ENVIRONMENTAL JUSTICE AUSTRALIA

24 September 2025

Northern Territory Environment Protection Authority
GPO Box 3675
DARWIN NT 0801

Via open consultation webpage

Dear NTEPA

Re: Submissions in relation to Sweetwater Agricultural Development Stage 1 on behalf of the Environment Centre (NT) Inc.

1. Environmental Justice Australia (**EJA**) act for the Environment Centre (NT) Inc. (**ECNT**).

2. ECNT are the peak community sector environment organisation in the Northern Territory, raising awareness amongst community, government, business and industry about environmental issues and assisting people to reduce their environmental impact.

3. We refer to the proposed action by Southern Cross Agri Pty Ltd (**Proponent**) to:
    a. clear a minimum of 3,269.37ha as part of Sweetwater Stage 1[1],
    b. construct irrigation infrastructure and drainage networks, including levees, river crossing (for access and water transfer purposes), a 10,000 ML on-site water storage capacity (around 200ha in size)[2],
    c. convert cleared woodland and grassland[3] to cropping, including cotton[4],
    d. construction of machinery sheds, chemical storage facilities, silos and other commodity storage infrastructure[5],
    e. apply agricultural fertiliser and chemicals[6] for cropping.
    (**together, 'the Referral'**)

4. The Referral documents state that the Proponent intends to assess a further 24,684.56ha for dryland and irrigated agricultural cropping as part of Stage 2 and 3 of the proposed Sweetwater development.[7] Stages 1, 2 and 3 of the proposed development, **together** will be referred to as **'the Project'**.

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[1] Cygnium, *Sweetwater Agricultural Development Stage 1: Environmental Referral Report Support Document*, 14 July 2025 (**Referral Report**), p 11.
[2] Referral Report (n 1), p 19, pp 22-23.
[3] Referral Report (n 1), p 46 and Figure 16, p 47.
[4] Referral Report (n 1), Table 1, p 11.
[5] Referral Report (n 1), Table 3, p 19.
[6] Referral Report (n 1), p 56, p64.
[7] Referral Report (n 1), p 23.

5. We refer to the Northern Territory's Environment Protection Authority's (**NTEPA**) invitation for public comment on whether the Referral requires environmental impact assessment, and if so the required method of assessment.

6. ECNT submits that:
    a. The Referral should be refused under r 47(a) and (c) of the *Environment Protection Regulations 2020* (NT) (**EP Regulations**) because it contains insufficient information and is part of a larger action.
    b. If the Referral is not refused on the basis of (a) above, the Referral requires assessment and should be assessed by way of Environmental Impact Statement (**EIS**).

Proponent

7. The Proponent (Southern Cross Agri Pty Ltd) is a subsidiary entity of AAM Investment Group Pty Ltd (**AAMIG**). AAMIG is an Australian owned investment group that provides services to the agricultural industry.

8. AAMIG hold the lease for nearby Legune Station (north of Spirit Hills Station) and are involved in other agricultural projects across the Northern Territory. The person noted in the Referral Documents as proposing to take the action is Garry Edwards, the Managing Director and CEO of AAMIG.

Summary of Project

9. The Project (as defined above) envelope includes over 29,000ha of land.[8]
    a. Stage 1 envelope is 4,524.52ha
    b. Stage 2 envelope is 5,018.99ha
    c. Stage 3 envelope is 19,665.57ha

10. Combined, Stages 1, 2 and 3 equal 29,209.08ha. The Proponent states that the total development 'is not anticipated to exceed over 60% of the proposed development envelope.' It is not clear if the 60% applies to Stages 1, 2 and 3 combined, or to each stage separately, or to only Stage 2 and 3. If the 60% applies to all stages combined, the Project will still include at least **17,525.448ha** of clearing.

11. The Project forms part of the Northern Territory Land Corporation's (**NTLC**) 67,500ha land release for an 'agricultural precinct' in the Keep Plains region.[9] Further information is required to understand how the Referral and Project form part of the broader Keep Plains agricultural development, and particularly whether more development is planned across the 67,500ha that was released to AAMIG.

12. The Referral Report states that it is anticipated that irrigation options will be investigated and developed for Stages 1, 2 and 3 at an appropriate time.[10] It states that irrigation from the Ord System (Lake Argyle and Lake Kununurra via supporting infrastructure) will continue to be investigated. There is no information about these investigations in the Referral documents.

[8] Referral Report (n 1), Figure 6, p 23.
[9] Referral Report (n 1), p 13.
[10] Referral Report (n 1), p 12.

13. The Referral Report also states that key components of Stage 1 include construction of levee banks (43km, 126ha), retention of stormwater for use in cropping (200ha with 10GL storage), river crossings, and potential Keep River crossings for Stage 3.[11] The use of stormwater, wet season flows and/or floodplain flows are, effectively, the use of river water for irrigation. The location of these aspects of the Referral have largely been deferred to after the EIS. For example, the Referral Report states 'retention of overland flow from the fields is proposed with locations of retention facilities to be determined following environmental assessments.'[12] **Specific impacts associated with the Referral are difficult to consider and assess without knowing the specific design details, like the location of retention facilities.**

14. The Proponent's intention is to commence dryland cropping on a minimum of 3,269.37ha of land as part of Stage 1. Land clearing and cropping, and eventually irrigation, is also planned across Stages 2 and 3. Selected crops include corn, cotton, sorghum, chickpeas, mung beans and other grain legumes and cereals to be grown in various rotations.[13] It is not clear if specific crop species are planned for particular areas or at particular times, and whether they have different land management requirements. The Proponent intends to process cotton at the Kununurra Cotton Gin.

15. The agricultural development is intended to be long term (100 plus years) with no plans of decommissioning.

Referral should be refused

16. The NTEPA should refuse to accept the Referral on the following grounds:

17. **Insufficient information (s 47(a), EP Regulations):** The Referral documents contain insufficient information for the NTEPA to make an assessment decision, including:
    a. Failure to identify how the Project fits within the larger (67,500ha) release of land by the NTLC to AAMIG (see paragraph [11]);
    b. Failure to specify design details, like the location of retention facilities (see paragraph [13]);
    c. Failure to identify or assess impacts of Stage 2 or 3 of the Project (see paragraphs [36], [48], [52]);
    d. The Referral Report indicates that, while the current proposal does not include irrigated water supply,[14] the Referral and Project will, in the future, include this supply using groundwater or surface water diverted from Lake Argyle. The draft Terms of Reference (**Draft ToR,** Attachment C to the Referral documents[15]) and proposed EIS do not include assessment of proposed impacts of future irrigated water supply (see paragraphs [31], [37]);
    e. Lack of information about Ramsar wetlands (see paragraph [37]);
    f. Failure to quantify or provide detail of proposed surface water take (see paragraph [32]);
    g. Failure to quantify or estimate proposed groundwater take (see paragraphs [31], [33]);

[11] Referral Report (n 1), p 19.
[12] Referral Report (n 1), p 20.
[13] Referral Report (n 1), p11.
[14] Our client submits that surface water take is irrigation and requires a water licence (see below paragraph [32]).
[15] Attachment C – Terms of reference (TOR) for a proponent initiated EIS referral – DRAFT – Sweetwater Agricultural Development – Stage 1 (**Draft ToR**)

h. Lack of certainty around which threatened and migratory species will be included in the assessment process (see paragraphs [48]-[50]);
i. Failure to include air quality risks and impacts in Draft ToR (see paragraph [58]);
j. Failure to identify and list key stakeholders and what is important to each of those stakeholders (see paragraphs [64]-[66]).

18. **Part of larger action (s 47(c), EP Regulations):** The Referral relates to part of a larger action proposed by the Proponent and information on the whole action is required to make an assessment decision. "Action" is defined by s 5 of the *Environment Protection Act 2019* (NT) (**EP Act**) to include a project, development, undertaking and activity, or series of activities, or works. Sweetwater Stages 1, 2 and 3 are correctly defined as the same action. The Stages are for the same activity being clearing for agriculture, in adjacent land, by the same Proponent.

19. Consideration of the equivalent provision under the *Environment Protection and Biodiversity Conservation Act 1999* (**EPBC Act**) reveals that Stage 1 is likely part of a larger action. In its policy document on Split Referrals under the EPBC Act, the Commonwealth identifies, amongst other things, that a project is likely to be considered part of a larger action in circumstances where:
    a. There is a close geographical relationship between the actions.
    b. There is an overall plan or vision for the larger action and that plan encompasses the referred action.
    c. Whether there is a lengthy timeframe between two or more related actions.
    d. The action will be financed from a single funding source.
    e. There is sufficient information about the larger action for the decision-maker to be satisfied about whether a referral is part of that larger action. [16]

20. ECNT stated in its submissions to the federal Minister for Environment regarding the Referral, that the Minister should refuse to accept the Referral under s 74A of the EPBC Act because it is part of a larger action.

21. In considering how to define an 'action', the Federal Court (in a case related to logging and the EPBC Act) found that, for adjacent logging coupes "it is sufficiently rational and appropriate to characterise the forestry operations undertaken in coupes identified by their geographical location as an "action", even though they may be separated in time in terms of when the forestry operations occur. **That is because the conduct under consideration is the logging of native forest, where the forest functions as a whole ecosystem, not as a series of plots on maps, or schedules in planning documents**. Nor does the forest function in coupes."[17] The tropical savanna ecosystem similarly functions as a whole ecosystem such that a decision-maker would be unable to determine the impact of clearing by stages on the ecosystem as a whole.

22. Separately, the meaning of "impact" is specifically defined to include **cumulative impact** (s 10(2), EP Act). The damage of cumulative impacts from land clearing

[16] DSEWPC *Policy Statement – Staged Developments – Split referrals: Section 74A of the EPBC Act* (Australian Government, BIO277.0614), pp 3-4.
[17] *Friends of Leadbeater's Possum Inc v VicForests (No 4)* [2020] FCA 704 at [1340].

proposals being separately referred and assessed is well recognised,[18] including in the State of the Environment Report.[19] The cumulative impacts from the action cannot be assessed by a carve out of Stage 1 from the rest of the clearing proposal.

In the alternative, the Project requires environmental assessment and should be assessed by way of Environmental Impact Statement (EIS)

23. The Proponent must refer to the NTEPA for assessment a proposed action that has the potential to have a significant impact on the environment (s48(a), EP Act). Our client agrees with the Proponent that the Project should be assessed by way of EIS.[20]

24. The federal Minister for the Environment and Water has determined that the Referral is likely to have a significant impact on matters of national environmental significance (MNES) under the EPBC Act, including threatened species, migratory species and wetlands of national importance. See EPBC controlled action decision dated 25 August 2025.

25. Section 55(5) of EP Act states that if the NTEPA determines that a referred action has the potential to have a significant impact on the environment, the NTEPA must:
    a. determine that an environmental impact assessment is required for the referred action; or
    b. If the NTEPA considers the referred action is unacceptable because it is likely to have significant impacts that cannot be appropriately avoided, mitigated or managed – recommend to the Minister that the Minister refuse to grant an environmental approval for the referred action.

26. It is uncontroversial that the Referral requires environmental assessment.

27. The potential environmental impacts from this project are substantial and should be assessed by way of the most thorough environmental assessment method. ECNT agrees with the Proponent that if referred, the Project should be assessed by way of EIS.

Further information required - Draft Terms of Reference do not adequately identify potential risks and impacts

Issue 1: Hydrological impacts

28. While ECNT considers an EIS is an appropriate form of environmental assessment for the Referral (if referred), there are key gaps in the Draft ToR that must be addressed.

29. The NTEPA's Guidance on environmental factors and objectives requires the impacts on water to be considered when assessing a proposal. The NTEPA environmental objectives in relation to water, are relevantly:[21]

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[18] Natalya Maitz et al, 'Assessing the impact of referred actions on protected matters under Australia's national environmental legislation', (2023) 5(1) *Conservation Science and Practice* (Available here: https://conbio.onlinelibrary.wiley.com/doi/full/10.1111/csp2.12860).
[19] DCCEEW, Australia: State of the Environment 2021 (webpage), (Available here: https://soe.dcceew.gov.au/overview/pressures/cumulative-pressures).
[20] Attachment D - Proponent Statement of Reasons for proponent initiated EIS – Sweetwater Agricultural Development Stage 1, p 1.
[21] NTEPA, *Environmental factors and objectives: Environmental impact assessment – General technical guidance* (17 March 2025) (**NTEPA Environmental factors and objectives guidance**) p 7.

a. Hydrological processes: Protect the hydrological regimes of groundwater and surface water so that environmental values including ecological health, land uses and the welfare and amenity of people are maintained.
b. Inland water environmental quality: Protect the quality of groundwater and surface water so that environmental values including ecological health, land uses and the welfare and amenity of people are maintained.
c. Aquatic ecosystems: Protect aquatic habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.

30. The Project proposes substantial irrigation infrastructure, including a 10,000ML onsite water storage facility, levees, river crossings, diversion of water sources.

31. **Failure to include proposed irrigation in referral documents:** The impact of proposed future irrigation has not been included in the Referral documents, with the Proponent stating that future irrigation from either groundwater or through the adjacent Ord River irrigation network is anticipated in the future. [22] The Referral Report states that "Irrigation opportunities for Stage 1 will be developed over time. Future irrigation across all three stages is anticipated, using surface water diverted from Lake Argyle via Ord irrigation infrastructure."[23] The Referral documents indicate that, while it is intended for the Project to be irrigated by an external water supply, this critical aspect of the Project has not been included in the Referral or Draft ToR for the EIS.

32. **Surface water:** The surface water impacts of the Project have not been estimated or quantified, with this essential aspect of the proposal being entirely deferred until the EIS stage.[24] The Referral Report references the *Surface water take – wet season flow policy.*[25] This is a policy which enables the practice of floodplain harvesting, to capture overland flows from floodplains which would otherwise flow into wetlands and billabongs, flow downstream into the ocean, or soak into aquifers. This may also capture rainfall runoff that would otherwise flow into rivers. The entire development is located within the Keep River floodplain, and thus any water diverted or captured within the development footprint would take water from this river system. Floodplain harvesting is risky practice that proved extraordinarily damaging, notably in the Murray Darling Basin,[26] to wetlands, vegetation health, and threatened species including

[22] Draft ToR (n 15), p 5, states that, while the referral proposes a development of "a cropping system which is not irrigated by external water supply (that is, from either groundwater or through the adjacent Ord River irrigation network)…It is anticipated that irrigation options will be fully investigated and developed for Stages 1, 2 and 3 at an appropriate time in the future."
[23] Referral Report (n 1), p 23.
[24] Draft ToR (n 15), p 19, identifies that the EIS will quantify available stormwater which can be diverted and utilised for on-farm irrigation purposes, in line with the requirements of the N*TG's Surface water take – wet season flow policy* using data from the nearby Keep River and Border Creek gauging stations.
[25] Northern Territory Government, 2023, *Surface water take – wet season flow policy*, (Available at https://nt.gov.au/__data/assets/pdf_file/0008/1348190/surface-water-take-wet-season-flow-policy.pdf).
[26] For example, see 'A Fork in the River: The consequences of a major new cotton industry in the Northern Territory' (2022), p11 - 'floodplain harvesting can reduce flows into rivers, which in turn reduces the volumes of water available for downstream ecosystems and towns and rural communities. Diverting large volumes of water from rivers and floodplains can have major impacts on wetlands that depend on overland flows to maintain their ecological character. In eastern Australia, floodplain developments have affected waterbird breeding, vegetation health, frogs, microbats and woodland birds. See Territory Rivers'.

waterbirds and frogs.[27] The Proponent has provided minimal information about its plans to harvest floodplain flows from the Keep River catchment. Capturing or use of floodplain flows is irrigation, and requires a surface water licence.

33. **Groundwater:** As noted above at paragraph [31], the impact of proposed future irrigation from groundwater has not been included in the Referral documents. In addition to this unknown impact of groundwater take, the impacts include changed groundwater chemistry. Almost the entire Referral is within a "salinity hazard area", with slow and moderately drained soil, as discussed in Short's irrigation feasibility study of the Keep Plains (2019).[28] In addition, Dilshad (2018)[29] showed that the proposed activities are modelled to increase Total Suspended Solids, Total Nitrogen , Total Phosphorous , Chromium and Lead in groundwater.

34. **Flooding and surface drainage:** The Referral report notes that "The bulk of the project site is classified as 'moderate to imperfect' or 'imperfect' drainage, reflecting the combined interactions of the surface water hydrology, coastal processes (for example, tidal influence in the lower Keep River pools and estuary), and the topography of the lower Weaber Plain."[30] This is one of many factors which has been identified as making the site unsuitable for irrigated agriculture (Short, 2019).[31]

35. **EIS should address Short et al (2019) Recommendations:** TAny EIS should address all Short et al (2019) recommendations, including the recommendations which are not extracted in the Referral Report related to Groundwater and Salinity Hazard.

36. **The above hydrological impacts can only be properly assessed together with Stage 2 and 3 of the Project.** The hydrological impacts are cumulative and interrelated with the other stages of the Project and can only be properly assessed along with those stages (see paragraphs [21]).

37. **Wetlands:** The EPBC Act controlled action decision notes potential impacts on wetlands and the bilateral agreement requires that the EIS includes enough information about relevant impacts to allow the Minster to make an informed decision whether or not to approve the action.[32] Contrary to the information provided in the EPBC referral form, the Keep River bounds the Ord catchment,[33] which contains two

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[27] Kingsford R (2021), Submission on Inquiry into Floodplain Harvesting Select Committee on Floodplain Harvesting, University of New South Wales.
[28] Referral Report (n 1) p 59, referencing Short et al, 2019. *A Feasibility Assessment of Irrigated Agriculture on the Keep River Plains, Technical Report 46/2019*. Northern Territory Department of Environment and Natural Resources, Northern Territory Government. Palmerston, Northern Territory. (**Short et al (2019**), see map on p 23) (Available here: Territory Stories - A Feasibility Assessment of Irrigated Agriculture on the Keep River Plains).
[29] Dilshad, M. 2018a. *Impact of Landuse on Sediment and Analyte Load Delivery to the Lower Keep River, NT: A Preliminary Modelling Exercise*. Department of Environment and Natural Resources (Water Resources Division), Northern Territory Government, Palmerston (Available here: Territory Stories - Impact of Landuse on sediment and analyte load delivery to the Keep River network: a preliminary modelling exercise).
[30] Referral Report (n 1), p 56.
[31] Short et al (2019) (n 28).
[32] Bilateral Agreement between the Commonwealth and the Northern Territory made under section 45 of the EPBC Act (1999) relating to environmental assessment (2021), p 21.
[33] Australian Government, *National Water Account 2023: Ord Region description* (webpage, available here: https://www.bom.gov.au/water/nwa/2023/ord/regiondescription/geographicinformation.shtml).

Ramsar-listed wetlands – the Lake Argyle and Kununurra Ramsar Site and the Ord River Floodplain Ramsar Site. Neither Ramsar site is mentioned in the Referral documents or Draft ToR. As described above at paragraph [30], future irrigation is proposed using groundwater or using surface water diverted from Lake Argyle via Ord irrigation infrastructure. The failure to include these Ramsar sites in the EIS would, in our client's view, fail to include enough information about relevant impacts to allow the federal Minister for Environment to make an informed decision under the EPBC Act.

38. In addition, the 'Legune wetlands complex' (downstream of the Project) is another Site of Conservation Significance which could be significantly impacted by the development. It provides important habitat, across various wetland types with dynamic hydro-ecological processes, for treaty-protected migratory bird species, specifically shorebirds. As a site, Legune wetlands complex supports more than 40,000 mixed water birds, is home to at least four waterbird colonies and significant breeding ground for endangered flat back turtles, contains at least 29 species listed under international conventions or bilateral agreements protecting migratory animals, as well as meeting national or international significance criteria for sixteen shorebird species, most of which are protected under bilateral treaties under which Australia has international conservation obligations.[34] The site is thought to likely satisfy waterbird-based criteria for listing as a Wetland of International Importance under the Ramsar Convention (NT Govt, Sites of Conservation Significance list[35]) but is not currently so listed. The Referral Report and Draft ToR do not make any reference to this site.

Issue 2: Terrestrial ecosystems - threatened and migratory species impacts

39. As noted above at [27], while ECNT considers EIS is an appropriate method of environmental assessment, there are gaps in the Draft ToR that must be addressed before an EIS is carried out.

40. The NTEPA's Guidance on environmental factors and objectives requires the impacts on land to be considered when assessing a proposal.

41. The NTEPA environmental objectives in relation to land, are relevantly:[36]
    a. Conserve the variety and integrity of distinctive physical landforms.
    b. Protect the quality and integrity of land and soils so that environmental values are supported and maintained.
    c. Protect terrestrial habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.

42. The Project (including Stage 2 and 3) proposes a project envelope of over 29,000ha, up to 60% of which could be cleared and converted to dryland and irrigated crops. The Stage 1 proposal includes over 4,500ha of land alone. This is a significant amount of proposed clearing and land use change.

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[34] Weller et al, 2020 *Australian National Directory of Important Migratory Shorebird Habitat – Chapter 3: Northern Territory*, Prepared for Australian Government Department of Agriculture, Water and the Environment by BirdLife Australia, pp 30-33.
[35] Northern Territory Government, *Sites of conservation significance lis*t, (webpage, available here: Sites of conservation significance list | NT.GOV.AU).
[36] NTEPA Environmental factors and objectives guidance (n 21), p 7.

43. From the outset, we note that the Referral Report and report by Carnavas et al (2019)[37] identify significant terrestrial risks associated with the Referral. For example:

> "the proposal area is within the Ivanhoe Land System. This land system is classified under the *Western Australian Biodiversity Conservation Act 2016* as a Priority 3(iii) ecological community. This classification is applied to poorly known ecological communities made up of large, and/or widespread occurrences, that may or may not be represented in the reserve system, but are under threat of modification of much of their range from processes such as grazing by domestic and/or feral stock, inappropriate fire regimes, clearing, hydrological change, etc. (Department of Environment and Conservation, 2013, p6). This legislation and therefore the classification does not apply in the Northern Territory." (p43, Referral Report)

This classification indicates that there are likely to be significant risks associated with the Referral and the Project.

44. **Class 4 land should be excluded from clearing or farm infrastructure areas.** The majority of the Project envelope is classified as class 2 and 3, but some areas adjacent to the Keep River within Stage 1 Sweetwater Development are classified as Class 4 (land with extreme constraints). Class 3 land is defined as 'land with severe constraints' and requiring a high level of input and expertise. Class 4 land is defined as requiring an 'unacceptable level of inputs, expertise and investment to develop and manage land sustainably'.[38] Class 4 land should not be included in the Project envelope.

45. **The risks associated with 'saturated conditions' must be assessed as part of the EIS.** Carnavas et al's (2019) report states the following in respect of Classes 2 and 3:

> "Lands that are intermediate between Classes 2 and 3 occupy 4,432 ha…Soils are extensive, level vertic clays, but are constrained by variation in inherent drainage characteristics. Drainage ranges from moderately well drained to imperfectly drained, and whilst these lands are generally capable of development, it is likely they will experience significant temporal and spatial variability with regard to seasonal soil saturation. Where saturated conditions do occur they are likely to impede land access, crop productivity, and heighten secondary salinity risk. Land levelling to ensure adequate land gradients and surface drainage may be required."[39]

The Draft ToR states that environmental management requirements associated with seasonal and extreme weather will be considered.[40] The risks identified in the Carnavas report must specifically be addressed in any EIS.

46. **The draft ToR should specifically identify that a 'locality-specific salinity risk assessment' be carried out**. Carnavas et al's (2019) report states further investigations are required, namely: A locality-specific salinity risk assessment is

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[37] Carnavas et al (2019) *Soil and Land Capability Assessment of the Lower Weaber and Keep River Plains, Northern Territory. Section 1: Lower Weaber and Upper Keep*. Agricultural Land Suitability Series – Report 16a. Technical Report 38/2019 Department of Environment and Natural Resources, Darwin, NT (**Carnavas et al (2019)**).
[38] Referral Report (n 1), p 37.
[39] Carnavas et al (2019) (n 37), p 104.
[40] Draft ToR (n 15), p 15.

recommended prior to any future irrigation development. Such an assessment needs to examine the local hydrological constraints, particularly permeability rates, deep drainage volumes and water holding capacities, and reconcile these against planned cropping systems and likely irrigation loads (Searle et al., 2007; Biggs et al., 2012; Biggs, 2013).[41] The Draft ToR state in relation to Terrestrial Environmental Quality that the Proponent will 'utilise surveys and field verified modelling to determine the areas that could experience impacts associated with the proposed activities. This is to take into account soil health properties, including secondary and tertiary salinity and sodicity risks'.[42] The ToR should specifically refer to the recommendations in Carnavas et al (2019) report and commit to undertaking a locality specific salinity risk assessment.

47. **Important fauna sites should be identified and assessed**. The NTEPA's Guidelines for Assessment of Impacts on Terrestrial Biodiversity (NTEPA, 2025) states that important fauna sites should be assessed.[43] The Draft ToR state that threatened and migratory species habitats will be assessed, and that targeted flora and fauna surveys will be undertaken but it is not clear that this will include consideration of important fauna sites more generally.

48. **EPBC Protected Matters report should be updated.** The EPBC protected matters report in the Referral documents[44] is dated September 2024 and appears to have used a 10km buffer around the Stage 1 development area.[45] It indicates there are 20 threatened species and 17 migratory species that may occur in the nominated area. On 16 September 2025, EJA generated an EPBC protected matters report using a 15km radius around Spirit Hills Station NT Por 1584 which lists 35 threatened species and 33 migratory species which may occur in the area (**attached**). EJA's protected matters report refers to 3 species of turtles as being known to occur within the area, while the Proponent's protected matters report does not refer to any turtles. The EJA report also refers to the Ord River floodplain Ramsar site, while the Proponent's does not. We also note that the freshwater sawfish has been uplisted to endangered since September 2024. A more comprehensive protected matters report should be conducted. It must:
    a. Be more recent than September 2024; and
    b. Include Stage 2 and 3 of the development in the footprint area. The ToR for Terrestrial Ecosystems specifically state that cumulative impacts of the proposal must be assessed.[46] The cumulative impacts of Stages 1, 2 and 3 need to be considered.

49. **The ToR should explicitly state what threatened and migratory species will be addressed.** The Draft ToR state that the EIS will 'address the threatened and migratory species listed as MNES under the EPBC Act.'[47] We assume the threatened and migratory species the Proponent will consider are those listed in table 13 on pp71-

[41] Carnavas et al (2019) (n 37), p 3.
[42] Draft ToR (n 15), p 15.
[43] NTEPA *Guidelines for assessment of impacts on terrestrial biodiversity,* 10 March 2025, p 15.
[44] Attachment E to the Referral Report: DCCEEW, *EPBC Act Protected Matters Report*, 29 September 2024.
[45] Referral Report (n 1), p 50.
[46] Draft ToR (n 15), p 17.
[47] Draft ToR (n 15), p 17.

74 of the Referral Report though this is not specifically stated. It should be clear from the ToR what species will be assessed as part of any EIS.

50. **The ToR should require surveys to be carried out for all threatened and migratory species that could be impacted.** The draft ToR state that 'appropriate targeted biodiversity surveys' will be completed. It is not clear if this means targeted surveys will be carried out for all threatened and migratory species that may, or are likely or known to occur in the area. Previous Ord developments in the Kimberley are thought by some to have led to 'fragmenting habitat corridors that allow animals to move freely between hill ranges and the connecting plans country.'[48] It is also important to note the nearby Legune coastal wetland (see [38] above), which is identified as a key biodiversity area due to migratory shorebirds. The ToR should specifically state that surveys will be carried out in relation to each threatened and migratory species that could be impacted by the Referral and Project.

Issue 3: cumulative impacts

51. The Proponent states in the Referral Report that the cumulative impacts of Stage 1 of the Project adding to the already approved ~14,000ha Ord Stage 1 area~7,500ha Goomig and ~5,000ha Knox areas of Ord Stage 2, and the ~3,000ha Carlton Plain agricultural area will be addressed in the EIS.

52. **Other developments should be considered in the cumulative impact assessment.** ECNT submits that the EIS should also include the cumulative impacts from the adjacent agricultural development at Legune Station, as well as future agriculture developments arising from the 67,500 hectares released by the NTLC as part of the 'Keep Plains Agricultural Development', including Stage 2 and 3 of the Sweetwater development. The Referral Report notes that this anticipated outcome for this area is "agricultural infrastructure to support broadacre crops like corn, cotton, sorghum, and chickpeas." The cumulative impact of development across the relevant area should be included in the EIS, including in responding to the Minimum information requirements that include assessment of "other industries and proposals that may contribute to cumulative impacts of this proposal" (in relation to terrestrial ecosystems, hydrological processes, inland water environmental quality, and terrestrial environmental quality).

Issue 4: Impacts of a changing climate and atmospheric processes

53. We note again that while an EIS is an appropriate method of environmental assessment to consider the impacts of a changing climate, the draft ToR require further detail before an EIS is carried out.

54. Under section 42(b)(v) of the EP Act, all actions that may have a significant impact on the environment are assessed, planned and carried out taking into account the impacts of a changing climate. The NTEPA's Guidance on environmental factors and objectives requires the impacts on air to be considered when assessing a proposal.

[48] Alys Marshall, *Australian Broadcasting Corporation*, 'Three years with no sign of endangered Gouldian finches in Ord Valley prompts environmentalists' concern' (17 Jul 2023) (online, available: https://www.abc.net.au/news/2023-07-17/gouldian-finches-disappear-in-ord-valley-but-thrive-elsewhere/102602092).

55. The NTEPA environmental objectives in relation to air, are relevantly:[49]
    a. Protect air quality and minimise emissions and their impact so that environmental values are maintained.
    b. Minimise greenhouse gas (GHG) emissions so as to contribute to the NT Governments goal of achieving net zero GHG emissions by 2050.

56. We also note from the outset that in increasing greenhouse gas (GHG) emissions through land clearing and agricultural expansion, the Project impedes a pathway to Australia's targets to cut GHG emissions and the NT Government's net zero goal. Given immediate emissions reductions required to limit warming and avoid catastrophic impacts on Australia's people and environment, and that the Project contributes emissions, reduces natural buffers and risks releasing stored carbon, it is essential that an EIS outlines how this project will be planned in line with a 1.5°C compatible pathway.

57. **Air quality should be included in ToR.** The Proponent states there will be localised dust generation that is unlikely to impact human health due to the lack of permanent residences within the project area.[50] There is no reference to protecting air quality in the draft ToR. This fails to account for impacts to: other biological processes that depend on air quality; impacts to humans that work on the project site; and impacts from future stages of the development project.

58. **ToR should include an assessment and mitigation measures in relation to adaptation to a changing climate rather than a 'discussion'.** The Draft ToR state that the EIS will '*discuss* adaptation to a changing climate including design and resultant viability of the proposal.'[51] The ToR and EIS should include an *assessment* of how a changing climate, including extreme weather, will impact the Project and what design measures will be implemented to mitigate the risks associated with extreme weather. Intact systems act as a natural buffer against extreme weather. Once the land is exposed, it is more susceptible to damage.[52] These factors need to be considered.

59. **National climate risk assessment.** The National Climate Risk Assessment, released last week, found that Northern Australia will be hardest hit by global warming on many fronts, including extreme heat. It said: 'Northern Australia is likely to experience escalating challenges as its proneness to hazards increases as global temperature rise. This will put pressure on health, critical infrastructure, natural species and ecosystems, and primary industries. It will also pose additional challenges to emergency responders.' [53] An article in the Conversation by Adjunct Professor at CQ University, Steve Turton, states 'any discussion about transforming Northern Australia must confront the climate hazards threatening the region's prosperity.'[54] The ToR

[49] NTEPA Environmental factors and objectives guidance (n 21), p 7.
[50] Referral Report (n 1), p 65.
[51] Draft ToR (n 15), p 21.
[52] The Wilderness Society, 'Climate change and Australia's Tree Clearing Crisis' (available here: https://www.climatechangeauthority.gov.au/sites/default/files/The%20Wilderness%20Society%20-%20attachment.pdf).
[53] Australian Government, 'Australia's National Climate Risk Assessment', (2025), p5 (Available here: https://www.acs.gov.au/pages/national-climate-risk-assessment).
[54] Professor Steve Turton, *The Conversation*, 'Dangerous climate change threatens Northern Australia's big 'food bowl' dreams (23 September 2025), (online, available:

should be much more specific in how an EIS will address the real threat of climate change, and how a '100 year plus' agricultural development will be feasible and sustainable in the face of global warming and extreme weather in Northern Australia.

Issue 5: Stakeholder engagement

60. The Proponent has a duty to provide communities that may be affected by a proposed action with information and opportunities for consultation to assist understanding of the proposed action and its potential impacts and benefits (s43(a), EP Act). The Proponent also has a duty to consult with affected communities, including Aboriginal communities in a culturally appropriate manner (s43(b), EP Act). [55]

61. The NTEPA's Guidance on environmental factors and objectives requires the impacts on people to be considered when assessing a proposal. The NTEPA environmental objectives in relation to people, are relevantly:[56]

    a. Enhance communities and the economy for the welfare, amenity and benefit of current and future generations of Territorians.
    b. Protect culture and heritage.
    c. Protect the health of the Northern Territory population.

62. An EIS will be an essential accountability tool to ensure adequate stakeholder engagement occurs before a decision is made on the Referral and/or the Project. Further information is required in the draft ToR to ensure that all aspects of stakeholder engagement and consultation are considered.

63. **The Proponent should identify the specific stakeholders in the Draft ToR.** The NTEPA's guidance on stakeholder engagement recommends proponents identify all stakeholders and focus on those stakeholders most affected by the potential ecological, social, cultural and economic health impacts of the proposal (p10).[57] The Proponent has listed two Aboriginal corporations and otherwise states 'other Aboriginal people or stakeholders with an interest in the proposal' will be included in consultation. This does not sufficiently identify relevant stakeholders for the public to be able to then comment on where consultation efforts should be focused. The Draft ToR and Referral documents are seriously lacking information about stakeholder engagement and consultation.

64. **The Proponent must analyse the impact of each stakeholder and identify issues that are important to those stakeholders.** This is also a recommendation of the NTEPA's guidance on stakeholder engagement[58] but is not addressed in the Draft ToR.

65. **The Proponent must ensure that the Northern Land Council and Aboriginal Areas Protection Authority are included in the stakeholder engagement and consultation process.** The Proponent notes consultation will include: Yawoorroong Miriuwung Gajerrong Yirrgeb Noong Dawang Aboriginal Corporation (MG Corporation);

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https://theconversation.com/dangerous-climate-change-threatens-northern-australias-big-food-bowl-dreams-265727).

[55] Also see objects of the *Environment Protection Act 2020* (NT), ss 3(d)-(e).

[56] NTEPA Environmental factors and objectives guidance (n 21), p 7.

[57] NTEPA Stakeholder Engagement and Consultation: Environmental Impact Assessment Guidance for Proponents (2020), p 10 (**NTEPA Guidance on Stakeholder Engagement**).

[58] NTEPA Guidance on Stakeholder Engagement (n 57), p 11.

Djarrany Djarrany Aboriginal Corporation; and other Aboriginal people or stakeholders with an interest in the proposal area. The NLC is the key representative body for native title holders and traditional owners in the Northern Territory and must specifically be included. The AAPA must also be included as a key stakeholder.

66. **Request for specific consultation with ECNT.** The NTEPA's guidance on stakeholder engagement 'expects proponents to take a proactive approach to early stakeholder engagement as this enables proponents to identify and address issues raised by stakeholders before key decisions are made'.[59] The Draft ToR states that the EIS will provide a summary of consultation completed pre-referral (January 2025), including adjustments made to the Referral as a result of the consultation.[60] ECNT advise that they have not been contacted about the Referral by the Proponent. ECNT are the peak environment and conservation group in the NT, with a stated interest in the Referral. In line with the NTEPA Guidance on Stakeholder Engagement, the Proponent should consult with ECNT in relation to the Referral and the Project.

Conclusion

67. ECNT submits that:

    a. The Referral should be refused under r 47 of the EP Regulations;
    b. In the alternative, if the Referral is not refused:
        i. The Referral requires environmental assessment;
        ii. The Referral should be assessed by way of EIS; and
        iii. The draft ToR should be amended to include further detail about project design details, environmental risks and impacts to ensure the EIS adequately assesses the Referral and the Project.

68. Should you require further information regarding this submission, please contact Laura Dreyfus at laura.dreyfus@envirojustice.org.au or Nicola Silbert at nicola.silbert@envirojustice.org.au.

Yours sincerely

LDreyfus

Laura Dreyfus and Nicola Silbert
Senior Lawyers
Environmental Justice Australia

[59] NTEPA Guidance on Stakeholder Engagement (n 57), p 8.
[60] Draft ToR (n 15), p 9.

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 16-Sep-2025

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	1
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	35
Listed Migratory Species:	33

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at https://www.dcceew.gov.au/parks-heritage/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	53
Whales and Other Cetaceans:	3
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	6
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	6
Key Ecological Features (Marine):	None
Biologically Important Areas:	None
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar Wetlands)		[Resource Information]
Ramsar Site Name	Proximity	Buffer Status
Ord river floodplain	50 - 100km upstream from Ramsar site	In buffer area only

Listed Threatened Species			[Resource Information]
Status of Conservation Dependent and Extinct are not MNES under the EPBC Act. Number is the current name ID.			
Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
Chloebia gouldiae listed as Erythrura gouldiae Gouldian Finch [90091]	Endangered	Species or species habitat known to occur within area	In feature area
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat likely to occur within area	In feature area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Falcunculus frontatus whitei Crested Shrike-tit (northern), Northern Shrike-tit [26013]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Pezoporus occidentalis](#) Night Parrot [59350]	Critically Endangered	Species or species habitat may occur within area	In feature area
[Rostratula australis](#) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area	In feature area
[Tyto novaehollandiae kimberli](#) Masked Owl (northern) [26048]	Vulnerable	Species or species habitat likely to occur within area	In feature area
MAMMAL			
[Antechinus bellus](#) Fawn Antechinus [344]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Dasyurus hallucatus](#) Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat likely to occur within area	In feature area
[Macroderma gigas](#) Ghost Bat [174]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Orcaella heinsohni](#) Australian Snubfin Dolphin [81322]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Petrogale concinna concinna](#) Nabarlek (Victoria River District) [87605]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
[Saccolaimus saccolaimus nudicluniatus](#) Bare-rumped Sheath-tailed Bat, Bare-rumped Sheathtail Bat [66889]	Vulnerable	Species or species habitat known to occur within area	In feature area
[Sousa sahulensis](#) Australian Humpback Dolphin [87942]	Vulnerable	Species or species habitat may occur within area	In buffer area only
[Trichosurus vulpecula arnhemensis](#) Northern Brushtail Possum [83091]	Vulnerable	Species or species habitat may occur within area	In feature area
PLANT			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Hibiscus cravenii [81624]	Vulnerable	Species or species habitat likely to occur within area	In feature area
REPTILE			
Acanthophis hawkei Plains Death Adder [83821]	Vulnerable	Species or species habitat may occur within area	In feature area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat known to occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Tiliqua scincoides intermedia Northern Blue-tongued Skink [89838]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Varanus mertensi Mertens' Water Monitor [1568]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Varanus mitchelli](#) Mitchell's Water Monitor [1569]	Critically Endangered	Species or species habitat known to occur within area	In feature area
SHARK			
[Glyphis garricki](#) Northern River Shark, New Guinea River Shark [82454]	Endangered	Species or species habitat may occur within area	In buffer area only
[Pristis clavata](#) Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
[Pristis pristis](#) Largetooth Sawfish, Freshwater Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Endangered	Species or species habitat known to occur within area	In feature area
[Pristis zijsron](#) Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
[Sphyrna lewini](#) Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area	In buffer area only
SNAIL			
[Mesodontrachia fitzroyana](#) Fitzroy Land Snail [79111]	Endangered	Species or species habitat may occur within area	In buffer area only

Listed Migratory Species		[Resource Information]	
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
[Apus pacificus](#) Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area
[Calonectris leucomelas](#) Streaked Shearwater [1077]		Species or species habitat may occur within area	In buffer area only
[Phaethon lepturus](#) White-tailed Tropicbird [1014]		Species or species habitat may occur within area	In buffer area only
Migratory Marine Species			

Scientific Name	Threatened Category	Presence Text	Buffer Status
Anoxypristis cuspidata Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat likely to occur within area	In buffer area only
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	In feature area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat known to occur within area	In buffer area only
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat may occur within area	In buffer area only
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat may occur within area	In buffer area only
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Pristis pristis Largetooth Sawfish, Freshwater Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Endangered	Species or species habitat known to occur within area	In feature area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Sousa sahulensis as Sousa chinensis Australian Humpback Dolphin [87942]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat likely to occur within area	In buffer area only
Migratory Terrestrial Species			
Cecropis daurica Red-rumped Swallow [80610]		Species or species habitat may occur within area	In feature area
Cuculus optatus Oriental Cuckoo, Horsfield's Cuckoo [86651]		Species or species habitat may occur within area	In feature area
Hirundo rustica Barn Swallow [662]		Species or species habitat likely to occur within area	In feature area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area	In feature area
Migratory Wetlands Species			

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Acrocephalus orientalis](#) Oriental Reed-Warbler [59570]		Species or species habitat may occur within area	In feature area
[Actitis hypoleucos](#) Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
[Calidris acuminata](#) Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area
[Calidris melanotos](#) Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
[Charadrius veredus](#) Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area	In feature area
[Glareola maldivarum](#) Oriental Pratincole [840]		Species or species habitat may occur within area	In feature area
[Numenius madagascariensis](#) Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
[Pandion haliaetus](#) Osprey [952]		Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

Listed Marine Species			[Resource Information]
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Acrocephalus orientalis](#) Oriental Reed-Warbler [59570]		Species or species habitat may occur within area overfly marine area	In feature area
[Actitis hypoleucos](#) Common Sandpiper [59309]		Species or species habitat known to occur within area	In feature area
[Anseranas semipalmata](#) Magpie Goose [978]		Species or species habitat may occur within area overfly marine area	In feature area
[Apus pacificus](#) Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
[Bubulcus ibis as Ardea ibis](#) Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area
[Calidris acuminata](#) Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat likely to occur within area	In feature area
[Calidris ferruginea](#) Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
[Calidris melanotos](#) Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
[Calonectris leucomelas](#) Streaked Shearwater [1077]		Species or species habitat may occur within area	In buffer area only
[Cecropis daurica as Hirundo daurica](#) Red-rumped Swallow [80610]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat known to occur within area overfly marine area	In feature area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area overfly marine area	In feature area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area	In feature area
Hirundo rustica Barn Swallow [662]		Species or species habitat likely to occur within area overfly marine area	In feature area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area	In feature area
Motacilla flava Yellow Wagtail [644]		Species or species habitat likely to occur within area overfly marine area	In feature area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
[Phaethon lepturus](#) White-tailed Tropicbird [1014]		Species or species habitat may occur within area	In buffer area only
[Rostratula australis as Rostratula benghalensis (sensu lato)](#) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area	In feature area
Fish			
[Campichthys tricarinatus](#) Three-keel Pipefish [66192]		Species or species habitat may occur within area	In buffer area only
[Choeroichthys brachysoma](#) Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area	In buffer area only
[Choeroichthys suillus](#) Pig-snouted Pipefish [66198]		Species or species habitat may occur within area	In buffer area only
[Corythoichthys amplexus](#) Fijian Banded Pipefish, Brown-banded Pipefish [66199]		Species or species habitat may occur within area	In buffer area only
[Corythoichthys flavofasciatus](#) Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area	In buffer area only
[Doryrhamphus excisus](#) Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area	In buffer area only
[Doryrhamphus janssi](#) Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area	In buffer area only
[Halicampus brocki](#) Brock's Pipefish [66219]		Species or species habitat may occur within area	In buffer area only
[Halicampus grayi](#) Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Halicampus spinirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area	In buffer area only
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area	In buffer area only
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area	In buffer area only
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area	In buffer area only
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area	In buffer area only
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area	In buffer area only
Hippocampus spinosissimus Hedgehog Seahorse [66239]		Species or species habitat may occur within area	In buffer area only
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area	In buffer area only
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area	In buffer area only
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area	In buffer area only
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area	In buffer area only
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area	In buffer area only
Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area	In buffer area only
Reptile			
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Crocodylus johnstoni Freshwater Crocodile, Johnston's Crocodile, Johnstone's Crocodile [1773]		Species or species habitat may occur within area	In feature area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area	In feature area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Species or species habitat known to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Natator depressus			
Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only

Whales and Other Cetaceans			[Resource Information]
Current Scientific Name	Status	Type of Presence	Buffer Status
Mammal			
Orcaella heinsohni			
Australian Snubfin Dolphin [81322]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Sousa sahulensis			
Australian Humpback Dolphin [87942]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Tursiops aduncus (Arafura/Timor Sea populations)			
Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat likely to occur within area	In buffer area only

Extra Information

State and Territory Reserves			[Resource Information]
Protected Area Name	Reserve Type	State	Buffer Status
Barrbem	5(1)(h) Reserve	WA	In feature area
Darrmalanka	5(1)(h) Reserve	WA	In buffer area only
Gooming	5(1)(h) Reserve	WA	In buffer area only
Jemarnde-wooningim	5(1)(h) Reserve	WA	In buffer area only
Keep River	National Park	NT	In feature area
Point Spring	Nature Reserve	WA	In buffer area only

EPBC Act Referrals				[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Sorby Hills Silver-Lead-Zinc Project	2023/09576		Assessment	In buffer area only
Controlled action				
Knox Creek Plain, Irrigation Development, WA	2014/7143	Controlled Action	Post-Approval	In feature area

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Project Sea Dragon stage 1 prawn aquaculture project, NT	2015/7527	Controlled Action	Post-Approval	In buffer area only
Weaber Plain Project	2010/5491	Controlled Action	Post-Approval	In buffer area only
Not controlled action				
Extension of Moonamang Road to the WA/NT border	2017/7856	Not Controlled Action	Completed	In feature area
Not controlled action (particular manner)				
Sorby Hills Silver Lead Zinc Project	2011/6230	Not Controlled Action (Particular Manner)	Post-Approval	In buffer area only

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data is available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on the contents of this report.

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions when time permits.

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded breeding sites; and
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

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-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact us page.

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