

# *JULIAN ROCKS NATURE RESERVE*

## **PLAN OF MANAGEMENT**



**NSW National Parks and Wildlife Service**

**Part of the Department of Environment, Climate Change  
and Water**

**January 2011**

## *IN MEMORY OF ELDER LINDA VIDLER*

The New South Wales National Parks and Wildlife Service (NPWS) would like to acknowledge the life and achievements of Elder Linda Vidler who passed away on 11 June 2009. Linda, a prominent Elder of the Bundjalung of Byron Bay (Arakwal) people was a strong, caring and visionary leader.

Linda, with her sisters, was instrumental in the negotiation of three Indigenous Land Use Agreements (ILUA) in 2000 and 2006 which resulted in the protection of significant areas of her Country and job opportunities for Aboriginal people in managing these areas with NPWS. Linda's hard work broke new ground in many areas. The first ILUA (2000) created the Arakwal National Park at Byron Bay which was the first time an ILUA had resulted in the creation and joint management of a national park in Australia.

Linda wished to share her knowledge of her Country and generously contributed to publications such as 'Place of Plenty', a guide to plant use by Aboriginal people of the Byron Bay area. Linda worked closely with NPWS over many years as a member of the Cape Byron Headland Reserve Trust and the Arakwal National Park Management Committee.

Linda fought for the recognition of the right of Aboriginal people to manage their Country and to continue their traditional association with Country and through this to be strong and proud of their culture. Part of her legacy is the ongoing and meaningful involvement of Bundjalung of Byron Bay (Arakwal) people in managing their Country and educating the broader community about how to care for Country and to use it appropriately so that it can be appreciated by future generations.

**This plan of management was adopted by the Minister for Climate Change and the Environment on 11<sup>th</sup> January 2011.**

## **Acknowledgments**

The NPWS acknowledges that this reserve is in the traditional country of the Bundjalung of Byron Bay (Arakwal) people.

This plan of management is based on a draft plan prepared by staff of the Byron Coast Area, Northern Rivers Region of the NSW National Parks and Wildlife Service (NPWS), part of the Department of Environment, Climate Change and Water. Valuable information and comments were provided by the Bundjalung of Byron Bay (Arakwal) people, Southern Cross University student Jane Saxton, who also prepared an early draft of the plan, and Rob Dalton of Byron Bay Dive Centre.

Anthony Muyt generously provided extensive information from his Southern Cross University study of shore and seabirds of Julian Rocks Nature Reserve. The native and pest plant and animal sections of the plan are primarily based on the outcomes of his study.

Cover photo: Aerial view of Julian Rocks Nature Reserve (Marine Parks Authority).

For additional information or any inquiries about this reserve or this plan of management, contact the NPWS Byron Coast Area Office, PO Box 127, Byron Bay 2481 or by telephone on (02) 6620 9300.

**© Department of Environment, Climate Change and Water (NSW) 2011:**  
Use permitted with appropriate acknowledgment.

ISBN 978 1 74293 086 2

DECCW 2011/0025

# *Jingi wahlu widtha.... Welcome to Country*

This plan talks about a special part of Bundjalung of Byron Bay (Arakwal) Country which is known as Julian Rocks Nature Reserve, situated within the NPWS Byron Coast Area and surrounded by the Cape Byron Marine Park. Julian Rocks, which we call Nguthungulli, is a highly significant dreaming place to Bundjalung people. An important action in this plan is to involve Aboriginal people in the management of the reserve.

*D. Nicholls*

Dulcie Nicholls  
Bundjalung of Byron Bay (Arakwal) Elder



*Y. Stewart*

Yvonne Stewart  
Bundjalung of Byron Bay (Arakwal) Member



## FOREWORD

Julian Rocks Nature Reserve is located two kilometres north-east of the township of Byron Bay on the far north coast of New South Wales. The reserve is 0.4 hectares in size and consists of a number of jagged rocky outcrops. It is surrounded by Cape Byron Marine Park.

Julian Rocks Nature Reserve was reserved because of its importance as a nesting place for seabirds. It also provides foraging habitat for turtles. The Julian Rocks are an important part of Country to the Bundjalung of Byron Bay (Arakwal) people and to other Bundjalung people and a significant and sacred Aboriginal site associated with a number of dreaming stories of the Bundjalung of Byron Bay (Arakwal) people and other Bundjalung people.

The New South Wales *National Parks and Wildlife Act 1974* requires that a plan of management be prepared for each nature reserve. A draft plan of management for Julian Rocks Nature Reserve was placed on public exhibition from 20<sup>th</sup> November 2009 until 29<sup>th</sup> March 2010. The submissions received were carefully considered before adopting this plan.

This plan contains a number of actions to achieve the State Plan priority to “Protect our native vegetation, biodiversity, land, rivers and coastal waterways”, including implementation of recovery actions for threatened species, implementation of pest management strategies where required, and implementation of the reserve’s fire management strategy. Joint management of the reserve with the Bundjalung of Byron Bay (Arakwal) people is also proposed.

This plan of management establishes the scheme of operations for Julian Rocks Nature Reserve. In accordance with section 73B of the *National Parks and Wildlife Act 1974*, this plan of management is hereby adopted.

A handwritten signature in black ink, appearing to read 'Frank Sartor', written in a cursive style.

**Frank Sartor MP**  
**Minister for Climate Change and the Environment**

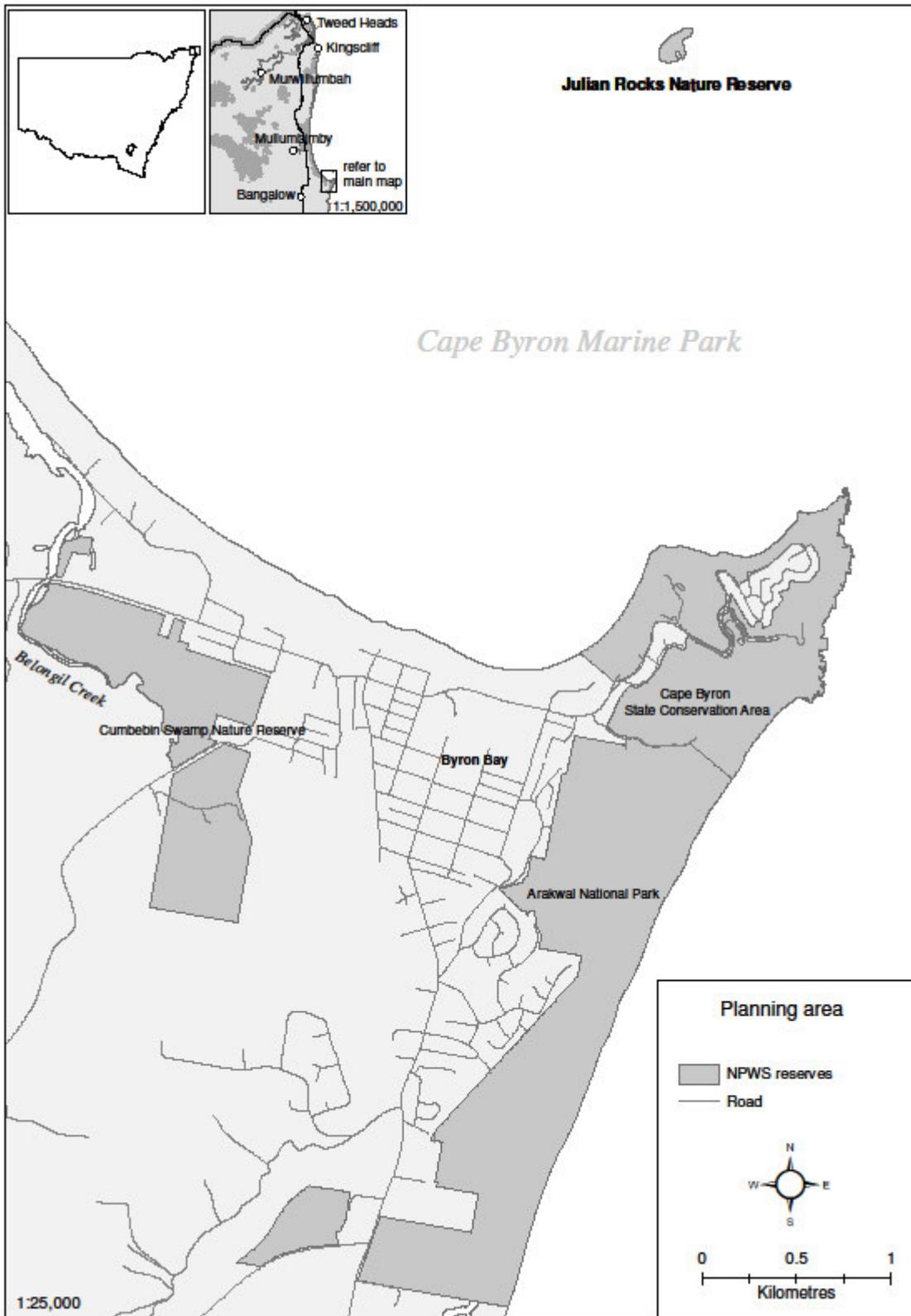


## CONTENTS

---

<b>1. JULIAN ROCKS NATURE RESERVE</b>	<b>1</b>
1.1 Location, Gazettal and Regional Context	1
1.2 Relationship to Country - Cultural landscape context of the Reserve	1
<b>2. LEGAL RULES</b>	<b>3</b>
2.1 Government laws and National Parks and Wildlife policies	3
2.2 Management Principles for Nature Reserves in NSW	3
<b>3. THE IMPORTANCE AND MANAGEMENT OF JULIAN ROCKS NATURE RESERVE</b>	<b>4</b>
3.1 Respecting Country - Key values associated with the Reserve	4
<b>4. LOOKING AFTER COUNTRY</b>	<b>5</b>
4.1 Joint Management by the Bundjalung of Byron Bay (Arakwal) People and the NPWS	5
4.2 The Story of Country that is now the Reserve	5
4.3 Native Plants and Animals	7
4.4 Pest Plants and Animals	10
4.5 Fire	10
4.6 Climate Change	11
<b>5. USING AND KNOWING ABOUT COUNTRY</b>	<b>12</b>
5.1 Keeping Connected with Country - Cultural Renewal	12
5.2 Managing Use of the Reserve	12
5.3 Talking about Country - Providing Information	13
5.4 Understanding Country - Research and Monitoring	14
<b>6. PLAN IMPLEMENTATION</b>	<b>15</b>
<b>7. REFERENCES</b>	<b>17</b>
<b>MAP 1 - JULIAN ROCKS NATURE RESERVE</b>	

# MAP 1: JULIAN ROCKS NATURE RESERVE.



# 1. JULIAN ROCKS NATURE RESERVE

## 1.1 Location, Gazettal and Regional Context

Julian Rocks Nature Reserve (hereafter referred to as 'the reserve') is located in the Tasman Sea approximately two kilometres north-east of the township of Byron Bay on the far north coast of New South Wales (NSW). The reserve consists of a number of jagged rocky outcrops ranging in height to approximately 15 metres above sea level. The reserve is 0.4 hectares and is reserved down to mean high water mark. The reserve was originally gazetted as a faunal reserve in 1961 under the *Fauna Protection Act 1948* because it is a nesting place for seabirds (Fauna Protection Panel meeting, 12/11/1959). It was later reclassified as a nature reserve under the *National Parks and Wildlife Act 1967*. The 1967 Act has since been replaced by the *National Parks and Wildlife Act 1974* (NPW Act).

The Bundjalung of Byron Bay (Arakwal) people and other Bundjalung people have a long and ongoing cultural association with the coastal landscape around Byron Bay, including the reserve. Research into the Bundjalung lands of south east Queensland date their occupation to at least 22,000 years ago (Neal & Stock 1986). The reserve is a highly significant dreaming place to Bundjalung people. One of the important stories of this place relates to Nguthungulli - Father of the World and this is the name given to Julian Rocks by the Bundjalung of Byron Bay (Arakwal) people (refer to *Section 4.2*).

Julian Rocks are readily visible from Cape Byron and from Main Beach, Byron Bay. They are composed of Brisbane Metamorphics which date from the Carboniferous-Devonian period 345-405 million years ago and are the most resistant rock type in the region.

The Cape Byron Marine Park surrounds the reserve. It extends seaward from the NSW coast for 3 nautical miles and is managed by the Marine Parks Authority (MPA) (refer to *Section 5.2*).

The reserve is adjacent to the Byron Shire local government area and the Northern Rivers Catchment Management Authority area.

## 1.2 Relationship to Country – Cultural landscape context of the Reserve

***“The Elders have instructed over the generations that Julian Rocks must be protected from any misuse or it will cause disruption and destruction to the environment.”***

Yvonne Stewart, Bundjalung of Byron Bay (Arakwal) Member

*The notion of Country to Aboriginal people*

To Aboriginal people, the landscape is made up of many features that are interrelated. These include the lands and waters, plants and animals, special places and stories, historical and current uses, and people and their interactions with each

other and place. These features are seen as inseparable and makeup what is known as Country to Aboriginal people. While these interrelationships are recognised, this plan addresses many of these topics individually for clarity and ease of use.

***“People talk about Country, speak and sing to Country, visit and worry about Country, feel sorry for Country, long for Country. People say Country knows best, hears, smells, takes notice, takes care, is sorry or happy. It is consciousness and a will towards life. Because of this richness, Country is love and peace, nourishment for body, mind and spirit.”***

Source: Interpretation Australia 2003

### *The Country of the Bundjalung of Byron Bay (Arakwal) People*

The Bundjalung of Byron Bay (Arakwal) people and other Bundjalung people have a long and ongoing cultural association with the coastal landscape around Byron Bay. The Bundjalung of Byron Bay (Arakwal) people lodged a Native Title Application in 1994 (NC95/1 - Byron Bay Bundjalung People) over the land and adjoining waters extending from the Brunswick River to the north, past Julian Rocks to the east, Broken Head to the south and around the hinterland areas of Mullumbimby, Coorabell and Bangalow to the west.

A series of Indigenous Land Use Agreements (ILUAs) registered under the *Commonwealth Native Title Act 1993* have been made between the State government and the native title claimants. These ILUAs acknowledge that the Bundjalung People of Byron Bay are descendants of indigenous people who lived and/or held Native Title in the area at the time of first contact by European settlers in the 1820s-30s and have a strong cultural association with the area.

The reserve is an important part of Country to the Bundjalung of Byron Bay (Arakwal) people and to other Bundjalung people as it is a significant dreaming site associated with a number of dreaming stories, including a story about Nguthungulli - Father of the World.

Boundaries such as those between the Cape Byron Marine Park and the Julian Rocks Nature Reserve are artificial concepts to the Bundjalung of Byron Bay (Arakwal) people. The NPWS, MPA and the Bundjalung of Byron Bay (Arakwal) people endeavour to ensure these protected areas are managed in a way that recognises that they are all part of Country.

## 2. LEGAL RULES

### 2.1 *Government laws and National Parks and Wildlife policies*

The management of nature reserves in NSW is in the context of the legislative and policy framework, primarily the NPW Act, the National Parks and Wildlife Regulation, the *Threatened Species Conservation Act 1995* (TSC Act) and the policies of the NPWS.

Other legislation and international agreements also apply to management of the area. In particular, the *Environmental Planning and Assessment Act 1979* (EPA Act) may require the assessment and mitigation of the environmental impacts of any works proposed in this plan. The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) also applies in relation to actions that may impact on threatened and migratory species listed under that Act.

A plan of management is a statutory document under the NPW Act. Once the Minister has adopted a plan, no operations may be undertaken within Julian Rocks Nature Reserve except in accordance with this plan. This plan will also apply to any future additions to the reserve. Should management strategies or works be proposed for the reserve or any additions that are not consistent with the plan, an amendment to the plan or a new plan will be prepared and exhibited for public comment.

### 2.2 *Management Principles for Nature Reserves in NSW*

Nature reserves are reserved under the NPW Act to protect and conserve areas containing outstanding, unique or representative ecosystems, species, communities or natural phenomena.

Under the Act (section 30J), nature reserves are managed to:

- conserve biodiversity, maintain ecosystem functions, and protect geological and geomorphological features and natural phenomena;
- conserve places, objects, features and landscapes of cultural value;
- promote public appreciation, enjoyment and understanding of the reserve's natural and cultural values; and
- provide for appropriate research and monitoring.

Nature reserves differ from national parks in that they do not have the provision of recreation as a management principle.

## 3. THE IMPORTANCE AND MANAGEMENT OF JULIAN ROCKS NATURE RESERVE

### 3.1 *Respecting Country*- Key values associated with the Reserve

The reserve has many values that are important to the Bundjalung of Byron Bay (Arakwal) people and the wider community, including:

#### **Values associated with ‘looking after Country’ – reserve conservation and management**

- Management of the reserve will recognise the rights and responsibilities of the Bundjalung of Byron Bay (Arakwal) people and their long and ongoing traditional association with the landscape that includes the reserve.
- The reserve protects a special part of Country and allows for the Bundjalung of Byron Bay (Arakwal) people and other Bundjalung people to continue their connection to Country through their cultural aspirations and obligations.
- The reserve protects cultural heritage values including sacred sites, special places and cultural stories of the Bundjalung of Byron Bay (Arakwal) people and other Bundjalung people.
- The reserve is a refuge that protects the nesting and roosting habitat of migratory and threatened birds and the foraging habitat of threatened turtles.

#### **Values associated with ‘using and knowing about Country’ – information, research and monitoring**

- Opportunities for visitors and the wider Byron Bay community to understand and respect the culture and heritage of the Bundjalung people, and the importance of this special dreaming place, will be provided off-site.
- Environmental education opportunities relating to coastal processes and the management of threatened and migratory species associated with the reserve will be provided off-site.
- Opportunities will be provided for appropriate scientific research and monitoring.

## 4. LOOKING AFTER COUNTRY

### 4.1 Joint Management by the Bundjalung of Byron Bay (Arakwal) people and the NPWS

***“Joint management ensures that our people have a say in the management of the land. Everyone at a meeting sits here at the same level. It’s a two way process.”***

Yvonne Stewart, Bundjalung of Byron Bay (Arakwal) Member

An important part of Aboriginal culture is looking after and caring for Country. The Bundjalung of Byron Bay (Arakwal) people are recognised as the descendants of indigenous people who lived and/or held Native Title over Country that includes the reserve at the time of first contact by European settlers and have a strong cultural association with Country.

The right of Bundjalung of Byron Bay (Arakwal) people to be involved in the management and protection of their Country and heritage is acknowledged. The Bundjalung of Byron Bay (Arakwal) people wish to exercise this responsibility in partnership with the NPWS under joint management arrangements for the reserve.

#### Management Response

4.1.1 The NPWS will seek formal joint management of the reserve with the Bundjalung of Byron Bay (Arakwal) people through the establishment of a joint management committee which will provide advice on management of the reserve.

### 4.2 The Story of Country that is now the Reserve

#### *A living ancestry and culture*

The Bundjalung of Byron Bay (Arakwal) people are part of the Bundjalung Nation. Their history in the area predates the arrival of non-Aboriginal people. Their ancestors, Bobby and Alice, Harry and Clara Bray, and Linda and Jimmy Kay lived and raised families in and around the Byron Bay area. The landscape that includes the reserve is an important part of this history.

The Julian Rocks are a significant and sacred Aboriginal site to the Bundjalung of Byron Bay (Arakwal) people and are known by them as Nguthungulli. Many tribes across the Bundjalung Nation have an affiliation and connection to Julian Rocks and a number of stories are told about this place.

There are various stories amongst the Bundjalung people such as the two lovers story in which two lovers from the hills ran away together from their tribal obligations and in punishment for doing this their canoe was speared from the shore and a curse was put on them turning them into rock as a warning to others not to break tribal law (Stewart, Y 2007, pers. comm.).

One of the stories for the Byron Bay region is that Nguthungulli is the Father of the World, a creation being of great importance who after creating all the land and the waters, the animals and plants now rests in a cave at Julian Rocks. The Elders have instructed over the generations that Julian Rocks must be protected from any misuse or it will cause disruption and destruction to the environment. Bundjalung of Byron Bay (Arakwal) people used to walk to the rocks to undertake ceremonies when the water levels were lower, 7000 years ago (Stewart, Y 2007, pers. comm.).

Another story which includes Julian Rocks is of the seven sisters dreaming tracks that start from the east coast between Tweed and Evans Head. An old warrior desired one of the seven sisters. The sisters ran away from him and he kept pursuing them taking him west across Bundjalung country into the Northern Territory and down into South Australia where the women of South Australia sheltered them (Stewart, Y 2007, pers. comm.).

The waters surrounding the reserve and the land along the coast at Byron Bay provided resources to the Bundjalung people of the coast and the hinterland. In more recent times Bundjalung of Byron Bay Elders Harry Bray and Jimmy Kay, and uncles would go canoeing out to the rock to fish (Stewart, Y 2007, pers. comm.).

The reserve is recorded as an Aboriginal ceremony/dreaming place. Aboriginal objects in the reserve, as elsewhere, are protected under the NPW Act.

Aboriginal heritage and connection to nature are inseparable from each other and need to be managed in an integrated manner across the landscape. Aboriginal communities associate natural resources with the use and enjoyment of foods and medicines, caring for the land, passing on cultural knowledge, kinship systems and strengthening social bonds.

Despite the changing natural, socio-economic and political environment brought about since European settlement of the area, the Bundjalung of Byron Bay (Arakwal) people have maintained their links with Country that includes the reserve. It is important to the Bundjalung of Byron Bay (Arakwal) people that their cultural traditions and associations are maintained. Maintenance of cultural traditions and associations contributes to identity and well-being and shows respect to their ancestors.

To enhance recognition of the significant Aboriginal cultural heritage values of the reserve it would be appropriate to investigate formal renaming of the reserve to include an appropriate Aboriginal name.

## *Story of land use*

Captain James Cook arrived at the area now known as Cape Byron in 1770. He noted Julian Rocks but did not name them. The rocks are referred to as the Juan and Julia Rocks in Staff Commander Howard's 1883 survey report of 'Cape Byron Bay' and in his sketch of Byron Bay. The origin of this name is unknown. In 1971 the name Julian Rocks was officially assigned and gazetted by the Geographical Names Board and is in common usage today.

Use of Julian Rocks following European settlement of the surrounding area in the nineteenth century has not been documented and it is unlikely there was any significant use as it offers few resources. Local non-indigenous families have historical links to Julian Rocks as a place that was used to collect food, fish and recreate. The only built structure on the reserve is a trigonometrical station managed by the Land and Property Management Authority which is located on the reserve's highest point (refer to *Section 5.2*).

The Cape Byron Marine Park surrounds the reserve and was declared in 2002. A sanctuary zone surrounding the reserve within the marine park was declared in 2006.

***The reserve will be managed to protect Aboriginal cultural values.***

***Aboriginal knowledge, insights, values and involvement will be incorporated in efforts to conserve and protect the reserve's cultural and biodiversity values.***

## *Management Response*

- 4.2.1 Seek formal renaming of the reserve in accordance with NPWS policy and in consultation with relevant Aboriginal people and the Geographical Names Board.
- 4.2.2 Maintain records of the location of any cultural material in the reserve.
- 4.2.3 Maintain records of historical information provided by the community relevant to Julian Rocks.

## ***4.3 Native Plants and Animals***

### *Native animals*

The reserve is an important roost and nesting site for shore and seabirds, including migratory and threatened species. Four bird species listed as vulnerable under the TSC Act have been observed on the reserve:

- sooty oystercatchers (*Haematopus fuliginosus*) successfully breed in the reserve (spring - summer) and forage in the inter-tidal zone;
- sooty terns (*Sterna fuscata*) perch in the reserve;
- ospreys (*Pandion haliaetus*) perch and forage in the reserve; and

- grey ternlets (*Procelsterna cerulea*) have been recorded as vagrant visitors to the reserve.

Table 1 lists species recorded on or in close proximity to the reserve that are protected under the EPBC Act as being of national environmental significance and under a range of international migratory bird agreements: the *China - Australia Migratory Bird Agreement* (CAMBA), *Japan - Australia Migratory Bird Agreement* (JAMBA) and the *Republic of Korea - Australia Migratory Bird Agreement* (ROKAMBA).

Table 1 Birds listed under migratory bird agreements and their use of the reserve.

Species	Behaviour	Migratory Bird Agreement
ruddy turnstone <i>Arenaria interpres</i>	perching, roosting, foraging <sup>1</sup>	CAMBA, JAMBA, ROKAMBA
brown booby <i>Sula leucogaster</i>	perching, roosting	CAMBA, JAMBA, ROKAMBA
wandering tattler <i>Tringa incana</i>	foraging <sup>1</sup>	CAMBA, JAMBA
black-naped tern <i>Sterna sumatrana</i>	perching, foraging <sup>2</sup>	CAMBA, JAMBA
eastern reef egret <i>Ardea sacra</i>	nesting, roosting, breeding, perching	CAMBA
common noddy <i>Anous stolidus</i>	perching	CAMBA, JAMBA
white-bellied sea eagle <i>Haliaeetus leucogaster</i>	foraging on chicks on the reserve	CAMBA
crested tern <i>Sterna bergii</i>	nesting, breeding, perching, foraging <sup>2</sup>	JAMBA
shearwater <i>Puffinus sp.</i>	flying within 300m	JAMBA

Notes: <sup>1</sup> in the inter-tidal zone, <sup>2</sup> in surrounding waters.

Source: Muyt 2009, Dalton, R 2009, pers. comm.

Silver gulls (*Larus novaehollandiae*) breed on the reserve March - September, and compete with threatened sooty oystercatchers for suitable nesting sites. Crested terns (*Sterna bergii*) were recorded breeding in large numbers on the reserve in the early 1970s (Lane 1976) and still breed on the reserve, although in smaller numbers.

The pied cormorant (*Phalacrocorax varius*) and little black cormorant (*Phalacrocorax sulcirostris*) have also been observed on the reserve. Bird species observed within 300 metres of the island include the australasian gannet (*Morus serrator*), peregrine falcon (*Falco peregrinus*) and the brahmyn kite (*Milvus indus*).

A peregrine falcon has been observed on the reserve intermittently since 2006 (Dalton, R 2009, pers. comm.). The peregrine falcon is particularly vulnerable to impact from human activities as it is a relatively long-lived top order predator with a low reproductive rate and low population density.

Three species of turtle listed under the EPBC Act have been recorded in the waters around the reserve and forage in the inter-tidal zone: vulnerable green turtle (*Chelonia mydas*), vulnerable hawksbill turtle (*Eretmochelys imbricata*) and the endangered loggerhead turtle (*Caretta caretta*). Green and hawksbill turtles have been observed foraging in the inter-tidal zone during high tide. Green and loggerhead turtles are listed as vulnerable and endangered, respectively, under the TSC Act.

The inter-tidal zone is important to the survival of many species. A range of invertebrate fauna live on rocks in the inter-tidal zone, including crabs and cunjevoi, which provide a food source for turtles and some bird species.

Under the EPBC Act and TSC Act recovery plans may be prepared to identify recovery actions and priorities for threatened species. Additionally, for species listed under the TSC Act, a Priorities Action Statement (PAS) must be prepared outlining broad strategies and detailed priority actions to promote the recovery of threatened species and to manage key threatening processes in NSW.

Priority Actions have been developed under the TSC Act for the following threatened species recorded on the reserve: sooty oystercatcher, sooty tern, osprey and grey ternlet. A Commonwealth recovery plan for the six species of marine turtles found in Australian waters was released in 2003. The Commonwealth's marine turtle recovery plan and the PAS will be used to guide management of threatened species on the reserve and of threatened turtles which occur in surrounding waters.

### *Native plants*

There has been no formal vegetation survey of the reserve, however, a species list has been prepared. A mix of introduced and native plants provides good vegetation cover on the western side of the reserve. The remainder of the reserve, particularly the more exposed parts, are generally rocky and devoid of native vegetation, other than patches of saltwater couch (*Sporobolus virginicus*), pigweed (*Portulaca oleracea*) and a small area of fern (*Asplenium difforme*). Couch, pigweed and the non-native crowfoot grass (*Eleusine indica*), are the dominant species and are equally abundant on the reserve. Prickly couch (*Zoysia macrantha*) was also recorded on the reserve in the early 1970s. No rare or threatened plants have been observed, however, the fern is regarded as uncommon.

***The reserve will be managed to protect native plants and animals and to conserve their habitats (refer to Sections 4.4 and 4.5).***

***Unauthorised access to the reserve will be prohibited to protect roosting and nesting sites for shore and seabirds, including migratory and threatened species (refer to Section 5.2).***

### Management Response

4.3.1 Investigate opportunities to include the inter-tidal zone to mean low water mark in the reserve to protect the foraging habitat of marine turtles.

4.3.2 Implement relevant strategies in recovery plans and Priorities Action Statements for threatened species.

#### ***4.4 Pest Plants and Animals***

##### *Introduced plants*

Three weed species have been identified on the reserve: crowfoot grass, blackberry nightshade (*Solanum nigrum*) and common sowthistle (*Sonchus oleraceus*). Crowfoot grass is the most common non-native plant on the reserve. It is used by birds for nesting and acts as a soil stabiliser. Common sowthistle appears to be spreading, however, it is unknown whether this will have any detrimental effect on the birdlife of the reserve.

##### *Introduced animals*

No introduced vertebrate pests or evidence of their occurrence has been observed by NPWS in the reserve. Although not known to occur in the reserve, rats are the most likely introduced animal to be present on the reserve based on information on other offshore islands. Rats may impact on the success of breeding shorebirds.

***Pest plant and animals will be managed to minimise impacts on native species.***

##### *Management Response*

4.4.1 Monitor pest plants and animals in the reserve and implement control strategies where required.

#### ***4.5 Fire***

The primary fire management objectives of the NPWS are to protect life and property and community assets from the adverse impacts of fire, while managing fire regimes to maintain and protect cultural heritage and biodiversity.

Fire is a natural feature of many environments and is essential for the survival of some plant communities. However, inappropriate fire regimes can lead to loss of particular plant and animal species and communities, and high frequency fires have been listed as a key threatening process under the TSC Act.

The reserve has been assessed for fire management planning purposes and a Reserve Fire Management Strategy was prepared and adopted in 2006. The reserve is designated as a Land Management Zone (LMZ) in the strategy. This zoning acknowledges that the reserve is not exposed to a high level of bushfire risk, does not have a history of bushfire ignitions and does not have areas of high bushfire risk potential.

The primary fire management objectives for the LMZ are to protect culturally significant sites and to maintain all plant and animal species that naturally occur within the reserve. A key strategy to exclude accidental fires or arson is to exclude unauthorised access to the reserve (refer to *Section 5.2*).

***Fire will as far as possible be excluded from the reserve to protect cultural and biodiversity values.***

#### Management Response

4.5.1 Implement the reserve's fire management strategy.

### ***4.6 Climate Change***

Climate change has been listed as a key threatening process under the TSC Act. Projections of future changes in climate for NSW include higher temperatures, increasing sea levels and water temperatures, elevated CO<sub>2</sub>, more intense but possibly reduced annual average rainfall, increased temperature extremes and higher evaporation. These changes are likely to lead to greater intensity, duration and frequency of fires, more severe droughts and increased regional flooding.

Climate change may significantly affect biodiversity by changing population size and distribution of species, modifying species composition, and altering the geographical extent of habitats and ecosystems. Species most at risk are those unable to migrate or adapt, particularly those with small population sizes or with slow growth rates. The potential impact of climate change is difficult to assess since it depends on the compounding effects of other pressures, particularly barriers to migration and pressure from weeds and feral animals. Programs to reduce pressures arising from such threats will help reduce the severity of the effects of climate change.

Sea level rise and more frequent storms are likely to directly impact on birds using the reserve, by reducing available habitat and interfering with nesting and breeding. The adopted sea level benchmarks for NSW are for a rise relative to 1990 mean levels of 40 centimetres by 2050 and 90 centimetres by 2100 (DECC 2009).

***Management of the reserve will aim to improve the ecological resilience of native plants and animals to climate change by controlling pest species, excluding fire and excluding unauthorised access (refer to Sections 4.4, 4.5 and 5.2)***

***New information on the effects of climate change on reserve values will be incorporated into reserve management programs as it becomes available.***

## 5. USING AND KNOWING ABOUT COUNTRY

### 5.1 Keeping connected with Country- Cultural Renewal

Aboriginal people have adapted and sustained their cultural identity despite the impacts brought about by European settlement. The links Aboriginal people maintain with Country continue to be expressed through stories, descent, occupation and use. Aboriginal people maintain their cultural identity and links with Country through cultural learning passed on by Elders to the following generations.

Although the difficulty of accessing the reserve may limit opportunities for cultural use (compared to nearby Country such as Arakwal National Park), the NPWS recognises that Bundjalung of Byron Bay (Arakwal) people and other Bundjalung people may want to undertake cultural activities in the reserve and that these are important to transfer knowledge and to maintain, renew or repair cultural associations with Country.

***Cultural activities may be undertaken as long as they do not threaten natural values and are in accordance with a NPWS consent (and relevant conditions).***

### 5.2 Managing Use of the Reserve

Visitor use of the reserve is minimal because its exposed, jagged, rocky nature combined with frequently rough sea conditions does not allow easy access. Visitor use of the reserve has not been promoted as a strategy to protect the nesting and roosting habitat of migratory and threatened birds and the foraging habitat of threatened turtles. The reserve also protects cultural heritage sites including sacred sites and special places of the Bundjalung of Byron Bay (Arakwal) people and other Bundjalung people which could be impacted by visitor use. It is therefore considered that recreation activities are not an appropriate use of the reserve and that the provision of information about the reserve should occur off-site (refer to *Section 5.3*).

The only structure on the reserve is a trigonometrical station managed by the Land and Property Management Authority which is located on the reserve's highest point. NPWS policy on surveying activities and trigonometric stations includes a requirement that an appropriate level of environmental impact assessment is undertaken for vegetation clearing and other works associated with surveying activities within the NPWS estate.

While use of the reserve is minimal, the waters surrounding the reserve in the Cape Byron Marine Park are used extensively for recreational diving and snorkelling. The NPWS and MPA aim to ensure that management of the reserve and the marine park are compatible. Use of the waters surrounding Julian Rocks is regulated through its zoning as a Sanctuary Zone. The Sanctuary Zone provides the highest level of protection to habitat, animals, plants and areas of cultural significance. Recreational and commercial fishing, collecting and anchoring on reefs is prohibited. Seven

moorings have been provided near Julian Rocks that may be used by vessels but anchoring is not permitted within 700 metres of the Julian Rocks trigonometrical station.

***Recreation use (including commercial use) of the reserve will be prohibited due to safety issues and to protect the nesting and roosting habitat of migratory and threatened birds and the foraging habitat of threatened turtles. Access to the reserve will be allowed in emergency situations to preserve life or property.***

### Management Response

- 5.2.1 Erect regulatory signage at The Pass identifying the location of the reserve and advising that recreational use of the reserve is not permitted. Liaise with Byron Shire Council, as trust manager of the Brunswick Heads boat ramp, regarding the erection of signage at the boat ramp.
- 5.2.2 Liaise with the Marine Parks Authority about a cooperative approach to enforcement of visitor access restrictions.
- 5.2.3 Consult with the Land and Property Management Authority about ongoing maintenance of the trigonometrical station. Any access for maintenance or repair works will be undertaken in accordance with NPWS policy.

### ***5.3 Talking about Country- Providing Information***

Public understanding and appreciation of the reserve's cultural heritage and biodiversity values will be undertaken through off-site information programs because of access difficulties and the sensitivity of the reserve.

The nearby Cape Byron Headland Reserve in Cape Byron State Conservation Area and the proposed Arakwal Cultural Centre at Byron Bay are ideally located to provide information on the reserve's significant Aboriginal cultural values as well as its biodiversity values. The Cultural Centre is planned to include displays, areas for cultural talks and visitor information. The Cape Byron headland, within the Cape Byron State Conservation Area, is a significant Aboriginal dreaming site known as Walgun. Cape Byron Trust education programs and other information programs currently operate from this location. The headland is a vantage point from which a number of significant and connected dreaming sites in the broader Bundjalung cultural landscape can be seen, including Julian Rocks, Wollumbin (Mt Warning) and the Three Sisters (Cocked Hat) Rocks at Broken Head.

***Community understanding of the reserve's significant Aboriginal cultural and biodiversity values will be developed through off-site information programs.***

### Management Response

- 5.3.1 Consult and involve the Bundjalung of Byron Bay (Arakwal) people in the development and delivery of information programs on the reserve's Aboriginal cultural and biodiversity values.

### ***5.4 Understanding Country - Research and Monitoring***

The Bundjalung of Byron Bay (Arakwal) people have a broad knowledge of Country as told by the Elders through oral history. The NPWS respects this intellectual property and wishes to add to this body of knowledge. Research is an important part of 'Looking After Country' (refer to *Section 4*) and 'Using and Knowing about Country' as it ensures reserve values are clearly identified and managed as well as possible. Research and monitoring assists in assessing the success of the reserve management programs and may trigger specific management actions (refer to *Section 4.4*). In particular, monitoring of plant and animal communities, species and habitats is important to identify changes in their distribution and abundance due to human impacts and the impacts of introduced species, management activities, climate change and responses to natural phenomenon.

A study of the reserve's seabirds and shorebirds which included an inventory of the reserve's flora was undertaken 2004-2008 by Anthony Muyt from Southern Cross University. No other research is known to have been undertaken on the reserve although the surrounding Cape Byron Marine Park has been the focus of research by the University of Queensland, Southern Cross University and others.

The purpose of individual research and monitoring proposals needs to be carefully balanced with the potential for research and monitoring activities to cause erosion and disturb nesting and roosting birds, including threatened and migratory species.

***Proposals for research will be permitted that enhance management of the reserve and have minimal impact on birds nesting and roosting on the reserve and on turtles utilising the inter-tidal zone.***

***Proposals for research and monitoring programs in the reserve will be subject to NPWS licensing/consent requirements.***

### Management Response

- 5.4.1 Encourage research into the Aboriginal cultural heritage values of the reserve (refer to *Section 4.2*).
- 5.4.2 Encourage research and monitoring which assists management of the reserve, such as into threatened and migratory bird species, native vegetation, and pest species and their impact on native species (refer to *Sections 4.3 and 4.4*).

## 6. PLAN IMPLEMENTATION

Section Number	Management Response	Priority
4.1	<b>Joint Management by the Bundjalung of Byron Bay (Arakwal) people and the NPWS</b>	
4.1.1	The NPWS will seek formal joint management of the reserve with the Bundjalung of Byron Bay (Arakwal) people through the establishment of a joint management committee which will provide advice on management of the reserve.	High
4.2	<b>The Story of Country that is now the Reserve</b>	
4.2.1	Seek formal renaming of the reserve as Julian Rocks Nguthungulli Nature Reserve in accordance with NPWS policy and in consultation with the Bundjalung of Byron Bay (Arakwal) people and the Geographical Names Board.	High
4.2.2	Maintain records of the location of any cultural material in the reserve.	High
4.2.3	Maintain records of historical information provided by the community relevant to Julian Rocks.	Medium
4.3	<b>Native Plants and Animals</b>	
4.3.1	Investigate opportunities to include the inter-tidal zone to mean low water mark in the reserve to protect the foraging habitat of marine turtles.	High
4.3.2	Implement relevant strategies in recovery plans and Priorities Action Statements for threatened species.	Medium
4.4	<b>Pest Plants and Animals</b>	
4.4.1	Monitor pest plants and animals in the reserve and implement control strategies where required.	Medium
4.5	<b>Fire</b>	
4.5.1	Implement the reserve's fire management strategy.	Low

Section Number	Management Response	Priority
<b>5.2</b>	<b>Managing Use of the Reserve</b>	
5.2.1	Erect regulatory signage at The Pass identifying the location of the reserve and advising that recreational use of the reserve is not permitted. Liaise with Byron Shire Council, as trust manager of the Brunswick Heads boat ramp, regarding the erection of signage at the boat ramp.	Medium
5.2.2	Liaise with the Marine Parks Authority about a cooperative approach to enforcement of visitor access restrictions.	Medium
5.2.3	Consult with the Land and Property Management Authority about ongoing maintenance of the trigonometrical station. Any access for maintenance or repair works will be undertaken in accordance with NPWS policy.	Medium
<b>5.3</b>	<b>Talking about Country – Providing Information</b>	
5.3.1	Consult and involve the Bundjalung of Byron Bay (Arakwal) people in the development and delivery of information programs on the reserve’s Aboriginal cultural and biodiversity values.	Medium
<b>5.4</b>	<b>Understanding Country – Research and Monitoring</b>	
5.4.1	Encourage research into the Aboriginal cultural heritage values of the reserve ( <i>refer to Section 4.2</i> ).	Medium
5.4.2	Encourage research and monitoring which assists management of the reserve, such as into threatened and migratory bird species, native vegetation, and pest species ( <i>refer to Section 4.2 and 4.3</i> ).	Medium

**High** priority activities are those imperative to achievement of the objectives and desired outcomes. They must be undertaken in the near future to avoid significant deterioration in natural, cultural or management resources.

**Medium** priority activities are those that are necessary to achieve the objectives and desired outcomes but are not urgent.

**Low** priority activities are desirable to achieve management objectives and desired outcomes but can wait until resources become available.

## 7. REFERENCES

---

Department of Environment and Climate Change (2009) *Draft Sea Level Rise Policy Statement*, Department of Environment and Climate Change, Sydney South.

Howard, F (1884) 'Cape Byron Bay – Report of Staff Commander Howard' in *Votes and Proceedings of the New South Wales Legislative Assembly*, Volume 2.

Interpretation Australia Association (2003) '*The IAA Charter of Best Practice for Interpreting Aboriginal Culture and Country*' IAA Guidelines, 22 September 2003.

Lane, SG (1976) 'Seabird Islands - Juan and Julia Rocks, New South Wales', *Australian Bird Bander*, vol. 14, no.1, pp. 8-9.

Muyt, A (2009) *An Ecological Study of the Shorebirds and Seabirds of Julian Rocks (Nguthingulli Place) Nature Reserve, Byron Bay, NSW*, 3<sup>rd</sup> Year Integrated Project Report, School of Environmental Science and Management, Southern Cross University, Lismore, NSW.

Neal, R & Stock, E (1986) 'Pleistocene occupation in the southeast Queensland coastal region', *Nature*, no. 323, pp. 618-621.





