



# Australia Business Unit East

## Caspian Tern, Crested Tern and Gull-billed Tern Species Management Plan

### ABUE-450-EN-V01-C-00001

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#### Revision Detail

Rev Number	Date	MOC Number	Author	Approver
Supersedes APLN-000-EN-R01-D-10496	2 Sept 2016		Worley Parsons	
000	2 Sept 2019		R. H.	J. C.



Operated by



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## 1. Introduction

This Species Management Plan (SMP) pertains to the caspian tern (*Hydroprogne caspia*), crested tern (*Thalasseus bergii*) and gull-billed tern (*Gelochelidon nilotica*) and has been prepared for the operating phase of the Australia Pacific LNG (APLNG) Facility. The APLNG Facility is located on Lot 3 on Survey Plan 228454, Lot 5 on Survey Plan 283963 and Lot 6 Survey Plan 283963 (APLNG Facility Land) within the Curtis Island Industry Precinct of the Gladstone State Development Area (GSDA), approximately 13km north-west of Gladstone.

This SMP has been prepared to meet Condition 23 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Approval (EPBC 2009/4977) for the APLNG Facility, for listed migratory species identified on APLNG Facility Land during preclearance surveys.

This plan was updated in 2016 to include the crested tern and gull-billed tern, which were listed as Migratory under the EPBC Act on 30 June 2015, and confirmed as present during migratory shorebird monitoring surveys.

### 1.1. Current Legal Status

The caspian tern is classified as Migratory under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), in accordance with the Japan-Australia Migratory Bird Agreement (JAMBA). The crested tern is classified as Migratory under the EPBC Act in accordance with JAMBA, and the gull-billed tern is classified as Migratory in accordance with the China-Australia Migratory Bird Agreement (CAMBA).

In Queensland all three species are classified as Special Least Concern under the *Nature Conservation (Wildlife) Regulation 2006*.

### 1.2. Related Documents

The following documents should be read in conjunction with this Plan:

- Operational Environmental Management Plan (ABUE-450-EN-N05-C-00001)
- Migratory Shorebird Management Plan (ABUE-450-EN-V01-C-00002)
- Monte Christo Offset Proposal (APLN-000-EN-R01-D-15326)

### 1.3. Known Distribution

Caspian terns are sub-cosmopolitan occurring throughout Australasia, North America, Eurasia and Africa. Within Australia, these birds are widely distributed along at the coast and at permanent and seasonal bodies of water far inland (Figure 1.1).

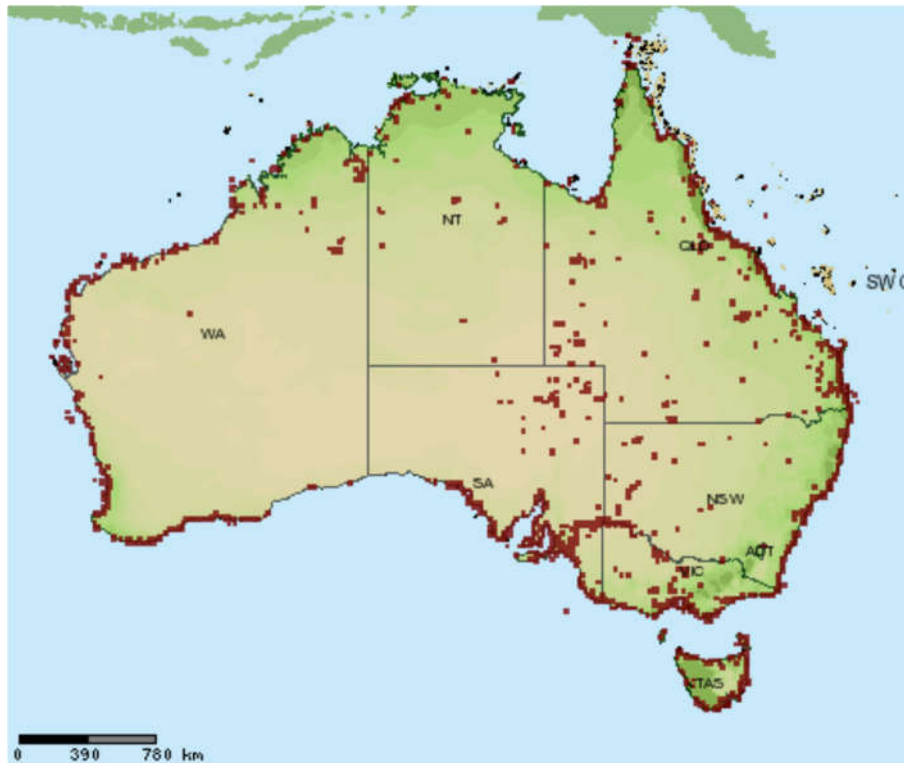


Figure 1.1: Distribution of Caspian tern in Australia. Source: Birds Australia 2011

Crested terns occur in tropical and warm temperate coastal parts of southern Africa, around the Indian Ocean, the western Pacific and Australia (Figure 1.2).

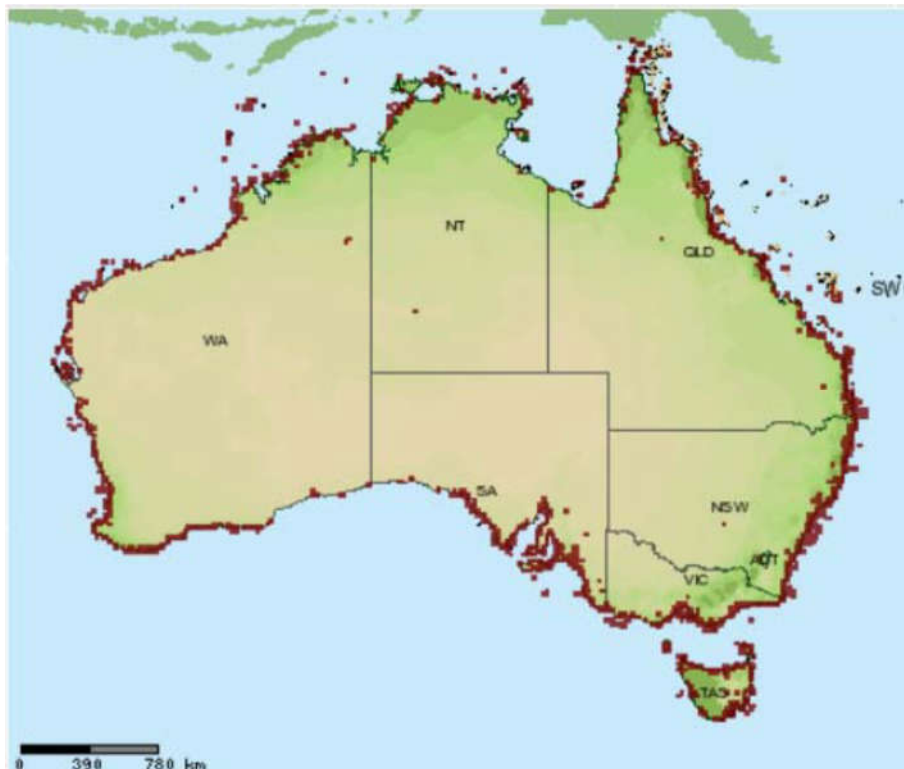


Figure 1.2: Distribution of crested tern in Australia. Source: Birds Australia 2016

Gull-billed terns breed in warmer parts of southern Europe, temperate and eastern Asia, both coasts of North America, eastern South America and Australia (Figure 1.3).

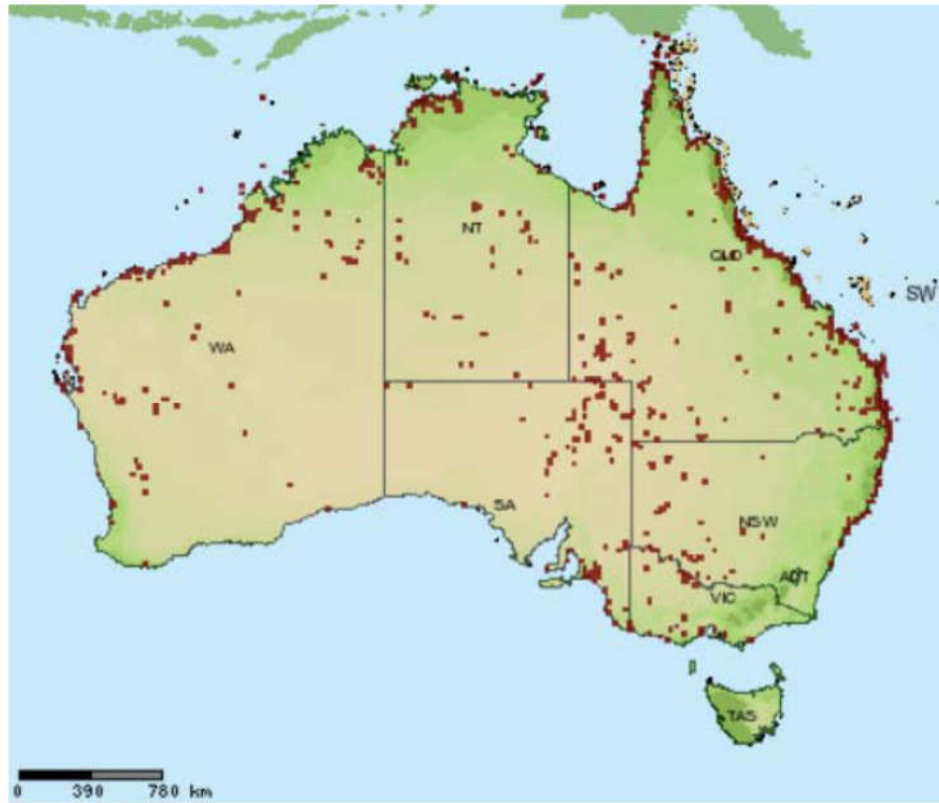


Figure 1.3: Distribution of gull-billed tern in Australia. Source: Birds Australia 2016

## 1.4. Population Relationships

The caspian tern is common and widespread, although seldom occurs in large numbers. The Australian population is estimated to number between 10,000 and 100,000 birds (Wetlands International 2016). It breeds in isolated pairs or in small colonies, mainly on offshore islands. Within Australia, some populations at higher latitudes are migratory, moving north in the cooler months, whereas populations at lower, warmer latitudes are typically sedentary. However, birds from the north of Australia have been known to fly over 1500km to feed at seasonal inland watercourses.

The crested tern is common throughout Australian coastal waters, breeding in densely packed colonies on small offshore islands. The Australian population is estimated to number between 100,000 and 1,000,000 birds (Wetlands International 2016).

Gull-billed terns breed in colonies on lakes, marshes and coast-lines. The population occupying eastern and southern Australia is estimated to number between 25,000 and 100,000 birds (Wetlands International 2016).

## 1.5. Identification Characteristics

Caspian terns are the largest tern species in Australia, growing to 55cm. They are characterised by a large red bill and immaculate white plumage with a black cap. The mantle and upper wings are grey and the flight feathers are darker grey. Immature birds are similar to non-breeding adults. Outside of breeding season, the black cap becomes mottled grey.

Crested terns average 47cm and are characterised by a yellow bill, black legs and a glossy black crest that is noticeably shaggy at its rear. The forehead and underparts are white, and the back and inner wings are dusky-grey. Males and females are identical in appearance, but juvenile birds are distinctive with underparts strongly patterned in grey, brown and white. Outside of breeding season the crown of the head becomes white.

Gull-billed terns are relatively large with a short, thick, gull-like black bill, broad wings, long legs and a robust body. In summer the adult has grey upperparts, white underparts, a back cap, strong black bill and black legs. Outside of breeding season the cap is lost and dark patch appears through the eye. Juveniles have a fainter mask, but otherwise resemble non-breeding adults.



Caspian tern (breeding)



Crested tern (breeding)



Gull-billed tern (breeding)

## 1.6. Biology

Caspian terns feed exclusively on fish and occasionally aquatic invertebrates taken from the surface of the water. Nests are constructed on the ground, typically on sandy beach areas, and are lined with salt-tolerant plants such as saltbush species. Nesting may occur in colonies or in aggregations of scattered pairs. Both sexes care for the young until fledging and independence. Caspian terns are usually found singly or in pairs but may aggregate in nesting colonies in suitable habitats. They lay one to three eggs that hatch after 22 days and young fledge around 35 days old. Young Caspian terns disperse widely and do not remain around their fledging areas unless resources are abundant.

Crested terns also feed primarily on fish. Nests typically consist of a shallow scrape in the sand on open, flat sloping ground and are often unlined, but may include stones or cuttlefish bones. Nesting occurs in colonies and each breeding pair may tend to 1-2 crème coloured eggs with blackish streaks that hatch within 25-30 days. Young fledge after 38-40 days but remain dependant on the parents after leaving the colony until about 4 months of age.

Gull-billed terns have a more diverse diet that includes fish, crustaceans, insects taken in flight, small vertebrates including mice and skinks, and occasionally the chicks and eggs of other waterbirds. The nest is an unlined scrape typically containing 2-3 eggs. The eggs hatch after 22-23 days incubation. The precocial young are able to leave the nest within a few days to move to more sheltered sites.

## 1.7. Preferred Habitat

Caspian terns are found along permanent fresh and salt water bodies from the coast to inland. Coastal habitat includes estuaries, inlets, bays and lagoons with sandy or muddy shores. They may move to transient water bodies during wet periods to take advantage of periodic resource booms. There is no preference for particular vegetation types if there is abundant water and food resources. During the nesting season Caspian tern pairs select open, sandy habitats for nesting.

The crested tern prefers coastlines and islands in the tropics and subtropics.

Gull-billed terns prefer lakes, marshes and coastlines.



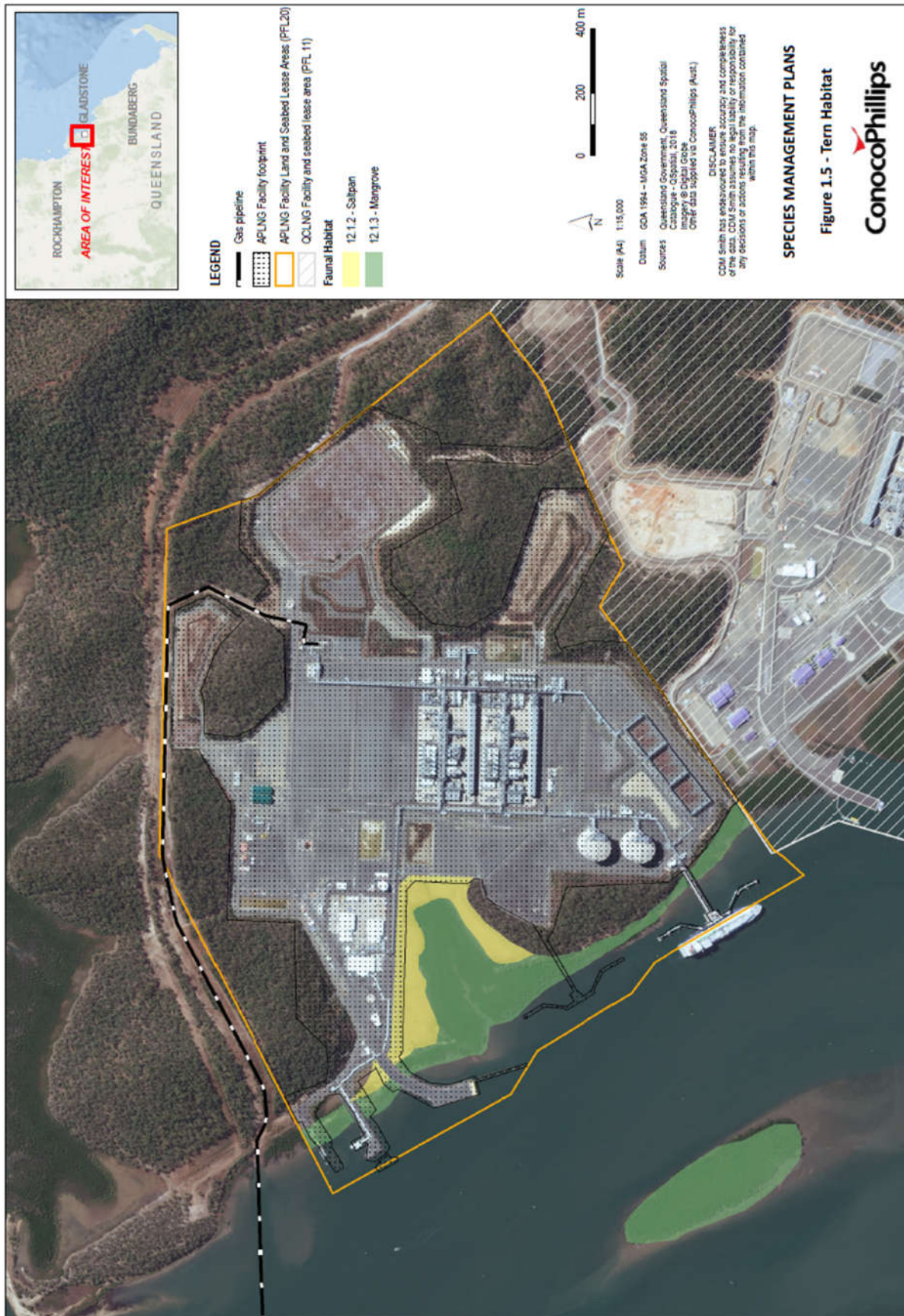
1.7.1. Habitat use on APLNG Facility Land

Caspian, crested and gull-billed terns forage over the open coastal waters around the APLNG Facility, and gull-billed terns also forage on intertidal mudflats. All species use the mudflats and saltpan as roosting habitat (Figure 1.4 and Figure 1.5).

Figure 1.4: Fauna habitat



Figure 1.5: Tern habitat





## 2. Management Practices

The APLNG Facility has an expected operational life of over 30 years. During the operational period there are unlikely to be significant land use changes or potential threatening processes.

### 2.1. Direct Impacts

Ongoing operations at the APLNG Facility are not expected to directly affect these tern species who will continue to utilise the surrounding available habitat with no measurable influence on the local population.

### 2.2. Mitigation and Monitoring

The impacts on the tern populations that will result from APLNG Facility operations are likely to be negligible. Importantly, there is likely to be little to no utilisation of the landward portion of the LNG site by these species following initial land clearing and development. Therefore, no monitoring of these species is required following clearing of the proposed site. No further mitigation measures are required outside of those committed to in the Operational Environmental Management Plan (ABUE-450- EN-N05-C-00001).

## 3. Environmental Offsets

Where impacts are unavoidable, Condition 23(c) of the EPBC approval conditions for the LNG facility requires offsets to be proposed “to compensate for the impact on the population or impact on the species habitat”. Impacts from the APLNG Facility are expected to be negligible on the caspian, crested and gull-billed terns at the population level, however some habitat was cleared during the construction phase.

APLNG prepared an offsets strategy including direct offsets for disturbance to regional ecosystems across the project. This strategy included offsets for all intertidal vegetation (and therefore habitat) cleared for the construction of the APLNG Facility. Offsets have therefore already been established for faunal habitat cleared on APLNG Facility Land.

Because of the highly mobile nature of migratory species such as the caspian, crested and gull-billed terns it is likely that they will utilise adjacent intertidal and marine habitats and persist locally. The marine and coastal environmental offsets provided for in the Monte Christo Offsets Proposal provide offsets for tern habitat, as these species rely on coastal and marine ecosystems to feed.

Reconciliation of offsets with clearing has occurred.

**Table 3.1: Regional Ecosystems (RE) cleared on APLNG Facility Land which may be utilised by migratory caspian tern, crested tern and gull-billed tern**

RE	Area (ha)	Description	Faunal Habitat	Likely use
12.1.2	26.91	Saltpan vegetation including grassland, herbland and sedgeland on marine clay plains	Saltpan	Foraging and roosting
12.1.3	1.79	Mangrove shrubland to low closed forest on marine clay plains and estuaries	Mangroves	Indirect use only – Habitat for fish that terns feed on
<b>Total</b>	<b>28.71</b>			

#### 4. References

Birds Australia (2011). Birddata Atlas Distribution Maps: Caspian tern *Sterna caspia*. Online: <http://www.birddata.com.au/maps.vm>. Accessed 21 April 2011.

Wetlands International (2016). Waterbird Population Estimates, Fifth Edition. Online: [wpe.wetlands.org](http://wpe.wetlands.org) Accessed 10 Aug 2016