

Sir Edward Pellew Island group

Location and Description

The Sir Edward Pellew Group of Islands is unusual in northern Australia in that it lies at the mouth of a major tropical river system (the McArthur River). The island group is located in the Gulf of Carpentaria about 60 km north-east of Borroloola and comprises five large islands - the largest of which is Vanderlin Island - and more than fifty small sandy islets, reefs and rocks. The islands contain a wide range of habitats including vine thickets, open forests and woodlands, sandstone heaths, mudflats, mangroves, and sand dunes.

Tenure and Land Use

The Pellew Island group is predominantly Aboriginal freehold land held by the Wurralibi Aboriginal Land Trust. South West Island and Centre Island are vacant Crown land. The main land use within the Site is Indigenous. Approximately 8% of the terrestrial area of this Site is managed as a conservation reserve (Barranyi National Park) and is used for conservation and recreation. Commercial fisheries also occur within the Site.

Significance Rating

International Significance

Ecological Values

The Pellew Islands have outstanding conservation values, including internationally significant sites for nesting marine turtles and colonial seabirds. Marine turtles frequent the waters around the islands, and some of the islands support high density nesting of Green and Flatback Turtles. Large numbers of seabirds aggregate to nest on islets and small islands, including more than 1% of the world population of Crested and Roseate Tern. The islands support an unusual mix of mammal species, five of which are listed as threatened (Brush-tailed Rabbit-rat, Northern Brush-tailed Phascogale, Northern Quoll, Carpentarian Antechinus), including the only Northern Territory location of the Canefield Rat. The Pellew group also provides important habitat for other rare or uncommon species and serves as an important refuge area for species threatened on the mainland.

Management Issues

Feral cat and dog are likely to be having negative impacts on small mammal populations and marine turtle nesting on some islands. Feral pig, horse, donkey and goat also occur on some islands and are causing damage to native vegetation. Cane Toads have been on all the major islands since being carried there in floodwaters in 2002.



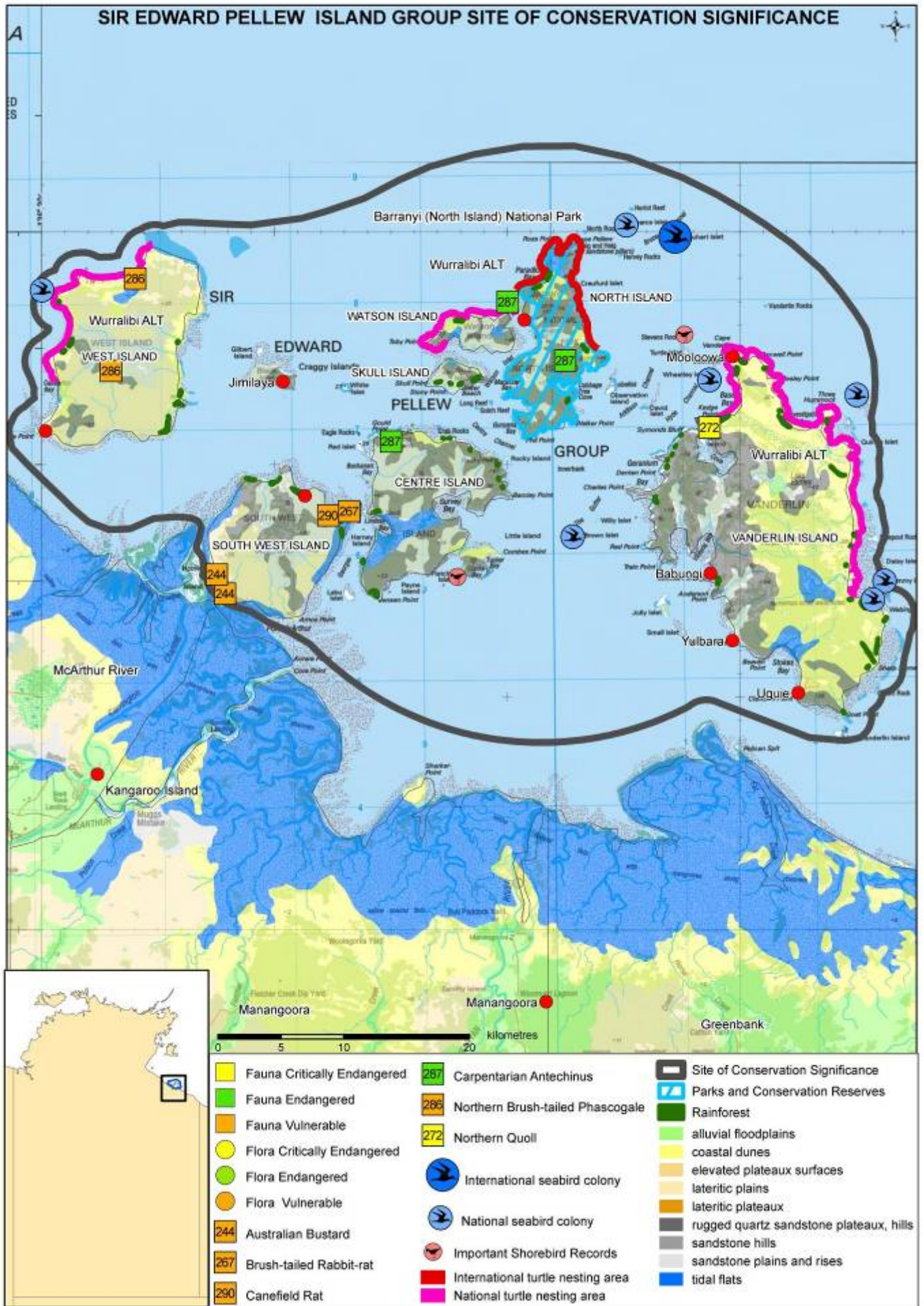
There is potential for downstream impacts from development associated with the McArthur River Mine, which could affect the Site.

Condition

All islands except Vanderlin have never been subject to pastoral activities. There is a low density of weeds on most islands, and only 2% of the known flora consists of introduced species.

Current Conservation Initiatives

A plan of management has been developed for Barranyi (North Island) National Park which identifies park values and management priorities. Indigenous rangers based in Borroloola have embarked on a program to eradicate Goats and Cats from West Island and possibly other islands in the group, and participate in turtle and dugong research and regular surveys of marine debris.



SIR EDWARD PELLEW ISLAND GROUP - SITE OF CONSERVATION SIGNIFICANCE

LOCATION	SOCS Number	33 (NT Parks and Conservation Masterplan Map Number 34)
	Latitude/Longitude	15° 40' South, 136° 49' East (at centre)
	Bioregion	Gulf Coastal
	Description	This site comprises five large islands (Vanderlin, South West, North, West and Centre Islands), and more than 50 small sandy islets, reefs and rocks. The terrestrial area of the islands within the site is 661 km ² and this is dominated by rugged sandstone plateau and hills (214 km ²) and coastal dunes (181 km ²). The McArthur River coastal floodplain on the adjacent mainland is also recognised as a site of high conservation significance in the NT.
THREATENED SPECIES	Significance Rating	National Significance
	Threatened plants and animals (Listings at National/NT level CR - Critically Endangered, EN - Endangered, VU - Vulnerable, NT - Near Threatened, LC - Least Concern, DD - Data Deficient)	Nine threatened species are reported from this site. Vertebrates <ul style="list-style-type: none"> ▪ Australian Bustard <i>Ardeotis australis</i> (-/VU) ▪ Brush-tailed Rabbit-rat <i>Conilurus penicillatus</i> (-/VU) ▪ Canefield Rat <i>Rattus sordidus</i> (-/VU) ▪ Carpentarian Antechinus <i>Pseudantechinus mimulus</i> (VU/EN) ▪ Northern Brush-tail Phascogale <i>Phascogale pirata</i> (-/VU) ▪ Northern Quoll <i>Dasyurus hallucatus</i> (EN/CR) ▪ Flatback Turtle <i>Natator depressus</i> (VU/DD) ▪ Green Turtle <i>Chelonia mydas</i> (VU/LC) ▪ Leatherback Turtle <i>Dermochelys coriacea</i> (VU/VU). <p>All recent records of Carpentarian Antechinus in the NT come from four of the large islands, and the only record for the Canefield Rat in the NT is from South West Island in 1988. Northern Phascogale were recorded on West Is. in 1988 and Brush-tailed Rabbit-rat on Centre Is. in 1967 – for both species the closest mainland records are from Arnhem Land.</p> <p>Northern Quolls persist on Vanderlin Island, although numbers have dropped since the arrival of cane toads in 2002.</p> <p>The Freshwater Sawfish <i>Pristis microdon</i> (VU/VU) is recorded from the lower reaches of the McArthur River and is known to breed in estuarine and coastal marine areas (Bowman Bishaw Gorman 2006), so the species probably also occurs in this site.</p>
ENDEMIC SPECIES	Significance Rating	Not Significant
	Notes	Endemic to the NT: 14 plant species and two reptiles recorded in the site are endemic to the NT. Other: One plant species (<i>Euphorbia myrtilloides</i> subsp. <i>myrtilloides</i>) and the Canefield Rat (<i>Rattus sordidus</i>) are only found in the site within the NT but are also found in other states. Carpentarian Antechinus (<i>Pseudantechinus mimulus</i>) is found on four of the major islands in this site and the only other records from mainland Australia come from near Mt Isa (Qld) and a historic record from the Barkly Tableland.
WILDLIFE AGGREGATIONS	Significance Rating	International Significance
	Marine turtles	Sandy beaches on West, North and Vanderlin Islands and some of the small outer islands of the Pellew group support high density nesting by marine turtles. Flatback and Green Turtles dominate nesting on these islands, and the northern coastline of North Island is especially significant for Green Turtles (Chatto and Baker 2008). Here we consider the site of International significance for marine turtles.
	Seabirds	The Pellew Islands support more than 20 seabird breeding colonies and are one of the most important areas in the NT for nesting seabirds (Chatto 2001). Maximum counts of species in one colony on Urquhart Islet (S071) that are internationally significant (>1% global population; G. Dutton in prep.) include: 50 000+ Crested Terns; and 7500 Roseate Terns (Chatto 2001). Numerous other colonies occur on islets and small islands within the site, including seven colonies considered of National significance (Chatto 2001).
	Waterbirds	This site has limited wetland habitat and supports relatively low numbers of waterbirds (Chatto 2006).
	Shorebirds	Shorebirds are commonly reported on mudflats around the Pellew Islands but not in high numbers. Three important shorebird records (R. Chatto, NRETAS unpubl.) are identified from this site, including counts of Grey-tailed Tattlers, Ruddy Turnstones and Curlew Sandpipers that are regionally significant.
	Other aggregations	None known
WETLANDS	Significance Rating	National Significance (possible International)
	Ramsar criteria met	This site has not been formally assessed against Ramsar criteria but is likely to meet criterion 6 (regularly supports >1% of the individuals in a population) for listing as a Wetland of International Importance under the Ramsar Convention (1971).
	DIWA criteria met	Lake Eames on Vanderlin Island is listed as a wetland of national significance in the Directory of Important Wetlands in Australia as part of the Port McArthur Tidal Wetlands site (DIWA: NT008).
	Notes	Lake Eames (160 ha) is the largest of several lakes on Vanderlin Island and is fed by short creeks and maintained by groundwater. It is the only sizeable, permanent freshwater lake in the south-west of the Gulf (DIWA).
	Rivers	No information located

FLORA	Significance Rating	Regional Significance
		Notes
OTHER ENVIRONMENTAL VALUES		<p>The Sir Edward Pellew Group and Surrounds is listed on the Register of the National Estate for their natural values (Australian Heritage Council).</p> <p>The Pellew Islands are identified as a site of significant refugia for biological diversity in arid and semi-arid Australia due to their importance as an insular refuge for endemic and rare species of plants and animals (Morton <i>et al.</i> 1995).</p> <p>The island group has been identified as a proposed Marine Conservation Area (NRETA 2005). Pearce, Urquhart and Harvey islands in the Pellew island group are proposed to be nominated by Birds Australia as an internationally-recognised <i>Important Bird Area</i> (G. Dutson in prep.) due to the occurrence of globally significant numbers of seabirds.</p> <p>The Chestnut Rail is a range restricted species which is reported to occur and breed in mangroves in this site (CSIRO 1976).</p> <p>The Pellew Islands support more than 13 terrestrial mammal species including populations of rare mammals and this makes the islands an extremely important area for mammal conservation in the NT (Ward <i>et al.</i> 2006).</p> <p>The mammal faunas of islands show remarkable biogeographic patterns; three threatened species have (or had) a population on one of the islands (but only one, and in each case a different island) separated from the nearest other population by more than 150 km; a fourth threatened species occurs on a fourth island, and a fifth species occurs on four of the five major islands and its only other known locations are near Mt Isa (S. Ward, NRETAS pers. comm.).</p> <p>46 species recorded from this site are listed under international conventions or bilateral agreements protecting migratory animals.</p> <p>The conservation values of all islands are high due to their isolation and the protection they offer from threats operating on the mainland (Taylor <i>et al.</i> 2004).</p> <p>The conservation values of the Pellews and Port McArthur area are recognised in other reports (NT Department of Lands and Housing 1991; Page and Reynolds 1997).</p> <p>The shallow waters surrounding the islands in this site support extensive sea grass communities (Bayliss & Freeland 1989) and provide feeding and breeding habitat for Dugongs and many other marine species. The marine areas within this site are likely to encompass many other significant biodiversity values and these are currently being explored and collated in a project by the Marine Biodiversity Group of NRETAS (K. Edyvane, NRETAS, pers. comm.).</p>
	MANAGEMENT ISSUES	
MANAGEMENT INFORMATION	NRM groups	Lianthawirriyarrarra Sea Rangers (Borroloola) (Northern Land Council 2006).
	Protected areas	Barranyi (North Island) National Park (52 km ² / 8% of site).
	Current management plans	<p>Site-specific plans: Barranyi (North Island) National Park Draft Plan of Management (PWCNT 2004).</p> <p>National recovery plans for threatened species: Carpentarian Antechinus (Woinarski 2004b); marine turtles (Environment Australia 2003).</p> <p>Other management plans: Australian Weeds Strategy (NRMMC 2007); Threat Abatement Plan for Predation by Feral Cats (Environment Australia, 1999); Threat Abatement Plan for Competition and Land Degradation by Feral Goats (Environment Australia 1999); Threat Abatement Plan for Predation, habitat degradation, competition and disease transmission by feral pigs (DEH 2005); FIREPLAN: Fire management for the savanna community (Russell-Smith <i>et al.</i> in prep.).</p>

KEY REFERENCES	Monitoring programs and research projects	<p>The islands were surveyed for small mammals in 2005/06 and a series of nest boxes remain and are checked annually for signs of mammals (Ward <i>et al.</i> 2006).</p> <p>Marine turtle populations are monitored by Indigenous rangers as part of the NAILSMA Dugong and Marine Turtle Management Program http://www.nailsma.org.au/projects/dugong_turtle.html</p> <p>Regular surveys of marine debris are conducted on selected beaches by Indigenous rangers as part of the NT marine debris monitoring program (NRETA 2007) and the Carpentaria Ghost Net program http://www.ghostnets.com.au/index.html.</p> <p>Irregular aerial surveys of Dugongs are conducted along transects over coastal waters in the western Gulf of Carpentaria (Saalfeld 2000), with the most recent surveys in 2007.</p> <p>Indigenous rangers monitor Flatback Turtle populations in parts of this site (S. Whiting, NRETAS, pers. comm.).</p> <p>Fire in the tropical savannas is mapped continuously under the North Australia Fire Information Project http://www.firenorth.org.au/nafi/app/init.jsp</p>
	Management recommendations	<p>Develop a concept plan for biodiversity conservation surrounding Sir Edward Pellew Islands in conjunction with landholders, community based ranger group, Fisheries Group (DPIFM) and other stakeholders (NRETA 2005).</p> <p>Work with landholders to consider feasibility of, and interest in, an IPA over more of the islands in the group (NRETA 2005).</p> <p>Finalise and implement the Dugong management plan in conjunction with stakeholders (NRETA 2005).</p> <p>Assist the Northern Land Council, landholders and indigenous community in developing capacity of Aboriginal community and community-based rangers in land and sea-based natural resource management activities (NRETA 2005).</p> <p>Provide financial and extension services to community-based ranger groups and landholders to undertake conservation management programs (NRETA 2005).</p> <p>Monitor populations of native mammals and the status of feral animals (Taylor <i>et al.</i> 2004).</p> <p>Manage feral animal populations on the islands (Ward <i>et al.</i> 2006).</p> <p>Monitor populations of nesting seabirds (G. Dutton in prep.).</p>
	Papers and reports	<p>Chatto, R. (2001). <i>The distribution and status of colonial breeding seabirds in the Northern Territory</i>. Technical Report 70, Parks and Wildlife Commission of the Northern Territory, Darwin. 206pp.</p> <p>Chatto, R. and Baker, B. (2008). <i>The distribution and status of marine turtle nesting in the Northern Territory</i>. Technical Report 77. Parks and Wildlife Service, Northern Territory Department of Natural Resources, Environment & the Arts, Darwin.</p> <p>Taylor, R., Woinarski, J., Charlie, A., Dixon, R., Pracy, D., and Rhind, S. (2004). <i>Report on mammal survey of the Pellew Islands, October 2003</i>. Northern Territory Government Department of Natural Resources, Environment & the Arts, Darwin.</p> <p>Ward, S., Hooper, D., Rankmore, B., Brennan, K., Templeto, S., Friday, G., Simon, T., Pracy, D., Charlie, A., Friday, B., Harvey, D., Chapman, F., Wurst, D., Senge, B., Evans, S., Holmes, J. and Menkhorst, P. (2006). <i>Mammal surveys of the Sir Edward Pellew Islands – 2004/05. Report to the Threatened Species Network</i>. Northern Territory Government Department of Natural Resources, Environment & the Arts, Darwin.</p>
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Coastal rocks and hillside, Centre Is., Sir Edward Pellew Island group (Photo: Simon Chatto)