

Egg Islands

Huon River Estuary, Franklin



Joint Management Plan for the Egg Islands Reserve
and Egg Islands Conservation Area

Draft July 2009



Process to finalizing the Plan

This draft Management Plan has been developed by the Tasmanian Land Conservancy (TLC) and Parks and Wildlife Service (PWS) using existing written knowledge of the land at the Egg Islands, and following consultations with many people who have an interest in the islands. These included previous owners of land on the islands, those with a long association with the islands, local field naturalists and historians, along with State government experts in nature conservation, cultural heritage, land management, geoheritage and fire management. The key points of the preliminary draft were displayed at a public event in March 2009, encouraging the community to comment and provide further information. These comments and information were incorporated into this draft in July 2009.

This draft Management Plan is available for public comment for a period of six weeks, until 28 August 2009. Comments may be made by letter, fax, email, telephone, or face-to-face, please see below for more details on how to provide comments.

The draft Management Plan will be revised using the comments received during the consultation period, and then submitted for final approval to the Director of the PWS and the Board of the TLC.

How to comment on the draft management plan

Comments should be directed to Max Kitchell and must be received by 28 August 2009.

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In person – Please contact Max using the contact details above to arrange a meeting time and place.

Executive Summary

Background

The Egg Islands consist of two estuarine islands covering a combined 443 ha. Almost two-thirds of this area is publicly-owned land, known as the Egg Islands Conservation Area, which is managed by the Parks and Wildlife Service (PWS). The Tasmanian Land Conservancy (TLC) own and manage just over one-third of the islands in their Egg Islands Reserve, which is held in freehold title. This draft management plan covers all the PWS and TLC lands.

Most of the Egg Islands are in a natural or near-natural condition and incorporate significant nature conservation values. Important wetland and rushland vegetation communities occupy much of the southern part of the islands. In addition to this, the northern sections of the islands support rare and endangered *Eucalyptus ovata* forest and woodland, being the largest remnant in south-east Tasmania.

The island's relatively intact vegetation communities comprise valuable habitat for a range of fauna, especially waterbirds. There is evidence that Egg Islands provide habitat for seven threatened or significant bird species, one threatened fish, one threatened amphibian and two threatened invertebrates.

The Egg Islands are a relatively recent landform having been created by the accumulation of fine sediment in the lower reaches of the Huon River. They are considered to be the most important and least disturbed of this class of estuarine depositional landform in Tasmania, and they are still growing with expansion of the mud flats in the south.

Even though they are now in a largely natural condition, the Egg Islands cannot be considered an untouched wilderness. Indeed, they have played an important part in the history and development of the Huon Valley. While there is no known evidence of Aboriginal occupation, the islands would almost certainly provide a food source, principally swan eggs, for the local indigenous people. Since the early days of European settlement the islands were used for various forms of primary production and recreation including stock grazing, orchards, vegetable growing, timber harvesting, duck hunting and greyhound training. Little evidence of this use remains on the islands today, with the most significant heritage feature being a canal across the south island, first built by convicts in 1838.

The only access to the island is by boat and there are no formal landing facilities. The difficulty of access coupled with the swampy terrain has meant that visitation to the island is very low.

Management

This plan proposes that Egg Islands be managed primarily for conservation purposes. It adopts the following overarching objective for the islands.

To identify, conserve, protect, assist people to appreciate and where necessary, restore the island's natural and cultural heritage values, and to ensure those values are passed on to future generations in as good or better condition than at present.

In support of this objective the management plan proposes a number of management actions aimed at:

- protecting and maintaining the existing vegetation communities,
- keeping the island predator free,
- controlling existing weed populations and preventing new weeds establishing,
- developing and implementing a fire management plan,
- conserving the integrity of the island's geoheritage,
- protecting populations of threatened species,
- maintaining cultural heritage values,
- undertaking flora, fauna and cultural heritage surveys,
- working with the Aboriginal community to investigate Aboriginal heritage values and cultural perspectives,
- encouraging education about and interpretation of the island's natural and cultural heritage values,
- allowing low-impact recreation and tourism where it does not compromise conservation objective.

Acknowledgements

This draft management plan for the Egg Islands Reserve (owned and managed by the Tasmanian Land Conservancy) and the Egg Islands Conservation Area (managed by the Parks and Wildlife Service) has been prepared by Max Kitchell and Denna Kingdom, of the Tasmanian Land Conservancy.

The TLC greatly appreciates the assistance of its supporters in the general public, who provided overwhelming support via donations towards the purchase of their Egg Islands Reserve. TLC supporters continue to assist towards management of the reserve, both as volunteers and through financial donations.

The Australian Government's National Reserve System Program also provided significant financial support for the purchase of the TLC's Egg Islands Reserve.

Cover photo:

Aerial view of the Egg Islands, looking south over black gum woodland and wetlands
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1. Background Report

1.1. Introduction

The Egg Islands are two low-lying islands situated mid-stream of the Huon River in south-east Tasmania. In total they occupy 443 ha, 64% of which is publicly-owned land, with the remaining 36% being held in freehold title.

This management plan covers all of the Egg Islands except that 25 ha title, located on South Egg Island, presently owned by David and Tony Griggs.

This draft plan has been compiled following individual consultations with many people who have an interest in the islands. These included previous owners of land on the islands, those with a long association with the islands, local field naturalists and historians, State government experts in nature conservation, cultural heritage, land management, geoheritage and fire management.

Community feedback and information was also received from hundreds of interested people who visited the joint Parks and Wildlife Service and Tasmanian Land Conservancy stall at the Focus on Franklin Festival on 29 March 2009.

1.2. Location and tenure

The northernmost point of the Egg Islands is approximately two kilometres south of Huonville, with the islands' southern extremity petering out in the shallow mud flats near Glaziers Bay. The north island is around three kilometres long and 500 metres wide and is separated from the south island by a narrow and shallow channel. The south island is approximately seven kilometres long and, at its widest, one kilometre across.

There are a number of different land tenures on the islands involving two public land managers and two private landholders. These tenures are:

i. Egg Island Conservation Area occupies land on both the north and south islands, being 163.5 ha in total. Managed by the Parks and Wildlife Service (PWS), most of this land was acquired by the PWS from private landholders in 1975 in recognition of the islands' value as an estuarine wetland, particularly as habitat and nesting sites for large numbers of water birds. It was proclaimed a conservation area in February 2000.

ii. Crown land (Public Reserves) covers 31 ha in a number of small blocks, including a recreation reserve of 5.8 ha on the south island, initially set aside for "the inhabitants of Franklin", Crown foreshore reserves of between 20 and 30 metres (above high water mark) width at a number of locations on both north and south islands and a canal reserve that crosses the south island opposite Franklin.

iii. Unallocated Crown land that occupies 88 ha, almost all of which is in the southern parts of the south island. There is also a narrow 20 metre strip (originally surveyed as a road reserve) across the top of the north island.

Both the reserved and unreserved areas of Crown land are administered by Crown Land Services within the Department of Primary Industries and Water.

The Crown Land Assessment and Classification Project Team recommended in 2005 that all the Crown land on the Egg Islands be transferred to the management of PWS and be added to the Egg Islands Conservation Area. At the time of publication this transfer had not occurred.

iv. Freehold land owned by the Tasmanian Land Conservancy (TLC) which covers 136 ha on both the north and south islands. This land was purchased in 2007 from three separate landholders using funds provided by public donations and the Australian Government's National Reserve System Program.

It is the TLC's intention to retain this land as a permanent reserve for conservation purposes. To this end, the TLC has registered a conservation covenant over the land which requires it to maintain the property's conservation values. It also intends to seek proclamation of the area as a private sanctuary under the *Nature Conservation Act 2002*, thus ensuring that it and the adjoining Egg Island Conservation Area have consistent management objectives into the future.

v. Freehold land owned by David and Tony Griggs of 25 ha in the south-western part of the south island. This land has been in the Griggs family for three generations. The management plan does not apply to this land.

These different land tenures are outlined on Map 1.

1.3. Access

Access to the islands is only possible by water. There are no longer any jetties or other landing infrastructure to facilitate such access.

1.3.1. TLC PUBLIC ACCESS POLICY STATEMENT

As a community-based organisation, the TLC strongly supports public involvement in the management of the Reserve and will not unreasonably refuse public access in future where such access preserves or enhances the natural values of the Reserve. However, the TLC will refuse access where this may result in a detrimental impact on the values of the Reserve.

1.4. Background to the Egg Islands

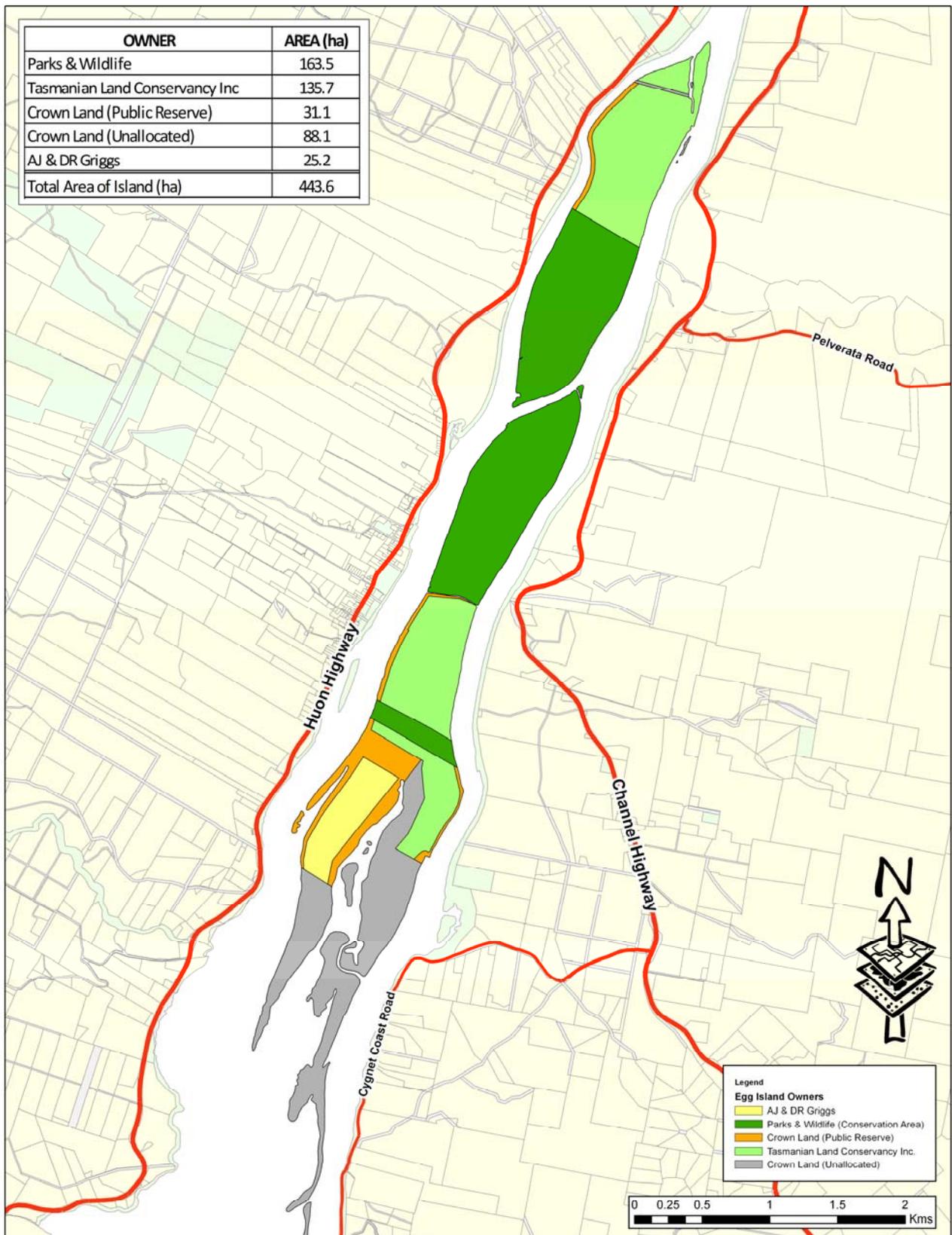
1.4.1. MANAGEMENT HISTORY

The condition of the natural values of the land has resulted from its previous uses and management. While the islands currently appear to be in a natural or near-natural condition, they could not be considered to be pristine. Significant parts of both islands have been subject to various uses over many years.

During the initial settlement of the Huon Valley in the 19th century, most of the land on the islands was subdivided and sold into private ownership. In every case these owners had landholdings on either the eastern or western sides of the Huon River opposite the islands. Therefore, the islands were used as an adjunct to their principal properties and not as their primary enterprise.

Much of the land was too swampy for agricultural purposes so many drains were dug, almost all by hand, across the better areas to "improve" the land. There was some clearing done at the northern ends of both islands where vegetables were grown pre-World War II. There was also a substantial apple and pear orchard on the northern end of the south island. Indeed, between the 1930s and 40s, a family lived in a house on this site.

Map 1 – Context and tenure of the Egg Islands



EGG ISLAND LAND TENURE



Prepared by Geodata Services, DPIW
 Listdata extracted 20th Jan 2009.
 Areas quoted are calculated GIS areas

On both islands cattle and sheep have been grazed over many years. Much of this was rough bush grazing but there were areas that were ploughed to improve pasture growth.

A sawmill operated for a time on the drier banks in the north of the north island. A greyhound training track was also constructed on the north-western part of the north island and apparently a lease was taken out by the Commonwealth Government during either the Boer War or the First World War for a rifle range on the south island. It is not clear whether the range was ever built or used.

In 1838, convict labour built a canal across the south island to facilitate travel between the east and west sides of the Huon River. For many years a ferryman operated a service across the river and through the canal, taking people to and from Franklin, which was then the major population centre in the Huon Valley.

In the memories of a few of the descendants of early settler families is discussion of the Franklin recreation ground being located on the south island, possibly on the Crown recreation reserve. In those days Franklin was built on the side of a hill and the only nearby flat land for sporting activities was on the islands. Whether or not there ever was a recreation ground constructed is unclear, however, today there is no evidence of such a facility on the islands.

Most of the abovementioned uses were historical with all horticulture ending after WWII and the last livestock grazing ending prior to the 1980s.

1.4.2. GEOLOGY, GEOMORPHOLOGY AND SOILS

The Egg Islands are a depositional landform created by the accumulation of fine sediment in the lower reaches of the Huon River, which was drowned by the Late Quaternary marine transgression. This transgression flooded the possibly braided channel of the river, which until then was a deglaciated gravel outwash stream and alluvial plain. Sea level reached approximately its current level some 6000 years ago, so the Egg Islands are relatively recent in geological terms, and consist of actively evolving landscape features. Indeed, it would appear that the south island has grown significantly since the time of first European settlement. Comparison of current aerial photography with the earliest Crown surveyors maps indicate that the mud flats at the southern tip of the islands have expanded substantially over the past 160+ years.

Egg Islands are listed on the Tasmanian Geoconservation Database as a feature of significance. This significance led to them being nominated for listing on the Register of the National Estate, but before the nomination could be assessed, amendments to the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* led to the Register being frozen. No further additions to the Register will occur.

Despite the fact that Egg Islands have received no formal, statutory recognition of their geoheritage significance, they are regarded as the premier and least disturbed example of this class of estuarine depositional landform in Tasmania.

The underlying geology of the Egg Islands comprises dolerite and related rocks of the Jurassic age. These are overlain by undifferentiated Quaternary sediments and sand, gravel and mud of alluvial, lacustrine and littoral origin.

There is no record of any soil mapping having been done on the islands. It would be expected that the soils would be light in nature with low clay content, possibly with acidic top layers and alkaline sub-layers. At least in some areas the soils were deep

and friable enough to have grown good root crops (carrots, parsnips, potatoes, etc) in the 1930s and 40s. There are also significant areas of peat soils.

1.4.3. LANDSCAPE

The islands are the major landscape feature to the east of the main highway south of Huonville. They are visible from this major tourist route for their full 10 km length and also form an important part of the scenery for most of the many residents living on the hillsides between Huonville and Castle Forbes Bay.

They are an integral part of the landscape in the lower Huon Valley, an area renowned for its scenic beauty.

1.4.4. CLIMATE

Being land masses in the middle of an estuary, Egg Islands enjoy a maritime climate with prevailing winds from the south-west. The islands are around mid-way between the Bureau of Meteorology's recording stations at Geeveston, to the south, and Grove, to the north. Local experience would indicate climatic conditions on Egg Islands would be closer to those experienced at Grove which has mean annual rainfall of 743 mm, well distributed throughout the year but with the wettest month being August at 76.7mm and the driest February with 46.9mm. February is also the hottest month with mean maximum temperature being 22.4°C and July the coldest at 11.8°C. Unlike Grove, the islands do not suffer severe frosts or the same extremes of cold temperatures due to the buffering effect of the surrounding estuary.

1.4.5. HYDROLOGY

The dominant hydrological feature of Egg Islands is the periodic inundation of all or parts of their land mass. Some of the lowest-lying of the mud flats at the southern end of the south island go under water on an almost daily basis at high tide. The degree of inundation varies according to the height of the tides and the level of the river. The most extensive flooding of the islands occurs when high tides correspond with strong southerly winds and high flows in the Huon River.

Floods in the Huon River have been significantly mitigated since construction of the Lake Pedder dam in 1972, such that the last event that led to the complete inundation of the islands occurred 42 years ago in 1967, following the catastrophic fires of earlier that year.

Water tables on the islands are naturally high. Early landholders dug large numbers of drains to depress the water table and to clear floodwaters to better enable them to grow crops and provide feed for stock. At the end of these drains were tide-weights that prevented water flowing in at high tide and then opened to allow water out at low tide.

Climate change and resultant sea level rise will have a significant impact on the islands over the long-term. The most authoritative source for estimates of sea level rise is the United Nations' Intergovernmental Panel on Climate Change (IPCC). In its third and fourth assessment reports the IPCC's most pessimistic estimates of the magnitude of sea level rise between 1990 and 2100, range from a minimum of 18 cm to a maximum of 88 cm. Recent analysis of observed sea level change since 1990 indicates that sea levels are currently rising along the uppermost trajectory of the IPCC's projections. In the event that sea levels were to rise by 88cm over the course of this century, then most of Egg Islands would be permanently under water.

Water salinity of the Huon River around the islands varies substantially throughout the year, with winter and spring bringing high volumes of fresh water down the river and forcing sea water further down the estuary. During summer and autumn, low flows down the river result in more brackish water flowing around the islands, with salinity increasing to that of sea water during king tides. An increase in the height of sea level will see saltier water covering areas currently only flooded by fresh water. This, in turn, will impact on the presence and distribution of those vegetation communities and individual flora and fauna species intolerant of saline water.

1.4.6. VEGETATION

Seven native vegetation communities have been identified on Egg Islands. In addition there are small areas of regenerating farm land on both the north and south islands. The distribution of these communities is described below, outlined in Table 1 and shown in Map 2.

Table 1: Vegetation communities recorded on Egg Islands

Vegetation community	TasVeg code	Area (ha)	Threat level*
Saline sedgeland/rushland	ARS	114	Vulnerable
Freshwater aquatic herbland	AHF	5	Vulnerable
Freshwater aquatic sedgeland and rushland	ASF	1	Vulnerable
Restionaceae rushland	MRR	8	Vulnerable
Black gum (<i>Eucalyptus ovata</i>) forest and woodland	DOV	172	Rare, Endangered
Wet heathland	SHW	7	
<i>Melaleuca squarrosa</i> scrub	SMR	121	
Regenerating farmland	FRG	15	

* As listed under the *Tasmanian Nature Conservation Act 2002*

Wetland and rushland vegetation communities

Four of the seven native vegetation communities on the islands can be classified as wetlands or rushlands,

- Saline sedgeland/rushland or saltmarshes
- Freshwater aquatic herbland
- Freshwater aquatic sedgeland and rushland
- Restionaceae rushland.

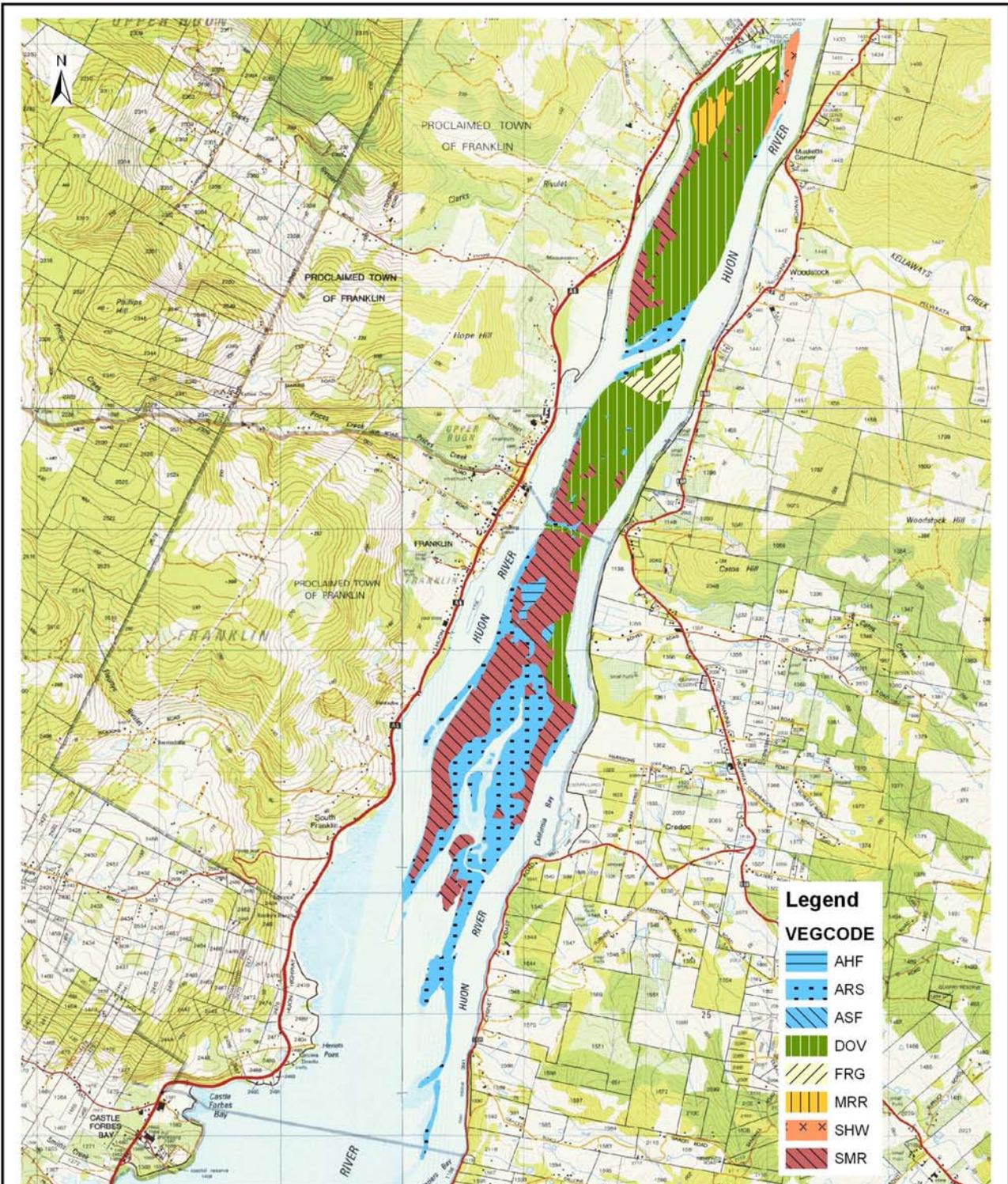
Saltmarshes are saline wetlands that here have developed on the lowest-lying areas of the islands, most of which are subject to periodic inundation. These vegetation communities occur predominantly on the southern part of the south island and have colonized the most recently-formed sections of the islands, including those actively-developing areas that have appeared since European settlement.

Saltmarsh vegetation communities are highly productive systems as a result of the nutrient inputs from both land and sea. They create important habitat, providing breeding grounds for many species of fish, water birds, amphibians and insects.

Saltmarsh communities also provide a significant ecological function, filtering water and dispersing heavy flow in times of flood. Indeed, it has been demonstrated that the Egg Island saltmarshes act as a sink for both agricultural nutrient run-off and for silt loads generated by upstream activities.

Typically saline sedgeland/rushland communities are dominated by *Gahnia filum* and *Juncus kraussii*, and vary in height from 0.5 m to 1m.

Map 2 – Vegetation communities at Egg Islands



0 0.5 1 2
Kilometres

Egg Islands vegetation

Tasmanian Land Conservancy Inc
Mapping officers: Denna Kingdom and Matt Taylor
20 January 2009



Base layers supplied by LIST
Base images supplied by TASMALP

Saltmarsh communities are very susceptible to damage by physical disturbance and elsewhere in Tasmania have been severely impacted by drainage, grazing and vehicle activity. While fire is not common in saltmarshes, if they do burn while very dry they take long periods to rehabilitate. On Egg Islands the saltmarshes have suffered from none of these threatening processes and are, as a consequence, in very good ecological condition.

The other three freshwater wetland and rushland communities are much more restricted in extent than the saltmarshes occurring in relatively small patches across both islands. Like the saltmarshes, these are highly productive ecosystems, in good condition and providing important habitat for a range of native fauna species.

The freshwater herbland includes permanent or semi-permanent freshwater with floating or emergent herbaceous vegetation. The sedgeland and rushlands include sedges and rushes of a number of species, including those in the genus' *Juncus* and *Carex*, up to 50 cm tall standing in fresh to brackish water.

Black gum (Eucalyptus ovata) forest and woodland

Black gum (*E. ovata*) shrubby forest (DOV) occupies the majority of the north island and most of the top third of the south island. *E. ovata* is the dominant overstorey species with an understorey of shrubby species including *Leptospermum scoparium* and *Lepidosperma*, *Melaleuca*, *Juncus* and *Carex* species.

Elsewhere in Tasmania this vegetation community occupied relatively flat and moist sites and was, therefore, cleared extensively for agriculture. Only 11,500 ha of shrubby *E. ovata* forest and woodland remains in Tasmania from a pre-1750 estimate of 232,000 ha. In the south-east bioregion, less than 10% of the remaining area of this vegetation community is reserved for conservation. The remnant community on Egg Islands is the largest in south-east Tasmania.

Notwithstanding the clearance of small sections of *E. ovata* forest and woodland in the 19th century, this vegetation community is in good condition. There is little evidence of either weed invasion or of the impacts of fire or disease.

In addition to its intrinsic significance, *E. ovata* forest has very important habitat value, especially for the endangered swift parrot that has been observed foraging on the islands.

An extensive hot fire in the late 1970s or early 1980s burnt much of the southern half of the south island. It is likely that most of the area that supported black gum vegetation that burnt in this fire regenerated as *Leptospermum* and *Melaleuca* scrub, as these shrubby species are far more competitive after fire than *E. ovata*. However, young black gum trees have been observed growing within the areas burnt by this fire and it is likely that in the absence of further fire these areas will revert to woodland dominated by black gum.

Scrub and heathland

The scrub and heathland vegetation communities on Egg Islands occur on areas of poor drainage and are comprised of two separate vegetation communities. The most widespread of these communities is *Melaleuca squarrosa* scrub (SMR) that occupies large areas on the south island with smaller stands occurring on the western side of the north island. This community forms a closed canopy that includes *Leptospermum scoparium* and *Acacia verticillata*.

Wet heathland (SHW) occupies small areas on both islands and contains *Leptospermum* and *Melaleuca* species with *Gahnia grandis* and a mixture of rushes, sedges and herbs.

These communities form parts of successional pathways with wet heath expected to succeed to scrub over time. Similarly *Melaleuca squarrosa* scrub may become swamp forest as it gains height and loses diversity. This appears to have happened near the canal on the south island.

Both of these scrub and heathland vegetation communities appear to be in excellent condition and provide significant habitat, especially for birds.

1.4.7. FLORA

No detailed vegetation survey of the Egg Islands has been conducted however visits by TLC staff and volunteers since February 2008 have enabled the compilation of the flora species list at Appendix 1. No threatened flora species have been recorded.

1.4.8. FAUNA

There has never been a formal, rigorously-conducted fauna survey of the islands. There has, however, been considerable documentation of bird species recorded by PWS officers when visiting the area between 1973 and 1986. These records, combined with the observations of local field naturalists and recent visits to the islands by TLC staff and volunteers, has enabled the compilation of the fauna species list at Appendix 2.

The islands' relatively intact vegetation communities and absence of introduced predators make the area a very valuable habitat for water birds in particular. The islands have been recognized as one of the state's most important breeding grounds for black swan and chestnut teal. They are also used for nesting by a range of other bird species, including the swamp harrier (*Circus approximans*).

There is evidence that Egg Islands serve as habitat for seven threatened or significant bird species, one threatened fish, one threatened amphibian and two threatened invertebrates. These species are listed in Table 2.

Table 2: Threatened and significant species recorded or with potential habitat on the Egg Islands

Species name	Common name	TSPA	EPBCA	Comments
<i>Botaurus poiciloptilus</i>	Australasian bittern	-	-	Listed by the International Union for the Conservation of Nature as endangered globally, but is yet to be nominated for recognition under either Tasmanian or Commonwealth legislation due to a lack of knowledge of its population or extent. This species has been observed in the rushland sections of the islands and is presumed to nest there.
<i>Haliaeetus leucogaster</i>	White-bellied sea-eagle	VU	-	Also protected as a migratory species under the China-Australia Migratory Bird Agreement by the EPBCA. This species is often observed patrolling over Egg Islands which provides

				habitat for prey species. There is no evidence of nesting on the islands, although there are some areas with suitable nesting habitat.
<i>Accipter novae-hollandiae</i>	Grey goshawk	EN	-	Has been observed roosting, but not nesting, on the islands. As for the sea eagle, it is likely to hunt for prey on the islands.
<i>Aquila audax</i>	Wedge-tailed eagle	EN	EN	This species is often observed patrolling over Egg Islands which provides habitat for prey species. There is no evidence of nesting on the islands, although there are some areas with suitable nesting habitat.
<i>Lathamus discolor</i>	Swift parrot	EN	EN	This migratory species has been sighted on and near the islands and is known to utilize stands of black gum and blue gum (<i>E. globulus</i>) for feeding and nesting.
<i>Tyto novae-hollandiae</i>	Masked owl	EN	-	The islands are likely to support breeding and feeding habitat. This species has not been observed on the Egg Islands, although has been recorded nearby.
<i>Gallinago hardwickii</i>	Latham's snipe	-	-	Subject to the Japan-Australia Migratory Birds Agreement and the Republic of Korea-Australia Migratory Birds Agreement. This species has been sighted on both islands.
<i>Prototroctes maraena</i>	Australian grayling	VU	VU	This fish species has been recorded in the Huon River due to a decline in population resulting in rarity across its range.
<i>Litoria raniformis</i>	Green and gold frog	VU	VU	This species has not been observed on the Egg Islands, although has been recorded nearby.
<i>Lissotes menalcas</i>	Mt. Mangana stag beetle	VU	-	Potential habitat may occur on the Egg Islands, although the species has not been observed.
<i>Antipodia chaostola leucophaea</i>	Chaostola skipper	EN	-	Listed as threatened due to due to restricted distribution, low population density, and habitat loss. The larvae of this moth species live and feed exclusively on the sedge <i>Gahnia radula</i> , which may occur on the Egg Islands.

There are no records of any work having been done on invertebrates and few observations of amphibians although the wetland habitats in particular are likely to be rich in this fauna. Likewise there are few records of reptiles other than tiger snakes, for which the islands are infamous. Indeed, many locals refer to the islands not as Egg Islands but as Snake Islands. At one stage snakes were collected from the islands for the production of antivenin.

It is also possible that further species of conservation significance may be present at the Egg Islands, and that species that are not currently of conservation significance may become so in the future.

1.4.9. CULTURAL HERITAGE

The Tasmanian Aboriginal Site Index has no listing for Egg Islands, which is not surprising as there has been no investigation or surveys of indigenous heritage undertaken on the islands. The lack of any formal identification of Aboriginal relics does not, in itself, demonstrate that the islands played no part in the lives of the local indigenous peoples. Isolated artefacts have been recorded on the eastern side of the Huon River, close to the islands and it seems highly likely that swan eggs would have been collected from the islands. The original Protector of Aborigines, George Augustus Robinson, noted in his journal of 25 September 1830, "...on one occasion when the natives came down to the Huon to collect eggs..." The islands were a rich source of swan eggs which, in turn, were an important element of the Aboriginal diet that it is likely that they were used as a food larder by the local tribes.

While it is probable that the islands were utilised as a food source, given the swampy nature of the terrain it seems unlikely that the indigenous people spent much time living there, although this suggestion is only speculative.

As indicated in the earlier section on Management History, there has been considerable use of the islands since European settlement of the Huon Valley. Most of this activity related to primary production and recreation. To summarise the islands have been used for;

- grazing of dairy and beef cattle, sheep and goats;
- apple and pear orchards;
- vegetable growing;
- timber harvesting;
- greyhound training;
- recreation ground (possible);
- rifle range (possible) and;
- duck hunting.

Very little evidence of these activities remain today although there are some signs of past uses, for instance,

- cleared areas in the northern sections of both islands indicate where orchards and vegetables were grown
- remains of hand-dug drains
- house site on north-east tip of the south island
- some derelict stock fencing
- remains of jetties.

Perhaps the most significant remaining European heritage feature is the man-made canal through the south island. During the early days of settlement the islands formed an effective barrier between Cradoc and Franklin, then the major industrial and population centre in the Huon Valley. There was a natural channel between the islands but it was not navigable, hence a ferry service was instituted across the south island. In the initial period the ferry boat was carried across the island by the unfortunate passengers. In 1838, convict labour dug the first canal across the south island opposite Franklin, with records showing it to have been ten feet wide and four feet deep.

At some point in subsequent years the canal silted up and became un-navigable, leading the government to allocate the sum of 300 pounds for the construction of a new canal. This was to be double the width and depth of the original and followed the convict canal for around 160 metres before slightly diverging from this first route. The work was undertaken using a team of horses dragging a dredge by Henry Clark, whose descendants still live in the area. The work took 45 weeks and was completed in April 1885. The canal remains navigable for small craft to this day.

None of the above evidence of European occupation is recognized on Tasmanian or Commonwealth heritage registers.

1.4.10. ENVIRONMENTAL DEGRADATION

Introduced species

A comprehensive survey to identify the nature and extent of weed infestation was conducted in 2008. This was a joint project between the TLC and PWS and led to the development of a weed management strategy for the islands. A copy of the strategy is at Appendix 3.

The survey revealed that, for the most part, the islands were not severely impacted by weeds, however, a total of 24 exotic species were identified. Of these, nine species were identified as a high priority for control – boneseed, willow, gorse, Scotch broom, canary broom, Spanish heath, sweet briar, blackberry and pampas grass. These species are all highly invasive, disperse easily and heavily impact on ecosystem processes. Blackberry, willows, gorse and boneseed are all classified as weeds of national significance, and pampas grass is a declared weed in the Huon Valley municipality under the Tasmanian *Weed Management Act 1999*.

The majority of weeds were recorded in, or close to, areas that had been cleared or otherwise physically disturbed in the past. New Zealand flax was the only one of the recorded weed species where mature plants were regularly recorded in relatively natural areas.

No similar survey work has been undertaken to identify introduced animal species. While rats have been observed on both the islands and there is anecdotal evidence of rabbits, being surrounded by water may have reduced the likelihood of feral animals becoming established on the Egg Islands.

Deforestation

Relatively small areas, principally in the north of both islands, were cleared in the early 20th century for horticulture. Some timber harvesting occurred in the north-east section of the north island and individual eucalypts were taken for various farming and domestic purposes over the years.

Some ploughing took place under and around trees on the south island in order to encourage native pasture growth, but this did not involve felling the overstorey.

There has been no clearing or ploughing since before the 1960s.

Disease

No diseases of either native plants or animals have been recorded on the islands. However, potential exists for the introduction of *Phytophthora cinnamomi*, which causes dieback and/or death of a wide range of native plant species. *P. cinnamomi* is

transported via the transfer of infected soil from one place to another, which can be prevented by simply ensuring that items that may carry soil, including boots, tents and camera tripods, be washed prior to entering the reserve.

Erosion and sedimentation

The only soil erosion evident on the island is some very minor river bank erosion, probably caused by flood events. There is the potential for bank erosion to be exacerbated in the event of sea level rise or if there was a significant increase in power boat activity in the Huon River.

As a depositional landform, sedimentation is not a degradational process on Egg Islands; it is, in fact, the life-force of the islands. Sedimentation formed the islands and continues to actively expand the islands to the south.

Inappropriate fire frequency

The fire history of the islands is relatively unknown, although many locals can recall significant fires on the islands that burnt for several weeks in the mid 1980s. Evidence of these fires are apparent in the black gum woodland on South Egg Island, including fire scars on trees and 'steps' in the soil surface indicating where peat soils have been burnt. Peat soils are very slow to form and are particularly susceptible to fire when dry, with fires burning slowly through the soils for long periods of time.

1.4.11. VISITATION

With the exception of those who owned the land, Egg Islands have received very few visitors over the years. Difficulty of access and the wet and marshy nature of the land have not encouraged people to visit. Furthermore, the islands reputation for high numbers of venomous snakes has deterred all but the most curious.

In the past, the most common visitors were duck hunters who made regular use of the islands during the hunting season. Some rough duck hides were built but most hunting occurred from boats, shooting across the islands.

Game bird numbers were significant enough for the PWS, in the late 1980s, to contemplate creating a game reserve over the islands. This proposal did not proceed and hunting virtually ceased when large parts of the islands were made conservation area in 2000.

1.4.12. ADJACENT LAND USE

Egg Islands are surrounded by the Huon River tidal estuary, the bed of which is unallocated Crown land. The government has recently accepted a recommendation from the Resource Planning and Development Commission for the creation of a marine protected area over all those waters adjacent to the islands. The principal reasons for the creation of the marine protected area were to protect the estuarine ecosystem and the habitat of the endangered grayling.

It is expected that the Huon Estuary Marine Conservation Area will be proclaimed sometime during the course of 2009. It will be reserved under the *Nature Conservation Act 2002* and managed according to the provisions of the *National Parks and Reserves Management Act 2002*.

1.5. Legal Requirements for Management

There are a number of local, state and national statutory and policy instruments that apply to the islands and, therefore, influence the way they can be used and managed. A brief summary of each of these follows.

i. Tasmanian National Parks and Reserves Management Act 2002 establishes the purposes for which a conservation area and private nature reserve are reserved and the management objectives for such an area. The provisions of this Act apply to the existing Egg Islands Conservation Area and will apply to the Crown land once it is transferred to conservation area status. The provisions of this Act will also apply if TLC is successful in its application for a Private Nature Reserve status over their land.

ii. Tasmanian Threatened Species Protection Act 1995 provides protection to all listed threatened species of which there are nine on or around the islands. It is an offence to knowingly disturb or destroy a listed species without a permit.

iii. Commonwealth Environment Protection and Biodiversity Conservation Act 1999 provides protection to nominated matters of national environmental significance including listed threatened species and species subject to international agreements. On or around the islands are four listed species, of which one (Latham's snipe) is subject to the Japan-Australia Migratory Birds Agreement and to the Republic of Korea-Australia Migratory Birds Agreement, and another (white-bellied sea eagle) is subject to the China-Australia Migratory Birds Agreement.

The implication of the application of the *EPBC Act* is that management actions that will have, or are likely to have, a significant impact on the listed species cannot occur without the written approval of the Australian Government Minister for Environment, Water, Heritage and the Arts.

iv. Covenant under the Tasmanian Nature Conservation Act 2002 has been taken out by the TLC over its land. The covenant is aimed at ensuring the protection of the conservation values of the TLC's land and has the force of a statutory document that binds the TLC to its provisions.

v. Tasmanian State Coastal Policy applies to the islands. The three main principles of the policy are:

- natural and coastal values of the coast shall be protected
- the coast shall be used and developed in a sustainable way
- integrated management and protection of the coastal zone is a shared responsibility.

vi. Huon Planning Scheme 1979 is administered by the Huon Valley Council and is the local government planning instrument that covers Egg Islands. The scheme has three zones that apply to the islands:

- conservation zone that covers almost all of the privately-owned land as well as that part of the Egg Island Conservation Area on the north island
- nature reserve zone that incorporates portion of the TLC land on the north island and that part of the Egg Islands Conservation Area on the south island
- public purposes zone that includes all the crown land, both reserved and unallocated.

The scheme is currently under review by the Huon Valley Council.

vii. Potential future legal requirements for management

In addition to the Conservation Covenant that has been placed on TLC's land, application will be made to the State to have this land declared a Private Nature Reserve under the *Nature Conservation Act 2002*. This status does not impose any restrictions on the TLC, but imposes restrictions upon the public that are enforceable by law. The objective is to ensure that the Egg Islands Conservation Area and the Egg Islands Reserve can be managed in a consistent manner for conservation.

2. Reserve Management

2.1. Overarching Objective

This plan covers land of three basic tenures in total covering all except 25 ha of the land mass of Egg Islands. They are:

- **Egg Islands Conservation Area managed by the PWS.** Under the Nature Conservation Act 2002, the purpose for which a conservation area is reserved is “the protection and maintenance of the natural and cultural values of the area of land and the sustainable use of that area of land.”
- **Reserved and unallocated Crown land administered by Crown Land Services within DPIW.** As all the reserved and unallocated Crown land has been recommended by the Crown Land Assessment and Classification Program for addition to the conservation area, for the purposes of this section of the plan it will be considered to be conservation area.
- **Freehold land owned by the TLC** that was acquired with the intention that it be managed in a way that ensures the protection of its natural and cultural heritage values. This was the expectation of donors who contributed to the land’s purchase. Funding provided from the Australian Government’s National Reserve System Program was conditional on management of the land being consistent with an IUCN Category IV reserve: that is, a Habitat/Species Management Area which is managed mainly for conservation through management which ensures the maintenance of habitats for specific species.

Taking account of the above requirements for management of the different tenures and the intrinsic values of the islands themselves, the following overall objective has been adopted for Egg Islands.

To identify, conserve, protect, assist people to appreciate and, where necessary, restore the islands’ natural and cultural heritage values, and to ensure those values are passed on to future generations in as good or better condition than at present.

This objective will guide all future management of the Reserve and provides a basis from which more detailed management objectives and prescriptions have been derived.

2.2. Identification, conservation and restoration of values

This plan uses the Conservation by Design assessment model to determine the priority of conservation values. The process determines which values are recognized as conservation targets which then become the focal points for management.

Conservation targets are prioritized on their regional, state or national significance, habitat value, ecological function and level of threat (at statewide and/or national scale) to an identified value. Table 3 outlines the priorities associated with each natural and cultural heritage value.

Table 3: Prioritisation of conservation values

Value	Priority	Justification
Wetland vegetation communities	High	Highly productive environments Habitat for large numbers of waterbirds; Performs key ecological function in maintaining water quality in Huon River;

Value	Priority	Justification
		All communities listed as vulnerable.
Black gum forest and woodland	High	Community severely depleted elsewhere; Largest remnant in southern Tasmania; Listed as endangered; Important habitat for endangered fauna species.
Scrub and heathland communities	Low	Widely distributed throughout the state; Under no current threat.
Geoheritage	High	Best example of an estuarine depositional landform in Tasmania; Listed on Tasmanian Geoconservation Database.
Threatened species	High	Habitat for seven threatened or otherwise significant bird species, one threatened fish, one threatened amphibian and two threatened invertebrates
Cultural heritage	Moderate	Interesting history of European land use; Probably, but unknown, Aboriginal use.

2.2.1. WETLAND VEGETATION COMMUNITIES

Conservation Significance: HIGH

The four wetland vegetation communities (saltmarshes, freshwater herblands, sedgelands and rushlands) cover 128 ha or 29% of Egg Islands. They are highly productive environments supporting a diverse range of fauna, providing habitat for large numbers of water birds and performing the key ecological function of maintaining good water quality in the Huon River by acting as a sink for nutrients and sediments.

All of these wetland vegetation communities are listed as vulnerable under the *Nature Conservation Act 2002*.

Key threatening processes and sources of threats

The key threatening process to wetland communities is the loss of natural biological diversity. There are a number of mechanisms that could lead to such an outcome.

Wetlands are well adapted to high levels of native animal grazing but not to the hard hoofs of domestic livestock which break up vegetation layers and pug the underlying substrate. Weeds, which otherwise might be at innocuous levels and having little impact, can spread rapidly as a result of livestock grazing. Indeed, any disturbance to the vegetation and soil, such as vehicular use and fire, can lead to compounding impacts through the invasion of weeds. Fortunately, vehicular use is not an issue on the islands and livestock have not been grazed on the islands since before the 1980s.

Large-scale hunting of ducks under certain extreme circumstances could potentially have an impact on water bird numbers and create disturbance to other non-target species. There has been little hunting on the islands for some years and there is no evidence that past hunting activity has adversely affected the wetland communities.

Sea level rise poses the greatest threat to the islands' wetland communities in the long term. With climate change expected by the Intergovernmental Panel on Climate Change (IPCC) to result in sea level rises of more than 80cm by the end of the century, most of the wetlands will be affected. This may include a change in the extent of the wetlands (increase or decrease) and a change in the mix of species making up the wetlands vegetation communities. Climate change is, of course, a global issue and there are no specific management actions that could be undertaken on

the islands that would halt or reduce the impact of this threat. Neither is it realistic to anticipate any local adaptation measures, such as the building of barrages that could protect the wetlands from inundation. Support for local, state and national initiatives to combat climate change as part of an international effort is the best response available to managers of the islands.

Lack of data and knowledge of the wetland communities' biodiversity could itself lead to adverse outcomes. It is important to know the full extent and nature of the area's biodiversity in order to be confident in making long-term management decisions.

Conservation Objective

Maintain the natural biological diversity of the wetland vegetation communities.

Management Actions

Threatening process	Source of threat	Management Action (priority)
Loss of natural biological diversity	Weed invasion	Prohibit the importation of non-indigenous plant species to the islands.
		Implement the Egg Islands Weed Strategy, including: <ul style="list-style-type: none"> - prevention of weed establishment in high priority areas; - removal of significant weed species in high priority areas; - monitor and map weed extent.
	Stock grazing	Maintain grazing-free status of the islands.
	Inappropriate fire regime	Develop and implement a fire management plan for the islands, using controlled fire only for the purpose of biodiversity maintenance.
	Duck hunting	Prohibit hunting on or over the islands.
	Sea level rise	Support relevant local, Tasmanian and national initiatives to mitigate climate change and its impacts.
	Lack of biodiversity data	Undertake flora and fauna surveys of wetland ecosystems to establish baseline data on: <ul style="list-style-type: none"> - extent, nature and distribution of the communities and species; - habitat quality for threatened species.

2.2.2. BLACK GUM FOREST AND WOODLAND

Conservation Significance: HIGH

The black gum forest and woodland vegetation covers 172 ha, representing 39% of the islands' land mass. They have been listed as threatened under the *Nature Conservation Act 2002*, as their distribution statewide has been reduced by 95% since European settlement. Less than 10% of the community's current distribution in the south-east bioregion is reserved and the Egg Island stands are the largest remaining remnants in south-east Tasmania.

These stands are important as foraging and, potentially, nesting sites for the endangered swift parrot.

Key threatening processes and source of threats

The key threatening process for black gum woodland vegetation community is loss of natural biological diversity. There are a number of mechanisms that could lead to such an outcome.

In the past, around 15 ha of this community was cleared for agricultural purposes and some small areas were harvested for timber products. No clearing or timber harvesting have occurred for many decades and the cleared areas are now showing signs of natural regeneration.

Grazing of domestic livestock could lower species density in the understorey, restrict regeneration and lead to the introduction and spread of weeds. Ploughing to encourage native pastures, which occurred in some parts of the black gum vegetation community in the early part of the 20th century, would have greater adverse impacts than grazing.

Rabbits, which are rumoured to be on the islands, would impact on nature conservation values if they were to become established. The introduction of non-indigenous predators, such as foxes or cats, would have a catastrophic impact on the islands' fauna, especially the ground-nesting birds.

Dry sclerophyll eucalypt communities are generally well-adapted to fire. However, fires that are too frequent or too hot could result in low species diversity, low ground cover, weed invasion and loss of soil-borne seed. Furthermore, the peat soils that support large areas of the black gum forest and woodland are highly susceptible to fire when dry and take very long periods to redevelop.

Phytophthora cinnamomi, if it were to become established in the *E. ovata* community, would be potentially devastating, especially in those areas where drainage is more restricted. There is no evidence of its presence on the islands, although no specific investigations have been carried out.

Lack of data and knowledge of the biological diversity of black gum forest and woodland could itself lead to adverse outcomes. It is important to understand the full extent and nature of the community's biodiversity in order to be confident in making long-term management decisions.

Sea level rise poses a threat to the black gum vegetation communities in the long term. With climate change expected to result in sea level rises of more than 80cm by the end of the century, some or all of the black gum community would be inundated permanently. Regular inundation by salt water would also increase the stress on this

vegetation community and result in changes in its species composition. Climate change is, of course, a global issue and there are no specific management actions that could be undertaken on the islands that would halt or reduce the impact of this threat. Support for local, state and national initiatives to combat climate change as part of an international effort is the best response available to managers of the islands.

Conservation Objective

Maintain and enhance the natural biological diversity and extent of the black gum forest and woodland community.

Management Actions

Threatening process	Source of threat	Management Action (priority)
Loss of natural biological diversity	Vegetation clearance	Undertake no further clearing, except that needed for high priority management purposes.
		Encourage natural revegetation of previously cleared areas, supplemented by planting of local provenance seed where necessary.
	Weed invasion	Prohibit the importation of non-indigenous plant species to the islands.
		Implement the Egg Islands Weed Strategy, including: prevention of weed establishment in high priority areas; removal of significant weed species in high priority areas; monitor and map weed extent.
	Feral animals	Monitor for the presence of rabbits, and if present, develop and implement a strategy aiming to eradicate them from the islands.
		Prohibit the importation of non-indigenous animal species to the islands.
	Stock grazing	Maintain grazing-free status of the islands
	Inappropriate fire regime	Develop and implement a fire management plan for the islands, using controlled fire only for the purpose of biodiversity maintenance.
	Disease	Monitor for evidence of <i>Phytophthora cinnamomi</i> .
		Ensure appropriate hygiene practices are followed to prevent the introduction of infected soil to the islands, i.e. ensure all tools, equipment and other items are cleaned of soil before taking them to the islands.
Sea level rise	Support relevant local, Tasmanian and national initiatives to mitigate climate change and its impacts.	
Lack of biodiversity data	Undertake flora and fauna surveys of black gum forest and woodland ecosystems to establish baseline data on: <ul style="list-style-type: none"> - extent, nature and distribution of the communities and species; - habitat quality for threatened species. 	

2.2.3. GEOHERITAGE VALUES

Conservation Significance: HIGH

Egg Islands are the premier and least disturbed example of an estuarine depositional landform in Tasmania. Their geoheritage significance has been recognized by their inclusion on the Tasmanian Geoconservation Database and by their previous nomination for listing on the Register of the National Estate.

Key threatening processes and source of threats

The key threatening process to the islands' geoheritage features is erosion of the foreshore.

Theoretically the islands could be exposed to soil erosion through a number of threats such as overgrazing, too-frequent fires, vehicular use and clearing. However, given the current absence of these threats, erosion of the islands' broad land surface is entirely unlikely.

The more realistic threat is erosion of the islands' banks around the foreshore. While these banks are presently quite stable, an increase in intensity and type of boating activity in the Huon River could lead to increased wave activity and, as a consequence, destabilisation of some of the banks. At the moment the main boating activities are rowing and small recreational fishing boats. Were there to be an increase in the numbers, size and speed of power boats using the area, then it may be necessary to investigate measures to restrict boat speeds.

The most significant, albeit longer-term, threat to the islands' geoheritage comes from climate change and the resultant sea level rise and increase in storm surge frequency. These would impact first on the lowest-lying southernmost parts of the islands, but by the end of the century they could fundamentally change the nature and extent of Egg Islands.

Climate change is a global phenomenon and, as such, there are no specific management actions that could be undertaken on the islands to halt or reduce the impact of this threat. Support for local, state and national initiatives to combat climate change as part of an international effort is the best response available to managers of the islands.

Conservation Objective

Conserve the integrity of the islands' geoheritage.

Management Actions

Threatening process	Source of threat	Management Action (priority)
Riverbank erosion	Increased power boat usage	Consult with Marine and Safety Tasmania and the manager of the Huon Estuary Marine Conservation Area with a view to imposing boat speed restrictions within the vicinity of Egg Islands.
	Sea level rise	Support relevant local, Tasmanian and national initiatives to mitigate climate change and its impacts.

2.2.4. THREATENED SPECIES

Conservation Significance: HIGH

Six threatened or significant bird species have been identified as either permanent residents of the islands or as itinerant visitors to the islands that nonetheless play an important part in their habitat requirements. These species are the swift parrot, Latham's snipe, white-breasted sea eagle, wedge-tailed eagle, grey goshawk and Australasian bittern.

A further five threatened species may also occur on or around the islands, due to the presence of suitable habitat. These are the masked owl, green and gold frog, Australian grayling, Mt Mangana stag beetle and *Chaostola* skipper.

Managers of the islands have a legal obligation to protect these species and their habitats.

Key threatening processes and source of threats

The key threatening process for threatened species is habitat degradation or loss which can be caused by a number of factors including clearing, inappropriate fire regimes, weed invasion and introduced predators and competitors. Retention and enhancement of existing native vegetation communities will largely ensure habitats are protected. Hence, management actions to combat these threats are identical to those outlined in previous sections of the plan dealing with these vegetation communities. They are repeated here for completeness.

There are a number of documents that specify the management requirements for most of the above threatened species. These include the White-bellied Sea Eagle Recovery Plan, the Swift Parrot Recovery Plan and the National Action Plan for Raptors. The provisions of these plans will guide management for threatened species on the islands.

Conservation Objective

Maintain and, where necessary, enhance the distribution and abundance of threatened species populations.

Management Actions

Threatening process	Source of threat	Management Action (priority)
Habitat loss	Vegetation clearance	Undertake no further clearing, except that needed for high priority management purposes.
	Weed invasion	Prohibit the importation of non-indigenous plant species to the islands.
		Implement the Egg Islands Weed Strategy, including: prevention of weed establishment in high priority areas; - removal of significant weed species in high priority areas; - monitor and map weed extent.
	Stock grazing	Maintain grazing-free status of the islands.
	Inappropriate fire regime	Develop and implement a fire management plan for the islands, using controlled fire only for the purpose of biodiversity maintenance.
	Feral	Prohibit the importation of non-indigenous animal species to the islands.

		Monitor for introduced species and, if present, develop and implement a strategy aiming to eradicate from the islands, or otherwise minimise their impact on threatened species.
	Lack of biodiversity data	Undertake flora and fauna surveys of wetland ecosystems to establish baseline data on: - extent, nature and distribution of the communities and species; - habitat quality for threatened species.
General		Apply the provisions of the relevant threatened species recovery or action plans.

2.2.5. CULTURAL HERITAGE

Conservation Significance: MODERATE

Little is known of Aboriginal use of Egg Islands, however, it is almost certain that they would have utilized swan eggs from the islands as a critical part of their diet at certain times of the year. No Aboriginal heritage survey has been conducted on the islands to assist in determining their significance to indigenous communities.

Following European settlement of the Huon Valley, the islands were soon taken up by local farmers and used predominantly for agricultural purposes. Few remnants of this early use remain with perhaps the most significant feature being the canal, built first by convicts and later enhanced by local farmers, that crosses the south island.

Key threatening processes and source of threats

The principal threat to the islands cultural heritage is the lack of knowledge of this heritage. No Aboriginal or historic heritage surveys have been conducted on the islands and that which is known of European occupation is almost exclusively anecdotal.

The main threat to any remaining, but unidentified, heritage fabric is probably well-intentioned nature conservation management. Activities such as revegetation and weed control could inadvertently damage cultural heritage features that had not been properly identified.

Knowledge of European use of the islands could be lost with the passing of those whose families owned and used land on the islands. The loss of the stories of these people, including members of the only family ever to have lived on the islands, represents a considerable threat to the understanding of the importance of Egg Islands in the history of the Huon Valley.

Conservation Objective

To conserve and document the significance of the islands' Aboriginal and European cultural heritage.

Management Actions

Threatening process	Source of threat	Management Action (priority)
Loss of cultural heritage knowledge and assets	Absence of cultural heritage surveys	Collaborate with the Aboriginal community with a view to jointly investigating Aboriginal heritage values and cultural perspectives on the islands.
		Undertake targeted historic heritage surveys.

		Document oral histories of families associated with early use of the islands.
	Conservation management activities	Ensure that conservation management activities do not damage cultural heritage assets.
		Encourage the relevant government authority to retain the convict and early-settler built canal in a condition navigable for small craft.

2.3. Assist people to appreciate

2.3.1. EDUCATION AND INTERPRETATION

Egg Islands have an interesting history and contain a suite of very important nature conservation values. However, given the difficulty in accessing and getting around on the islands, coupled with the fact that significant numbers of visitors will not be encouraged, it is unlikely that many people will directly experience Egg Islands. The majority of educational and interpretation opportunities will, therefore, be off-site. Proposals for activities on the islands will be assessed according to a process approved by the relevant land manager.

Conservation Objective

To encourage education and interpretation of the islands' natural and cultural heritage values.

Management Actions

- i. Install interpretation boards at the western entrance to the convict and early settler-built canal across the south island.
- ii. Encourage the erection of interpretation facilities opposite the south island on the Franklin foreshore and at points along the proposed Huon River Foreshore Trail (when constructed, this trail will run along the western bank of the Huon River, looking directly onto all the north island and part of the south island).
- iii. Utilize the expertise and resources of organisations such as universities and local interest groups to develop education products for the islands.
- iv. Provide access to any interpretative or educational material that is developed in relation to the islands on both the PWS and TLC websites.
- v. Make available oral histories from family members having long association with the islands.
- vi. Encourage school and tertiary education groups to use parts of the islands to assist their understanding of the Huon Valley's history and natural values.

2.3.2. RECREATION AND TOURISM

The islands could be of great interest to a number of people, especially field naturalists and, within that group, particularly bird watchers. However, there are no facilities to cater for visitors on the islands nor any safe landing spots to access the islands.

Moving around on the islands is a difficult proposition because of the swampy nature of much of the terrain. The islands do not lend themselves to even moderate-scale

recreation or tourism activities. Furthermore, such high intensity uses could severely compromise the conservation values of the islands. It is not intended to risk such damage.

This does not preclude, however, small-scale, low-impact public use that does not conflict with the fundamental conservation objectives of management. It is not expected that, in the foreseeable future, the islands' managers will be constructing any visitor facilities. Proposals from third parties to develop low-key visitor infrastructure will be considered by the land managers. Such enterprises would need to demonstrate little or no adverse impacts on natural or cultural heritage values and must not leave the land managers with costs associated with infrastructure maintenance or vulnerable to unmanageable public liability risk. Any commercial venture would be required to enter into a business agreement with the relevant land manager. Proposals for any development or for activities on the islands will be assessed according to a process approved by the relevant land manager.

Conservation Objective

Allow limited recreation use, and consider low-impact tourism, subject to such uses not compromising the conservation objectives for managing the islands.

Management Actions

- i. Assess any proposals for recreation or tourism operations on the islands, ensuring that any accepted proposals do not impact on the conservation values of the islands.

2.4 Management Responsibilities

All of the publicly-owned land on the islands is managed by the PWS with staff based locally at Huonville. The 136 ha owned in freehold title by the TLC is the responsibility of the TLC, with staff based in Hobart. As neighbours with consistent objectives and principles for land management, the TLC and PWS intend to work co-operatively to manage their lands. There is also potential for the local community to assist the land managers in their stewardship of the land, including through volunteer programs.

Collaboration and coordination between the two organisations will ensure consistent and coherent management of Egg Islands as complete ecological communities.

2.5. Plan Review

Progress towards meeting the objectives of this plan will be reviewed at regular intervals not exceeding every five years from the approval of this plan. Such reviews may lead to minor amendments to the plan.

A full review of the plan is expected to occur at a time no earlier than seven years and no later than ten years from the date of publication of this plan. This full review will involve public input and result in the publication of a new management plan.

Appendix 1: Flora species list

Family	Species	Common name	Status ¹
BRYOPHYTES			
SPHAGNACEAE	<i>Sphagnum sp.</i>	peat moss	
MONOCOTS			
APIACEAE	<i>Apium prostratum</i>	creeping sea-celery	
APIACEAE	<i>Lilaeopsis polyantha</i>	jointed swampstalks	
PITTIOSPORACEAE	<i>Pittosporum bicolor</i>	cheesewood	
CHENOPODIACEAE	<i>Atriplex prostrata</i>	Austral seablight	i
CHENOPODIACEAE	<i>Chenopodium glaucum</i>	glaucous goosefoot	
EPACRIDACEAE	<i>Monotoca glauca</i>	goldey wood	
ERICACEAE	<i>Erica lusitanica</i>	Spanish heath	i
PRIMULACEAE	<i>Samolus repens</i>	creeping brookweed	
FABACEAE	<i>Acacia verticillata subsp. verticillata</i>	prickly moses	
FABACEAE	<i>Ulex europaeus</i>	gorse	i
SCROPHULARACEAE	<i>Mimulus repens</i>	creeping monkeyflower	
LAURACEAE	<i>Cassytha pubescens</i>	downy dodderlaurel	
LAURACEAE	<i>Laurus nobilis</i>	bay laurel	i
ELATINACEAE	<i>Elatine gratioloides</i>	waterwort	
THYMELAEACEAE	<i>Pimelea drupaceae</i>	cherry riceflower	
THYMELAEACEAE	<i>Pimelea nivea</i>	bushmans bootlace	
MYRTACEAE	<i>Eucalyptus globulus</i>	blue gum	
MYRTACEAE	<i>Eucalyptus ovata</i>	black gum	
MYRTACEAE	<i>Leptospermum lanigerum</i>	woolly teatree	
MYRTACEAE	<i>Leptospermum scoparium var. scoparium</i>	common teatree	
MYRTACEAE	<i>Melaleuca squarrosa</i>	scented paperbark	
RANUNCULACEAE	<i>Clematis aristata</i>	mountain clematis	
RHAMNACEAE	<i>Pomaderris apetala subsp. apetala</i>	common dogwood	
ROSACEAE	<i>Rosa rubiginosa</i>	sweet briar	
ROSACEAE	<i>Rubus sp. agg.</i>	blackberry	i
SANTALACEAE	<i>Exocarpos cupressiformis</i>	common native-cherry	
SOLANACEAE	<i>Solanum laciniatum</i>	kangaroo apple	
DICOTS			
AGAVACEAE	<i>Cordyline australis</i>	cabbage tree	i
AGAVACEAE	<i>Phormium tenax</i>	New Zealand flax	i
ASTERACEAE	<i>Leontodon taraxacoides</i>	lesser hawkbit	i
ASTERACEAE	<i>Olearia lirata</i>	forest daisybush	
ASTERACEAE	<i>Paquerina graminea</i>	grass daisy	
CAMPANULACEAE	<i>Lobelia anceps</i>	angled lobelia	
GOODENIACEAE	<i>Goodenia ovata</i>	hop native-primrose	
GOODENIACEAE	<i>Selliera radicans</i>	shiny swampmat	
LILIACEAE	<i>Dianella tasmanica</i>	forest flaxlily	
CYPERACEAE	<i>Carex appressa</i>	longleaf tall sedge	
CYPERACEAE	<i>Gahnia filum</i>	chaffy sawsedge	
CYPERACEAE	<i>Gahnia grandis</i>	cutting grass	
CYPERACEAE	<i>Gahnia trifida</i>	coast sawsedge	
CYPERACEAE	<i>Lepidosperma elatius</i>	tall sword-sedge	
CYPERACEAE	<i>Schoenus nitens</i>	shiny bogsedge	
JUNCACEAE	<i>Juncus astreptus</i>	southern rush	

¹ i = introduced

Family	Species	Common name	Status ¹
JUNCACEAE	<i>Juncus kraussii subsp. australiensis</i>	sea rush	
POACEAE	<i>Lachnagrostis avenacea</i>	common blown-grass	
POACEAE	<i>Notodanthonia semiannularis</i>	marsh wallaby grass	
POACEAE	<i>Phragmites australis</i>	southern reed	
POACEAE	<i>Poa sieberiana</i>	grey tussockgrass	
RESTIONACEAE	<i>Leptocarpus tenax</i>	seeded rush	
CONIFERS			
CUPRESSACEAE	<i>Cupressus sp.</i>	unidentified cypress	i
PTERIDOPHYTES			
DICKSONIACEAE	<i>Dicksonia antarctica</i>	tree fern	
DENNSTAEDTIACEAE	<i>Pteridium esculentum</i>	bracken	

Appendix 2: Fauna species list

Family	Species	Common name	Status ²
FISHES			
RETROPINNIDAE	<i>Prototroctes maraena</i>	Australian grayling	v, VU
AMPHIBIANS			
MYOBATRACHIDAE	Unidentified frog species		
MAMMALS			
MACROPODIDAE	<i>Macropus rufogriseus rufogriseus</i>	Bennett's wallaby	
MACROPODIDAE	<i>Thylogale billardieri</i>	pademelon	
PSEUDOCHEIRIDAE	<i>Pseudocheirus peregrinus</i>	ring-tailed possum	
BIRDS			
ACCIPITRIDAE	<i>Accipiter novaehollandiae</i>	grey goshawk	e
ACCIPITRIDAE	<i>Aquila audax subsp. audax</i>	wedge-tailed eagle	e, EN
ACCIPITRIDAE	<i>Circus approximans</i>	swamp harrier	
ACCIPITRIDAE	<i>Haliaeetus leucogaster</i>	white-bellied sea eagle	v
ANATIDAE	<i>Cygnus atratus</i>	black swan	
ANATIDAE	<i>Anas superciliosa</i>	Pacific black duck	
ARDEIDAE	<i>Botaurus poiciloptilus</i>	Australasian bittern	GE
CAMPEPHAGIDAE	<i>Coracina novaehollandiae</i>	black-faced cuckoo-shrike	
LARIDAE	<i>Larus novaehollandiae</i>	silver gull	
SCOLOPACIDAE	<i>Gallinago hardwickii</i>	Latham's snipe	JAMBA, ROKAMBA
MALURIDAE	<i>Malurus cyaneus</i>	superb fairy-wren	
MALURIDAE	<i>Stipiturus malachurus intermedius</i>	southern emu-wren	
MELIPHAGIDAE	<i>Phylidonyris pyrrhopterus</i>	crescent honeyeater	
PARDALOTIDAE	<i>Pardalotus striatus</i>	striated pardalote	
PHASIANIDAE	<i>Coturnix ypsilophora</i>	brown quail	
PLATYCERCIDAE	<i>Platycercus caledonicus</i>	green rosella	
PSITTASIDAE	<i>Lathamus discolor</i>	swift parrot	e, EN
REPTILES			
ELAPIDAE	<i>Notechis scutatus</i>	tiger snake	

² Tasmanian Threatened Species Act 2002 – r = rare, v = vulnerable, e = endangered; Commonwealth Environment Protection and Biodiversity Conservation Act 1999 – R = rare, VU = vulnerable, EN = endangered; JAMBA – Japan/Australia Migratory Bird Agreement; ROKAMBA – Republic of Korea/Australia Migratory Bird Agreement; GE = Globally Endangered – IUCN Red List.

Appendix 3: Egg Islands Weed Strategy

See attachment...