Legune coastal floodplain

Location and Description

Located between the mouths of the Victoria and Keep Rivers and 330 km south-west of Darwin in the Joseph Bonaparte Gulf, the Legune coastal floodplain is the western-most coastal floodplain in the Northern Territory. The floodplain extends across extensive tidal flats to Turtle Point in the north and includes a range of freshwater wetland habitats. Large areas of mangroves are associated with the major rivers and channels. Despite close proximity to major rivers, the catchment area for the floodplain system is relatively small being supplied by Forsyth Creek and other smaller unnamed creeks. This differs from other coastal floodplain systems in the Territory which are directly inundated by the river they are associated with.

Tenure and Land Use

This coastal floodplain is predominantly pastoral leasehold land within one pastoral property (Legune). The main land use within the Site is grazing of cattle on native pastures.

Significance Rating

International Significance

Ecological Values

The Legune wetlands comprise extensive areas of diverse freshwater and saline wetland habitat and are known to support more than 40 000 mixed waterbirds, mostly Wandering Whistling-Ducks and various egrets and herons. At least four waterbird breeding colonies have also been recorded on the floodplain, including the second largest waterbird colony in the Territory. Turtle Point supports high density nesting of the Flatback Turtles and significant aggregations of migratory shorebirds.

Management Issues

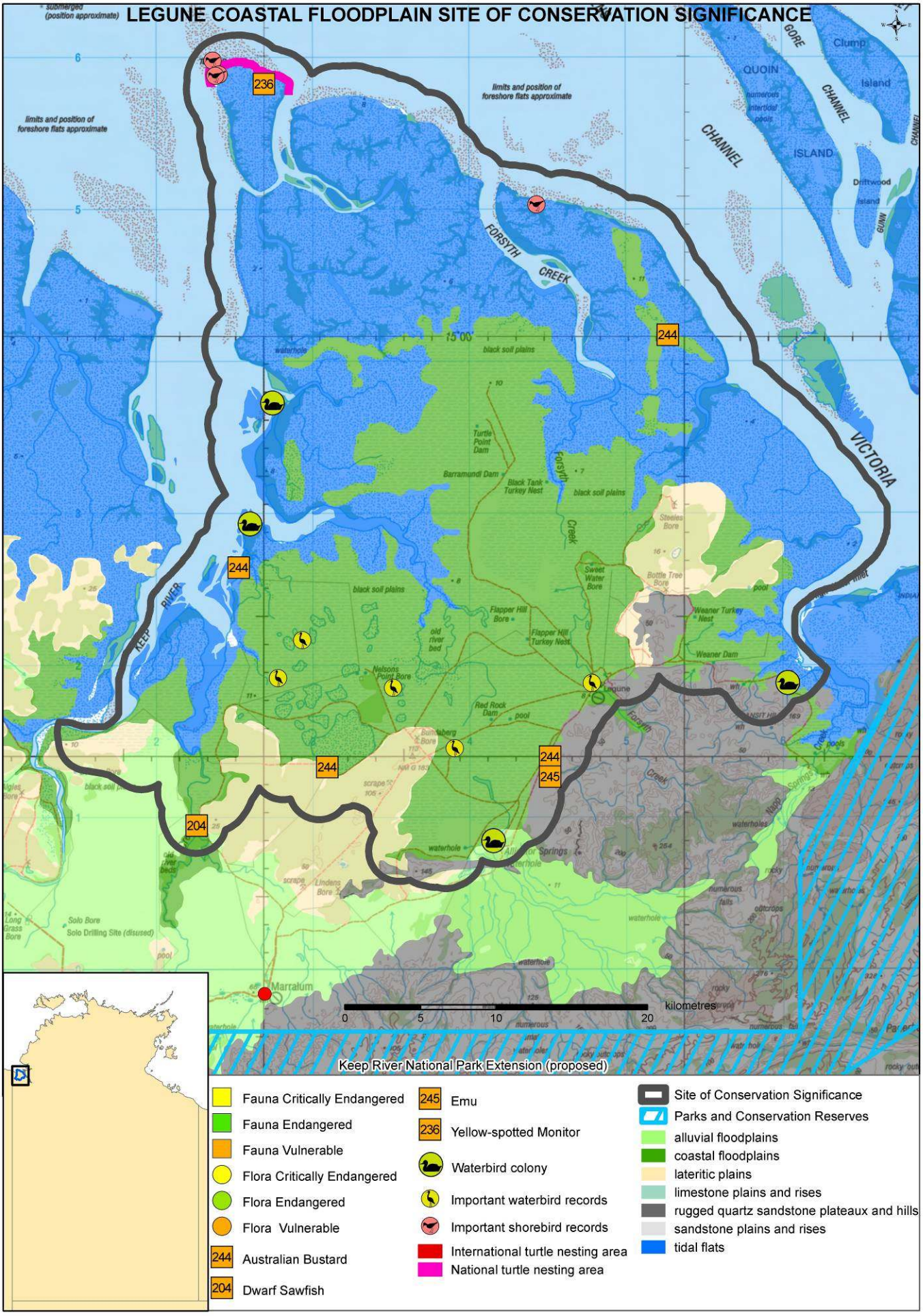
Grazing pressure from cattle can affect wetland habitats, especially where access is not restricted during wet periods. Any future expansion of the Ord irrigation scheme is likely to affect the lower Keep River, which may have some impacts on the Legune floodplain.

Condition

No information located.

Current Conservation Initiatives

A relatively small stock exclosure that includes a turkey nest dam and moat is associated with the Legune homestead swamps and provides a dry season refuge for a range of waterbirds.


LEGUNE COASTAL FLOODPLAIN SITE OF CONSERVATION SIGNIFICANCE
limits and position of foreshore flats approximate
limits and position of foreshore flats approximate
submerged (position approximate)
236
244
244
244
244
245
204
GORE
Clump
QUOIN
Island
CHANNEL
ISLAND
CHANNEL
Driftwood Island
GUNN
FORSYTH CREEK
VICTORIA
KEEP RIVER
15°00'
black soil plains
Turtle Point Dam
Barramundi Dam
Black Tank Turkey Nest
Forsyth Creek
Steeles Bore
Sweet Water Bore
Bottle Tree Bore
Weaner Turkey Nest
Weaner Dam
Flapper Hill Bore
Flapper Hill Turkey Nest
old river bed
Nelsons Point Bore
Red Rock Dam
Burnsberg Bore
Lagune
Solo Bore
Solo Drilling Site (disused)
Long Grass Bore
Linders Bore
Marralum
Keep River National Park Extension (proposed)
kilometres
0
5
10
20
Fauna Critically Endangered
Fauna Endangered
Fauna Vulnerable
Flora Critically Endangered
Flora Endangered
Flora Vulnerable
244 Australian Bustard
204 Dwarf Sawfish
245 Emu
236 Yellow-spotted Monitor
Waterbird colony
Important waterbird records
Important shorebird records
International turtle nesting area
National turtle nesting area
Site of Conservation Significance
Parks and Conservation Reserves
alluvial floodplains
coastal floodplains
lateritic plains
limestone plains and rises
rugged quartz sandstone plateaux and hills
sandstone plains and rises
tidal flats

LOCATION	**SOCS Number**	27 (NT Parks and Conservation Masterplan Map Number 28)
	Latitude/Longitude	15º 5´ South, 129º 22´ East (at centre)
	Bioregion	Victoria Bonaparte
	Description	This site extends from the mouth of the Keep River to High Water Inlet, a tributary of the Victoria River, and encompasses a terrestrial area of 1526 km². The northern portion of the site is dominated by tidally influenced salt and mud flats (637 km²), while the southern portion is characterized by a range of seasonally inundated floodplain habitats (628 km²) (including freshwater sedge swamps, seasonal grassy marshes, small wooded swamps, lakes, and clay pans) and includes the Legune Homestead Swamps and Osmans Lake system. Upland areas of rugged sandstone are found to the south of the site.
THREATENED SPECIES	**Significance Rating**	**Regional 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)	Five threatened species are reported from this site. **Vertebrates** ▪ Australian Bustard *Ardeotis australis* (-/VU) ▪ Emu *Dromaius novaehollandiae* (-/VU) ▪ Yellow-spotted Monitor *Varanus panoptes* (-/VU) ▪ Flatback Turtle *Natator depressus* (VU/DD) ▪ Dwarf Sawfish *Pristis clavata* (-VU)
ENDEMIC SPECIES	**Significance Rating**	**Not Significant**
	Notes	**Other:** Three plant species recorded in this site are only found in the Victoria Bonaparte bioregion within the NT but are also found in other states.
WILDLIFE AGGREGATIONS	**Significance Rating**	**International Significance**
	Marine turtles	Turtle Point has a small length of beach that is highly significant for nesting Flatback Turtles (Chatto and Baker 2008). Here the site is considered of National significance for marine turtles.
	Seabirds	No seabird breeding colonies are reported in the Joseph Bonaparte Gulf (Chatto 2001).
	Waterbirds	**Total numbers of waterbirds:** Chatto (2006) estimated >40 000 waterbirds to be present on the Legune wetlands in 1999, with numbers dominated by Wandering Whistling-Ducks, Grey Teal, Glossy Ibis and Eurasian Coot. Jaensch (1994) reported 15 000 waterbirds on the wetlands in 1993. **Counts of individual species:** Maximum counts of Pied Heron (3000) (Chatto 2000) on the floodplain are internationally significant (>1% global population; G. Dutson in prep.). Counts of Purple Swamphen (2000) and Glossy Ibis (7000) on the floodplain are the highest reported in surveys of the Top End by Chatto (2006), and are nationally significant (>1% Oceania population; Wetlands International 2006). Chatto (2006) notes 21 important waterbird records for this site including the high counts of species identified above and other counts that are regionally important. **Breeding records:** Four waterbird breeding colonies are reported in mangroves and paperbark trees in this site, including the second largest colony (W053) recorded in the Top End by Chatto (2000a). This colony, located near the mouth of the Keep River, had a maximum count of 20 000 birds in 1999 and was dominated by egrets, ibis and herons. Other colonies in the site comprised less than about 1500. Small numbers of Magpie Geese are also known to frequent the area and breed in the system (Chatto 2000a).
	Shorebirds	Maximum counts of Terek Sandpipers (1000) at Turtle Point (Chatto 2003) exceed internationally significant thresholds (> 1% East Asian-Australasian Flyway population; Bamford *et al.* 2008). Chatto (2003; R. Chatto, NRETAS unpubl.) notes seven important shorebird records for this site including high counts of Greater Sand Plovers and Ruddy Turnstones that are regionally important.
	Other aggregations	None known
WETLANDS	**Significance Rating**	**National Significance (possible International)**
	Ramsar criteria met	Although no formal assessment has been conducted, Jaensch (1994) notes that this site satisfies waterbird-based criteria for listing as a Wetland of International Importance under the Ramsar Convention (1971), including criterion 5: important wildlife aggregation site with >20 000 waterbirds; and criterion 6: regularly supports >1% of the individuals in a population.
	DIWA criteria met	Wetlands within this site are listed as a wetland of national significance in the Directory of Important Wetlands (DIWA: NT030 Legune Wetlands). The site meets criteria 1, 2, 3 and includes DIWA wetland types: B6, B10, B13, and C2.
	Notes	The DIWA site encompasses the Legune Homestead Swamps and the Osmans Lake system. The Legune Homestead Swamps (~50 km²) is a series of seasonal sedge and wooded swamps and grassy marshes in the south-east part of the coastal plain. The Osmans Lake System (~40 km²) comprises an un-named coastal lake and more than 15 associated claypans and is situated on the south-east side of the Keep River estuary. Each of these provides a good example of its type and together they provide a good diversity of wetland habitats in a relatively small area (DIWA). The Legune floodplain site has been nominated as a national High Conservation Value Aquatic Ecosystem (the finalised list of HCVAE will replace the DIWA list).

	Rivers	No information located
FLORA	**Significance Rating**	**Not significant**
FLORA	**Notes**	There are no rainforest patches or restricted range species or communities within the site.
OTHER ENVIRONMENTAL VALUES		Turtle Point is identified as an internationally important site for migratory shorebirds in the East Asian-Australasian Flyway (Bamford *et al.* 2008). Two sites on the Legune floodplain are listed on the Register of the National Estate for their natural values: Legune Homestead Swamps; and Osmans Lake System (Australian Heritage Council). The Legune coastal floodplain is proposed to be nominated by Birds Australia as an internationally-recognised *Important Bird Area* (G. Dutson in prep.). The moat surrounding the turkey nest dam near Legune Homestead swamp is fenced to exclude stock and provides useful dry season habitat for a range of waterbirds (DIWA). Twenty nine species recorded from this site are listed under international conventions or bilateral agreements protecting migratory animals. The marine areas within this site are likely to encompass 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.).
MANAGEMENT ISSUES		**Fire:** In the period 1993-2004, 95% of the site was burnt in fewer than three years, and none was burnt in more than six years. **Feral animals:** No information located **Weeds:** Three undeclared but problematic environmental weeds (high priority weeds; Smith 2001) (*Calotropis procera, Hyptis suaveolens*, and *Sida acuta)* are recorded from this site. Given the location of the site at the mouth of two major river systems, there is potential for species such as *Mimosa pigra* to invade the site. **Other:** A substantial expansion of the Ord River irrigation area has been proposed (Kinhill 2000), and this would potentially affect the hydrology of the lower Keep River and consequently the Legune coastal floodplain. All coastal areas in northern Australia are at risk of degradation from sea-level rise resulting from climate change (Hyder Consulting 2007).
MANAGEMENT INFORMATION	**NRM groups**	No information located.
MANAGEMENT INFORMATION	**Protected areas**	The site is not included within the formal network of protected areas in the NT.
MANAGEMENT INFORMATION	**Current management plans**	**Site-specific plans:** No information located. **National recovery plans for threatened species:** marine turtles (Environment Australia 2003). **Other management plans:** Australian Weeds Strategy (NRMMC 2007).
MANAGEMENT INFORMATION	**Monitoring programs and research projects**	Fire in the tropical savannas is mapped continuously under the North Australia Fire Information Project http://www.firenorth.org.au/nafi/app/init.jsp There are 13 Tier 1 rangeland monitoring points within this site (Karfs and Bastin 2001).
MANAGEMENT INFORMATION	**Management recommendations**	In conjunction with the landholder, assess conservation values of wetlands and identify appropriate conservation management programs (NRETA 2005). Provide support and extension services for landholders to undertake conservation management activities (NRETA 2005).
KEY REFERENCES	**Papers and reports**	Chatto, R. (2006). *The distribution and status of waterbirds around the coast and coastal wetlands of the Northern Territory*. Technical Report 76, Parks and Wildlife Commission of the Northern Territory, Palmerston. 254pp. Jaensch, R., (1994a). *An Inventory of Wetlands of the sub-humid tropics of the NT*. Conservation Commission of the NT, Darwin.
KEY REFERENCES	**Contributors**	