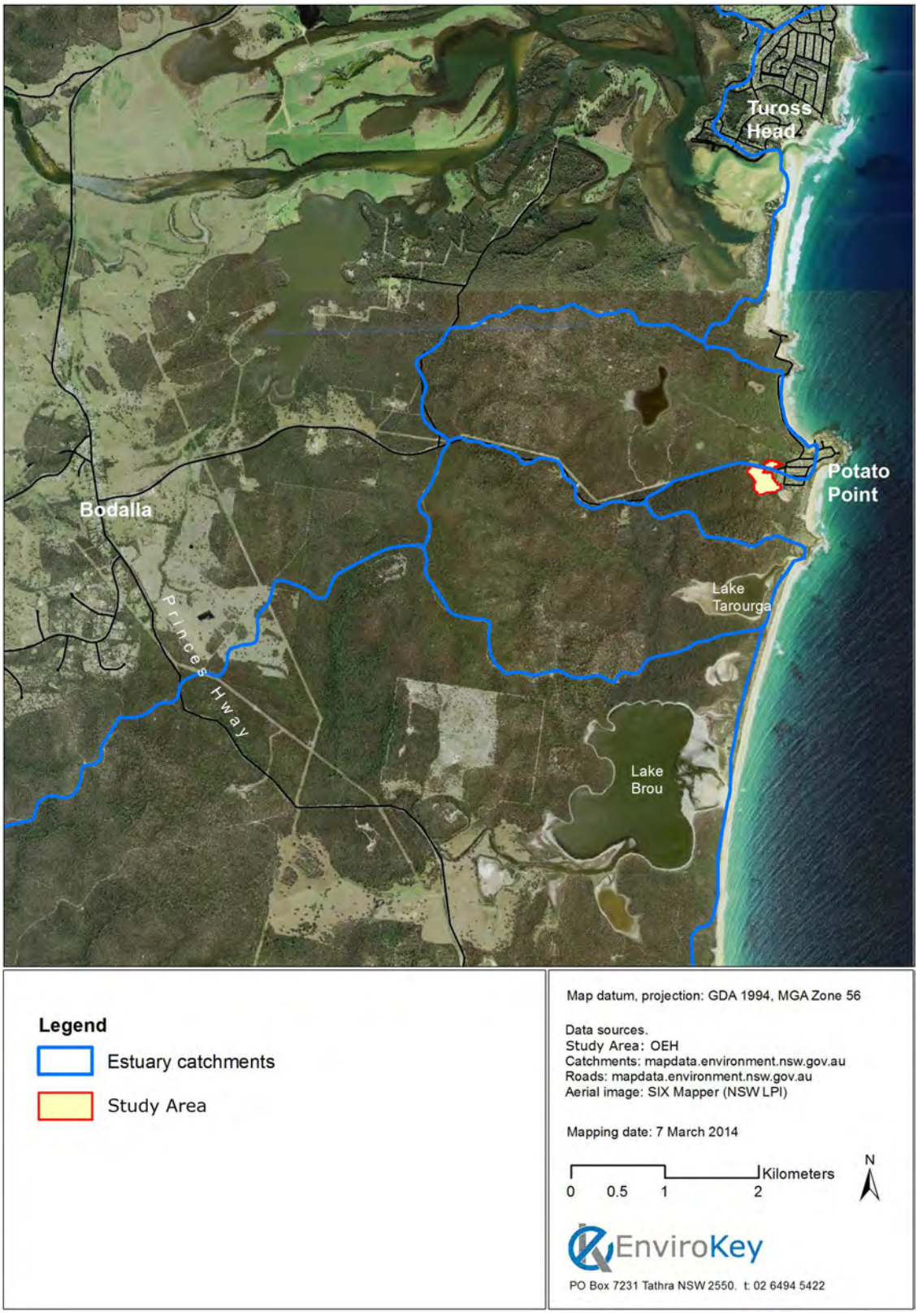
5.6 WATERWAYS

There are no major waterways within the study area. There are a number of important coastal wetlands near to the study area and immediately adjacent to the study area is SEPP 14 wetland no. 136 (**Map 2**). A first order ephemeral drainage line passes through the study area from west to east and drains into SEPP 14 wetland no. 136. This drainage line contains the core area of SOFF EEC within the study area.

5.7 CATCHMENT VALUES

The study area is located within a relatively small catchment that drains into SEPP 14 wetland no. 136. A large proportion of the study area is contained within this catchment. Larger catchments feed into more permanent coastal wetlands and large rivers (**Map 8**)

The catchment that covers the study area is dominated by native vegetation.



Map 8: Catchments across the locality in relation to the study area.

5.8 FLORA AND FAUNA

5.8.1 Approach

As detailed in section 1.1 of this REF, EnviroKey prepared a SIS for the proposed works (EnviroKey 2014). This section of the REF utilises the extensive flora and fauna field surveys, analysis and assessment provided within the SIS. This section of the REF provides only a summary of the SIS and should additional information be required, the SIS should be examined.

Desktop Analysis

A desktop analysis of threatened and migratory biota was completed to source information on threatened and migratory biota that might use the resources of the study area. Information was sought from the BioNET - the Atlas of NSW Wildlife (which includes flora) for records of threatened flora and fauna recorded within a 5 kilometre radius of the study area. These records are detailed in **Maps 9-12** at a scale permissible by OEH data licence agreement (1:250,000). Similarly, information on threatened and migratory species listed under the EPBC Act that could occur in the locality was sourced using the Protected Matters Search Tool by applying a 5 kilometre buffer around the study area (**Appendix 3**).

5.8.2 Field Survey

Flora and Vegetation Community Surveys

Comprehensive flora surveys were completed within the subject site, study area and locality during the following periods:

- 30 January 2014 – 4 February 2014.
- 16 February 2014 – 21 February 2014.

Three flora survey methods were employed. These being:

- Random meander surveys.
- BBAM Plot-transect surveys.
- Aerial Photograph Intepretation/ Visual Inspection.

Locations of all flora surveys are detailed in the SIS.

Fauna survey techniques and survey sites

Comprehensive fauna surveys were undertaken within the subject site, study area and locality during the following periods:

- 30 January 2014 – 4 February 2014.
- 16 February 2014 – 21 February 2014.
- 24 February 2014 – 27 February 2014.
- 1 March 2014 – 5 March 2014.

- 8 March 2014 – 11 March 2014.

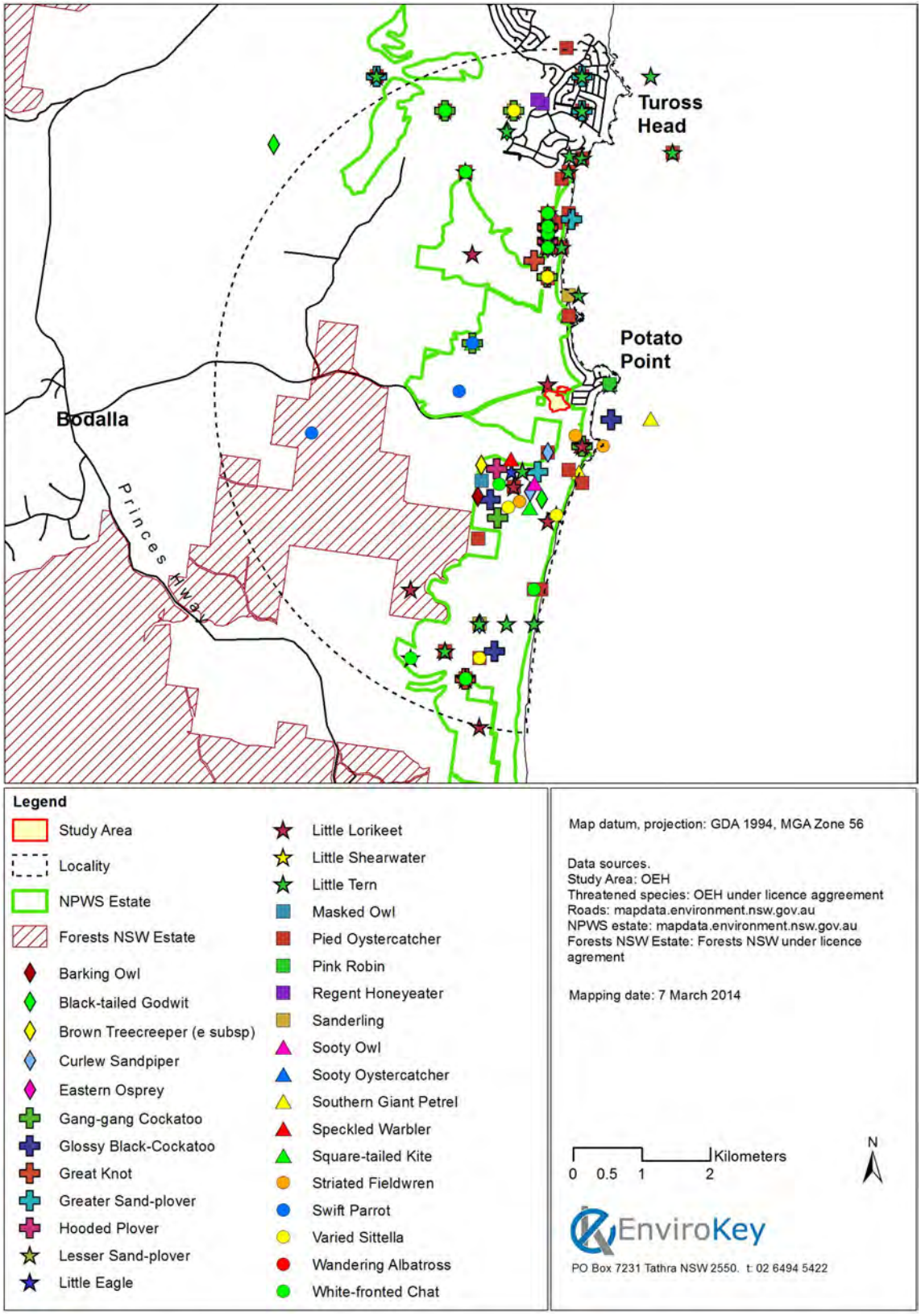
Survey methods and effort completed during these survey periods included diurnal bird surveys with occasional diurnal bird call playback, pitfall trapping, elliot trapping, nocturnal surveys including spotlighting, call playback and echolocation call recording, crushed cone surveys, bandicoot digging surveys, herpetofauna surveys, hollow-bearing tree transects and habitat assessments.

Survey techniques and locations of fauna surveys are detailed in the SIS.

5.8.3 Nomenclature

Flora classification used in this REF follows the online version of the Flora of NSW (PlantNET 2014).

Nomenclature for fauna was guided by the following texts: Birds (Morcombe 2004), Mammals (except microchiropteran bats) (Menkhorst and Knight 2010), Microchiropteran Bats (Churchill 2008), Frogs (Tyler and Knight 2009) and Reptiles (Swan *et al.* 2004) except where modified by recent taxonomic review (Sass 2011a; b; Swan 2013). Where no common name is provided within these texts, a generally accepted name is used.


Tuross Head
Potato Point
Bodalla
Princes Hwy
Legend
Study Area
Locality
NPWS Estate
Forests NSW Estate
Barking Owl
Black-tailed Godwit
Brown Treecreeper (e subsp)
Curlew Sandpiper
Eastern Osprey
Gang-gang Cockatoo
Glossy Black-Cockatoo
Great Knot
Greater Sand-plover
Hooded Plover
Lesser Sand-plover
Little Eagle
Little Lorikeet
Little Shearwater
Little Tern
Masked Owl
Pied Oystercatcher
Pink Robin
Regent Honeyeater
Sanderling
Sooty Owl
Sooty Oystercatcher
Southern Giant Petrel
Speckled Warbler
Square-tailed Kite
Striated Fieldwren
Swift Parrot
Varied Sittella
Wandering Albatross
White-fronted Chat
Map datum, projection: GDA 1994, MGA Zone 56
Data sources.
Study Area: OEH
Threatened species: OEH under licence aggreement
Roads: mapdata.environment.nsw.gov.au
NPWS estate: mapdata.environment.nsw.gov.au
Forests NSW Estate: Forests NSW under licence agrement
Mapping date: 7 March 2014
0 0.5 1 2 Kilometers
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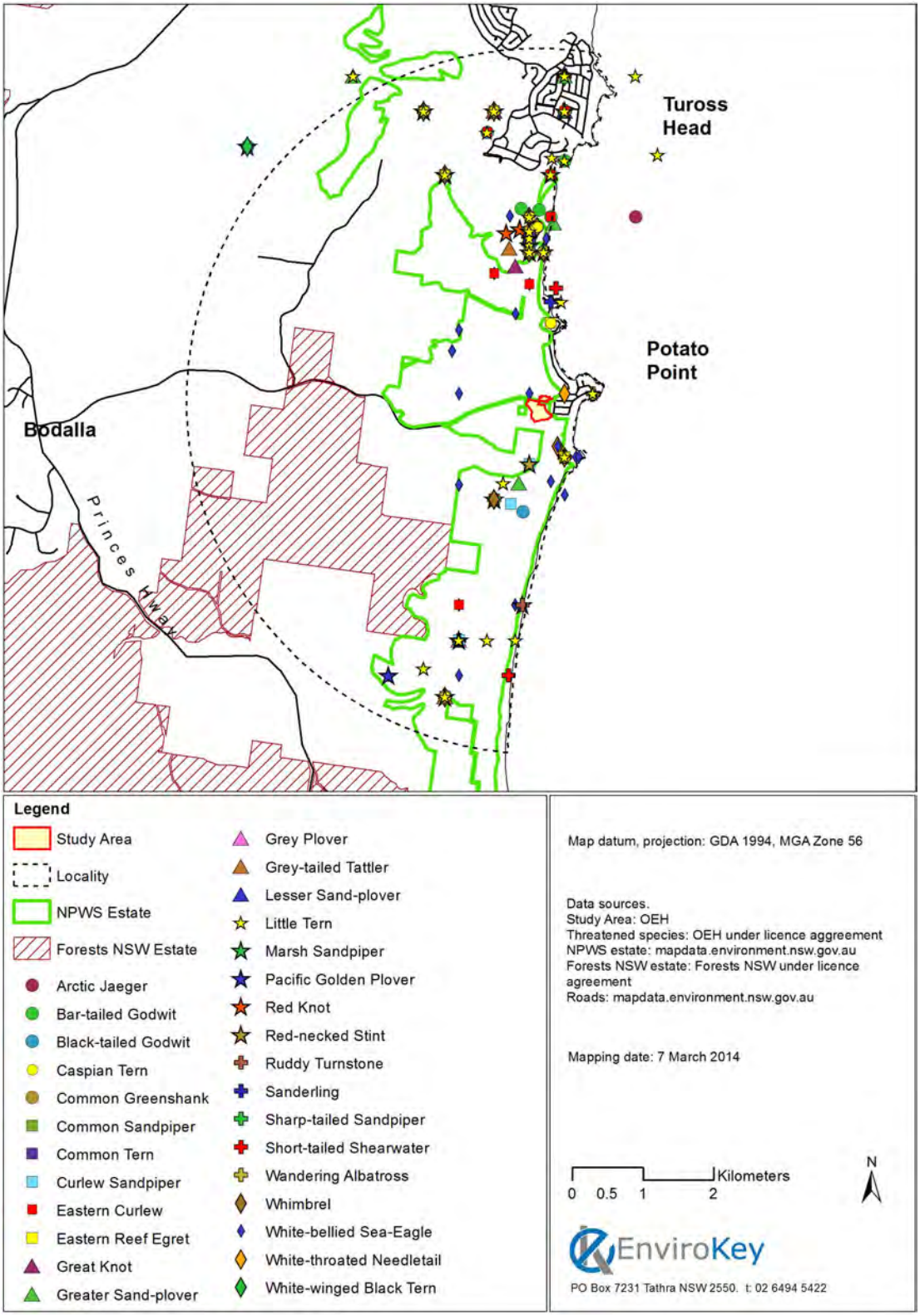
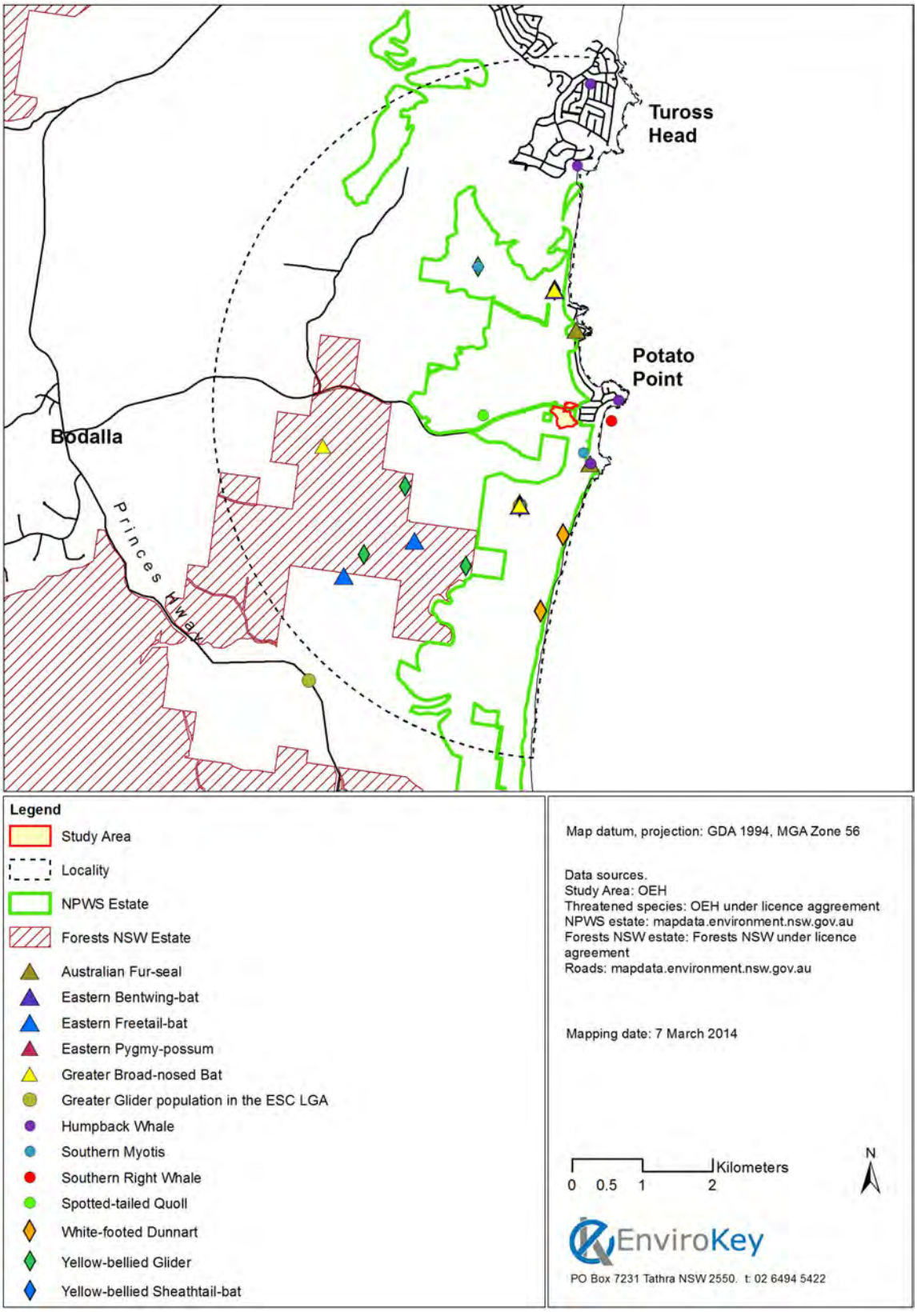
EnviroKey
PO Box 7231 Tathra NSW 2550. t: 02 6494 5422

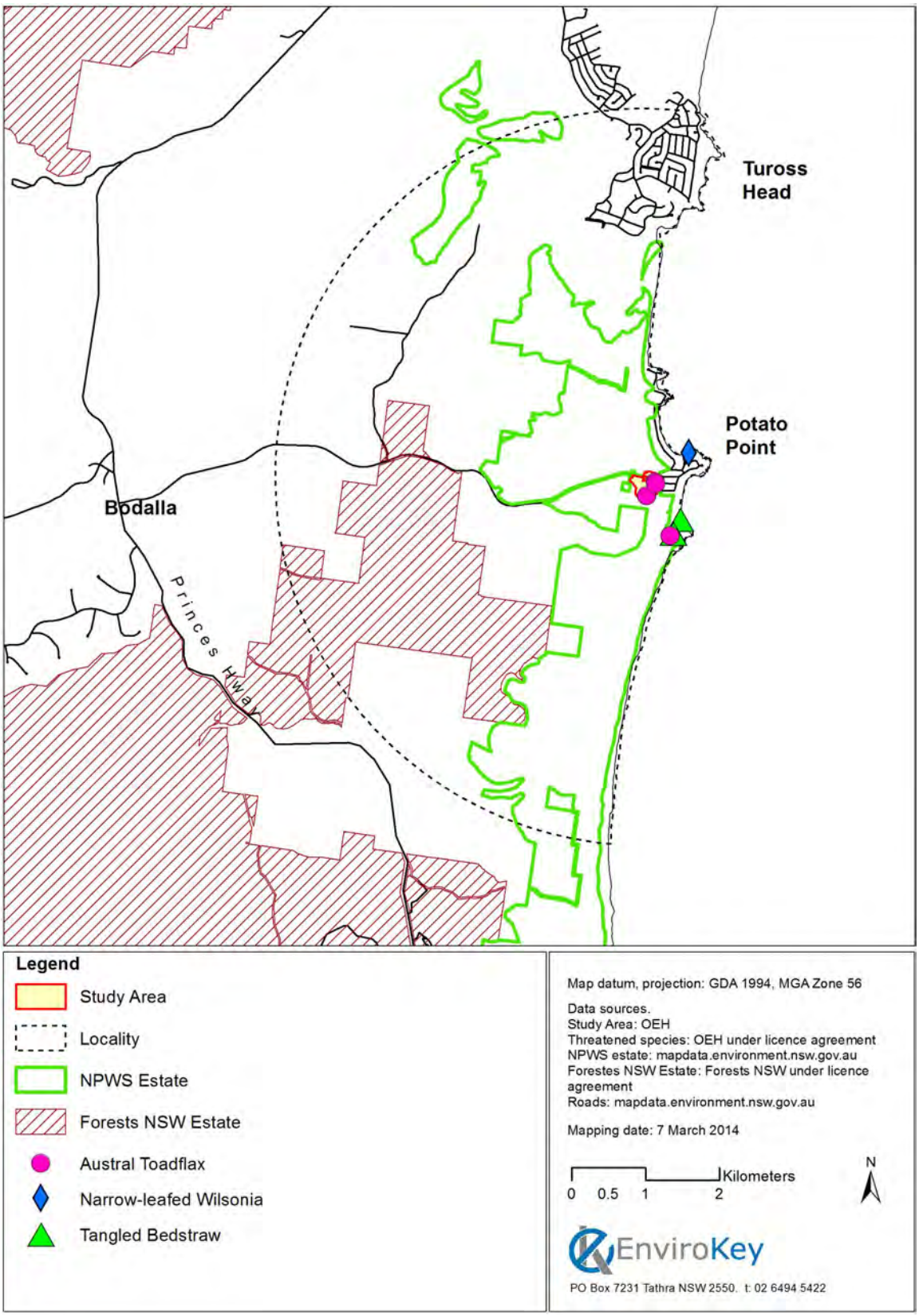
Map 9: Locations of threatened birds previously recorded in the locality.



Map 10: Locations of migratory birds previously recorded in the locality.



Map 11: Locations of other threatened fauna previously recorded in the locality.



Map 12: Locations of threatened flora previously recorded in the locality.

5.8.4 Results

5.8.4.1 Flora and Vegetation Communities

Species Richness

The SIS revealed a total of 107 flora species were recorded from the study area, comprising 95 native species and 12 exotic species. The full flora species list is provided within **Appendix 2** of the SIS (EnviroKey 2014).

BioMetric Vegetation Types

The SIS revealed the presence of three Biometric Vegetation Types and cleared land within the study area. The Biometric Vegetation Types are as follows:

- SR649 Swamp Oak – Prickly Tea-tree – Swamp Paperbark swamp forest on coastal floodplains
- SR642 Spotted Gum – Grey Ironbark – Woollybutt grassy open forest on coastal flats (modified)
- Ecotonal vegetation (SR642 dominant, some affinities with SR649, SR512)

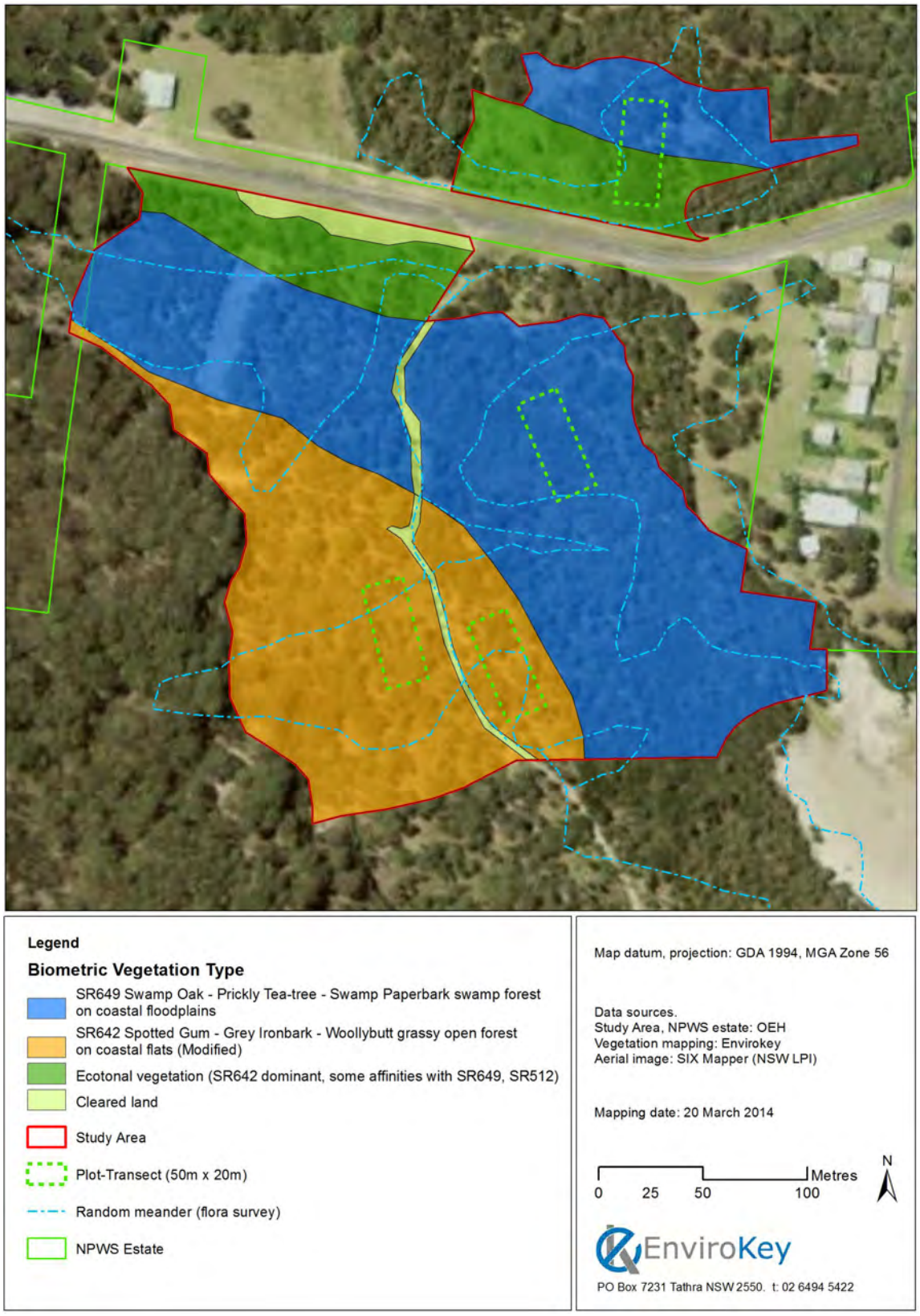
SR649 is consistent with the NSW Scientific Committee determination for SOFF EEC.

The extent of vegetation communities within the study area is shown on **Map 13**.

Section 4.3.2 of the SIS provides a full description of each vegetation community.

Table 3: Extent of Biometric Vegetation Types within the study area.

Vegetation type	Extent in study area (hectares)
SR649 Swamp Oak - Prickly Tea-tree - Swamp Paperbark swamp forest on coastal floodplains	3.88
SR642 Spotted Gum - Grey Ironbark - Woollybutt grassy open forest on coastal flats - Modified	2.21
Ecotonal vegetation (SR642 dominant, some affinities with SR649, SR512^)	0.93
Cleared land	0.2
Total	7.22



Map 13: Vegetation communities within the study area.

5.8.4.2 Fauna and their habitats

Species Richness

The SIS field surveys detected the presence of a total of 111 fauna species in the study area and the locality. These comprised:

- 67 species of bird.
- 28 species of mammal (which includes 14 species of bat and three introduced species).
- 9 species of reptile.
- 7 species of frog.

Of these 111 species, 89 species were detected within the boundaries of the study area. These comprised:

- 54 species of bird.
- 20 species of mammal.
- 9 species of reptile.
- 6 species of frog.

A full list of the fauna detected during the field surveys and whether this was in the study area or the locality is provided in **Appendix 3** of the SIS (EnviroKey 2014).

Fauna habitats

The study area comprises four general habitat types. These being:

- Casuarina Forest
- Wetland
- Forest
- Cleared Land

Section 4.3.5 in the SIS provides a description of the fauna habitats within the study area.

Threatened Fauna

The SIS detected a total of 11 threatened fauna species during the field surveys of the study area and the locality (**Table 4**). These comprised:

- 4 species of bird.
- 7 species of mammal.

No threatened reptile or frog species were detected.

Target fauna species were recorded opportunistically, during targeted surveys and in the case of Glossy Black-cockatoo, additionally through target searches of their foraging signs.

Table 4: Threatened fauna species detected during the field surveys (* denotes presence).

Common Name	Scientific Name	Study Area	Locality
Glossy Black-cockatoo	*Calyptorhynchus lathami*	*	*
Sooty Owl	*Tyto tenebricosa*		*
Square-tailed Kite	*Lophoictinia isura*	*	
Striated Fieldwren	*Calamanthus fulginosus*	*	
Eastern Bentwing Bat	*Miniopterus orianae oceanensis*	*	*
Eastern False Pipistrelle	*Falsistrellus tasmaniensis*		*
Grey-headed Flying-fox	*Pteropus poliocephalus*		*
Large-footed Myotis	*Myotis macropus*	*	*
White-footed Dunnart	*Sminthopsis leucopus*	*	*
Yellow-bellied Glider	*Petaurus australis*		*
Yellow-bellied Sheathtail Bat	*Saccolaimus flaviventris*		*

Glossy Black-cockatoo were regularly recorded within the study area. The presence of both adult and last season juveniles (identified by begging) feeding on the relatively mature Black She-oak confirms the presence of a likely important feeding area for this species. Similar densities of both foraging signs and birds could not be located within the locality.

Three migratory species as listed under the EPBC Act were also detected. These being Satin Flycatcher, Black-faced Monarch and White-throated Needletail. Only the later species was detected in the study area with a number of individuals flying over prior to a storm front. This is typical behaviour for this widely occurring species.

The spatial extent of habitats within the study area with threatened and migratory fauna records overlain is provided in **Map 14**.

5.8.5 Assessment of Affected Species

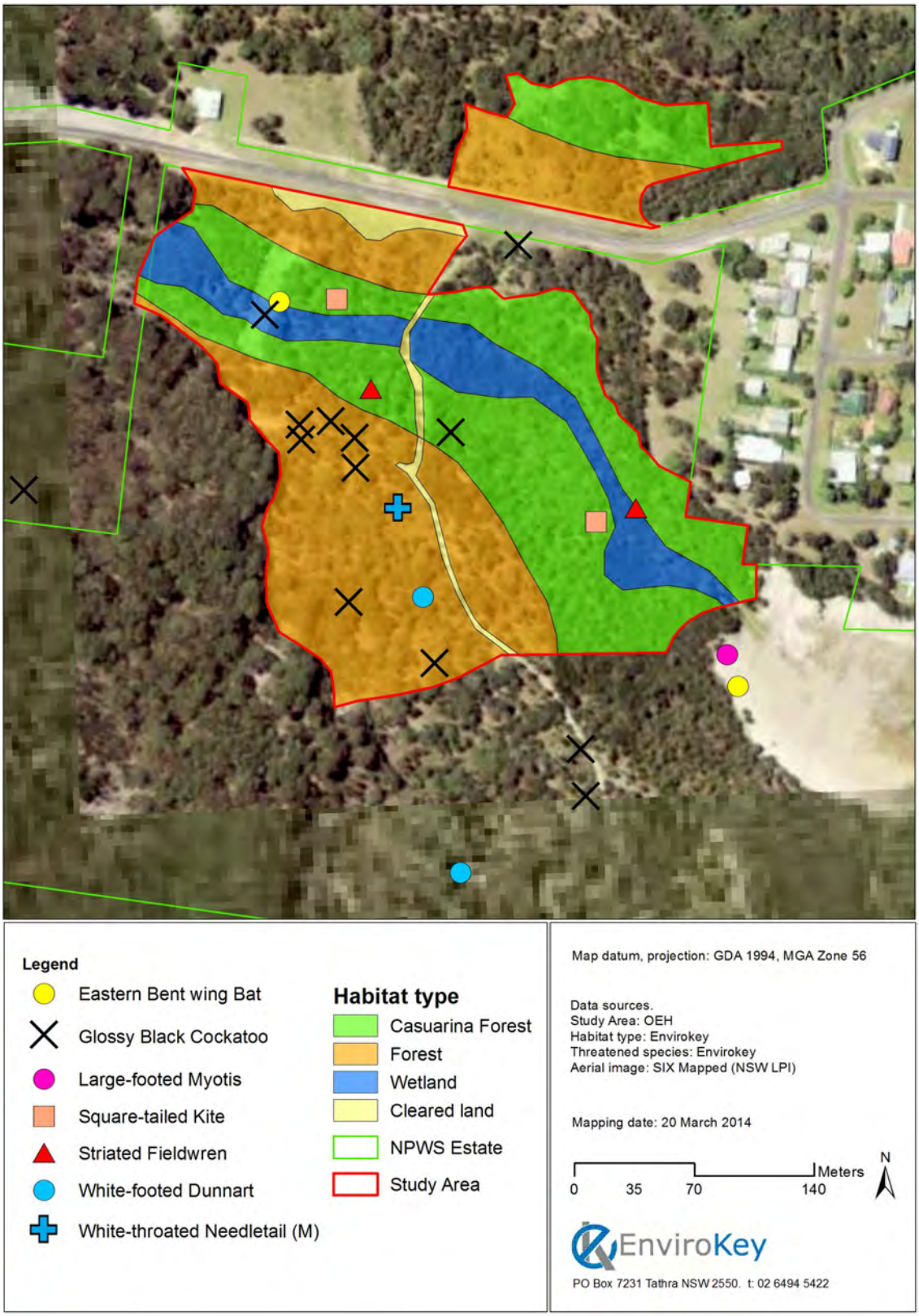
With consideration of the SIS field surveys completed within the study area and locality, a review of the available literature and vegetation mapping, and consideration of the likely impacts identified, the list of target species identified in Section 3.6 of the SIS was refined to a list of affected subject species. Affected subject species are those considered to have some potential to be impacted by the proposed works as they are known to either occur within the study area, or have a high potential to occur within the study area based on available habitat but went undetected. Affected species are identified in **Table 9** of the SIS and were the subject of the detailed impact assessment within the SIS.

5.8.6 Impact Assessment

The SIS completed by EnviroKey provides a detailed assessment of the anticipated direct and indirect impacts of the proposed works in accordance with s5A of the EP&A Act and the DGR issued specifically for proposed works.

The SIS includes a range of impact amelioration measures designed specifically to mitigate any adverse effect of the proposed works on threatened biota.

This REF assumes that the amelioration measures detailed within the SIS would be fully implemented should the proposed works be approved.



Map 14: Fauna habitats and locations of threatened and migratory fauna recorded in the study area.

5.9 CRITICAL HABITAT

No critical habitat as listed under the TSC Act occurs within the study area. Therefore, critical habitat will not be affected.

5.10 SEPP 26 LITTORAL RAINFOREST

A review of NSW Natural Resource Atlas mapping reveals no locations of SEPP 26 Littoral Rainforest within or adjoining the study area. Further, the vegetation community within the study area is not characteristic of a rainforest community and therefore, no SEPP 26 Littoral Rainforest is considered present and none will be affected by the proposed works.

5.11 WETLAND COMMUNITIES INCLUDING SEPP 14 COASTAL WETLANDS

SEPP 14 wetland no. 136 occurs directly adjacent to the study area. Given its proximity to the proposed works, indirect impacts, mostly likely from erosion and subsequent transportation of sediments and weed invasion, are possible.

While SEPP 14 does not apply to land gazetted under the NP&W Act, the Plan of Management for Eurobodalla NP states that all wetlands, estuarine lakes and creeks will be managed according to the principles of SEPP 14 (NPWS 2000).

The presence of SEPP 14 wetland has been considered in the analysis of options for the preferred option, and the final design of the proposed Stage 2 works. Additionally, current standard for vegetated buffers to riparian areas were applied in order to minimise potential impacts to SEPP 14 wetland no. 136 (Newton 2012). This resulted in the retention area provided in the preferred option and corresponds to the core of SOFF EEC.

5.12 SEPP 71 – COASTAL PROTECTION

The objectives of SEPP 71 – Coastal Protection are to ensure that:

- Development in the NSW coastal zone is appropriate and suitably located.
- There is a consistent and strategic approach to coastal planning and management.
- There is a clear development assessment framework for the coastal zone.

The proposed works are located within the coastal zone (less than 1km from a tidal water body or inlet) as defined by the NSW *Coastal Protection Act 1979*. As defined under this Act, the proposal is located within a sensitive coastal location under *Part 3 Section 9 (c) – "development within 100 m below mean high water mark of the sea, a bay or an estuary"*, is a significant coastal development therefore requires comment from the Department of Planning (defined in Section 11 [1]).

Under *Part 2 Matters for Consideration* of this SEPP, *Clause 7 Application of clause 8 matters, (b) "are to be taken into account by a consent authority when it determines a development application to carry out development on land to which this policy applies".* OEH is the consent authority for the proposed works as defined by the EP&A Act. Therefore, OEH must take into account *Clause 8 matters for consideration*. These are included in **Appendix 4**. Based on **Appendix 4**, the proposed works would not have a significant impact on the coastal zone.

5.13 WILDERNESS (NOMINATED OR DECLARED)

There is no area of wilderness (nominated or declared) within or adjoining the study area.

5.14 ABORIGINAL CULTURAL HERITAGE

NPWS engaged NSW Archaeology Pty. Ltd. to prepare an Aboriginal Cultural Heritage Assessment report in relation to the proposed works (NSWArchaeology 2014). This report is provided in full within **Appendix 5**.

The assessment report was conducted in accordance with the OEH *Guide to investigation, assessing and reporting on Aboriginal cultural heritage in NSW* and the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW*.

The assessment report details a process of process of Aboriginal community consultation in accordance with the *Aboriginal cultural heritage consultation requirements for proponents.*

The assessment report revealed that an Aboriginal Heritage Impact Permit would be required in relation to the Stage 2 works. This should be obtained by NPWS prior to any works commencing.

5.15 HISTORIC HERITAGE

A search of the NSW Heritage Register and Eurobodalla LEP revealed the presence of one heritage item in Potato Point. This being the Wharf and Sawmill Truck remains in Long Point Street, Potato Point. A summary of that heritage listing is provided in **Appendix 6**.

A search of the Australian Heritage Database shows the study area is not nominated, under assessment or listed or subject to relevant processes for the identification and protection of historic heritage values under the EPBC Act.

No items of potential historic significance were encountered during the extensive field surveys conducted within the study area for the REF and SIS.

5.16 RECREATION VALUES

Within the Eurobodalla, 'nature-based tourism' is considered as having potential for further development (NPWS 2000). The region is known for its beautiful beaches and the Eurobodalla Nature Coast Tourism Development Strategy (1997) aims to increase the economic activity through increasing visitor numbers, greater expenditure and length of stay by visitors (NPWS 2000).

There are a number of recreational activities available that take advantage of proximity to beaches and bushland, both of which provide outdoor recreation such as walking, hiking, bird watching, fishing, surfing, camping and the suitability for environmental education

The objectives of the NP&W Act and the Eurobodalla NP POM are to optimise environmental education, promotion of natural and cultural heritage conservation, scientific research and to ensure use can be had by both special interest groups and the general public.

The study area is traversed by Jemison's Point Road which provides access to a portion of Eurobodalla NP south of the study area.

The proposed works will not affect the ability of the public to utilise this portion of Eurobodalla NP.

5.17 SCENIC AND VISUALLY SIGNIFICANT AREAS

The Eurobodalla NP forms part of a larger expanse of coastal forests and wetlands on the NSW far south coast. It is highly diverse in vegetative habitat also providing a range of landscapes of coastal areas, hills, rocky ridges, dunefields, coastal lagoons and lowlands.

The study area is highly visible on approach to Potato Point and from residents on the western edge of the village.

The proposed works would alter the character of a portion of the area. However, the retention of SOFF EEC in the central portion of the study area will provide a visual barrier to some extent.

5.18 EDUCATION AND SCIENTIFIC VALUES

Eurobodalla NP is popular for both environmental and cultural research.

Local schools are also involved in visiting the Eurobodalla NP to increase understanding and appreciation of the values of the park including Aboriginal cultural heritage, Historic history, natural and ecological processes of the nearby coastal lagoons and the value of conserving these areas. Education at this young stage also assists to develop an awareness of appropriate recreational behaviour and a respect for the sensitivity of various environments.

The proposed works would not reduce the scientific or educational values of Eurobodalla NP.

5.19 MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE

The Protected Matters Search Tool (EPBC Act) was utilised to provide a summary of Matters of National Environmental Significance (NES) for the study area and a 5 kilometre buffer of the proposed works. The Protected Matters Search Tool returned the following results:

- No World Heritage Properties
- No National Heritage Places
- No Wetlands of International Importance
- Great Barrier Reef Marine Park (not applicable)
- Commonwealth Marine Parks (not applicable)
- 2 Listed Threatened Ecological Communities
- 51 Listed Threatened species
- 46 Listed Migratory Species

The entities listed within the Protected Matters Report relate to flora and fauna. The SIS completed extensive analysis and assessment of threatened ecological communities and listed threatened and migratory species. The SIS identified that some biota listed under the EPBC Act may be affected by the proposed works (**Table 9** of the SIS). For these biota, the SIS provides assessment under the TSC Act. Under the EPBC Act, assessment is provided in **Appendix 7.**

Other matters of NES are relevant to the proposed works. The Tuross River Estuary is listed as a Nationally Important Wetland. The catchment of the study area does not flow to Tuross River. Tuross River Estuary is located about 2 kilometres north of the proposed works. Given the relatively minor nature of the proposed works and its geographical location, this nationally important wetland is unlikely to be affected by the proposed works.

The Protected Matters Report is provided in full in **Appendix 3**.

6 IMPACT ASSESSMENT

6.1 DEFINING THE LEVEL OF IMPACT

6.1.1 Direct Impacts

Vegetation clearing as defined by OEH, refers to the cutting down, felling, thinning, logging or removal of native vegetation (DEC 2004). The clearing of native vegetation affects threatened species, population and communities as well as common native species. There are a number of potential impacts as a result of clearing any native vegetation which include:

- Destruction of habitat resulting in a loss of biodiversity.
- Isolation of populations resulting in limited gene flow between small fragmented populations.
- Reduced potential to adapt to environmental change.
- Erosion leading to sedimentation that can affect both terrestrial and aquatic biota.
- Disturbed habitat may encourage the establishment and spread exotic flora or pioneer species that may displace local native flora.
- Loss of leaf litter which provides habitat for vertebrate and invertebrate fauna.

With regarded to the proposed works, vegetation clearing would be directly associated with the treatment areas. The treatment areas will be subject to a regime of thinning of overstorey vegetation (removal of 80 percent of the overstorey) and the removal of mid-strata and groundcover vegetation.

Based on spatial analysis, a total of 1.47 hectares of native vegetation would be removed. All vegetation communities and the extent of each to be modified by the proposed works are shown in **Table 5**.

Table 5: Extent of each vegetation to be removed by the proposed works.

Biometric Vegetation Type	Extent within the study area (hectares)	TSC Status	Extent within the subject site (extent to be cleared) (hectares)
SR649 Swamp Oak - Prickly Tea-tree - Swamp Paperbark swamp forest on coastal floodplains	3.88	Swamp Oak Floodplain Forest EEC	1.03
SR642 Spotted Gum - Grey Ironbark - Woollybutt grassy open forest on coastal	2.21	-	0.44

Biometric Vegetation Type	Extent within the study area (hectares)	TSC Status	Extent within the subject site (extent to be cleared) (hectares)
flats - Modified			
Ecotonal vegetation (SR642 dominant, some affinities with SR649, SR512)	0.93	-	0
Cleared land	0.2	-	-
Total	7.22	-	1.47

Potential direct impacts to Aboriginal cultural heritage are discussed further within Section 6.6 and **Appendix 5** of this REF.

6.1.2 Indirect Impacts

Indirect impacts as defined by OEH occur "when project-related activities affect species, populations or ecological communities in a manner other than direct loss". Indirect impacts include loss of individuals through starvation, exposure, predation by domestic and/or feral animals, loss of breeding opportunities, loss of shade/shelter, deleterious hydrological changes, increased soil salinity, erosion, inhibition of nitrogen fixation, weed invasion, fertilizer drift or increased human activity within or directly adjacent to sensitive habitat areas" (DECC 2007).

Based on this definition, it is anticipated that the clearing of vegetation associated with the proposed works will result in a number of cumulative or secondary effects relating to edge effects, soil erosion and weed invasion. These indirect impacts are considered under separate headings below.

Edge Effects

The removal of vegetation can often result in edge effects; the creation of new environmental conditions that have the potential to have negative impacts on ecological processes along the edges of cleared environments particularly those that originally contained canopy vegetation. Edge effects generally promote the invasion of exotic flora (weeds) and may also promote increased visitation by Red foxes and Feral Cats (Edwards *et al.* 2001; Lindenmayer and Fischer 2006; Miles 2006a; b; Priddel *et al.* 2007).

In general, potential edge effects associated with the proposed works are likely to include:

- Changes in microclimate (eg. temperature, wind, light).
- Creation of new ecotones.

- Invasion by exotic flora.
- Improved access for feral predators.
- Isolation of populations resulting in limited gene flow between small fragmented populations.
- Reduced potential to adapt to environmental change.

A holistic approach to assessing edge effects is not possible given that edge effects can vary between species and communities. Given this, edge effects are discussed on an individual basis in Section 8 of the SIS where relevant.

Soil Erosion

Potential impacts as a result of soil erosion may include, but are not restricted to:

- Topsoil runoff into the drainage line and SEPP 14 wetland no. 136.
- Alterations to habitat.
- Topsoil and native seedbank loss during heavy rainfall.
- Invasion of weeds.

The greatest potential impact is considered topsoil runoff into the drainage line and adjacent SEPP 14 wetland. The layout of the proposed works has been designed with consideration of best-practice with the retention of a vegetated buffer of the drainage line to minimise the potential for sediment to flow into SEPP 14 wetland no.136.

Design features (incorporated into the preferred option) and a series of mitigation measures are likely to avoid or limit the potential impacts of soil erosion.

A series of proposed safeguards/measures that will minimise the likelihood of indirect impacts affecting any biota within the study area are provided throughout Section 6 of this REF and in summary within Section 7 of this REF.

6.2 PHYSICAL AND CHEMICAL IMPACTS DURING CONSTRUCTION AND OPERATION

Physical and chemical impacts during construction and operation				
	Applicable?*	**Impact level** (negligible, low, medium or high; negative or positive; or N/A)	**Reasons** (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact)	**Safeguards/Mitigation Measures**
1. Is the proposal likely to impact on soil quality or land stability?	☒	Low, Negative	Impacts to soil quality and land stability are anticipated to be minor during the proposed works. The highest potential will be using the machinery (tritter) used to carry out the scrubbing works of the vegetation. The machine will have rubber tracks to minimise impacts to soils. Temporary negative impacts on soils or land stability would be confined to the subject site. That is 1.47 hectares of direct impact. This area will receive the majority of disturbance machinery during vegetation removal. With appropriate safeguards, these impacts are expected to be minimised and managed to an appropriate level.	All works will follow the guidelines of NPWS field policies and the Department of Conservation and Land Management 'Urban Erosion and Sediment Control Manual'. This will include: 1. Works should not take place during, or within 4 days of heavy rain events (other than work necessary to ensure that soil erosion is minimised). Works should not be scheduled when heavy rainfall is forecast. 2. Where possible, light vehicle movements should be confined to existing tracks. 3. Mulching machinery must not be steel tracked and are to work on the mulch layer as far as possible to minimise ground disturbance. 4. The site supervisor, through site inductions, would make all personnel aware of risks and responsibilities related to spills of fuel, oil and other chemicals. Machinery and vehicles should be inspected on a daily basis giving particular attention to the condition of hoses and connections. 5. The work team would carry and be fully conversant in the use of a petrochemical spills kit.
2. Is the works likely to affect a waterbody, watercourse, wetland or natural drainage system?	☒	Low, Negative	While sediment created as a result of increased vehicle movements along existing tracks has the potential to reach water bodies, the proposed works are unlikely to exacerbate this potential impact. Turbid runoff has the potential to reach drainage lines and send suspended sediments off-site. Similarly, contamination run-off by petrochemicals is also possible given the proposed use	No additional safeguard other than already proposed are necessary.

Physical and chemical impacts during construction and operation				
	Applicable?*	**Impact level** (negligible, low, medium or high; negative or positive; or N/A)	**Reasons** (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact)	**Safeguards/Mitigation Measures**
			machinery which are likely to run a series of hydraulics. With appropriate safeguards, these impacts are expected to be minimised and managed to an appropriate level.	
3. Is the works likely to change flood or tidal regimes, or be affected by flooding?	☒	Negligible, Negative	The site is already low lying and there is a wetland immediately adjacent to the study area. In the event of local flooding, there is a chance that the study area would be also be flooded.	No additional safeguard other than already proposed are necessary.
4. Does the works involve the use, storage, or transport of hazardous substances or the use or generation of chemicals, which may build up residues in the environment?	☒	Low, Negative	There is a potential risk of petrochemical spills from the use of machinery that contains hydraulics.	No additional safeguard other than already proposed are necessary.
5. Does the work involve the generation or disposal of gaseous, liquid or solid wastes or emissions?	☒	Negligible, Negative	Minor negative impacts to air quality may result by the generation of dust and fine particulate matter from vehicle and machinery movements as well as the mulching. Emissions would be generated during the operation of the mulcher and other light vehicles. Small amounts of rubbish are also likely to be generated by personnel. These impacts would be restricted to the period of the proposed works and during the maintenance program. With appropriate safeguards, these potential impacts are expected to be minimised and managed to an appropriate level.	1. If clearing is creating high levels of dust that are likely to cause discomfort to nearby residents or impact on motorists using public roads such as the Potato Point Road, the works would be modified or stopped until the hazard is eliminated or has been reduced to an acceptable level. 2. All machinery (including vehicles) should be periodically inspected and maintained to ensure minimum levels of emissions. 3. Engines would be switched off, rather than left idling for long periods. 4. Rubbish generated during works would be minimised and where generated, would be disposed of in an appropriate manner. All vegetative waste would be mulched on site. Any stockpiling of mulch material is to be removed within a reasonable amount of time.

Physical and chemical impacts during construction and operation				
	Applicable?*	**Impact level** (negligible, low, medium or high; negative or positive; or N/A)	**Reasons** (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact)	**Safeguards/Mitigation Measures**
6. Will the works involve the emission of dust, odours, noise, vibration or radiation in the proximity of residential or urban areas or other sensitive locations?	☒	Negligible, Negative	See Point 5.	See Point 5.

6.3 BIOLOGICAL IMPACTS DURING CONSTRUCTION AND OPERATION

Biological Impacts During Construction and Operation			
	Applicable?*	**Impact level** (negligible, low, medium or high; negative or positive; or N/A)	**Reasons** (describe the type, nature and extent of impact, taking into account the receiving environment & proposed safeguards which will limit the impact)
1. Is any vegetation to be cleared or modified? (includes vegetation of conservation significance or cultural landscape value)	☒	High, Negative	The proposed works will result in direct impacts to 1.47 hectares of native vegetation including 1.03 hectares of SOFF EEC. The treatment areas will be subject to a regime of thinning of overstorey vegetation (removal of 80 percent of the overstorey) and the removal of mid-strata and groundcover vegetation. Indirect impacts are also likely (without appropriate safeguards) including weed invasion, disturbance from noise generated by machinery and persons, and disturbance of adjoining habitats. A Species Impact Statement has been prepared for the proposed works.

2. Is the works likely to have a significant effect on threatened **flora and fauna** species, populations, or their habitats, or critical habitat? (refer to threatened species assessment of significance (7-part test))	☒	High, Negative	A Species Impact Statement has been prepared for the proposed work (EnviroKey 2014). Additional assessment under the EPBC Act is provided in Appendix 7.
3. Does the works have the potential to endanger, displace or disturb fauna (including fauna of conservation significance) or create a barrier to their movement?	☒	Medium, Negative	The potential impacts to fauna resulting from the proposed works include: 1. Direct impacts during clearing and mulching with the potential to affect less mobile fauna occupying soil and vegetation such as reptiles, invertebrates, frogs and small terrestrial mammals. 2. Habitat loss by the removal of vegetation. 3. Short term disturbance during the works to noise-sensitive species. The proposed works would involve the removal of 1.47 hectares of native vegetation including 1.03 hectares of SOFF EEC. A Species Impact Statement has been prepared to assess the impacts of the proposed works (EnviroKey 2014). Additional assessment under the EPBC Act is provided in Appendix 7.
5. Is the works likely to impact on an ecological community of conservation significance?	☒	High, Negative	1.03 hectares of SOFF EEC will be removed by the proposed works. A Species Impact Statement has been prepared which considers impacts to this ecological community. The mitigation measures detailed in this REF and in the accompanying SIS detail strategies developed to keep disturbance as minimal as possible.
6. Is the work likely to have a significant effect on an endangered ecological community or its habitat? (refer to threatened species assessment of significance (7-part test))	☒	High, Negative	A Species Impact Statement was prepared for the proposed works which includes 7-part tests. The mitigation measures made in this REF and in the accompanying SIS detail strategies developed to keep disturbance as minimal as possible.
7. Is the work likely to cause a threat to the biological diversity or ecological integrity of an ecological community?	☒	High, Negative	A Species Impact Statement has been prepared which considers impacts to biodiversity. The mitigation measures detailed in this REF and in the accompanying SIS detail strategies developed to keep disturbance as minimal as possible. Additional assessment under the EPBC Act is provided in Appendix 7.

8. Is the work likely to introduce noxious weeds, vermin, feral species or genetically modified organisms into an area?	☒	High, Negative	Weeds and feral animals have the potential to be become established or increase in abundance. The mitigation measures detailed in this REF and in the accompanying SIS detail strategies developed to reduce the likelihood, or if they do become established, appropriately manage them.
9. Is the work likely to affect critical habitat?	☒	N/A	No critical habitat as listed by the TSC Act is present within the study area, nor the Eurobodalla LGA in which the study area is located.
10. Is the work consistent with any applicable recovery plans or threat abatement plans?	☒	Medium, Positive	A Species Impact Statement has been prepared for the proposed works. Generally, the works are consistent with recovery plans or actions devised under the Saving Our Species Program in that they minimise impacts through design and planning, and impacts can be ameliorated where appropriate.
11. Is the works likely to affect any joint management agreement entered into under the TSC Act?	☐	No	No Joint Management Agreement under the TSC Act is present.

6.3.1 Proposed Safeguards

EnviroKey recommend the following safeguards in relation to biological impacts during construction and operation of the proposed works:

1. Amelioration measures as detailed within Section 7 of the Species Impact Statement prepared for the proposed works would be fully implemented.
2. Any machinery required for the proposed activity should remain on existing vehicular access tracks. When no track is available, Mulching machinery must not be steel tracked and are to work on the mulch layer as far as possible to minimise soil disturbance
3. All vehicles and machinery entering Eurobodalla NP (prior to reaching the area of the proposed works) would be cleaned by high pressure spray ensuring the removal of any potential weed seeds.
4. NPWS would be notified of the locations of any noxious weeds encountered during the proposed works.
5. Should it be deemed that erosion and sediment controls are necessary by NPWS personnel, these would be in position prior to works commencing and left *insitu* for as long as necessary for the site to become stabilised. However, should these controls begin to deteriorate and lose functionality, they are to be replaced immediately.
6. The duration of the proposed works would be minimised to the minimum extent possible.
7. Works should not take place during, or within four days of heavy rain events (other than work necessary to ensure that soil erosion is minimised). Works should not be scheduled when heavy rainfall is forecast.

6.4 COMMUNITY IMPACTS DURING CONSTRUCTION AND OPERATION

Community impacts during construction and operation				
	Applicable?*	**Likely impact** (negligible, low, medium or high negative or positive; or N/A)	**Reasons** (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	**Safeguards/Mitigation Measures**
1. Is the works likely to affect community services or infrastructure?	☐	No	Given the location of the study area, the proposed works are unlikely to affect existing community services or infrastructure. The works will provide bushfire protection for Potato Point.	N/A
2. Do the works affect sites of importance to local or broader community for their recreational or other values or access to these sites?	☒	Low, Positive	While native vegetation will be removed by the proposed works, the community will be able to continue to utilise this portion of Eurobodalla NP into the future.	No safeguards are considered necessary.
3. Are the works likely to affect economic factors, including employment, industry and property value?	☐	N/A		No impacts to economic factors are anticipated.
4. Is the works likely to have an impact on the safety of the community?	☒	High, Positive	The proposed works are designed to provide bushfire protection for the village of Potato Point.	No safeguards are considered necessary.
5. Is the works likely to cause a bushfire risk?	☒	Low, Adverse	There is a very low potential for the clearing works to create a bushfire given that they will be undertaken in winter. With appropriate safeguards, potential impacts are expected to be minimised and managed to an appropriate level.	1. Vehicles and machinery are not to be left idling where grass is long and reaches the underside of the vehicle. Diesel vehicles are to be used as opposed to petrol where possible. 2. No campfires of any kind are permitted during the proposed works or ongoing maintenance.
6. Will the works affect the visual	☒	Low, Negative	Due to the nature of the proposed works, vegetation in the vicinity of	No safeguards are considered necessary.

Community impacts during construction and operation				
	Applicable?*	**Likely impact** (negligible, low, medium or high negative or positive; or N/A)	**Reasons** (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	**Safeguards/Mitigation Measures**
or scenic landscape?			existing dwellings will be removed.	
7. Is the works likely to cause noise, pollution, visual impacts, loss of privacy, glare or overshadowing to members of the community, particularly adjoining landowners?	☒	Low, Negative	The machines used to clear the vegetation will only temporarily be onsite to achieve the work proposed. Therefore noise and pollution will be minor for a short period of time. The visual impacts will result given that portions of the study area will have up to 80% of the overstorey vegetation removed.	1. The proposed works and any ongoing maintenance would only be conducted within standard work hours: • Monday to Friday 7am to 6pm • Saturday 8am to 1pm • No work on Sunday or public holidays 2. Vehicles or machinery would not remain idling for long periods of time.
8. Is the works likely to affect the use of, or the community's ability to use natural resources?	☒	Negligible	This portion of Eurobodalla NP will remain open to the community and any visiting public.	No safeguards are considered necessary.

6.5 NATURAL RESOURCE IMPACTS DURING CONSTRUCTION AND OPERATION

Natural resource impacts during construction and operation				
	Applicable?*	**Likely impact** (negligible, low, medium or high negative or positive; or N/A)	**Reasons** (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	**Safeguards/Mitigation Measures**
1. Is the works likely to result in	☒	Medium, Negative	The proposed works will result in the permanent removal of 1.47	1. Impact Amelioration measures detailed within the Species

Natural resource impacts during construction and operation				
	Applicable?*	**Likely impact** (negligible, low, medium or high negative or positive; or N/A)	**Reasons** (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	**Safeguards/Mitigation Measures**
the degradation of the reserve or any other area reserved for conservation purposes?			hectares of native vegetation including 1.03 hectares of SOFF EEC. Impacts on Eurobodalla NP are considered relatively minor in the context of the extant area and the extent of SOFF EEC within OEH managed estate in the locality. Weed and Feral animals are the most likely impact as a result of the proposed works.	Impact Statement include a Weed Management Strategy and Feral Animal Strategy.
2. Is the works likely to involve the use, wastage, destruction or depletion of natural resources including water, fuels, timber or extractive materials?	☒	Medium, Negative	The proposed works are expected to result in impacts to some natural resources. The trees and shrubs that are cleared will be mulched. Resources that are non-renewable will be used during the clearing works and ongoing maintenance and will include resources associated with the operation of equipment and motor vehicles.	The REF already provides a range of safeguards designed to limit impacts to natural resources.

6.6 CULTURAL HERITAGE IMPACTS DURING CONSTRUCTION AND OPERATION

This section utilises the detail within the '*Aboriginal Cultural Heritage Assessment report*' prepared by NSW Archaeology Pty. Ltd. That report is provided in full within **Appendix 5**.

Aboriginal cultural heritage impacts during construction and operation				
	Applicable?*	**Likely impact**(negligible, low, medium or high negative or positive; or N/A)	**Reasons** (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)	**Safeguards/Mitigation Measures**
1. Does the activity affect places of significance or importance to the Aboriginal community or other cultural values?	☒	High, Negative	Aboriginal objects were identified by NSW Archaeology. That report recommended that there were no overall cultural archaeological or cultural heritage constraints with regard to the proposed works.	NPWS have applied for an AHIP in order to conduct the proposed works. The proposed works would only be completed in accordance with an AHIP.
2. Is the activity likely to affect wild resources or access to these resources, which are used or valued by the Aboriginal community?	☐	No	N/A	N/A
3. Does the activity affect areas nominated or declared as Aboriginal Places?	☐	No	N/A	N/A
4. Does the activity affect areas subject to Native Title claims?	☒	Negligible	NSW Archaeology sought to identified registered parties and registered Aboriginal owners.	No additional safeguards are considered necessary.

Other cultural heritage impacts during construction or operation			
	Applicable?*	**Likely impact**(negligible/ maintenance, minor, major, contentious; or N/A)	**Reasons** (describe the type, nature and extent of the impact, the nature of the receiving environment and any proposed safeguards which will limit the impact)
1. What is the impact on places, buildings, landscapes or moveable heritage items?	☐	N/A	No items of Historic heritage significance are known from the study area. However, personnel should be conversant with identifying potential historic heritage items in the event that they are discovered during the proposed works to enable direct impacts to be avoided.
2. Is any vegetation of cultural landscape value likely to be affected (eg gardens and settings, introduced exotic species, or evidence of broader remnant land uses)?	☐	N/A	The relatively minor nature of the proposed works and the full adoption and implementation of safeguards throughout this REF strongly suggests that there will be no change in landscape value in Eurobodalla NP. No additional safeguards are considered necessary.

7 ENVIRONMENTAL MANAGEMENT

The potential impacts of the proposed works identified within section 6 of this REF can be mitigated through appropriate safeguards to reduce these to acceptable levels. The safeguards provided throughout this REF are summarised within **Table 6**.

Table 6: Summary of environmental safeguards.

Environmental Component	Proposed Safeguards
Physical and Chemical Impacts	• All works will follow the guidelines of NPWS field policies and the Department of Conservation and Land Management 'Urban Erosion and Sediment Control Manual'. • Works should not take place during, or within 4 days of heavy rain events (other than work necessary to ensure that soil erosion is minimised). Works should not be scheduled when heavy rainfall is forecast. • Where possible, light vehicle movements should be confined to existing tracks. • Mulching machinery must not be steel tracked and are to work on the mulch layer as far as possible to minimise ground disturbance. • The site supervisor, through site inductions, would make all personnel aware of risks and responsibilities related to spills of fuel, oil and other chemicals. Machinery and vehicles should be inspected on a daily basis giving particular attention to the condition of hoses and connections. • The work team would carry and be fully conversant in the use of a petrochemical spills kit. • If the clearing activities are creating high levels of dust that are likely to cause discomfort to nearby residents or impact on motorists using public roads such as the Potato Point Rd, the works would be modified or stopped until the hazard is eliminated or has been reduced to an acceptable level. • All machinery (including vehicles) should be periodically inspected and maintained to ensure minimum levels of emissions. • Engines would be switched off, rather than left idling for long periods. • Rubbish generated during exploration will be minimised and where generated, will be disposed of in an appropriate manner.
Biological Impacts	• Amelioration measures as detailed within Section 7 of the Species Impact Statement prepared for the proposed works would be fully implemented. • Any machinery required for the proposed activity should remain on existing vehicular access tracks. When no track is available, Mulching machinery must not be steel tracked and are to work on the mulch layer as far as possible to minimise soil disturbance All vehicles and machinery entering Eurobodalla NP (prior to reaching the area of the proposed works) would be cleaned by high pressure spray ensuring the removal of any potential weed species seeds. • NPWS would be notified of the locations of any noxious weeds should they encountered during the proposed activity.

Environmental Component	Proposed Safeguards
	• Should it be deemed that erosion and sediment controls are necessary by NPWS personnel, these would be in position prior to works commencing and left *insitu* for as long as necessary for the site to become stabilised. However, should these controls begin to deteriorate and lose functionality, they are to be replaced immediately. • The duration of the proposed activity would be minimised to the minimum extent possible. • Works should not take place during, or within four days of heavy rain events (other than work necessary to ensure that soil erosion is minimised). Works should not be scheduled when heavy rainfall is forecast.

Community Impacts	• Vehicles or machinery are not be left idling where grass is long and reaches the underside of the vehicle. Diesel vehicles are to be used as opposed to petrol where possible.
	• Vehicles or machinery would not remaining idling for long p[periods of time.
	• No campfires of any kind are permitted during the proposed works or ongoing maintenance.
	• The proposed works and any ongoing maintenance would only be conducted within standard work hours:
	  • Monday to Friday 7am to 6pm.
	  • Saturday 8am to 1pm.
	  • No work on Sundays or public holidays.

Natural Resource Impacts	• The REF already provides a range of safeguards designed to limit impacts to natural resources.
Aboriginal Cultural Heritage Impacts	• NPWS would seek an Aboriginal Heritage Impact Permit (AHIP) prior to any proposed works commencing. The proposed works would only be completed in accordance with an AHIP.
Other Cultural Heritage Impacts	• Personnel should be conversant in identifying potential historic heritage items in case they are discovered during the proposed works to enable direct impacts to be avoided.

8 SUMMARY OF IMPACTS

This section of the REF summaries the impacts identified and considers the cumulative impacts of the works in accordance with OEH guidelines. It considers the document "Is an EIS required", best practice guidelines for Part 5 of the EP&A Act, and assists in deciding whether proposed works are likely to have significant environmental impacts. **Table 7** summarises the impacts and considers the cumulative impacts of the works based on the classification of individual impacts as low, medium or high adverse, negligible or positive.

Table 7: Summary of the significance of impacts associated with the proposed works.

Category of Impact	Significance of impacts		
	Extent of impact	**Nature of impact**	**Environmentally sensitive features**
Physical and Chemical	Low (-)	Low (-)	Low
Biological	Medium (-)	High (-)	Medium (-)
Community	Low (+)	Low (+)	-
Natural Resources	Medium (-)	Medium (-)	Medium
Cultural Heritage	Low (-) (provided AHIP sought by NPWS)	Low (-) (provided AHIP sought by NPWS	Low (-) (provided AHIP sought by NPWS
Works as a whole	Medium negative impact	Medium negative impact	Medium negative impact

Based on the summary present in **Table 7**, an Environmental Impact Statement (EIS) is not required. To address impacts to biodiversity, a Species Impact Statement (SIS) provides a detailed assessment of the anticipated direct and indirect impacts of the proposed works in accordance with s5A of the EP&A Act, the TSC Act and the DGR issued specifically for the SIS. The SIS includes a range of impact amelioration measures designed specifically to mitigate any adverse effect of the proposed works on threatened biota. This REF assumes that the amelioration measures detailed within the SIS would be fully implemented should the proposed works be approved.

8.1 CLAUSE 228 CHECKLIST

In addition to the requirements of the *Is an EIS required?* guideline, the following factors, listed in clause 228(2) of the *Environmental Planning and Assessment Regulation 2000*, have also been considered to assess the likely impacts of the proposal on the natural and built environment (**Table 8**).

Table 8: Clause 228 Checklist.

CLAUSE 228 CHECKLIST		IMPACT
a	**any environmental impact on a community**	
The proposed works will result in the removal of 1.47 hectares of native vegetation including 1.03 hectares of SOFF EEC. These areas also contain threatened species habitat.		Medium negative impact due to clearing of SOFF EEC and threatened species habitat.
b	**any transformation of a locality**	
Visibly, the clearing works will provide a more open entry to the township of Potato Point. No infrastructure (fencing or machinery) will be permanently left within the study area. However, the remainder of the locality will remain unchanged.		Low negative impact.
c	**any environmental impact on the ecosystems of the locality**	
There will be a loss of 1.47 hectares of native vegetation including 1.03 hectares of SOFF EEC. Threatened species habitat would also be impacted. Detailed assessment in a Species Impact Statement has been undertaken to determine the potential direct and indirect impacts of the proposed works. Safeguards detailed in this REF have been developed to minimise direct and indirect impacts.		Medium negative impact.
d	**any reduction of the aesthetic, recreational, scientific or other environmental quality or value of a locality**	
The proposed works would significantly modify 1.47 hectares of native vegetation adjacent to the Potato Point village and in the vicinity of existing dwellings. The overall aim of the proposed works is to provide enhanced fire protection for the residents of Potato Point.		Low negative effect.
e	**any effect on a locality, place or building having aesthetic, anthropological, archaeological, architectural, cultural, historical, scientific or social significance or other special value for present or future generations**	
NSW Archaeology have identified that there were no overall cultural archaeological or cultural heritage constraints with regard to the proposed works.		Low negative effect as some Aboriginal objects will be affected.
f	**any impact on the habitat of protected fauna (within the meaning of the *National Parks and Wildlife Act 1974*)**	
Threatened fauna species were recorded within the study area. The preferred option maintains core environmental values present including known threatened fauna habitat		Medium negative effect

CLAUSE 228 CHECKLIST		IMPACT
g	**any endangering of any species of animal, plant or other form of life, whether living on land, in water or in the air**	
There will be a loss of 1.47 hectares of native vegetation including 1.03 hectares of SOFF EEC. Threatened species habitat would also be impacted. Detailed assessment in a Species Impact Statement has been undertaken to determine the potential direct and indirect impacts of the proposed works. Safeguards detailed in this REF have been developed to minimise direct and indirect impacts.		Medium negative effect
h	**any long-term effects on the environment**	
There will be a loss of 1.47 hectares of native vegetation including 1.03 hectares of SOFF EEC. Threatened species habitat would also be impacted. These will be lost provided the fire buffer is regularly maintained.		Medium negative effect in terms of SOFF EEC and threatened fauna habitat.
i	**any degradation of the quality of the environment**	
The proposed works would have a moderate impact on the quality of the environment.		Medium negative in terms of SOFF EEC and threatened fauna habitat.
j	**any risk to the safety of the environment**	
There will likely be some storage of chemicals on site during the works however, given the safety measures in place, it is unlikely that there will be a risk to the environment.		Minor short term negative.
k	**any reduction in the range of beneficial uses of the environment**	
The usability of the study area for recreational use will be maintained.		Nil
l	**any pollution of the environment**	
There is the potential for pollution of the environment however mitigation measures described in Section 7 would mitigate this potential impact.		Minor short term negative
m	**any environmental problems associated with the disposal of waste**	
Waste generated on the site, general, chemical or vegetative, will be disposed of in an appropriate manner and where relevant will follow the guidelines for the disposal of waste in accordance with the EPA approved methods.		Nil Mitigation measures implemented to address any potential impacts.
n	**any increased demands on resources (natural or otherwise) that are, or are likely to become, in short supply**	

CLAUSE 228 CHECKLIST		IMPACT
The proposed works would not increase demands on resources in short supply.		Nil
o	**any cumulative environmental effect with other existing or likely future activities**	
The overall objective of the proposed works is to produce a positive outcome for the local community in terms of fire protection. No negative cumulative impacts are anticipated and the mitigation measures included in this REF reduce any potential impact.		Nil
p	**any impact on coastal processes and coastal hazards, including those under projected climate change conditions**	
This proposed works are unlikely to impact on coastal process and coastal hazards.		Nil

9 CONCLUSION

This REF has been completed under Part 5 of the EP&A Act, and describes the level of impact that the proposed works may have. This REF addresses the duty of OEH in respect to considering the environmental impact of the proposed works under section 111 of the *EP&A Act* and section 228 of the *Environmental Planning and Assessment Regulation* 2000.

In conclusion, this REF provides a true and fair review of the proposed works in relation to its potential effects on the environment. It addresses to the fullest extent possible, all of the factors listed in Clause 228 of the *Environmental Planning and Assessment Regulation* 2000.

The potential impacts of the proposed works identified within the REF can be mitigated through appropriate safeguards to reduce these to acceptable levels. A Species Impact Statement prepared for the proposed works provides a detailed assessment of the anticipated direct and indirect impacts in accordance with s5A of the EP&A Act, the TSC Act and the DGR issued specifically for the SIS. The SIS includes a range of impact amelioration measures designed specifically to mitigate any adverse effect of the proposed works on threatened biota. This REF assumes that the amelioration measures detailed within the SIS would be fully implemented should the proposed works be approved.

As such, an SIS accompanies this REF and considers the impact likely to biodiversity as a result of the proposed works. An EIS is not required.

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11 APPENDICES

APPENDIX 1 – EXPERIENCE AND QUALIFICATIONS OF PERSONNEL

Name and Qualifications	Experience
Steve Sass B.App.Sci (Env.Sci) (Hons) Director / Principal Ecologist / Project Manager Certified Environmental Practitioner, EIANZ OEH Biobanking and Biocertification Assessor Practicing Member, Ecological Consultants Association of NSW (ECA) Member, Australian Society of Herpetologists	Steve is a highly experienced Consulting Ecologist having undertaken hundreds of terrestrial and aquatic ecological surveys and assessments across Australia since 1992. He has an in-depth working knowledge of environmental and biodiversity legislation across all states and territories which allows him to provide detailed and accurate assessments and formulate practical solutions to clients and specific projects on a case-by-case basis. Previous and current research holds Steve in high regard within both the scientific and ecological consultants' community. To date, Steve has published, submitted or has in preparation, twenty-eight manuscripts within peer-reviewed scientific journals, most of which are related to threatened species survey, monitoring or management. He is a Council Member of the Ecological Consultants Association of NSW and is a member of the working committee for the development of an Ecological Consultants Accreditation Scheme for NSW consultants in collaboration with OEH. Steve was recently invited by OEH to become a sitting member of a team to develop Priority Action Statements for two species listed as Endangered under the NSW *Threatened Species Conservation Act 1995* and is currently working with OEH on the Saving our Species Program for a newly identified species of dragon lizard in western NSW (*Ctenophorus mirrityana*) which Steve collaborated with other scientists to formally describe. Steve has extensive experience in southern NSW. Over the past eight years, he has completed or provided specialist biodiversity advice to more than 600 environmental assessments for projects such as residential and industrial developments, highway upgrades and telecommunications, water, sewerage, energy, mining and electricity network infrastructure projects. Steve is highly conversant with the flora, vegetation communities, fauna and their habitats of the south coast region. His expertise with regard to forest and wetland birds, reptiles, frogs and mammals is well known. Steve brings to this project his knowledge of the biodiversity of the NSW south coast, and his extensive scientific background as a past employee of the Ecology and Biodiversity Group within the Institute for Land, Water and Society, a leading research group at Charles Sturt University, Australia's largest regional university and his accreditation as a BioBanking and Biocertification Assessor with OEH, and a Certified Environmental Practitioner by the Environment Institute of Australia and New Zealand. For the REF and SIS, Steve was the Project manager. He was the primary author of the SIS and assisted in the preparation of the REF.
Mark Harris B.App.Sci (Env Res Mgt) Senior Botanist / GIS Analyst OEH Biobanking Assessor Practicing Member, Ecological Consultants Association of	Mark is a highly experienced Botanist having undertaken flora surveys across eastern and central Australia. He has more than 12 years experience in Biodiversity Assessment and Planning. Mark has extensive experience with the flora and vegetation communities of the region confirmed by his two year tenure with the State-wide Native Vegetation Mapping Project. His expertise in southern NSW flora and vegetation communities resulted in Mark becoming accredited as a BioBanking Assessor (Accred. No. 0062) and he has completed a number of assessments including

Name and Qualifications	Experience
NSW (ECA)	the completion of calculations for a 400 km long electricity infrastructure project in northern NSW. As a Senior Botanist, Mark led the flora surveys for the SIS and was the author of the flora and vegetation community sections of the SIS and REF. Mark is also a highly experienced GIS Analyst and completed the mapping and spatial analysis completed for the REF and SIS.
Caroline Metzler B. Sc (Comm) (Hons) Botanist/ Field Ecologist Practicing Member, Ecological Consultants Association of NSW (ECA)	Caroline is an experienced Botanist and Field Ecologist having completed surveys in NSW, VIC, QLD, TAS and WA since 2005. In the field, Caroline's wide ranging skills make her a valuable part of the ecological impact assessment team. Caroline has a high level of experience in the preparation of REFs. Her most recent projects include a number of roadworks and upgrades to the Princes Highway between Nowra and Eden, as well as a number of realignments and tar-sealing of minor roads in the Bega Valley LGA. Caroline was the primary author of the REF and provided valuable assistance to the fauna survey team for the SIS.
Susan Conroy BA (Recreation Management) Director/ Cultural Planning Consultant Susan Conroy Cultural Planning	Susan is one of Australia's most respected Cultural Planning Consultants and has been working professionally in cultural and community planning for more than 20 years. As a pioneer in cultural planning, Susan established the first cultural planning position in local government in Australia at Liverpool City Council in the early 1990s. Susan has extensive experience in working with diverse community in NSW and well developed expertise in formal and informal consultation processes, cultural and community planning. She has a successful history in achieving the integration of cultural and community planning and policy into strategic and urban planning for government clients as well as in applying cultural and community planning processes to the development and management of public, community and cultural resources and infrastructure. Susan is experienced in social and cultural research and community safety assessments. Susan is also an acknowledged specialist in managing community engagement and consultation and has often been used in the role of trouble-shooter when community engagement activities have exacerbated community relations and issues management. For this project, Susan facilitated the community meetings and provided advice to OEH and EnviroKey in relation to the form and content of these meetings.
Julie Dibden PhD Director/Archaeologist NSW Archaeology Pty. Ltd	Julie Dibden is a Director of NSW Archaeology. She has 17 years experience working in archaeological and heritage management. NPWS commissioned NSW Archaeology to prepare the Aboriginal Cultural Heritage Assessment report utilised within this REF.
Linda Sass B. Gn.St (Sci) (on-going), B.A,	Linda is an experienced ecologist having conducted flora and fauna surveys across southern NSW for the past 8 years. Her recent projects include Threatened Species Investigations for the

Name and Qualifications	Experience
Dip. Ed (Sec) Director / Ecologist	Roads & Maritime Services where she completed target threatened reptile, bird and mammal surveys, and target threatened flora searches. During this work, she identified a previously unknown population of the threatened plant *Swainsona sericea*. Linda has a wide variety of experience working on the NSW south coast, with her recent projects including Biodiversity Assessments for a 13-lot rural-residential development west of Pambula and a Telecommunications Tower at Tura Beach, and extensive flora and vegetation community surveys near Tumbarumba. For this study, Linda conducted an internal review of the REF and SIS and assisted with the fauna field surveys for the SIS.

APPENDIX 2 – GENERAL INFORMATION FROM COMMUNITY MEETINGS

POTATO POINT FIRE BUFFER (STAGE 2) COMMUNITY MEETING AND INFORMATION UPDATE - 25 JANUARY 2014

Meeting commenced 5.10pm.

Attendance

NSW Office of Environment & Heritage	Tim Shepherd (TS), Tristan Ricketson (TR)
EnviroKey	Steve Sass (SS), Susan Conroy (SC), Jens Birchall
Community	A total of 49 community members were present (CM)

Record of discussion

Item	Subject	Outcomes/Actions
1	Introduction by Dr Ross Babbage (RB) and introducing the panel	
2	Meeting format and rules of discussion	SC led the initial discussion including the rules of discussion and the general format for tonight's meeting.
3	Where at we at?	TS reminded CM of the decision to split works into Stage 1 and Stage 2, and that the endangered ecological community (EEC) and aboriginal heritage were the drivers of this process. Stage 1 works are now complete, and TS confirmed that the extent of the Stage 1 works were within 1 metre of that agreed. TS also acknowledged that there are some community concerns that the 'park-like' outcomes agreed (ie, 80% clearing of overstorey) are the expected outcomes of the community. TS reminded the community that the Ministers commitment was clearing of the vegetation to the east of the firetrail. CM asked for more information about the timeframe. "You told us that you would guarantee the (stage 2) works be completed by June 30. Is this still the case?" TS responded, explaining the tight timeframe but that they would most certainly be complete by the start of the next fire season and that OEH would not back away from the process/project. CM stated that TS word was worthless. Another CM stated 'will that be put in writing?. You (TS) previously stated that it would be June. We are not happy with the end of August. That makes your word worthless'. RB intervened and asked the CM to wait until the presentation was over before these issues were raised. TS reiterated 'That's our aim, that's all I can say at this stage. The process is reasonability complicated but we are committed to the process'.
4	The planning process	SS explained the REF and SIS process specific to the Stage 2 works and how 'significant effect' was concluded. SS explained process and general timeframes associated with an SIS (ie, 6 months minimum generally). The SIS process is guided by Director-

Item	Subject	Outcomes/Actions
		Generals requirements which detail the form and content of the SIS. These are project specific. SS detailed the intensity of the field surveys over coming weeks in order to prepare the SIS as soon as possible. CM requested clarification of what REF actually meant. CM asked 'If I'm reading this map correctly, the Swamp Oak community is out of the area we want cleared". SS explained the map in greater detail confirming the presence of Swamp Oak within the proposed area of clearing. CM asked 'Regarding the 5km radius in determining significance. What determines this? Obviously if we make the area larger, wont it be of less significance?'. SS stated that is an arbitrary figure that is generally agreed to allow for adequate genetic exchange, but different species require different difference. It is a pre-set figure from OEH for SIS. CM stated 'the site was previously farmed. Why can't we change the EEC?". SS explained that the NSW Scientific Committee determine listings for threatened species including EECs and suggested that is what likely the extent of clearing of Swamp Oak on the North Coast that was driver behind the listing (less than 3% remains), than the South Coast where around 30% of extent remains. SS reiterated that it is a state-wide listing. CM stated 'In terms of the impact statement, the species were concerned about is us!'. (agreement from audience). SS stated 'I live in an area surrounded by bush, I can understand your concerns, however, this is a legislative process enacted by previous governments that cannot be ignored without serious implications including penalties. EnviroKey are moving as quickly as possible to complete the detailed field surveys and assessment in the shortest possible time'.
5	Question time	From this point, SC took questions from the floor from CM. CM asked 'My question is simple. Fire in 1985, and it came from Bodalla. There was no way we could get out. We had a fire trail, now we have no way out. Can you help us? We have nowhere to go?'. TS explained that when OEH bought the land from Eurobodalla Shire Council, a Community Protection Plan was to be developed with the RFS. Fire Captain stated 'We will be consulting with the community, but we are waiting on an updated fire plan'. SC confirmed that this would be taken on board as an issue. CM asked 'Has the NSW government obtained adequate legal advice in this matter (if a fire was to come through before works were finished)?'. TS confirmed that fire management was a real issue and if I felt we weren't acting accordingly, then there would be some concern. CM stated 'What's clear is that we need to focus on the outcome. Stage 1 was a great effort but not adequate. Stage 2 may fall short of community expectations. If there are continuing concerns, can we get a Stage 3?'. TS stated, we don't want a Stage 3. CM stated 'In the submission made to the Minister we requested a clearing and maintenance area'. TS stated 'I want to get to the point where were happy with the outcome. The approval will allow and require ongoing maintenance. I'm happy for the community to take on the maintenance as has been previously suggested'.

Item	Subject	Outcomes/Actions
		CM stated 'What was submitted to the Minister falls short of what you are showing'. Cm stated 'There are different opinions. Im happy we have a regulatory process. I think its good we take our time. If we have an endangered community, lets take care of it. If you look at fires east of the highway, there are not many significant fires'. CM responded 'I don't want a Stage 3. I want it resolved now'. CM stated 'When we bought our house thirteen years ago, we didn't have any trees. With the SIS process, what does that mean for ongoing management?'. SS responded 'The SIS process will allow for the formulation of amelioration measures that will assist in the ongoing management. CM responded 'Burning off?'. TS responded 'Casuarina won't burn under most hazard reduction burns. CM responded 'It used to be burnt regularly. Now the RFS hands are tied'. TS stated that OEH has a series of fire reduction burns (burn blocks) in place in Eurobodalla National Park including near Potato Point. RB stated 'in hot driving winds it will burn'. CM asked that 'The process in place are not unique to our community. This didn't happen overnight. We shouldn't badger the Minister. Let's listen to the science'. SC thanks everyone for their participation and reiterated that the process has begun, remembering that it is a complicated process and confirmed that OEH and EnviroKey would be reporting back to the community in March.

Closing

Meeting closed at 6.28pm. RB provided a closing statement and thanked OEH and EnviroKey for the information provided.

POTATO POINT FIRE BUFFER (STAGE 2) COMMUNITY MEETING AND INFORMATION UPDATE – 22 MARCH 2014

Meeting commenced 11.34 AM.

Attendance

NSW Office of Environment & Heritage	Tim Shepherd (TS), Kevin Tolhurst (KT), Tristan Ricketson (TR), Tony Baxter (TB)
EnviroKey	Steve Sass (SS), Susan Conroy (SC), Deklyn Townsend (DT)
Community	A total of 52 community members were present (CM), Community Association chair Ross Babbage (RB)

Record of discussion

Item	Subject	Outcomes/Actions
1	Introduction by (RB), apologies mentioned from those who couldn't attend, thanks given to EnviroKey, OEH and KT. Discusses KT's expertise.	
2	Meeting format and rules of discussion	RB Speaks of meeting agenda and explains each section; suggesting people wait until question time before inquiring.
3	Overview of completed work	TS begins by thanking everyone and then apologises for the delay that has occurred; stating SS will explain the reasoning further. TS explains the Aboriginal heritage archaeological survey part one for stage two; in regards to how it works and why it occurs. Also states it is on schedule and says it will not affect timeframe. CM – "I understand part of Jamieson is in aboriginal ownership as it was bought in 73." TS – Confirms this statement **SS Presentation** Introduction Displays study area, explains reason for SIS and how it is performed Expands on delays as TS referenced earlier. Describes White-footed Dunnart (WFD) impact on time frame. Displays survey effort Displays flora communities with map CM – Asks for explanation of dotted lines SS – States they are plot transects and that it is to do with flora assessments, also explains random walks on map Presents flora community findings

Item	Subject	Outcomes/Actions
		Displays EEC and SEPP 14 wetland Explains Biodiversity values Presents maps for fauna CM – "Do you know distance from a point WFD travels" SS – "Yes" Explains she-oak, cockatoo and SEPP 14 wetland
4	Bushfire Behaviour	RB states 1.15 PM meeting end, asks KT to set up and begin presentation. **KT Presentation** Introduction Displays model, which involves lighting many fires and utilising existing data sets to extrapolate possible outcomes Displays outputs, Potato Point (PP) in 11-100 and considered relatively low risk in comparison with other areas KT says fuel data was obtained by RFS and he disagrees with some of it Summarises results and maximum 10 houses impacted in the most prone areas of PP KT – States PP is a "Fire prone area" Displays black Saturday pic, highlights forest and safe house correlation explains it is due to ember retardation by forest Speaks of fire spotting process, states eucalypts are the main cause and that there are not many around PP Describes house loss impacts – ember, wind, convection Begins new simulation on house of Australian bushfire standards Presents much of PP households to be of low-moderate ranking States in a bushfire prone area moderate is very good, also says that the ranking will vary greatly depending on what is in the immediate vicinity of the house Emphasises everyone looks at the whole picture RB thanks KT **Frank Hopkins (FH) Presentation** Aerial photos of PP from 1969 Describes 1985 PP fire through photos and recollection CM – "Frank we had embers lighting vacant blocks" More photos and describes southerly wind pushing away fire CM – Disagrees with wind direction Moves on to 1994 Bodalla fire States it could have been the same but by backburning at powerlines the issue was mitigated. CM – "Who burnt off?"

Item	Subject	Outcomes/Actions
		FH – "The land owners" **John Sanders (JS) Presentation** Introduces himself and the presentation Explains 1985 fires and the fire rating (55%) States fatalities could occur at PP Emphasises PP listed as 62 in Bodalla fire risk plan States PP should enquire about this and says that houses don't meet Australian standards RB thanks JS **Ray Roberts (RR) Presentation** Speaks of Canberra fire and the negligible fuel load in some areas Begins explaining his research of PP surface fuel loads Presents loads States under five tonne is RFS aim States that PP surrounding loads put it at very high – extreme fire hazard Disagrees with KT's statistics on potential fire and says KT underestimated southerly wind KT disagrees CM – "What year was this studied on?" RR – "The VIC government model was used and the fuel loads were studied this week" RR begins new section titled "What We Want" States PP wants a defendable fire break and regular back burn and changes to the fire trail RR begins speaking of 200 m flames and disagrees with KT KT asks how flames lasted RR states considerable amount of time 35 minutes KT states impossible Disagreement continues on same topic CM – "What's your opinion?" RB – Let him finish RR states his preferred opinion
5	Presentation of options	**SS Options Presentation** States there are three options, one which is do nothing and it must be considered States OEH need as much feedback as possible today Option one is explained and presented, also it is emphasised that the reasoning behind the options are the SIS and REF results

Item	Subject	Outcomes/Actions
		CM – "In a nutshell the blue shaded area is cleared like stage one" SS – "Yes" Riparian area protection mentioned CM – "Do you think that will protect us?" SS – "I'm an ecologist" CM – "We proposed that west of the Jameson's fire trail be cleared" SC – Says wait for the other proposal and also reiterates the cockatoo presence in areas west of the fire trail Advantages and disadvantages of option one are explained CM – "If the area is cleared we still have nowhere to go if a fire comes" CM – "We will go to the beach" CM – "that's what we've always done" SC – States "one way in and one way out" and reiterates that this is only option one CM – "there's no clearing around the fire shed" SC – OEH asked EnviroKey to look at a particular area CM – "Fantastic meeting" urges everyone to actually listen and states that the fire risk is negligible CM – "Rubbish" Disagreements between various CM leads to volatile discussion between CMs. CM – States we need other options now SC – urges more comments CM – "If a fire truck uses the trail to get in and it burns we will not get it back" SC – "Lets continue now, we will take note" SS explains option two SC – Asks for comments CM – "These endangered species. What happens when fire comes through and destroys their habitat?" SS – "Australian flora and fauna has evolved with fire" CM – 'I understand. You're putting their lives before ours" SS – "Theses options have been extrapolated from evidence-based result from the SIS and REF" SC – Reiterates that all opinions are welcome CM – "You identified three threatened species in the area. But the WFD's habitat extends from NSW to TAS" SS – "Yes the distribution is large, but in the Eurobodalla shire populations have only been found at PP, Broulee and Bodalla state forest. Assessments are done on study area then locality, not the

Item	Subject	Outcomes/Actions
		entire distribution" CM – "In relation to WFD how do we know they only occur in these areas, how much research has been done?" SS – "They're hard to detect and only recently has an effective method for detection been identified. The entire area hasn't been assessed so precaution is used." CM – "The WFD information on the NSW OEH website says it is found from Wollongong to NSW border. But you're saying only a 5 Km radius." SS – "Yes the entire area hasn't been assessed yet" CM – "It says it is known on the website" SS – "Yes the website is very broad, if you narrow the search further you will find WFD information for this area is different" CM – "Are you aware cockatoos feed in other areas and have only recently began feeding here?" SS – "No not specifically aware, but glossy black cockatoos have favourite feeding areas and before we say these cockatoos feed elsewhere we need to determine that they're the same birds" CM – "You've given us two options can OEH only carry out one option?" SC asks for order SS – States "there are many ways to express your views" and highlights the letter box and comments today or the official email address for submissions once open to the public. CM – A question for KT. "If you were to make a recommendation, what would you do?" KT- "it's a fire prone area and action must be taken and that there will be risk but the work being done is quite effective; but it won't stop a fire". He also states that "generating a modified fuel zone will help to generate a barrier and reduce fire risk so you can defend". In addition he mentioned she-oak being of low flammability. CM – "Please give us your opinion, show us what would be good to clear on the map" KT – Uses laser pointer to highlight areas on map which corresponds with a boundary in between the extent of the Stage 1 and Stage 2 works. RB states the floor is now open to TS and then after it will be open for comments TS explains submission of opinions in regards to SIS and REF and admits to the schedule being put back around three weeks given the additional survey work required for WFD. RB thanks TS
6	Question	The floor was opened to questions

Item	Subject	Outcomes/Actions
	time	CM – "What goes up for comment, is it the SIS and REF with the three options and Steve's preferred option?" SS – "OEH chooses the option, and only the preferred option will be the subject of the assessment within the SIS and REF" CM – Directed to TS "Steve has been addressing the study area, what about the South-West Quadrant?" TS doesn't comment CM – "Before leaving here today do we put our opinions in the box?" SS – "Yes, if you want too" CM – States "all we want is a backburn" and speaks of other things that have occurred then states, "can we have a fourth burn off option?". CM – "We have three options, can we modify these options? Please include the fire shed and fire trail" CM – "Why can't we have a hazard reduction?", then talks about the Ben Boyd hazard reduction burn, the wildlife causalities caused. TS – "Hazard reduction is fine, we burn this area every 5-7 years but casuarina doesn't burn effectively." CM – We're going around in circles I'm disappointed, I reject the plan. CM puts forth motion directed at incompetence of NPWS. CM – "I oppose this motion" CM – "You're saying its the community that rejects this plan, it isn't" CM – "I want the motion to be changed so it sounds more cooperative" CM – "This proposed motion is completely out of order, the issue is raised inappropriately and we need more time to make a decision" Also mentions that the last meeting was a disaster due to the chairman not being impartial. CM – "This meeting is being hijacked by emotion. The community got what it wanted, now we need to use science to continue." Motion put to vote Motion read Vote undertaken SC confirms KT will provide excel sheet model for fire risk estimates to community SS urges everyone to give their opinion

Closing

Meeting closed at 1.54pm. RB provided a closing statement and thanks everyone for their involvement.

APPENDIX 3 – EPBC ACT PROTECTED MATTERS SEARCH TOOL RESULTS

Australian Government
Department of the Environment

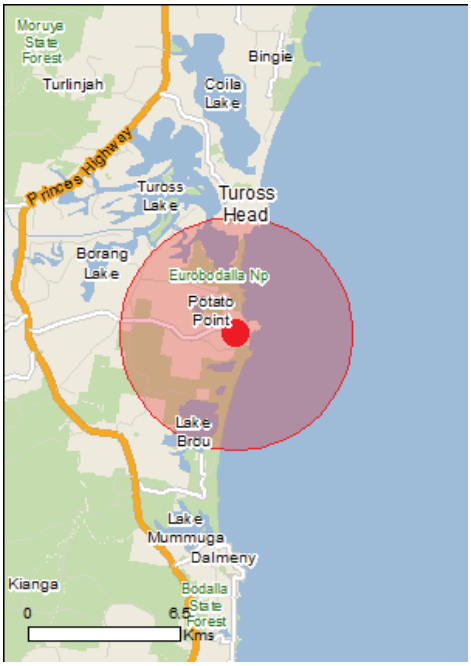
EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

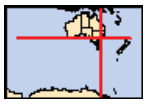
Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

Report created: 26/01/14 11:20:43



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

Coordinates
Buffer: 5.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Areas:	None
Listed Threatened Ecological Communities:	2
Listed Threatened Species:	51
Listed Migratory Species:	46

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place and the heritage values of a place on the Register of the National Estate.

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	64
Whales and Other Cetaceans:	12
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

Place on the RNE:	None
State and Territory Reserves:	1
Regional Forest Agreements:	1
Invasive Species:	35
Nationally Important Wetlands:	1
Key Ecological Features (Marine)	1

Details

Matters of National Environmental Significance

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Littoral Rainforest and Coastal Vine Thickets of Eastern Australia	Critically Endangered	Community likely to occur within area
Lowland Grassy Woodland in the South East Corner Bioregion	Critically Endangered	Community likely to occur within area

Listed Threatened Species [Resource Information]

Name	Status	Type of Presence
Birds		
Anthochaera phrygia Regent Honeyeater [82338]	Endangered	Species or species habitat known to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat likely to occur within area
Dasyornis brachypterus Eastern Bristlebird [533]	Endangered	Species or species habitat likely to occur within area
Diomedea epomophora epomophora Southern Royal Albatross [25996]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea epomophora sanfordi Northern Royal Albatross [82331]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans antipodensis Antipodean Albatross [82269]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans exulans Tristan Albatross [82337]	Endangered	Species or species habitat may occur within area

Name	Status	Type of Presence
Diomedea exulans gibsoni Gibson's Albatross [82271]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans (sensu lato) Wandering Albatross [1073]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Fregetta grallaria grallaria White-bellied Storm-Petrel (Tasman Sea), White-bellied Storm-Petrel (Australasian) [64438]	Vulnerable	Species or species habitat likely to occur within area
Lathamus discolor Swift Parrot [744]	Endangered	Species or species habitat likely to occur within area
Macronectes giganteus Southern Giant-Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant-Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Neophema chrysogaster Orange-bellied Parrot [747]	Critically Endangered	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Species or species habitat likely to occur within area
Thalassarche bulleri Buller's Albatross [64460]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta cauta Shy Albatross, Tasmanian Shy Albatross [82345]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche cauta salvini Salvin's Albatross [82343]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche cauta steadi White-capped Albatross [82344]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris impavida Campbell Albatross [82449]	Vulnerable	Species or species habitat may occur within area
Fish		
Epinephelus daemelii Black Rockcod, Black Cod, Saddled Rockcod [68449]	Vulnerable	Species or species habitat likely to occur within area
Prototroctes maraena Australian Grayling [26179]	Vulnerable	Species or species habitat known to occur within area

Name	Status	Type of Presence
Frogs		
Heleioporus australiacus Giant Burrowing Frog [1973]	Vulnerable	Species or species habitat likely to occur within area
Litoria aurea Green and Golden Bell Frog [1870]	Vulnerable	Species or species habitat may occur within area
Litoria littlejohni Littlejohn's Tree Frog, Heath Frog [64733]	Vulnerable	Species or species habitat may occur within area
Mammals		
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Dasyurus maculatus maculatus (SE mainland population) Spot-tailed Quoll, Spotted-tail Quoll, Tiger Quoll (southeastern mainland population) [75184]	Endangered	Species or species habitat likely to occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat known to occur within area
Isoodon obesulus obesulus Southern Brown Bandicoot (Eastern) [68050]	Endangered	Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat known to occur within area
Potorous tridactylus tridactylus Long-nosed Potoroo (SE mainland) [66645]	Vulnerable	Species or species habitat may occur within area
Pseudomys novaehollandiae New Holland Mouse, Pookila [96]	Vulnerable	Species or species habitat likely to occur within area
Pteropus poliocephalus Grey-headed Flying-fox [186]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Plants		
Caladenia tessellata Thick-lipped Spider-orchid, Daddy Long-legs [2119]	Vulnerable	Species or species habitat likely to occur within area
Cryptostylis hunteriana Leafless Tongue-orchid [19533]	Vulnerable	Species or species habitat may occur within area
Haloragis exalata subsp. exalata Wingless Raspwort, Square Raspwort [24636]	Vulnerable	Species or species habitat known to occur within area
Streblus pendulinus Siah's Backbone, Sia's Backbone, Isaac Wood [21618]	Endangered	Species or species habitat likely to occur within area
Thesium australe Austral Toadflax, Toadflax [15202]	Vulnerable	Species or species habitat likely to occur within area
Zieria tuberculata Warty Zieria [56736]	Vulnerable	Species or species

Name	Status	Type of Presence
		habitat may occur within area
Reptiles		
Caretta caretta		
Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area
Chelonia mydas		
Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea		
Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Eretmochelys imbricata		
Hawksbill Turtle [1766]	Vulnerable	Breeding likely to occur within area
Natator depressus		
Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area
Sharks		
Carcharias taurus (east coast population)		
Grey Nurse Shark (east coast population) [68751]	Critically Endangered	Species or species habitat may occur within area
Carcharodon carcharias		
Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Rhincodon typus		
Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species [Resource Information]

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Diomedea antipodensis		
Antipodean Albatross [64458]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Diomedea dabbenena		
Tristan Albatross [66471]	Endangered*	Species or species habitat may occur within area
Diomedea epomophora (sensu stricto)		
Southern Royal Albatross [1072]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans (sensu lato)		
Wandering Albatross [1073]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea gibsoni		
Gibson's Albatross [64466]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi		
Northern Royal Albatross [64456]	Endangered*	Foraging, feeding or related behaviour likely to occur within area
Macronectes giganteus		
Southern Giant-Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli		
Northern Giant-Petrel [1061]	Vulnerable	Species or species

Name	Threatened	Type of Presence
		habitat may occur within area
Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]		Foraging, feeding or related behaviour likely to occur within area
Sterna albifrons Little Tern [813]		Breeding likely to occur within area
Thalassarche bulleri Buller's Albatross [64460]	Vulnerable	Species or species habitat may occur within area
Thalassarche cauta (sensu stricto) Shy Albatross, Tasmanian Shy Albatross [64697]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross [64459]	Vulnerable*	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Migratory Marine Species		
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Caperea marginata Pygmy Right Whale [39]		Species or species habitat may occur within area
Carcharodon carcharias Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding likely to occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat known to occur within area
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species

Name	Threatened	Type of Presence
		habitat may occur within area
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat likely to occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Species or species habitat may occur within area
Migratory Terrestrial Species		
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat known to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Neophema chrysogaster Orange-bellied Parrot [747]	Critically Endangered	Species or species habitat may occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Xanthomyza phrygia Regent Honeyeater [430]	Endangered*	Species or species habitat known to occur within area
Migratory Wetlands Species		
Ardea alba Great Egret, White Egret [59541]		Species or species habitat known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat likely to occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Foraging, feeding or related behaviour may occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Foraging, feeding or related behaviour likely to occur within area

Name	Threatened	Type of Presence
Rostratula benghalensis (sensu lato)		
Painted Snipe [889]	Endangered*	Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba		
Great Egret, White Egret [59541]		Species or species habitat known to occur within area
Ardea ibis		
Cattle Egret [59542]		Species or species habitat likely to occur within area
Catharacta skua		
Great Skua [59472]		Species or species habitat may occur within area
Diomedea antipodensis		
Antipodean Albatross [64458]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Diomedea dabbenena		
Tristan Albatross [66471]	Endangered*	Species or species habitat may occur within area
Diomedea epomophora (sensu stricto)		
Southern Royal Albatross [1072]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Diomedea exulans (sensu lato)		
Wandering Albatross [1073]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea gibsoni		
Gibson's Albatross [64466]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi		
Northern Royal Albatross [64456]	Endangered*	Foraging, feeding or related behaviour likely to occur within area

Name	Threatened	Type of Presence
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Foraging, feeding or related behaviour may occur within area
Gallinago megala Swinhoe's Snipe [864]		Foraging, feeding or related behaviour likely to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Foraging, feeding or related behaviour likely to occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat known to occur within area
Lathamus discolor Swift Parrot [744]	Endangered	Species or species habitat likely to occur within area
Macronectes giganteus Southern Giant-Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant-Petrel [1061]	Vulnerable	Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Neophema chrysogaster Orange-bellied Parrot [747]	Critically Endangered	Species or species habitat may occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Foraging, feeding or related behaviour likely to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat known to occur within area
Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [1043]		Foraging, feeding or related behaviour likely to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area
Sterna albifrons Little Tern [813]		Breeding likely to occur within area
Thalassarche bulleri Buller's Albatross [64460]	Vulnerable	Species or species

Name	Threatened	Type of Presence
		habitat may occur within area
Thalassarche cauta (sensu stricto) Shy Albatross, Tasmanian Shy Albatross [64697]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Thalassarche eremita Chatham Albatross [64457]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross [64459]	Vulnerable*	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Species or species habitat may occur within area
Thalassarche salvini Salvin's Albatross [64463]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable*	Foraging, feeding or related behaviour likely to occur within area
Thinornis rubricollis rubricollis Hooded Plover (eastern) [66726]		Species or species habitat known to occur within area
Fish		
Acentronura tentaculata Shortpouch Pygmy Pipehorse [66187]		Species or species habitat may occur within area
Cosmocampus howensis Lord Howe Pipefish [66208]		Species or species habitat may occur within area
Heraldia nocturna Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish [66227]		Species or species habitat may occur within area
Hippocampus abdominalis Big-belly Seahorse, Eastern Potbelly Seahorse, New Zealand Potbelly Seahorse [66233]		Species or species habitat may occur within area
Hippocampus breviceps Short-head Seahorse, Short-snouted Seahorse [66235]		Species or species habitat may occur within area
Hippocampus whitei White's Seahorse, Crowned Seahorse, Sydney Seahorse [66240]		Species or species habitat may occur within area
Histiogamphelus briggsii Crested Pipefish, Briggs' Crested Pipefish, Briggs' Pipefish [66242]		Species or species habitat may occur within area
Kimblaeus bassensis Trawl Pipefish, Bass Strait Pipefish [66247]		Species or species habitat may occur within area
Lissocampus runa Javelin Pipefish [66251]		Species or species habitat may occur within area
Maroubra perserrata Sawtooth Pipefish [66252]		Species or species habitat may occur within area
Notiocampus ruber Red Pipefish [66265]		Species or species

Name	Threatened	Type of Presence
		habitat may occur within area
Phyllopteryx taeniolatus Common Seadragon, Weedy Seadragon [66268]		Species or species habitat may occur within area
Solegnathus spinosissimus Spiny Pipehorse, Australian Spiny Pipehorse [66275]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Solenostomus paegnius Rough-snout Ghost Pipefish [68425]		Species or species habitat may occur within area
Stigmatopora argus Spotted Pipefish, Gulf Pipefish [66276]		Species or species habitat may occur within area
Stigmatopora nigra Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Urocampus carinirostris Hairy Pipefish [66282]		Species or species habitat may occur within area
Vanacampus margaritifer Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area
Vanacampus phillipi Port Phillip Pipefish [66284]		Species or species habitat may occur within area
Mammals		
Arctocephalus forsteri New Zealand Fur-seal [20]		Species or species habitat may occur within area
Arctocephalus pusillus Australian Fur-seal, Australo-African Fur-seal [21]		Species or species habitat may occur within area
Reptiles		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding likely to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Breeding likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Species or species habitat known to occur within area

Whales and other Cetaceans [Resource Information]

Name	Status	Type of Presence
Mammals		

Name	Status	Type of Presence
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat may occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Species or species habitat may occur within area
Caperea marginata Pygmy Right Whale [39]		Species or species habitat may occur within area
Delphinus delphis Common Dophin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat known to occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Lagenorhynchus obscurus Dusky Dolphin [43]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area

Extra Information

State and Territory Reserves [Resource Information]

Name	State
Eurobodalla	NSW

Regional Forest Agreements [Resource Information]

Note that all areas with completed RFAs have been included.

Name	State
Southern RFA	New South Wales

Invasive Species

[Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Alauda arvensis Skylark [656]		Species or species habitat likely to occur within area
Anas platyrhynchos Mallard [974]		Species or species habitat likely to occur within area
Carduelis carduelis European Goldfinch [403]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Turdus merula Common Blackbird, Eurasian Blackbird [596]		Species or species habitat likely to occur within area
Mammals		
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area

Name	Status	Type of Presence
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Alternanthera philoxeroides Alligator Weed [11620]		Species or species habitat may occur within area
Anredera cordifolia Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]		Species or species habitat likely to occur within area
Asparagus aethiopicus Asparagus Fern, Ground Asparagus, Basket Fern, Sprengi's Fern, Bushy Asparagus, Emerald Asparagus [62425]		Species or species habitat likely to occur within area
Asparagus plumosus Climbing Asparagus-fern [48993]		Species or species habitat likely to occur within area
Asparagus scandens Asparagus Fern, Climbing Asparagus Fern [23255]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera subsp. monilifera Boneseed [16905]		Species or species habitat likely to occur within area
Chrysanthemoides monilifera subsp. rotundata Bitou Bush [16332]		Species or species habitat likely to occur within area
Cytisus scoparius Broom, English Broom, Scotch Broom, Common Broom, Scottish Broom, Spanish Broom [5934]		Species or species habitat likely to occur within area
Eichhornia crassipes Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur within area
Genista monspessulana Montpellier Broom, Cape Broom, Canary Broom, Common Broom, French Broom, Soft Broom [20126]		Species or species habitat likely to occur within area
Lantana camara Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]		Species or species habitat likely to occur within area
Nassella trichotoma Serrated Tussock, Yass River Tussock, Yass Tussock, Nassella Tussock (NZ) [18884]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Pinus radiata Radiata Pine Monterey Pine, Insignis Pine, Wilding Pine [20780]		Species or species habitat may occur within area
Protasparagus plumosus Climbing Asparagus-fern, Ferny Asparagus [11747]		Species or species habitat likely to occur within area
Rubus fruticosus aggregate Blackberry, European Blackberry [68406]		Species or species habitat likely to occur within area
Salvinia molesta Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]		Species or species habitat likely to occur

Name	Status	Type of Presence
		within area
Senecio madagascariensis		
Fireweed, Madagascar Ragwort, Madagascar Groundsel [2624]		Species or species habitat likely to occur within area

Nationally Important Wetlands [Resource Information]

Name	State
Tuross River Estuary	NSW

Key Ecological Features (Marine) [Resource Information]

Key Ecological Features are the parts of the marine ecosystem that are considered to be important for the biodiversity or ecosystem functioning and integrity of the Commonwealth Marine Area.

Name	Region
Upwelling East of Eden	South-east

Coordinates

-36.09686 150.13155

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World Heritage and Register of National Estate properties, Wetlands of International Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under 'type of presence'. For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Department of Environment, Climate Change and Water, New South Wales
-Department of Sustainability and Environment, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment and Natural Resources, South Australia
-Parks and Wildlife Service NT, NT Dept of Natural Resources, Environment and the Arts
-Environmental and Resource Management, Queensland
-Department of Environment and Conservation, Western Australia
-Department of the Environment, Climate Change, Energy and Water
-Birds Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-SA Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Atherton and Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
-State Forests of NSW
-Geoscience Australia
-CSIRO
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact Us page.

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APPENDIX 4 – STATE ENVIRONMENTAL PLANNING POLICY NO. 71 (SEPP 71), PART 2: MATTERS FOR CONSIDERATION

This Policy has been made under the *Environmental Planning and Assessment Act 1979* to ensure that development in the NSW coastal zone is appropriate and suitably located, to ensure that there is a consistent and strategic approach to coastal planning and management and to ensure there is a clear development assessment framework for the coastal zone. The proposed works are within the coastal zone (less than 1km from a tidal water body or inlet) as defined by the *Coastal Protection Act 1979*.

Under *Part 2 Matters for Consideration* of this SEPP, *Clause 7 Application of clause 8 matters, (b) "are to be taken into account by a consent authority when it determines a development application to carry out development on land to which this policy applies".*

This REF addresses *Part 2, Matters for consideration, Clause 7 Application of clause* and *Clause 8 Matters for consideration*;

(a) the suitability of development given its type, location and design and its relationship with the surrounding area,

The proposed works would be undertaken directly adjacent to the coastal village of Potato Point. The proposed works are relatively small in extent and would be adjacent to existing cleared land. The proposed works are considered a suitable development.

(b) any detrimental impact that development may have on the amenity of the coastal foreshore, including any significant overshadowing of the coastal foreshore and any significant loss of views from a public place to the coastal foreshore,

The proposed works would not have any detrimental impact on the amenity of any foreshore.

(c) the scenic qualities of the New South Wales coast, and means to protect and improve these qualities,

The proposed works would not significantly impact on the scenic qualities of the New South Wales coast.

(d) measures to conserve animals and plants and their habitats,

The proposed works would result in the removal of plant and animal habitat. Safeguards and management measures have been described in Section 7 to mitigate and minimise these impacts.

(e) the likely impact of coastal processes and coastal hazards on development and any likely impacts of development on coastal processes and coastal hazards,

The proposed works would not impact development on or any coastal processes and hazards.

(f) measures to reduce the potential for conflict between land-based and water-based coastal activities,

The proposed works would be unlikely to increase the potential for conflict between land based and water based coastal activities.

(g) measures to protect the cultural places, values, customs, beliefs and traditional knowledge of Aboriginals,

Measures have been included to protect sites of archaeological sensitivity and where appropropriate as determined through an Aboriginal Cultural Heritage Assessment report, an AHIP has been sought for any potential impacts.

(h) the conservation and preservation of items of heritage, archaeological or historic significance.

No such sites are known within the vicinity of the proposed works.

Therefore the proposed works would not have a significant impact on the coastal zone.

APPENDIX 5 – ABORIGINAL CULTURAL HERITAGE ASSESSMENT

This report was submitted to OEH Regional Operations on 1 April 2014, and is not publicly available.

APPENDIX 6 – EXTRACT FROM THE NSW HERITAGE REGISTER

Wharf and Sawmill Truck Remains

Item details

Name of item: Wharf and Sawmill Truck Remains
Type of item: Archaeological-Maritime
Group / Collection: Transport - Water
Category: Wharf
Primary address: Long Point Street, Potato Point, NSW 2545
Local govt. area: Eurobodalla

All addresses

Street Address	Suburb / town	LGA	Parish	County	Type
Long Point Street	Potato Point	Eurobodalla			Primary Address

Statement of significance:

The wharf and truck remains continue to provide evidence of a significant historic local activity of the late 19th and early 20th century. As such, they retain local historic significance. Scientifically the remains identify an important local benchmark site in terms of late 19th and early 20th century local industry. They have the potential to provide information which could contribute to a better understanding of the form and scale of local timber storage and shipping facilities in the late 19th and early 20th century. As such they have high-level local scientific significance.

Note: There are incomplete details for a number of items listed in NSW. The Heritage Branch intends to develop or upgrade statements of significance and other information for these items as resources become available.

Description

Designer / Maker: Unknown
Builder / Maker: Unknown
Construction years: 1890-1899
Physical description: Roughsawn timber posts set in locating holes in grooved flat rock shelf. Evidence of hillside slipway. Rusted truck axles and engine parts.
Further information: Little physical evidence of the form of the wharf remains.

History

Historical notes: This Wharf is believed to have been built during the late 19th century in conjunction with the Sawmill in this area. The Mill was located on the top of the cliff and the sawn timber was winched down a "slipway" formed down the cliff face, to the Wharf then onto a waiting ship. Probably also winched onto the ship as water at Wharf site is fairly shallow. The Mill was burnt down in the late 1920s. The Wharf remained for some years after and Mr Brice recalls the large poles standing in holes drilled in the rocks, and some of the very solid platform of sawn logs. The truck remains are those of an unsuccessful innovation which was tried in the early 1930s. The truck was converted using a steam boiler with the hope of using it to drag logs out of the bush. The operation proved too cumbersome and the idea was abandoned. The truck and

boiler were bulldozed over the cliff when the land on the cliff was being developed for housing. Potato Point is believed to have derived its name from the former Wharf at this site, used by the Brice family to load potatoes grown on their farm at Horse Island and shipped from this Point to markets in Sydney.

Listings

Heritage Listing	Listing Title	Listing Number	Gazette Date	Gazette Number	Gazette Page
Local Environmental Plan	Eurobodalla Local Environmental Plan 2012	I218	20 Jul 12	No.78	3419
Local Environmental Plan	Eurobodalla Urban Local Environmental Plan 1999		10 May 02	No.85	2822
Heritage study		POTP/R001	01 Jan 97		

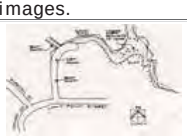
Study details

Title	Year	Number	Author	Inspected by	Guidelines used
Eurobodalla Heritage Study	1997	POTP/R001	The EJE Group	EJE	No

References, internet links & images

Type	Author	Year	Title	Internet Links
Oral History	Mr R Brice, Bodalla.			

Note: internet links may be to web pages, documents or images.



(Click on thumbnail for full size image and image details)

Data source

The information for this entry comes from the following source:

Name: Local Government

Database number: 1550220

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APPENDIX 7 – MATTERS OF NATIONAL ENVIRONMENTAL SIGNIFICANCE

Migratory Species

Three migratory species as listed under the EPBC Act were detected during the SIS field surveys in the study area and across the wider locality. These being the Satin Flycatcher, Black-faced Monarch and White-throated Needletail. Only the later species was detected in the study area with a number of individuals flying over prior to a storm front. This is typical behaviour for this widely occurring species.

Protected under several international agreements to which Australia is a signatory, Migratory species are considered Matters of National Environmental Significance under the EPBC Act.

One affected subject species migratory species was identified by the SIS. This was the Regent Honeyeater.

Under the EPBC Act, an action is likely to have a significant impact on a migratory species if it substantially modifies, destroys or isolated an area of 'important habitat' for the species (DEWHA 2009). For these species, the study area is not considered to comprise 'important habitat' as it does not contain:

- Habitat used by a migratory species occasionally or periodically within a region that supports an ecological significant proportion of the population of the species.
- Habitat that is of critical importance to the species at particular life-cycle stages.
- Habitat used by a migratory species that is at the limit of the species' range.
- Habitat within an area where the species is declining.

Given this, the impacts of the proposed works on the Satin Flycatcher, Black-faced Monarch, White-throated Needletail and Regent Honeyeater are not likely to be regarded as significant and are therefore not considered further.

Threatened Species

Affected subject species identified within the SIS were reviewed for their status under the EPBC Act. The following affected subject species were identified and subject to further assessment: Regent Honeyeater (endangered), Southern Brown Bandicoot (endangered), and Long-nosed Potoroo (vulnerable).

Vulnerable Species (Long-nosed Potoroo)

> *Will the action lead to a long-term decrease in the size of an important population of a species?*

No. There is no evidence to suggest that an 'important' population even occurs within the study area, but Long-nosed Potoroo are known from the locality. Nonetheless, the proposed action would result in the removal of 1.47 hectares of native vegetation with 1.03 hectares of this considered potential habitat. Only 20 percent of the native vegetation in the study area would be removed.The core area of SOFF EEC within the drainage line would be retained. Bodalla SF (24,100 hectares) and Eurobodalla NP (2,200 hectares) would continue to

provide habitat for this species in the locality. Amelioration measures designed to mitigate any negative impacts would be implemented. Given this, it is unlikely that the proposed action would lead to a long-term decrease in an area of occupancy of an important population of this species (should one even occur there).

Will the action reduce the area of occupancy of an important population?

No. There is no evidence to suggest that an 'important' population even occurs within the study area. Bodalla SF is more likely to support an 'important' population given that one is known from there. Given this, it is unlikely that the proposed action would lead to a long-term decrease in an area of occupancy of an important population of this species.

Will the action fragment an existing population into two or more populations?

No population (should they occur there) would be fragmented into two or more populations by the current design of the proposed action.

Will the action adversely affect habitat critical to the survival of a species?

No. The habitat of the study area is not considered critical to the survival of this species.

Will the action disrupt the breeding cycle of an important population?

No. The proposed action would not disrupt the breeding cycle of an 'important population' as one does not occur within the study area.

Will the action modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline?

No. The availability of habitat in the locality indicates that the proposed action is unlikely to impact potential habitat to the extent this species is likely to decline.

Will the action result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat?

The proposed action has the potential to increase the ability of noxious and environmental weeds as well as feral animals. Recommendations within Section 7 provide a framework to minimise these risks.

Will the action introduce disease that may cause the species to decline?

No. Recommendations within Section 7 provide a framework for managing potential risks to biodiversity.

Will the action interfere with the recovery of the species?

No. Given the relatively minor nature of the proposed action, the extent of similar or higher quality habitats in the locality, and the adoption of the recommendations details within

Section 7, it is unlikely that the proposed action would have an impact on the recovery of this species.

Endangered Species (Southern Brown Bandicoot, Regent Honeyeater)

Will the action lead to a long-term decrease in the size of a population of a species?

No. There is no evidence to suggest that a population of these species occurs within the study area, but rather, marginally potential habitat. Nonetheless, the proposed action would result in the removal of 0.44 hectares of potential habitat for Southern Brown Bandicoot and Regent Honeyeater. The remainder of the 2.21 hectares of potential habitat for either species would remain unaffected by the proposed action. However, in general, the loss of 0.44 hectares is considered relatively minor in the context of the areas of vegetation in close proximity to the proposed works which would remain unaffected by the proposed action. Given this, it is unlikely that the proposed action would lead to a long-term decrease in an area of occupancy of a population of these species (should they even occur there).

Will the action reduce the area of occupancy of the species?

No. There is no evidence to suggest that the study area can be considered to provide 'occupancy' for these species, but rather, marginally potential habitat. The adjacent Bodalla SF and portions of Eurobodalla NP are more likely provide an area of occupancy for these species. Given this, safeguards are proposed to minimise potential impacts to adjacent habitats. Therefore, it is unlikely that the proposed action would lead to a long-term decrease in an area of occupancy of these species.

Will the action fragment an existing population into two or more populations?

No population would be fragmented into two or more populations by the current design of the action.

Will the action adversely affect habitat critical to the survival of a species?

No. The habitat located adjacent to the Potato Point village is not considered critical to these species for their survival.

Will the action disrupt the breeding cycle of a population?

No. There is no evidence of breeding of a population within the vicinity of the proposed works. Therefore, the breeding cycle of a population will not be disrupted

Will the action modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline?

No. The availability of habitat in the locality indicates that the proposed action is unlikely to impact potential habitat to the extent these species are likely to decline.

Will the action result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat?

The proposed action has the potential to increase the ability of noxious and environmental weeds as well as feral animals to become established through site disturbance. Recommendations within Section 7 provide a framework to minimise the risk of weed species and feral animals invading adjoining habitats.

Will the action introduce disease that may cause the species to decline?

No. Recommendations within Section 7 provide a framework for managing potential risks to biodiversity.

Will the action interfere with the recovery of the species?

No. Given the relatively minor nature of the proposed action, the extent of similar or higher quality habitats in the locality, and the adoption of the recommendations details within Section 7, it is unlikely that the proposed action would have an impact on the recovery of these species.