

EPBC Act Matters of National Environmental Significance

The *Environment Protection and Biodiversity Conservation Act 1999* establishes a requirement of Commonwealth environmental assessment and approval for actions that are likely to have a significant impact on matters of national environmental significance (MNES) or on the environment on Commonwealth land. The Act requires consideration of the effect of an action of the following 7 matters of national environmental significance:

- World Heritage Properties
- National Heritage Places
- Ramsar wetlands of international importance
- Nationally threatened species and communities
- Migratory species protected under international agreements
- Nuclear actions, including uranium mining, and
- The Commonwealth marine environment.

The impact of an action on these matters is assessed under the criteria specified in: Matter of National Significance – Significant Impact Guidelines (2013) prepared by the Department of the Environment.

Consideration of EPBC Matters

A search was undertaken on the 2nd of May 2019 using the EPBC Protected Matters Search Tool to generate a list of World Heritage Properties, National Heritage Sites, Ramsar wetlands and nationally threatened species, communities and migratory species protected under international agreements that may occur within a 1km radius of Marshlands (Figure 1). The search was undertaken using a polygon around the property.

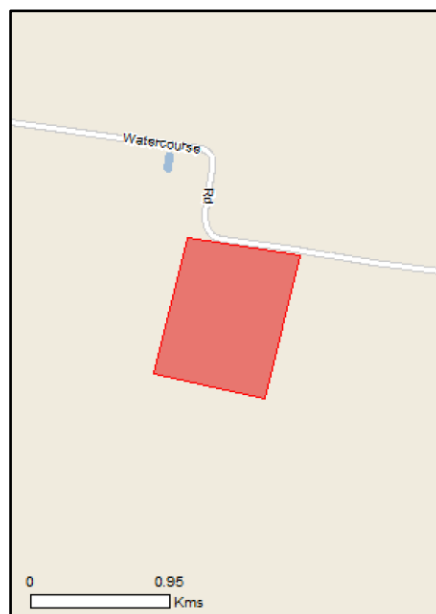


Figure 1: Region Searched for MNES using the EPBC PMST.

Results of Database Search

The search listed the following matters of MNES:

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	4
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	7
Listed Migratory Species:	8

The EPBC Protected Matters Search Tool (PMST) does not list any World Heritage Properties or National Heritage places on the project area, or within a 5 km radius, therefore the proposal is not considered to impact on these matters. Additionally, the proposal does not involve nuclear actions or the marine environment therefore these matters are also not relevant to this assessment.

The search identified the "Gwydir wetlands: Gingham and Lower Gwydir (Big Leather) watercourses river land to be within 10 km of Marshlands. The two other listings are more than 1000 km from the property. The action does not involve water use and therefore the distant wetland areas have not been considered in the following assessment.

Three threatened ecological communities are listed. Only the Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions is present within the study area.

Seven Threatened species and eight Migratory species are listed and may be present.

The following tables identify the species and communities identified in the search that may be present. The tables include comment as to whether the species or community is present and is therefore subject to an assessment of impact from the action.

Table 1: Threatened flora and fauna species predicted or known to occur on the proposal area

Category	Scientific Name	Common Name	Legal Status	Comment
Birds	<i>Calidris ferruginea</i>	Curlew Sandpiper	Critically Endangered	Aquatic species
	<i>Grantiella picta</i>	Painted Honeyeater	Vulnerable	Limited habitat available
	<i>Rostratula australis</i>	Australian Painted Snipe	Endangered	Aquatic species

Category	Scientific Name	Common Name	Legal Status	Comment
Mammals	<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat,	Vulnerable	No preferred habitat
	<i>Nyctophilus corbeni</i>	Corben's Long-eared Bat	Vulnerable	Maybe present in tree hollows
	<i>Phascolarctos cinereus</i>	Koala	Vulnerable	Present if feed trees available.
Reptiles	<i>Anomalopus mackayi</i>	Five-clawed Worm-skink	Vulnerable	No habitat present.

Table 2: Migratory species predicted to occur on the proposal area

Category	Scientific Name	Common Name	Legal Status	Comment
Migratory Marine Birds	<i>Apus pacificus</i>	Fork-Tailed Swift	Listed Migratory (CAMBA, JAMBA, ROKAMBA); Listed Marine	Potential aquatic habitat after flood event.
Migratory Terrestrial Species	<i>Motacilla flava</i>	Yellow Wagtail	Listed Migratory (CAMBA, JAMBA, ROKAMBA); Listed Marine	Potential aquatic habitat after flood event.
	<i>Myiagra cyanoleuca</i>	Satin Flycatcher	Listed Migratory (Bonn); Listed Marine	Potential aquatic habitat after flood event.
Migratory Wetland Species	<i>Actitis hypoleucos</i>	Common Sandpiper	Listed Migratory (Bonn, CAMBA, JAMBA); Listed Marine as <i>Actitis hypoleucos</i> Listed Migratory (ROKAMBA) as <i>Tringa hypoleucos</i>	Potential aquatic habitat after flood event.
	<i>Calidris acuminata</i>	Sharp-tailed Sandpiper	Listed Migratory (Bonn, CAMBA, JAMBA, ROKAMBA); Listed Marine	Potential aquatic habitat after flood event.
	<i>Calidris ferruginea</i>	Curlew Sandpiper	Critically Endangered; Listed Migratory (Bonn, JAMBA, ROKAMBA); Listed Marine	Potential aquatic habitat after flood event.
	<i>Calidris melanotos</i>	Pectoral Sandpiper	Critically Endangered; Listed Migratory (Bonn, CAMBA, JAMBA, ROKAMBA); Listed Marine	Potential aquatic habitat after flood event.
	<i>Gallinago hardwickii</i>	Latham's Snipe, Japanese Snipe	Listed Migratory (Bonn, JAMBA, ROKAMBA); Listed Marine	Potential aquatic habitat after flood event.

CAMBA = China Australia Migratory Bird Agreement; JAMBA = Japan Australia Migratory Bird Agreement; ROKAMBA = Republic of Korea Australia Migratory Bird Agreement; Bonn = Convention on the Conservation of Migratory Species of Wild Animals

A copy of the PMST is presented in Appendix 1.

Assessment of Significance

General Matters

The following provides an assessment of general matters for consideration:

1. *Are there any matters of national environmental significance (NES) located in the area of the proposed action (noting that 'the area of the proposed action' is broader than the immediate location where the action is undertaken; consider also whether there are any matters of national environmental significance adjacent to or downstream from the immediate location that may potentially be impacted)?*

Comment: The EPBC Act Protected Matters Report identifies multiple NES matters in the area. The most significant is the Gwydir Wetlands. This is associated with the common woodland community within the floodplain of Coolabah-Black Box which is an endangered ecological community (EEC). The potential impact of the Action must therefore be considered in relation to the broader impact on the floodplain community and associated fauna species.

2. *Considering the proposed action at its broadest scope (that is, considering all stages and components of the action, and all related activities and infrastructure), is there potential for impacts, including indirect impacts, on matters of national environmental significance?*

Comment: The Action involves clearing of an area of EEC and creation of a set-aside area under NSW vegetation regulations. The objective of the proposal as stated, involves increasing productivity on an area of degraded EEC and offsetting this clearing by creation of areas of similar woodland under a State controlled preservation agreement. The scale of the proposed clearing needs to be considered in relation to the presence of this EEC in the broader area and the potential impact on the health of the Gwydir Wetlands habitat.

3. *Are there any proposed measures to avoid or reduce impacts on matters of national environmental significance (and if so, is the effectiveness of these measures certain enough to reduce the level of impact below the 'significant impact' threshold)?*

Comment: The Action involves clearing within an area of Nationally listed EEC. The impact of this clearing on the broader habitat needs to be considered in relation to the quality of the habitat to be cleared and whether preservation of a set-aside area is considered in relation to the significant impact threshold.

4. *Are any impacts of the proposed action on matters of national environmental significance likely to be significant impacts (important, notable, or of consequence, having regard to their context or intensity)?*

Comment: The proposal includes an action (clearing) which will result in loss of an area of EEC. The cleared area will be cultivated and farmed with the objective of making the farming enterprise more productive and viable. The scale of the proposed action needs to be assessed in terms of surrounding habitat, remaining area of this EEC and the importance of this EEC for habitat such as the Gwydir Wetlands and its associated species.

The following definitions are provided under the EPBC Assessment guidelines:

What is a significant impact?

A ‘**significant impact**’ is an impact which is important, notable, or of consequence, having regard to its context or intensity. Whether or not an action is likely to have a significant impact depends upon the sensitivity, value, and quality of the environment, which is impacted, and upon the intensity, duration, magnitude and geographic extent of the impacts. You should consider all of these factors when determining whether an action is likely to have a significant impact on matters of national environmental significance.

When is a significant impact likely?

To be ‘likely’, it is not necessary for a significant impact to have a greater than 50% chance of happening; it is sufficient if a significant impact on the environment is a real or not remote chance or possibility.

If there is scientific uncertainty about the impacts of your action and potential impacts are serious or irreversible, the precautionary principle is applicable. Accordingly, a lack of scientific certainty about the potential impacts of an action will not itself justify a decision that the action is not likely to have a significant impact on the environment.

The following sections provide an assessment on whether the proposed action is considered a significant action. The assessment is based on the guidelines for “*Matter of National Significance – Significant Impact Guidelines (2013)*” prepared by the Department of the Environment.

Vulnerable Species

The Painted Honeyeater (*Grantiella picta*) is a small nomadic bird, with distinctive markings on its head and underparts. The species is listed as vulnerable and inhabits Boree, Brigalow and Box-Gum Woodlands and Box-Ironbark Forests. Painted Honeyeaters are heavily dependent on native mistletoe species as a core part of its diet and as a nest substrate (Threatened Species Scientific Committee 2015). The preferred mistletoe species were not found on the project area, and would be considered infrequent in the surrounding farmland. Records exist for the species in the nearby Gwydir Wetlands south of the proposed development site. It is unknown whether the population of this species which may occur on the wider project area is a key source population for breeding, or necessary for maintaining genetic diversity. The population on the project area will therefore be considered an ‘important population’ under the ‘precautionary principle’.

Corben's Long-eared Bat (*Nyctophilus corbeni*) habitat preferences include woodland associated with the Murray Darling basin. The species uses tree hollows as their main roost. The potential exists that this species may inhabit the area after flooding or rain when surface water is available. During dry periods, the species would not find water on Marshlands and therefore leave.

Koala (*Phascolarctos cinereus*) habitat is available in the region. The following presents a map showing Koala sightings in the Moree Plains Shire.

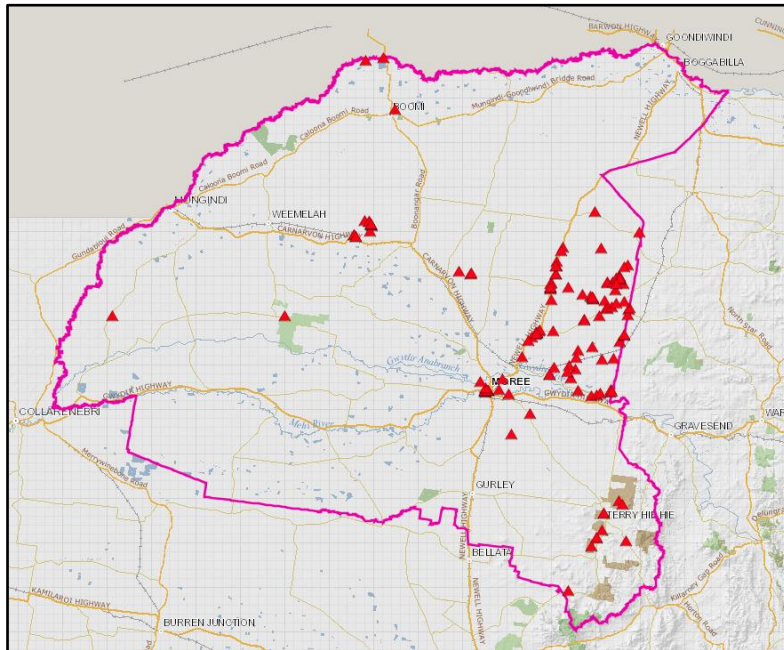


Figure 2: Map showing Koala sightings in the Moree Plains Shire

One sighting is registered in the northwest corner of the Gwydir Wetlands State Conservation Area. A small patch of approximately 20-Feed tree species (*E. populnea*) is present in the southwest corner of the proposed set-aside area with no connectivity to other feed tree areas.

The following section assesses vulnerable species that may be present on Marshlands.

An action has, or will have, or is likely to have a significant impact on a vulnerable species if it does, will or is likely to:

- ***Lead to a long-term decrease in the size of an important population of species***

The habitat to be cleared has been described as having a relatively degraded ground cover but mature trees remain. Limited habitat (food species) is available for the painted honeyeater. The set aside areas retain similar habitat and maintain connectivity if this species utilises the available habitat.

Corben's long eared bat may utilise the area after wet conditions where surface water is available. After the closure of the open bore drain system, very limited surface water is available and therefore this species would have limited ability to remain on Marshlands.

Koala have been sighted in the area. The woodland contains few feed tree species for Koala and is not considered core Koala habitat. The potential for Koala to be present would be limited to migrating individuals.

The area subject to clearing on Marshlands is not considered to provide important habitat for listed vulnerable species. The clearing will decrease the area of woodland on Marshland, but this is considered to have a limited impact on listed vulnerable species.

- ***Reduce the area of occupancy of an important population***

The area to be cleared is not identified to support an important population of listed vulnerable species. The loss of the habitat from the clearing is therefore not considered significant.

- ***Fragment an existing important population into two or more populations***

The clearing has been designed to retain connectivity between similar areas of habitat. The set-aside areas will be retained and therefore provide a permanent corridor for the movement of remaining populations of vulnerable species, if they are present.

- ***Adversely affect habitat critical to the survival of a species***

The habitat to be cleared is not considered as critical habitat for the listed vulnerable species.

- ***Disrupt the breeding cycle of an important population***

The proposal is unlikely to disrupt the breeding cycle of any fauna which constitute an important population of vulnerable species.

- ***Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline***

The proposal will remove some habitat that may be utilised by vulnerable species under certain conditions. Assessment of the available habitat and listed vulnerable species has indicated that the habitat does not provide high quality habitat and may only be used for short periods relating to foraging for birds/bats and migration for Koala.

- ***Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat***

The action will result in an additional area of 59 Ha being cultivated and farmed. The farming operation will include conservation tillage and management of weeds to maximise the capture of soil moisture for cropping purposes. A minor potential exists for invasive annuals, but these would generally be controlled by cultivation or herbicide.

The area is already subject to invasion by some native and non-native species. This invasion has resulted in increasing the combined effect of long-term grazing and loss of key grass species.

- ***Introduce disease that may cause the species to decline, or***

Part of Marshlands is already farmed and if there is a risk of disease introduction, this risk is already present. The addition of 59 Ha of farming land is not considered to significantly increase this risk.

- ***Interfere substantially with the recovery of the species***

The action involves two parts. Part 1 involves clearing of native vegetation. This will have a direct result in increasing the loss of habitat. Part 2 of the action involves establishment of set aside areas to preserve the local habitat. The potential for these set aside areas to improve under appropriate management may result in an improvement of the remaining habitat. The area of set aside habitat is approximately 4 times the area to be cleared. The net value of the action has the potential to have a positive outcome for recovery of any vulnerable species present.

Critically Endangered and Endangered Species

The Curlew Sandpiper is critically endangered, and the Australian Painted Snipe is listed as endangered. Both are wetland species. Marshlands does not contain any wetlands other than short periods after flooding when a major proportion of the surrounding floodplain is inundated. These two species will be considered on this basis.

An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will:

- ***Lead to a long-term decrease in the size of a population***

No habitat for the identified species will be impacted by the clearing works. All suitable habitat for these species is located with sufficient buffer distance to avoid disturbance. Once cleared, the proposal will not alter flow paths during flood events and therefore the cultivation paddock will retain some habitat value for these species during and after a flood event.

- ***Reduce the area of occupancy of the species***

No habitat for the identified species will be impacted by the clearing works.

- ***Fragment an existing population into two or more populations***

The clearing will not fragment populations of these species as they are both migratory but need wetlands or marshes to be present before migration occurs.

- ***Adversely affect habitat critical to the survival of a species***

No habitat for the identified species will be impacted by the clearing works.

- ***Disrupt the breeding cycle of a population***

No habitat for the identified species will be impacted by the clearing works. Neither of the listed species would breed on Marshlands.

- ***Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline***

No quality habitat is present on Marshlands for the listed species.

- ***Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the critically endangered or endangered species' habitat***

The change of landuse from grazing to cultivation may decrease the potential for invasive species to flourish on Marshlands. The cleared area will provide an opportunity for the applicant to control existing invasive species on Marshlands.

- ***Introduce disease that may cause the species to decline, or***

Cultivation of the land is not considered to present a risk of disease for the listed species.

- ***Interfere substantially with the recovery of the species***

Marshlands is not considered to provide preferred habitat for either of the listed species. The preferred habitat has been preserved in several reserves within a 10 km radius of Marshlands.

Listed Migratory Species

Migratory Species

Eight migratory species are listed for the Marshlands region. This is due to the presence of the Gwydir wetlands and associated swamps and watercourse areas. The species include the Fork-tailed Swift, Yellow Wagtail, Satin Flycatcher, Common Sandpiper, Sharp-tailed Sandpiper, Curlew Sandpiper, Pectoral Sandpiper and Latham's Snipe. All species are aquatic and require open water for foraging. They would be attracted to the Gwydir wetland which is a RAMSAR and therefore protected.

The following assessment is based on available habitat on Marshland.

An action is likely to have a significant impact on a migratory species if there is a real chance or possibility that it will:

- ***Substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for migratory species***

Important habitat for a migratory species is defined as habitat which is:

- Utilised by migratory species occasionally or periodically within a region that supports an ecologically significant proportion of the population of the species, and/or
- Of critical importance to the species at particular life cycle stages, and/or
- Utilised by a migratory species which is at the limit of the species range, and/or
- Within an area where the species is declining.

The definition of an ecologically significant proportion of a migratory species varies depending on the characteristics of each species. Factors which should be considered in determining an ecologically significant proportion include the species' population status, genetic distinctiveness and species specific behavioural patterns (such as site fidelity and dispersal rates).

Remnant vegetation and dams may be occasionally or periodically utilised by the listed migratory species. Habitat available on Marshlands is not considered as of critical importance for any of the species at particular life-cycle stages, nor is it at the limit of the ranges of any of the identified migratory species. No wetlands are present on Marshland. The area can be considered as an open floodplain and therefore, habitat is available for a period after flooding. The adjoining Gwydir wetlands is artificially maintained as a more permanent wetlands thus attracted migratory species on an annual basis.

- ***Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species, or***

Groundcover across Marshlands once supported a range of grasses and forbs. The ground cover over the past 3-years or more has become limited to invasive native species such as black roly-poly (*Sclerolaena muricata*) and galvanized burr (*Sclerolaena birchii*). Neither species provides foraging for migratory species. During wet winter periods, Marshlands may support clover (*Trifolium spp*). This is highly seasonal but not considered a forage crop for migratory species. Grain crops grown in the local area provide an opportunity for increased insect production which would attract migratory species. The grain crops are grown on non-native vegetation areas but provide a high value forage crop for an extensive range of native and feral fauna.

- ***Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species***

Marshlands is not considered as a significant ecological habitat for the migratory species that would be attracted to the Gwydir wetlands. Forage species for migratory birds are generally

not present. Limited surface water would be available other than after a flood event of sufficient size to cover the property. Floods of this size would inundate the majority of the floodplain creating a vast area of habitat.

Species that are attracted to the Gwydir Wetlands for breeding, mainly build nests within the wetland area. The wetland area is protected, including limited access for eco-tourists, to ensure that breeding species remain undisturbed.

Threatened Ecological Communities

Three threatened ecological communities are listed for the Marshland area, mainly Coolabah-Black box, Grassland and Weeping Myall. Woodland on Marshlands can be classified as Coolabah-Black Box woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregion. This is an endangered ecological community.

The area is not an open grassland. Small pockets of Weeping Myall are present within the woodland, but this is not a dominant species. Neither of the other two threatened ecological communities are considered as present.

The area to be impacted by the action and the set-aside has been classified as Coolabah-Blackbox woodland. This woodland covers an extensive area across local farms and reserves. Marshlands adjoins an area of more the 12,000 hectares of native vegetation within a radius of approximately 8.5 km and connectivity between larger areas of woodland. This woodland has been continuously grazed for more than 100-years. Land to the east and west has been subjected to clearing for cultivation but the primary woodland follows the major watercourses. Impacts on these remaining woodlands is impacted by various state legislation instruments including floodplain management plans and native vegetation conservation legislation.

Grazing and historical thinning of trees has resulted in the invasion of non-palatable ground cover species and large areas of woodland that do not contain any mature trees. Various historical flood events have generated rapid regrowth of Coolabah suckers. The 1976 flood is particularly recorded for the rapid expansion of Coolabah suckers, but these large areas of suckers are considered too dense to effectively eventuate to mature trees due to sucker density. Many of these suckers remain at less than 20 cm DBH after 40-years of growth.

The following presents an assessment of the impact of the proposed clearing of set-aside action on Coolabah-Black box woodland.

An action is likely to have a significant impact on a critically endangered or endangered species if there is a real chance or possibility that it will:

Significant Impact Criteria

An action is likely to have a significant impact on a critically endangered or endangered ecological community if there is a real chance or possibility that it will:

- ***reduce the extent of an ecological community***

The action will result in a direct loss of 59 hectares of this EEC. The intent is to offset this loss with preservation of 237 hectares of this EEC on Marshland in a set-aside area approved under the Land Management (Native Vegetation) Code 2018 administered by the Local Land Services (LLS). The 237-hectare set-aside area will be secured as a permanent area of native vegetation that cannot be subject to further clearing applications unless a change in legislation occurs in NSW or the owner purchases Biodiversity offsets/credits to allow the clearing of the land.

Investigation of the 59 hectares to be cleared was completed by NSW LLS. The investigation identified the area to be in poor condition. Coolabah trees present had been subject to previous disturbance through either clearing or other means. The majority of trees consisted of multiple stem which is a sign that previous disturbance had occurred from clearing. Natural ground cover typical of Coolabah-black box was not present. This is possibly the result of a long history of grazing causing a loss of grass species.

The Action is likely to have a minor impact on an EEC as a result of the clearing of the EEC.

- ***fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines***

The area to be cleared has been selected and shaped on the basis that Marshland will retain corridors of native vegetation through the property to link with existing native vegetation on the adjoining properties, including the Gwydir Wetlands State Conservation Reserve. The Coolabah-Black box woodland included in the set-aside, retains a corridor through to Marshlands.

The Action is unlikely to have a significant impact on fragmentation of an EEC.

- ***adversely affect habitat critical to the survival of an ecological community***

A significant area of Coolabah-Black box woodland is retained in the region. The loss of 59 hectares of relatively poor-quality EEC is not considered critical to the survival of this EEC. The NSW legislation requires that a set-aside area is retained if the EEC is cleared. This will ensure the survival of this EEC.

- ***modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns***

The 59 hectares of EEC will be cleared for the purpose of farming. The action is not considered as a threat to local surface drainage. The area is not a groundwater recharge area as the groundwater is located below a significant depth of heavy clay.

The action is unlikely to impact on abiotic factors that would influence the survival of this EEC in the surrounding properties and adjoining set-aside areas.

• cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting

Survey of the existing EEC has identified a significant change in understorey species. The ground cover is dominated by invasive native species, mainly black roly poly and galvanized burr. This change in ground cover has resulted in a significant lack of forage species for native fauna. Native fauna now relies upon planted crops and weeds associated with cultivation fields during periods other than after extensive rain that generates fresh growth of these forbs. The functionality of this EEC for more common fauna is almost lost, other than a refuge area adjacent to cropping areas.

Part of the action involves preservation of 237 hectares of this same EEC as a set-aside. The set-aside areas will be retained for the purpose of preserving this EEC on Marshland. The set-aside area will be subject to weed control to improve the ground cover and therefore reinstating its functionality for local flora and fauna.

• cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to:

- assisting invasive species, that are harmful to the listed ecological community, to become established, or

The action is occurring as a result of the reduction in quality and integrity of this EEC. The loss of integrity is primarily a result of invasive native species replacing palatable ground cover.

- causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community, or

The adjoining cultivation fields do not require fertilizers at present. If fertilizer is utilised, it will be ploughed into the soil and therefore incorporated to avoid losses from surface water movements.

Herbicides are used as part of the farming operations on Marshlands. Herbicides are generally applied by ground rigs. A minor risk of spray drift occurs; however, the drift is generally confined to a bank of approximately 20m around the paddock. This 20m strip includes a road

and cleared fenceline. The likely impact on adjoining areas of EEC is relatively minor if appropriate industry standards for application are maintained.

No specific pollutants of concern will be required for farming of the land after the area of EEC is cleared. Crops to be grown will be sold for food and therefore pollutants that may harm the surrounding area are not utilised.

- ***interfere with the recovery of an ecological community.***

The action involves clearing of an area of EEC. To offset the clearing, the action also includes declaration of set-aside areas of this EEC for perpetual preservation. Some work will be undertaken within the set-aside areas to encourage the growth of natural ground cover. This work will include limited management actions for invasive ground cover species. Areas adjoining the set-asides, include the Gwydir Wetland reserve which contains a wider range of native ground cover species that are expected to provide natural seed dispersion into the set-asides.

The loss of the 59 hectares of EEC and establishment of 237 hectares of set-aside area to preserve this EEC is unlikely to have a significant impact of the 12,000 hectares or more of this EEC on surrounding land.

Assessment of Significance

The Action on Marshland involves clearing of 59 hectares and creation of a set-aside area of 237 hectares in compensation for the loss of the 59 hectares of EEC. The area of EEC to be cleared has been chosen on the basis of its degraded condition. The degraded condition is mainly associated with an invasion of ground cover species which have dominated natural native species, resulting in a lack of productive use of this land for grazing and/or support of a natural population of fauna. The 59 hectares of land to be cleared will be converted to farming land for production of winter or summer crops. This will replace grazing of stock as its primary use. Stock will continue to graze on the paddock between crops.

The EPBC Act Protected Matters Report section on Matters of National Environmental Significance identified the Gwydir Wetland is nearby, the area supports Coolabah-Black box EEC and a range of threatened and migratory species that may use the area after heavy rain generates fresh ground cover growth or is under flood.

The loss of the 59 hectares of EEC must therefore be considered in terms of significant impact criteria.

In relation to listed vulnerable species that may be present, the habitat available within the 59 hectares is described as limited for the support of these species as a result of the condition of the majority of the trees (lack of hollows, lack of mature trees). In general terms, the area

is not considered to provide a significant continual habitat for vulnerable species other than during flooded periods or periods of extensive rainfall. During such periods, the large surrounding area of EEC is in a similar condition or better and therefore such species that are present, would have extensive available habitat.

One critically endangered and one endangered bird species are listed for the area. Both species require wetland for foraging. Marshlands does not offer wetland habitat other than periods of flood. The impact of the clearing on these two species is unlikely to be significant.

The Gwydir Wetlands to the northwest of Marshlands is a significant wetland that is operated by NSW Government as a permanent wetland to attract migratory species and others. Marshlands is easily within the home range of many species that may base themselves at this wetland. However, the forage habitat value in the 59 hectares to be cleared is limited to invasive species that are not considered as primary food species for the majority of migratory birds. The loss of a range of native ground cover species and the lack of wetland on Marshlands needs to be considered in assessing likely impacts. As identified above, ground cover species are dominated by native weeds which provide minimal foraging value for migratory species. If Marshlands is inundated with flood water, the majority of the surrounding floodplain extending more than 20 km in radius from the property would also be inundated. The available floodplain habitat is therefore extensive and the loss of 59 hectares should be considered as insignificant and unlikely to impact the presence of migratory species attracted to the area by Gwydir Wetlands.

The area to be cleared is classified as Coolabah-Black box woodland which is an EEC. Listing advice for this community aimed to focus on *“patches of the ecological community that are functional, relatively natural and in relatively good condition”*. This needs to be assessed against listed attributes in the assessment of this EEC prior to gazettal. The area of EEC on Marshland is clearly an EEC and the patch size exceeds 5 hectares. It therefore has a potential for functionality as an EEC.

Data shows that between 50 and 67 per cent of this ecological community has been cleared in the Darling Riverine Plain in NSW since European settlement, leaving an area of between 10,300 km² to 12,500 km² remaining in NSW in 2007 (Listing Advice, 2011).

The surrounding area of similar woodland occupies approximately 12,000 hectares (120 km²) or more. Approximately 7,620 hectares of this EEC is conserved in reserves held by NSW government within a 10 km radius of Marshland. The area to be cleared represents approximately 0.5 per cent of the local area of this community.

Conclusion

This assessment has determined removal of 59 hectares of Coolabah-Black box woodland will cause a direct loss of an EEC. The assessment of significance of this loss has generally indicated that the removal of this area of EEC is not likely to have a significant impact on the EEC on a regional basis, other than this direct loss of area. A review of this EEC in the immediate area indicates the loss represents less than 0.5% of the total area of EEC directly connected to Marshlands with woodland corridors and other remnant patches of functional EEC. This EEC is well represented in conservation areas adjoining Marshlands.

In conclusion, the proposed action of clearing 59 hectares of degraded Coolabah-Black box woodland EEC and creation of a set-aside area of 237 hectares of the same EEC on Marshlands, should be referred under the EPBC Act on the basis of obtaining advice whether the clearing of 59 hectares of EEC should require further assessment and consideration of the Minister.

References

DoE (2013) *Matters of National Environmental – Significant Impact Guidelines 1.1 Environment Protection and Biodiversity Conservation Act 1999*. Department of the Environment

DoEE Protected Matters Search Tool (accessed 2019). Department of the Environment and Energy Website: <http://www.environment.gov.au/epbc/protected-matters-search-tool>

Appendix 1: EPBC Act Protected Matters Report - Marshlands



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.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 02/05/19 15:49:37

[Summary](#)

[Details](#)

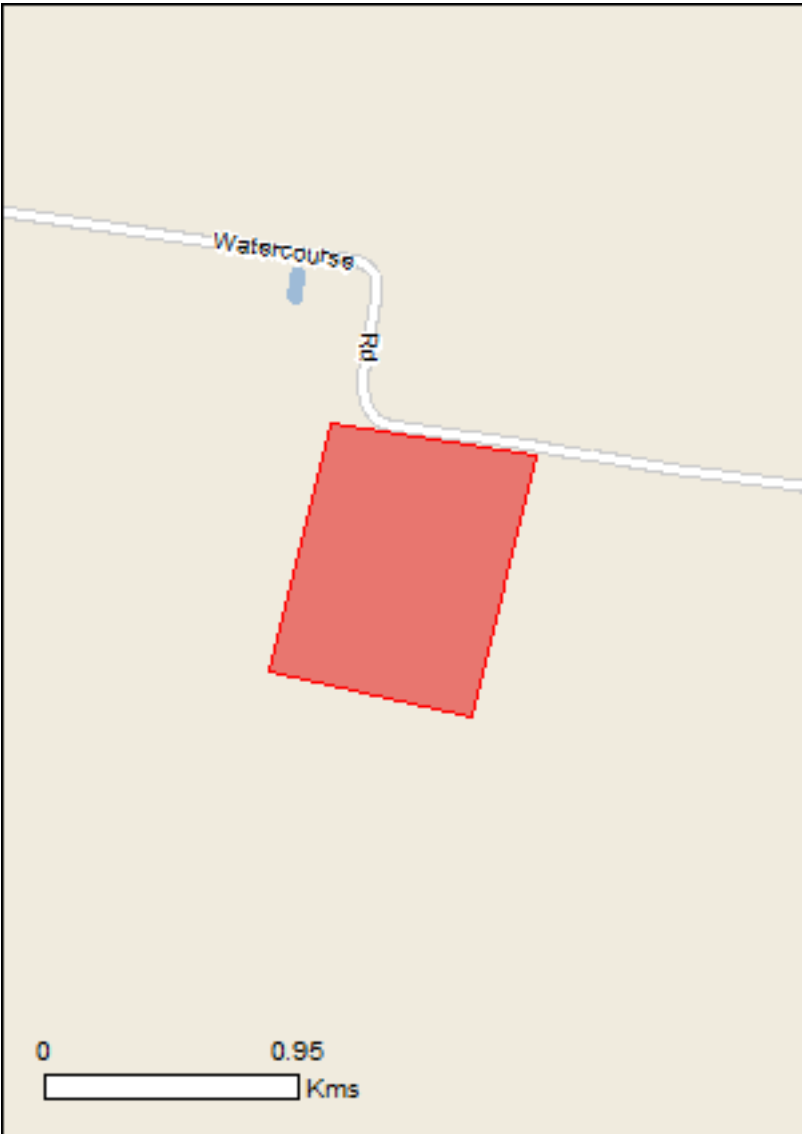
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

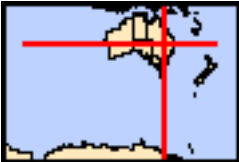
[Acknowledgements](#)



This map may contain data which are
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[Coordinates](#)

[Buffer: 1.0Km](#)



Summary

Matters of National Environmental 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:	4
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	7
Listed Migratory Species:	8

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 <http://www.environment.gov.au/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 Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	14
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

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

State and Territory Reserves:	1
Regional Forest Agreements:	None
Invasive Species:	18
Nationally Important Wetlands:	1
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Wetlands of International Importance (Ramsar)		[Resource Information]
Name	Proximity	
Banrock station wetland complex	1000 - 1100km	
Gwydir wetlands: gingham and lower gwydir (big leather) watercourses	Within 10km of Ramsar	
Riverland	900 - 1000km upstream	
The coorong, and lakes alexandrina and albert wetland	1100 - 1200km	

Listed Threatened Ecological Communities	[Resource Information]
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For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, 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.

Name	Status	Type of Presence
Coolibah - Black Box Woodlands of the Darling Riverine Plains and the Brigalow Belt South Bioregions	Endangered	Community likely to occur within area
Natural grasslands on basalt and fine-textured alluvial plains of northern New South Wales and southern Queensland	Critically Endangered	Community likely to occur within area
Weeping Myall Woodlands	Endangered	Community may occur within area

Listed Threatened Species	[Resource Information]
---------------------------	--------------------------

Name	Status	Type of Presence
Birds		
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Grantiella picta Painted Honeyeater [470]	Vulnerable	Species or species habitat likely to occur within area
Rostratula australis Australian Painted-snipe, Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Mammals		
Chalinolobus dwyeri Large-eared Pied Bat, Large Pied Bat [183]	Vulnerable	Species or species habitat may occur within area
Nyctophilus corbeni Corben's Long-eared Bat, South-eastern Long-eared Bat [83395]	Vulnerable	Species or species habitat may occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat may occur within area
Reptiles		
Anomalopus mackayi Five-clawed Worm-skink, Long-legged Worm-skink [25934]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Motacilla flava		
Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca		
Satin Flycatcher [612]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat may occur within area
Gallinago hardwickii		
Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus		
Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba		
Great Egret, White Egret [59541]		Breeding known to occur within area
Ardea ibis		
Cattle Egret [59542]		Species or species habitat may occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]		Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area

Name	Threatened	Type of Presence
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Chrysococcyx osculans Black-eared Cuckoo [705]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat likely to occur within area

Extra Information

State and Territory Reserves	[Resource Information]
Name	State
Gwydir Wetlands	NSW
Invasive Species	[Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Mammals		

Name	Status	Type of Presence
Bos taurus Domestic Cattle [16]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Lepus capensis Brown Hare [127]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area

Plants		
Eichhornia crassipes Water Hyacinth, Water Orchid, Nile Lily [13466]		Species or species habitat likely to occur within area
Lycium ferocissimum African Boxthorn, Boxthorn [19235]		Species or species habitat likely to occur within area
Opuntia spp. Prickly Pears [82753]		Species or species habitat likely to occur within area
Parkinsonia aculeata Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean [12301]		Species or species habitat likely to occur within area
Solanum elaeagnifolium Silver Nightshade, Silver-leaved Nightshade, White Horse Nettle, Silver-leaf Nightshade, Tomato Weed, White Nightshade, Bull-nettle, Prairie-berry, Satansbos, Silver-leaf Bitter-apple, Silverleaf-nettle, Trompillo [12323] Tamarix aphylla Athel Pine, Athel Tree, Tamarisk, Athel Tamarisk, Athel Tamarix, Desert Tamarisk, Flowering Cypress, Salt Cedar [16018]		Species or species habitat likely to occur within area

Nationally Important Wetlands		[Resource Information]
Name		State
Gwydir Wetlands		NSW

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, 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 distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for 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 reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

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

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

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

Coordinates

-29.29421 149.326275,-29.286967 149.328313,-29.287884 149.335201,-29.295501 149.333034,-29.29421 149.326275,-29.29421 149.326275

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-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.