Information Sheet on EAA Flyway Network Sites

(SIS) – 2017 version

Categories approved by Second Meeting of the Partners of the East Asian-Australasian Flyway Partnership in Beijing, China 13-14 November 2007 - Report (Minutes) Agenda Item 3.13

Notes for compilers:

1. The management body intending to nominate a site for inclusion in the East Asian - Australasian Flyway Site Network is requested to complete a Site Information Sheet. The Site Information Sheet will provide the basic information of the site and detail how the site meets the criteria for inclusion in the Flyway Site Network. When there is a new nomination or an SIS update, the following sections with an asterisk (*), from Questions 1-14 and Question 30, must be filled or updated at least so that it can justify the international importance of the habitat for migratory waterbirds.

2. The Site Information Sheet is based on the Ramsar Information Sheet. If the site proposed for the Flyway Site Network is an existing Ramsar site then the documentation process can be simplified.

3. Once completed, the Site Information Sheet (and accompanying map(s)) should be submitted to the Flyway Partnership Secretariat. Compilers should provide an electronic (MS Word) copy of the Information Sheet and, where possible, digital versions (e.g. shapefile) of all maps.

1. Name and contact details of the compiler of this form*:

Full name: Roger Jaensch & Terrence Taylor

Institution/agency: c/- Carpentaria Land Council Aboriginal Corporation

Address : PO Box 6662, Cairns QLD 4870, Australia

Telephone: +61 7 4041 3833

Fax numbers: +61 7 4041 3533

E-mail address: roger.jaensch.bne@gmail.com

EAAF SITE CODE FOR OFFICE USE ONLY:

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2. Date this sheet was completed*:

22 March 2016 (updated 6 May 2016 to include change in species status of several species under the *Environment Protection and Biodiversity Conservation Act 1999*)

3. Country*:

Australia

4. Name of the Flyway Network site*:

South-East Gulf of Carpentaria: Nijinda Durlga (Tarrant)

Description of site boundary:

The site comprises a portion of the Nijinda Durlga Indigenous Protected Area, which is the leasehold land (4711/PH1677) known as Tarrant, as well as a zone of marine waters (State Land) bordering the leasehold land for 2.0 km to seaward. The length of coastline thus included in the site is approximately 38 km. The site lies between Tarrant Point and Kangaroo Point but excludes both. It includes the lowest reaches and mouth of the Nicholson River but does not include the Albert River mouth.

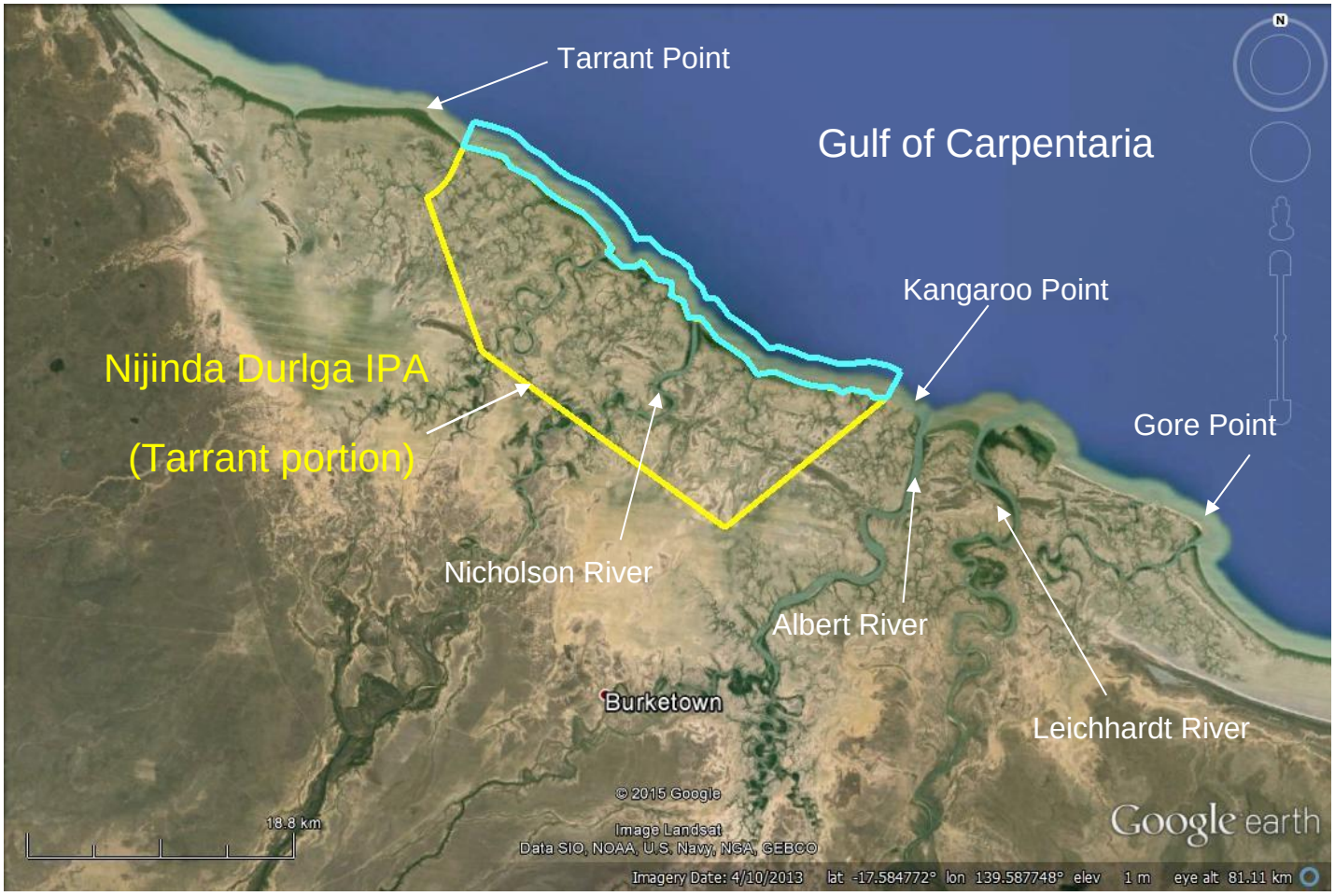
The larger South-East Gulf of Carpentaria shorebird area is a near-continuous area of waterbird habitat extending for about 350 km along the Gulf coast. The Nijinda Durlga (Tarrant) section is near the western end of this larger area. The site as defined above and in the maps is highly representative of the larger area.

5. Maps of site*:

Map 1: Location of site.

The white arrow indicates the present new nomination; the green arrow indicates an existing Flyway Network Site (FNS) (Delta Downs) designated in January 2015.

Map 2: Boundary of site. The site comprises the Tarrant portion of the Nijinda Durlga Indigenous Protected Area **and** a zone 2.0 km to seaward. Yellow line = landward boundary of Tarrant; blue line = seaward component of the FSN site.



6. Geographical coordinates (latitude/longitude, in decimal degrees)*:

Approximate centre of site: -17.485337° S, 139.589563° E.

Western limit: -17.395648° S, 139.453358° E.

Eastern limit: -17.554803° S, 139.723242° E.

Location: The site is 30 km north of the township of Burketown.

7. Elevation*:

At, or near, sea-level.

8. Area*:

Tarrant block 33,100 ha, plus seaward zone of approximately 7000 ha; thus total Area = approx. 40,000 ha (400 sq. km). Most of this area is mapped by the Queensland Government as wetland (estuarine) (refer to Wetlands*Maps* on www.wetlandinfo.ehp.qld.gov.au).

9. General overview of the site*:

The site comprises an important section of the larger South-East Gulf of Carpentaria shorebird area, with two major roosts of migratory shorebirds, and includes extensive intertidal mud and sand flats backed by mangroves, bare salt flats and some shelly beaches. Over 6000 Asian-breeding, migratory shorebirds of at least 16 species feed and roost in the site, and based on leg flag re-sightings in other parts of the South-East Gulf, some presumably travel on to south-eastern Australia and/or to New Zealand. The site supports internationally important numbers of Great Knot, possibly also of Black-tailed Godwit and Greater Sand Plover, as well as substantial numbers of seven threatened species: the Far Eastern Curlew, Curlew Sandpiper and Great Knot (all listed Critically Endangered in Australia); Red Knot and Lesser Sand Plover (Endangered in Australia); and Greater Sand Plover and Bar-tailed Godwit (Vulnerable in Australia) (see Annex 3 for scientific names). Additionally, the site supports many other waterbirds such as terns and herons, some known or suspected to be migratory, but the site has limited survey data for these species and count data specific to the site boundary are presently insufficient to enable other species to be adequately assessed against the East Asian-Australasian Flyway Partnership (EAAFP) criteria.

10. Justification of Flyway Site Network criteria*:

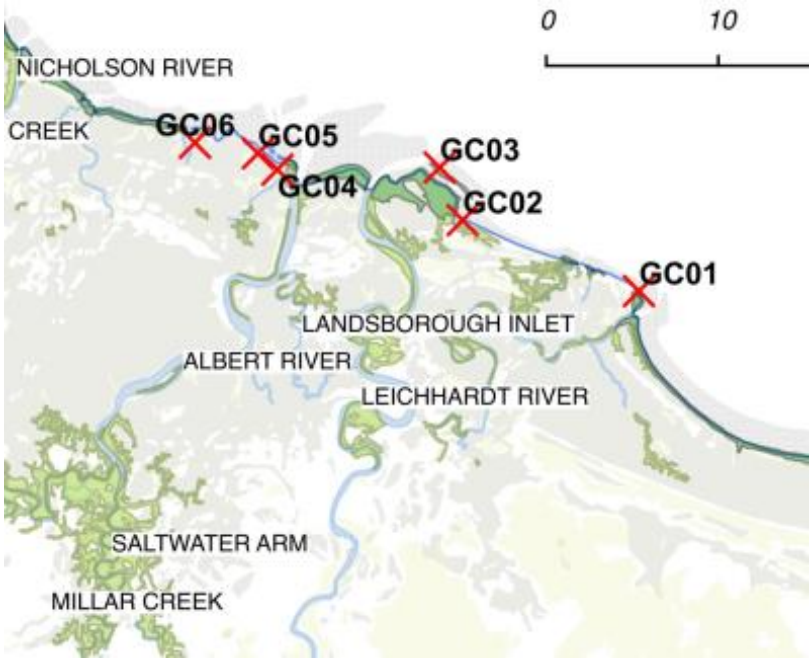
The site clearly meets two (2) of the criteria for the Flyway Site Network (see Annex 1) and it meets one of these criteria for more than one species of migratory waterbird. Overall, seven species of migratory waterbird are involved in the justification with potential for several more to be added as new data become available.

Count data in this section refer **only to the nominated site**, which is the Nijinda Durlga (Tarrant) section of the larger South-East Gulf of Carpentaria shorebird area. Within this site lie two high tide roosts that

were first recognised by the Queensland Wader Study Group in 1999: roost C5 and roost C6 (Driscoll 2001) (Map 3).

Map 3: Location of roost sites in Section C, South-East Gulf of Carpentaria.

GC01 = roost C1, etc. Map provided by Peter Driscoll, Queensland Wader Study Group.



There have been only three comprehensive ground counts of roosts in the site, all very recently: 29 August 2015 (roost C5), 31 August 2015 (roost C6) and 1 September 2015 (roost C5) (Annex 3). Anecdotal observations were made at roost C6 on 3 March 2015 and 13 April 2016.

Additional information in this section provides perspective on numbers of shorebirds at the site in earlier decades and thus confirms the long-term importance of the site.

Criterion a/2:

This criterion refers to support of vulnerable, endangered, or critically endangered species. The criterion is taken from the Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention) and the Strategic Framework for identifying Ramsar Sites states (item 124) that threatened status as defined in national endangered species legislation and/or international frameworks such as the IUCN Red Lists may be applied. Furthermore, items 125 and 126 of the Framework indicate that the Criterion is non-quantitative and merely requires that the Ramsar Site support threatened

species in the categories given; it provides no numerical threshold for the numbers supported in the site concerned.

The site meets FSN Criterion a/2 because it supports seven threatened species of migratory waterbird:

1. **Far Eastern Curlew** *Numenius madagascariensis*
    - Listed as Critically Endangered under Australia's *Environment Protection and Biodiversity Conservation Act 1999* (*EPBC Act 1999)*.
    - Appendix I of the Convention on the Conservation of Migratory Species of Wild Animals.
    - Occurrence of this species at the site is not merely accidental: there are more than 3 records and up to 31 birds have been recorded (at roost C5 on 31 August 2015: QWSG data [1]).

2. **Curlew Sandpiper** *Calidris ferruginea*
    - Listed as Critically Endangered under Australia's *EPBC Act 1999.*
    - Occurrence of this species at the site is not merely accidental: there are more than 3 records and up to 104 birds have been recorded (at roost C5 on 29 August 2015: QWSG data).

3. **Great Knot** *Calidris tenuirostris*
    - Listed as Critically Endangered under Australia's *EPBC Act 1999*
    - Appendix I of the Convention on the Conservation of Migratory Species of Wild Animals.
    - Occurrence of this species at the site is not merely accidental: there are more than 3 records and up to 4338 birds have been recorded (at roost C5 on 29 August 2015: QWSG data).

4. **Red Knot** *Calidris canutus*
    - Listed as Endangered under Australia's *EPBC Act 1999.*
    - Occurrence of this species at the site is not merely accidental: there are more than 3 records and up to 482 birds have been recorded (at roost C5 on 1 September 2015: QWSG data).

5. **Lesser Sand Plover** *Charadrius mongolus*
    - Listed as Endangered under Australia's *EPBC Act 1999.*

[1] From surveys by Queensland Wader Study Group, reported to the compilers by P. Driscoll & A. Keates (summarized in Annex 3).

- 150 birds were recorded at roost C6 on 13 April 2016 (compilers' observations, Annex 3); also likely to have been included in the 800 unidentified sand plovers at roost C5 on 1 September 2015 (QWSG data, Annex 3); and occurs regularly at other nearby roosts.

6. **Greater Sand Plover** *Charadrius leschenaultii*
   - Listed as Vulnerable under Australia's *EPBC Act 1999.*
   - Occurrence of this species at the site is not merely accidental: there are more than 3 records and up to 500 birds have been recorded (at roost C5 on 29 August 2015: QWSG data).

7. **Bar-tailed Godwit** *Limosa lapponica baueri*
   - Listed as Vulnerable under Australia's *EPBC Act 1999.*
   - Two subspecies of Bar-tailed Godwit (*baueri* and *menzbieri*) occur in Australia and anecdotal information from QWSG expeditions suggests that both occur in the SE Gulf of Carpentaria. Subspecies *baueri* (Vulnerable) predominantly occurs in eastern Australia [2] and New Zealand; *menzbieri* (Critically Endangered) in north-western Australia. Count data generally do not distinguish between the subspecies as identification is difficult but clearly criterion a/2 is met for at least one of the subspecies.
   - Occurrence of Bar-tailed Godwit at the site is not merely accidental: there are more than 3 records and up to 30 birds have been recorded (at roost C6 on 31 August 2015: QWSG data).

Criterion a/5:

The site presently does not meet FSN Criterion a/5 because the total number of migratory shorebirds counted in the site has not exceeded 20,000 in the few surveys conducted to date. However, possible future extension of the site to include additional shorebird roosts to the east (e.g. roost C3, in another part of QWSG survey section C, which holds over 7000 migratory shorebirds) may eventually enable this Criterion to be met.

Criterion a/6:

The site meets FSN Criterion a/6 because it supports at least 1% of the Flyway population of at least one species (from information to date, one species; but potentially at least three species) of migratory waterbird.

In the following species accounts, 'WPE4' and 'WPE5' refer to the 4th and 5th editions of Waterbird Population Estimates (wpe.wetlands.org), a global database of waterbird populations managed by

[2] http://www.birdsindanger.net/pdfs/Bar-tailed%20Godwit%20%28western%20Alaskan%29.pdf

Wetlands International. The database is maintained to assist Parties to the Ramsar Convention in the identification of Wetlands of International Importance by providing the basis for the 1% criterion, whereby any site which regularly holds at least 1% of a waterbird population qualifies as being internationally important under the Convention. The EAAFP uses the same criterion as a basis for identifying sites for its Flyway Site Network.

Great Knot (*Calidris tenuirostris*)

Relevant count data:

record	*maximum count*	*date*	*source*	*QWSG roost code* [3]
1	4338	1 September 2015	QWSG data [4]	C5

Comments:

- The latest 1% threshold has been reduced to 2900 birds (WPE5: wpe.wetlands.org); the previous threshold was 3800 (WPE4).
- Record 1 meets the 1% thresholds of both WPE5 and WPE4.
- Additional records confirm the use of this site by large numbers of Great Knot and indicate that future counts above the 1% threshold are likely:
    - Approximately 3000 knots were present at roost C6 on 3 March 2015 (R. Jaensch pers. obs.); the majority were Great Knot but some Red Knot are likely to have been present.
    - A similar number (2610) of Great Knot was at roost C5 on 29 August 2015 [5].
    - At least 1600 Great Knot, mostly in non-breeding plumage and thus possibly birds under one year old, were at roost C6 on 13 April 2016 (R. Jaensch pers. obs.); along this coast, many shorebirds had already migrated by mid-April.

The limited survey data available for this site also suggest that at least two additional species, Black-tailed Godwit and Greater Sand Plover, potentially meet criterion a/6. Details are in Annex 2.

Data from other decades.

In aerial surveys in August 2015, over 11,400 migratory shorebirds were counted in Section C, the section of the SE Gulf that includes roosts C5 and C6 [6] (P. Driscoll & A. Keates pers. com.; and see

[3] Roosts of shorebirds in the South-East Gulf of Carpentaria have been assigned codes by the Queensland Wader Study Group (Driscoll 2001). In this case, the nominated site is within Zone C and includes roosts C5 and C6.

[4] Tables of QWSG count data as provided to the compilers by P. Driscoll and A. Keates (summarized in Annex 3).

[5] As for footnote 4.

[6] Section C includes roosts C1 to C6 but roosts C1 to C3 are outside the boundary of the nomination.

location of roosts in Map 3). This was not an unusual result because three previous aerial surveys of this section have produced similar or higher totals: 15,000 in March 2013; 11,000 on 23 November 1999; 13,000 on 24 March 1999; and 26,000 on 20 September 1998 (Driscoll 2001: Appendix 1; Driscoll in prep.). Therefore, the numbers of particular shorebird species counted in 2015 are likely not to have been exceptional and numbers at the same roosts probably were similar, or higher, in the late 1990s. Furthermore, there have been no human-caused changes to the coastal habitats in this area as it is a remote area with no industry and minimal human presence; thus, no changes in waterbird numbers are likely to have occurred due to local impacts.

11. Wetland Types*:

Dominant: Type G (intertidal mud, sand and salt flats) and Type H (salt marshes). Also present: Type I (mangrove swamps), Type F (estuarine waters, tidal creeks) and Type E (sand shores).

12. Jurisdiction*:

Within the State of Queensland, the Department of Natural Resources and Mines has administrative jurisdiction over land tenure, including State Waters; the Department therefore has jurisdiction over the sea area within the Flyway Network Site. Land within the Tarrant leasehold section of the site is under Native Title held by the Traditional Owners, the Gangalidda and Garawa Peoples (Exclusive Use, Determination QC04/5; http://www.atns.net.au/agreement.asp?EntityID=5021).

13. Management authority*:

Please first read item 22. Land tenure/ownership.

The Tarrant pastoral lease is managed by the Carpentaria Land Council Aboriginal Corporation, which is governed by a Board of Directors that includes representation of the applicable Traditional Owners, the Gangalidda and Garawa Peoples. On a day to day basis, the Nijinda Durlga IPA is managed by the Gangalidda & Garawa Land & Sea Rangers of the Carpentaria Land Council Aboriginal Corporation.

Contact: Mr Thomas Wilson, Chairman of the Board of Directors,
Carpentaria Land Council Aboriginal Corporation
PO Box 6662, Cairns QLD 4870, Australia. (Tel: +61 7 4041 3833)

Wetland to seaward of Tarrant is marine waters in a remote area with no human population. It is not actively managed but is under the jurisdiction of the Department of Natural Resources and Mines.

Contact: Department of Natural Resources and Mines
61 Mary Street, Brisbane, Queensland 4000
PO Box 15216, CITY EAST QLD 4002

13 QGOV (13 74 68) business hours

14. Bibliographical references*:

Bamford, M.J., Watkins, D.G., Bancroft, W., Tischler, G. & Wahl, J. 2008. Migratory Shorebirds of the East Asian-Australasian Flyway; Population Estimates and Important Sites. Wetlands International – Oceania.

Blackman, JG, Perry, TW, Ford, GI, Craven, SA, Gardiner, SJ & De Lai, RJ 1999. Characteristics of Important wetlands in Queensland. Environmental Protection Agency, Queensland. pp. 282-284.

CLCAC 2015. Nijinda Durlga (Gangalidda) Indigenous Protected Area Management Plan. Published by Carpentaria Land Council Aboriginal Corporation, Cairns. 104 pp.

Driscoll, P.V. 2001. Gulf of Carpentaria wader surveys 1998-9. Report by Queensland Wader Study Group and Australasian Wader Studies Group to Queensland Environmental Protection Agency, 84 pp. & appendices.

Driscoll, P. in prep. Shorebird Surveys in the South East Gulf of Carpentaria. Report on 2013 surveys, in preparation for the Australasian and Queensland Wader Study Groups.

Garnett, S. 1983. Report on the fifth aerial survey of migrating wading birds between Weipa and Milingimbi, 9-13 February 1983. *Stilt* 4: 15-17.

Jaensch, R. 2013. New tools for development of the Flyway Site Network: An integrated and updated list of candidate sites and guidance on prioritisation. Report to Partnership for the East Asian – Australasian Flyway, 96 pp.

Lane, B.A. & Davies, J. 1987. Shorebirds in Australia. Nelson, Melbourne.

Sattler, P.S. & Williams, R.D. 1999. The conservation status of Queensland's bioregion ecosystems. Environmental Protection Agency, Brisbane.

Wetlands International, 2012. Waterbird Population Estimates, Fifth Edition. Summary Report. Wetlands International, Wageningen, The Netherlands.

Information in the following sections is drawn from several sources including Blackman *et al.* 1999:

15. Physical features of the site:

The site is in the south-east quarter of the Gulf of Carpentaria and is part of the Gulf Plains biogeographic region (Sattler & Williams 1999). It is a flat landscape on marine and alluvial sediments, with micro-relief formed by shelly beach ridges (active; or stranded inland) just a few metres in height.

The following description refers to the section from Kangaroo Point to Tarrant Point.

The marine area is shallow with extensive areas, often 1 to 2 km wide, of mud and sand exposed at lowest tides. Typically, there is just one high tide each day although double tides of low amplitude occur one or two days per month. Maximum tidal range is about 4.6 metres. The coastline, defined by mangroves and beach structures, is backed by extensive, mostly bare, hyper-saline flats that extend many kilometres inland and that may be partly inundated by spring tides and during storms, or fully inundated by monsoonal or cyclonic rainfall. The flats are traversed by many creeks and several rivers; some creeks are purely tidal but others originate far inland and bring fresh water to the coast – in large quantities in the case of rivers such as the Nicholson River.

The climate is hot (often over 30° C) and humid with high rainfall in summer-autumn (December – April) but with little or no rain in other seasons and slightly cooler temperatures (see Bureau of Meteorology online climate data, Burketown). The area is subject to cyclones (on average about one or two per year); wind and storm surges with the cyclones may cause significant but small-scale changes to coastal landforms.

16. Physical features of the catchment area:

The catchment area is part of the Gulf Plains bioregion, is flat to gently-sloped and is traversed by numerous creeks and rivers, many of which split into diverging (in some cases re-joining) channels as they pass through broad alluvial plains before reaching the coast.

17. Hydrological values:

Large quantities of sediment sourced inland are deposited in and near the site by Gulf Plains rivers. Mangroves help stabilise the sediment and protect the coast from impacts of storms and cyclones.

18. General ecological features:

Intertidal flats are presumably rich in marine invertebrates upon which the site's migratory shorebirds depend for food, but invertebrate diversity and abundance have not been systematically documented in this context. Mangrove forests vary in width, structure and species. Major stands, notably on broad bends of inflowing estuaries, show zonation from seaward *Avicennia*, to interior tall *Rhizophora* and/or *Bruguiera* species, and with low thickets of *Ceriops* typical of the landward and most saline zones. Beach ridges may support diverse communities of grasses, vines, shrubs and low trees. Salt flats are extensively bare, apart from algal mats, but in some areas support dense swards of marine couch *Sporobolus virginicus* and short chenopod (samphire) plants.

Ecosystem services provided by the site to humans include:

- Fish, crab and prawn resources (for commercial fisheries and indigenous & recreational fishers)

- Livestock fodder (cattle may graze the marine couch) [7]
- Coastline protection (mangroves)
- Carbon sink (mangrove forest).

19. Noteworthy flora:

See item 18.

20. Noteworthy fauna:

At least 19 species of migratory shorebird have been recorded using the site (Annex 3) and additional species are likely to occur less regularly or as vagrants. Across the entire South-East Gulf of Carpentaria, 16 migratory waterbird species have been recorded in internationally important numbers (Bamford *et al.* 2008; Jaensch 2013); for most of these species, numbers reach the 1% level only when tallied across the whole South-East Gulf shorebird area. Total numbers of migratory shorebirds can exceed 20,000 in two or three survey sections (Garnett 1983; Driscoll 2001; Driscoll in prep.).

Two species of migratory tern have been confirmed as occurring in the site, in small numbers: the Asian-breeding Gull-billed Tern *Gelochelidon nilotica affinis* and White-winged Black Tern *Chlidonias leucopterus* (Annex 3). Both occur elsewhere in Section C and in the wider SE Gulf, the latter in large numbers (R. Jaensch pers. obs.). It is possible that other migratory terns also occur. Also recorded in the site is a suite of other waterbirds (e.g. other shorebirds, terns, herons) that breed in Australia and undertake only regional movements within Australasia (some as far as New Guinea), e.g. Black-winged (White-headed) Stilt *Himantopus himantopus (leucocephalus)*. The nominated site includes relatively little non-tidal wetland (few if any freshwater wetlands) and thus, there is insufficient habitat for many Australian-breeding waterbirds to occur in high numbers within the site. Survey work has focussed primarily on shorebirds and much additional work would be required to extract and review incidental count data for non-shorebirds, or to undertake extra surveys. Furthermore, there is limited evidence of the migration of most such species beyond Australia, including what proportion of each population actually migrates and how regularly.

The largest non-migratory shorebird in the site is the Beach Stone-curlew (thick-knee) *Esacus magnirostris*. High numbers of Australian Pied Oystercatcher *Haematopus longirostris* occur, e.g. 125 at roost C6 on 13 April 2016 (compilers' observations); this exceeds the 1% threshold of WPE5. Other non-migratory birds in the site include herons (e.g. Striated Heron *Butorides striatus*), and White-bellied Sea-Eagle *Haliaeetus leucogaster*. A distinct forest bird community of several species occurs in the site's

[7] Grazing of cattle is not presently practised in the Tarrant area.

mangroves. Estuarine crocodiles *Crocodylus porosus*, marine turtles and other marine fauna typical of tropical Australian waters inhabit the site and surrounding region.

21. Social, economic and cultural values:

The Gangalidda and Garawa (Indigenous Australian) Peoples maintain connections to the site through their cultural traditions and other visitations. No humans live permanently in the site. The Gangalidda and Garawa and other Aboriginal Peoples of the region have strong spiritual associations with the Gulf coastal country and continue to harvest some of its plant and animal resources. These values are reinforced through activities of the Gangalidda and Garawa Land and Sea Rangers, a program of the Carpentaria Land Council Aboriginal Corporation (CLCAC), and through educational programs in local schools.

European association with the site has been limited, partly because there is no all-weather road access to the site and access on unformed tracks only briefly in the Dry season. Fishing activities in the site occur seasonally, including recreational and small-scale commercial fishing but these do not seem to pose a significant threat to the migratory shorebirds.

Owing to the remoteness of the site, harsh climate and weather conditions, lack of permanent human residents, and low levels of harvest of natural resources, the ecological character of the site is not significantly linked to human interactions.

22. Land tenure/ownership:

a) Within the Flyway Network site:

The Tarrant pastoral lease is owned by Carpentaria Land Council Aboriginal Corporation; the Corporation is controlled by Traditional (Indigenous) Owners of land and sea country. Land within the Tarrant leasehold section of the site is under Native Title held by the Traditional Owners, the Gangalidda and Garawa Peoples (Exclusive Use, Determination QC04/5; http://www.atns.net.au/agreement.asp?EntityID=5021). Area seaward of Tarrant is State Waters.

b) In the surrounding area:

To landward: a large part is State Land; the remainder is leasehold land known as Escott which is privately owned and partly under Native Title (Exclusive and Non-Excusive Use). Finucane Island National Park, a reserve owned by the State Government, lies at the east side of the mouth of the Albert River (see maps above).

23. Current land (including water) use:

a) Within the Flyway Network site:

Indigenous land/sea and resource use occurs within the site, at low levels. Seasonally, some recreational fishing and occasional commercial fishing occur within the site, mainly in estuaries. Cattle are not grazed in Tarrant as a business enterprise. Although there is no fence to prevent entry of cattle from nearby areas, very few cattle visit Tarrant due to scarcity of grass fodder, the long trek across bare salt flats, and the lack of drinking water. Shorebird roosts in the site are on bare beaches or bare salt flat; both habitats are unattractive to cattle and thus there is no conflict between cattle and shorebirds.

b) In the surroundings/catchment:

As for (a) but with addition of cattle grazing enterprises, and seasonal tourism. More significant levels of recreational fishing from residents of and visitors to Burketown occur outside the site, in the more accessible Albert River system.

24. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:

a) Within the Flyway Network site:

There are no factors presently operating within the site that have been identified as affecting the site's ecological character.

Rubber vine (*Cryptostegia grandiflora*) infestations in the strand-beach country and associated wetlands may reduce or degrade habitat for some waterbirds, but do not directly impact the main intertidal and beach-roost habitats of the migratory shorebirds that are the foundation of this nomination.

b) In the surrounding area:

No major factors other than in (a); but also see item 30.

25. Conservation measures taken:

The Tarrant land parcel is a portion of the Nijinda Durlga Indigenous Protected Area (see map in Annex 4), declared in 2014 under Commonwealth legislation. A management plan for the Nijinda Durlga Indigenous Protected Area has been published (CLCAC 2015) and is implemented largely by the Gangalidda and Garawa Land and Sea Rangers.

26. Conservation measures proposed but not yet implemented:

Control of invasive plants and feral animals, notably pigs and cats that could possibly predate roosting shorebirds, are long-term, ongoing responsibilities for all landholders in the region.

27. Current scientific research and facilities:

There have been two major expeditions (1998-9 and 2012-3) by Queensland Wader Study Group to survey migratory waterbirds along the South-East Gulf coast and a short smaller-scale survey by QWSG in 2015 (Driscoll 2001; Driscoll in prep.; P. Driscoll & A. Keates pers. com.) but apart from several, earlier, broad-scale aerial surveys (e.g. Garnett 1983; Lane & Davies 1987) there have been no other systematic investigations. No professional or amateur ornithologists live in the site or in nearby areas to landward.

28. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:

Through the activities of regional (catchment-based) organisations for natural resource management, notably Southern Gulf Catchments, some awareness of migratory shorebirds in the South-East Gulf of Carpentaria has been raised. Presently, this is being extended by CLCAC to indigenous communities through the Land and Sea Ranger program. Birds Queensland, through the Queensland Wader Study Group, and BirdLife Australia, through the Australasian Wader Studies Group and Shorebirds 2020 project, continue to promote the international importance of the South-East Gulf of Carpentaria.

29. Current recreation and tourism:

Small-scale seasonal visitations to the site and/or nearby rivers occur for recreational fishing.

30. Threats*:

	Historically	Currently	Potentially
Residential and commercial development			
housing and urban areas	☐	☐	☐
commercial and industrial areas	☐	☐	☐
tourism and recreation areas	☐	☐	☐
Agriculture and aquaculture			
annual and perennial non-timber crops	☐	☐	☐
wood and pulp plantations	☐	☐	☐
livestock farming and ranching	☐	☐	☐
marine and freshwater aquaculture	☐	☐	☐
Energy production and mining			
oil and gas drilling	☐	☐	☐
mining and quarrying	☐	☐	☐

renewable energy	☐	☐	☐
Transportation and service corridors			
roads and railroads	☐	☐	☐
utility and service lines	☐	☐	☐
shipping lanes	☐	☐	☐
flight paths	☐	☐	☐
Biological resource use			
hunting and collecting terrestrial animals	☐	☐	☐
gathering terrestrial plants	☐	☐	☐
logging and wood harvesting	☐	☐	☐
fishing and harvesting aquatic resources	☐	☐	☐
Human intrusions and disturbance			
recreational activities	at small scale	at small scale	at small scale
war, civil unrest and military exercises	☐	☐	☐
work and other activities	☐	☐	☐
Natural system modifications			
fire and fire suppression	☐	☐	☐
dams and water management/use	☐	☐	☐
other ecosystem modifications	☐	☐	☐
Invasive and other problematic species and genes			
invasive non-native/alien species	rubber vine on coastal ridges	rubber vine on coastal ridges	rubber vine on coastal ridges; feral pigs and cats
problematic native species	☐	☐	☐
introduced genetic material	☐	☐	☐
Pollution			
household sewage and urban waste water	☐	☐	☐
industrial and military effluents	☐	☐	☐
agricultural and forestry effluents	☐	☐	☐
garbage and solid waste	☐	☐	☐

air-borne pollutants	☐	☐	☐
excess energy	☐	☐	☐
Geological events			
volcanoes	☐	☐	☐
earthquakes/tsunamis	☐	☐	☐
avalanches/landslides	☐	☐	☐
Climate change and severe weather			
habitat shifting and alteration	☐	☐	☐
droughts	☐	☐	☐
temperature extremes	☐	☐	☐
storms and flooding	tropical cyclones sometimes alter coastal landforms	☐	tropical cyclones may alter coastal landforms

Please write here any additional threats and comments/queries you have on the threats.

The site is remote from human settlements other than Burketown, which lies 15 km south of the southern boundary. There are no roads or formed vehicle tracks into the site and there is no economic land-use in the site other than small-scale, recreational and commercial fishing (seasonal, and minimal during the closed season, October-February, and for most of the Wet season, December to March).

Increased recreational boating in the site, if that occurred, could possibly disturb shorebirds at some of the high tide roosts, particularly if people often landed on the beaches. Disturbance caused by these activities during March-April could put birds to flight and thereby deplete the shorebirds' fat reserves and reduce the capacity of shorebirds to successfully complete their upcoming migration to NE Asia. If disturbance was ever documented as being a concern, an awareness program and signage could address the issue.

Livestock (cattle) and feral animals may occasionally enter the site but the area is highly saline and apart from some patches of marine couch grass there is little suitable grazing pasture in the site. Potentially, a major accident in regard to dam structures that retain mining products (silver-lead-zinc) 170 km inland of

the site, at Century Mine, could result in metal pollution in sediments eventually transported by the Gregory-Albert-Nicholson River systems to the coast, likely impacting invertebrate food consumed by shorebirds.

Annex 1: Criteria for the inclusion of sites in the Flyway Site Network

(From the Partnership Text)

To be considered for inclusion in the Flyway Site Network, this Partnership adopts the following criteria:

a. Convention on Wetlands (Ramsar, Iran, 1971) criteria for internationally important sites for migratory waterbirds. That is:

   Criterion 2: A wetland should be considered internationally important if it supports vulnerable, endangered, or critically endangered species or threatened ecological communities.

   Criterion 5: A wetland should be considered internationally important if it regularly supports 20,000 or more waterbirds.

   Criterion 6: A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.

b. The staging criteria as applied under the Asia - Pacific Migratory Waterbird Conservation Strategy. That is:

   i. A staging site should be considered internationally important if it regularly supports 0.25% of individuals in a population of one species or subspecies of waterbirds on migration.

   ii. A staging site should be considered internationally important if it regularly supports 5,000 or more waterbirds at one time during migration.

c. Under exceptional circumstances a site can be nominated if it supports migratory waterbirds at a level or stage of their life cycle important to the maintenance of flyway populations. Justification of such nominations will be considered by the Partnership on a case by case basis.

Annex 2: Justification of criteria met: additional information

Count data for the following species presently are not at 1% threshold levels but the nominator has every expectation that further surveys will confirm that the site also is internationally important for these species.

Black-tailed Godwit (*Limosa limosa melanuroides*)

Comments:

- There were considerable differences in the species composition and abundance between the counts for roost C6 on 31 August and for roost C5 the next day, on 1 September. Therefore it is possible that these roosts were exclusive (separate and in use at the same times) and that shorebirds did not exchange between these roosts. Thus it may be reasonable to combine the counts for these roosts, on the assumption that there had been little change in the situation over 24 hours and that both roosts were 'operating' on both days (surveys were at similar times on similar tide heights).
- On this basis up to 1744 Black-tailed Godwits were present in the site at this time.
- The latest 1% threshold for Black-tailed Godwit has been reduced to 1400 birds (WPE5: wpe.wetlands.org); the previous threshold was 1600 (WPE4).
- The possible total of 1744 Black-tailed Godwits meets the 1% threshold of both WPE5 and WPE4.
- **Until verified by further survey data, this is a potential case of Criterion a/6 being met and provides a focus for future survey efforts.**

Greater Sand Plover (*Charadrius leschenaultii*)

Comments:

- A total of 778 sand plovers was counted at roost C5 on 29 August 2015 and of these 500 were Greater Sand Plover and no Lesser Sand plovers were identified.
- At the same roost on 1 September 2015, 800 sand plovers were counted but were not identified to species; it is possible that most if not all of these were Greater Sand Plover.
- The latest 1% threshold for Greater Sand Plover is 790 birds (WPE5: wpe.wetlands.org) and the previous threshold was 1000 (WPE4).
- The possible total of 800 Greater Sand Plover meets the 1% threshold of WPE5.
- **Until verified by further survey data, this is a potential case of Criterion a/6 being met and provides a focus for future survey efforts.**

It should be noted that the existing designated site (Delta Downs) in the eastern part of the SE Gulf of Carpentaria is part of continuous shorebird habitat and is internationally important for both the Black-tailed Godwit and Greater Sand Plover.

Annex 3: List of shorebirds counted in the site by QWSG

The table lists species of migratory shorebird counted in the site, from a survey of the South-East Gulf of Carpentaria by Queensland Wader Study Group (QWSG) in August-September 2015 (P. Driscoll & A. Keates pers.com.). The data refer only to Roosts C5 and C6, which lie inside the nominated Network Site boundary for 'South-East Gulf of Carpentaria: Nijinda Durlga (Tarrant) section'.

The surveys were conducted as follows: roost C5 on 29 August, roost C6 on 31 August and roost C5 on 1 September 2015. The maximum number counted from among those 3 surveys is shown.

species	scientific name	max. count	date
Asian Dowitcher	*Limnodromus semipalmata*	2	1 September 2015
Bar-tailed Godwit	*Limosa lapponica*	30	31 August 2015
Black-tailed Godwit	*Limosa limosa*	1100	31 August 2015
Broad-billed Sandpiper	*Limicola falcinellus*	4	29 August 2015
Common Greenshank	*Tringa nebularia*	230	31 August 2015
Curlew Sandpiper	*Calidris ferruginea*	104	29 August 2015
(Far) Eastern Curlew	*Numenius madagascariensis*	31	31 August 2015
Great Knot	*Calidris tenuirostris*	4338	1 September 2015
Greater Sand Plover	*Charadrius leschenaultii*	500	29 August 2015
Grey Plover	*Pluvialis squatarola*	4	1 September 2015
Grey-tailed Tattler	*Tringa brevipes*	2	1 September 2015
Marsh Sandpiper	*Tringa stagnatilis*	80	31 August 2015
Red Knot	*Calidris canutus*	482	1 September 2015
Red-necked Stint	*Calidris ruficollis*	710	29 August 2015
Sharp-tailed Sandpiper	*Calidris acuminata*	4	29 August 2015
Terek Sandpiper	*Xenus cinereus*	4	1 September 2015
Whimbrel	*Numenius phaeopus*	8	31 August 2015
unidentified sand plovers	*Charadrius spp.*	800	1 September 2015

Records of additional species, from observations at Roost C6 on 13 April 2016 conducted by the Gangalidda & Garawa Land & Sea Rangers, assisted by R. Jaensch (advising ornithologist):

Lesser Sand Plover *Charadrius mongolus*: 150 birds

Sanderling *Calidris alba*: 1 bird

Gull-billed Tern *Gelochelidon nilotica affinis*: at least 3 birds

White-winged Black Tern *Chlidonias leucopterus*: at least 3 birds


Annex 4.
Nijinda Durlga IPA
Tarrant section of IPA and subject of this nomination
Burketown
Doomadgee
ARAFURA SEA
GULF COUNTRY
Please Note:
The Nijinda Durlga (Gangalidda) Indigenous Protected Area will now be declared in two Stages. Stage 2 is expected to be declared by 31 December 2014 following the finalisation of necessary land transfers to the Gangalidda People.
Australian Government
Department of the Environment
Stage 1 (186,323 Ha)
Stage 2 (354,773 Ha)
Total IPA area following Stage 2 declaration: 541,096 Ha
Data Sources:
Cadite
© PSMA (2014)
Coastline & Topographic base
© Commonwealth of Australia (Geoscience Australia).
Nijinda Durlga claim area 2014:
Supplied by Carpentaria Land Council Aboriginal Corporation May 2014
Caveat:
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All data are presumed to be correct as received from data providers. No responsibility is taken by the Commonwealth for errors or omissions. The Commonwealth does not accept responsibility in respect to any information or advice given in relation to, or as a consequence of anything contained herein.
Map produced by Environmental Resources Information Network, Australian Government, Department of the Environment, May 2014
Albers Equal Area projection on the GDA94 Datum
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