Aquatic Conservation Assessment using AquaBAMM
for the riverine and non-riverine wetlands of the Cape York catchments
Disclaimer

Information in this document does not necessarily represent Government policy. While this publication has been prepared with care, the Queensland Government accepts no liability for any decisions or actions taken on the basis of this document.

Citation


Prepared by:

Steven Howell¹ Manager, Biodiversity Assessment
Erin Kenna¹ Principal GIS Analyst

¹ Ecosystem Outcomes Branch, Conservation and Sustainability Services Division, Queensland Department of Environment and Heritage Protection, GPO Box 2454 BRISBANE QLD 4001

Acknowledgements

The authors wish to thank Shane Chemello, Simon Goudkamp, Chamendra Hewavisenthi, Lindsey Jones, David McFarland, Heidi Millington, Bruce Wannan.

Cover photograph – Lakefield National Park (DERM_080712_AC_0073lakefield) from Margot Warnett.

<table>
<thead>
<tr>
<th>Version</th>
<th>Data Release Date</th>
<th>Report Release Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>9th December 2012</td>
<td>9th December 2012</td>
</tr>
</tbody>
</table>
Contents

1 Introduction............................................................................................................1
  1.1 Aquatic Conservation Assessments.................................................................1
  1.2 The Cape York study area ..............................................................................3

2 Methods and Implementation...........................................................................6
  2.1 AquaBAMM .....................................................................................................6
  2.2 Spatial units .....................................................................................................6
  2.3 Assessment parameters....................................................................................7
  2.4 Stratification ....................................................................................................11
  2.5 Datasets ..........................................................................................................11
  2.6 Implementation ..............................................................................................12
  2.7 Transparency of results..................................................................................27
  2.8 Weighting of measures...................................................................................29
  2.9 Ranking of indicators......................................................................................29
  2.10 Filter tables ...................................................................................................29

3 Results.................................................................................................................38
  3.1 Conservation value categories........................................................................38
  3.2 Accuracy and dependability ...........................................................................38
  3.3 CYP catchment overall results—riverine.........................................................39
  3.4 CYP catchment overall results—non-riverine ...............................................48
  3.5 Field-truthing..................................................................................................55
  3.6 General Summary ..........................................................................................56

4 Recommendations ..............................................................................................57

5 References ..........................................................................................................58

6 Attachments.........................................................................................................59
  6.1 Attachment A Aquatic flora, fauna and ecology riverine and non-riverine
      expert panel report ............................................................................................59
List of tables

Table 1. CYP catchments subject to an ACA using AquaBAMM. 4
Table 2: CIM list for the CYP catchments. 7
Table 3. Non-riverine implementation table for the CYP ACA. 12
Table 4. Riverine implementation table for the CYP ACA. 20
Table 5. Criteria rating combination table (filter table) as used for the CYP riverine ACA. 31
Table 6. Criteria rating combination table (filter table) as used for the CYP non-riverine ACA. 35
Table 7. AquaScore summary for riverine wetlands. 39
Table 8. Riverine AquaScore and dependability summary for all study areas. 44
Table 9. AquaScore summary for non-riverine wetlands. 48
Table 10. Non-Riverine AquaScore and dependability summary for all study areas. 51

List of figures

Figure 1. The CYP catchments where ACAs have been conducted. 5
Figure 2. Interrogating the non-riverine ACA results for a spatial unit in the GIS environment. 27
Figure 3. Interrogating the riverine ACA results for a spatial unit in the GIS environment. 28
Figure 4. Riverine AquaScore for all catchments shown by riverine subsection. 40
Figure 5. Riverine AquaScore criteria for all catchments shown by riverine subsection. 41
Figure 6. Riverine AquaScore for all catchments shown by buffered stream. 42
Figure 7. Riverine AquaScore criteria for all catchments shown by buffered stream. 43
Figure 8. Non-riverine AquaScore for all catchments. 49
Figure 9. Non-riverine AquaScore criteria for all catchments. 50

Acronyms and abbreviations

ACA          Aquatic Conservation Assessment
AquaBAMM     Aquatic Biodiversity Assessment and Mapping Methodology
ASL          above sea level
BAMM         Biodiversity Assessment and Mapping Methodology
BPA          Biodiversity Planning Assessment
CYP          Cape York Peninsula
DERM         Department of Environment and Resource Management
EHP          Queensland Department of Environment and Heritage Protection
GIS          Geographic Information System
QWP          Queensland Wetlands Program
Ramsar       Ramsar Convention on Wetlands
1 Introduction

1.1 Aquatic Conservation Assessments

The Aquatic Biodiversity Assessment and Mapping Method (AquaBAMM) (Clayton et al. 2006), was developed to assess conservation values of wetlands in Queensland, and may also have application in broader geographical contexts. It is a comprehensive method that uses available data, including data resulting from expert opinion, to identify relative wetland conservation/ecological values within a specified study area, usually a catchment. The product of applying this method is an Aquatic Conservation Assessment (ACA) for the study area.

An ACA using AquaBAMM is non-social, non-economic and identifies the conservation/ecological values of wetlands at a user-defined scale. It provides a robust and objective conservation assessment using criteria, indicators and measures that are founded on a large body of national and international literature. The criteria, each of which may have variable numbers of indicators and measures, are: naturalness (aquatic); naturalness (catchment); diversity and richness; threatened species and ecosystems; priority species and ecosystems; special features; connectivity and representativeness. An ACA using AquaBAMM is a powerful decision support tool that is easily updated and simply interrogated through a geographic information system (GIS).

AquaBAMM is focused on the assessment of aquatic conservation values. Terrestrial conservation values are assessed through application of the Biodiversity Assessment and Mapping Methodology (BAMM) to create Biodiversity Planning Assessments (BPA).

Where they have been conducted, ACAs can provide a source of baseline wetland conservation/ecological information to support natural resource management and planning processes. They are useful as an independent product or as an important foundation upon which a variety of additional environmental and socio-economic elements can be added and considered (i.e. an early input to broader ‘triple-bottom-line’ decision-making processes). An ACA can have application in:

- determining priorities for protection, regulation or rehabilitation of wetlands and other aquatic ecosystems
- on-ground investment in wetlands and other aquatic ecosystems
- contributing to impact assessment of large-scale development (e.g. dams)
- water resource and strategic regional planning processes
- providing input to broader social and economic evaluation and prioritisation processes.

To date, ACAs have contributed to the following:

- State Planning Policy (04/11) for Protecting Wetlands of High Ecological Significance in the Great Barrier Reef.
- Identification of significant ecological values on State Rural Leasehold Land Strategy leases which are pastoral/agricultural leases, comprising most of the leasehold land in Queensland.
- Identification of significant aquatic values when assessing possible additions to the protected area estate.
- Identification of significant aquatic values when assessing development applications.
- Habitat mapping of wetlands species across Queensland.
- Areas of Ecological Significance (AES) mapping.
- Wetlands State Planning Policy through the AES process.
- Queensland Wetlands Program (QWP)
- Identification of assets for the Queensland side of the Murray Darling Basin, which were then supplied to the MDB Authority as the Queensland contribution to the QMDB Plan.
- Wide Bay-Burnett Regional Plan.
- Regional plans.
The AquaBAMM criteria are consistent with the High Ecological Value Aquatic Ecosystems (HEVAE) process which is the result of a joint project between the Australian Government and all jurisdictions. One outcome from the HEVAE report was that Queensland is the most advanced state for the mapping, classification and valuing of wetlands.

The Department of Environment and Heritage Protection (EHP) has conducted ACAs for the freshwater non-riverine (i.e. palustrine and lacustrine) and riverine wetlands in each of the 17 Cape York (CYP) catchments. Estuarine values (special features and species) have been included in the riverine assessments.

Data for three of the AquaBAMM criteria are primarily derived by expert elicitation (Criterion 5 Priority Species and Ecosystems, Criterion 6 Special Features and Criterion 7 Connectivity). To consider the measures within these criteria, an expert panel was conducted to address aquatic fauna, aquatic and riparian flora and wetland ecology for the 17 CYP catchments. The panel, held in Cairns during August 2012, involved invited departmental experts with expertise in aquatic fauna, aquatic and riparian flora and/or wetland ecology. Experts were presented with ecological data relevant to their area of expertise and asked to make decisions relevant to the respective measures, such as which aquatic species should be included in the assessment or whether there were special features in the landscape that contained ecological significance. The expert panel reports contained within Attachment A present the findings and recommendations from the panel.

Results from the non-riverine and riverine CYP ACAs are intended for use under the proposed Bioregion Framework and Statutory Plan for the CYP.

Due to time constraints this version (1.1) of the CYP ACA for riverine and non-riverine freshwater wetlands does not include all components of the full process normally undertaken. A fuller process would include external experts on the panels, a separate assessment of estuarine values and field-truthing. Complete expert panels would serve to further inform the special features and their values and explicitly define the weights and ranks to be applied to measures and indicators. There are also a number of other datasets and special features that may have been included with more time. Additional components unable to be implemented due to time constraints include: consideration of stratification; weighting of measures and ranking of indicators by expert panels; consideration of species habitat models and pest habitat mapping from DAFF.

A Biodiversity Planning Assessment (BPA) has been completed for the CYP Heritage Area. The BPA is focused on the identification and significance of primarily terrestrial values, although some riparian values are included (EHP 2012b). The results from the BPA should be considered in conjunction with ACA results presented in this report.
1.2 The Cape York study area

Cape York Peninsula is a diverse and important region of tropical Australia covering approximately 13,720,000 hectares. The bioregion has a tropical humid/maritime climate, with rainfall varying from 1000–1600 mm. It is a place of special heritage, containing vast and relatively undisturbed landscapes with extraordinary biological significance and diversity, and is rich with Aboriginal traditions and customs.

The bioregion has a complex geomorphology including low hills, plains, dunefields, boulder-fields, coral cays, continental islands, and alluvial areas (Sattler and Williams 1999). The region also has geological complexity. It is dominated by the Torres Strait Volcanics in the north. The metamorphic rocks and acid intrusive rocks of various ages of the Coen-Yambo Inlier run north-south along the eastern margin of the region and encompass the high-altitude/high-rainfall areas of Iron Range and McIlwraith Range. The deeply dissected sandstone plateaus and ranges of the Battle Camp Sandstones lie in the southern part of the region adjacent to the undulating Laura Lowlands composed of residual weathered sands and flat plains of colluvial and alluvial clays, silts and sands. The western part of the region is dominated in the south by the extensive Tertiary sand sheets dissected by the intricate drainage systems of the Holroyd Plain, the Tertiary laterite of the undulating Weipa Plateau and the low rises of Mesozoic sandstones. The northern extension of the Weipa Plateau and extensive coastal plains adjoin the Gulf of Carpentaria. Extensive aeolian dunefields lie in the east associated with Cape Bedford/Cape Flattery in the south and the Olive and Jardine Rivers (Sattler and Williams, 1999).

There are 9 sub-regions within the Cape York Peninsula Bioregion. All sub-regions have high ecosystem diversity and endemism. The ecosystem diversity encompasses rainforests, woodlands, shrublands heaths, sedgelands, grasslands and mangroves, all in a relatively intact condition (Sattler and Williams, 1999). This high habitat diversity comprises over 3000 flora species and supports a substantial proportion of Australia’s native fauna (>50% of all butterfly, 50% bird, 33% mammal, 25% reptile and 25% frog species) (Earth Tech 2005). A considerable number of these taxa are threatened and/or restricted to the bioregion (Abrahams et al. 1995).

One of the significant values of the bioregion is its relative intactness. The overall condition of Cape York Peninsula is good with some declines in ecosystems, wetlands, riparian vegetation and species. Only limited clearing of vegetation has occurred in the bioregion. A main potential agent of change in the bioregion is the impact of altered fire regimes on vegetation (Sattler and Williams, 1999).

The project region considered in this assessment includes 17 study areas for assessment. The southern boundary of the study area is as defined under the Cape York Peninsula Heritage Act 2007 (Figure 1), which incorporates parts of the Gulf Plains, Einasleigh Uplands, and Wet Tropics bioregions. However, it will exclude the Queensland Wet Tropics World Heritage area in the south-east.

For the purposes of this assessment, the Mitchell catchment was split in order to coincide with the CYP Heritage boundary. This split was made along the Mitchell River sub basin boundary with a slight deviation to follow the CYP Heritage boundary at around Dinnertime Lagoon on the Mitchell River. The exact split was based on the on subsections layer so it does not follow the CYP Heritage boundary exactly.

EHP has mapped and classified wetlands according to a peer reviewed and published mapping and classification methodology1. These wetland maps were used as a platform for the conservation assessments reported here. ACAs accept the released wetland maps unmodified and therefore, are limited by inherent mapping and classification accuracy. Issues to do with wetland mapping or classification errors are dealt with by EHP mapping update processes and are not part of an ACA.

The CYP ACA is made up of 17 individual catchments (Figure 1). EHP has applied AquaBAMM separately to the non-riverine (i.e. palustrine and lacustrine) and riverine wetlands within each of the CYP catchments. Estuarine values were considered and where appropriate included as part of the riverine results. In effect, there are 34 ACAs for the riverine and non-riverine wetlands in the CYP study area. Table 1 shows the catchments/study areas for which ACAs were undertaken and the number of mapped non-riverine wetlands and riverine spatial units within each catchment.

---

1 EHP wetland mapping and classification methodology is available at http://wetlandinfo.ehp.qld.gov.au/wetlands/facts-maps/wetland-background/
Aquatic Conservation Assessments using AquaBAMM
for the riverine and non-riverine wetlands of the Cape York catchments

Table 1. CYP catchments subject to an ACA using AquaBAMM.

<table>
<thead>
<tr>
<th>ACA study areas</th>
<th>Catchment</th>
<th>Number of freshwater</th>
<th>Area of freshwater</th>
<th>Number of</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archer</td>
<td>ar</td>
<td>1,381,980</td>
<td>1779</td>
<td>34,009</td>
</tr>
<tr>
<td>Coleman</td>
<td>cl</td>
<td>1,286,148</td>
<td>5211</td>
<td>47,610</td>
</tr>
<tr>
<td>Ducie</td>
<td>du</td>
<td>674,544</td>
<td>899</td>
<td>30,009</td>
</tr>
<tr>
<td>Embley</td>
<td>em</td>
<td>462,209</td>
<td>785</td>
<td>14,756</td>
</tr>
<tr>
<td>Endeavour</td>
<td>en</td>
<td>218,243</td>
<td>85</td>
<td>1868</td>
</tr>
<tr>
<td>Holroyd</td>
<td>ho</td>
<td>1,028,654</td>
<td>1978</td>
<td>17,511</td>
</tr>
<tr>
<td>Islands</td>
<td>ic</td>
<td>98,344</td>
<td>185</td>
<td>1933</td>
</tr>
<tr>
<td>Jacky Jacky</td>
<td>jj</td>
<td>296,330</td>
<td>832</td>
<td>21,531</td>
</tr>
<tr>
<td>Jardine</td>
<td>ja</td>
<td>328,166</td>
<td>576</td>
<td>26,198</td>
</tr>
<tr>
<td>Jeannie</td>
<td>je</td>
<td>363,752</td>
<td>471</td>
<td>12,354</td>
</tr>
<tr>
<td>Lockhart</td>
<td>lo</td>
<td>288,329</td>
<td>110</td>
<td>3127</td>
</tr>
<tr>
<td>Mitchell West</td>
<td>mw</td>
<td>3,442,238</td>
<td>7750</td>
<td>178,585</td>
</tr>
<tr>
<td>Normanby</td>
<td>nb</td>
<td>2,439,490</td>
<td>2961</td>
<td>30,115</td>
</tr>
<tr>
<td>Olive-Pascoe</td>
<td>op</td>
<td>417,950</td>
<td>327</td>
<td>6251</td>
</tr>
<tr>
<td>Stewart</td>
<td>sw</td>
<td>274,279</td>
<td>93</td>
<td>3239</td>
</tr>
<tr>
<td>Watson</td>
<td>wt</td>
<td>467,925</td>
<td>228</td>
<td>3590</td>
</tr>
<tr>
<td>Wenlock</td>
<td>we</td>
<td>752,540</td>
<td>1367</td>
<td>15,010</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>14,221,120</strong></td>
<td><strong>25,637</strong></td>
<td><strong>447,695</strong></td>
</tr>
</tbody>
</table>
Aquatic Conservation Assessments using AquaBAMM for the riverine and non-riverine wetlands of the Cape York catchments

Figure 1. The CYP catchments where ACAs have been conducted.
2 Methods and Implementation

2.1 AquaBAMM

The CYP ACAs were undertaken using AquaBAMM (Clayton et al. 2006). The method as published in 2006 was revised to incorporate non-riverine wetlands measures, and minor changes made to the AquaBAMM tool.

2.2 Spatial units

In implementing an ACA, spatial units need to be defined in order to assign conservation/ecological values when they are calculated. This issue is dealt with in detail in the published methodology (Clayton et al. 2006).

For a non-riverine ACA a map of the palustrine and lacustrine wetlands is normally used and the individual mapped wetlands are employed as the ACA spatial units. Clearly, this way of defining spatial units is dependent on an accurate map of classified wetlands being available for the study area. In Queensland, EHP is producing wetland maps statewide which define wetland location, extent and attributes by applying the Wetland Mapping and Classification Methodology (EPA, 2005). These maps, where available, are used as the platform for ACAs using AquaBAMM.

The number of spatial units included in an ACA can vary greatly between study areas. For the CYP study area, there were 25,637 non-riverine spatial units (mapped palustrine or lacustrine wetlands) drawn directly from EHP’s wetland mapping v3.0. Only natural (H1) or slightly modified (H2M1 and H2M2) wetlands were included (see the Wetland Mapping and Classification Methodology 2005 for more information on these hydrological modifier codes).

For the riverine ACA the spatial units were based on the subsections from level 5 of the Pfafstetter dataset from the Australian Hydrological Geospatial Fabric (Geofabric) (http://www.bom.gov.au/water/geofabric). This layer was clipped to the coastline. Polygons smaller than 64ha were dissolved into the surrounding polygons with the largest shared boundary. A number of hydrologically inconsistent polygons were also dissolved based on a visual inspection of the GIS layer. The riverine ACAs included 4033 spatial units (or subsections) these subsections are also used in a number of non-riverine measure calculations.
2.3 Assessment parameters

The criteria, indicators and measures (CIM) list outlined in Table 2 outlines the CIM that were implemented as part of the riverine and non-riverine ACAs in the CYP catchments. The list has been developed from a default list of criteria, indicators and measures that may be considered for an ACA. The default CIM list is not mandatory for any particular ACA; however, it provides a ‘starter set’ for consideration in setting the assessment parameters for each ACA.

Table 2: CIM list for the CYP catchments.

<table>
<thead>
<tr>
<th>Criteria and Indicators</th>
<th>Measures</th>
<th>Riverine</th>
<th>Non-riverine</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Naturalness aquatic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1 Exotic flora/fauna</td>
<td>Presence of ‘alien’ fish species within the wetland</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Presence of exotic aquatic and semi-aquatic plants within the wetland</td>
<td>Y Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Presence of exotic invertebrate fauna within the wetland</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Presence of feral/exotic vertebrate fauna (other than fish) within the wetland</td>
<td>Y Y</td>
<td></td>
</tr>
<tr>
<td>1.3 Habitat features modification</td>
<td>Presence/absence of dams/weirs within the wetland</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% area of remnant wetland relative to pre-clear extent for each spatial unit</td>
<td>Y Y</td>
<td></td>
</tr>
<tr>
<td>1.4 Hydrological modification</td>
<td>Hydrological disturbance/modification of the wetland (e.g. as determined through EHP wetland mapping and classification)</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>2 Naturalness catchment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1 Exotic flora/fauna</td>
<td>Presence of exotic terrestrial plants in the assessment unit</td>
<td>Y Y</td>
<td></td>
</tr>
<tr>
<td>2.2 Riparian disturbance</td>
<td>% area remnant vegetation relative to pre-clear extent within buffered riverine wetland or watercourses</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total number of regional ecosystems relative to pre-clear number of regional ecosystems within buffered riverine wetland or watercourses</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>% area of remnant vegetation relative to pre-clear extent within buffered non-riverine wetland: 500m buffer for wetlands &gt;= 8Ha, 200m buffer for smaller wetlands</td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>
Aquatic Conservation Assessments using AquaBAMM
for the riverine and non-riverine wetlands of the Cape York catchments

<table>
<thead>
<tr>
<th>Criteria and Indicators</th>
<th>Measures</th>
<th>Riverine</th>
<th>Non-riverine</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.3 Catchment disturbance</td>
<td>2.3.1 % &quot;agricultural&quot; land-use area (i.e. cropping and horticulture)</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>2.3.2 % &quot;grazing&quot; land-use area</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>2.3.3 % &quot;vegetation&quot; land-use area (i.e. native veg + regrowth)</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>2.3.4 % &quot;settlement&quot; land-use area (i.e. towns, cities, etc.)</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>2.4 Flow modification</td>
<td>2.4.1 Farm storage (overland flow harvesting, floodplain ring tanks, gully dams) calculated by surface area</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>3 Diversity and richness</td>
<td>3.1.1 Richness of native amphibians (riverine wetland breeders)</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.1.2 Richness of native fish</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>3.1.3 Richness of native aquatic dependent reptiles</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>3.1.4 Richness of native waterbirds</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>3.1.5 Richness of native aquatic plants</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>3.1.6 Richness of native amphibians (non-riverine wetland breeders)</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>3.1.7 Richness of native aquatic dependent mammals</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>3.2 Communities/ assemblages</td>
<td>3.2.1 Richness of macroinvertebrate taxa</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>3.2.2 Richness of regional ecosystems along riverine wetlands or watercourses within a specified buffer distance</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>3.3 Habitat</td>
<td>3.3.2 Richness of wetland types within the local catchment (e.g. SOR sub-section)</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>3.3.3 Richness of wetland types within the sub-catchment</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>4 Threatened species and ecosystems</td>
<td>4.1.1 Presence of rare or threatened aquatic ecosystem dependent fauna species— NC Act¹, EPBC Act²</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>4.1.2 Presence of rare or threatened aquatic ecosystem dependent flora species—NC Act¹, EPBC Act²</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>
Aquatic Conservation Assessments using AquaBAMM
for the riverine and non-riverine wetlands of the Cape York catchments

<table>
<thead>
<tr>
<th>Criteria and Indicators</th>
<th>Measures</th>
<th>Riverine</th>
<th>Non-riverine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4.2 Communities/ assemblages</strong></td>
<td>4.2.1 Conservation status of wetland Regional Ecosystems—Herbarium biodiversity status, NC Act1, EPBC Act2</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Criteria and Indicators</th>
<th>Measures</th>
<th>Riverine</th>
<th>Non-riverine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5 Priority species and ecosystems</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5.1 Species</strong></td>
<td>5.1.1 Presence of aquatic ecosystem dependent 'priority' fauna species (expert panel list/discussion or other lists such as ASFB3, WWF, etc.)</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>5.1.2 Presence of aquatic ecosystem dependent 'priority' flora species</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>5.1.3 Habitat for, or presence of, migratory species (Expert Panel list/discussion and/or JAMBA4 / CAMBA5 agreement lists and/or Bonn Convention)</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>5.1.4 Habitat for significant numbers of waterbirds</td>
<td></td>
<td>Y</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Criteria and Indicators</th>
<th>Measures</th>
<th>Riverine</th>
<th>Non-riverine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>6 Special features</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>6.1 Geomorphic features</strong></td>
<td>6.1.1 Presence of distinct, unique or special geomorphic features</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td><strong>6.2 Ecological processes</strong></td>
<td>6.2.1 Presence of (or requirement for) distinct, unique or special ecological processes</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td><strong>6.3 Habitat</strong></td>
<td>6.3.1 Presence of distinct, unique or special habitat (including habitat that functions as refugia or other critical purpose)</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>6.3.2 Significant wetlands identified by an accepted method such as Ramsar, Australian Directory of Important Wetlands, Regional Coastal Management Planning, World Heritage Areas, etc.</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td><strong>6.4 Hydrological</strong></td>
<td>6.4.1 Presence of distinct, unique or special hydrological regimes (e.g. Spring fed stream, ephemeral stream, boggomoss)</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>6.4.2 Hydrological diversity within the estuary/ marine area</td>
<td></td>
<td>Y</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Criteria and Indicators</th>
<th>Measures</th>
<th>Riverine</th>
<th>Non-riverine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>7 Connectivity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>7.1 Significant species or populations</strong></td>
<td>7.1.1 The contribution (upstream or downstream) of the spatial unit to the maintenance of significant species or populations, including those features identified through Criteria 5 and/or 6</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>7.2 Groundwater dependent ecosystems</strong></td>
<td>7.2.1 The contribution (upstream or downstream) of the spatial unit to the maintenance of groundwater ecosystems with significant biodiversity values, including those features identified through Criteria 5 and/or 6 (e.g. karsts, cave streams, artesian springs)</td>
<td></td>
</tr>
</tbody>
</table>
Aquatic Conservation Assessments using AquaBAMM for the riverine and non-riverine wetlands of the Cape York catchments

<table>
<thead>
<tr>
<th>Criteria and Indicators</th>
<th>Measures</th>
<th>Riverine</th>
<th>Non-riverine</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 Representativeness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.1 Wetland protection</td>
<td>8.1.1 The per cent area of each wetland type within Protected Areas.</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>8.1.2 The per cent area of each wetland type within a coastal/estuarine area subject to the Fisheries Act, Coastal Management Act or Marine Parks Act.</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>8.2 Wetland uniqueness</td>
<td>8.2.1 The relative abundance of the wetland management group to which the wetland type belongs within the catchment or study area (management groups ranked least common to most common)</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>8.2.2 The relative abundance of the wetland management group to which the wetland type belongs within the sub-catchment or estuarine/marine zone (management groups ranked least common to most common)</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>8.2.3 The size of each wetland type relative to others of its management group within the catchment or study area</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>8.2.4 The size of each wetland type relative to others of its type within a sub-catchment (or estuarine zone)</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>8.2.6 The size of each wetland type relative to others of its type within the catchment or study area</td>
<td></td>
<td>Y</td>
</tr>
</tbody>
</table>

1 NC Act—Nature Conservation Act 1992 (Queensland legislation)
2 EPBC Act—Environmental Protection and Biodiversity Conservation Act 1999 (Commonwealth legislation)
3 ASFB—Australian Society of Fish Biology
4 JAMBA—Japan-Australia Migratory Bird Agreement
5 CAMBA—China-Australia Migratory Bird Agreement
2.4 Stratification

Study area stratification for application to relevant measures of AquaBAMM is a user decision and is not mandatory for a successful assessment. However, AquaBAMM makes provision for data to be stratified in any user-defined manner that is determined to be ecologically appropriate. Stratification mitigates the effects of data averaging across large study areas, and is particularly important where ecological diversity and complexity is high. An example where stratification may be appropriate is fish diversity where fewer species inhabit the upland zone compared to lowland floodplains. For measure datasets where there is an equal probability of scoring across a range of values throughout the study area, stratification is unwarranted. To date, the use of strata in completed ACAs has been based on elevation (e.g. 150m ASL for coastal catchments and 400 m ASL for catchments west of the Great Dividing Range in the Murray-Darling Basin) or bioregional boundaries.

Stratification was not considered for the CYP ACA version 1.1 (see section 1.1).

2.5 Datasets

Typically, an ACA using AquaBAMM draws on a wide range of datasets with a wide range of formats. This will generally include published scientific documents, unpublished data (grey literature) and officially collated data from various Queensland Government sources including data from the Queensland Museum; Queensland Herbarium; Department of Science, Information Technology, Innovation and Arts; and Department of Natural Resources and Mines.

In addition, data derived from one or more expert elicitation processes is included for every ACA for a number of measures. Expert advice and data is sought through an expert panel process. For the CYP ACAs, an expert panel was conducted to address aquatic and riparian flora, aquatic fauna and wetland ecology. The report for the expert panel is presented in Attachment A of this report.

ACA expert panels involve a range of internal and external experts. Although external experts were not able to be consulted for the CYP ACA version 1.1, external reports were utilised where available.
## 2.6 Implementation

Each ACA may have a different combination of assessment parameters (refer to section 2.3), and is likely to draw on a different combination of datasets thus having a different set of criteria, indicators and measures. Implementation to complete the assessment can be complex and comprehensive implementation tables are maintained by EHP throughout each ACA. A description of how each measure was implemented as part of the ACA is provided in Table 3 and Table 4.

### Table 3. Non-riverine implementation table for the CYP ACA.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
<th>Implementation</th>
<th>Primary data sets used</th>
<th>Threshold type</th>
<th>Stratified</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1.2</td>
<td>Presence of exotic aquatic and semi-aquatic plants within the wetland</td>
<td>An expert panel list of exotic aquatic plants was used to calculate this measure. A subsection that had one or more exotic species recorded (point records or site based lists, &gt;=1950, precision &lt;= 2000 m) from within its boundaries received a score of 1, which was then attributed to all spatial units in the subsection. No score was allocated to any spatial unit where the associated subsection had an absence of exotic species (i.e. they were treated as a missing value).</td>
<td>WildNet, CORVEG, Herbrecs, ParkInfo</td>
<td>Presence negative</td>
<td>Quartile - continuous ascending</td>
</tr>
<tr>
<td>1.1.4</td>
<td>Presence of feral/exotic vertebrate fauna (other than fish) within the wetland</td>
<td>An expert panel list of feral/exotic vertebrate fauna found in non-riverine freshwater wetlands was used to calculate this measure. A subsection that had one or more feral/exotic vertebrate species recorded (point records or site based lists, precision &lt;= 3600 m) from within its boundaries received a score of 1, which was then attributed to all spatial units in the subsection. No score was allocated to any spatial unit where the associated subsection had an absence of exotic species (i.e. they were treated as a missing value).</td>
<td>WildNet, Queensland Museum, Queensland Historical Fauna Database (QHFD)</td>
<td>Presence negative</td>
<td>Quartile - continuous ascending</td>
</tr>
<tr>
<td>1.3.7</td>
<td>% area of remnant wetland relative to preclear extent for each spatial unit</td>
<td>Based on regional ecosystem (RE) pre-clear and remnant mapping the total summed area, per spatial unit, of palustrine (P) and lacustrine (L) wetlands was calculated. RE polygons can contain more than one RE so a polygon was considered to be riverine or estuarine if &gt;50% of its extent was of palustrine or lacustrine type REs. The value of a unit is expressed as the percent of remnant relative to pre-clear.</td>
<td>Regional ecosystem mapping (V7 2009), subsections</td>
<td>Quartile - continuous ascending</td>
<td></td>
</tr>
<tr>
<td>1.4.5</td>
<td>Hydrological disturbance/modification of the wetland (e.g. as determined through EPA wetland mapping and classification)</td>
<td>Spatial units were scored according to their hydrological modifier (HydroMod). H1/H2M8 = 4; H2M1, H2M2 and H2M3 = 2; H2M5 = 1</td>
<td>EHP Queensland Wetlands Mapping (V3, 2012)</td>
<td>Categorical</td>
<td></td>
</tr>
<tr>
<td>Section</td>
<td>Description</td>
<td>Methodology</td>
<td>Data Sources</td>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
<td>-------------</td>
<td>--------------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>2.1.1</td>
<td>Presence of exotic terrestrial plants in the assessment unit</td>
<td>An expert panel list of exotic plants found within the riparian zone of streams and wetlands was used to calculate this measure. A subsection that had one or more exotic species recorded (point records or site-based lists, &gt;= 1950, precision &lt;= 2000 m) from within its boundaries received a score of 1, which was then attributed to all spatial units in the subsection. No score was allocated to any spatial unit where the associated subsection had an absence of exotic species (i.e., they were treated as a missing value).</td>
<td>WildNet, CORVEG, Herbrecs, ParkInfo</td>
<td>Presence negative</td>
<td></td>
</tr>
<tr>
<td>2.2.5</td>
<td>% area of remnant vegetation relative to pre-clear extent within buffered non-riverine wetland: 500m buffer for wetlands &gt;= 8Ha, 200m buffer for smaller wetlands</td>
<td>Spatial units were buffered based on size (500m buffer for spatial units &gt;= 8Ha, 200m buffer for smaller spatial units). Within these buffers the remnant and pre-clear area of vegetation was calculated and expressed as a percentage.</td>
<td>EHP Queensland Wetlands Mapping (V3, 2012), Regional ecosystem mapping (V7, 2009)</td>
<td>Quartile - continuous ascending</td>
<td></td>
</tr>
<tr>
<td>2.3.1</td>
<td>% &quot;agricultural&quot; land-use area (i.e. cropping and horticulture)</td>
<td>Agricultural land-use included (QLUMP secondary categories) Intensive animal production, Intensive horticulture, Irrigated perennial horticulture, Plantation forestry, Irrigated cropping, Cropping, Channel/aqueduct, Reservoir/dam, Perennial horticulture. The total area of agricultural land-use is expressed as a percentage of the subsection and assigned to the spatial unit.</td>
<td>QLUMP (1999, 2009), subsections</td>
<td>Quartile - continuous descending</td>
<td></td>
</tr>
<tr>
<td>2.3.2</td>
<td>% &quot;grazing&quot; land-use area</td>
<td>Grazing land-use included (QLUMP secondary categories) grazing natural vegetation and livestock grazing. The total area of grazing land-use is expressed as a percentage of the subsection and assigned to the spatial unit.</td>
<td>QLUMP (1999, 2009), subsections</td>
<td>Quartile - continuous descending</td>
<td></td>
</tr>
<tr>
<td>2.3.3</td>
<td>% &quot;vegetation&quot; land-use area (i.e. native veg and regrowth)</td>
<td>Vegetation land-use included (QLUMP secondary categories) Production forestry, Lake, Other minimal use, Nature conservation, Marsh/wetland, Managed resource protection, River, Estuary/coastal waters. The total area of vegetation land-use is expressed as a percentage of the subsection and assigned to the spatial unit.</td>
<td>QLUMP (1999, 2009), subsections</td>
<td>Quartile - continuous ascending</td>
<td></td>
</tr>
<tr>
<td>2.3.4</td>
<td>% &quot;settlement&quot; land-use area (i.e. towns, cities, etc.)</td>
<td>Settlement land-use included (QLUMP secondary categories) Manufacturing and industrial, Mining, Residential, Services, Transport and communication, Utilities, Waste treatment and disposal. The total area of settlement land-use is expressed as a percentage of the subsection and assigned to the spatial unit.</td>
<td>QLUMP (1999 and 2009), subsections</td>
<td>Quartile - continuous descending</td>
<td></td>
</tr>
<tr>
<td>2.4.1</td>
<td>Farm storage (overland flow harvesting, floodplain ring tanks, gully dams) calculated by surface area</td>
<td>The total surface area of artificial wetlands (H2M6, H2M7, H2C1, H2C2, H2C3, H3C1 and H3C2) within each subsection was calculated, and subsequently applied to all spatial units in the subsection.</td>
<td>Modified wetlands from EHP Queensland Wetlands Mapping (V3, 2012)</td>
<td>Continuous descending logarithmic</td>
<td></td>
</tr>
<tr>
<td>Section</td>
<td>Measure Description</td>
<td>Source</td>
<td>Quartile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>---------------------</td>
<td>--------</td>
<td>----------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1.2</td>
<td>Richness of native fish</td>
<td>An expert panel list of fish dependent on freshwater wetlands (non-riverine) for all or part of their lifecycles was used to calculate this measure. Records with a precision &lt;= 3600 m were included. A subsection was attributed with the number of species records it contained; this value was then attributed to all the spatial units in the subsection. No score was allocated to any spatial unit where the associated subsection had an absence of species (i.e. they were treated as a missing value).</td>
<td>WildNet, Queensland Museum, Department of Primary Industries and Fisheries (DPIF), Queensland Historical Fauna Database (QHFD)</td>
<td>Quartile - continuous ascending</td>
<td></td>
</tr>
<tr>
<td>3.1.3</td>
<td>Richness of native aquatic dependent reptiles</td>
<td>An expert panel list of reptiles dependent on streams for all or part of their lifecycles was used to calculate this measure. Records with a precision &lt;= 3600 m were included. A subsection was attributed with the number of species records it contained; this value was then attributed to all the spatial units in the subsection. No score was allocated to any spatial unit where the associated subsection had an absence of species (i.e. they were treated as a missing value).</td>
<td>WildNet, Queensland Museum, Queensland Historical Fauna Database (QHFD)</td>
<td>Quartile - continuous ascending</td>
<td></td>
</tr>
<tr>
<td>3.1.4</td>
<td>Richness of native waterbirds</td>
<td>An expert panel list of waterbirds dependent on streams for all or part of their lifecycles was used to calculate this measure. Records with a precision &lt;= 3600 m were included. A subsection was attributed with the number of species records it contained; this value was then attributed to all the spatial units in the subsection. No score was allocated to any spatial unit where the associated subsection had an absence of species (i.e. they were treated as a missing value).</td>
<td>WildNet, Queensland Museum, Queensland Historical Fauna Database (QHFD)</td>
<td>Quartile - continuous ascending</td>
<td></td>
</tr>
<tr>
<td>3.1.5</td>
<td>Richness of native aquatic plants</td>
<td>An expert panel list of aquatic and semi-aquatic plants (macrophytes) was used to calculate this measure. Records &gt;= 1950 and a precision &lt;= 2000 m were included. A subsection was attributed with the number of species records it contained; this value was then attributed to all the spatial units in the subsection. No score was allocated to any spatial unit where the associated subsection had an absence of species (i.e. they were treated as a missing value).</td>
<td>WildNet, CORVEG, Herbrecs</td>
<td>Quartile - continuous ascending</td>
<td></td>
</tr>
<tr>
<td>3.1.6</td>
<td>Richness of native amphibians (non-riverine wetland breeders)</td>
<td>An expert panel list of amphibians dependent on non-riverine wetlands for all or part of their lifecycles was used to calculate this measure. Records with a precision &lt;= 3600 m were included. A subsection was attributed with the number of species records it contained; this value was then attributed to all the spatial units in the subsection. No score was allocated to any spatial unit where the associated subsection had an absence of species (i.e. they were treated as a missing value).</td>
<td>WildNet, Queensland Museum, Queensland Historical Fauna Database (QHFD)</td>
<td>Quartile - continuous ascending</td>
<td></td>
</tr>
</tbody>
</table>
### 3.1.7 Richness of native aquatic dependent mammals

An expert panel list of mammals dependant on non-riverine wetlands for all or part of their lifecycles was used to calculate this measure. Records >=1975 and a precision <2000 m were included. A subsection was attributed with the number of species records it contained; this value was then attributed to all the spatial units in the subsection. No score was allocated to any spatial unit where the associated subsection had an absence of species (i.e. they were treated as a missing value).

<table>
<thead>
<tr>
<th>Source</th>
<th>Quartile - continuous ascending</th>
</tr>
</thead>
<tbody>
<tr>
<td>WildNet, Queensland Museum, Queensland Historical Fauna Database (QHFD)</td>
<td></td>
</tr>
</tbody>
</table>

### 3.2.1 Richness of macroinvertebrate taxa

An expert panel list of macroinvertebrate taxa dependant on non-riverine wetlands for all or part of their lifecycles was used to calculate this measure. Records with a precision <= 3600 m were included. A subsection was attributed with the number of species records it contained; this value was then attributed to all the spatial units in the subsection. No score was allocated to any spatial unit where the associated subsection had an absence of species (i.e. they were treated as a missing value). Due to the low number of records the threshold was made presence positive.

<table>
<thead>
<tr>
<th>Source</th>
<th>Quartile - continuous ascending</th>
</tr>
</thead>
<tbody>
<tr>
<td>WildNet, Queensland Museum, Queensland Historical Fauna Database (QHFD)</td>
<td></td>
</tr>
</tbody>
</table>

### 3.3.2 Richness of wetland types within the local catchment (e.g. SOR sub-section)

The total number of unique wetland habitat types, based on TYPE_RE field (a concatenation of wetland class, water regime, salinity modifier and wetland regional ecosystem fields from the Queensland Wetland Mapping data), was calculated for each subsection. Each spatial unit in the subsection is assigned this total as its score.

<table>
<thead>
<tr>
<th>Source</th>
<th>Quartile - continuous ascending</th>
</tr>
</thead>
<tbody>
<tr>
<td>EHP Queensland Wetlands Mapping (V3, 2012)</td>
<td></td>
</tr>
</tbody>
</table>

### 3.3.3 Richness of wetland types within the sub-catchment

The total number of unique wetland habitat types, based on TYPE_RE field (a concatenation of wetland class, water regime, salinity modifier and wetland regional ecosystem fields from the Queensland Wetland Mapping data), was calculated for each sub-catchment. Each spatial unit within the sub-catchment is assigned this total as its score.

<table>
<thead>
<tr>
<th>Source</th>
<th>Quartile - continuous ascending</th>
</tr>
</thead>
<tbody>
<tr>
<td>EHP Queensland Wetlands Mapping (V3, 2012)</td>
<td></td>
</tr>
</tbody>
</table>

### 4.1.1 Presence of rare or threatened aquatic ecosystem dependent fauna species—NC Act, EPBC Act

A list of threatened fauna species dependent on wetlands for all or part of their lifecycles was used to calculate this measure. Subsections that had one or more threatened fauna species recorded (point records or site based lists, precision <= 3600 m) from within its boundaries received a score of 4; this score was then attributed to all mapped and classified spatial units associated with that subsection. No score was allocated to spatial units within subsections where there was an absence of threatened species (i.e. they were treated as a missing value).

<table>
<thead>
<tr>
<th>Source</th>
<th>Presence positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>WildNet, Queensland Museum, Department of Primary Industries and Fisheries (DPIF), Queensland Historical Fauna Database (QHFD)</td>
<td></td>
</tr>
</tbody>
</table>

### 4.1.2 Presence of rare or threatened aquatic ecosystem dependent flora species—NC Act, EPBC Act

A list of threatened flora species dependent on wetlands for all or part of their lifecycles was used to calculate this measure. Subsections that had one or more threatened flora species recorded (point records or site based lists >=1950, precision <=2000m) from within its boundaries received a score of 4; this score was then attributed to all mapped and classified spatial units associated with the subsection. No score was allocated to spatial units within subsections where there was an absence of threatened species (i.e. they were treated as a missing value).

<table>
<thead>
<tr>
<th>Source</th>
<th>Presence positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>WildNet, CORVEG, Herbreces</td>
<td></td>
</tr>
</tbody>
</table>
### Aquatic Conservation Assessments using AquaBAMM for the riverine and non-riverine wetlands of the Cape York catchments

| Section | Description | Methods | Data Sources | Categorical?
|---------|-------------|---------|--------------|-------------
| 4.2.1   | Conservation status of wetland Regional Ecosystems—Herbarium biodiversity status, NC Act, EPBC Act | Biodiversity status (BD status): $E = 4$, $OC = 3$, $NOC = 2$, noRE = <no score> EPBC community status: $CE = 4$, $E = 4$. Score was derived based on the highest threatened status of a regional ecosystem (RE) within each spatial unit. | EHP Queensland Wetlands Mapping (V3, 2012), REDD database (V7, 2009), EPBC community status | Categorical |
| 5.1.1   | Presence of aquatic ecosystem dependent 'priority' fauna species (expert panel list/discussion or other lists such as ASFB, WWF, etc.) | An expert panel list of priority fauna species dependent on streams for all or part of their lifecycles was used to calculate this measure. A subsection that had one priority fauna species recorded (point records or site based lists, precision <= 3600m) from within its boundaries received a score of 3. Where two or more priority fauna species were recorded from within a subsection, it received a score of 4. These scores were then attributed to all the spatial units the subsection contained. No score was allocated to any spatial unit where the subsection it was in had an absence of priority species (i.e. they were treated as a missing value). | WildNet, Queensland Museum, Department of Primary Industries and Fisheries (DPIF), Queensland Historical Fauna Database (QHFD) | User defined: number of species ($1 = 4$, $>1 = 3$) |
| 5.1.2   | Presence of aquatic ecosystem dependent 'priority' flora species | An expert panel list of priority flora species dependent on streams for all or part of their lifecycles was used to calculate this measure. A subsection that had one priority flora species recorded (point records or site based lists >=1950, precision <=2000m) from within its boundaries received a score of 3. Where there were two or more priority flora species recorded from within a subsection, it received a score of 4. These scores were then attributed to all the spatial units the subsection contained. No score was allocated to any spatial unit where the subsection it was in had an absence of priority species (i.e. they were treated as a missing value). | WildNet, CORVEG, Herbrecs | User defined: number of species ($1 = 4$, $>1 = 3$) |
| 5.1.3   | Habitat for, or presence of, migratory species (expert panel list/discussion and/or JAMBA/CAMBA agreement lists and/or Bonn Convention) | An expert panel list of migratory species dependent on freshwater streams for all or part of their lifecycles was used to calculate this measure. A subsection that had one migratory species recorded (point records or site based lists, precision <= 3600m) from within its boundaries received a score of 3. Where there were two or more migratory species recorded from within a subsection, it received a score of 4. These scores were then attributed to all the spatial units the subsection contained. No score was allocated to any spatial unit where the associated subsection had an absence of migratory species (i.e. they were treated as a missing value). | WildNet, Queensland Museum, Queensland Historical Fauna Database (QHFD) | User defined: number of species ($1 = 4$, $>1 = 3$) |
| 5.1.4   | Habitat for significant numbers of waterbirds | The expert panels identified these special features. The assigned conservation ratings for this measure were attributed. There was no need to apply thresholds as conservation ratings represent the final score for this measure. | Expert panels | Categorical |
| 6.1.1   | Presence of distinct, unique or special geomorphic features | The expert panels identified these special features. The assigned conservation ratings for this measure were attributed. There was no need to apply thresholds as conservation ratings represent the final score for this measure. | Expert panels | Categorical |
Aquatic Conservation Assessments using AquaBAMM
for the riverine and non-riverine wetlands of the Cape York catchments

<table>
<thead>
<tr>
<th>6.2.1</th>
<th>Presence of (or requirement for) distinct, unique or special ecological processes</th>
<th>The expert panels identified these special features. The assigned conservation ratings for this measure were attributed. There was no need to apply thresholds as conservation ratings represent the final score for this measure.</th>
<th>Expert panels</th>
<th>Categorical</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.3.1</td>
<td>Presence of distinct, unique or special habitat (including habitat that functions as refugia or other critical purpose)</td>
<td>The expert panels identified these special features. The assigned conservation ratings for this measure were attributed. There was no need to apply thresholds as conservation ratings represent the final score for this measure.</td>
<td>Expert panels</td>
<td>Categorical</td>
</tr>
<tr>
<td>6.3.2</td>
<td>Significant wetlands identified by an accepted method such as Ramsar, Australian Directory of Important Wetlands, Regional Coastal Management Planning, World Heritage Areas, etc.</td>
<td>Spatial units where at least 50% of their extent occurred within the Ramsar or WHA (world heritage areas) were given a score of 4. Spatial units that had at least 50% of their extent within a Directory of Important Wetlands (DOIW) wetland were given a score of 3. Otherwise spatial units receive no score.</td>
<td>DOIW, Ramsar, WHA</td>
<td>Categorical</td>
</tr>
<tr>
<td>6.4.1</td>
<td>Presence of distinct, unique or special hydrological regimes (e.g. spring fed stream, ephemeral stream, boggomoss)</td>
<td>The expert panels identified these special features. The assigned conservation ratings for this measure were attributed. There was no need to apply thresholds as conservation ratings represent the final score for this measure.</td>
<td>Expert panels</td>
<td>Categorical</td>
</tr>
<tr>
<td>8.1.1</td>
<td>The percent area of each wetland type within Protected Areas.</td>
<td>Wetland habitat type refers to the TYPE_RE attribute; a concatenation of wetland class, water regime, salinity modifier and wetland regional ecosystem fields from the QWM data. The Queensland Parks and Wildlife Estates feature class (all areas except &quot;Other Lands&quot; tenures) and EHP's nature refuge data were used to calculate the percent area of each wetland habitat type represented within these protected areas. The thresholds from Sattler &amp; Williams (1999). &lt;1% = 4; &gt;1% = 3; &gt;4% = 2; &gt;10% = 1 were applied. For wetlands with more than one habitat type the lowest score of any of the types is assigned to the wetland to account for habitats less protected.</td>
<td>EHP Queensland Wetlands Mapping (V3, 2012) with calculated TYPE_RE attribute, Estates version 2012.2, Nature Refuges version 2012.2</td>
<td>Continuous descending (Sattler &amp; Williams 1999)</td>
</tr>
<tr>
<td>8.1.2</td>
<td>The percent area of each wetland type within a coastal/estuarine area subject to the Fisheries Act, Coastal Management Act or Marine Parks Act.</td>
<td>The DAFF Fish Habitat data was used to calculate the percent area of each wetland habitat type (based on TYPE_RE field - a concatenation of wetland class, water regime, salinity modifier and wetland regional ecosystem fields from the Queensland Wetland Mapping data) located within these protected areas. The thresholds from Sattler &amp; Williams (1999). &lt;1% = 4; &gt;1% = 3; &gt;4% = 2; &gt;10% = 1. For wetlands with more than one habitat type the lowest score of any of the types is assigned to the wetland to account for habitats less protected.</td>
<td>EHP Queensland Wetlands Mapping (V3, 2012) with calculated TYPE_RE attribute, DAFF Fish Habitat July 2012.</td>
<td>Continuous descending (Sattler &amp; Williams 1999)</td>
</tr>
<tr>
<td>8.2.1</td>
<td>The relative abundance of the wetland management group to which the wetland type belongs within the catchment or study area (management groups ranked least common to most common)</td>
<td>Wetland management group (WMG) refers to the Wetland Habitat Typology or [HAB] attribute in the wetlands mapping. The frequency of each WMG is calculated across the study area. A spatial unit is scored by the lowest frequency (across the study area) of any habitat type within it.</td>
<td>EHP Queensland Wetlands Mapping (V3, 2012)</td>
<td>Continuous descending logarithmic</td>
</tr>
<tr>
<td>8.2.2</td>
<td>The relative abundance of the wetland management group to which the wetland type belongs within the sub-catchment or estuarine/marine zone (management groups ranked least common to most common)</td>
<td>Wetland management group (WMG) refers to the Wetland Habitat Typology or [HAB] attribute in the wetlands mapping. The frequency of each WMG is calculated across the sub-catchment. A spatial unit is scored by the lowest frequency (across the sub-catchment) of any habitat type within it.</td>
<td>EHP Queensland Wetlands Mapping (V3, 2012)</td>
<td>Continuous descending logarithmic</td>
</tr>
<tr>
<td>8.2.3</td>
<td>The size of each wetland type relative to others of its management group within the catchment or study area</td>
<td>Wetland management group (WMG) refers to the Wetland Habitat Typology or [HAB] attribute in the wetlands mapping. The area values for each wetland habitat polygon are quartiled (i.e. thresholded into 4 classes based on average of three highest values) across each study area for each WMG. This is the rating for a wetland habitat polygon. A spatial unit may contain more than one wetland habitat polygon. A spatial unit score is the highest rating of any wetland habitat polygon it contains.</td>
<td>EHP Queensland Wetlands Mapping (V3, 2012)</td>
<td>Categorical</td>
</tr>
<tr>
<td>Section</td>
<td>Description</td>
<td>Methodology</td>
<td>Data Source</td>
<td>Methodology Details</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
<td>-------------</td>
<td>-------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>8.2.4</td>
<td>The size of each wetland type relative to others of its type within a sub-catchment (or estuarine zone)</td>
<td>Wetland management group (WMG) refers to the Wetland Habitat Typology or [HAB] attribute in the wetlands mapping. The area values for each wetland habitat polygon are quartiled (i.e. thresholded into 4 classes based on average of three highest values) across each sub-catchment for each WMG. This is the rating for a wetland habitat polygon. A spatial unit may contain more than one wetland habitat polygon. A spatial unit score is the highest rating of any wetland habitat polygon it contains.</td>
<td>EHP Queensland Wetlands Mapping (V3, 2012)</td>
<td>Categorical</td>
</tr>
<tr>
<td>8.2.6</td>
<td>The size of each wetland type relative to others of its type within the catchment or study area</td>
<td>Wetland habitat type refers to the TYPE_RE attribute; a concatenation of wetland class, water regime, salinity modifier and wetland regional ecosystem fields from the QWM data. The area values for each wetland habitat polygon are quartiled (i.e. thresholded into 4 classes based on average of three highest values) across each study area for each wetland habitat type. Wetland habitat polygons are classed according to these thresholds. This is the rating for a wetland habitat polygon. A spatial unit may contain more than one wetland habitat polygon. A spatial unit score is the highest rating of any wetland habitat polygon it contains.</td>
<td>EHP Queensland Wetlands Mapping (V3, 2012) with calculated TYPE_RE attribute</td>
<td>Categorical</td>
</tr>
</tbody>
</table>
Table 4. Riverine implementation table for the CYP ACA.

<table>
<thead>
<tr>
<th>Measure</th>
<th>Description</th>
<th>Implementation</th>
<th>Primary data sets used</th>
<th>Threshold type</th>
<th>Stratified</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1.1</td>
<td>Presence of ‘alien’ fish species within the wetland</td>
<td>An expert panel list of alien fish species found in riverine freshwater wetlands was used to calculate this measure. A subsection that had one or more alien fish species recorded (point records or site based lists, precision &lt;= 3600m) from within its boundaries received a score of 1. No score was allocated to any spatial unit (subsection) that had an absence of exotic species (i.e. they were treated as a missing value).</td>
<td>WildNet, Queensland Museum, Department of Primary Industries and Fisheries (DPIF), Queensland Historical Fauna Database (QHFD)</td>
<td>Presence negative</td>
<td>Stratified</td>
</tr>
<tr>
<td>1.1.2</td>
<td>Presence of exotic aquatic and semi-aquatic plants within the wetland</td>
<td>An expert panel list of exotic aquatic plants was used to calculate this measure. A subsection that had one or more exotic species recorded (point records or site based lists, &gt;=1950, precision &lt;= 2000 m) from within its boundaries received a score of 1. No score was allocated to any spatial unit (subsection) that had an absence of exotic species (i.e. they were treated as a missing value).</td>
<td>WildNet, CORVEG, Herbrecs, ParkInfo, Wetland Information Capture Project</td>
<td>Presence negative</td>
<td></td>
</tr>
<tr>
<td>1.1.4</td>
<td>Presence of feral/exotic vertebrate fauna (other than fish) within the wetland</td>
<td>An expert panel list of feral/exotic vertebrate fauna found in non-riverine freshwater wetlands was used to calculate this measure. A subsection that had one or more feral/exotic vertebrate species recorded (point records or site based lists, precision &lt;= 3600m) from within its boundaries received a score of 1, which was then attributed to all spatial units in the subsection. No score was allocated to any spatial unit where the associated subsection had an absence of exotic species (i.e. they were treated as a missing value).</td>
<td>WildNet, Queensland Museum, Queensland Historical Fauna Database (QHFD)</td>
<td>Presence negative</td>
<td></td>
</tr>
<tr>
<td>1.3.4</td>
<td>Presence/absence of dams/weirs within the wetland</td>
<td>A subsection containing one or more in-stream dams or weirs received a score of 1. Subsections without in-stream dams or weirs received no score.</td>
<td>DERM (xNRW) Dams, Weirs, Barrages dataset (Damweir 100K)</td>
<td>Presence negative</td>
<td></td>
</tr>
<tr>
<td>1.3.7</td>
<td>% area of remnant wetland relative to pre-clear extent for each spatial unit</td>
<td>Based on regional ecosystem (RE) pre-clear and remnant mapping the total summed area, per spatial unit, of riverine (R) and estuarine (E) wetlands was calculated. RE polygons can contain more than one RE so a polygon was considered to be riverine or estuarine if &gt;50% of its extent was of riverine or estuarine type REs. The value of a unit is expressed as the percent of remnant relative to pre-clear.</td>
<td>Regional ecosystem mapping (V7, 2009), subsections</td>
<td>Quartile - continuous ascending</td>
<td></td>
</tr>
</tbody>
</table>
## Aquatic Conservation Assessments using AquaBAMM for the riverine and non-riverine wetlands of the Cape York catchments

### 2.1 Presence of exotic terrestrial plants in the assessment unit

<table>
<thead>
<tr>
<th>Description</th>
<th>Methodology</th>
<th>Source</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>An expert panel list of exotic plants found within the riparian zone of streams and wetlands was used to calculate this measure. A subsection that had one or more exotic species recorded (point records or site based lists, &gt;=1950, precision &lt;=2000m) from within its boundaries received a score of 1. No score was allocated to any spatial unit (subsection) that had an absence of exotic species (i.e. they were treated as a missing value).</td>
<td>WildNet, CORVEG, Herbrecs, ParkInfo, Wetland Information Capture Project</td>
<td>Presence negative</td>
<td></td>
</tr>
</tbody>
</table>

### 2.2 % area remnant vegetation relative to pre-clear extent within buffered riverine wetland or watercourses

<table>
<thead>
<tr>
<th>Description</th>
<th>Methodology</th>
<th>Source</th>
<th>Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watercourse features were buffered according to hierarchy and perenniality (1:250,000) (major &amp; minor perennial = 100m, major non-perennial = 100m, minor non-perennial = 50m (buffer distances are for each side)). Within the buffer the percent area of remnant versus non-remnant vegetation was calculated for each spatial unit.</td>
<td>Stream network 250K Geodata watercourse lines &amp; areas layers, Regional Ecosystem mapping (V7, 2009)</td>
<td>Quartile - continuous ascending</td>
<td></td>
</tr>
</tbody>
</table>

### 2.3 Total number of REs relative to pre-clear number of REs within buffered riverine wetland or watercourses

<table>
<thead>
<tr>
<th>Description</th>
<th>Methodology</th>
<th>Source</th>
<th>Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watercourse features were buffered according to hierarchy and perenniality (1:250,000) (major &amp; minor perennial = 100m, major non-perennial = 100m, minor non-perennial = 50m (buffer distances are for each side)). Within the buffer the percent count of remnant versus non-remnant vegetation was calculated for each spatial unit.</td>
<td>Stream network 250K Geodata watercourse lines &amp; areas layers, Regional Ecosystem mapping (V7, 2009)</td>
<td>Quartile - continuous ascending</td>
<td></td>
</tr>
</tbody>
</table>

### 2.4 % "agricultural" land-use area (i.e. cropping and horticulture)

<table>
<thead>
<tr>
<th>Description</th>
<th>Methodology</th>
<th>Source</th>
<th>Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural land-use included (QLUMP secondary categories) Intensive animal production, Intensive horticulture, Irrigated perennial horticulture, Plantation forestry, Irrigated cropping, Cropping, Channel/aqueduct, Reservoir/dam, Perennial horticulture. The total area of agricultural land-use is expressed as a percentage of the spatial unit.</td>
<td>QLUMP (1999, 2009), subsections</td>
<td>Quartile - continuous descending</td>
<td></td>
</tr>
</tbody>
</table>

### 2.5 % "grazing" land-use area

<table>
<thead>
<tr>
<th>Description</th>
<th>Methodology</th>
<th>Source</th>
<th>Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grazing land-use included (QLUMP secondary categories) grazing natural vegetation and livestock grazing. The total area of grazing land-use is expressed as a percentage of the spatial unit.</td>
<td>QLUMP (1999, 2009), subsections</td>
<td>Quartile - continuous descending</td>
<td></td>
</tr>
</tbody>
</table>

### 2.6 % "vegetation" land-use area (i.e. native veg + regrowth)

<table>
<thead>
<tr>
<th>Description</th>
<th>Methodology</th>
<th>Source</th>
<th>Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetation land-use included (QLUMP secondary categories) Production forestry, Lake, Other minimal use, Nature conservation, Marsh/wetland, Managed resource protection, River, Estuary/coastal waters. The total area of vegetation land-use is expressed as a percentage of the spatial unit.</td>
<td>QLUMP (1999, 2009), subsections</td>
<td>Quartile - continuous ascending</td>
<td></td>
</tr>
</tbody>
</table>

### 2.7 % "settlement" land-use area (i.e. towns, cities, etc.)

<table>
<thead>
<tr>
<th>Description</th>
<th>Methodology</th>
<th>Source</th>
<th>Quartile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Settlement land-use included (QLUMP secondary categories) Manufacturing and industrial, Mining, Residential, Services, Transport and communication, Utilities, Waste treatment and disposal. The total area of settlement land-use is expressed as a percentage of the spatial unit.</td>
<td>QLUMP (1999 and 2009), subsections</td>
<td>Quartile - continuous descending</td>
<td></td>
</tr>
</tbody>
</table>
Aquatic Conservation Assessments using AquaBAMM
for the riverine and non-riverine wetlands of the Cape York catchments

<table>
<thead>
<tr>
<th>2.4.1</th>
<th>Farm storage (overland flow harvesting, floodplain ring tanks, gully dams) calculated by surface area</th>
<th>The total surface area of artificial wetlands (H2M6, H2M7, H2C1, H2C2, H2C3, H3C1 and H3C2) within each subsection was calculated.</th>
<th>Modified wetlands from EHP Queensland Wetlands Mapping (V3, 2012)</th>
<th>Continuous descending logarithmic</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1.1</td>
<td>Richness of native amphibians (riverine wetland breeders)</td>
<td>An expert panel list of amphibians dependent on streams for all or part of their lifecycles was used to calculate this measure. Records with a precision &lt;= 3600m were included. No score was allocated to any spatial unit that had an absence of amphibians (i.e. they were treated as a missing value).</td>
<td>WildNet, Queensland Museum, Queensland Historical Fauna Database (QHFD)</td>
<td>Quartile - continuous ascending</td>
</tr>
<tr>
<td>3.1.2</td>
<td>Richness of native fish</td>
<td>An expert panel list of fish dependent on freshwater streams for all or part of their lifecycles was used to calculate this measure. Records with a precision &lt;= 3600 m were included. A subsection was attributed with the number of species records it contained. No score was allocated to any subsection that had an absence of species (i.e. they were treated as a missing value).</td>
<td>WildNet, Queensland Museum, Department of Primary Industries and Fisheries (DPIF), Queensland Historical Fauna Database (QHFD)</td>
<td>Quartile - continuous ascending</td>
</tr>
<tr>
<td>3.1.3</td>
<td>Richness of native aquatic dependent reptiles</td>
<td>An expert panel list of reptiles dependent on streams for all or part of their lifecycles was used to calculate this measure. Records with a precision &lt;= 3600m were included. A subsection was attributed with the number of species records it contained; this value was then attributed to all the spatial units in the subsection. No score was allocated to any spatial unit where the associated subsection had an absence of species (i.e. they were treated as a missing value).</td>
<td>WildNet, Queensland Museum, Queensland Historical Fauna Database (QHFD)</td>
<td>Quartile - continuous ascending</td>
</tr>
<tr>
<td>3.1.4</td>
<td>Richness of native waterbirds</td>
<td>An expert panel list of waterbirds dependent on streams for all or part of their lifecycles was used to calculate this measure. Records with a precision &lt;= 3600 m were included. No score was allocated to any spatial unit that had an absence of waterbirds (i.e. they were treated as a missing value).</td>
<td>WildNet, Queensland Museum, Queensland Historical Fauna Database (QHFD)</td>
<td>Quartile - continuous ascending</td>
</tr>
<tr>
<td>3.1.5</td>
<td>Richness of native aquatic plants</td>
<td>An expert panel list of aquatic and semi-aquatic plants (macrophytes) was used to calculate this measure. Records &gt;=1950 and a precision &lt;=2000m were included. A subsection was attributed with the number of species records it contained. No score was allocated to any spatial unit (subsection) that had an absence of species (i.e. they were treated as a missing value).</td>
<td>WildNet, CORVEG, Herbreces, Wetland Information Capture Project</td>
<td>Quartile - continuous ascending</td>
</tr>
<tr>
<td>3.1.7</td>
<td>Richness of native aquatic dependent mammals</td>
<td>An expert panel list of mammals dependant on freshwater streams for all or part of their lifecycles was used to calculate this measure. Records with a precision &lt;= 3600m were included. A subsection was attributed with the number of species records it contained. No score was allocated to any spatial unit (subsection) that had an absence of species (i.e. they were treated as a missing value).</td>
<td>WildNet, Queensland Museum, Queensland Historical Fauna Database (QHFD)</td>
<td>Quartile - continuous ascending</td>
</tr>
</tbody>
</table>
### 3.2.1 Richness of macroinvertebrate taxa

An expert panel list of macroinvertebrate taxa dependant on freshwater streams for all or part of their lifecycles was used to calculate this measure. Records with a precision <= 3600m were included. A subsection was attributed with the number of species records it contained. No score was allocated to any spatial unit (subsection) that had an absence of species (i.e. they were treated as a missing value). Due to the low number of records the threshold was made presence positive.

<table>
<thead>
<tr>
<th>Source</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>WildNet, Queensland Museum, Queensland Historical Fauna Database (QHFD)</td>
<td></td>
</tr>
</tbody>
</table>

### 3.2.2 Richness of REs along riverine wetlands or watercourses within a specified buffer distance

Watercourse features were buffered according to hierarchy and perenniality (1:250,000) (major & minor perennial = 100m, major non-perennial = 100m, minor non-perennial = 50m (buffer distances are for each side)). The number of remnant regional ecosystems was calculated for each spatial unit.

<table>
<thead>
<tr>
<th>Source</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stream network 250K Geodata watercourse lines &amp; areas layers, Regional ecosystem mapping (V7, 2009)</td>
<td></td>
</tr>
</tbody>
</table>

### 3.3.2 Richness of wetland types within the local catchment (e.g. SOR sub-section)

The total number of unique wetland habitat types, based on TYPE_RE field (a concatenation of wetland class, water regime, salinity modifier and wetland regional ecosystem fields from the Queensland Wetland Mapping data), was calculated for each spatial unit (i.e. each riverine spatial unit).

<table>
<thead>
<tr>
<th>Source</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>EHP Queensland Wetlands Mapping (V3, 2012)</td>
<td></td>
</tr>
</tbody>
</table>

### 3.3.3 Richness of wetland types within the sub-catchment

The total number of unique wetland habitat types, based on TYPE_RE field (a concatenation of wetland class, water regime, salinity modifier and wetland regional ecosystem fields from the Queensland Wetland Mapping data), was calculated for each sub-catchment. Each spatial unit within the study area is assigned this total as its score.

<table>
<thead>
<tr>
<th>Source</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>EHP Queensland Wetlands Mapping (V3, 2012)</td>
<td></td>
</tr>
</tbody>
</table>

### 4.1.1 Presence of rare or threatened aquatic ecosystem dependent fauna species—NC Act, EPBC Act

A list of threatened fauna species dependent on freshwater streams for all or part of their lifecycles was used to calculate this measure. Subsections that had one or more threatened fauna species recorded (point records or site based lists, precision <= 3600m) from within its boundaries received a score of 4. No score was allocated to subsections where there was an absence of threatened species (i.e. they were treated as a missing value).

<table>
<thead>
<tr>
<th>Source</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>WildNet, Queensland Museum, Department of Primary Industries and Fisheries (DPIF), Queensland Historical Fauna Database (QHFD)</td>
<td></td>
</tr>
</tbody>
</table>

### 4.1.2 Presence of rare or threatened aquatic ecosystem dependent flora species—NC Act, EPBC Act

A list of threatened flora species dependent on freshwater streams for all or part of their lifecycles was used to calculate this measure. Subsections that had one or more threatened flora species recorded (point records or site based lists >=1950, precision <=2000m) from within its boundaries received a score of 4. No score was allocated to subsections where there was an absence of threatened species (i.e. they were treated as a missing value).

<table>
<thead>
<tr>
<th>Source</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>WildNet, CORVEG, Herbrecs, Wetland Information Capture Project</td>
<td></td>
</tr>
<tr>
<td>Section</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
<tr>
<td>4.2.1</td>
<td>Conservation status of wetland Regional Ecosystems—Herbarium biodiversity status, NC Act, EPBC Act</td>
</tr>
<tr>
<td>5.1.1</td>
<td>Presence of aquatic ecosystem dependent 'priority' fauna species</td>
</tr>
<tr>
<td>5.1.2</td>
<td>Presence of aquatic ecosystem dependent 'priority' flora species</td>
</tr>
<tr>
<td>5.1.3</td>
<td>Habitat for, or presence of, migratory species (expert panel list/discussion and/or JAMBA / CAMBA agreement lists and/or Bonn Convention)</td>
</tr>
<tr>
<td>6.1.1</td>
<td>Presence of distinct, unique or special geomorphic features</td>
</tr>
<tr>
<td>6.2.1</td>
<td>Presence of (or requirement for) distinct, unique or special ecological processes</td>
</tr>
<tr>
<td>6.3.1</td>
<td>Presence of distinct, unique or special habitat (including habitat that functions as refugia or other critical purpose)</td>
</tr>
<tr>
<td>6.3.2</td>
<td>Significant wetlands identified by an accepted method such as Ramsar, Australian Directory of Important Wetlands, Regional Coastal Management Planning, World Heritage Areas, etc.</td>
</tr>
<tr>
<td>6.4.1</td>
<td>Presence of distinct, unique or special hydrological regimes (e.g. Spring fed stream, ephemeral stream, boggomoss)</td>
</tr>
<tr>
<td>6.4.2</td>
<td>Hydrological diversity within the estuary/ marine area</td>
</tr>
<tr>
<td>7.1.1</td>
<td>The contribution (upstream or downstream) of the spatial unit to the maintenance of significant species or populations, including those features identified through Criteria 5 and/ or 6</td>
</tr>
<tr>
<td>7.2.1</td>
<td>The contribution (upstream or downstream) of the spatial unit to the maintenance of groundwater ecosystems with significant biodiversity values, including those features identified through Criteria 5 and/or 6 (e.g. karsts, cave streams, artesian springs)</td>
</tr>
</tbody>
</table>
2.7 Transparency of results

ACAs produce results at a number of levels despite its initial presentation as a single score called AquaScore. After running the AquaBAMM tool, ACA results are available at AquaScore, criterion, indicator, measure or raw data levels. The results are also available through the use of user-defined queries that may interrogate one or more levels within the assessment in an almost infinite number of possible combinations. This transparency of results provides the ACA end user (e.g. scientists, resource managers and conservation organisations) with a unique level of flexibility for ACA interrogation, interpretation and presentation. Links between the ACA results and a geographic information system (GIS) facilitate this interrogation and provide a means and visualising the ACA results (Figure 2 and Figure 3).

This data access and interrogation flexibility is important and enables investigation of the influence of different data contributions to the overall conservation value, investigation of missing data, and an ability to tailor the ACA output for a particular purpose.

Figure 2. Interrogating the non-riverine ACA results for a spatial unit in the GIS environment.
Aquatic Conservation Assessments using AquaBAMM for the riverine and non-riverine wetlands of the Cape York catchments

Figure 3. Interrogating the riverine ACA results for a spatial unit in the GIS environment.
2.8 Weighting of measures
As part of the AquaBAMM methodology, the panel members and project officers that attended the ACA expert panel workshop were asked to weight the measures within each indicator. Measures were weighted according to their importance to an indicator and based on the following rules:

1. At least one measure within each indicator must be weighted 10 which is the highest weighting.
2. The other measures within each indicator were weighted compared to the weighting of 10 assigned in the first step.
3. It was okay to have different measures with the same weight (i.e. all measures could be weighted 10).
4. Some indicators only had one measure and had already been given a weighting of 10.
5. Measures shouldn’t be weighted down because of the quality or lack of data for that measure.

The individual weights were then averaged and reviewed with particular attention to averages having a high variance.

Due to time constraints at the expert panel, the question of weighting the measures was not able to be considered. The use of weighted measures allows for expert knowledge of the relative importance of the measures to be integrated into the AquaScore calculations. The impact of not being able to implement weights in this release is considered minimal. It is worth noting that a similar decision process was undertaken in deciding which measures would be implemented for this release of the CYP ACA. For example, measure 1.3.9 (the percentage of waterway channel length that is concrete lined) was determined to be a less informative measure for the CYP ACA v1.1 and preference was given to calculating more relevant measures.

2.9 Ranking of indicators
Panel members and project officers that attended the ACA expert panels workshops were asked to rank the indicators within each criterion. Indicators were ranked according to their importance to a criterion and based on the following rules:

1. At least one indicator within each criterion must be ranked one which is the highest ranking.
2. The other indicators were ranked within each criterion relative to the ranking of one assigned in the first step.
3. It was okay to have different indicators with the same ranking (i.e. all indicators may be ranked 1).
4. Indicator shouldn’t be ranked down because of the quality or lack of data for that indicator.

The individual rankings were averaged and reviewed with particular attention to averages having a high variance.

The question of ranking the indicators was not able to be considered (see section 1.1).

The use of ranks for indicators is similar, though generally more influential than the use of weights for measures (discussed above), however not implementing ranking at this time does not detract from the overall results of biodiversity significance.

2.10 Filter tables
For each spatial unit, a single summary score is derived by combining all of the final criteria scores/ratings. This summary score is called AquaScore.

A series of arithmetic techniques are used to bring data from their raw form through to scores for each criterion. To combine the Criterion scores/ratings in this final step, however, arithmetic techniques were considered to mask a number of important effects (as perceived by expert opinion) or to simply not provide sufficient discrimination between spatial units. Other authors (e.g. Chessman 2002) also discuss this issue.

Rather than a final arithmetic combination, AquaBAMM uses a criterion rating combination table (or filtering decision table) that provides an ordered series of decisions that are tested against the final criterion ratings for each spatial unit (Table 5). Each decision is a unique combination of criterion ratings that is associated with a final AquaScore category. The decisions are effectively a number of ‘if-then’ statements and are tested in sequence for each spatial unit. An AquaScore is assigned immediately when a match is achieved between the criterion rating combination of the decision and that of the ‘spatial unit’. This filtering table technique has previously been used successfully in EPA’s terrestrial BAMM (EPA 2002).
It is important to note that, unlike previous steps through the AquaBAMM tool, the AquaScore may be one of five categories (i.e. Very Low, Low, Medium, High or Very High). This increased level of discrimination at the AquaScore level provides for a more useful conservation assessment tool and enables more informed management decisions.

The filtering table is that same as that used for the *Wide Bay-Burnett riverine and non-riverine ACAs v1.1* (EHP 2012a).
Table 5. Criteria rating combination table (filter table) as used for the CYP riverine ACA.

<table>
<thead>
<tr>
<th>Decision</th>
<th>Order</th>
<th>1 Naturalness Aquatic</th>
<th>2 Naturalness Catchment</th>
<th>3 Diversity and Richness</th>
<th>4 Threatened Species and Ecosystems</th>
<th>5 Priority Species and Ecosystems</th>
<th>6 Special Features</th>
<th>7 Connectivity</th>
<th>Additional Criteria</th>
<th>AquaScore</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>equal to (No data) and</td>
<td>equal to (No data) and</td>
<td>equal to (No data) and</td>
<td>equal to (No data) and</td>
<td>equal to (No data) and</td>
<td>equal to (No data) and</td>
<td>No data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>Very High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>Very High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>equal to (Very High or High)</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>Very High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High)</td>
<td>equal to (Very High)</td>
<td>Very High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>equal to (Low) and</td>
<td>equal to (Low) and</td>
<td>equal to (Low) and</td>
<td>equal to (Low) and</td>
<td>equal to (Low) and</td>
<td>equal to (Low) and</td>
<td>Very Low</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>equal to (Low) and</td>
<td>equal to (Low) and</td>
<td>equal to (Low) and</td>
<td>equal to (Low) and</td>
<td>equal to (Low) and</td>
<td>equal to (Low) and</td>
<td>Very Low</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>equal to (Very High) and</td>
<td>equal to (Medium) and</td>
<td>equal to (Low) and</td>
<td>equal to (Low) and</td>
<td>equal to (Low) and</td>
<td>equal to (Low) and</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>equal to (Very High) and</td>
<td>equal to (High)</td>
<td>equal to (Very High)</td>
<td>equal to (High)</td>
<td>equal to (Very High)</td>
<td>equal to (Very High)</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High)</td>
<td>equal to (Very High)</td>
<td>equal to (Very High)</td>
<td>equal to (Very High)</td>
<td>equal to (Very High)</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>equal to (Very High) and</td>
<td>equal to (High)</td>
<td>equal to (Very High)</td>
<td>equal to (High)</td>
<td>equal to (Very High)</td>
<td>equal to (Very High)</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>11</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High)</td>
<td>equal to (Very High)</td>
<td>equal to (Very High)</td>
<td>equal to (Very High)</td>
<td>equal to (Very High)</td>
<td>High</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>12</td>
<td>equal to (High) and</td>
<td>equal to (Very High)</td>
<td></td>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>13</td>
<td>equal to (Very High or High) and</td>
<td></td>
<td>equal to (Very High)</td>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>14</td>
<td></td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High)</td>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>15</td>
<td></td>
<td>equal to (High) and</td>
<td></td>
<td>equal to (Very High)</td>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>16</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td></td>
<td>equal to (High)</td>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>17</td>
<td></td>
<td>equal to (High) and</td>
<td></td>
<td>equal to (High)</td>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>18</td>
<td>equal to (High) and</td>
<td>equal to (Very High) and</td>
<td></td>
<td>equal to (High)</td>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>19</td>
<td>equal to (Very High) and</td>
<td></td>
<td>equal to (High) and</td>
<td>equal to (High)</td>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>20</td>
<td>equal to (Very High) and</td>
<td></td>
<td>equal to (High) and</td>
<td>equal to (High)</td>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>21</td>
<td>equal to (High) and</td>
<td></td>
<td>equal to (High) and</td>
<td>equal to (High)</td>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>22</td>
<td></td>
<td></td>
<td>equal to (Very High or High) and</td>
<td>equal to (High)</td>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>23</td>
<td>equal to (Very High or High) and</td>
<td>equal to (High) and</td>
<td>equal to (High)</td>
<td></td>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23a</td>
<td>24</td>
<td></td>
<td></td>
<td>equal to (High)</td>
<td></td>
<td>High</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>25</td>
<td></td>
<td>equal to (Very High or High)</td>
<td></td>
<td></td>
<td>Medium</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>26</td>
<td>equal to (High) and</td>
<td>equal to (Very High or High)</td>
<td>Medium</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----</td>
<td>----</td>
<td>-------------------</td>
<td>----------------------------</td>
<td>--------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>27</td>
<td>equal to (High)</td>
<td>equal to (High)</td>
<td>Medium</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>28</td>
<td>equal to (Medium) and</td>
<td>equal to (High)</td>
<td>Medium</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>29</td>
<td>equal to (Very High or High or Medium) and</td>
<td>equal to (High)</td>
<td>Medium</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>30</td>
<td>equal to (High) and</td>
<td>equal to (Medium)</td>
<td>Medium</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>31</td>
<td>equal to (Medium) and</td>
<td>equal to (High)</td>
<td>Medium</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>32</td>
<td>equal to (High) and</td>
<td>equal to (High)</td>
<td>Medium</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>33</td>
<td>equal to (High) and</td>
<td>equal to (High) and</td>
<td>Medium</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>34</td>
<td>equal to (Medium) and</td>
<td>equal to (High)</td>
<td>Medium</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>35</td>
<td>equal to (High) and</td>
<td>equal to (Medium) and</td>
<td>Medium</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>36</td>
<td>equal to (High) and</td>
<td>equal to (Medium) and</td>
<td>Medium</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>37</td>
<td>equal to (Medium) and</td>
<td>equal to (Medium)</td>
<td>Medium</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36a</td>
<td>38</td>
<td>equal to (Medium)</td>
<td>equal to (Medium)</td>
<td>Medium</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>39</td>
<td>equal to (Very High or High or Medium) and</td>
<td>equal to (Very High or High or Medium)</td>
<td>Medium</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Aquatic Conservation Assessments using AquaBAMM
for the riverine and non-riverine wetlands of the Cape York catchments

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Number of Criteria</th>
<th>Data with Low or No data</th>
<th>Data with Very Low</th>
<th>Data with Very High or High or Medium or Low or No data</th>
<th>Data with Very High or High or Medium or Low or No data</th>
<th>Data with Very Low or No data</th>
<th>Data with Very High or High or Medium or Low or No data</th>
<th>Data with Very Low or No data</th>
<th>Data with Very High or High or Medium or Low or No data</th>
<th>Data with Very Low or No data</th>
</tr>
</thead>
<tbody>
<tr>
<td>38</td>
<td>40</td>
<td>not equal to (Very High)</td>
<td>not equal to</td>
<td>(Very High)</td>
<td>(Very High)</td>
<td>and number of Criteria</td>
<td>with Low or No data &gt;= 4</td>
<td>Very Low</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1000</td>
<td>41</td>
<td>equal to (Very High or High or Medium or Low or No data)</td>
<td>equal to (Very High or High or Medium or Low or No data)</td>
<td>equal to (Very High or High or Medium or Low or No data)</td>
<td>equal to (Very High or High or Medium or Low or No data)</td>
<td>equal to (Very High or High or Medium or Low or No data)</td>
<td>equal to (Very High or High or Medium or Low or No data)</td>
<td>equal to (Very High or High or Medium or Low or No data)</td>
<td>Low</td>
<td></td>
</tr>
</tbody>
</table>
Table 6. Criteria rating combination table (filter table) as used for the CYP non-riverine ACA.

<table>
<thead>
<tr>
<th>Decision</th>
<th>Order</th>
<th>1 Naturalness Aquatic</th>
<th>2 Naturalness Catchment</th>
<th>3 Diversity and Richness</th>
<th>4 Threatened Species and Ecosystems</th>
<th>5 Priority Species and Ecosystems</th>
<th>6 Special Features</th>
<th>8 Representativeness</th>
<th>Additional Criteria</th>
<th>AquaScore</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>equal to (No data) and</td>
<td>equal to (No data) and</td>
<td>equal to (No data) and</td>
<td>equal to (No data) and</td>
<td>equal to (No data) and</td>
<td>equal to (No data)</td>
<td>No data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High)</td>
<td>Very High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>equal to (Very High) and</td>
<td></td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High)</td>
<td>Very High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>equal to (Very High) and</td>
<td></td>
<td></td>
<td>equal to (Very High) and</td>
<td></td>
<td>equal to (Very High)</td>
<td>Very High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>equal to (Very High or High or Medium) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High) and</td>
<td></td>
<td>equal to (Very High)</td>
<td>Very High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td>equal to (Very High)</td>
<td></td>
<td></td>
<td></td>
<td>Very High</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>equal to (Low) and</td>
<td>equal to (Low) and</td>
<td>equal to (Low) and</td>
<td>equal to (Low) and</td>
<td>equal to (Low) and</td>
<td></td>
<td></td>
<td>Very Low</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>equal to (Medium or Low) and</td>
<td>equal to (Low) and</td>
<td>equal to (Low) and</td>
<td>equal to (Low) and</td>
<td>equal to (Low or No data) and</td>
<td></td>
<td></td>
<td>Very Low</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>equal to (Very High) and</td>
<td></td>
<td></td>
<td>equal to (Very High or High) and</td>
<td>equal to (High)</td>
<td></td>
<td></td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>equal to (Very High) and</td>
<td></td>
<td></td>
<td>equal to (Very High) and</td>
<td>equal to (High)</td>
<td></td>
<td></td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>equal to (Very High) and</td>
<td></td>
<td></td>
<td>equal to (Very High)</td>
<td>equal to (Very High)</td>
<td></td>
<td></td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>11</td>
<td>equal to (Very High) and</td>
<td></td>
<td></td>
<td>equal to (Very High) and</td>
<td>equal to (Very High)</td>
<td></td>
<td></td>
<td>High</td>
<td></td>
</tr>
</tbody>
</table>
Aquatic Conservation Assessments using AquaBAMM
for the riverine and non-riverine wetlands of the Cape York catchments

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>equal to (Very High) and</th>
<th>equal to (Very High or High) and</th>
<th>equal to (Very High or High) and</th>
<th>equal to (Very High)</th>
<th>Medium</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>12</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High or High)</td>
<td>equal to (Very High or High)</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>13</td>
<td>equal to (High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High)</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>14</td>
<td>equal to (High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (Very High)</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>15</td>
<td>equal to (High) and</td>
<td>equal to (High) and</td>
<td>equal to (Very High)</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>15a</td>
<td>16</td>
<td></td>
<td></td>
<td></td>
<td>equal to (High)</td>
<td>High</td>
</tr>
<tr>
<td>16</td>
<td>17</td>
<td>equal to (High) and</td>
<td>equal to (Very High) and</td>
<td>equal to (High)</td>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>18</td>
<td>equal to (High) and</td>
<td>equal to (Very High)</td>
<td></td>
<td>equal to (High)</td>
<td>Medium</td>
</tr>
<tr>
<td>18</td>
<td>19</td>
<td>equal to (High) and</td>
<td>equal to (High or Medium) and</td>
<td>equal to (Very High or High)</td>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>20</td>
<td>equal to (High)</td>
<td></td>
<td></td>
<td>equal to (Medium)</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>21</td>
<td>equal to (High)</td>
<td></td>
<td></td>
<td>equal to (High)</td>
<td>Medium</td>
</tr>
<tr>
<td>21</td>
<td>22</td>
<td>equal to (Medium) and</td>
<td>equal to (High) and</td>
<td>equal to (Medium)</td>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>23</td>
<td>equal to (High) and</td>
<td>equal to (High) and</td>
<td>equal to (Medium)</td>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>24</td>
<td>equal to (High) and</td>
<td>equal to (Medium) and</td>
<td>equal to (Medium)</td>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>25</td>
<td>equal to (Medium) and</td>
<td>equal to (Medium) and</td>
<td>equal to (Medium)</td>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>26</td>
<td>equal to (High or Medium) and</td>
<td>equal to (Very High)</td>
<td></td>
<td>Medium</td>
<td></td>
</tr>
</tbody>
</table>
Aquatic Conservation Assessments using AquaBAMM
for the riverine and non-riverine wetlands of the Cape York catchments

<table>
<thead>
<tr>
<th></th>
<th></th>
<th><strong>equal to (Very High or High or Medium) and</strong> equal to (Very High or High or Medium) and equal to (Medium) and equal to (Medium)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>27</td>
<td><strong>equal to (Very High or High or Medium) and</strong></td>
<td>Medium</td>
</tr>
<tr>
<td>26a</td>
<td>28</td>
<td><strong>equal to (Medium)</strong></td>
<td>Medium</td>
</tr>
<tr>
<td>26b</td>
<td>29</td>
<td><strong>equal to (Very High) and equal to (Very High) and equal to (Very High)</strong></td>
<td>Medium</td>
</tr>
<tr>
<td>27</td>
<td>30</td>
<td><strong>equal to (Very High or High)</strong></td>
<td>Very High</td>
</tr>
<tr>
<td>28</td>
<td>31</td>
<td><strong>and number of Criteria with Very High &gt;= 4</strong></td>
<td>Very Low</td>
</tr>
<tr>
<td>29</td>
<td>32</td>
<td><strong>and number of Criteria with Low or No data &gt;= 4</strong></td>
<td>Medium</td>
</tr>
<tr>
<td>30</td>
<td>33</td>
<td><strong>and number of Criteria with Medium &gt;= 4</strong></td>
<td>Medium</td>
</tr>
<tr>
<td>1000</td>
<td>34</td>
<td><strong>equal to (Very High or High or Medium or Low or No data) and equal to (Very High or High or Medium or Low or No data) and equal to (Very High or High or Medium or Low or No data) and equal to (Very High or High or Medium or Low or No data) and equal to (Very High or High or Medium or Low or No data)</strong></td>
<td>Low</td>
</tr>
</tbody>
</table>
3 Results

3.1 Conservation value categories

The conservation value results for wetlands are referential within each study area, but each value category has characteristics in common. AquaBAMM uses combinations of criterion level scores to determine a wetland’s final AquaScore and based on these combinations, the following descriptions provide context for each AquaScore value category.

“very high” wetlands

These wetlands have very high values across all criteria (aquatic naturalness, catchment naturalness, diversity & richness, threatened species, special features and representativeness), or they have very high representativeness values in combination with very high aquatic naturalness, catchment naturalness or threatened species values. They may also be wetlands nominated as a special feature by an expert panel for their very high flora, fauna and/or ecological values, regardless of values across other criteria.

“high” wetlands

These wetlands are mainly those that have very high aquatic naturalness or representativeness values in combination respectively with very high/high threatened species values or very high diversity and richness values. Other combinations of very high or high values amongst the criteria may also indicate one of these wetlands.

“medium” wetlands

These wetlands have varied combinations of high and medium values amongst the criteria.

“low” wetlands

These wetlands have limited aquatic and catchment naturalness values. They have varied combinations of medium and low values amongst the other criteria.

“very low” wetlands

These wetlands have very limited or no aquatic and catchment naturalness values and they lack any other known significant value. They may also be wetlands that are largely data deficient.

3.2 Accuracy and dependability

Wetland data is the core dataset that this ACA is built upon. This data is mapped at a scale of 1:100,000 with a positional accuracy of ±100 metres, except for areas along the east coast that may be mapped at a scale of 1:50,000 with a positional accuracy of ±50 metres. Wetlands smaller than 1 hectare are not delineated in the wetland data.

The dependability score is a percentage of how many measures, out of those calculated, have data. The dependability does not influence or change the final AquaScore. The ACA results should be interpreted in conjunction with the dependability score. For example, where spatial units with very low AquaScore values have low dependability, the results should be used with caution as the AquaScore may be due to the inherent lack of values or the lack of data. In the case of missing data, further survey work may add more data which may, or may not, change the AquaScore.

The interpretation, accuracy and use of the ACA results is discussed further in section 2.7
3.3 CYP catchment overall results—riverine

An ACA was conducted for the riverine wetlands in each of the catchments of the CYP region. The results outlined below are a summary of the results for all study areas. Table 7 summarises the overall AquaScore results for the riverine subsections. Table 8 provides charts of the summary information along with dependability results and further summaries for each study area. Figure 4 and Figure 6 present the overall AquaScore results by subsection and buffered stream respectively. Figure 5 and Figure 7 represent the scores for each criterion contributing to the overall AquaScore.

Table 7. AquaScore summary for riverine wetlands.

<table>
<thead>
<tr>
<th>AquaScore</th>
<th>Number of spatial units</th>
<th>Per cent of spatial units (%)</th>
<th>Area (ha)</th>
<th>Area (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very high</td>
<td>2088</td>
<td>51.8%</td>
<td>7,276,155</td>
<td>51.2%</td>
</tr>
<tr>
<td>High</td>
<td>626</td>
<td>15.5%</td>
<td>4,953,476</td>
<td>34.8%</td>
</tr>
<tr>
<td>Medium</td>
<td>255</td>
<td>6.3%</td>
<td>1,006,197</td>
<td>7.1%</td>
</tr>
<tr>
<td>Low</td>
<td>692</td>
<td>17.2%</td>
<td>975,255</td>
<td>6.9%</td>
</tr>
<tr>
<td>Very Low</td>
<td>372</td>
<td>9.2%</td>
<td>10,037</td>
<td>0.1%</td>
</tr>
<tr>
<td>Total</td>
<td>4033</td>
<td>100.0%</td>
<td>1,422,1120</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

A few broad trends in wetland conservation values were shown in the results:

- Overall, approximately 67% of all riverine units (subsections) scored a very high or high for overall AquaScore.
- The Cape York catchments exhibit a high degree of naturalness (criterion 2). This is not unexpected given the limited clearing and development that has occurred in Cape York when compared to the remainder of Queensland. Still high, but scoring lower than the rest of Cape York, are the agricultural districts in the south-east catchments (Endeavour and Mitchell West) and units to the south and west of Princess Charlotte Bay on the east coast.
- Generally, the south of Cape York has higher values for threatened species and ecosystems (criterion 4). It is important to acknowledge and recognise the influence of survey intensity in these results given the distribution and abundance of records available for analysis.
- The distribution of scores for diversity and richness (criterion 3) is broadly similar to that of criterion 4 (threatened species and ecosystems).
- A high percentage (36%) of the Islands study area units had an overall score of very low. This divergence in results from other study areas is best explained by the overall low dependability, with an average rate of 30.8% over 961 units i.e. on average a unit had data from 30% of the measures calculated available to derive an overall AquaScore. Most of the individual criteria for the islands' catchments had an average dependability consistent with the variation in average dependability across the other study areas with the exception of criterion 3 (diversity and richness) and criterion 7 (connectivity) which were much lower. For criterion 3 this result is due to the dearth of species records on the numerous islands included for assessment. For criterion 7 this result is due to the scale of the analysis and the extent of special features identified by the expert panel. Most small islands were considered to be one subsection and, as such, connectivity measure calculations have no effect. In addition, expert panel knowledge of the values on islands was sparser than for the rest of Cape York.
Figure 4. Riverine AquaScore for all catchments shown by riverine subsection.
Aquatic Conservation Assessments using AquaBAMM for the riverine and non-riverine wetlands of the Cape York catchments

Figure 5. Riverine AquaScore criteria for all catchments shown by riverine subsection.
Aquatic Conservation Assessments using AquaBAMM for the riverine and non-riverine wetlands of the Cape York catchments

Figure 6. Riverine AquaScore for all catchments shown by buffered stream.
Aquatic Conservation Assessments using AquaBAMM for the riverine and non-riverine wetlands of the Cape York catchments

Figure 7. Riverine AquaScore criteria for all catchments shown by buffered stream.
Table 8. Riverine AquaScore and dependability summary for all study areas.

**Key to charts**
- Very High
- High
- Medium
- Low
- Very Low
- No Data

<table>
<thead>
<tr>
<th>Catchment</th>
<th>AquaScore by number of spatial units</th>
<th>AquaScore by total area of spatial units</th>
<th>AquaScore dependability</th>
</tr>
</thead>
<tbody>
<tr>
<td>All catchments (riverine)</td>
<td><img src="image1.png" alt="Graph" /></td>
<td><img src="image2.png" alt="Graph" /></td>
<td><img src="image3.png" alt="Graph" /></td>
</tr>
<tr>
<td>Archer</td>
<td><img src="image4.png" alt="Graph" /></td>
<td><img src="image5.png" alt="Graph" /></td>
<td><img src="image6.png" alt="Graph" /></td>
</tr>
<tr>
<td>Coleman</td>
<td><img src="image7.png" alt="Graph" /></td>
<td><img src="image8.png" alt="Graph" /></td>
<td><img src="image9.png" alt="Graph" /></td>
</tr>
</tbody>
</table>
Aquatic Conservation Assessments using AquaBAMM
for the riverine and non-riverine wetlands of the Cape York catchments

<table>
<thead>
<tr>
<th>Location</th>
<th>Pie Charts</th>
<th>Graphs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ducie</td>
<td><img src="image1.png" alt="Pie Chart" /></td>
<td><img src="image2.png" alt="Graph" /></td>
</tr>
<tr>
<td>Embley</td>
<td><img src="image3.png" alt="Pie Chart" /></td>
<td><img src="image4.png" alt="Graph" /></td>
</tr>
<tr>
<td>Endeavour</td>
<td><img src="image5.png" alt="Pie Chart" /></td>
<td><img src="image6.png" alt="Graph" /></td>
</tr>
<tr>
<td>Holroyd</td>
<td><img src="image7.png" alt="Pie Chart" /></td>
<td><img src="image8.png" alt="Graph" /></td>
</tr>
<tr>
<td>Islands</td>
<td><img src="image9.png" alt="Pie Chart" /></td>
<td><img src="image10.png" alt="Graph" /></td>
</tr>
</tbody>
</table>
Aquatic Conservation Assessments using AquaBAMM
for the riverine and non-riverine wetlands of the Cape York catchments

<table>
<thead>
<tr>
<th>Location</th>
<th>Pie Chart 1</th>
<th>Pie Chart 2</th>
<th>Pie Chart 3</th>
<th>Bar Chart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jacky Jacky</td>
<td><img src="image1" alt="Pie Chart" /></td>
<td><img src="image2" alt="Pie Chart" /></td>
<td><img src="image3" alt="Pie Chart" /></td>
<td><img src="image4" alt="Bar Chart" /></td>
</tr>
<tr>
<td>Jardine</td>
<td><img src="image5" alt="Pie Chart" /></td>
<td><img src="image6" alt="Pie Chart" /></td>
<td><img src="image7" alt="Pie Chart" /></td>
<td><img src="image8" alt="Bar Chart" /></td>
</tr>
<tr>
<td>Jeannie</td>
<td><img src="image9" alt="Pie Chart" /></td>
<td><img src="image10" alt="Pie Chart" /></td>
<td><img src="image11" alt="Pie Chart" /></td>
<td><img src="image12" alt="Bar Chart" /></td>
</tr>
<tr>
<td>Lockhart</td>
<td><img src="image13" alt="Pie Chart" /></td>
<td><img src="image14" alt="Pie Chart" /></td>
<td><img src="image15" alt="Pie Chart" /></td>
<td><img src="image16" alt="Bar Chart" /></td>
</tr>
<tr>
<td>Mitchell West</td>
<td><img src="image17" alt="Pie Chart" /></td>
<td><img src="image18" alt="Pie Chart" /></td>
<td><img src="image19" alt="Pie Chart" /></td>
<td><img src="image20" alt="Bar Chart" /></td>
</tr>
</tbody>
</table>
Aquatic Conservation Assessments using AquaBAMM for the riverine and non-riverine wetlands of the Cape York catchments

<table>
<thead>
<tr>
<th>Location</th>
<th>Pie Charts</th>
<th>Histograms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normanby</td>
<td><img src="image1" alt="Normanby Chart" /></td>
<td><img src="image2" alt="Normanby Histogram" /></td>
</tr>
<tr>
<td>Olive-Pascoe</td>
<td><img src="image3" alt="Olive-Pascoe Chart" /></td>
<td><img src="image4" alt="Olive-Pascoe Histogram" /></td>
</tr>
<tr>
<td>Stewart</td>
<td><img src="image5" alt="Stewart Chart" /></td>
<td><img src="image6" alt="Stewart Histogram" /></td>
</tr>
<tr>
<td>Watson</td>
<td><img src="image7" alt="Watson Chart" /></td>
<td><img src="image8" alt="Watson Histogram" /></td>
</tr>
<tr>
<td>Wenlock</td>
<td><img src="image9" alt="Wenlock Chart" /></td>
<td><img src="image10" alt="Wenlock Histogram" /></td>
</tr>
</tbody>
</table>
3.4 CYP catchment overall results—non-riverine

An ACA was conducted for the non-riverine wetlands in each of the catchments of the CYP region. The results outlined below are a summary of the results for six study areas. Table 9 summarises the overall AquaScore results for the riverine subsections. Table 10 provides charts of the summary information along with dependability results and further summaries for each study area. Figure 8 presents the overall AquaScore results for non-riverine wetlands. Figure 9 represents the scores for each criterion contributing to the overall AquaScore.

Table 9. AquaScore summary for non-riverine wetlands.

<table>
<thead>
<tr>
<th>AquaScore</th>
<th>Number of spatial units</th>
<th>Per cent of spatial units (%)</th>
<th>Area (ha)</th>
<th>Area (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very high</td>
<td>11,741</td>
<td>45.8%</td>
<td>328,012</td>
<td>73.3%</td>
</tr>
<tr>
<td>High</td>
<td>11,858</td>
<td>46.3%</td>
<td>106,096</td>
<td>23.7%</td>
</tr>
<tr>
<td>Medium</td>
<td>1847</td>
<td>7.2%</td>
<td>11,788</td>
<td>2.6%</td>
</tr>
<tr>
<td>Low</td>
<td>189</td>
<td>0.7%</td>
<td>1795</td>
<td>0.4%</td>
</tr>
<tr>
<td>Very Low</td>
<td>2</td>
<td>0.01%</td>
<td>4</td>
<td>0.001%</td>
</tr>
<tr>
<td>Total</td>
<td>25,637</td>
<td>100.0%</td>
<td>447,695</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

A few broad trends in wetland conservation values were shown in the results:

- Overall, approximately 92% of all non-riverine wetlands scored a very high or high for AquaScore. This equates to 97% of the wetland area. Most of these wetlands are adjacent to the coast (within 50km) with the notable exception of the Mitchell West catchment which is dominated (98% of all units) across its entire extent by very high scores.
Figure 8. Non-riverine AquaScore for all catchments.
Figure 9. Non-riverine AquaScore criteria for all catchments.
Table 10. Non-Riverine AquaScore and dependability summary for all study areas.

**Key to charts**
- Very High
- High
- Medium
- Low
- Very Low
- No Data

<table>
<thead>
<tr>
<th>Catchment</th>
<th>AquaScore by number of spatial units</th>
<th>AquaScore by total area of spatial units</th>
<th>AquaScore dependability</th>
</tr>
</thead>
<tbody>
<tr>
<td>All catchments (non-riverine)</td>
<td><img src="chart1.png" alt="Chart" /></td>
<td><img src="chart2.png" alt="Chart" /></td>
<td><img src="chart3.png" alt="Chart" /></td>
</tr>
<tr>
<td>Archer</td>
<td><img src="chart4.png" alt="Chart" /></td>
<td><img src="chart5.png" alt="Chart" /></td>
<td><img src="chart6.png" alt="Chart" /></td>
</tr>
<tr>
<td>Coleman</td>
<td><img src="chart7.png" alt="Chart" /></td>
<td><img src="chart8.png" alt="Chart" /></td>
<td><img src="chart9.png" alt="Chart" /></td>
</tr>
<tr>
<td>Ducie</td>
<td><img src="chart10.png" alt="Chart" /></td>
<td><img src="chart11.png" alt="Chart" /></td>
<td><img src="chart12.png" alt="Chart" /></td>
</tr>
</tbody>
</table>
Aquatic Conservation Assessments using AquaBAMM
for the riverine and non-riverine wetlands of the Cape York catchments

<table>
<thead>
<tr>
<th>Location</th>
<th>Aquatic Score</th>
<th>Aquatic Dependability</th>
<th>Aquatic Exposure</th>
<th>Aquatic Pressure</th>
<th>Aquatic Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Embley</td>
<td>0%, 28%, 8%, 41%</td>
<td>0%, 25%, 3%, 64%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Endeavour</td>
<td>2%, 18%, 6%, 74%</td>
<td>0%, 96%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Holroyd</td>
<td>7%, 29%, 0%, 90%</td>
<td>0%, 69%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Islands</td>
<td>13%, 0%, 3%, 79%</td>
<td>0%, 93%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jacky Jacky</td>
<td>0%, 68%, 0%, 95%</td>
<td>0%, 7%, 0%, 93%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Aquatic Conservation Assessments using AquaBAMM
for the riverine and non-riverine wetlands of the Cape York catchments

<table>
<thead>
<tr>
<th>Location</th>
<th>Aquatic Score</th>
<th>Overall Aquatic Score</th>
<th>Graph</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jardine</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jeannie</td>
<td>94%</td>
<td>96%</td>
<td></td>
</tr>
<tr>
<td>Lockhart</td>
<td>68%</td>
<td>90%</td>
<td></td>
</tr>
<tr>
<td>Mitchell West</td>
<td>98%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Normanby</td>
<td>79%</td>
<td>75%</td>
<td></td>
</tr>
</tbody>
</table>
Aquatic Conservation Assessments using AquaBAMM for the riverine and non-riverine wetlands of the Cape York catchments

<table>
<thead>
<tr>
<th>Aquatic Conservation Assessments using AquaBAMM for the riverine and non-riverine wetlands of the Cape York catchments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Olive-Pascoe</strong></td>
</tr>
<tr>
<td><img src="image1" alt="Pie chart" /></td>
</tr>
<tr>
<td><img src="image5" alt="Bar chart" /></td>
</tr>
</tbody>
</table>
3.5 Field-truthing

Field validation of the ACA results is important to test the accuracy of the wetland values attributed. Field-truthing is a critical step in any ACA using AquaBAMM and it precedes final data corrections, resulting from the field work, and a final re-run of the assessment.

The outcomes from field-truthing are regularly:

- minor changes to the filtering table and/or
- missing datasets identified and implemented.

In general the field-truthing will:

- Check spatial units across the range of values from very low to very high. There is usually a focus on the very low and very high valued spatial units as these are considered to have the most influence to reduce the potential of a false negative (type I error) or a false positive (type II error) result.
- Check spatial units where there is a very low right next to a very high.
- Check stratification.
- Preference for field-truthing spatial units is given to units in the coastal areas as this is where the regulations will impact the most. There is also a preference to validate the medium and high spatial units as this is the borderline between whether they will be included in the regulations (i.e. the difference between wetlands of general ecological significance (GES) and high ecological significance (HES)).
- Field-truthing is not an attempt to confirm individual measure data (e.g. there is no effort to confirm the presence of a particular threatened species).

Field-truthing was not able to be completed for the CYP ACA version 1.1 (see section 1.1).
3.6 General summary

Significant environmental features (or geographic areas) that are nominated by agreements or instruments such as Ramsar, Directory of Important Wetlands and World Heritage Area, influence conservation value results through the ACA process. These features/areas are not evenly distributed throughout the CYP catchments and are especially focused in the coastal areas. Wetlands in these areas usually score very high or high with respect to their conservation values and due to the distribution of the significant environmental areas, the wetlands are often spatially concentrated. For these reasons catchments such as Normanby, for example, have large numbers of very high value wetlands.

The dependability score is a percentage of how many available measures have data. The dependability does not influence or change the final AquaScore. The ACA results should be interpreted in conjunction with the dependability score. For example, where spatial units with very low AquaScore values have low dependability, the results should be used with caution as the AquaScore may be due to the inherent lack of values or the lack of data. In the case of missing data, further survey work may add more data which may, or may not, change the AquaScore.

When compared with catchments throughout Queensland the catchments of the CYP are generally slightly richer in data, as is reflected in the dependability values which are often 50% or greater.

Data availability is never equal for all wetlands in a study area. In the same way, expert knowledge is not usually available for every wetland in a study area. Dataset completeness is influenced spatially by research effort, enthusiast search effort, political focus, etc. AquaBAMM is designed to cope with data deficiencies, however wetlands with complete datasets are more likely to show an accurate final conservation value and they are more likely to have a species record of significance or other special feature (most likely due to increased investigative effort or functional understanding) that results in a very high or high conservation value score.

Whenever lines are drawn on a map (e.g. from the expert panels or Directory of Important Wetlands etc.), there is a risk that the boundary may be approximate at the scale of the individual spatial unit. For these types of decisions the boundary should always be considered at the appropriate scale. The wetlands mapping is the fundamental spatial input into this ACA and the wetlands are mapped at a scale of 1:100,000, except for areas along the east coast which are mapped at the 1:50,000 scale.

There was considerable variation in the size of subsections used in the assessments which may affect the results of some measure calculations. The subsection units in this ACA followed a trend of being smallest at the coast with units getting progressively larger upstream relative to the hierarchy and ordering of the stream network. The subsections were generally of an appropriate scale with the exception of a few inland units in the southern sections. It is recommended that, in future versions, these outliers be separated into units more consistent with the size of similar units i.e. units with a similar landscape complexity, ruggedness and variation in elevation.

In previous riverine ACAs in coastal areas the predominantly estuarine subsections were excluded from the riverine assessment. The exclusion rule does not apply to non-riverine ACAs and the subsections are still used for the calculations. The impact of not excluding the riverine subsections that are predominately estuarine is minimal. These subsections have remained in the riverine ACA (see section 1.1).
4 Recommendations

The results of an ACA, or AquaBAMM assessment output, may be used in a number of ways and for a number of purposes. Well-founded ecological or conservation values for aquatic ecosystems are a useful input to many natural resource management decision making processes including, for example, regional planning, development assessment, tenure negotiations or protected area estate review. In addition to the use of final AquaBAMM analysis scores, subordinate elements from each assessment may also be used for management and planning purposes. For example, prioritising natural resource management actions within a catchment (or other spatial unit) for rehabilitation, protection of high ecological value areas or other on-ground works may be achieved through the use of data from individual measures within AquaBAMM.

Interpretation of the CYP ACA results for the purposes of management priority or for development of management actions has not been undertaken as part of this project.

An analysis of the filtering table and how many spatial units triggered at each decision was performed. There does not appear to be any major inconsistencies in the hit analysis. In the longer term the hit analysis for all the ACAs should be compared to see if there are any redundant decisions or decisions that are inconsistent.

Species habitat models and pest habitat mapping from DAFF were available but were unable to be implemented (see section 1.1) and species records were used as an alternative. Habitat models usually provide a more ecologically realistic indication of habitat and are the preferred avenue for including species information in the ACAs. Future ACA versions should incorporate these habitat models, where possible.

The ACA was based on the stream network from the QWP and the subsections. Riverine wetlands as mapped by the QWP were not included in the riverine ACA. The ACA values are assigned to the subsection and the assumption is that all riverine wetlands (regardless of mapping source) have the relevant values. Further work is required to incorporate the excluded riverine wetlands into the riverine ACA.

Recommendations for next ACA version:

- Move the estuarine special features and species to a separate estuarine ACA. Completion of a separate estuarine ACA will depend on the availability of suitably attributed estuarine mapping.
- Complete a marine ACA depending on availability of suitably attributed marine mapping.
- Include external experts in the expert panels.
- Consider whether stratification, weighting and ranking should be applied.
- Field-truthing of the results.
- Review the subsections.
Aquatic Conservation Assessments using AquaBAMM
for the riverine and non-riverine wetlands of the Cape York catchments

5 References


6 Attachments

6.1 Attachment A  Aquatic flora, fauna and ecology riverine and non-riverine expert panel report
An Aquatic Conservation Assessment for the riverine and non-riverine wetlands of the Cape York catchments

Flora, fauna and ecology expert panel report
Prepared by:
Steven Howell1 Manager, Biodiversity Assessment
Erin Kenna1 Principal GIS Analyst

1 Ecosystem Outcomes Branch, Conservation and Sustainability Services Division, Queensland Department of Environment and Heritage Protection, GPO Box 2454 BRISBANE QLD 4001

© The State of Queensland (Department of Environment and Heritage Protection) 2013
#30331
Copyright inquiries should be addressed to <copyright@ehp.qld.gov.au> or the Department of Environment and Heritage Protection, GPO Box 2454, Brisbane, Qld, 4001

Disclaimer
This document has been prepared with all due diligence and care, based on the best available information at the time of publication. The department holds no responsibility for any errors or omissions within this document. Any decisions made by other parties based on this document are solely the responsibility of those parties. Information contained in this document is from a number of sources and, as such, does not necessarily represent government or departmental policy.

If you need to access this document in a language other than English, please call the Translating and Interpreting Service (TIS National) on 131 450 and ask them to telephone Library Services on +61 7 3224 8412.

This publication can be made available in an alternative format (e.g. large print or audiotape) on request for people with vision impairment; phone +61 7 3224 8412 or email <library@ehp.qld.gov.au>.

Citation

Acknowledgements
The authors wish to thank Shane Chemello, Simon Goudkamp, Chamendra Hewavisenthhi, Lindsey Jones, David McFarland, Heidi Millington, Bruce Wannan.

Cover photograph – Wetland on Dixie Station, CYP from Bruce Wannan.

<table>
<thead>
<tr>
<th>Version</th>
<th>Data Release Date</th>
<th>Report Release Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>9th December 2012</td>
<td>9th December 2012</td>
</tr>
</tbody>
</table>
Contents

1 Introduction ..............................................................................................................1

2 Method .....................................................................................................................2
   2.1 Study area .......................................................................................................2
   2.2 Panel composition .........................................................................................4
   2.3 Workshop format ..........................................................................................4

3 Flora ......................................................................................................................5
   3.1 Rare and threatened flora ...........................................................................5
   3.2 Priority flora ..................................................................................................6
   3.3 Species richness ...........................................................................................8
   3.4 Exotic flora ..................................................................................................15
   3.5 Special features ............................................................................................19

4 Fauna ....................................................................................................................23
   4.1 Near threatened and threatened fauna .......................................................23
   4.2 Priority fauna ...............................................................................................25
       4.2.1 Priority species ....................................................................................25
       4.2.2 Migratory species ..............................................................................29
   4.3 Species richness ...........................................................................................31
       4.3.1 Fish richness .......................................................................................31
       4.3.2 Reptile richness ...............................................................................33
       4.3.3 Waterbird richness ..........................................................................35
       4.3.4 Frog richness ....................................................................................38
       4.3.5 Mammal richness .............................................................................39
       4.3.6 Macroinvertebrate richness ...............................................................39
   4.4 Exotic fauna ..................................................................................................40
   4.5 Special features ............................................................................................42

5 Ecology ....................................................................................................................99
   5.1 Special Features ...........................................................................................99
   5.2 Connectivity ..................................................................................................196
   5.3 Stratification ................................................................................................196
   5.4 Weighting of measures ..............................................................................196
   5.5 Ranking of indicators ...............................................................................196

6 References .............................................................................................................197

7 Acronyms and abbreviations .............................................................................199

8 Attachments .........................................................................................................200
   Attachment A—Terms of reference ...................................................................201
   Attachment B—Criteria, indicators and measures for the Cape York region ....204
List of tables

Table 1: Panel members ............................................................................................................ 4
Table 2: Aquatic, semi-aquatic and riparian flora species listed under Queensland or Commonwealth legislation ............................................................................................ 5
Table 3: Identified priority flora species and their significant values ........................................ 6
Table 4: Wetland-dependent native flora species including priority species ............................. 8
Table 5: Exotic flora species .................................................................................................... 16
Table 6: Identified priority ecosystems, or flora special features, and their values .............. 20
Table 7: Flora special features not implemented ................................................................... 22
Table 8: Aquatic, semi-aquatic and riparian fauna species listed under Queensland or Commonwealth legislation ................................................. 23
Table 9: Identified priority fauna species, and their significant values .................................. 26
Table 10: A list of migratory species ....................................................................................... 29
Table 11: Native fish ................................................................................................................ 31
Table 12: Freshwater reptiles ................................................................................................ 34
Table 13: Native waterbirds ...................................................................................................... 35
Table 14: Native frogs .............................................................................................................. 38
Table 15: Native mammals ..................................................................................................... 39
Table 16: Native macroinvertebrates ....................................................................................... 40
Table 17: Alien fauna species .................................................................................................. 41
Table 18: Identified fauna special features and their values ................................................. 43
Table 19: Identified ecology special features and their values .............................................. 100
Table 20: Ecology special features not implemented ............................................................ 194
Table 21: CIM list for the Cape York region ........................................................................... 204

List of figures

Figure 1: The Cape York study area ....................................................................................... 3
1 Introduction

The Department of Environment and Heritage Protection (EHP) conducted an Aquatic Conservation Assessment (ACA) for the riverine, non-riverine and estuarine wetlands in the Cape York region using the Aquatic Biodiversity Assessment and Mapping Method (AquaBAMM) (Clayton et al. 2006).

AquaBAMM provides a robust and easily accessible analysis of wetland conservation values associated with a catchment or other defined study area. The AquaBAMM is a decision support tool that utilises existing information, with moderation by expert panels (e.g. flora, fauna and wetland ecology expert panels) to ensure scientific rigour and accountability, resulting in an ACA for a nominated geographic area—in this case, the Cape York region.

The potential for adding additional data into the system as it becomes available, with consequent updates to planning outcomes, is not limited. The AquaBAMM tool is a map/data output in a geographic information system (GIS) environment based on spatial mapping units that describe conservation significance or value for planning and assessment purposes.

The Cape York region ACA is made up of 17 individual catchments. EHP is applying AquaBAMM separately to the riverine, non-riverine (palustrine and lacustrine) and estuarine wetlands within each of the 17 Cape York catchments. In effect, there are 17 ACAs for the area—covering riverine, non-riverine and estuarine wetlands in each of the catchments. A map of the Cape York region showing each study area is provided in Figure 1.

Three expert panels were conducted to address aquatic fauna, aquatic and riparian flora and wetland ecology for the 17 Cape York catchments. The panels, held in Cairns on 7 and 8 August 2012, involved invited experts internal to the government with expertise in aquatic and riparian flora, aquatic fauna and/or wetland ecology.

This report documents the findings and recommendations of the expert panel and includes follow up information provided post panel by panel members and other experts. The report presents supporting information and panel input that addresses riverine, non-riverine and estuarine wetland systems. Terms of reference for the panel are provided in Attachment A.

For the purposes of this assessment, the species and special features identified as estuarine have been included in the ACA riverine results.
2 Method

2.1 Study area

Cape York Peninsula is a diverse and important region of tropical Australia covering approximately 13,720,000 hectares. The bioregion has a tropical humid/maritime climate, with rainfall varying from 1000 millimetres (mm) to 1600mm. It is a place of special heritage, containing vast and relatively undisturbed landscapes with extraordinary biological significance and diversity, and rich in Aboriginal culture.

The bioregion has a complex geomorphology including low hills, plains, dune fields, boulder fields, coral cays, continental islands, and alluvial areas (Sattler and Williams 1999). The region also has geological complexity. It is dominated by the Torres Strait Volcanics in the north. The metamorphic rocks and acid intrusive rocks of various ages of the Coen-Yambo Inlier run north–south along the eastern margin of the region and encompass the high-altitude/high-rainfall areas of Iron Range and McIlwraith Range. The deeply dissected sandstone plateaus and ranges of the Battle Camp Sandstones lie in the south of the region adjacent to the undulating Laura Lowlands composed of residual weathered sands and flat plains of colluvial and alluvial clays, silts and sands. The west of the region is dominated in the south by the extensive Tertiary sand sheets dissected by the intricate drainage systems of the Holroyd Plain, the Tertiary laterite of the undulating Weipa Plateau and the low rises of Mesozoic sandstones. The northern extension of the Weipa Plateau and extensive coastal plains adjoin the Gulf of Carpentaria. Extensive aeolian dune fields lie in the east associated with Cape Bedford/Cape Flattery in the south and the Olive and Jardine Rivers (Sattler and Williams 1999).

There are 9 sub-regions within the Cape York Peninsula bioregion. All sub-regions have high ecosystem diversity and endemism. The ecosystem diversity encompasses rainforests, woodlands, shrublands heaths, sedgelands, grasslands and mangroves, all in a relatively intact condition (Sattler and Williams 1999). This high habitat diversity comprises over 3000 flora species and supports a substantial proportion of Australia’s native fauna (> 50% of all butterfly, 50% bird, 33% mammal, 25% reptile and 25% frog species) (Earth Tech 2005). A considerable number of these taxa are threatened and/or restricted to the bioregion (Abrahams et al. 1995).

One of the significant values of the bioregion is its relative intactness. The overall condition of Cape York Peninsula is good with some declines in ecosystems, wetlands, riparian vegetation and species. Only limited clearing of vegetation has occurred in the bioregion. A main potential agent of change in the bioregion is the impact of altered fire regimes on vegetation (Sattler and Williams 1999).

The project region considered in this assessment includes 17 study areas for assessment. The southern boundary of the study area is as defined under the Cape York Peninsula Heritage Act 2007 (Figure 1), which incorporates parts of the Gulf Plains, Einasleigh Uplands, and Wet Tropics bioregions. However, it will exclude the Queensland Wet Tropics World Heritage area in the south-east.
Figure 1: The Cape York study area
2.2 Panel composition

The expert panel comprised of the persons listed in Table 1 who are familiar with aquatic fauna, flora and ecology in the Cape York region. Some members who were unavailable to attend the workshop were consulted prior to, or after, the workshop.

Table 1: Panel members

<table>
<thead>
<tr>
<th>Participants</th>
<th>Organisation</th>
<th>Attendance day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bruce Wannan</td>
<td>EHP, RSD</td>
<td>1 and 2</td>
</tr>
<tr>
<td>Eda Addicott</td>
<td>SITIA, Herbarium</td>
<td>1 and 2</td>
</tr>
<tr>
<td>Mark Newton</td>
<td>SITIA, Herbarium</td>
<td>1 and 2</td>
</tr>
<tr>
<td>John Clarkson</td>
<td>NPRSR, QPWS</td>
<td>1 and 2</td>
</tr>
<tr>
<td>Keith McDonald</td>
<td>EHP, Threatened Species</td>
<td>1 and 2</td>
</tr>
<tr>
<td>Alastair Freeman</td>
<td>EHP, Threatened Species</td>
<td>1 and 2</td>
</tr>
<tr>
<td>Ashley Field</td>
<td>SITIA, Herbarium</td>
<td>1 and 2</td>
</tr>
<tr>
<td>Mike Treanery</td>
<td>EHP, RSD</td>
<td>1 and 2</td>
</tr>
<tr>
<td>Lyn Wallace</td>
<td>EHP, CYP</td>
<td>1</td>
</tr>
<tr>
<td>Colin Dollery</td>
<td>NPRSR, QPWS</td>
<td>1 and 2</td>
</tr>
<tr>
<td>Daryn Storch</td>
<td>NPRSR, QPWS</td>
<td>1 and 2</td>
</tr>
<tr>
<td>Kerryn Oconor</td>
<td>EHP, EO</td>
<td>1</td>
</tr>
<tr>
<td>Buzz Symonds</td>
<td>EHP, CYP</td>
<td>1</td>
</tr>
<tr>
<td>Simon Thompson</td>
<td>EHP, Nature Refuges</td>
<td>1 and 2</td>
</tr>
<tr>
<td>Steven Howell</td>
<td>EHP, EO – Chair</td>
<td>1 and 2</td>
</tr>
<tr>
<td>Lindsey Jones</td>
<td>EHP, EO – co-chair</td>
<td>1 and 2</td>
</tr>
<tr>
<td>Robert Hughes</td>
<td>EHP, EO</td>
<td>1</td>
</tr>
</tbody>
</table>

**Additional persons consulted**

<table>
<thead>
<tr>
<th>Name</th>
<th>Organisation</th>
<th>Via</th>
</tr>
</thead>
<tbody>
<tr>
<td>Niall Connolly</td>
<td>EHP, RSD</td>
<td>email</td>
</tr>
<tr>
<td>John Winter</td>
<td>EHP, Threatened Species</td>
<td>email</td>
</tr>
<tr>
<td>Gethin Morgan</td>
<td>EHP, RSD</td>
<td>email</td>
</tr>
<tr>
<td>John Neldner</td>
<td>SITIA, Herbarium</td>
<td>email</td>
</tr>
<tr>
<td>Rod Fensham</td>
<td>SITIA, Herbarium</td>
<td>email</td>
</tr>
<tr>
<td>Paul Forster</td>
<td>SITIA, Herbarium</td>
<td>email</td>
</tr>
<tr>
<td>Col Limpus</td>
<td>EHP, Threatened Species</td>
<td>In person</td>
</tr>
</tbody>
</table>

Lindsey Jones (Principal Biodiversity Planning Officer) from EHP provided technical support for the panel workshops with Steven Howell (Manager, Biodiversity Assessment) as the workshop facilitator.

2.3 Workshop format

The workshop used an interactive approach of ArcView GIS software to display point records of species and their spatial distributions. Where necessary, a background of topographic maps, roads, rivers and other relevant datasets were used to identify areas of interest. Additional supporting information on flora, fauna and ecology in the Cape York region was also sourced from various technical reports.
3 Flora

3.1 Near threatened and threatened flora

The panel identified 27 threatened flora taxa in the Cape York region (Table 2). This list of flora will be used as the basis for identifying areas of significance for ‘Criterion 4 Threatened species and ecosystems’ (4.1.2).

Table 2: Aquatic, semi-aquatic and riparian flora species listed under Queensland or Commonwealth legislation

This list was used to generate the values for the AquaBAMM measure 4.1.2.

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R¹</th>
<th>NR</th>
<th>ES</th>
<th>NCA²</th>
<th>EPBC³</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arthraxon hispidus</td>
<td>Y Y V V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Astonia australiensis</td>
<td>Y E</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caesalpinia hymenocarpa</td>
<td>Y NT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crepidium lawleri</td>
<td>Y E E</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyathea exilis</td>
<td>Y Y E E</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyathea felina</td>
<td>Y Y E</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dallwatsonia felliana</td>
<td>Y NT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ectrosia blakei</td>
<td>Y Y V V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eleocharis retroflexa</td>
<td>Y Y V V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gamotia stricta var. longiseta</td>
<td>Y NT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germainia capitata</td>
<td>Y Y V V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hedyotis novoguineensis</td>
<td>Y E</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lindsaea walkerae</td>
<td>Y NT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Livistona concinna</td>
<td>Y NT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lycopodiella limosa</td>
<td>Y NT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myriophyllum coronatum</td>
<td>Y Y V V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paramapania parvibractea</td>
<td>Y NT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhamphicarpa australiensis</td>
<td>Y NT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schoenus scabripes</td>
<td>Y NT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sesbania erubescens</td>
<td>Y NT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spathoglottis paulinae</td>
<td>Y Y NT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spathoglottis plicata</td>
<td>Y V V  New Guinea ground orchid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sticherus milnei</td>
<td>Y NT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stylidium longissimum</td>
<td>Y V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stylidium trichopodum</td>
<td>Y NT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Syzygium aqueum</td>
<td>water apple Y NT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Syzygium malaccense</td>
<td>Malay apple Y NT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tectaria silfolia</td>
<td>Y NT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹ Assessment type (NR – non-riverine, R – riverine, ES – estuarine)
³ Environment Protection and Biodiversity Conservation Act 1999 (E – endangered, V – vulnerable)
3.2 Priority flora

Due to time constraints the panel was not able to fully deliberate on all aquatic, semi-aquatic and riparian species within the Cape York region to identify ‘priority flora’ (excluding the rare or threatened species listed in Table 2). We have adopted a revised version of the earlier definition of a priority species from the Wide Bay-Burnett ACA namely that a priority species must exhibit one or more of the following significant values:

1. It forms significant macrophyte beds (in shallow or deep water).
2. It is an important/critical food source.
3. It is important/critical habitat.
4. It is implicated in spawning or reproduction for other fauna and/or flora species.
5. It is at its distributional limit or is a disjunct population.
6. It provides stream bank or bed stabilisation or has soil-binding properties.
7. It is a small population and subject to threatening processes.

Post panel, a number of riverine, non-riverine and estuarine priority flora species have been identified (Table 3). These species are to be included as part of ‘Criterion 5 Priority species and ecosystems’ (5.1.2).

**Table 3: Identified priority flora species and their significant values**

This list was used to generate the values for the AquaBAMM measure (5.1.2).

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R</th>
<th>NR</th>
<th>ES</th>
<th>Priority number</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrostichum speciosum</td>
<td>mangrove fern</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Azolla filiculoides</td>
<td>red azolla</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>1,2,3,4</td>
<td></td>
</tr>
<tr>
<td>Azolla pinnata</td>
<td>ferny azolla</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>1,2,3,4</td>
<td></td>
</tr>
<tr>
<td>Banksia robur</td>
<td>broad-leaved banksia</td>
<td>Y</td>
<td></td>
<td></td>
<td>2,6</td>
<td></td>
</tr>
<tr>
<td>Baumea rubiginosa</td>
<td>soft twigrush</td>
<td>Y</td>
<td></td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Baumea teretifolia</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Casuarina cunninghamiana</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>2,3,6</td>
<td></td>
</tr>
<tr>
<td>Casuarina cunninghamiana subsp. cunninghamiana</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>2,3,6</td>
<td></td>
</tr>
<tr>
<td>Ceratophyllum demersum</td>
<td>hornwort</td>
<td>Y</td>
<td></td>
<td></td>
<td>1,2,3,4</td>
<td></td>
</tr>
<tr>
<td>Ceratopteris thalictroides</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4</td>
<td></td>
</tr>
<tr>
<td>Commelina aggregostaphylla</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Crinum pedunculatum</td>
<td>river lily</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Cyperus exaltatus</td>
<td>tall flatsedge</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Eleocharis atropurpurea</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Eleocharis brassii</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Eleocharis dulcis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>1,6,7</td>
<td></td>
</tr>
<tr>
<td>Eleocharis equisetina</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Eleocharis geniculata</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Eleocharis minuta</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Eleocharis nuda</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Eleocharis philippinensis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Eleocharis spathelata</td>
<td>tall spikerush</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Eleocharis spiralis</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus camaldulensis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,6</td>
<td></td>
</tr>
<tr>
<td>Eucalyptus tereticornis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>3,6,7</td>
<td></td>
</tr>
<tr>
<td>Ficus racemosa var. racemosa</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>2,3,6</td>
<td></td>
</tr>
<tr>
<td>Gahnia sieberiana</td>
<td>sword grass</td>
<td>Y</td>
<td></td>
<td></td>
<td>2,3,4</td>
<td></td>
</tr>
<tr>
<td>Hymenachne acutigluma</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Leersia hexandra</td>
<td>swamp rice grass</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Lemna aequinoctialis</td>
<td>common</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4</td>
<td></td>
</tr>
</tbody>
</table>

Assessment type (NR – non-riverine, R – riverine, ES – estuarine)

The priority numbers are the values that a species must exhibit to be a priority species as listed in dot points above Table 3.
<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R²</th>
<th>NR</th>
<th>ES</th>
<th>Priority number</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lepidosperma laterale</td>
<td>duckweed</td>
<td></td>
<td></td>
<td></td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>Lepronia articulata</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Limnophila aromatica</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>1</td>
<td>Limnophila aromatica</td>
</tr>
<tr>
<td>Limnophila brownii</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>Lindernia tenuifolia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Lomandra longifolia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Ludwigia adscendens</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>1,2,5</td>
<td></td>
</tr>
<tr>
<td>Ludwigia peploides subsp.</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>montevidensis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marsilea crenata</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Marsilea drummondii</td>
<td>common nardoo</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Marsilea mutica</td>
<td>shiny nardoo</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Melaleuca bracteata</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Melaleuca dealbata</td>
<td>swamp tea-tree</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Melaleuca fluviatilis</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Melaleuca leucadendra</td>
<td>broad-leaved tea-tree</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,6</td>
<td></td>
</tr>
<tr>
<td>Melaleuca quinquenervia</td>
<td>swamp paperbark</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Melaleuca trichostachya</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Melaleuca virinalis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Melaleuca viridiflora</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Monochoria cyanea</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>2,3,4</td>
<td></td>
</tr>
<tr>
<td>Myriophyllum vurrucosum</td>
<td>water milfoil</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>1,2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Najas tenuifolia</td>
<td>water nymph</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>1,2,3,4</td>
<td></td>
</tr>
<tr>
<td>Nelumbo nucifera</td>
<td>pink waterlily</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>1,2,3</td>
<td></td>
</tr>
<tr>
<td>Nitella tasmanica</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>1,2,3,4</td>
<td>No valid records available at time of implementation.</td>
</tr>
<tr>
<td>Nymphaea alexii</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>1</td>
<td>No valid records available at time of implementation.</td>
</tr>
<tr>
<td>Nymphaea atrans</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Nymphaea carpentariae</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Nymphaea elleniae</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Nymphaea immutabilis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Nymphaea macroperma</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Nymphaea nouchali</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>1</td>
<td>No valid records available at time of implementation.</td>
</tr>
<tr>
<td>Nymphaea noelae</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Nymphaea violacea</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Nymphaeoides exiliflora</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4</td>
<td></td>
</tr>
<tr>
<td>Nymphaeoides indica</td>
<td>water snowflake</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4</td>
<td></td>
</tr>
<tr>
<td>Nypa fruticans</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,6</td>
<td></td>
</tr>
<tr>
<td>Oryza australiensis</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>2,3</td>
<td></td>
</tr>
<tr>
<td>Oryza meridionalis</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>2,3</td>
<td></td>
</tr>
<tr>
<td>Oryza rufipogon</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3</td>
<td></td>
</tr>
<tr>
<td>Ottelia ovalifolia</td>
<td>swamp lily</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4</td>
<td></td>
</tr>
<tr>
<td>Pandanus cookii</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Pandanus spiralis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Paspalum distichum</td>
<td>water couch</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td>No valid records available at time of implementation.</td>
</tr>
<tr>
<td>Persicaria attenuata</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Persicaria barbata</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Persicaria decipiens</td>
<td>slender knotweed</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Persicaria orientalis</td>
<td>princes feathers</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Phragmites australis</td>
<td>common reed</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Potamogeton crispus</td>
<td>curly pondweed</td>
<td>Y</td>
<td></td>
<td></td>
<td>1,2,3,4</td>
<td></td>
</tr>
<tr>
<td>Potamogeton octandrus</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>1,2,3,4</td>
<td></td>
</tr>
<tr>
<td>Potamogeton tricarinatus</td>
<td>floating pondweed</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>1,2,3,4</td>
<td></td>
</tr>
<tr>
<td>Pseudoraphis spinosissi</td>
<td>spiny mudgrass</td>
<td>Y</td>
<td></td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Schoenoplectus mcruratus</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Schoenoplectus subulatus</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Scleria mackavisci</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3</td>
<td></td>
</tr>
<tr>
<td>Sphenolea zeylanica</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Tapheocarpa callandrinoides</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>1,2,3,5,7</td>
<td></td>
</tr>
<tr>
<td>Typha domingensis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
</tbody>
</table>
3.3 Species richness

Species richness (total number of species) was scored for wetland indicator species. Stratifying the catchments is important to describe variability in richness. The catchments of the Cape York region have a number of non-riverine, riverine and estuarine plants that are referred to in this report as ‘wetland indicator species’ (Table 4). The datasets for these species were accessed from EHP corporate databases of WildNet and Herbrecs and from panel member records.

Wetland indicator species are defined as those species that are adapted to and dependent on living in wet conditions for at least part of their life and are found either within or immediately adjoining a riverine, non-riverine or estuarine wetland.

This definition of a wetland indicator species extends beyond the more traditional definition of submerged and floating aquatic plants to include plants inhabiting the littoral zone (waters edge) and plants that usually have ‘wet feet’ on the toe of the bank. This meaning best captures the intent of the AquaBAMM indicator and measure of species richness ‘Richness of wetland dependent plants’ (3.1.5). The indicator is a measure of floristic richness of a particular spatial unit’s aquatic environment, and hence, a broad definition will better depict the flora richness value at a given location.

Table 4: Wetland-dependent native flora species including priority species

This list will be used to calculate an aquatic and riparian flora richness score (3.1.5), threatened flora species (4.1.2) and priority flora species (5.1.2).

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R*</th>
<th>NR</th>
<th>ES</th>
<th>Priority number*</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typha orientalis</td>
<td>broad-leaved cumbungi</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>2,3,4,6</td>
<td></td>
</tr>
<tr>
<td>Utricularia aurea</td>
<td>golden bladderwort</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>1,2,3,4</td>
<td></td>
</tr>
<tr>
<td>Utricularia caerulea</td>
<td>blue bladderwort</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>1,2,3,4</td>
<td></td>
</tr>
<tr>
<td>Utricularia gibba</td>
<td>floating bladderwort</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>1,2,3,4</td>
<td></td>
</tr>
<tr>
<td>Utricularia lateriflora</td>
<td>small bladderwort</td>
<td>Y</td>
<td></td>
<td></td>
<td>1,2,3,4</td>
<td></td>
</tr>
<tr>
<td>Utricularia stellaris</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>1,2,3,4</td>
<td></td>
</tr>
<tr>
<td>Utricularia uliginosa</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>1,2,3,4</td>
<td></td>
</tr>
<tr>
<td>Vallisneria nana</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>1,2,3,4</td>
<td></td>
</tr>
</tbody>
</table>

---

6 Assessment type (NR – non-riverine, R – riverine, ES – estuarine)
8 Environment Protection and Biodiversity Conservation Act 1999 (E – endangered, V – vulnerable)
<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R</th>
<th>NR</th>
<th>ES</th>
<th>NCA</th>
<th>EPBC</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baloskion tetraphyllum</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banksia robur</td>
<td>broad-leaved banksia</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barringtonia racemosa</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Batis argillicola</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baumea rubiginosa</td>
<td>soft twigrush</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baumea teretifolia</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bergia ammannioides</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bergia pusilla</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blechnum indicum</td>
<td>swamp water fern</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blyxa aubertii</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blyxa octandra</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bruguiera gymnorrhiza</td>
<td>large-fruited orange</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulbostylis barbata</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulbostylis densa</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Byblis liniflora</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caesalpinia bonduc</td>
<td>nicker bean</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caesalpinia hymenocarpa</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caldesia acanthocarpa</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caldesia oligococca</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cartonema brachyantherum</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Castanospermum australis</td>
<td>black bean</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casuarina cunninghamiana</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Casuarina cunninghamiana subsp. cunninghamiana</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centella asiatica</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centipeda borealis</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centipeda minima</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centrolepis banksii</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centrolepis exserta</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centrolepis strigosa</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ceratophyllum demersum</td>
<td>hornwort</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ceratopteris thalictroides</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ceriops tagal</td>
<td>yellow mangrove</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clerodendrum inerme</td>
<td>coastal lolly bush</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comelina agrostophylla</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corymbia tessellaris</td>
<td>Moreton Bay ash</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crepidium lawleri</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crinum pedunculatum</td>
<td>river lily</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyanotis axillaris</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyathae exilis</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyathae fella</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus alopecuroides</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus aquatilis</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus bowmannii</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus bulbosus</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus castaneus</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus conicus</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus conicus var. conicus</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus cyperinus</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus cyperoides</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus decompositus</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus difformis</td>
<td>rice sedge</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus digitatus</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus distans</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus enervis</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus exaltatus</td>
<td>tall flatsedge</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus flaccidus</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

No valid records available at time of implementation.
<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R*</th>
<th>NR</th>
<th>ES</th>
<th>NCA</th>
<th>EPBC*</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyperus flavidus</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus fulvus</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus gracilis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus haspan</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus haspan subsp. haspan</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus holoschoenus</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus iria</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus javanicus</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus leiocaulon</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td>No valid records available at time of implementation.</td>
</tr>
<tr>
<td>Cyperus lucidus</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus nervulosus</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus nutans var. eleusinoides</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus polystachyos</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus polystachyos var. polystachyos</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus procerus</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus pulchellus</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus pygmaeus</td>
<td>dwarf sedge</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus scariosus</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus squarrosus</td>
<td>bearded flatseed</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus subulatus</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus tetracarpus</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus trinervis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dallwatsonia felliana</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>NT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dicranopteris linearis var. linearis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera angustifolia</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera burmanni</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera indica</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera peltata</td>
<td>pale sundew</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drosera spatulata</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Echinocloa telmatophila</td>
<td>swamp barnyard grass</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Echinocloa turneriana</td>
<td>channel millet</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eclipta platyglossa</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eclipta prostrata</td>
<td>white eclipia</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ectrosia blakei</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>V</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Elatine gratioloides</td>
<td>waterwort</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eleocharis atropurpurea</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eleocharis brassii</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eleocharis dulcis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eleocharis equisetina</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eleocharis geniculata</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eleocharis minuta</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eleocharis nuda</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eleocharis ochrochachys</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eleocharis philippinensis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eleocharis retroflexa</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>V</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Eleocharis selifolia subsp. selifolia</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eleocharis spachelata</td>
<td>tall spikerush</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eleocharis spiralis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enchytraena tomentosa</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td>No valid records available at time of implementation.</td>
</tr>
<tr>
<td>Epaltes australis</td>
<td>spreading nutheads</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eriocaulon athertonense</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eriocaulon australae</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eriocaulon cinereum</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eriocaulon nanum</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eriocaulon odontospernum</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eriocaulon pygmaeum</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LC</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scientific name</td>
<td>Common name</td>
<td>R</td>
<td>NR</td>
<td>ES</td>
<td>NCA</td>
<td>EPBC</td>
<td>Comments</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>----------------------------------</td>
<td>---</td>
<td>----</td>
<td>----</td>
<td>-----</td>
<td>------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Eriocaulon scariosum</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eriocaulon setaceum</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus acroleuca</td>
<td>Lakefield coolibah</td>
<td>Y</td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus camaldulensis</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus camaldulensis subsp. acuta</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus microtheca</td>
<td>coolibah</td>
<td>Y</td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus platyphylla</td>
<td>poplar gum</td>
<td>Y</td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eucalyptus tereticornis</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excoecaria agallocha</td>
<td>milky mangrove</td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excoecaria ovalis</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ficus coronata</td>
<td>creek sandpaper fig</td>
<td>Y</td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ficus racemosa</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ficus racemosa var. racemosa</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fimbristylis aestivais</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fimbristylis aestivais var. aestivais</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fimbristylis bisumbellata</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fimbristylis depauperata</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fimbristylis dichotoma</td>
<td>common fringe-rush</td>
<td>Y</td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fimbristylis ferruginea</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fimbristylis littoralis</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fimbristylis microcarya</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fimbristylis neilsonii</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fimbristylis nuda</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fimbristylis nutans</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fimbristylis pauciflora</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fimbristylis polytrichoides</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fimbristylis velata</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuirena ciliaris</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuirena incrasata</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuirena umbellata</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gaehia aspera</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gaehia sieberiana</td>
<td>sword grass</td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gamotia stricta var. longiseta</td>
<td></td>
<td></td>
<td>Y</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germainia capitata</td>
<td></td>
<td></td>
<td>Y</td>
<td>V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gleichenia dicarpa</td>
<td>pouchied coral fern</td>
<td>Y</td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gilinis lotoides</td>
<td>hairy carpet weed</td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gonocarpus chinensis</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hedyotis novoguineensis</td>
<td></td>
<td></td>
<td>Y</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hibiscus tiliaeae</td>
<td>cotton tree</td>
<td>Y</td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrocotyle grammatocarpa</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrolea zeylanica</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hygrophila angustifolia</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hymenachne acutigluma</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ipomoea aquatica</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isachne confusa</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Isachne globosa</td>
<td>swamp millet</td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ischaemum australis var. australis</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ischaemum fragile</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leersia hexandra</td>
<td>swamp rice grass</td>
<td>Y</td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lemna aequinoctialis</td>
<td>common duckweed</td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidoderma laterale</td>
<td></td>
<td></td>
<td>Y</td>
<td>L</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scientific name</td>
<td>Common name</td>
<td>R^*</td>
<td>NR</td>
<td>ES</td>
<td>NCA^*</td>
<td>EPBC^*</td>
<td>Comments</td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>----------------------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>-------</td>
<td>--------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Lepidosperma laterale var. laterale</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepironia articulata</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptochloa fusca</td>
<td>brown beetle grass</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leptochloa fusca subsp. fusca</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limnophila aromatica</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limnophila brownii</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limnophila fragrans</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lindernia anagallis</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lindernia antipoda</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lindernia aplectra</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lindernia sp. (Violet Vale B.S.Wannan+ 1865)</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lindernia tenuifolia</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lindseaa walkerae</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>NT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liparophyllum exaltatum</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lipocarpha microcephala</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Livistona concinna</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td>NT</td>
<td></td>
</tr>
<tr>
<td>Lomandra longifolia</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lomandra multiflora</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lophostemon grandiflorus</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lophostemon grandiflorus subsp. riparius</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lophostemon suaveolens</td>
<td>swamp box</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ludwigia adscendens</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ludwigia octovalvis</td>
<td>willow primrose</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ludwigia peploides</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ludwigia peploides subsp. montevidensis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lycopodiella cernua</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lycopodiella limosa</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>NT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lycopodium microphyllum</td>
<td>snake fern</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marsilea crenata</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marsilea drummondii</td>
<td>common nardoo</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marsilea mutica</td>
<td>shiny nardoo</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melaleuca argentea</td>
<td>silver tea-tree</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melaleuca bracteata</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melaleuca dealbata</td>
<td>swamp tea-tree</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melaleuca fluviatilis</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melaleuca leucadendra</td>
<td>broad-leaved tea-tree</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melaleuca polandii</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melaleuca quinquenervia</td>
<td>swamp paperbark</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melaleuca trichostachya</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melaleuca viminialis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melaleuca viridiflora</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melaleuca viridiflora var. viridiflora</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melastoma malabathricum subsp. malabathricum</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milettia pinnata</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monochoria australasica</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monochoria cyanea</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monochoria vaginalis</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muehlienbeckia rhyticarya</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myriophyllum coronatum</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myriophyllum dicoccum</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myriophyllum filiforme</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

^R^ = Rare, NR = Near Threatened, ES = Endangered Species, NCA^* = New South Wales, EPBC^* = Commonwealth. No valid records available at time of implementation.
<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R</th>
<th>NR</th>
<th>ES</th>
<th>NCA</th>
<th>EPBC</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myriophyllum implicatum</td>
<td>water milfoil</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>NCA</td>
<td>EPBC</td>
<td>Comments</td>
</tr>
<tr>
<td>Myriophyllum muricatum</td>
<td>water nymph</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>NCA</td>
<td>EPBC</td>
<td>Comments</td>
</tr>
<tr>
<td>Myriophyllum verrucosum</td>
<td>Leichhardt tree</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>NCA</td>
<td>EPBC</td>
<td>Comments</td>
</tr>
<tr>
<td>Najas tenuifolia</td>
<td>water nymph</td>
<td>Y</td>
<td>Y</td>
<td>NCA</td>
<td>EPBC</td>
<td>Comments</td>
<td></td>
</tr>
<tr>
<td>Nauclea orientalis</td>
<td>Leichhardt tree</td>
<td>Y</td>
<td>Y</td>
<td>NCA</td>
<td>EPBC</td>
<td>Comments</td>
<td></td>
</tr>
<tr>
<td>Nelumbo nucifera</td>
<td>pink waterlily</td>
<td>Y</td>
<td>Y</td>
<td>NCA</td>
<td>EPBC</td>
<td>Comments</td>
<td></td>
</tr>
<tr>
<td>Nepenthes mirabilis</td>
<td>tropical pitcher plant</td>
<td>Y</td>
<td>Y</td>
<td>NCA</td>
<td>EPBC</td>
<td>Comments</td>
<td></td>
</tr>
<tr>
<td>Nitella tasmanica</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nymphaea alexii</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nymphaea atras</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nymphaea carpentariae</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nymphaea elleniae</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nymphaea immutabilis</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nymphaea macroserperma</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nymphaea noelae</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nymphaea nouchali</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nymphaea violacea</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nymphoides aurantiaca</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nymphoides crenata</td>
<td>wavy marshwort</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nymphoides exiliflora</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nymphoides geminata</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nymphoides indica</td>
<td>water snowflake</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nymphoides parvifolia</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nymphoides triangularis</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nypa fruticans</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ornduffia reniformis</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ornduffia sp. (Laura C.Dalliston CC18)</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oryza australiensis</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oryza meridionalis</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oryza rufipogon</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ottelia ovalifolia</td>
<td>swamp lily</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pandanus cookii</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pandanus spiralis</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pancium larcornunum</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Panicum paludosum</td>
<td>swamp panic</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paramapania parvibractea</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paspalum distichum</td>
<td>saltwater couch</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paspalum vaginatum</td>
<td>saltwater couch</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pemphis acida</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persicaria attenuata</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persicaria attenuata x</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polygonum glabrum</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persicaria barbata</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persicaria decipiens</td>
<td>slender knotweed</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Persicaria orientalis</td>
<td>princes feathers</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philydrum lanuginosum</td>
<td>frogmouth</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phragmites australis</td>
<td>common reed</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phragmites karka</td>
<td>braid fem</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phyla nodiflora</td>
<td>braid fem</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pityozoma microphyllum</td>
<td>braid fem</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polygonum plebeum</td>
<td>small knotweed</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potamogeton crispus</td>
<td>curly pondweed</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potamogeton octandrus</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potamogeton tricarinatus</td>
<td>floating pondweed</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudoraphis spinescens</td>
<td>spiny mudgrass</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhamphicarpa australiensis</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhizoclonium implexum</td>
<td>Y Y LC</td>
<td>No valid records available at time of implementation.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scientific name</td>
<td>Common name</td>
<td>R</td>
<td>NR</td>
<td>ES</td>
<td>NCA</td>
<td>EPBC</td>
<td>Comments</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>------------------------------</td>
<td>---</td>
<td>----</td>
<td>----</td>
<td>-----</td>
<td>------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Rhizophora stylosa</td>
<td>spotted mangrove</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhynchospora brownii</td>
<td>beak rush</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhynchospora corymbosa</td>
<td></td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhynchospora heterochaeta</td>
<td></td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhynchospora rubra</td>
<td></td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rotala mexicana</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rotala occuritella</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rotala tripartita</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sacciolepis indica</td>
<td>Indian cupscale grass</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salsola kali</td>
<td>soft roly-poly</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schoenoplectus lateriflorus</td>
<td></td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schoenoplectus mucronatus</td>
<td></td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schoenoplectus subulatus</td>
<td></td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schoenoplectus validus</td>
<td></td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schoenus apogon var. apogon</td>
<td></td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schoenus falcatus</td>
<td></td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schoenus scabipes</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schoenus sparteus</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scirpophyta majorana</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scirpus rostratus</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scleria brownii</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scleria mackavisiensis</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scleria rugosa</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scleria sphacelata</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sesbania cannabina</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sesbania erubescens</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sesuvium portulacastum</td>
<td>sea purslane</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sonneratia alba</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spathoglottis paulinae</td>
<td></td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spathoglottis picata</td>
<td>New Guinea ground orchid</td>
<td></td>
<td>Y</td>
<td>V</td>
<td>V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sphenoclea zeylanica</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sporobolus virginicus</td>
<td>sand couch</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stichurus flabellatus var. flabellatus</td>
<td></td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stichurus milnei</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stylium graminifolium</td>
<td>grassy-leaved trigger-flower</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stylium longissimum</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stylium schizanthum</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stylium trichopodium</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suadaea australis</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Syzygium angopheroides</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Syzygium aquatum</td>
<td>water apple</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Syzygium malaccense</td>
<td>Malay apple</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Syzygium oleosum</td>
<td>blue cherry</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Syzygium tierneyanum</td>
<td>river cherry</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tapheocarpa calandrinoides</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tectaria sifolia</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tecticornia australasica</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tecticornia indica</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tecticornia indica subsp. indica</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tecticornia indica subsp. leioastachya</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tecticornia pergranulata</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tecticornia pergranulata subsp. queenslandica</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Terminalia sericocarpa</td>
<td>damson</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thespesia populnea</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thespesia populneoides</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trachythis strathbrookensis</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trentepohlia abietina</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scientific name</td>
<td>Common name</td>
<td>R</td>
<td>NR</td>
<td>ES</td>
<td>NCA</td>
<td>EPBC</td>
<td>Comments</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>----------------------------</td>
<td>---</td>
<td>----</td>
<td>----</td>
<td>-----</td>
<td>------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Trentepohlia arborum</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No valid records available at time of implementation.</td>
</tr>
<tr>
<td>Trentepohlia bossei var. samoensis</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No valid records available at time of implementation.</td>
</tr>
<tr>
<td>Trentepohlia effusa</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No valid records available at time of implementation.</td>
</tr>
<tr>
<td>Trentepohlia peruana</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trentepohlia rigidula</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trianthema triqueta</td>
<td>red spinach</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Triglochin dubia</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Triglochin procera</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tristaniopsis exiliflora</td>
<td>kanuka box</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typha domingensis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typha orientalis</td>
<td>broad-leaved cumbungi</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utricularia albiflora</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utricularia aerea</td>
<td>golden bladderwort</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utricularia australis</td>
<td>yellow bladderwort</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td>No valid records available at time of implementation.</td>
</tr>
<tr>
<td>Utricularia bifida</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utricularia caerulea</td>
<td>blue bladderwort</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utricularia chrysantha</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utricularia gibba</td>
<td>floating bladderwort</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utricularia lateriflora</td>
<td>small bladderwort</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utricularia limosa</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utricularia minutissima</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utricularia muelleri</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utricularia quinquedentata</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utricularia stellaris</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utricularia uliginosa</td>
<td>asian bladderwort</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utricularia terrae-reginae</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vallisneria annua</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vallisneria caulescens</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vallisneria nana</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viola hederacea</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wolffia angusta</td>
<td>tiny duckweed</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xyris complanata</td>
<td>yellow-eye</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xyris juncea</td>
<td>dwarf yellow-eye</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zygogonium ericetorum</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 3.4 Exotic flora

Exotic flora are plants that cause, or have the potential to cause, significant detrimental impact on natural systems within a non-riverine, riverine or estuarine landscape within the Cape York region. A number of non-riverine, riverine and estuarine taxa that are known to occur within the Cape York region were nominated (Table 5). The presence of aquatic and semi-aquatic flora species was recorded under ‘Criterion 1 Naturalness (aquatic)’ (1.1.2). Riparian exotic flora species were recorded under ‘Criterion 2 Naturalness (catchment)’ (2.1.1).

The degree of infestation and abundance of an exotic plant at a particular locality is an important factor in determining the level of impact to a natural ecosystem. Where available, information and mapping of exotic species extent (sourced from EHP, regional bodies etc) will be used instead of point records to flag the spatial units that have an exotic species present. Where only a point record is available for a location, then the record was used to identify the spatial units as having an exotic species present. Hence, an individual point record may or may not correspond to localities of dense weed infestations.
Table 5: Exotic flora species

This list was used to calculate the measures for 1.1.2 and 2.1.1 in the AquaBAMM assessment.

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R*</th>
<th>NR</th>
<th>ES</th>
<th>_1_1_2</th>
<th>_2_1_1</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aeschynomene villosa</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agave sisalana</td>
<td>siseal hemp</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ageratum conyzoides</td>
<td>billygoat weed</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ageratum conyzoides subsp. conyzoides</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ageratum houstonianum</td>
<td>blue billygoat weed</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allamanda cathartica</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annona glabra</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arundo donax</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asystasia gangetica subsp. gangetica</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bauhinia monandra</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agave vivipara var. vivipara</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td>No valid records available at time of implementation.</td>
</tr>
<tr>
<td>Bryophyllum pinnatum</td>
<td>resurrection plant</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calopogonium mucunoides</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calotropis procera</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cardiopermum halacacabum</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cardiopermum halacacabum var. halacacabum</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cascabela thevetia</td>
<td>yellow oleander</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Catharanthus roseus</td>
<td>pink periwinkle</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cenchrus ciliaris</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centrosema molle</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chrysopogon acclivulus</td>
<td>Mackie’s pest</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cryptostegia grandiflora</td>
<td>rubber vine</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cynodon dactylon</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus aromaticus</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus brevifolius</td>
<td>Mullumbimby couch</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus compressus</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus ergrostis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus esculentus</td>
<td>yellow nutgrass</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus metzii</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyperus rotundus</td>
<td>nutgrass</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dolichandra unguis-catii</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duranta erecta</td>
<td>duranta</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Echinocloa colona</td>
<td>awnless barnyard grass</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Echinocloa crus-gallii</td>
<td>barnyard grass</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eichhornia crassipes</td>
<td>water hyacinth</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Élœsinone indica</td>
<td>crowsfoot grass</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Élœtheranthera ruderalis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eugenia uniflora</td>
<td>Brazilian cherry tree</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flacourtia jangomas</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heliotropium indicum</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hymenachne amplexicaulis cv. Olive</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypanthia rufa</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hyptis capitata</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ipomoea indica</td>
<td>blue morning-glory</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jatropha gossypifolia</td>
<td>bellyache bush</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lantana camara</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leonotis nepetifolia</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leucaena leucocephala</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9 Assessment type (NR – non-riverine, R – riverine, ES – estuarine)
<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R²</th>
<th>NR</th>
<th>ES</th>
<th>1_1_2</th>
<th>2_1_1</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>subsp. glabrata</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>subsp. leucocephala</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leucaena leucocephala</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lippia alba var. alba</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ludwigia hyssopifolia</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macroptilium atropurpureum</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macroptilium laathyroides</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macroptilium laathyroides var. semierectum</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macrotyloma uniflorum var. stenocarpum</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macrotyloma uniflorum var. uniflorum</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malvastrum americanum</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mangifera indica</td>
<td>mango</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Megathysrus maximus</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Megathysrus maximus var. coloratus</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Megathysrus maximus var. maximus</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Megathysrus maximus var. maximus cv. Hamil</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Megathysrus maximus var. pubiglumis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melinis minutiflora</td>
<td>molasses grass</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mimosa pudica</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mimosa pudica var. unijuga</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Momordica charantia</td>
<td>balsam pear</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neonotonia wightii var. wightii</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opuntia stricta</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parkinsonia aculeata</td>
<td>Jerusalem thorn</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parthenium hysterophorus</td>
<td>parthenium weed</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Praxelis clematidea</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psidium guajava</td>
<td>guava</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ricinus communis</td>
<td>castor oil bush</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rivina humilis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salvinia molesta</td>
<td>salvinia</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sanchezia parvibracteata</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saurous androgynus</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schinus terebinthifolius</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schoenus apogon</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selaginella wildenovii</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senna obtusifolia</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senna occidentalis</td>
<td>coffee senna</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senna tora</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sida rhombifolia</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solanum nigrum subsp. nigrum</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solanum nodiflorum</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solanum nodiflorum</td>
<td>Brazilian nightshade</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solanum torvum</td>
<td>devil's fig</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sphagneticoila trilobata</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sorghum halepense</td>
<td>Johnson grass</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sporobolus africanus</td>
<td>Parramatta grass</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sporobolus Jacquemontii</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sporobolus natalensis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sporobolus pyramidalis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stachytarphae jaamaiensis</td>
<td>Jamaica snakeweed</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Synedrella nodiflora</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Syngonium podophyllum</td>
<td>tecoma</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tecoma stans</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scientific name</td>
<td>Common name</td>
<td>R</td>
<td>NR</td>
<td>ES</td>
<td>1_1_2</td>
<td>2_1_1</td>
<td>Comments</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>----------------------</td>
<td>---</td>
<td>----</td>
<td>----</td>
<td>-------</td>
<td>-------</td>
<td>----------</td>
</tr>
<tr>
<td>Tecoma stans var. stans</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thunbergia alata</td>
<td>black-eyed Susan</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thunbergia grandiflora</td>
<td>sky flower</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tithonia diversifolia</td>
<td>Japanese sunflower</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tradescantia fluminensis</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tradescantia spathacea</td>
<td>urena weed</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urena lobata</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urochloa humidicola</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urochloa mutica</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xanthium occidentale</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ziziphus mauritiana</td>
<td>Indian jujube</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3.5 Special features

The panel identified several riverine, non-riverine and estuarine special features in the Cape York region known to contain flora values (Table 6). Where flora special features were also considered to have additional values (e.g. fauna, ecology), the special area was implemented as a wetland ecology special feature.

Each spatial unit that intersected with a feature in Table 6 was given a score equal to the conservation rating.

Decisions listed by catchment. These features were intersected with the spatial units to identify the values for ‘Criterion 6 Special features’. All implemented special features were given a conservation rating of between 1 and 4. Decisions that were not able to be implemented due to a lack of readily available data or unconfirmed values, are indicated as ‘_not_implmented’ in the decision implementation number column. Decisions that have ‘to be implemented’ in the implementation column are in the process of being implemented assuming available and suitable data and time. Where a single decision crosses a number of study areas, the decision has been duplicated for each study area. Decisions sorted by study area.
Table 6: Identified priority ecosystems, or flora special features, and their values

<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM[1]</th>
<th>Con. rating[2]</th>
</tr>
</thead>
<tbody>
<tr>
<td>en_nr_fl_01</td>
<td>Wetland mosaic on Isabella Creek</td>
<td>Endeavour</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Intact wetlands. Habitat for <em>Melaleuca polandii</em> (northern limit of distribution) and <em>Banksia robur</em> (disjunct population in Cape York)—both found in ‘of concern’ wetland regional ecosystems in the Cape York bioregion.</td>
<td>6.3.1</td>
<td>3</td>
</tr>
</tbody>
</table>

\[1\] Assessment type (NR – non-riverine, R – riverine, ES – estuarine)
\[2\] Number refers to the values from the generic CIM list in Table 21.
\[3\] 4 is the highest value.
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM</th>
<th>Con. rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>ji_nr_fl_01</td>
<td>Sach Waterhole</td>
<td>Jacky Jacky</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Sand-dune lake only known location in CYP that supports floating mats of vegetation dominated by <em>Lepironia auriculata</em> but also includes pitcher plants <em>Nepenthes mirabilis</em> and mangrove fern <em>Acrostichum speciosum</em> (Herbert et al. 1995). Also implemented as BPA decision(s): cyp_fl_14</td>
<td>6.3.1</td>
<td>4</td>
</tr>
</tbody>
</table>
Table 7: Flora special features not implemented

<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (Namename)</th>
<th>Location</th>
<th>Study area</th>
<th>NR</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM</th>
<th>Con. rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>03_not_implmented</td>
<td>Escape River Estuary</td>
<td>Jacky, Jacky, possible Jardine also</td>
<td>y</td>
<td>Large area of diverse and well developed mangroves, including some of the tallest in Australia. Extensive low-gradient estuarine complex at river mouth (Cook et al.2011). No implementation required as values covered by jj_r_ec_01.</td>
<td>6.3.1, 6.4.2</td>
<td>3, 3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13 Number refers to the values from the generic CIM list in Table 21.

14 4 is the highest value.
4 Fauna

4.1 Near threatened and threatened fauna

The panel identified a number of threatened fauna taxa within the riverine, non-riverine and estuarine wetlands of the Cape York region (Table 8). Only threatened taxa listed either on a schedule of the Queensland Nature Conservation Act 1992 or the Commonwealth Environment Protection and Biodiversity Conservation Act 1999, and considered to be wetland dependent by the panel were included in Table 8. This list of fauna was used as the basis for identifying areas of significance for ‘Criterion 4 Threatened species and ecosystems’ (4.1.1). A spatial unit with one or more of these species present was scored the highest category of 4.

Table 8: Aquatic, semi-aquatic and riparian fauna species listed under Queensland or Commonwealth legislation

Taxa marked with an asterisk (*) were recorded in areas within the CYP Aquatic Conservation Assessment area but outside the CYP catchments study area. This list was used to generate the values for the AquaBAMM measure 4.1.1.

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R15</th>
<th>NR</th>
<th>ES</th>
<th>NCA16</th>
<th>EPBC17</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caretta caretta</td>
<td>Loggerhead turtle</td>
<td>Y</td>
<td>E</td>
<td>E</td>
<td></td>
<td></td>
<td>No nesting on CYP</td>
</tr>
<tr>
<td>Chelonia mydas</td>
<td>Green turtle</td>
<td>Y</td>
<td>V</td>
<td>V</td>
<td></td>
<td></td>
<td>Major breeding concentration on islands outer edge of northern reef. Raine-Moulter Cay No 7 and 8, minor breeding patchy along coastal mainland west and east coast</td>
</tr>
<tr>
<td>Cisticola juncidis normani</td>
<td>Zitting cisticola (Normanton subsp.)</td>
<td>Y</td>
<td>Y</td>
<td>NT</td>
<td></td>
<td></td>
<td>More Gulf Plains</td>
</tr>
<tr>
<td>Crocodylus porosus</td>
<td>Estuarine crocodile</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>V</td>
<td></td>
<td>Very rare sightings, no nesting on CYP</td>
</tr>
<tr>
<td>Dermochelys coriacea</td>
<td>Leatherback turtle</td>
<td>Y</td>
<td>E</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dugong dugon</td>
<td>Dugong</td>
<td>Y</td>
<td>V</td>
<td></td>
<td></td>
<td></td>
<td>Not recorded in river since 1996; middle reaches of Jardine River. Work in New Guinea shows it abundant in freshwater swamps and seasonally inundated grasslands and wetlands (Georges 2005) so maybe more a species of Jardine swamps than main channel of Jardine river on CYP</td>
</tr>
<tr>
<td>Emydura subglobosa subglobosa</td>
<td>Jardine River turtle</td>
<td>Y</td>
<td>Y</td>
<td>NT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ephippiorhynchus</td>
<td>Black-necked stork</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>NT</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

15 Assessment type (NR – non-riverine, R – riverine, ES – estuarine)
<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R&lt;sup&gt;15&lt;/sup&gt;</th>
<th>NR</th>
<th>ES</th>
<th>NCA&lt;sup&gt;16&lt;/sup&gt;</th>
<th>EPBC&lt;sup&gt;17&lt;/sup&gt;</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>asiaticus</td>
<td>Eretmochelys imbricata</td>
<td></td>
<td></td>
<td></td>
<td>Y</td>
<td>V</td>
<td>Milman Island major rookery, islands of Torres Strait western CYP north of Cotterell River</td>
</tr>
<tr>
<td>Esacus magnirostris</td>
<td>Beach stone-curlew</td>
<td></td>
<td></td>
<td></td>
<td>Y</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Glyphis glyphis</td>
<td>Speartooth shark</td>
<td></td>
<td>Y</td>
<td></td>
<td>Y</td>
<td>V</td>
<td></td>
</tr>
<tr>
<td>Haematopus fuliginosus</td>
<td>Sooty oystercatcher</td>
<td></td>
<td>Y</td>
<td></td>
<td>Y</td>
<td>NT</td>
<td></td>
</tr>
<tr>
<td>Hypochrysops apollo</td>
<td>Apollo jewel (Wet Tropics</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>V</td>
<td>Coastal paperbark (Melaleuca viridiflora) swamps, Lophostemon suaveolens and mangroves with ant-plants (Myrmecodia beccarii) present</td>
</tr>
<tr>
<td>apollo</td>
<td>subsp.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lepidochelys olivacea</td>
<td>Olive Ridley turtle</td>
<td></td>
<td>Y</td>
<td>E</td>
<td>E</td>
<td></td>
<td>Low density nesting along western coast of CYP Holroyd River area to Bamaga</td>
</tr>
<tr>
<td>Lewinia pectoralis</td>
<td>Lewin’s rail</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td>NT</td>
<td>No valid records available at time of implementation.</td>
</tr>
<tr>
<td>Litoria andiirmalin</td>
<td>Melville Range treefrog</td>
<td></td>
<td>Y</td>
<td></td>
<td>V</td>
<td></td>
<td>Restricted to Cape Melville, CYP endemic</td>
</tr>
<tr>
<td>Litoria longirostris</td>
<td>Long-snouted treefrog</td>
<td></td>
<td>Y</td>
<td></td>
<td>NT</td>
<td></td>
<td>Restricted to McIlwraith Range, CYP endemic</td>
</tr>
<tr>
<td>Litoria litorica*</td>
<td>Little waterfall frog</td>
<td></td>
<td>Y</td>
<td>E</td>
<td>CE</td>
<td></td>
<td>Wet Tropics taxon</td>
</tr>
<tr>
<td>Litoria nannotis*</td>
<td>Waterfall frog</td>
<td></td>
<td>Y</td>
<td>E</td>
<td>E</td>
<td></td>
<td>Wet Tropics taxon</td>
</tr>
<tr>
<td>Litoria nyakalensis*</td>
<td>Mountain mistfrog</td>
<td></td>
<td>Y</td>
<td>E</td>
<td>CE</td>
<td></td>
<td>Wet Tropics taxon</td>
</tr>
<tr>
<td>Litoria rheocola*</td>
<td>Common mistfrog</td>
<td></td>
<td>Y</td>
<td>E</td>
<td>E</td>
<td></td>
<td>Wet Tropics taxon</td>
</tr>
<tr>
<td>Litoria serrata*</td>
<td>Tapping green-eyed treefrog</td>
<td></td>
<td>Y</td>
<td></td>
<td>NT</td>
<td></td>
<td>Wet Tropics taxon</td>
</tr>
<tr>
<td>Melanotaenia eachamensis*</td>
<td>Lake Eacham rainbowfish</td>
<td></td>
<td>Y</td>
<td></td>
<td>E</td>
<td></td>
<td>Wet Tropics taxon</td>
</tr>
<tr>
<td>Natator depressus</td>
<td>Flatback turtle</td>
<td></td>
<td>Y</td>
<td>V</td>
<td>V</td>
<td></td>
<td>Crab and Deliverance island major nesting NE Gulf of Carpentaria and west Torres Strait. Crab Island has the highest concentration nesting area for this species in world</td>
</tr>
<tr>
<td>Scientific name</td>
<td>Common name</td>
<td>R°</td>
<td>NR</td>
<td>ES</td>
<td>NCA ¹⁶</td>
<td>EPBC ¹⁷</td>
<td>Comments</td>
</tr>
<tr>
<td>----------------</td>
<td>-------------------------------------------------</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>--------</td>
<td>--------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Neochmia phaeton evangelinae</td>
<td>Crimson finch (white-bellied subsp.)</td>
<td>Y</td>
<td>Y</td>
<td>E</td>
<td>V</td>
<td></td>
<td>Disjunct populations on CYP (Good population at Lakefield along Normanby River)</td>
</tr>
<tr>
<td>Nettapus coromandelianus</td>
<td>Cotton pygmy-goose</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td>NT</td>
<td></td>
</tr>
<tr>
<td>Numenius madagascariensis</td>
<td>Eastern curlew</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
<td>NT</td>
<td></td>
</tr>
<tr>
<td>Nyctimyastes dayi*</td>
<td>Australian lacelid</td>
<td>Y</td>
<td></td>
<td>E</td>
<td>E</td>
<td></td>
<td>Wet Tropics taxon</td>
</tr>
<tr>
<td>Orcaella heinsohni</td>
<td>Australian snubfin dolphin</td>
<td>Y</td>
<td>NT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pristis clavata</td>
<td>Dwarf sawfish</td>
<td>Y</td>
<td>V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pristis microdon</td>
<td>Freshwater sawfish</td>
<td>Y</td>
<td>Y</td>
<td>V</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pristis zijsron</td>
<td>Green sawfish</td>
<td>Y</td>
<td>V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rostratula australis</td>
<td>Australian painted snipe</td>
<td>Y</td>
<td>Y</td>
<td>V</td>
<td>V</td>
<td></td>
<td>No valid records available at time of implementation.</td>
</tr>
<tr>
<td>Sousa chinensis</td>
<td>Indopacific humpback dolphin</td>
<td>Y</td>
<td>NT</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sternula albifrons</td>
<td>Little tern</td>
<td>Y</td>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sternula nereis</td>
<td>Fairy tern</td>
<td>Y</td>
<td>V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tadorna radjah</td>
<td>Radjah shelduck</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>NT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taudactylus acutirostris*</td>
<td>Sharp snouted dayfrog</td>
<td>Y</td>
<td></td>
<td>E</td>
<td>EX</td>
<td></td>
<td>Wet Tropics taxon</td>
</tr>
<tr>
<td>Taudactylus rheophilus*</td>
<td>Northern tinkerfrog</td>
<td>Y</td>
<td>E</td>
<td>E</td>
<td></td>
<td></td>
<td>Wet Tropics taxon</td>
</tr>
</tbody>
</table>

4.2 Priority fauna

Due to time constraints the panel was not able to fully deliberate on all aquatic, semi-aquatic and riparian species within the Cape York region to identify ‘priority flora’ (excluding the rare or threatened species listed in Table 8). We have adopted a revised version of the earlier definition of a priority species from the Wide Bay-Burnett ACA namely that a priority species must exhibit one or more of the following significant values:

1. It is endemic to the study area (> 75% of its distribution is in the study area/catchment).
2. It has experienced, or is suspected of experiencing, a serious population decline.
3. It has experienced a significant reduction in its distribution and has a naturally restricted distribution in the study area/catchment.
4. It is currently a small population and threatened by loss of habitat.
5. It is a significant disjunct population.
6. It is a migratory species (other than birds).
7. A significant proportion of the breeding population (>one per cent for waterbirds, > 75% other species) occurs in the waterbody (see Ramsar criterion 6 for waterbirds).
8. Limit of species range.

4.2.1 Priority species

Post panel, a number of riverine, non-riverine and estuarine priority flora species have been identified (Table 9). These species are to be included as part of ‘Criterion 5 Priority species and ecosystems’ (5.1.1).
Table 9: Identified priority fauna species, and their significant values

This list was used to generate the values for the AquaBAMM measure (5.1.1).

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R</th>
<th>NR</th>
<th>ES</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Anoxypristis cuspidata</em></td>
<td>Narrow sawfish</td>
<td></td>
<td>Y</td>
<td></td>
<td>Declining due to mortality associated with gill-netting</td>
</tr>
<tr>
<td><em>Arenaria interpres</em></td>
<td>Ruddy turnstone</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Near Threatened (Garnett et al. 2011)</td>
</tr>
<tr>
<td><em>Brachirus selheimi</em></td>
<td>Freshwater sole</td>
<td>Y</td>
<td></td>
<td></td>
<td>Disjunct population, elsewhere in northern Australia</td>
</tr>
<tr>
<td><em>Calidris canutus</em></td>
<td>Red knot</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Vulnerable (Garnett et al. 2011)</td>
</tr>
<tr>
<td><em>Calidris ferruginea</em></td>
<td>Curlew sandpiper</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Vulnerable (Garnett et al. 2011)</td>
</tr>
<tr>
<td><em>Calidris tenuirostris</em></td>
<td>Great knot</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Vulnerable (Garnett et al. 2011)</td>
</tr>
<tr>
<td><em>Charadrius leschenaultii</em></td>
<td>Greater sand plover</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Vulnerable (Garnett et al. 2011)</td>
</tr>
<tr>
<td><em>Charadrius mongolus</em></td>
<td>Lesser sand plover</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Endangered (Garnett et al. 2011)</td>
</tr>
<tr>
<td><em>Cherax cartalacoolah</em></td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Restricted to Cape Flattery dune lakes/creeks, CYP endemic</td>
</tr>
<tr>
<td><em>Cherax quadricarinatus</em></td>
<td>Redclaw crayfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Abundance declining in CYP due to fishing pressure</td>
</tr>
<tr>
<td><em>Cisticola juncidis</em></td>
<td>Zitting cisticola</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct population; elsewhere in northern Australia</td>
</tr>
<tr>
<td><em>Cyclorana cryptotis</em></td>
<td>Earless frog</td>
<td>Y</td>
<td></td>
<td></td>
<td>Widely separated populations in northern Australia, recorded near Cape Melville, disjunct</td>
</tr>
<tr>
<td><em>Denariusa australis</em></td>
<td>Pennyfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct population; elsewhere in northern Australia and New Guinea</td>
</tr>
<tr>
<td><em>Dendrocygna guttata</em></td>
<td>Spotted whistling-duck</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct population in Australia confined to CYP; also New Guinea</td>
</tr>
<tr>
<td><em>Glossogobius concavifrons</em></td>
<td>Concave flathead goby</td>
<td>Y</td>
<td></td>
<td></td>
<td>Disjunct population in Australia confined to CYP; also New Guinea</td>
</tr>
<tr>
<td><em>Glossogobius sp. 3 - dwarf</em></td>
<td>Dwarf goby</td>
<td>Y</td>
<td></td>
<td></td>
<td>Disjunct population in Australia confined to CYP; also New Guinea</td>
</tr>
</tbody>
</table>

18 Assessment type (NR – non-riverine, R – riverine, ES – estuarine)
<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R18</th>
<th>NR</th>
<th>ES</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guyu wujalwujalensis</td>
<td>Tropical nightfish</td>
<td>Y</td>
<td></td>
<td></td>
<td>Restricted to Bloomfield River, CYP endemic?</td>
</tr>
<tr>
<td>Hephaestus carbo</td>
<td>Coal grunter</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct population, elsewhere in northern Australia</td>
</tr>
<tr>
<td>Hydrophis donaldi</td>
<td>Rough scaled sea snake</td>
<td></td>
<td></td>
<td>Y</td>
<td>Shallow estuarine shale, mud and sea grass bottom mouth of Mission River and Hey Creek where they connect to Albatross Bay, CYP endemic</td>
</tr>
<tr>
<td>Iriatherina werneri</td>
<td>Threadfin rainbowfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct population; elsewhere in northern Australia and New Guinea</td>
</tr>
<tr>
<td>Kuhlia marginata</td>
<td>Spotted flagtail</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Restricted and specialised, possibly sensitive to habitat disturbance</td>
</tr>
<tr>
<td>Kuhlia rupestris</td>
<td>Jungle perch</td>
<td>Y</td>
<td></td>
<td></td>
<td>Restricted and specialised, possibly sensitive to habitat disturbance</td>
</tr>
<tr>
<td>Limnodromus semipalmatus</td>
<td>Asian dowitcher</td>
<td></td>
<td></td>
<td>Y</td>
<td>Near Threatened (Garnett et al. 2011)</td>
</tr>
<tr>
<td>Limosa lapponica</td>
<td>Bar-tailed godwit</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Vulnerable (Garnett et al. 2011)</td>
</tr>
<tr>
<td>Limosa limosa</td>
<td>Black-tailed godwit</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Near Threatened (Garnett et al. 2011)</td>
</tr>
<tr>
<td>Litoria eucnemis</td>
<td>Growling green-eyed treefrog</td>
<td>Y</td>
<td></td>
<td></td>
<td>Disjunct population in Australia confined to CYP; also New Guinea</td>
</tr>
<tr>
<td>Macrobrachium rosenbergii</td>
<td>Giant river prawn</td>
<td>Y</td>
<td></td>
<td></td>
<td>Abundance declining in CYP due to fishing pressure</td>
</tr>
<tr>
<td>Melanotaenia maculloci</td>
<td>McCulloch’s rainbowfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct population; elsewhere in northern Australia and New Guinea</td>
</tr>
<tr>
<td>Melanotaenia nigrans</td>
<td>Blackbanded rainbowfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct population, elsewhere in northern Australia</td>
</tr>
<tr>
<td>Melanotaenia trifasciata</td>
<td>Banded rainbowfish</td>
<td>Y</td>
<td></td>
<td></td>
<td>Disjunct population, elsewhere in northern Australia</td>
</tr>
<tr>
<td>Neochmia ruficauda</td>
<td>Star finch</td>
<td>Y</td>
<td></td>
<td></td>
<td>Near threatened (Garnett et al. 2011) as N. r. clarescens. Lakefield population very important</td>
</tr>
<tr>
<td>Scientific name</td>
<td>Common name</td>
<td>R15</td>
<td>NR</td>
<td>ES</td>
<td>Comments</td>
</tr>
<tr>
<td>------------------------</td>
<td>--------------------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Neosilurus ater</td>
<td>Black catfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct population; elsewhere in northern Australia and New Guinea</td>
</tr>
<tr>
<td>Neosilurus brevidorsalis</td>
<td>Shortfin catfish</td>
<td>Y</td>
<td></td>
<td></td>
<td>Disjunct population in Australia confined to CYP; also New Guinea</td>
</tr>
<tr>
<td>Numenius phaeopus</td>
<td>Whimbrel</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Near threatened (Garnett et al. 2011)</td>
</tr>
<tr>
<td>Ophistemon bengalense</td>
<td>One-gilled eel</td>
<td>Y</td>
<td></td>
<td></td>
<td>Disjunct population; elsewhere in northern Australia and New Guinea</td>
</tr>
<tr>
<td>Oxyeleotris fimbriata</td>
<td>Fimbriate gudgeon</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct population in Australia confined to CYP; also New Guinea</td>
</tr>
<tr>
<td>Oxyeleotris nullipora</td>
<td>Poreless gudgeon</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct population; elsewhere in northern Australia and New Guinea</td>
</tr>
<tr>
<td>Pingalia lorentzi</td>
<td>Lorentz grunter</td>
<td>Y</td>
<td></td>
<td></td>
<td>Disjunct population; elsewhere in northern Australia and New Guinea</td>
</tr>
<tr>
<td>Pluvialis squatarola</td>
<td>Grey plover</td>
<td>Y</td>
<td></td>
<td></td>
<td>Near Threatened (Garnett et al. 2011)</td>
</tr>
<tr>
<td>Porochilus obbesi</td>
<td>Obbe’s catfish</td>
<td>Y</td>
<td></td>
<td></td>
<td>Disjunct population; elsewhere in northern Australia and New Guinea</td>
</tr>
<tr>
<td>Porochilus rendahli</td>
<td>Rendahl’s catfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct population; elsewhere in northern Australia and New Guinea</td>
</tr>
<tr>
<td>Pristis pectinata</td>
<td>Wide sawfish</td>
<td>Y</td>
<td></td>
<td></td>
<td>Declining due to mortality associated with gill-netting</td>
</tr>
<tr>
<td>Pseudomugil gertrudae</td>
<td>Spotted blue eye</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct population; elsewhere in northern Australia and New Guinea</td>
</tr>
<tr>
<td>Pseudomugil tenellius</td>
<td>Delicate blue eye</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct population; elsewhere in northern Australia and New Guinea</td>
</tr>
<tr>
<td>Rallina tricolor</td>
<td>Red-necked crake</td>
<td>Y</td>
<td></td>
<td></td>
<td>Disjunct population; elsewhere in northern Australia and New Guinea</td>
</tr>
<tr>
<td>Scientific name</td>
<td>Common name</td>
<td>R ¹⁹</td>
<td>NR</td>
<td>ES</td>
<td>Comments</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------</td>
<td>------</td>
<td>----</td>
<td>----</td>
<td>---------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Scleropages jardinii</td>
<td>Northern saratoga</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct population; elsewhere in northern Australia and New Guinea; sparse and targeted for sport fishing</td>
</tr>
<tr>
<td>Sicyopterus lagocephalus</td>
<td>Blue stream goby</td>
<td>Y</td>
<td></td>
<td></td>
<td>Disjunct population – only found in Bloomfield River, elsewhere in Indo-Pacific</td>
</tr>
<tr>
<td>Thryssa scratchleyi</td>
<td>Freshwater thryssa</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Very rare and localised</td>
</tr>
<tr>
<td>Tringa brevipes</td>
<td>Grey-tailed tattler</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Near Threatened (Garnett et al. 2011)</td>
</tr>
<tr>
<td>Zenarchopterus novaeguineae</td>
<td>Fly River garfish</td>
<td>Y</td>
<td></td>
<td></td>
<td>Disjunct population in Australia confined to CYP; also New Guinea</td>
</tr>
</tbody>
</table>

### 4.2.2 Migratory species

In addition to the priority species identified above, migratory species listed under the Japan–Australia Migratory Bird Agreement (JAMBA), the China-Australia Migratory Bird Agreement (CAMBA), the Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA) or the Convention on the Conservation of Migratory Species of Wild Animals (CMS; also known as the Bonn Convention) are identified as priority fauna. A number of riverine, non-riverine and estuarine migratory species (Table 10) were included in the AquaBAMM assessment in ‘Criterion 5 Priority species and ecosystems’ (5.1.3). A spatial unit containing one species record scored a three.

#### Table 10: A list of migratory species

This list was used to generate the values for the AquaBAMM Measure (5.1.3). These lists were sourced from JAMBA, CAMBA, ROKAMBA and CMS and are found on the Department of Sustainability, Environment, Water, Population and Communities website at www.environment.gov.au (search for biodiversity migratory waterbirds).

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R ¹⁹</th>
<th>NR</th>
<th>ES</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrocephalus australis</td>
<td>Australian reed-warbler</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acrocephalus orientalis</td>
<td>Oriental reed-warbler</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actitis hypoleucos</td>
<td>Common sandpiper</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anas querquedula</td>
<td>Garganey</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ardea ibis</td>
<td>Cattle egret</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ardea modesta</td>
<td>Eastern great egret</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arenaria interpres</td>
<td>Ruddy turnstone</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Near threatened (Garnett et al. 2011)</td>
</tr>
<tr>
<td>Calidris acuminata</td>
<td>Sharp-tailed sandpiper</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calidris alba</td>
<td>Sanderling</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calidris alpina</td>
<td>Dunlin</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calidris canutus</td>
<td>Red knot</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Vulnerable (Garnett et al. 2011)</td>
</tr>
<tr>
<td>Calidris ferruginea</td>
<td>Pectoral sandpiper</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Vulnerable (Garnett et al. 2011)</td>
</tr>
<tr>
<td>Calidris melanotos</td>
<td>Long-toed stint</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calidris ruficollis</td>
<td>Red-necked stint</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calidris subminuta</td>
<td>Great knot</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Vulnerable (Garnett et al. 2011)</td>
</tr>
<tr>
<td>Calidris tenuirostris</td>
<td>Loggerhead turtle</td>
<td>Y</td>
<td></td>
<td></td>
<td>No nesting on CYP</td>
</tr>
<tr>
<td>Caretta caretta</td>
<td>Double-banded plover</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹⁹ Assessment type (NR – non-riverine, R – riverine, ES – estuarine)
<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R</th>
<th>NR</th>
<th>ES</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charadrius hiaticula</td>
<td>Ringed plover</td>
<td>Y</td>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Charadrius leschenaultii</td>
<td>Greater sand plover</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Vulnerable (Garnett et al. 2011)</td>
</tr>
<tr>
<td>Charadrius mongolus</td>
<td>Lesser sand plover</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Endangered (Garnett et al. 2011)</td>
</tr>
<tr>
<td>Charadrius veredus</td>
<td>Oriental plover</td>
<td></td>
<td></td>
<td>Y</td>
<td>Major breeding concentration on islands outer edge of northern reef Rainem-Mouler Cay No 7 and 8, minor breeding patchy along coastal mainland west and east coast</td>
</tr>
<tr>
<td>Chelonia mydas</td>
<td>Green turtle</td>
<td></td>
<td></td>
<td>Y</td>
<td>Very rare sightings, no nesting on CYP</td>
</tr>
<tr>
<td>Crocodylus porosus</td>
<td>Estuarine crocodile</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Dermochelys coriacea</td>
<td>Leatherback turtle</td>
<td></td>
<td></td>
<td>Y</td>
<td>Milman Island major rookery, islands of Torres Strait western CYP north of Cotterell River</td>
</tr>
<tr>
<td>Dugong dugon</td>
<td>Dugong</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Egretta sacra</td>
<td>Eastern reef egret</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eretmochelys imbricata</td>
<td>Hawksbill turtle</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Gallinago hardwickii</td>
<td>Latham's snipe</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gallinago megala</td>
<td>Swinhoe's snipe</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glareola maldivarum</td>
<td>Oriental pratincole</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grus antigone</td>
<td>Sarus crane</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haliaeetus leucogaster</td>
<td>White-bellied sea-eagle</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Hydropogone caspia</td>
<td>Caspian tern</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Lepidochelys olivacea</td>
<td>Olive ridley turtle</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Low density nesting along western coast of CYP Holroyd River area to Bamaga</td>
</tr>
<tr>
<td>Limicola falcinellus</td>
<td>Broad-billed sandpiper</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limnodromus semipalmatus</td>
<td>Asian dowitcher</td>
<td>Y</td>
<td></td>
<td></td>
<td>Near threatened (Garnett et al. 2011)</td>
</tr>
<tr>
<td>Limosa lapponica</td>
<td>Bar-tailed godwit</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Vulnerable (Garnett et al. 2011)</td>
</tr>
<tr>
<td>Limosa limosa</td>
<td>Black-tailed godwit</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Near Threatened (Garnett et al. 2011)</td>
</tr>
<tr>
<td>Natator depressus</td>
<td>Flatback turtle</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Crab and Deliverance island major nesting NE Gulf of Carpentaria and west Torres Strait. Crab Island has the highest concentration nesting area for this species in world</td>
</tr>
<tr>
<td>Numenius madagascariensis</td>
<td>Eastern curlew</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Numenius minutus</td>
<td>Little curlew</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Numenius phaeopus</td>
<td>Whimbrel</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Near threatened (Garnett et al. 2011)</td>
</tr>
<tr>
<td>Orcella heinsohni</td>
<td>Australian snubfin dolphin</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pandion cristatus</td>
<td>Eastern osprey</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Phalomachus pugnax</td>
<td>Ruff</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plegadis falcinellus</td>
<td>Glossy ibis</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pluvialis fulva</td>
<td>Pacific golden plover</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pluvialis squatarola</td>
<td>Grey plover</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Near threatened (Garnett et al. 2011)</td>
</tr>
<tr>
<td>Sousa chinensis</td>
<td>Indopacific humpback dolphin</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stema dougallii</td>
<td>Roseate tern</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stema hirundo</td>
<td>Common tern</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sternula albifrons</td>
<td>Little tern</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thalasseus bengalensis</td>
<td>Lesser crested tern</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Scientific name | Common name | R | NR | ES | Comments
--- | --- | --- | --- | --- | ---
*Tringa brevipes* | Grey-tailed tattler | Y | Y | | Near threatened (Garnett et al. (2011))
*Tringa erythropus* | Spotted redshank | | | | 
*Tringa flavipes* | Lesser yellowlegs | Y | Y | | 
*Tringa glareola* | Wood sandpiper | Y | Y | | 
*Tringa incana* | Wandering tattler | | | | 
*Tringa nebularia* | Common greenshank | Y | Y | | 
*Tringa ochropus* | Green sandpiper | | | | 
*Tringa totanus* | Common redshank | Y | Y | | 
*Xenus cinereus* | Terek sandpiper | Y | Y | | 

4.3 Species richness

Species richness (i.e. total number of species) was scored for each class of fauna (amphibians (frogs), fish, reptiles, and waterbirds).

4.3.1 Fish richness

There are a number of riverine, non-riverine and estuarine native fish species identified in the Cape York region. Table 11 lists fish species that were used under the ‘Criterion 3 Diversity and richness’ measure (3.1.2).

Table 11: Native fish

Taxa marked with an asterisk (*) were recorded in areas within the CYP Aquatic Conservation Assessment area but outside the CYP catchments study area. This list was used to generate the values for the AquaBAMM measure (3.1.2).

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R</th>
<th>NR</th>
<th>ES</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Acanthopagrus australis</em></td>
<td>Yellowfin bream</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Acanthopagrus berda</em></td>
<td>Pikey bream</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ambassis agassizii</em></td>
<td>Agassiz's glassfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ambassis agrammus</em></td>
<td>Sailfin glassfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ambassis elongatus</em></td>
<td>Elongate glassfish</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ambassis interruptus</em></td>
<td>Longspine glassfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ambassis macleayi</em></td>
<td>Macleay's glassfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ambassis miops</em></td>
<td>Flagtail glassfish</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ambassis nalua</em></td>
<td>Scalloped glassfish</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ambassis sp. 'Northwest' (mulleri)</em></td>
<td>Northwest glassfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ambassis vachellii</em></td>
<td>Vachell's glassfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Amniataba caudavittata</em></td>
<td>Yellowtail grunter</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Amniataba percoideus</em></td>
<td>Barred grunter</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Anguilla obscura</em></td>
<td>Pacific shortfin eel</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Anguilla reinhardtii</em></td>
<td>Longfin eel</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Anodontiglanis dahli</em></td>
<td>Toothless catfish</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Anoxypristis cuspidata</em></td>
<td>Narrow sawfish</td>
<td>Y</td>
<td></td>
<td>Declining due to mortality associated with gill-netting</td>
<td></td>
</tr>
<tr>
<td><em>Arrhamphus sclerolepis</em></td>
<td>Snubnose garfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Awaous acritosus</em></td>
<td>Roman-nose goby</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Brachirus salinarum</em></td>
<td>Saltpan sole</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Brachirus selheimi</em></td>
<td>Freshwater sole</td>
<td>Y</td>
<td></td>
<td>Disjunct</td>
<td></td>
</tr>
<tr>
<td><em>Bunaka gyrinoides</em></td>
<td>Greenback gudgeon</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Butis butis</em></td>
<td>Crimstonip gudgeon</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Caranx sexfasciatus</em></td>
<td>Bigeye trevally</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Carcharhinus leucas</em></td>
<td>Bull shark</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Chanos chanos</em></td>
<td>Milkfish</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Chlamydogobius ranunculus</em></td>
<td>Tadpole goby</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Craterocephalus stercusmuscarum</em></td>
<td>Fliespecked hardyhead</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Denarius australis</em></td>
<td>Pennifish</td>
<td>Y</td>
<td>Y</td>
<td>Disjunct</td>
<td></td>
</tr>
<tr>
<td><em>Eleotris fusca</em></td>
<td>Brown spine-cheek gudgeon</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Eleotris melanosoma</em></td>
<td>Black spine-cheek gudgeon</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Elops machnata</em></td>
<td>Australian giant herring</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Assessment type (NR – non-riverine, R – riverine, ES – estuarine)
<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R</th>
<th>NR</th>
<th>ES</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gerres filamentosus</td>
<td>Threadfin silverbiddy</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gerres subfasciatus</td>
<td>Common silverbiddy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Giurus margaritacea</td>
<td>Snakehead gudgeon</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glossamia aprion</td>
<td>Mouth almighty</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glossogobius aureus</td>
<td>Golden flathead goby</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glossogobius bellendenensis*</td>
<td>Mulgrave goby</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glossogobius bicirrhosus*</td>
<td>Bearded flathead goby</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glossogobius circumspectus</td>
<td>Mangrove flathead goby</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glossogobius concavifrons</td>
<td>Concave flathead goby</td>
<td>Y</td>
<td></td>
<td>Disjunct</td>
<td></td>
</tr>
<tr>
<td>Glossogobius giurus</td>
<td>Tank goby</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glossogobius sp. 1 cf. celebius</td>
<td>False celebes goby</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glossogobius sp. 2 - munro</td>
<td>Square-blotch/Munro's goby</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glossogobius sp. 3 - dwarf</td>
<td>Dwarf goby</td>
<td>Y</td>
<td></td>
<td>Disjunct</td>
<td></td>
</tr>
<tr>
<td>Glyphis glyphis</td>
<td>Speartooth shark</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gymnothorax polyuranodon</td>
<td>Freshwater moray</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hephaestus carbo</td>
<td>Coal grunter</td>
<td>Y</td>
<td>Y</td>
<td>Disjunct</td>
<td></td>
</tr>
<tr>
<td>Hephaestus fuliginosus</td>
<td>Sooty grunter</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hephaestus tulliensis</td>
<td>Khaki grunter</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Herklotsichthys castelnaui</td>
<td>Southern sprat</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Himantura dalvynsis</td>
<td>Freshwater whipray</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Himantura granulata</td>
<td>Mangrove whipray</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hippichthys heptagonus</td>
<td>Madura pipefish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hippichthys penicillus</td>
<td>Beady pipefish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hippichthys spicifer</td>
<td>Bellybar pipefish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypseleotris compressa</td>
<td>Empire gudgeon</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypseleotris sp. 1</td>
<td>Midgley's carp gudgeon</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iriatherina wemeri</td>
<td>Threadfin rainbowfish</td>
<td>Y</td>
<td>Y</td>
<td>Disjunct</td>
<td></td>
</tr>
<tr>
<td>Kuhlia marginata</td>
<td>Spotted flagtail</td>
<td>Y</td>
<td>Y</td>
<td>Restricted and specialised, possibly sensitive to habitat disturbance</td>
<td></td>
</tr>
<tr>
<td>Kuhlia rupestris</td>
<td>Jungle perch</td>
<td>Y</td>
<td></td>
<td>Restricted and specialised, possibly sensitive to habitat disturbance</td>
<td></td>
</tr>
<tr>
<td>Lates calcarifer</td>
<td>Barramundi</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Leiognathus equulus</td>
<td>Common ponyfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leiopotherapon unicolor</td>
<td>Spangled perch</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liza subviridis</td>
<td>Greenback mullet</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lutjanus argentimaculatus</td>
<td>Mangrove Jack</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Megalops cyprinoides</td>
<td>Oxeye herring/tarpon</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Melanotaenia eachamensis*</td>
<td>Lake Eacham rainbowfish</td>
<td>Y</td>
<td>Y</td>
<td>Wet Tropics taxon</td>
<td></td>
</tr>
<tr>
<td>Melanotaenia maccullochi</td>
<td>McCulloch's rainbowfish</td>
<td>Y</td>
<td>Y</td>
<td>Disjunct</td>
<td></td>
</tr>
<tr>
<td>Melanotaenia nigrans</td>
<td>Blackbanded rainbowfish</td>
<td>Y</td>
<td>Y</td>
<td>Disjunct</td>
<td></td>
</tr>
<tr>
<td>Melanotaenia splendida</td>
<td>Eastern rainbowfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melanotaenia trifasciata</td>
<td>Banded rainbowfish</td>
<td>Y</td>
<td>Y</td>
<td>Disjunct</td>
<td></td>
</tr>
<tr>
<td>Mesopristes argenteus</td>
<td>Silver grunter</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microphis brachyurus</td>
<td>Short-tailed pipefish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microphis leiaspis</td>
<td>Freshwater pipefish</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mogurnda adspersa</td>
<td>Southern purplespotted gudgeon</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mogurnda mogurnda</td>
<td>Northern purplespotted gudgeon</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monodactylus argenteus</td>
<td>Diamondfish</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Monoporus albus</td>
<td>Belut</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mugil cephalus</td>
<td>Sea mullet</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Nematalosa eredi</td>
<td>Bony bream</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neorarius berneyi</td>
<td>Highfin catfish</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neorarius graeffei</td>
<td>Blue catfish</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Neorarius leptaspi</td>
<td>Boothead catfish</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neorarius paucus</td>
<td>Shovelnose catfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neopomacentrus taeniurus</td>
<td>Freshwater demoiselle</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neosilurus ater</td>
<td>Black catfish</td>
<td>Y</td>
<td>Y</td>
<td>Disjunct</td>
<td></td>
</tr>
<tr>
<td>Neosilurus brevidorsalis</td>
<td>Shortfin catfish</td>
<td>Y</td>
<td>Y</td>
<td>Disjunct</td>
<td></td>
</tr>
<tr>
<td>Neosilurus hyrtii</td>
<td>Hyrti's catfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notesthes robusta</td>
<td>Bullrout</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scientific name</td>
<td>Common name</td>
<td>R²</td>
<td>NR</td>
<td>ES</td>
<td>Comments</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>---------------------------</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Nuchequula decorus</td>
<td>Ornate ponyfish</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ophiocara porocephala</td>
<td>Spangled gudgeon</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Ophistemon bengalense</td>
<td>One-gilled eel</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct</td>
</tr>
<tr>
<td>Ophistemon gutturale</td>
<td>Swamp eel</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxyleotris aruensis</td>
<td>Aru gudgeon</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxyleotris fimbriata</td>
<td>Fimbriate gudgeon</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct</td>
</tr>
<tr>
<td>Oxyleotris lineolata</td>
<td>Sleepy cod</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxyleotris nullipora</td>
<td>Poreless gudgeon</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct</td>
</tr>
<tr>
<td>Oxyleotris selheimi</td>
<td>Blackbanded gudgeon</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Periophthalmus argentilineatus</td>
<td>Silverlined mudskipper</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Periophthalmus novaeguineaeens</td>
<td>New Guinea mudskipper</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Periophthalmus weberi</td>
<td>Weber's mudskipper</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pingalia gilberti</td>
<td>Gilbert's grunter</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pingalia lorentzi</td>
<td>Lorentz grunter</td>
<td>Y</td>
<td></td>
<td></td>
<td>Disjunct</td>
</tr>
<tr>
<td>Porochilus argenteus</td>
<td>Silver catfish</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Porochilus obbesi</td>
<td>Obbe's catfish</td>
<td>Y</td>
<td></td>
<td></td>
<td>Disjunct</td>
</tr>
<tr>
<td>Porochilus rendahli</td>
<td>Rendahl's catfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct</td>
</tr>
<tr>
<td>Prionobutis microps</td>
<td>Smalleye gudgeon</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pristis clavata</td>
<td>Dwarf sawfish</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pristis microdon</td>
<td>Freshwater sawfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pristis pectinata</td>
<td>Wide sawfish</td>
<td>Y</td>
<td></td>
<td></td>
<td>Declining due to mortality associated with gill-netting</td>
</tr>
<tr>
<td>Pristis zijsron</td>
<td>Green sawfish</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psammogobius biocellatus</td>
<td>Sleepy goby</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudomugil gertrudae</td>
<td>Spotted blue eye</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct</td>
</tr>
<tr>
<td>Pseudomugil signifer</td>
<td>Pacific blue eye</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudomugil tenellus</td>
<td>Delicate blue eye</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct</td>
</tr>
<tr>
<td>Redigobius bikolanus</td>
<td>Speckled goby</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Redigobius chrysosoma</td>
<td>Spottin goby</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhinobatos typus</td>
<td>Giant shovelnose ray</td>
<td>Y</td>
<td></td>
<td></td>
<td>Ranked High by Northern Gulf NRM</td>
</tr>
<tr>
<td>Scatophagus argus</td>
<td>Spotted scat</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schismatogobius sp. A/insignum</td>
<td>Scaleless goby</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scleropages jardini</td>
<td>Northern saratoga</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct population; elsewhere in northern Australia and New Guinea; sparse and targeted for sport fishing</td>
</tr>
<tr>
<td>Scortum ogilbyi</td>
<td>Gulf grunter</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selenotoca multifasciata</td>
<td>Striped scat</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sicyopterus lagocephalus</td>
<td>Blue stream goby</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct</td>
</tr>
<tr>
<td>Stenogobius psilosionius</td>
<td>Teardrop goby</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stiphodon sp. cf. alleni*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Wet Tropics taxon</td>
</tr>
<tr>
<td>Strongylura krefftii</td>
<td>Freshwater longtom</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tandanus sp. Wet Tropics*</td>
<td>Wet Tropics catfish sp.</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tandanus tandanus</td>
<td>Freshwater catfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Include any Tandanus records</td>
</tr>
<tr>
<td>Terapon jarbua</td>
<td>Crescent grunter</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thryssa hamiltoni</td>
<td>Hamilton's thryssa</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thryssa scratchleyi</td>
<td>Freshwater thryssa</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Very rare and localised</td>
</tr>
<tr>
<td>Toxotes chatareus</td>
<td>Sevenspot archerfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxotes jaculatrix</td>
<td>Banded archerfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zenarchopterus buffonis</td>
<td>Northern River garfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zenarchopterus novaeguineae</td>
<td>Fly River garfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Disjunct</td>
</tr>
</tbody>
</table>

4.3.2 Reptile richness

There were a number of riverine, non-riverine and estuarine native reptile species identified in the Cape York region. Table 12 lists the wetlands-dependant reptiles that were considered in the AquaBAMM under ‘Criterion 3 Diversity and richness’ (3.1.3).
Table 12: Freshwater reptiles

This list was used to generate the values for the AquaBAMM Measure (3.1.3). Taxa marked with an asterisk (*) were recorded in areas within the CYP Aquatic Conservation Assessment area but outside the CYP catchments study area.

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R21</th>
<th>NR</th>
<th>ES</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrochordus arafurae</td>
<td>Arafura file snake</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acrochordus granulatus</td>
<td>Little file snake</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Caretta caretta</td>
<td>Loggerhead turtle</td>
<td></td>
<td></td>
<td>Y</td>
<td>No nesting on CYP</td>
</tr>
<tr>
<td>Carlia jarnoldae</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cerberus rynchops</td>
<td>Bockadam</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Chelodina canni</td>
<td>Cann’s longneck turtle</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chelodina rugosa</td>
<td>Northern snake-necked turtle</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chelonia mydas</td>
<td>Green turtle</td>
<td></td>
<td>Y</td>
<td></td>
<td>Major breeding concentration on islands outer edge of northern reef</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Raine-Moulter Cay No 7 and 8, minor breeding patchy along coastal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>mainland west and east coast</td>
</tr>
<tr>
<td>Crocodylus johnstoni</td>
<td>Australian freshwater crocodile</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crocodylus porosus</td>
<td>Estuarine crocodile</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Dermochelys coriacea</td>
<td>Leatherback turtle</td>
<td></td>
<td></td>
<td>Y</td>
<td>Very rare sightings, no nesting on CYP</td>
</tr>
<tr>
<td>Elseya irwini (Johnstone)*</td>
<td>Johnstone River snapping turtle</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Emydura macquani kreffii</td>
<td>Krefft’s River turtle</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emydura subglobosa subglobosa</td>
<td>Jardine River turtle</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Not recorded in river since 1996; middle reaches of Jardine River. Work</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>in New Guinea shows it abundant in freshwater swamps and seasonally</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>inundated grasslands and wetlands (Georges, 2005) so maybe more a species</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>of Jardine Swamps than main channel of Jardine River on CYP</td>
</tr>
<tr>
<td>Emydura tanybaraga</td>
<td>Northern yellow-faced turtle</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eretmochelys imbricata</td>
<td>Hawksbill turtle</td>
<td></td>
<td>Y</td>
<td></td>
<td>Milman Island major rookery, islands of Torres Strait western CYP north</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>of Cotterell River</td>
</tr>
<tr>
<td>Fordonia leucobalia</td>
<td>White-bellied mangrove snake</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hemiaspis signata</td>
<td>Black-bellied swamp snake</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Queensland Museum records from Helensvale and Windsor Tableland</td>
</tr>
<tr>
<td>Hydrophis donaldi</td>
<td>Rough scaled sea snake</td>
<td></td>
<td></td>
<td>Y</td>
<td>Shallow estuarine shale, mud and sea grass bottom mouth of Mission River</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>and Hey Creek where they connect to Albatross Bay, CYP endemic</td>
</tr>
</tbody>
</table>

21 Assessment type (NR – non-riverine, R – riverine, ES – estuarine)
**4.3.3 Waterbird richness**

There were a number of riverine, non-riverine and estuarine native waterbird species identified in the Cape York region. Table 13 lists the wetland-dependant waterbirds that were considered in the AquaBAMM under ‘Criterion 3 Diversity and richness’ (3.1.4).

**Table 13: Native waterbirds**

This list was used to generate the values of the AquaBAMM measure (3.1.4).

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R</th>
<th>NR</th>
<th>ES</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrocephalus australis</td>
<td>Australian reed-warbler</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Acrocephalus orientalis</td>
<td>Oriental reed-warbler</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Actitis hypoleucus</td>
<td>Common sandpiper</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Amaurornis cinerea</td>
<td>White-browed crake</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Amaurornis moluccana</td>
<td>Pale-vented bush-hen</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Anas castanea</td>
<td>Chestnut teal</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Anas gracilis</td>
<td>Grey teal</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Anas rhynochetula</td>
<td>Garganey</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Anas rhynochetula</td>
<td>Australasian shoveler</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Anas superciliosa</td>
<td>Pacific black duck</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Anhinga novaehollandiae</td>
<td>Australasian darter</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Anseranas semipalmata</td>
<td>Magpie goose</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Ardea ibis</td>
<td>Cattle egret</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Ardea intermedia</td>
<td>Intermediate egret</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Ardea modesta</td>
<td>Eastern great egret</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Ardea pacifica</td>
<td>White-necked heron</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Ardea sumatrana</td>
<td>Great-billed heron</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Arenaria interpres</td>
<td>Ruddy turnstone</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Near threatened (Garnett et al. 2011)</td>
</tr>
</tbody>
</table>

---

**Scientific name**

- Intellagama lesueurii
- Lepidochelys olivacea
- Liiasis mackloti
- Natator depressus
- Pseudechis porphyriacus
- Pseudoferania polyplepis
- Stegonotus cucullatus
- Tropidechis carinatus
- Tropidonophis mairii
- Varanus indicus
- Varanus mertensi
- Varanus semiremex
- Wollumbinia latisternum

**Common name**

- Eastern water dragon
- Olive ridley turtle
- Water python
- Flatback turtle
- Red-bellied black snake
- Macleay’s water snake
- Silty-grey snake
- Rough-scaled snake
- Freshwater snake
- Mangrove monitor
- Mertens’ water monitor
- Rusty monitor
- Saw-shelled turtle

**Comments**

- Annon-Endeavour River range limit
- Low density nesting along western coast of CYP Holroyd River area to Bamaga
- Crab and Deliverance island major nesting NE Gulf of Carpentaria and west Torres Strait. Crab Island has the highest concentration of flatback nests in the world
- Shipton’s Flat, Big Tableland and Windsor Tableland
- Queensland Museum record from Windsor Tableland
- Also non-riverine in waterholes and lagoons

---

**Note:** Assessment type (NR – non-riverine, R – riverine, ES – estuarine)
<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R</th>
<th>NR</th>
<th>ES</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aythya australis</strong></td>
<td>Hardhead</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Butorides striata</strong></td>
<td>Striated heron</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Calidris acuminata</strong></td>
<td>Sharp-tailed sandpiper</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Calidris alba</strong></td>
<td>Sanderling</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Calidris alpina</strong></td>
<td>Dunlin</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Calidris canutus</strong></td>
<td>Red knot</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Vulnerable (Garnett et al. 2011)</td>
</tr>
<tr>
<td><strong>Calidris ferruginea</strong></td>
<td>Curlew sandpiper</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Vulnerable (Garnett et al. 2011)</td>
</tr>
<tr>
<td><strong>Calidris melanotos</strong></td>
<td>Pectoral sandpiper</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Calidris ruficollis</strong></td>
<td>Red-necked stint</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Calidris subminuta</strong></td>
<td>Long-toed stint</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Calidris tenuirostris</strong></td>
<td>Great knot</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Vulnerable (Garnett et al. 2011)</td>
</tr>
<tr>
<td><strong>Ceyx azureus</strong></td>
<td>Azure kingfisher</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Ceyx pusillus</strong></td>
<td>Little kingfisher</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Charadrius bicinctus</strong></td>
<td>Double-banded plover</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Charadrius hiaticula</strong></td>
<td>Ringed plover</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Charadrius leschenaultii</strong></td>
<td>Greater sand plover</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Vulnerable (Garnett et al. 2011)</td>
</tr>
<tr>
<td><strong>Charadrius mongolus</strong></td>
<td>Lesser sand plover</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Endangered (Garnett et al. 2011)</td>
</tr>
<tr>
<td><strong>Charadrius ruficapillus</strong></td>
<td>Red-capped plover</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Charadrius veredus</strong></td>
<td>Oriental plover</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Chenonetta jubata</strong></td>
<td>Australian wood duck</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Chlidonias hybridra</strong></td>
<td>Whiskered tern</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Chlidonias leucopterus</strong></td>
<td>White-winged black tern</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Chroicocephalus novaehollandiae</strong></td>
<td>Silver gull</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Circus approximans</strong></td>
<td>Swamp harrier</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cisticola exilis</strong></td>
<td>Golden-headed cisticola</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Cisticola juncidis</strong></td>
<td>Zitting cisticola</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Disjunct</td>
</tr>
<tr>
<td><strong>Cisticola juncidis normani</strong></td>
<td>Zitting cisticola (Normanton subsp.)</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Cygnus atratus</strong></td>
<td>Black swan</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dendrocygna arcuata</strong></td>
<td>Wandering whistling-duck</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dendrocygna eytoni</strong></td>
<td>Plumed whistling-duck</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dendrocygna guttata</strong></td>
<td>Spotted whistling-duck</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Disjunct</td>
</tr>
<tr>
<td><strong>Egretta garzetta</strong></td>
<td>Little egret</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Egretta novaehollandiae</strong></td>
<td>White-faced heron</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Egretta picata</strong></td>
<td>Pied heron</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Egretta sacra</strong></td>
<td>Eastern reef egret</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Elseyornis melanops</strong></td>
<td>Black-fronted dotterel</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Ephippiorhynchus asiaticus</strong></td>
<td>Black-necked stork</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Erythrogynys cinctus</strong></td>
<td>Red-kneed dotterel</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Esacus magnirostris</strong></td>
<td>Beach stone-curlew</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fulica atra</strong></td>
<td>Eurasian coot</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Gallinago hardwickii</strong></td>
<td>Latham's snipe</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gallinago megala</strong></td>
<td>Swinhoe's snipe</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gallinula tenebrosa</strong></td>
<td>Dusky moorhen</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gallirallus philippensis</strong></td>
<td>Buff-banded rail</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Gavicalis versicolor</strong></td>
<td>Varied honeyeater</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Gelochelidon nilotica</strong></td>
<td>Gull-billed tern</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Gerygone levigaster</strong></td>
<td>Mangrove gerygone</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gerygone magnirostris</strong></td>
<td>Large-billed gerygone</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Glareola maldivarum</strong></td>
<td>Oriental pratincole</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Grus antigone</strong></td>
<td>Sarus crane</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Grus rubicunda</strong></td>
<td>Brolga</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Haematopus fuliginosus</strong></td>
<td>Sooty oystercatcher</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Haematopus longirostris</strong></td>
<td>Australian pied oystercatcher</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Halieutes leucopterus</strong></td>
<td>White-bellied sea-eagle</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Haliastur indus</strong></td>
<td>Brahminy kite</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Himantopus himantopus</strong></td>
<td>Black-winged stilt</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Hydroprogne caspia</strong></td>
<td>Caspian tern</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Irediparra gallinacea</strong></td>
<td>Comb-crested jacana</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Ixobrychus dubius</strong></td>
<td>Australian little bittern</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><strong>Ixobrychus flavicollis</strong></td>
<td>Black bittern</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Scientific name</td>
<td>Common name</td>
<td>R²²</td>
<td>NR</td>
<td>ES</td>
<td>Comments</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------</td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>----------</td>
</tr>
<tr>
<td>Larus dominicanus</td>
<td>Kelp gull</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Larus pacificus</td>
<td>Pacific gull</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leucophaeus atricilla</td>
<td>Laughing gull</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limicola falcinellus</td>
<td>Broad-billed sandpiper</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Limnodromus semipalmatus</td>
<td>Asian dowitcher</td>
<td></td>
<td>Y</td>
<td></td>
<td>Near Threatened (Garnett et al. 2011)</td>
</tr>
<tr>
<td>Limosa lapponica</td>
<td>Bar-tailed godwit</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Vulnerable (Garnett et al. 2011)</td>
</tr>
<tr>
<td>Limosa limosa</td>
<td>Black-tailed godwit</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Near Threatened (Garnett et al. 2011)</td>
</tr>
<tr>
<td>Lornncha castaneothorax</td>
<td>Chestnut-breasted mannikin</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malacorhynchus membranaceus</td>
<td>Pink-eared duck</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microcarbo melanoleucus</td>
<td>Little pied cormorant</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myiagra alecto</td>
<td>Shining flycatcher</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myiagra inquieta nana</td>
<td>Paperbark flycatcher</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myiagra ruficollis</td>
<td>Broad-billed flycatcher</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neochmia phaeton evanginae</td>
<td>Crimson finch (white-bellied subsp.)</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Disjunct populations on CYP (Good population at Lakefield along Normanby River)</td>
</tr>
<tr>
<td>Neochmia phaeton phaeton</td>
<td>Crimson finch</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neochmia ruficauda</td>
<td>Star finch</td>
<td></td>
<td>Y</td>
<td></td>
<td>Near threatened (Garnett et al. 2011) as N. r. clarescens. Lakefield population very important</td>
</tr>
<tr>
<td>Nettapus coromandelianus</td>
<td>Cotton pygmy-goose</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nettapus pulchellus</td>
<td>Green pygmy-goose</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ninox connivens</td>
<td>Barking owl</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Numenius arquata</td>
<td>Eurasian curlew</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Numenius madagascariensis</td>
<td>Eastern curlew</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Numenius minutus</td>
<td>Little curlew</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Numenius phaeopus</td>
<td>Whimbrel</td>
<td></td>
<td>Y</td>
<td></td>
<td>Near Threatened (Garnett et al. 2011)</td>
</tr>
<tr>
<td>Nycticorax caledonicus</td>
<td>Nankeen night-heron</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pachycephala lanioides</td>
<td>White-breasted whistler</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pachycephala melanura</td>
<td>Mangrove golden whistler</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pandion cristatus</td>
<td>Eastern osprey</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pelecanus conspicillatus</td>
<td>Australian pelican</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peneonanthe pulverulenta</td>
<td>Mangrove robin</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phalacrocorax carbo</td>
<td>Great cormorant</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phalacrocorax sulcirostris</td>
<td>Little black cormorant</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phalacrocorax varius</td>
<td>Pied cormorant</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philomachus pugnax</td>
<td>Ruff</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platalea flavipes</td>
<td>Yellow-billed spoonbill</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Platalea regia</td>
<td>Royal spoonbill</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plegadis falcinellus</td>
<td>Glossy ibis</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ploversus fulva</td>
<td>Pacific golden plover</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pluvialis squatarola</td>
<td>Grey plover</td>
<td></td>
<td>Y</td>
<td></td>
<td>Near Threatened (Garnett et al. 2011)</td>
</tr>
<tr>
<td>Podiceps cristatus</td>
<td>Great crested grebe</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poephila cincta</td>
<td>Black-throated finch</td>
<td></td>
<td>Y</td>
<td></td>
<td>Disjunct populations</td>
</tr>
<tr>
<td>Poliocephalus poliocephalus</td>
<td>Hoary-headed grebe</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Porphyrio porphyrio</td>
<td>Purple swamphen</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Porzana pusilla</td>
<td>Baillon's crake</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Porzana tabuensis</td>
<td>Spotless crane</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rallina tricolor</td>
<td>Red-necked crake</td>
<td></td>
<td>Y</td>
<td></td>
<td>Disjunct</td>
</tr>
<tr>
<td>Ramsayornis modestus</td>
<td>Brown-backed honeyeater</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recurvirostra novaehollandiae</td>
<td>Red-necked avocet</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhipidura dryas</td>
<td>Arafura fantail</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rhipidura phasiana</td>
<td>Mangrove grey fantail</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stema dougallii</td>
<td>Roseate tern</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stema hirundo</td>
<td>Common tern</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stemula albifrons</td>
<td>Little tern</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stemula nereis</td>
<td>Fairy tern</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stiltia isabella</td>
<td>Australian pratincole</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scientific name</td>
<td>Common name</td>
<td>R^{22}</td>
<td>NR</td>
<td>ES</td>
<td>Comments</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------</td>
<td>--------</td>
<td>----</td>
<td>----</td>
<td>----------</td>
</tr>
<tr>
<td><em>Tachybaptus novaehollandiae</em></td>
<td>Australasian grebe</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Tadorna radjah</em></td>
<td>Radjah shelduck</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Thalasseus bengalensis</td>
<td>Lesser crested tern</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thalasseus bergii</td>
<td>Crested tern</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Threskiornis molucca</td>
<td>Australian white ibis</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Threskiornis spinicollis</td>
<td>Straw-necked ibis</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Todiramphus chloris</td>
<td>Collared kingfisher</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Tringa brevipes</em></td>
<td>Grey-tailed tattler</td>
<td>Y</td>
<td>Y</td>
<td>Near threatened (Garnett et al. 2011)</td>
<td></td>
</tr>
<tr>
<td><em>Tringa erythropus</em></td>
<td>Spotted redshank</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Tringa flavipes</em></td>
<td>Lesser yellowlegs</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Tringa glareola</em></td>
<td>Wood sandpiper</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Tringa incana</em></td>
<td>Wandering tattler</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Tringa nebularia</em></td>
<td>Common greenshank</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Tringa ochropus</em></td>
<td>Green sandpiper</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Tringa stagnatilis</em></td>
<td>Marsh sandpiper</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Tringa totanus</em></td>
<td>Common redshank</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Vanellus miles</td>
<td>Masked lapwing</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Xenus cinereus</td>
<td>Terek sandpiper</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>

### 4.3.4 Frog richness

There a number of riverine, non-riverine and estuarine amphibian species identified within the Cape York region. Table 14 lists frog species that were used in the AquaBAMM under ‘Criterion 3 Diversity and richness’ (3.1.1 and 3.1.6).

**Table 14: Native frogs**

Taxa marked with an asterisk (*) were recorded in areas within the CYP Aquatic Conservation Assessment area but outside the CYP catchments study area. This list was used to generate the values of the AquaBAMM measures (3.1.1 and 3.1.6).

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R^{22}</th>
<th>NR</th>
<th>ES</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Crinia deserticola</em></td>
<td>Chirping froglet</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Crinia remotia</em></td>
<td>Northern froglet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyclorana alboguttata</td>
<td>Greenstripe frog</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Cyclorana brevipes</td>
<td>Superb collared frog</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Cyclorana cryptotis</em></td>
<td>Earless frog</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Cyclorana manya</td>
<td>Little collared frog</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Cyclorana novaehollandiae</td>
<td>Eastern snapping frog</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Hylarana daemelii</td>
<td>Australian woodfrog</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Limnodynastes convexiusculus</td>
<td>Marbled frog</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Limnodynastes peronii*</td>
<td>Striped marshfrog</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Limnodynastes terraeleginae</td>
<td>Scarlet sided pobblebonk</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Litoria andirrMalina</em></td>
<td>Melville range treefrog</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Litoria bicolor</em></td>
<td>Northern sedgefrog</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Litoria caerulea</em></td>
<td>Common green treefrog</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Litoria dahlii</em></td>
<td>Northern waterfrog</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Litoria eucnemis</em></td>
<td>Growing green-eyed treefrog</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Litoria gracilenta</em></td>
<td>Graceful treefrog</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Litoria inermis</em></td>
<td>Bumpy rocketfrog</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Litoria infranfnata</em></td>
<td>White lipped treefrog</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Litoria jungguy</em></td>
<td>Northern Stony Creek frog</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Litoria latopalmata</em></td>
<td>Broad palmed rocketfrog</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Litoria longirostris</em></td>
<td>Long snouted treefrog</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Litoria iorica</em></td>
<td>Little waterfall frog</td>
<td></td>
<td></td>
<td>Y</td>
<td>Wet Tropics taxon</td>
</tr>
<tr>
<td><em>Litoria microbelos</em></td>
<td>Javelin frog</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Litoria nannotie</em></td>
<td>Waterfall frog</td>
<td></td>
<td></td>
<td>Y</td>
<td>Wet Tropics taxon</td>
</tr>
<tr>
<td><em>Litoria nasuta</em></td>
<td>Striped rocketfrog</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Litoria nigrofrenata</em></td>
<td>Tawny rocketfrog</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td><em>Litoria nyakalensis</em></td>
<td>Mountain mistfrog</td>
<td></td>
<td></td>
<td>Y</td>
<td>Wet Tropics taxon</td>
</tr>
<tr>
<td><em>Litoria pallida</em></td>
<td>Palid rocketfrog</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>

22 Assessment type (NR – non-riverine, R – riverine, ES – estuarine)
### 4.3.5 Mammal richness

There were a number of riverine, non-riverine and estuarine species of mammal identified in the Cape York region. Table 15 lists the mammal species that was used in the AquaBAMM under ‘Criterion 3 Diversity and richness’ (3.1.7).

**Table 15: Native mammals**

This list was used to generate the values of the AquaBAMM measure (3.1.7)

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R</th>
<th>NR</th>
<th>ES</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dugong dugon</td>
<td>Dugong</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydromys chrysogaster</td>
<td>Water rat</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miniopterus orianae/schreibersii oceaneensis</td>
<td>Eastern bentwing bat</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Myotis macropus</td>
<td>Large-footed myotis</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Orcaella heinsohni</td>
<td>Australian snubfin dolphin</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ornithorhynchus anatinus</td>
<td>Platypus</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pipistrellus westralis</td>
<td>Northern/mangrove pipistrelle</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sousa chinensis</td>
<td>Indopacific humpback dolphin</td>
<td></td>
<td></td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>

4.3.6 Macroinvertebrate richness

There were a number of riverine, non-riverine and estuarine species of macroinvertebrates identified in the Cape York region. Table 16 lists macroinvertebrate species that were used in the AquaBAMM under ‘Criterion 3 Diversity and richness’ (3.2.1).

---

24 Assessment type (NR – non-riverine, R – riverine, ES – estuarine)
Table 16: Native macroinvertebrates

This list was used to generate the values of the AquaBAMM measure (3.2.1)

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R**</th>
<th>NR</th>
<th>ES</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austrothelphusa agassizi</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Austrothelphusa angustifrons</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Austrothelphusa raceki</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Austrothelphusa tigrina</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Austrothelphusa valentula</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Austrothelphusa wasselli</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caridina gracilirostris</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caridina indistincta</td>
<td>Indistinct caridina</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caridina longirostris</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caridina nilotica</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caridina serratirostris</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caridina spinula</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caridina typus</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caridinides wilkinsi</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cherax bicarinatus</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Restricted to Cape Flattery dune lakes/creeks</td>
</tr>
<tr>
<td>Cherax cartalacoolah</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cherax depressus</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cherax quadricarinatus</td>
<td>Redclaw crayfish</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Abundance declining in CYP due to fishing pressure</td>
</tr>
<tr>
<td>Cherax rhynchotus</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fenneropenaeus merguiensis</td>
<td>White banana prawn</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypochrysops apollo apollo</td>
<td>Apollo jewel (Wet Tropics subsp.)</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Coastal paperbark (Melaleuca viridiflora) swamps, Lophostemon suaveolens and mangroves with ant-plants (Myrmecodia beccarii) present</td>
</tr>
<tr>
<td>Junonia hedonia zelima</td>
<td>Brown argus</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macrobrachium auratum</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macrobrachium australiense</td>
<td>Common Australian river prawn</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macrobrachium equidens</td>
<td>Rough river prawn</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macrobrachium handschini</td>
<td>Handschins river prawn</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macrobrachium idae</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macrobrachium lar</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macrobrachium latidactylus</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macrobrachium mammilliodactylus</td>
<td></td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macrobrachium novaehollandiae</td>
<td>New Holland river prawn</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macrobrachium rosenbergii</td>
<td>Giant river prawn</td>
<td>Y</td>
<td></td>
<td></td>
<td>Abundance declining in CYP due to fishing pressure</td>
</tr>
<tr>
<td>Macrobrachium tolmerum</td>
<td>Eastern river prawn</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uca polita</td>
<td>Pink fiddler crab</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uca seismella</td>
<td>fiddler crab</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uca signata</td>
<td>fiddler crab</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Velesunio sp.</td>
<td>freshwater mussel</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4.4 Exotic fauna

A number of species were nominated (Table 17) as being exotic wetland fauna in the Cape York region. The presence of aquatic exotic fauna species was recorded under ‘Criterion 1 Naturalness aquatic’ (1.1.1, 1.1.3, 1.1.4).

Where available, information and mapping of exotic species extent (sourced from EHP, regional bodies etc.) will be used instead of point records to flag the spatial units that have an exotic species present. Where only

**Assessment type (NR – non-riverine, R – riverine, ES – estuarine)**
a point record is available for a location, then the record was used to identify the spatial units as having an exotic species present. Hence, an individual point record may or may not correspond to localities of dense alien fauna infestations.

### Table 17: Alien fauna species

This list was used to generate the values of the AquaBAMM measure (1.1.1, 1.1.3, 1.1.4).

<table>
<thead>
<tr>
<th>Scientific name</th>
<th>Common name</th>
<th>R</th>
<th>NR</th>
<th>ES</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Bos indicus</em></td>
<td>Zebu</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Bos spp.</em></td>
<td>cattle spp.</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Bos taurus</em></td>
<td>European cattle</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Canis familiaris</em></td>
<td>Dog</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Cervus timorensis</em></td>
<td>Rusa deer</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Chinemys reevesi</em></td>
<td>Asian pond turtle</td>
<td>Y</td>
<td></td>
<td></td>
<td>Listed as threatened species elsewhere. Most likely a translocation</td>
</tr>
<tr>
<td><em>Columba livia</em></td>
<td>Rock dove</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Equus caballus</em></td>
<td>Horse</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Felis catus</em></td>
<td>Cat</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Hemidactylus frenatus</em></td>
<td>House gecko</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Lonchura punctulata</em></td>
<td>Nutmeg mannikin</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Mus musculus</em></td>
<td>House mouse</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Oreochromis mossambicus</em></td>
<td>Mozambique tilapia</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Found over 9km of Endeavour River near Cooktown (J. Carroll pers. comm.)</td>
</tr>
<tr>
<td><em>Passer domesticus</em></td>
<td>House sparrow</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Poecilia reticulata</em></td>
<td>Guppy</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Ramphotyphlops braminus</em></td>
<td></td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Rattus norvegicus</em></td>
<td>Brown rat</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Rattus rattus</em></td>
<td>Black rat</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Rhinella marina</em></td>
<td>Cane toad</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Streptopelia chinensis</em></td>
<td>Spotted dove</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Sturnus tristis</em></td>
<td>Common myna</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Pajinka, Bamaga and south of Cooktown</td>
</tr>
<tr>
<td><em>Sturnus vulgaris</em></td>
<td>Common starling</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Sus scrofa</em></td>
<td>Pig</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Vulpes vulpes</em></td>
<td>Red fox</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Near Cooktown, Lakeland Downs and Windsor Tableland</td>
</tr>
</tbody>
</table>

26 Assessment type (NR – non-riverine, R – riverine, ES – estuarine)
4.5 Special features

The panel identified several riverine, non-riverine and estuarine special features in the Cape York region known to contain fauna values (Table 18). Where fauna special features were also considered to have additional values (e.g. flora, ecology), the special area was implemented as a wetland ecology special feature. CYPLUS information derived from Abrahams et al. (1995) and Herbert et al. (1995).

Each spatial unit that intersected with a particular ecosystem or feature in Table 18 was given a score equal to the conservation rating. Decisions are listed alphabetically by catchment. These features were intersected with the spatial units to identify the values for ‘Criterion 6 Special features’. All implemented special features were given a conservation rating of between 1 and 4 assigned by the panel. Decisions that were not able to be implemented due to a lack of readily available data or unconfirmed values, are indicated with ‘not_implemented’ in the decision implementation number column. Decisions that have ‘to be implemented’ in the implementation column are in the process of being implemented assuming available and suitable data and time. Where a single decision crosses a number of study areas, the decision has been duplicated for each study area. Decisions sorted by study area.
Table 18: Identified fauna special features and their values

Table sorted by decision number which equates to alphabetically by study area then non-riverine/riverine.

<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>ar_nr_fa_02</td>
<td>Migratory wader and waterbird roost, feeding and breeding area</td>
<td>Archer</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Significant wader and waterbird roost/feeding sites (Garnett 1989; Driscoll 1995, 1996, 2001). Also implemented as BPA decision(s): cyp_fa_05</td>
</tr>
</tbody>
</table>

\[27\] Assessment type (NR – non-riverine, R – riverine, ES – estuarine)
\[28\] Number refers to the values from the generic CIM list in Table 21.
\[29\] 4 is the highest value.
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR²⁷</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM²⁸</th>
<th>Con. rating²⁹</th>
</tr>
</thead>
<tbody>
<tr>
<td>ar_nr_fa_03</td>
<td>Migratory wader, waterbird and seabird roost, feeding and breeding areas</td>
<td>Archer</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Significant wader and waterbird roost/feeding sites (Garnett 1989; Driscoll 1995, 1996, 2001). Also implemented as BPA decision(s): cyp_fa_05</td>
<td>5.1.4, 6.3.1</td>
<td>3, 3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>------------------------------------------------------------------------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>ar_r_fa_01</td>
<td>McIlwraith and Iron ranges</td>
<td></td>
<td>Archer</td>
<td>y</td>
<td></td>
<td></td>
<td>High endemism and richness of frog species.</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Also implemented as BPA decision(s): cyp_l_17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------------------------</td>
<td>-----------------------------------------------</td>
<td>------------</td>
<td>----</td>
<td>----</td>
<td>----</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ar_r_fa_02</td>
<td>Turtle nesting—west coast. Olive Ridleys and flatback</td>
<td>Archer</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Significant locations for nesting by threatened sea turtle taxa, particularly flatback (<em>Natator depressus</em>), olive ridley (<em>Lepidochelys olivacea</em>) and hawksbill turtles (<em>Eretmochelys imbricata</em>) (GHD 2010). Across the Cape York, those study areas that are north of Weipa are assigned a conservation rating of 4 and those study areas south of Weipa (lower density) are assigned a conservation rating of 3. Also implemented as BPA decision(s): cyp_fa_02</td>
<td>6.3.1</td>
<td>3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>cl_nr_fa_01</td>
<td>Important Bird Areas (IBA)</td>
<td>Coleman</td>
<td>y</td>
<td>Part of the Gulf Plains Important Bird Area. Large breeding population of sarus crane (<em>Grus antigone</em>) and brolga (<em>G. rubicunda</em>), and supports large numbers of migratory waders, e.g. black-tailed godwit (<em>Limosa limosa</em>), great knot (<em>Calidris tenuirostris</em>), little curlew (<em>Numenius minutus</em>) and eastern curlew (<em>N. madagascariensis</em>) (Dutson et al. 2009). Related to BPA decision(s): cyp_l_07 and gup_l_03</td>
<td>6.3.1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>cl_nr_fa_02</td>
<td>Migratory wader and waterbird roost, feeding and breeding area</td>
<td>Coleman</td>
<td>y</td>
<td>y</td>
<td></td>
<td></td>
<td>Significant roost sites for waders (Driscoll 1995). Part of the Gulf Plains Important Bird Area. Large breeding population of sarus crane (<em>Grus antigone</em>) and brolga (<em>G. rubicunda</em>), and supports large numbers of migratory waders, e.g. black-tailed godwit (<em>Limosa limosa</em>), great knot (<em>Calidris tenuirostris</em>), little curlew (<em>Numenius minutus</em>) and eastern curlew (<em>N. madagascariensis</em>) (Dutson et al. 2009). Also implemented as BPA decision(s): cyp_fa_05, cyp_l_07 and gup_l_03</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3, 3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR27</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM28</td>
<td>Con. rating9</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td>cl_nr_fa_03</td>
<td>Fish habitat</td>
<td>Coleman</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Exhibits significant faunal change between Cape and lower Peninsula/Gulf fish assemblages (Herbert et al. 1995). Presence of Scortum spp. and Porochilus argenteus. Also implemented as BPA decision(s): cyp_fa_06 (f)</td>
<td>6.3.1</td>
<td>3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>cl_r_fa_01</td>
<td>Turtle nesting—west coast. Olive ridleys and flatback</td>
<td>Coleman</td>
<td>y</td>
<td>Significant locations for nesting by threatened sea turtle taxa, particularly flatback (<em>Natator depressus</em>), olive ridley (<em>Lepidochelys olivacea</em>) and hawksbill turtles (<em>Eretmochelys imbricata</em>) (GHD 2010). Across the Cape York, those study areas that are north of Weipa are assigned a conservation rating of 4 and those study areas south of Weipa (lower density) are assigned a conservation rating of 3. Also implemented as BPA decision(s): cyp_fa_02</td>
<td>6.3.1</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>cl_r_fa_02</td>
<td>Fish habitat</td>
<td>Coleman</td>
<td></td>
<td>y</td>
<td></td>
<td></td>
<td>Exhibits significant faunal change between Cape and lower Peninsula/Gulf fish assemblages (Herbert et al. 1995). Presence of <em>Scortum</em> spp. and <em>Porochilus argenteus</em>. Also implemented as BPA decision(s): cyp_fa_06 (f)</td>
<td>6.3.1</td>
<td>3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>----------------</td>
<td>-------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>du_nr_fa_01</td>
<td>Jardine River turtle habitat (Crystal Creek section)</td>
<td>Ducie</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Presence of <em>Emydura subglobosa subglobosa</em> (Jardine River turtle) habitat. Based on its habitat in Papua New Guinea (Georges 2005) this species is both riverine and non-riverine. On the Fly River, the most likely source of the Australian population, it is found throughout the river system but is most abundant in the freshwater swamps and seasonally inundates grasslands and wetlands (Georges 2005; Georges et al. 2006). This would mean that despite the only records we have being found in the main channel of the Jardine River, if still present, it is likely to occur throughout the Jardine Swamp area except those parts that are saline. Crystal and Cowal creeks can be included despite there being no records from this waterway as it would be linked to the Jardine during the wet season.</td>
<td>6.3.1</td>
<td>3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR²⁷</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM²⁸</td>
<td>Con. rating²⁹</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-------</td>
<td>--------------</td>
</tr>
<tr>
<td>du_nr_fa_02</td>
<td>Fish habitat</td>
<td>Ducie</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Rivers containing rare and uncommon fish taxa and fish communities (Abrahams et al. 1995; Herbert et al. 1995). Also implemented as BPA decision(s): cyp_fa_06(c)</td>
<td>6.3.1</td>
<td>3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR²⁷</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM²⁸</td>
<td>Con. rating²⁹</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>du_r_fa_01</td>
<td>Crocodile habitat</td>
<td>Ducie</td>
<td>Ducie</td>
<td>y</td>
<td></td>
<td></td>
<td>Important breeding area for estuarine crocodile (<em>Crocodylus porosus</em>) (Krieger 1990; Abrahams et al. 1995; Read 1998, 2001). Also implemented as BPA decision(s): cyp_fa_07</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>du_r_fa_02</td>
<td>Jardine River Turtle habitat</td>
<td>Ducie</td>
<td></td>
<td>y</td>
<td></td>
<td></td>
<td>Presence of <em>Emydura subglobosa subglobosa</em> (Jardine River turtle) habitat. Based on its habitat in Papua New Guinea (Georges 2005) this species is both riverine and non-riverine. On the Fly River, the most likely source of the Australian population, it is found throughout the river system but is most abundant in the freshwater swamps and seasonally inundates grasslands and wetlands (Georges 2005; Georges et al. 2006). This would mean that despite the only records we have being found in the main channel of the Jardine River, if still present, it is likely to occur throughout the Jardine Swamp area except those parts that are saline. Crystal and Cowal creeks can be included despite there being no records from this waterway as it would be linked to the Jardine during the wet season.</td>
<td>6.3.1</td>
<td>3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;27&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM&lt;sup&gt;28&lt;/sup&gt;</td>
<td>Con. rating&lt;sup&gt;29&lt;/sup&gt;</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>----------</td>
<td>------------</td>
<td>-----------------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>du_r_fa_03</td>
<td>Turtle nesting—west coast. Olive ridleys and flatback</td>
<td>Ducie</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Significant locations for nesting by threatened sea turtle taxa, particularly flatback (<em>Natator depressus</em>), olive ridley (<em>Lepidochelys olivacea</em>) and hawksbill turtles (<em>Eretmochelys imbricata</em>) (GHD 2010).</td>
<td>6.3.1</td>
<td>4</td>
</tr>
</tbody>
</table>

Across the Cape York, those study areas that are north of Weipa are assigned a conservation rating of 4 and those study areas south of Weipa (lower density) are assigned a conservation rating of 3.

Also implemented as BPA decision(s): cyp_fa_02
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR&lt;sup&gt;27&lt;/sup&gt;</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>du_r_fa_04</td>
<td>Fish habitat</td>
<td>Ducie</td>
<td></td>
<td>y</td>
<td></td>
<td></td>
<td>Rivers containing rare and uncommon fish taxa and fish communities (Abrahams et al. 1995; Herbert et al. 1995). Also implemented as BPA decision(s): cyp_fa_06(c)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6.3.1 3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
</tr>
<tr>
<td>em_r_fa_01</td>
<td>Embley estuary (shallow)</td>
<td></td>
<td>Embley</td>
<td>y</td>
<td></td>
<td></td>
<td>Shallow estuarine—only known habitat for rough-scaled sea snake (<em>Hydrophis donaldi</em>) (Ukuwela et al. 2012). Record of near threatened indo-pacific humpback dolphin (<em>Sousa chinensis</em>) 2km upstream from intersection of Embley and Mission rivers indicating that the shallow estuarine area used by this species.</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>---</td>
<td>--------</td>
</tr>
<tr>
<td>em_r_fa_02</td>
<td>Embley estuary (deeper)</td>
<td>Embley</td>
<td>Embley</td>
<td>y</td>
<td></td>
<td></td>
<td>Habitat for near threatened Australian snubfin dolphin (<em>Orcaella heinsohni</em>).</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR?</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>----------</td>
<td>------------</td>
<td>-----</td>
<td>---</td>
<td>----</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>em_r_fa_03</td>
<td>Crocodile habitat</td>
<td></td>
<td>Embley</td>
<td></td>
<td></td>
<td>y</td>
<td>Major successful breeding area for estuarine crocodile (<em>Crocodylus porosus</em>) (Krieger 1990; Abrahams et al. 1995; Read 1998, 2001). Also implemented as BPA decision(s): cyp_fa_07</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;27&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>-----------------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
</tr>
<tr>
<td>em_r_fa_04</td>
<td>Turtle nesting—west coast. Olive ridleys and flatback</td>
<td>Embley</td>
<td>y</td>
<td>Significant locations for nesting by threatened sea turtle taxa, particularly flatback (<em>Natator depressus</em>), olive ridley (<em>Lepidochelys olivacea</em>) and hawksbill turtles (<em>Eretmochelys imbricata</em>) (GHD 2010). Across the Cape York, those study areas that are north of Weipa are assigned a conservation rating of 4 and those study areas south of Weipa (lower density) are assigned a conservation rating of 3. Also implemented as BPA decision(s): cyp_fa_02</td>
<td>6.3.1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR$^27$</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>----------</td>
<td>------------</td>
<td>---------</td>
<td>---</td>
<td>----</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>en_nr_fa_02</td>
<td>Fish habitat</td>
<td>Endeavour</td>
<td></td>
<td>y</td>
<td></td>
<td></td>
<td>Sand-dune lakes between Shadd Point and Cooktown—unique fauna assemblages that vary across the lakes, including disjunct/relictual populations of certain fish taxa (Herbert et al. 1995). Also implemented as BPA decision(s): cyp_fa_06 (h)</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
</tr>
<tr>
<td>ho_nr_fa_01</td>
<td>Migratory wader and waterbird roost, feeding and breeding area</td>
<td>Holroyd</td>
<td>y</td>
<td>5.1.4, 6.3.1</td>
<td>4, 4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significant roost sites for waders (Driscoll 1995). Part of the Gulf Plains Important Bird Area. Large breeding population of sarus crane (*Grus antigone*) and brolga (*G. rubicunda*), and supports large numbers of migratory waders, e.g. black-tailed godwit (*Limosa limosa*), great knot (*Calidris tenuirostris*), little curlew (*Numenius minutus*) and eastern curlew (*N. madagascariensis*) (Dutson et al. 2009).

Also implemented as BPA decision(s): cyp_fa_05, cyp_I_06, cyp_I_07 and gup_I_03
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR²⁷</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM²⁸</th>
<th>Con. rating²⁹</th>
</tr>
</thead>
<tbody>
<tr>
<td>ho_nr_fa_02</td>
<td>Fish habitat</td>
<td>Holroyd</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Exhibits significant faunal change between Cape and lower Peninsula/Gulf fish assemblages (Herbert et al. 1995). Presence of <em>Scortum</em> spp. and <em>Porochilus argenteus</em>. Also implemented as BPA decision(s): cyp_fa_06 (f)</td>
<td>6.3.1</td>
<td>3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR\textsuperscript{27}</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM\textsuperscript{28}</td>
<td>Con. rating\textsuperscript{29}</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----------------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>----------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>ho_r_fa_01</td>
<td>Turtle nesting—west coast. Olive ridleys and flatback</td>
<td>Holroyd</td>
<td></td>
<td>y</td>
<td></td>
<td></td>
<td>Significant locations for nesting by threatened sea turtle taxa, particularly flatback (<em>Natator depressus</em>), olive ridley (<em>Lepidochelys olivacea</em>) and hawksbill turtles (<em>Eretmochelys imbricata</em>) (GHD 2010). Across the Cape York, those study areas that are north of Weipa are assigned a conservation rating of 4 and those study areas south of Weipa (lower density) are assigned a conservation rating of 3. Also implemented as BPA decision(s): cyp_fa_02</td>
<td>6.3.1</td>
<td>3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>ho_r_fa_02</td>
<td>Fish habitat</td>
<td>Holroyd</td>
<td></td>
<td></td>
<td>y</td>
<td></td>
<td>Exhibits significant faunal change between Cape and lower Peninsula/Gulf fish assemblages (Herbert et al. 1995). Presence of <em>Scortum</em> spp. and <em>Porochilus argenteus</em>. Also implemented as BPA decision(s): cyp_fa_06 (f)</td>
<td>6.3.1</td>
<td>3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR²⁷</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM²⁸</td>
<td>Con. rating²⁹</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>----------</td>
<td>------------</td>
<td>------</td>
<td>---</td>
<td>----</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------</td>
<td>--------------</td>
</tr>
<tr>
<td>ic_r_fa_01</td>
<td>Crocodile habitat</td>
<td>Islands</td>
<td>Islands</td>
<td></td>
<td></td>
<td>y</td>
<td>Minor habitat used by estuarine crocodiles (<em>Crocodylus porosus</em>) - mostly for feeding, generally unsuitable for breeding (Abrahams et al. 1995). Also implemented as BPA decision(s): cyp_fa_07</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Abrahams et al. 1995.
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM</th>
<th>Con. rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>ic_r_fa_02</td>
<td>Turtle nesting—eastern coast and off-shore islands</td>
<td>Islands</td>
<td>Islands</td>
<td>y</td>
<td></td>
<td></td>
<td>Significant nesting area for hawksbill turtles (<em>Eretmochelys imbricata</em>) and green turtles (<em>Chelonia mydas</em>) on east coast and islands off east coast (Abrahams et al. 1995). Crab Island off north-west coast contains the highest concentration of flatback nests in the world (Limpus et al. 1993). Across the Cape York, those study areas that are north of Weipa are assigned a conservation rating of 4 and those study areas south of Weipa (lower density) are assigned a conservation rating of 3. Also implemented as BPA decision(s): cyp_fa_02</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR27</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM28</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>ja_nr_fa_01</td>
<td>Jardine River turtle habitat</td>
<td></td>
<td>Jardine</td>
<td>y</td>
<td></td>
<td></td>
<td>Only known location for <em>Emydura subglobosa subglobosa</em> (Jardine River turtle) in Australia. Based on its habitat in Papua New Guinea (Georges 2005) this species is both riverine and non-riverine. On the Fly River, the most likely source of the Australian population, it is found throughout the river system but is most abundant in the freshwater swamps and seasonally inundates grasslands and wetlands (Georges 2005; Georges et al. 2006). This would mean that despite the only records we have being found in the main channel of the Jardine River, if still present, it is likely to occur throughout the Jardine Swamp area except those parts that are saline. Also implemented as BPA decision(s): cyp_fa_06 (a) and cyp_fa_07</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR²⁷</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM²⁸</td>
<td>Con. rating²⁹</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>------</td>
<td>---</td>
<td>---</td>
<td>------------------------------------------------------------------------</td>
<td>-------</td>
<td>--------------</td>
</tr>
<tr>
<td>ja_nr_fa_03</td>
<td>Fish habitat</td>
<td></td>
<td>Jardine</td>
<td>y</td>
<td></td>
<td></td>
<td>Rich fish fauna including rare and uncommon species, with close affinities to Papua New Guinea (Abrahams et al. 1995; Herbert et al. 1995). Presence of restricted threatened turtle Emydura subglobosa subglobosa. Also implemented as BPA decision(s): cyp_fa_06 (a)</td>
<td>6.3.1</td>
<td>4, 3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>ja_r_fa_01</td>
<td>Jardine River turtle habitat</td>
<td>Jardine</td>
<td>y</td>
<td>Only known location for <em>Emydura subglobosa subglobosa</em> (Jardine River turtle) in Australia. Based on its habitat in Papua New Guinea (Georges 2005) this species is both riverine and non-riverine. On the Fly River, the most likely source of the Australian population, it is found throughout the river system but is most abundant in the freshwater swamps and seasonally inundates grasslands and wetlands (Georges 2005; Georges et al. 2006). This would mean that despite the only records we have being found in the main channel of the Jardine River, if still present, it is likely to occur throughout the Jardine Swamp area except those parts that are saline.</td>
<td>6.3.1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>ja_r_fa_02</td>
<td>Crocodile habitat</td>
<td>Jardine</td>
<td></td>
<td>y</td>
<td></td>
<td></td>
<td>Important breeding area for estuarine crocodile (<em>Crocodylus porosus</em>) (Krieger 1990; Abrahams et al. 1995; Read 1998, 2001). Also implemented as BPA decision(s): cyp_fa_07</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;27&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM&lt;sup&gt;28&lt;/sup&gt;</td>
<td>Con. rating&lt;sup&gt;29&lt;/sup&gt;</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----------------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>----------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>ja_r_fa_03</td>
<td>Turtle nesting—west coast. Olive ridleys and flatback</td>
<td>Jardine</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Significant locations for nesting by threatened sea turtle taxa, particularly flatback (<em>Natator depressus</em>), olive ridley (<em>Lepidochelys olivacea</em>) and hawksbill turtles (<em>Eretmochelys imbricata</em>) (GHD 2010). Across the Cape York, those study areas that are north of Weipa are assigned a conservation rating of 4 and those study areas south of Weipa (lower density) are assigned a conservation rating of 3. Also implemented as BPA decision(s): cyp_fa_02</td>
<td>6.3.1</td>
<td>4</td>
</tr>
</tbody>
</table>

<sup>27</sup>NR: Not Relevant

<sup>28</sup>CIM: Conservation Implementation Method

<sup>29</sup>Con. rating: Conservation Rating
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR²⁷</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM²⁸</th>
<th>Con. rating²⁹</th>
</tr>
</thead>
<tbody>
<tr>
<td>ja_r_fa_04</td>
<td>Fish habitat</td>
<td>Jardine</td>
<td>y</td>
<td></td>
<td></td>
<td>ES</td>
<td>Rich fish fauna including rare and uncommon species, with close affinities to Papua New Guinea (Abrahams et al. 1995; Herbert et al. 1995). Presence of restricted threatened turtle <em>Emydura subglobosa subglobosa</em>. Also implemented as BPA decision(s): cyp_fa_06 (a)</td>
<td></td>
<td>6.3.1</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;27&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM&lt;sup&gt;28&lt;/sup&gt;</td>
<td>Con. rating&lt;sup&gt;29&lt;/sup&gt;</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>-----------------</td>
<td>---</td>
<td>----</td>
<td>----------------------------------------------------------------------</td>
<td>----------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>je_nr_fa_01</td>
<td>Fish habitat</td>
<td></td>
<td>Jeannie</td>
<td>y</td>
<td></td>
<td></td>
<td>Sand-dune lakes between Shadd Point and Cooktown – unique fauna assemblages that vary across the lakes, including disjunct/relictual populations of certain fish taxa (Herbert et al. 1995). Also implemented as BPA decision(s): cyp_fa_06 (h)</td>
<td>6.3.1</td>
<td>4, 3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;27&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM&lt;sup&gt;28&lt;/sup&gt;</td>
<td>Con. rating&lt;sup&gt;29&lt;/sup&gt;</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>----------</td>
<td>------------</td>
<td>-----------------</td>
<td>---</td>
<td>----</td>
<td>-----------------------------------------------------------------------</td>
<td>-----------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>je_r_fa_01</td>
<td>Cape Melville streams</td>
<td></td>
<td>Jeannie</td>
<td></td>
<td>y</td>
<td></td>
<td>Perennial streams running off boulder fields, frogs, gobies and fish in lower reaches. Highly restricted, only in a few streams. Habitat for endemic and threatened Cape Melville frog (Cophixalus zweifeli).</td>
<td>6.3.1, 6.4.1</td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>jj_nr_fa_02</td>
<td>Migratory wader and seabird roost, feeding and breeding area</td>
<td></td>
<td>Jacky Jacky</td>
<td>y</td>
<td></td>
<td></td>
<td>Significant roosting area for migratory waders (Driscoll 1995, 1996). Also implemented as BPA decision(s): cyp_fa_05</td>
<td>6.3.1</td>
<td>4</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR²⁷</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM²⁸</th>
<th>Con. rating²⁹</th>
</tr>
</thead>
<tbody>
<tr>
<td>jj_nr_fa_03</td>
<td>Fish habitat</td>
<td>Jacky Jacky</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Limited but distinct fish fauna in isolated dune lakes (Herbert et al. 1995). Also implemented as BPA decision(s): cyp_fa_06</td>
<td>6.3.1</td>
<td>3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR²⁷</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM²⁸</td>
<td>Con. rating⁹⁹</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>------</td>
<td>-------------</td>
</tr>
<tr>
<td>jj_r_fa_01</td>
<td>Crocodile habitat</td>
<td></td>
<td>Jacky Jacky</td>
<td></td>
<td>y</td>
<td></td>
<td>Important breeding area for estuarine crocodile (<em>Crocodylus porosus</em>) (Krieger 1990; Abrahams et al. 1995; Read 2001). Also implemented as BPA decision(s): cyp_fa_07</td>
<td>6.3.1</td>
<td>4</td>
</tr>
</tbody>
</table>
**Decision number** | **Special features (name)** | **Location** | **Study area** | **NR** | **R** | **ES** | **Values** | **CIM** | **Con. rating**
--- | --- | --- | --- | --- | --- | --- | --- | --- | ---
ji_r_fa_02 | Turtle nesting - West coast. Olive Ridleys and flatback | Jacky Jacky | y | | | | Significant locations for nesting by threatened sea turtle taxa, particularly hawksbill turtles (*Eretmochelys imbricata*) (Abrahams et al. 1995).
Across the Cape York, those study areas that are north of Weipa are assigned a conservation rating of 4 and those study areas south of Weipa (lower density) are assigned a conservation rating of 3.
Also implemented as BPA decision(s): cyp_fa_02 | 6.3.1 | 4
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR$^{27}$</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM$^{28}$</th>
<th>Con. rating$^{29}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>lo_nr_fa_03</td>
<td>Fish habitat</td>
<td>Lockhart</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Diverse fish fauna for relatively small catchment; southernmost distribution of Hephaestus carbo and Neosilurus brevidorsalis (Herbert et al. 1995). Also local population of Macrobrachium rosenbergii unusually large. Also implemented as BPA decision(s): cyp_fa_06 (e)</td>
<td>6.3.1</td>
<td>3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR27</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM28</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>----------</td>
<td>------------</td>
<td>------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td>io_r_fa_01</td>
<td>Crocodile habitat</td>
<td></td>
<td>Lockhart</td>
<td></td>
<td></td>
<td>y</td>
<td>Important breeding area for estuarine crocodile (<em>Crocodylus porosus</em>) (Krieger 1990; Abrahams et al. 1995; Read 2001). Also implemented as BPA decision(s): cyp_fa_07</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------------------------------</td>
<td>-------------------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>------------------------------------------------------------------------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>lo_r_fa_02</td>
<td>McIlwraith and Iron Ranges</td>
<td></td>
<td>Lockhart</td>
<td></td>
<td>y</td>
<td></td>
<td>High endemism and richness of frog species.</td>
<td></td>
<td>6.3.1 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Also implemented as BPA decision(s): cyp_l_17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>lo_r_fa_03</td>
<td>Fish habitat</td>
<td></td>
<td>Lockhart</td>
<td>y</td>
<td></td>
<td></td>
<td>Diverse fish fauna for relatively small catchment; southernmost distribution of <em>Hephaestus carbo</em> and <em>Neosilurus brevidorsalis</em> (Herbert et al. 1995). Also local population of <em>Macrobrachium rosenbergii</em> unusually large. Also implemented as BPA decision(s): cyp_fa_06 (e)</td>
<td>6.3.1</td>
<td>3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>mw_nr_fa_01</td>
<td>Important Bird Areas (IBA)</td>
<td>Mitchell West</td>
<td>y</td>
<td>Part of the Gulf Plains Important Bird Area. Large breeding population of sarus crane (Grus antigone) and brolga (G. rubicunda), and supports large numbers of migratory waders, e.g. black-tailed godwit (Limosa limosa), great knot (Calidris tenuirostris) little curlew (Numenius minutus) and eastern curlew (N. madagascariensis) (Dutson et al. 2009). Related to BPA decision(s): cyp_fa_05, cyp_l_07 and gup_l_03</td>
<td>6.3.1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR27</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM28</td>
<td>Con. rating29</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>------</td>
<td>---</td>
<td>---</td>
<td>--------</td>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>mw_nr_fa_02</td>
<td>Migratory wader and waterbird roost, feeding and breeding area</td>
<td>Mitchell West</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Significant roost sites for waders (Driscoll 1995). Part of the Gulf Plains Important Bird Area. Large breeding population of sarus crane (Grus antigone) and brolga (G. rubicunda), and supports large numbers of migratory waders, e.g. black-tailed godwit (Limosa limosa), great knot (Calidris tenuirostris) little curlew (Numenius minutus) and eastern curlew (N. madagascariensis) (Dutson et al. 2009). Also implemented as BPA decision(s): cyp_fa_05, cyp_l_07 and gup_l_03</td>
<td>5.1.4, 6.3.1</td>
<td>3, 3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR(^27)</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM(^28)</td>
<td>Con. rating(^9)</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----------</td>
<td>--------------</td>
</tr>
<tr>
<td>mw_r_fa_01</td>
<td>Turtle nesting - West coast. Olive Ridleys and flatback</td>
<td>Mitchell West</td>
<td>y</td>
<td>Significant locations for nesting by threatened sea turtle taxa, particularly flatback (<em>Natator depressus</em>), olive ridley (<em>Lepidochelys olivacea</em>) and hawksbill turtles (<em>Eretmochelys imbricata</em>) (GHD 2010). Across the Cape York, those study areas that are north of Weipa are assigned a conservation rating of 4 and those study areas south of Weipa (lower density) are assigned a conservation rating of 3. Also implemented as BPA decision(s): cyp_fa_02</td>
<td>6.3.1</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;27&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM&lt;sup&gt;28&lt;/sup&gt;</td>
<td>Con. rating&lt;sup&gt;29&lt;/sup&gt;</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----------------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>---------------</td>
<td>------------------</td>
</tr>
<tr>
<td>nb_nr_fa_02</td>
<td>Waterbird roost, feeding and breeding areas</td>
<td>Normanby</td>
<td>Normanby</td>
<td>y</td>
<td></td>
<td></td>
<td>Important area for waterbirds (both numbers and species diversity) using diverse wetland habitats (Driscoll 1995, 2001). Also implemented as BPA decision(s): cyp_fa_05</td>
<td>5.1.4, 6.3.1</td>
<td>3, 3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>nb_r_fa_01</td>
<td>Crocodile habitat</td>
<td></td>
<td>Normanby</td>
<td>y</td>
<td></td>
<td></td>
<td>Major feeding area for estuarine crocodile (<em>Crocodylus porosus</em>) (Abrahams et al. 1995). Also implemented as BPA decision(s): cyp_fa_07</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;27&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM&lt;sup&gt;28&lt;/sup&gt;</td>
<td>Con. rating&lt;sup&gt;29&lt;/sup&gt;</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>-----------</td>
<td>-----------------</td>
<td>---</td>
<td>----</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------</td>
<td>------------------</td>
</tr>
<tr>
<td>op_nr_fa_02</td>
<td>Fish habitat</td>
<td></td>
<td>Olive-Pascoe</td>
<td>y</td>
<td></td>
<td></td>
<td>Diverse fish fauna for relatively small catchment; southernmost limit of Jardinean fish fauna (Herbert et al. 1995). Also implemented as BPA decision(s): cyp_fa_06 (d)</td>
<td>6.3.1</td>
<td>3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------------------------</td>
<td>-----------------------------------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>------------------------------------------------------------------------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>op_r_fa_01</td>
<td>McIlwraith and Iron Ranges</td>
<td>Olive-Pascoe</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>High endemism and richness of frog species.</td>
<td>6.3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Also implemented as BPA decision(s): cyp_i_17</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>op_r_fa_02</td>
<td>Fish habitat</td>
<td></td>
<td>Olive-Pascoe</td>
<td>y</td>
<td></td>
<td></td>
<td>Diverse fish fauna for relatively small catchment; southernmost limit of Jardinean fish fauna (Herbert et al. 1995). Also implemented as BPA decision(s): cyp_fa_06 (d)</td>
<td></td>
<td>6.3.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>swNrFa_02</td>
<td>Fish habitat</td>
<td>Stewart</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Disjunct populations of fish species (<em>Pseudomugil tenellus</em> and <em>Porochilus rendahli</em>) in dune lakes (Herbert et al. 1995). Also implemented as BPA decision(s): cyp_fa_06 (g)</td>
<td>6.3.1</td>
<td>3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR27</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM28</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td>sw_r_fa_01</td>
<td>McIlwraith and Iron Ranges</td>
<td></td>
<td>Stewart</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6.3.1</td>
<td>4</td>
</tr>
</tbody>
</table>

High endemism and richness of frog species. Also implemented as BPA decision(s): cyp_l_17
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM</th>
<th>Con. rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>we_nr_fa_03</td>
<td>Fish habitat</td>
<td></td>
<td>Wenlock</td>
<td>y</td>
<td></td>
<td></td>
<td>Richest known freshwater fish fauna in Australia, including presence of threatened taxa (Abrahams et al. 1995; Herbert et al. 1995). Also implemented as BPA decision(s): cyp_fa_06 (b)</td>
<td></td>
<td>6.3.1</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR²⁷</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM²⁸</td>
<td>Con. rating³⁹</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>-------------------</td>
<td>------------</td>
<td>------</td>
<td>---</td>
<td>----</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------</td>
<td>--------------</td>
</tr>
<tr>
<td>we_r_fa_01</td>
<td>Crocodile habitat</td>
<td>Wenlock</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Largest successful breeding area for estuarine crocodile (<em>Crocodylus porosus</em>) in Queensland (Krieger 1990; Abrahams et al. 1995; Read 1998, 2001). Also implemented as BPA decision(s): cyp_fa_07</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------------------------</td>
<td>---------------------------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------------------------------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>we_r_fa_02</td>
<td>McIlwraith and Iron Ranges</td>
<td></td>
<td>Wenlock</td>
<td>y</td>
<td></td>
<td></td>
<td>High endemism and richness of frog species. Also implemented as BPA decision(s): cyp_l_17</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>wt_r_fa_01</td>
<td>Turtle nesting - West coast. Olive Ridleys and flatback</td>
<td>Watson</td>
<td>y</td>
<td></td>
<td></td>
<td>Significant locations for nesting by threatened sea turtle taxa, particularly flatback (<em>Natator depressus</em>), olive ridley (<em>Lepidochelys olivacea</em>) and hawksbill turtles (<em>Eretmochelys imbricata</em>) (GHD 2010).</td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Across the Cape York, those study areas that are north of Weipa are assigned a conservation rating of 4 and those study areas south of Weipa (lower density) are assigned a conservation rating of 3.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Also implemented as BPA decision(s): cyp_fa_02</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5 Ecology

5.1 Special Features

The panel identified several non-riverine and riverine special features in the Cape York region (Table 19). These were identified for their ecological values. Some special features nominated by either the aquatic flora and/or the aquatic fauna expert panels that were considered to have additional values (e.g. geomorphological or hydrological) were implemented as wetland ecology special features instead.

Each spatial unit that intersected with a particular ecosystem or feature in Table 19 was given a score equal to the conservation rating.

Decisions are listed alphabetically by catchment. These features were intersected with the spatial units to identify the values for ‘Criterion 5 Priority species’ and ecosystems and ‘Criterion 6 Special features’. All implemented special features were given a conservation rating of between one and four as assigned by the panel. Decisions that were not able to be implemented due to a lack of readily available data or unconfirmed values are indicated with ‘_not_implemented’ in the decision implementation number column. Decisions that have ‘to be implemented’ in the Implementation column are in the process of being implemented assuming available and suitable data and time. Where a single decision crosses a number of study areas, the decision has been duplicated for each study area. Decisions sorted by Study Area.
Table 19: Identified ecology special features and their values

Table sorted by decision number which equates to alphabetically by study area then non-riverine/riverine.

<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM</th>
<th>Con. rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>ar_nr_ec_03</td>
<td>West coast dune fields on Quaternary surfaces</td>
<td>Archer</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Dunefield rise—prograding dune systems, associated vine scrubs and trapped wetlands. Bird rookeries. Also implemented as BPA decision(s): cyp_l_07</td>
<td>6.1.1, 6.3.1</td>
<td>4, 4</td>
</tr>
</tbody>
</table>

---

30 Assessment type (NR – non-riverine, R – riverine, ES – estuary)
31 Number refers to the values from the generic CIM list in Table 21.
32 4 is the highest value.
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM</th>
<th>Con. rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>ar_nr_ec_04</td>
<td>Batavia sinkholes</td>
<td>Archer</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>Rare and restricted habitat mostly confined to this locality.</td>
<td>6.2.1</td>
<td>3</td>
</tr>
</tbody>
</table>

A dense low tree/tall shrub layer (5-8m tall) is dominant and forms a fairly continuous, dense canopy. This layer is composed of a variety of semi-deciduous species with no species showing clear dominance. *Melaleuca clarksonii* (hard-barked teatree) and *M. saligna* (a paperbark) are frequent emergent trees (12-15m tall). A sparse low shrub layer (1-2m tall) is present. The ground layer is very sparse. Occurs in sinkholes. (Broad Vegetation Group (1M): 7b). Endemic *Melaleuca clarksonii* and rich frog fauna.

Also implemented as BPA decision(s): cyp.1.1.15
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>ar_r_ec_01</td>
<td>Spring-fed riverine wetlands</td>
<td>Archer</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>y</td>
<td>Spring-fed riverine wetlands, some of which are on the edges of Tertiary surfaces support plant species of conservation significance, regional ecosystems of conservation significance and ecological function. Ecological functions include refugial areas, critical habitat for plants and key resources for birds, frogs and reptiles (Wannan 2007; Covacevich 2010).</td>
</tr>
</tbody>
</table>

CIM: 4, 4
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM</th>
<th>Con. rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>ar_r_ec_02</td>
<td>Archer wetlands</td>
<td>Archer</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Contains some of the best quality wetlands in western Cape York, supports abundant wetland fauna (breeding, roosting and dry season refugia), and has several major wader roosts (Abrahams et al. 1995).</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;30&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM&lt;sup&gt;31&lt;/sup&gt;</td>
<td>Con. rating&lt;sup&gt;32&lt;/sup&gt;</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>-----------------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>----------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>ar_r_ec_03</td>
<td>Mangroves</td>
<td>Archer</td>
<td></td>
<td></td>
<td></td>
<td>y</td>
<td>Significant marine vegetation - high species diversity (30 spp.). Important ecological role (e.g., fish nursery areas) that supports local and off-shore fisheries (Abrahams et al. 1995). Also implemented as BPA decision(s): cyp_fl_08</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>cl_nr_ec_02</td>
<td>West coast dune fields on Quaternary surfaces</td>
<td>Coleman</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Dunefield rise – prograding dune systems, associated vine scrubs and trapped wetlands. Bird rookeries. Also implemented as BPA decision(s): cyp_l_07</td>
<td>6.1.1, 6.3.1</td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>cl_nr_ec_03</td>
<td>Perched lakes on Tertiary surface</td>
<td>Coleman</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Important refuge for a range of wetland species. Also implemented as BPA decision(s): cyp_l_06</td>
<td>6.1.1, 6.3.1</td>
<td>3, 3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>cl_r_ec_01</td>
<td>Mangroves</td>
<td>Coleman</td>
<td></td>
<td>y</td>
<td></td>
<td></td>
<td>Significant marine vegetation - high species diversity (30 spp.). Important ecological role (eg fish nursery areas) that supports local and off-shore fisheries (Abrahams et al. 1995). Also implemented as BPA decision(s): cyp_fl_08</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR(^{30})</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM(^{31})</td>
<td>Con. rating(^{32})</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>-------------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>------------</td>
<td>----------------</td>
</tr>
<tr>
<td>du_nr_ec_01</td>
<td>Springs</td>
<td>Ducie</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Springs are ground water influenced ecosystems that provide habitat refugial values for wildlife and often contain threatened species. Also implemented as BPA decision(s): cyp.l_09 and cyp.l_16</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;30&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM&lt;sup&gt;31&lt;/sup&gt;</td>
<td>Con. rating&lt;sup&gt;32&lt;/sup&gt;</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>-----------------</td>
<td>------------</td>
<td>-----------------</td>
<td>---</td>
<td>----</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>du_nr_ec_02</td>
<td>Bramwell</td>
<td>Ducie</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Good example of ecosystem mosaic of swamps, <em>Eucalyptus tetrodonta</em> woodland and vine thickets on remnant Tertiary surface with deep red earths. Presence of threatened species. Also implemented as BPA decision(s): cyp_1_13</td>
<td>6.2.1</td>
<td>3</td>
</tr>
</tbody>
</table>

109
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM</th>
<th>Con. rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>du_nr_ec_04</td>
<td>Springs</td>
<td>Ducie</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Springs are ground water influenced ecosystems that provide habitat refugial values for wildlife and often contain threatened species. Also implemented as BPA decision(s): cyp_l_09 and cyp_l_16</td>
<td>6.3.1</td>
<td>3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>du_nr_ec_05</td>
<td>West coast dunefields on Quaternary surfaces</td>
<td>Ducie</td>
<td>Rose</td>
<td>y</td>
<td></td>
<td></td>
<td>Dunefield rise – prograding dune systems, associated vine scrubs and trapped wetlands. Bird rookeries. Also implemented as BPA decision(s): cyp.l.07</td>
<td>6.1.1, 6.3.1</td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>du_r_ec_01</td>
<td>Intertidal area of Port Musgrave</td>
<td>Ducie</td>
<td></td>
<td>y</td>
<td></td>
<td></td>
<td>Related to decision &quot;du_r_ec_03 - Mangroves&quot; but exhibits a significant large well developed area of very high productivity, excellent example of shallow estuary showing delta development and supports a large population of estuarine crocodile (<em>Crocodylus porosus</em>) in Queensland (Abrahams et al. 1995). Also implemented as BPA decision(s): cyp_l_27</td>
<td>6.3.1, 6.4.2, 6.1.1</td>
<td>4, 4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR$^{30}$</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM$^{31}$</td>
<td>Con. rating$^{32}$</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>-----------</td>
<td>---</td>
<td>----</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------</td>
<td>------------------</td>
</tr>
<tr>
<td>du_r_ec_02</td>
<td>Spring-fed riverine wetlands</td>
<td>Ducie</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Plant species of conservation significance. Regional ecosystems of conservation significance. Ecological function including refugial areas, critical habitat for plants and key resources for birds, frogs and reptiles (Wannan 2007, Covacevich 2010).</td>
<td>6.3.1, 6.4.1</td>
<td>3, 3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>du_r_ec_03</td>
<td>Mangroves</td>
<td>Ducie</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>y</td>
<td></td>
<td>6.3.1 4</td>
</tr>
</tbody>
</table>

- Significant marine vegetation—high species diversity (30 spp.). Important ecological role (eg fish nursery areas) that supports local and off-shore fisheries (Abrahams et al. 1995).
- Also implemented as BPA decision(s): cyp_fl_08
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM</th>
<th>Con. rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>em_nr_ec_01</td>
<td>Perched lakes on Tertiary surfaces between Mapoon and Weipa</td>
<td>Embley</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Large complex. Perched lacustrine systems, spring-fed river. Refuge in dry system.</td>
<td>6.4.1</td>
<td>3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>em_nr_ec_02</td>
<td>West coast dunefields on Quaternary surfaces</td>
<td>Embley</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Dunefield rise—prograding dune systems, associated vine scrubs and trapped wetlands. Bird rookeries. Threatened species. Also implemented as BPA decision(s): cyp._07</td>
<td>6.1.1, 6.3.1</td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR $^{30}$</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM $^{31}$</td>
<td>Con. rating $^{32}$</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>------------</td>
<td>---</td>
<td>----</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------</td>
<td>-------------</td>
</tr>
<tr>
<td>em_nr_ec_03</td>
<td>Mapoon and Weipa dune complexes</td>
<td>Embley</td>
<td>y</td>
<td></td>
<td></td>
<td>4</td>
<td>Mapoon has unique ecosystem complexity of beach, dunes, vine thickets, spectacular swamps (drainage runs parallel to coast), melaleuca forests and hardwood forests. This habitat complexity is in a small area and is home to huge number of birdlife. In places the ecosystems are quite narrow. The entire system needs to be recognised as a single entity. Similar complex at Aurukun (decisions &quot;em_nr_ec_04&quot; and &quot;wt_nr_ec_02&quot;) of lower significance. Also implemented as BPA decision(s): cyp_l_36</td>
<td>6.2.1, 6.1.1</td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>----------------------------------------</td>
<td>-------------------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>em_nr_ec_04</td>
<td>Aurukun dune complexes</td>
<td>Embley</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Unique ecosystem complexity of beach, dunes, vine thickets, spectacular swamps (drainage runs parallel to coast), melaleuca forests and hardwood forests. This habitat complexity is in a small area and is home to huge number of birdlife. In places the ecosystems are quite narrow. The entire system needs to be recognised as a single entity. Similar complex in Mapoon/Weipa region (decisions &quot;em_nr_ec_03&quot; and &quot;we_nr_ec_06&quot;) of higher significance. Also implemented as BPA decision(s): cyp_l_36</td>
<td>6.2.1, 6.1.1</td>
<td>3, 3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>-------------------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>em_nr_ec_05</td>
<td>Batavia sinkholes</td>
<td>Embley</td>
<td>y</td>
<td>y</td>
<td></td>
<td></td>
<td>Rare and restricted habitat mostly confined to this locality. A dense low tree/tall shrub layer (5-8m tall) is dominant and forms a fairly continuous, dense canopy. This layer is composed of a variety of semi-deciduous species with no species showing clear dominance. <em>Melaleuca clarksonii</em> (hard-barked teatree) and <em>M. saligna</em> (a paperbark) are frequent emergent trees (12-15m tall). A sparse low shrub layer (1-2m tall) is present. The ground layer is very sparse. Occurs in sinkholes. (Broad Vegetation Group (1M): 7b). Endemic <em>Melaleuca clarksonii</em> and rich frog fauna. Also implemented as BPA decision(s): cyp_l_15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>em_r_ec_01</td>
<td>Spring-fed riverine wetlands</td>
<td>Embley</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Plant species of conservation significance. Regional ecosystems of conservation significance. Ecological function including refugial areas, critical habitat for plants and key resources for birds, frogs and reptiles (Wannan 2007, Covacevich 2010).</td>
<td></td>
<td>3, 3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>------------------------------------------------------------------------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>em_r_ec_02</td>
<td>Mangroves</td>
<td>Embley</td>
<td></td>
<td>y</td>
<td></td>
<td></td>
<td>Significant marine vegetation—high species diversity (30 spp.). Important ecological role (e.g., fish nursery areas) that supports local and off-shore fisheries (Abrahams et al. 1995). Also implemented as BPA decision(s): cyp_fl_08</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>en_nr_ec_01</td>
<td>East coast dune fields on Holocene surfaces</td>
<td>Endeavour</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6.1.1, 6.3.1</td>
<td>4, 3</td>
</tr>
</tbody>
</table>

Dunefield rise—prograding dune systems, associated vine scrubs and trapped wetlands. Threatened species.

Also implemented as BPA decision(s): cyp_l_07 and cyp_fa_06 (h)
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM</th>
<th>Con. rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>en_r_ec_01</td>
<td>Endeavour Loop</td>
<td>Endeavour</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Very tall mangroves, species associations with relatively rich frog fauna, presence of threatened taxa—estuarine crocodile (<em>Crocodylus porosus</em>), black-necked stork (<em>Ephippiorhynchus asiaticus</em>), eastern curlew (<em>Numenius madagascariensis</em>) and beach stone-curlew (<em>Esacus neglectus</em>) (Bunt et al. 1991; Abrahams et al. 1995; Hines and McDonald 2007). Also implemented as BPA decision(s): cyp_fl_08</td>
<td>6.3.1</td>
<td>4</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM</th>
<th>Con. rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>en_r_ec_02</td>
<td>Spring-fed riverine wetlands</td>
<td>Endeavour</td>
<td>y</td>
<td></td>
<td></td>
<td>Plant species of conservation significance. Regional ecosystems of conservation significance. Ecological function including refugial areas, critical habitat for plants and key resources for birds, frogs and reptiles (Wannan 2007, Covacevich 2010).</td>
<td>6.3.1, 6.4.1</td>
<td>3, 3</td>
<td></td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>en_r_ec_03</td>
<td>Mangroves</td>
<td>Endeavour</td>
<td></td>
<td>y</td>
<td></td>
<td></td>
<td>Significant marine vegetation—high species diversity (30 spp.). Important ecological role (eg fish nursery areas) that supports local and off-shore fisheries (Abrahams et al. 1995). Also implemented as BPA decision(s): cyp_fl_08</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>ho_nr_ec_01</td>
<td>Perched lakes on Tertiary surface</td>
<td></td>
<td>Holroyd</td>
<td>y</td>
<td></td>
<td></td>
<td>Important refuge for a range of wetland species. Also implemented as BPA decision(s): cyp_l_06</td>
<td>6.1.1, 6.3.1</td>
<td>3, 3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>----------------------------------------------------------------------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>ho_nr_ec_02</td>
<td>Springs</td>
<td>Holroyd</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Springs are ground water influenced ecosystems that provide habitat refugial values for wildlife and often contain threatened species. Also implemented as BPA decision(s): cyp_l_09, cyp_l_16 and cyp_l_37</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;30&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM&lt;sup&gt;31&lt;/sup&gt;</td>
<td>Con. rating&lt;sup&gt;32&lt;/sup&gt;</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>------------------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>----------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>ho_nr_ec_0 3</td>
<td>West coast dunefields on Quaternary surfaces</td>
<td>Holroyd</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6.1.1, 6.3.1</td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>-----------------------------------------------------------------------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>ho_r_ec_01</td>
<td>Spring-fed riverine wetlands</td>
<td>Holroyd</td>
<td></td>
<td></td>
<td></td>
<td>y</td>
<td>Plant species of conservation significance. Regional ecosystems of conservation significance. Ecological function including refugial areas, critical habitat for plants and key resources for birds, frogs and reptiles (Wannan 2007, Covacevich 2010).</td>
<td>6.3.1, 6.4.1</td>
<td>3, 3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR²⁰</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM³¹</td>
<td>Con. rating³²</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>------</td>
<td>-------------</td>
</tr>
<tr>
<td>ho_r_ec_02</td>
<td>Mangroves</td>
<td>Holroyd</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Significant marine vegetation—high species diversity (30 spp.). Important ecological role (e.g., fish nursery areas) that supports local and off-shore fisheries (Abrahams et al. 1995). Also implemented as BPA decision(s): cyp_fl_08</td>
<td></td>
<td>6.3.1</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR²⁰</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM²¹</td>
<td>Con. rating²²</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------------------</td>
<td>----------------------------------</td>
<td>------------</td>
<td>------</td>
<td>---</td>
<td>---</td>
<td>----------------------------------------------------------------------</td>
<td>-------</td>
<td>---------------</td>
</tr>
<tr>
<td>ic_nr_ec_01</td>
<td>West coast dunefields on Quaternary surfaces</td>
<td>Islands</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Dunefield rise—prograding dune systems, associated vine scrubs and trapped wetlands. Bird rookeries. Also implemented as BPA decision(s): cyp_l_07</td>
<td></td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;30&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM&lt;sup&gt;31&lt;/sup&gt;</td>
<td>Con. rating&lt;sup&gt;32&lt;/sup&gt;</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------------------------------</td>
<td>---------------------------</td>
<td>------------</td>
<td>-----------------</td>
<td>---</td>
<td>----</td>
<td>----------------------------------------------------------------------</td>
<td>----------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>ic_nr_ec_02</td>
<td>East coast dune fields on Holocene surfaces</td>
<td>Islands</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Dune field rise—prograding dune systems, associated vine scrub and trapped wetlands. Also implemented as BPA decision(s): cyp_l_07</td>
<td>6.1.1, 6.3.1</td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>----------------------------------------------------</td>
<td>-------------------------------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>ic_nr_ec_03</td>
<td>Torres Strait Island non-riverine wetlands</td>
<td>Islands</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Non-riverine wetland communities of Boigu, Saibai, Badu and Moa Islands include regional ecosystems (REs) such as 3.1.7 (Schoenoplectus spp. sedgelands), 3.3.66, 3.10.20 and others that provide habitat for threatened species, exhibit distinct and unique geomorphic features and in some cases exhibit distinctive estuarine connection. Some of these REs also provide habitat for waterbirds. Also implemented as BPA decision(s): cyp_fl_20 and cyp_fl_21</td>
<td>6.1.1, 6.3.1, 6.4.1</td>
<td>4, 4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>ic_r_ec_01</td>
<td>Mangroves</td>
<td>Islands</td>
<td></td>
<td>y</td>
<td></td>
<td></td>
<td>Significant marine vegetation—high species diversity (30 spp.). Important ecological role (e.g., fish nursery areas) that supports local and off-shore fisheries (Abrahams et al. 1995). Also implemented as BPA decision(s): cyp_fl_08</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>-------------------------------------------------------------------------------------------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>ja_nr_ec_01</td>
<td>Jardine Wetland complex</td>
<td></td>
<td>Jardine</td>
<td>y</td>
<td></td>
<td></td>
<td>High diversity of freshwater fish and known breeding area for estuarine crocodile (Crocodylus porosus). Indicative of former connectivity with Papua New Guinea. Heath and sedges. Geomorphologically unique and river system in near natural condition (Abrahams et al. 1995). Also implemented as BPA decision(s): cyp_l_08, cyp_fa_06 (a), and cyp_fa_07</td>
<td>6.1.1, 6.3.1</td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>ja_nr_ec_02</td>
<td>Springs</td>
<td>Jardine</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Springs are ground water influenced ecosystems that provide habitat refugial values for wildlife and often contain threatened species. Also implemented as BPA decision(s): cyp_l_09 and cyp_l_16</td>
<td>6.3.1</td>
<td>4</td>
</tr>
</tbody>
</table>

136
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR²⁰</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM³¹</th>
<th>Con. rating³²</th>
</tr>
</thead>
<tbody>
<tr>
<td>ja_nr_ec_03</td>
<td>Springs</td>
<td>Jardine</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Springs are ground water influenced ecosystems that provide habitat refugial values for wildlife and often contain threatened species. Also implemented as BPA decision(s): cyp_1_09 and cyp_1_16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>ja_nr_ec_04</td>
<td>West coast dune fields on Quaternary surfaces</td>
<td>Jardine</td>
<td>y</td>
<td></td>
<td>6.1.1, 6.3.1</td>
<td>4, 4</td>
<td>Dunefield rise—prograding dune systems, associated vine scrubs and trapped wetlands. Bird rookeries. Threatened species. Also implemented as BPA decision(s): cyp_l_07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR $^{30}$</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM $^{31}$</td>
<td>Con. rating$^{32}$</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>----------</td>
<td>------------</td>
<td>------------</td>
<td>---</td>
<td>---</td>
<td>--------</td>
<td>------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>ja_r_ec_01</td>
<td>Spring-fed riverine wetlands</td>
<td></td>
<td>Jardine</td>
<td>y</td>
<td></td>
<td></td>
<td>Spring-fed riverine wetlands, some of which are on the edges of Tertiary surfaces support plant species of conservation significance, regional ecosystems of conservation significance and ecological function. Ecological functions include refugial areas, critical habitat for plants and key resources for birds, frogs and reptiles (Wannan 2007, Covacevich 2010).</td>
<td>6.3.1, 6.4.1</td>
<td>3, 3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>ja_r_ec_02</td>
<td>Jardine River Catchment</td>
<td>Jardine</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Catchment with biotic links to Papua New Guinea, unique sandstone lithology, high diversity of water-dependent habitat types, and mostly undisturbed. Long-term refugia with high levels of endemism among aquatic fauna, and known breeding area for estuarine crocodile (<em>Crocodylus porosus</em>) (Cook et al. 2011). Also implemented as BPA decision(s): cyp_l_08</td>
<td>6.2.1</td>
<td>3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;30&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM&lt;sup&gt;31&lt;/sup&gt;</td>
<td>Con. rating&lt;sup&gt;32&lt;/sup&gt;</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>-----------------</td>
<td>---</td>
<td>----</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>ja_r_ec_03</td>
<td>Mangroves</td>
<td>Jardine</td>
<td></td>
<td></td>
<td>y</td>
<td></td>
<td>Significant marine vegetation—high species diversity (30 spp.). Important ecological role (eg fish nursery areas) that supports local and off-shore fisheries (Abrahams et al. 1995). Also implemented as BPA decision(s): cyp_fl_08</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>je_nr_ec_01</td>
<td>Cape Flattery and Cape Bedford dune systems</td>
<td>Jeannie</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Wetlands within quaternary dunefields. Dune lakes contain unique fauna assemblages, occasionally estuarine crocodiles (<em>Crocodylus porosus</em>) (Abrahams et al. 1995). Also implemented as BPA decision(s): cyp_fa_06 (h) and cyp__07 and cyp__29</td>
<td>6.1.1, 6.3.1</td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------------------</td>
<td>-------------------------------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>je_nr_ec_02</td>
<td>East coast dunefields on Holocene surfaces</td>
<td>Jeannie</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Dunefield rise—prograding dune systems, associated vine scrubs and trapped wetlands. Threatened species. Also implemented as BPA decision(s): cyp_l_07 and cyp_fa_06 (h)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6.1.1, 6.3.1</td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;30&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM&lt;sup&gt;31&lt;/sup&gt;</td>
<td>Con. rating&lt;sup&gt;32&lt;/sup&gt;</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----------------</td>
<td>---</td>
<td>----</td>
<td>----------------------------------------------------------------------</td>
<td>----------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>je_r_ec_01</td>
<td>Spring-fed riverine wetlands</td>
<td>Jeannie</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Spring-fed riverine wetlands, some of which are on the edges of tertiary surfaces support plant species of conservation significance, regional ecosystems of conservation significance and ecological function. Ecological functions include refugial areas, critical habitat for plants and key resources for birds, frogs and reptiles (Wannan 2007, Covacevich 2010).</td>
<td>6.3.1, 6.4.1</td>
<td>3, 3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR$^{30}$</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM$^{31}$</td>
<td>Con. rating$^{32}$</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>-------------------</td>
<td>------------</td>
<td>-----------</td>
<td>---</td>
<td>---</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>je_r_ec_02</td>
<td>Mangroves</td>
<td>Jeannie</td>
<td></td>
<td></td>
<td>y</td>
<td></td>
<td>Significant marine vegetation—high species diversity (30 spp.). Important ecological role (e.g. fish nursery areas) that supports local and offshore fisheries (Abrahams et al. 1995). Also implemented as BPA decision(s): cyp_fl_08</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>jj_nr_ec_01</td>
<td>Lakes within Quaternary dunefields</td>
<td>Jacky Jacky</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Rare perched lakes on a white sand dune system. Contains a high diversity of hydrosystem types. Relictual populations of freshwater fish often in unique assemblages (Cook et al. 2011). High species richness with many threatened species. Rainforest and heathlands. Also implemented as BPA decision(s): part of cyp_l_07 and cyp_fa_06 (h)</td>
<td>6.3.1, 6.4.1</td>
<td>3, 3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>jj_nr_ec_02</td>
<td>Northern Lakes</td>
<td>Jacky</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Perched lake complex. Perennial waterbodies, species diversity, and wetland plants only found in these lakes. Richness and diversity. Endemic earthworms.</td>
<td>6.1.1, 6.3.1</td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR R</td>
<td>ES</td>
<td>Values</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>-------------------</td>
<td>------------</td>
<td>------</td>
<td>----</td>
<td>----------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>jj_nr_ec_03</td>
<td>Springs</td>
<td>Jacky</td>
<td>y</td>
<td></td>
<td></td>
<td>Springs are ground water influenced ecosystems that provide habitat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>refugial values for wildlife and often contain threatened species.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Also implemented as BPA decision(s): cyp.l_09 and cyp.l_16</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.3.1 4
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM</th>
<th>Con. rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>jj_nr_ec_04</td>
<td>East coast dune fields on Holocene surfaces</td>
<td>Jacky Jacky</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Dunefield rise—prograding dune systems, associated vine scrubs and trapped wetlands. Bird rookeries. Threatened species. Also implemented as BPA decision(s): cyp_l_07 and cyp_fa_06 (h)</td>
<td>6.1.1, 6.3.1</td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR°</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM°</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>----------</td>
<td>------------</td>
<td>-----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>------</td>
<td>-------------</td>
</tr>
<tr>
<td>jj_nr_ec_05</td>
<td>Jardine Wetland complex</td>
<td></td>
<td>Jacky</td>
<td></td>
<td>y</td>
<td></td>
<td>High diversity of freshwater fish and known breeding area for estuarine crocodile (<em>Crocodylus porosus</em>). Indicative of former connectivity with Papua New Guinea. Heath and sedges. Geomorphologically unique and river system in near natural condition (Abrahams et al. 1995). Also implemented as BPA decision(s): cyp_l_08 and cyp_fa_06 (a)</td>
<td>6.1.1, 6.3.1</td>
<td>4, 4</td>
</tr>
</tbody>
</table>

150
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR&lt;sup&gt;30&lt;/sup&gt;</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM&lt;sup&gt;31&lt;/sup&gt;</th>
<th>Con. rating&lt;sup&gt;32&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>jj_r_ec_01</td>
<td>Intertidal area of Escape</td>
<td>Jacky</td>
<td></td>
<td></td>
<td></td>
<td>y</td>
<td>Related to decision ‘du_r_ec_03 – Mangroves’ but exemplifies a significant, highly productive, extensive and diverse estuarine area. Supports a large population of estuarine crocodile (<em>Crocodylus porosus</em>) in Queensland (Abrahams et al. 1995).</td>
<td>6.3.1, 6.4.2</td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;30&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM&lt;sup&gt;31&lt;/sup&gt;</td>
<td>Con. rating&lt;sup&gt;32&lt;/sup&gt;</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>----------</td>
<td>------------</td>
<td>-----------------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>---------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>jj_r_ec_02</td>
<td>Spring-fed riverine wetlands</td>
<td>Jacky Jacky</td>
<td>y</td>
<td>Spring-fed riverine wetlands, some of which are on the edges of tertiary surfaces, supports plant species of conservation significance, regional ecosystems of conservation significance and ecological function. Ecological functions include refugial areas, critical habitat for plants and key resources for birds, frogs and reptiles (Wannan 2007, Covacevich 2010).</td>
<td>6.3.1, 6.4.1</td>
<td>3, 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>---------------</td>
<td>----------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>----------------------------------------------------------------------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>jj_r_ec_03</td>
<td>Mangroves</td>
<td>Jacky Jacky</td>
<td></td>
<td>R</td>
<td></td>
<td></td>
<td>Significant marine vegetation—high species diversity (30 spp.). Important ecological role (e.g., fish nursery areas) that supports local and off-shore fisheries (Abrahams et al. 1995). Also implemented as BPA decision(s): cyp_fl_08</td>
<td></td>
<td>6.3.1</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;30&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>-----------------</td>
<td>---</td>
<td>----</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>lo_nr_ec_01</td>
<td>Three Quarter Mile Lake</td>
<td>Lockhart</td>
<td>y</td>
<td>6.2.1 3</td>
<td>3</td>
<td></td>
<td>Holocene palaeoclimate reference site and cultural story site. Additional values from Luly Grindrod and Penny 2006. Also area of special interest based in unique fish assemblage (Herbert et al. 1995). Also implemented as BPA decision(s): cyp_fa_06 (g)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM</th>
<th>Con. rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>lo_nr_ec_02</td>
<td>East coast dune fields on Holocene surfaces</td>
<td>Lockhart</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Dune field rise—prograding dune systems, associated vine scrubs and trapped wetlands. Threatened species. Also implemented as BPA decision(s): cyp_l_07 and cyp_fa_06 (h)</td>
<td></td>
<td>6.1.1, 6.3.1</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>lo_r Ec_01</td>
<td>Silver Plains and eastern fall of McIlwraith Range</td>
<td>Lockhart</td>
<td>y</td>
<td>High endemism, gallery forests, intact, low level of disturbance.</td>
<td>6.3.1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Map:**
- Lockhart
- Silver Plains
- Eastern fall of McIlwraith Range
- High endemism gallery forests, intact, low level of disturbance.
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM</th>
<th>Con. rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>lo_r_ec_02</td>
<td>Intertidal area of Lockhart</td>
<td>Lockhart</td>
<td></td>
<td></td>
<td></td>
<td>y</td>
<td>Related to decision 'du_r_ec_03 – Mangroves' but exemplifies a significant, highly productive, extensive and diverse estuarine area. Supports a large population of estuarine crocodile (<em>Crocodylus porosus</em>) in Queensland (Abrahams et al. 1995).</td>
<td>6.3.1, 6.4.2</td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR30</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM31</td>
<td>Con. rating32</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>------</td>
<td>-------------</td>
</tr>
<tr>
<td>lo_r_ec_03</td>
<td>Mangroves</td>
<td>Lockhart</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Significant marine vegetation—high species diversity (30 spp.). Important ecological role (e.g. fish nursery areas) that supports local and offshore fisheries (Abrahams et al. 1995). Also implemented as BPA decision(s): cyp_fl_08</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>--------------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>mw_nr_ec_01</td>
<td>Mitchell wetlands</td>
<td>Mitchell West</td>
<td>y</td>
<td>y</td>
<td>R</td>
<td>ES</td>
<td>High diversity, area, density and connectivity of wetland systems (lacustrine and palustrine), including high range of transparency/turbidity regimes, and important waterbird habitat, e.g. great-billed heron (<em>Ardea sumatrana</em>) (Cook et al. 2011). Also implemented as BPA decision(s): gup_l_03 and gup_l_05</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR⁰</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM¹¹</td>
<td>Con. rating¹²</td>
</tr>
<tr>
<td>-----------------------</td>
<td>------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>------------</td>
<td>-----</td>
<td>---</td>
<td>---</td>
<td>-------------------------------------------------------------------------</td>
<td>-------</td>
<td>--------------</td>
</tr>
<tr>
<td>mw_nr_ec_03</td>
<td>West coast dune fields on Quaternary surfaces</td>
<td>Mitchell West</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Dunefield rise—prograding dune systems, associated vine scrubs and trapped wetlands. Bird rookeries. Also implemented as BPA decision(s): cyp_l_07</td>
<td>6.1.1, 6.3.1</td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;30&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM&lt;sup&gt;31&lt;/sup&gt;</td>
<td>Con. rating&lt;sup&gt;32&lt;/sup&gt;</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----------------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>----------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>mw_nr_ec_04</td>
<td>Perched lakes on Tertiary surface</td>
<td>Mitchell West</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Important refuge for a range of wetland species. Also implemented as BPA decision(s): cyp.l.06</td>
<td>6.1.1, 6.3.1</td>
<td>3, 3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------------------------------------------------------------------------------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>mw_nr_ec_05</td>
<td>Crosbie Mud Springs</td>
<td>Mitchell West</td>
<td></td>
<td>y</td>
<td></td>
<td></td>
<td>No other springs like these on Cape York. Intermittent flow and area covers an aggregation of springs. Also implemented as BPA decision(s): cyp._l_37</td>
<td>6.3.1, 6.4.1</td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;30&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM&lt;sup&gt;31&lt;/sup&gt;</td>
<td>Con. rating&lt;sup&gt;32&lt;/sup&gt;</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>-----------------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>mw_r_ec_01</td>
<td>Spring-fed riverine wetlands</td>
<td>Mitchell West</td>
<td>y</td>
<td>Spring-fed riverine wetlands, some of which are on the edges of Tertiary surfaces support plant species of conservation significance, regional ecosystems of conservation significance and ecological function. Ecological functions include refugial areas, critical habitat for plants and key resources for birds, frogs and reptiles (Wannan 2007, Covacevich 2010).</td>
<td>6.3.1, 6.4.1</td>
<td>3, 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>-------------------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>mw_r_ec_02</td>
<td>Mangroves</td>
<td>Mitchell West</td>
<td></td>
<td></td>
<td></td>
<td>y</td>
<td>Significant marine vegetation—high species diversity (30spp.), Important ecological role (e.g. fish nursery areas) that supports local and off-shore fisheries (Abrahams et al. 1995). Also implemented as BPA decision(s): cyp_fl_08</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>nb_nr_ec_01</td>
<td>Dunefields on Holocene surfaces</td>
<td></td>
<td>Normanby</td>
<td>y</td>
<td></td>
<td></td>
<td>Dunefield rise—prograding dune systems, associated vine scrubs and trapped wetlands. Bird rookeries. Threatened species. Also implemented as BPA decision(s): cyp_l_07</td>
<td>6.1.1, 6.3.1</td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;30&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM&lt;sup&gt;31&lt;/sup&gt;</td>
<td>Con. rating&lt;sup&gt;32&lt;/sup&gt;</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----------------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>----------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>nb_r_ec_01</td>
<td>Spring-fed riverine wetlands</td>
<td>Normanby</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Spring-fed riverine wetlands, some of which are on the edges of Tertiary surfaces support plant species of conservation significance, regional ecosystems of conservation significance and ecological function. Ecological functions include refugial areas, critical habitat for plants and key resources for birds, frogs and reptiles (Wannan 2007, Covacevich 2010).</td>
<td>6.3.1, 6.4.1</td>
<td>3, 3</td>
</tr>
</tbody>
</table>

<sup>30</sup>NR: Not Recorded

<sup>31</sup>CIM: Conservation Importance Map

<sup>32</sup>Con. rating: Conservation Rating
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM</th>
<th>Con. rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>nb_r_ec_02</td>
<td>Mangroves</td>
<td>Normanby</td>
<td>y</td>
<td></td>
<td>y</td>
<td></td>
<td>Significant marine vegetation—high species diversity (30 spp.). Important ecological role (e.g. fish nursery areas) that supports local and offshore fisheries (Abrahams et al. 1995). Also implemented as BPA decision(s): cyp_fl_08</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>op_nr_ec_01</td>
<td>Lakes within Quaternary dunefields</td>
<td></td>
<td>Olive-Pascoe</td>
<td>y</td>
<td></td>
<td></td>
<td>Rare perched lakes on a white sand dune system. Contains a high diversity of hydrosystem types. Relictual populations of freshwater fish often in unique assemblages (Cook et al. 2011). High species richness with many threatened species. Rainforest and heathlands. Also implemented as BPA decision(s): part of cyp_l_07 and cyp_fa_06 (h)</td>
<td>6.3.1, 6.4.1</td>
<td>3, 3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;20&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM&lt;sup&gt;31&lt;/sup&gt;</td>
<td>Con. rating&lt;sup&gt;32&lt;/sup&gt;</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----------------</td>
<td>---</td>
<td>----</td>
<td>----------------------------------------------------------------------</td>
<td>-----------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>op_nr_ec_03</td>
<td>Springs</td>
<td></td>
<td>Olive-Pascoee</td>
<td>y</td>
<td></td>
<td></td>
<td>Springs are ground water influenced ecosystems that provide habitat refugial values for wildlife and often contain threatened species. Also implemented as BPA decision(s): cyp_l_09 and cyp_l_16</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>op_nr_ec_04</td>
<td>Bramwell</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Good example of ecosystem mosaic of swamps, <em>Eucalyptus tetrodonta</em> woodland and vine thickets on remnant Tertiary surface with deep red earths. Also implemented as BPA decision(s): cyp_l_13</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Olive-Pascoe</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CIM = 6.2.1  
Con. rating = 3
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR</th>
<th>R</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>op_nr_ec_05</td>
<td>East coast dune fields on Holocene surfaces</td>
<td></td>
<td>Olive-Pascoe</td>
<td>y</td>
<td></td>
<td>Dunefield rise—prograding dune systems, associated vine scrubs and trapped wetlands. Threatened species. Also implemented as BPA decision(s): cyp_l_07 and cyp_fa_06 (h)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td>6.1.1, 6.3.1</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
</tr>
<tr>
<td>op_r_ec_01</td>
<td>Intertidal area of Olive-Pascoe</td>
<td>Olive-Pascoe</td>
<td>y</td>
<td>Related to decision 'du_r_ec_03 – Mangroves' but exemplifies a significant, highly productive, extensive and diverse estuarine area. Supports a large population of estuarine crocodile (<em>Crocodylus porosus</em>) in Queensland (Abrahams et al. 1995).</td>
<td>6.3.1, 6.4.2</td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;30&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>-----------------</td>
<td>---</td>
<td>----</td>
</tr>
<tr>
<td>op_r_ec_02</td>
<td>Spring-fed riverine wetlands</td>
<td></td>
<td>Olive-Pascoe</td>
<td>y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR\textsuperscript{30}</td>
<td>R</td>
<td>ES</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----------------</td>
<td>---</td>
<td>----</td>
</tr>
<tr>
<td>op_r_ec_03</td>
<td>Olive River Catchment</td>
<td></td>
<td>Olive-Pascoe</td>
<td>y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;30&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>---------------</td>
<td>------------</td>
<td>------------------</td>
<td>---</td>
<td>----</td>
</tr>
<tr>
<td>op_r_ec_04</td>
<td>Mangroves</td>
<td>Olive-Pascoe</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>30</sup> NR: Near Threatened
<sup>31</sup> CIM: Critical Incidental Mitigation
<sup>32</sup> Con. rating: Conservation rating
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM</th>
<th>Con. rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>sw_nr_ec_02</td>
<td>Dunefields on Holocene surfaces</td>
<td>Stewart</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Dunefield rise—prograding dune systems, associated vine scrubs and trapped wetlands. Threatened species. Also implemented as BPA decision(s): cyp_l_07</td>
<td>6.1.1, 6.3.1</td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;30&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM&lt;sup&gt;31&lt;/sup&gt;</td>
<td>Con. rating&lt;sup&gt;32&lt;/sup&gt;</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>-----------------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>---------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>sw_r_ec_01</td>
<td>Silver Plains and eastern fall of McIlwraith Range</td>
<td>Stewart</td>
<td>y</td>
<td>High endemism, gallery forests, intact, low level of disturbance.</td>
<td>6.3.1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>sw_r_ec_02</td>
<td>Mangroves</td>
<td>Stewart</td>
<td>Stewart</td>
<td>y</td>
<td></td>
<td></td>
<td>Significant marine vegetation—high species diversity (30 spp.). Important ecological role (e.g. fish nursery areas) that supports local and off-shore fisheries (Abrahams et al. 1995). Also implemented as BPA decision(s): cyp_fl_08</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;30&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM&lt;sup&gt;31&lt;/sup&gt;</td>
<td>Con. rating&lt;sup&gt;32&lt;/sup&gt;</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>----------</td>
<td>------------</td>
<td>-----------------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>---------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>we_nr_ec_01</td>
<td>Springs</td>
<td>Wenlock</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Springs are ground water influenced ecosystems that provide habitat refugial values for wildlife and often contain threatened species. Also implemented as BPA decision(s): cyp_l_09, cyp_l_16 and cyp_l_39</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR[^30]</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM[^31]</td>
<td>Con. rating[^32]</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>---------</td>
<td>---</td>
<td>----</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------</td>
<td>-----------------</td>
</tr>
<tr>
<td>we_nr_ec_02</td>
<td>Bramwell</td>
<td>Wenlock</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Good example of ecosystem mosaic of swamps, <em>Eucalyptus tetrodonta</em> woodland and vine thickets on remnant Tertiary surface with deep red earths. Also implemented as BPA decision(s): cyp_l_13</td>
<td>6.2.1</td>
<td>3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;30&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM&lt;sup&gt;31&lt;/sup&gt;</td>
<td>Con. rating&lt;sup&gt;32&lt;/sup&gt;</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>-----------------</td>
<td>---</td>
<td>----</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>we_nr_ec_03</td>
<td>Embley Range</td>
<td>Wenlock</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Good example of ecosystem mosaic of major swamps in <em>Eucalyptus tetrodonta</em> woodland on remnant Tertiary surface with deep red earths. Also implemented as BPA decision(s): cyp.I.14</td>
<td>6.2.1</td>
<td>3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>we_hr_ec_04</td>
<td>Perched lakes on Tertiary surfaces between Mapoon and Weipa</td>
<td>Wenlock</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Large complex. Perched lacustrine systems, spring-fed river. Refuge in dry system.</td>
<td>6.4.1, 6.1.1</td>
<td>3, 3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>-------------</td>
</tr>
<tr>
<td>we_nr_ec_05</td>
<td>West coast dune fields on Quaternary surfaces</td>
<td>Wenlock</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Dunefield rise—prograding dune systems, associated vine scrubs and trapped wetlands. Threatened species. Also implemented as BPA decision(s): cyp.l.07</td>
<td>6.1.1, 6.3.1</td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>----------------------------------------</td>
<td>----------------------------------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>we_nr_ec_06</td>
<td>Mapoon and Weipa dune complexes</td>
<td>Wenlock</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Mapoon has unique ecosystem complexity of beach, dunes, vine thickets, spectacular swamps (drainage runs parallel to coast), melaleuca forests and hardwood forests. This habitat complexity is in a small area and is home to huge number of birdlife. In places the ecosystems are quite narrow. The entire system needs to be recognised as a single entity. Similar complex at Aurukun (decisions 'em_nr_ec_04' and 'wt_nr_ec_02') of lower significance. Also implemented as BPA decision(s): cyp_l_36</td>
<td>6.2.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>we_nr_ec_07</td>
<td>Batavia sinkholes</td>
<td>Wenlock</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Rare and restricted habitat mostly confined to this locality. A dense low tree/tall shrub layer (5-8m tall) is dominant and forms a fairly continuous, dense canopy. This layer is composed of a variety of semi-deciduous species with no species showing clear dominance. <em>Melaleuca clarksonii</em> (hard-barked teatree) and <em>M. saligna</em> (a paperbark) are frequent emergent trees (12-15m tall). A sparse low shrub layer (1-2m tall) is present. The ground layer is very sparse. Occurs in sinkholes. (Broad Vegetation Group (1M): 7b). Endemic <em>Melaleuca clarksonii</em> and rich frog fauna. Also implemented as BPA decision(s): cyp_l_15</td>
<td>6.2.1</td>
<td>3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR²⁰</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM³¹</td>
<td>Con. rating³²</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>-------</td>
<td>--------------</td>
</tr>
<tr>
<td>we_r_ec_01</td>
<td>Intertidal area of Port Musgrave</td>
<td>Wenlock</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>y</td>
<td></td>
<td>6.3.1, 6.4.2</td>
</tr>
</tbody>
</table>

Related to decision 'du_r_ec_03 – Mangroves' but exhibits a significant large well developed area of very high productivity, excellent example of shallow estuary showing delta development and supports a large population of estuarine crocodile (*Crocodylus porosus*) in Queensland (Abrahams et al. 1995).

Also implemented as BPA decision(s): cyp_l_27
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special features (name)</th>
<th>Location</th>
<th>Study area</th>
<th>NR&lt;sup&gt;30&lt;/sup&gt;</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM&lt;sup&gt;31&lt;/sup&gt;</th>
<th>Con. rating&lt;sup&gt;32&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>we_r_ec_02</td>
<td>Spring-fed riverine wetlands</td>
<td>Wenlock</td>
<td></td>
<td></td>
<td>y</td>
<td></td>
<td>Spring-fed riverine wetlands, some of which are on the edges of Tertiary surfaces support plant species of conservation significance, regional ecosystems of conservation significance and ecological function. Ecological functions include refugial areas, critical habitat for plants and key resources for birds, frogs and reptiles (Wannan 2007, Covacevich 2010).</td>
<td>6.3.1, 6.4.1</td>
<td>3, 3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>------------------------------------------------------------------------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>we_r_ec_03</td>
<td>Wenlock corridor</td>
<td>Wenlock</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Stream and associated wetlands. Richest known freshwater fish fauna in Australia, including presence of threatened taxa (Abrahams et al. 1995). Also implemented as BPA decision(s): cyp_fa_06 (b)</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR⁰</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM⁰</td>
<td>Con. rating²⁰</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>-----</td>
<td>---</td>
<td>----</td>
<td>-----------------------------------------------------------------------</td>
<td>------</td>
<td>--------------</td>
</tr>
<tr>
<td>we_r_ec_04</td>
<td>Steve Irwin Wildlife Reserve Perched Bauxite Springs</td>
<td>Wenlock</td>
<td></td>
<td>y</td>
<td></td>
<td></td>
<td>Rare and unique type of spring supporting significant level of biodiversity including threatened flora and fauna. Only known occurrence of Calophyllum bicolor rainforest type. Important ecological function as dry season refuge and water source for wildlife, including high diversity of fish and amphibians (Lyon and Franklin 2009). Also implemented as BPA decision(s): cyp_l_39</td>
<td>6.3.1, 6.4.1</td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR&lt;sup&gt;30&lt;/sup&gt;</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM&lt;sup&gt;31&lt;/sup&gt;</td>
<td>Con. rating&lt;sup&gt;32&lt;/sup&gt;</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>-----------------</td>
<td>---</td>
<td>----</td>
<td>--------</td>
<td>----------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>wt_nr_ec_01</td>
<td>West coast dune fields on Quaternary surfaces</td>
<td>Watson</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Dunefield rise—prograding dune systems, associated vine scrub and trapped wetlands. Bird rookeries. Also implemented as BPA decision(s): cyp_l_07</td>
<td>6.1.1, 6.3.1</td>
<td>4, 4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>----------------------------------------------------------------------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>wt_nr_ec_02</td>
<td>Aurukun dune complexes</td>
<td>Watson</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Unique ecosystem complexity of beach, dunes, vine thickets, spectacular swamps (drainage runs parallel to coast), melaleuca forests and hardwood forests. This habitat complexity is in a small area and is home to huge number of birdlife. In places the ecosystems are quite narrow. The entire system needs to be recognised as a single entity. Similar complex in Mapoon/Weipa region (decisions 'em_nr_ec_03' and 'we_nr_ec_06') of higher significance. Also implemented as BPA decision(s): cyp_l_36</td>
<td>6.2.1</td>
<td>4</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>wt_r_ec_01</td>
<td>Spring-fed riverine wetlands</td>
<td>Watson</td>
<td></td>
<td>y</td>
<td></td>
<td></td>
<td>Spring-fed riverine wetlands, some of which are on the edges of Tertiary surfaces support plant species of conservation significance, regional ecosystems of conservation significance and ecological function. Ecological functions include refugial areas, critical habitat for plants and key resources for birds, frogs and reptiles (Wannan 2007, Covacevich 2010).</td>
<td>6.3, 6.4</td>
<td>3, 3</td>
</tr>
<tr>
<td>Decision number</td>
<td>Special features (name)</td>
<td>Location</td>
<td>Study area</td>
<td>NR</td>
<td>R</td>
<td>ES</td>
<td>Values</td>
<td>CIM</td>
<td>Con. rating</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------------</td>
<td>----------</td>
<td>------------</td>
<td>----</td>
<td>---</td>
<td>----</td>
<td>-----------------------------------------------------------------------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>wt_r_ec_02</td>
<td>Mangroves</td>
<td>Watson</td>
<td>Watson</td>
<td>y</td>
<td></td>
<td></td>
<td>Significant marine vegetation—high species diversity (30 spp.)</td>
<td>6.3.1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Important ecological role (e.g. fish nursery areas) that supports</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>local and off-shore fisheries (Abrahams et al. 1995).</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Also implemented as BPA decision(s): cyp_fl_08</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 20: Ecology special features not implemented

<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special Features (Name)</th>
<th>Location</th>
<th>Study Area</th>
<th>NR</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM</th>
<th>Con. Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>01_not implemented</td>
<td>Mangroves</td>
<td>All</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Significant marine vegetation—high species diversity (30spp.). Important ecological role (e.g. fish nursery areas) that supports local and offshore fisheries (Abrahams et al. 1995). Implemented as riverine decisions ar_r_ec_03, cl_r_ec_01, du_r_ec_03, em_r_ec_02, en_r_ec_03, ho_r_ec_02, ic_r_ec_01, ja_r_ec_03, je_r_ec_02, jj_r_ec_03, lo_r_ec_03, mw_r_ec_02, nb_r_ec_02, op_r_ec_04, sw_r_ec_02, wt_r_ec_02. Also implemented as BPA decision(s): cyp_fl_08</td>
<td></td>
<td>6.3.1 4</td>
</tr>
<tr>
<td>02_not_implemented</td>
<td>Dune Lake Systems—Bamaga</td>
<td>Jacky Jacky</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Rare perched lakes on a white sand dune system. Contains a high diversity of hydrosystem types. Relictual populations of freshwater fish often in unique assemblages (Cook et al. 2011). No implementation required as values covered by jj_nr_ec_04, jj_nr_ec_02 and jj_nr_ec_01.</td>
<td></td>
<td>6.4.1 4</td>
</tr>
<tr>
<td>04_not_implemented</td>
<td>Dune Lake Systems—Shelbourne Bay</td>
<td>Jacky Jacky and Olive-Pascoe</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>Rare perched lakes on a white sand dune system. Contains a high diversity of hydrosystem types—dune lakes among the best examples of their type in the world (Cook et al. 2011). No implementation required as values covered by jj_nr_ec_01 and jj_nr_ec_04.</td>
<td></td>
<td>6.4.1 4</td>
</tr>
</tbody>
</table>

---

33 Number refers to the values from the generic CIM list in Table 21.  
34 4 is the highest value.
<table>
<thead>
<tr>
<th>Decision number</th>
<th>Special Features (Name)</th>
<th>Location</th>
<th>Study Area</th>
<th>NR</th>
<th>R</th>
<th>ES</th>
<th>Values</th>
<th>CIM</th>
<th>Con. Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>05_not_implemented</td>
<td>Dune Lake Systems—Cape Flattery</td>
<td>Jeannie, possible Endeavour also</td>
<td>Rare perched lakes on a white sand dune system. Contains a high diversity of hydrosystem types. Several endemic aquatic fauna (Cook et al. 2011). No implementation required as values covered by je_nr_ec_01 and je_nr_ec_02.</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>6.4.1</td>
<td>4</td>
</tr>
<tr>
<td>06_not_implemented</td>
<td>Normanby River Floodplain</td>
<td>Normanby</td>
<td>High diversity of wetland habitats, important waterbird and crocodile habitat. Extensive intertidal mudflats (Cook et al. 2011). No implementation required as values covered by lo_r_ec_01 and lo_r_ec_02.</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>6.3.1, 5.1.4</td>
<td>4, 4</td>
</tr>
<tr>
<td>07_incomplete</td>
<td>Trapped lakes behind dunes</td>
<td>Archer</td>
<td>No values or extent recorded. Follow up for the next ACA version.</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>6.3.1, 6.4.1</td>
<td>3, 3</td>
</tr>
<tr>
<td>08_incomplete</td>
<td>Glennie tableland wetlands</td>
<td>Olive-Pascoe</td>
<td>No values or extent recorded. Follow up for the next ACA version.</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>6.3.1</td>
<td>3</td>
</tr>
<tr>
<td>09_incomplete</td>
<td>Running Creek wetlands</td>
<td>Stewart</td>
<td>No values or extent recorded. Follow up for the next ACA version.</td>
<td>y</td>
<td></td>
<td></td>
<td></td>
<td>6.3.1</td>
<td>3</td>
</tr>
</tbody>
</table>
5.2 Connectivity
Due to time constraints the panel was not able to specifically develop and/or identify a set of principles that could be applied to determine relative connectivity scores of riverine, non-riverine and estuarine spatial units within the Cape York region.

Connectivity measures will be considered post panel and implemented where information and time are available.

5.3 Stratification
Study area stratification for application to relevant measures of AquaBAMM is a user decision and is not mandatory for a successful assessment. However, AquaBAMM makes provision for data to be stratified in any user-defined way that is determined to be ecologically appropriate. Stratification mitigates the effects of data averaging across large study areas, and is particularly important where ecological diversity and complexity is high. An example where stratification may be appropriate is fish diversity where fewer species inhabit the upland zone compared to lowland floodplains. For measure datasets where there is an equal probability of scoring across a range of values throughout the study area, stratification is unwarranted. To date, the use of strata in completed ACAs has been based on elevation (e.g. 150m (ASL) for coastal flowing catchments and 400m ASL for catchments west of the Great Dividing Range in the Murray-Darling Basin) or bioregional boundaries.

Due to time constraints the panel was not able to discuss the question of stratification. Therefore, for the CYP ACA, no stratification was applied. Once the CYP ACA has been completed, the results will be investigated and the question of stratification will be revisited and implemented if appropriate.

5.4 Weighting of measures
Due to time constraints the panel was not able to consider the question of weighting the measures. Therefore, for the CYP ACA, all measures were weighted the same. Once the CYP ACA has been completed, the results will be investigated and the question of weighting the measures will be revisited and implemented if appropriate.

5.5 Ranking of indicators
Due to time constraints the panel was not able to consider the question of ranking the indicators. Therefore, for the CYP ACA, all indicators were ranked the same. Once the CYP ACA has been completed, the results will be investigated and the question of ranking the indicators will be revisited and implemented if appropriate.
6 References


# 7 Acronyms and abbreviations

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACA</td>
<td>Aquatic Conservation Assessment</td>
</tr>
<tr>
<td>ASL</td>
<td>above sea level</td>
</tr>
<tr>
<td>BPA</td>
<td>Biodiversity Planning Assessment</td>
</tr>
<tr>
<td>CAMBA</td>
<td>China-Australia Migratory Birds Agreement</td>
</tr>
<tr>
<td>CMS</td>
<td>Convention of Migratory Species of Wild Animals (also known as the Bonn Convention)</td>
</tr>
<tr>
<td>CYP</td>
<td>Cape York Peninsula</td>
</tr>
<tr>
<td>DERM</td>
<td>Department of Environment and Resource Management</td>
</tr>
<tr>
<td>DIWA</td>
<td>Directory of Important Wetlands Australia</td>
</tr>
<tr>
<td>EHP</td>
<td>Department of Environment and Heritage Protection</td>
</tr>
<tr>
<td>EPBC Act</td>
<td>Environment Protection and Biodiversity Conservation Act 1999</td>
</tr>
<tr>
<td>GIS</td>
<td>Geographic Information System</td>
</tr>
<tr>
<td>HEV</td>
<td>High ecological value (under a water quality improvement plan)</td>
</tr>
<tr>
<td>JAMBA</td>
<td>Japan–Australia Migratory Birds Agreement</td>
</tr>
<tr>
<td>MRCCC</td>
<td>Mary River Catchment Coordinating Committee</td>
</tr>
<tr>
<td>NC Act</td>
<td>Nature Conservation Act 1992</td>
</tr>
<tr>
<td>NPRSR</td>
<td>Department of National Parks, Recreation, Sport and Racing</td>
</tr>
<tr>
<td>QPWS</td>
<td>Queensland Parks and Wildlife Service</td>
</tr>
<tr>
<td>Ramsar</td>
<td>Ramsar Convention on Wetlands</td>
</tr>
<tr>
<td>RE</td>
<td>Regional ecosystem</td>
</tr>
<tr>
<td>ROKAMBA</td>
<td>Republic of Korea–Australia Migratory Bird Agreement</td>
</tr>
<tr>
<td>SITIA</td>
<td>Department of Science, Information Technology, Innovation and the Arts</td>
</tr>
<tr>
<td>SOR</td>
<td>State of the Rivers</td>
</tr>
</tbody>
</table>
8 Attachments
Attachment A—Terms of reference

Aquatic flora expert panel

The terms of reference presented below are to be read in conjunction with the AquaBAMM report that requires expert panel workshops to be run to gain information for a number of AquaBAMM criteria and their associated indicators and measures (Clayton et al. 2006).

Members of the panel were experts in scientific disciplines relevant to freshwater ecosystems, processes and species. Panel members were required to have professional or semi-professional standing in their fields of expertise and have direct knowledge and experience with the Cape York region. Experience in the identification and assessment of non-riverine and riverine values including natural processes, species and places of significance was an important factor in the selection process; the panel included members with experience in these areas, as well as in their areas of specialist technical expertise. Panel members were appointed on the basis of their individual standing rather than as representatives of a particular interest group or organisation.

Aquatic flora

The tasks to be undertaken by the panel include, but are not limited to, the following:

- review relevant existing spatial data (species point records) and available information
- provide advice on non-riverine and riverine ecosystem threatened flora species, habitat and localities
- provide advice on non-riverine and riverine ecosystem priority flora species, habitat and localities
- identify priority ecosystems or areas important for significant floral communities or species
- provide advice on non-riverine and riverine ecosystem exotic flora species, localities and abundance
- weight measures relative to their importance for an indicator
- rank indicators relative to their importance for a criterion.
Aquatic fauna expert panel

The terms and reference presented below are to be read in conjunction with the AquaBAMM report that requires expert panel workshops to be run to inform a number of AquaBAMM criteria and their associated indicators and measures (Clayton et al. 2006).

Members of the expert panel were experts in scientific disciplines relevant to freshwater and estuarine ecosystems, processes and species. Panel members were required to have professional or semi-professional standing in their fields of expertise and have direct knowledge and experience of the Cape York region. Experience in the identification and assessment of non-riverine and riverine values including natural processes, species and places of significance was an important factor in the selection process; the panel included members with experience in these areas, as well as in their areas of specialist technical expertise. Panel members were appointed on the basis of their individual standing rather than as representatives of a particular interest group or organisation.

Aquatic fauna

The aquatic fauna expert panel was established to provide expert advice on priority species, special features and/or ecosystems that are of ecological significance to the non-riverine and riverine wetlands of the Wide Bay-Burnett region. The panel consisted of professionals with expertise relating to aquatic fauna values.

The tasks undertaken by the panel included, but were not limited to, the following:

- review relevant existing spatial data (species point records) and available information
- provide advice on riverine and non-riverine threatened fauna species, habitat and localities
- provide advice on riverine and non-riverine priority fauna species, habitat and localities
- identify priority ecosystems or areas important for significant faunal communities or species
- provide advice on riverine and non-riverine ecosystem exotic fauna species localities and abundance
- weight measures relative to their importance for an indicator
- rank indicators relative to their importance for a criterion.
Aquatic ecology expert panel

The terms of reference presented below are to be read in conjunction with the AquaBAMM report that requires expert panel workshops to be run to inform a number of AquaBAMM criteria and their associated indicators and measures (Clayton et al. 2006).

Members of the expert panel were experts in scientific disciplines relevant to freshwater ecosystems, processes and species. Panel members were required to have professional or semi-professional standing in their fields of expertise and have direct knowledge and experience with the Cape York region. Experience in the identification and assessment of non-riverine and riverine values including natural processes, species and places of significance was an important factor in the selection process. The panel included members with experience in these areas, as well as in their areas of specialist technical expertise. Panel members were appointed on the basis of their individual standing rather than as representatives of a particular interest group or organisation.

Wetland ecology

The wetland ecology expert panel was established to provide expert advice based on experience and demonstrated scientific theory on natural ecological, geological or geo-morphological and hydrological processes, and issues of connectivity between aquatic systems within the non-riverine and riverine wetlands of the Wide Bay-Burnett region. The panel consisted of professionals in fields of expertise relating to wetland ecology, water quality, geomorphology, fisheries and hydrological processes.

The tasks undertaken by the panel included, but were not limited to, the following:

- identify areas of significant geomorphological, ecological or hydrological processes, or priority areas—special features
- provide advice on biodiversity ‘hot-spots’ or areas of particular significance for species or communities
- establish principles for applying the connectivity criterion (bi-directional, unidirectional and lateral directions) in the wetland ecosystems
- consider whether to stratify the study areas
- weight measures relative to their importance for an indicator
- rank indicators relative to their importance for a criterion.
Attachment B—Criteria, indicators and measures for the Cape York region

The criteria, indicators and measures (CIM) list outlines the CIM that were implemented as part of the ACA using AquaBAMM for the riverine and non-riverine wetlands of the Cape York region.

The list has been developed from a default list of criteria, indicators and measures that may be considered when an ACA is conducted using AquaBAMM. The default CIM list is not mandatory for any particular ACA however it provides a ‘starter set’ for consideration in setting the assessment parameters for each ACA.

AquaBAMM does not allow criteria change, addition or deletion. However, AquaBAMM does allow the addition or deletion of indicators and/or measures for each ACA when its assessment parameters are set. Generally modification of the default set of indicators is discouraged because the list has been developed to be generic and inclusive of all aquatic ecosystems. Modification of the default set of measures may or may not be necessary but full flexibility is provided in this regard. In particular, measures may need to be added where unusual or restricted datasets are available that are specific to an ACA or study area.

Table 21: CIM list for the Cape York region

<table>
<thead>
<tr>
<th>Criteria and Indicators</th>
<th>Measures</th>
<th>Riverine</th>
<th>Non-riverine</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 Naturalness aquatic</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.1 Exotic flora/fauna</td>
<td>1.1.1 Presence of ‘alien’ fish species within the wetland</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.1.2 Presence of exotic aquatic and semi-aquatic plants within the wetland</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>1.1.3 Presence of exotic invertebrate fauna within the wetland</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.1.4 Presence of feral/exotic vertebrate fauna (other than fish) within the wetland</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>1.3 Habitat features modification</td>
<td>1.3.4 Presence/absence of dams/weirs within the wetland</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.3.7 Percentage area of remnant wetland relative to pre-clear extent for each spatial unit</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>1.4 Hydrological modification</td>
<td>1.4.5 Hydrological disturbance/modification of the wetland (e.g. as determined through EHP wetland mapping and classification)</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td><strong>2 Naturalness catchment</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.1 Exotic flora/fauna</td>
<td>2.1.1 Presence of exotic terrestrial plants in the assessment unit</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>2.2 Riparian disturbance</td>
<td>2.2.1 Percentage area remnant vegetation relative to pre-clear extent within buffered riverine wetland or watercourses</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.2.2 Total number of regional ecosystems relative to pre-clear number of regional ecosystems within buffered riverine wetland or watercourses</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.2.5 Percentage area of remnant vegetation relative to pre-clear extent within buffered non-riverine wetland: 500m buffer for wetlands &gt;= 8Ha, 200m buffer for smaller wetlands</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>2.3 Catchment disturbance</td>
<td>2.3.1 Percentage ‘agricultural’ land-use area (i.e. cropping and horticulture)</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>2.3.2 Percentage ‘grazing’ land-use area</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>2.3.3 Percentage ‘vegetation’ land-use area (i.e. native veg + regrowth)</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>2.3.4 Percentage ‘settlement’ land-use area (i.e. towns, cities, etc)</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>2.4 Flow modification</td>
<td>2.4.1 Farm storage (overland flow harvesting, floodplain ring tanks, gully dams) calculated by surface area</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Criteria and Indicators</td>
<td>Measures</td>
<td>Riverine</td>
<td>Non-riverine</td>
</tr>
<tr>
<td>------------------------</td>
<td>----------</td>
<td>----------</td>
<td>--------------</td>
</tr>
<tr>
<td><strong>3 Diversity and richness</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3.1 Species</strong></td>
<td>3.1.1 Richness of native amphibians (riverine wetland breeders)</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.1.2 Richness of native fish</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>3.1.3 Richness of native aquatic dependent reptiles</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>3.1.4 Richness of native waterbirds</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>3.1.5 Richness of native aquatic plants</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>3.1.6 Richness of native amphibians (non-riverine wetland breeders)</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>3.1.7 Richness of native aquatic dependent mammals</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td><strong>3.2 Communities/assemblages</strong></td>
<td>3.2.1 Richness of macroinvertebrate taxa</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>3.2.2 Richness of regional ecosystems along riverine wetlands or watercourses within a specified buffer distance</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td><strong>3.3 Habitat</strong></td>
<td>3.3.2 Richness of wetland types within the local catchment (e.g. SOR sub-section)</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>3.3.3 Richness of wetland types within the sub-catchment</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td><strong>4 Threatened species and ecosystems</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4.1 Species</strong></td>
<td>4.1.1 Presence of rare or threatened aquatic ecosystem dependent fauna species—NC Act¹, EPBC Act²</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>4.1.2 Presence of rare or threatened aquatic ecosystem dependent flora species—NC Act¹, EPBC Act²</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td><strong>4.2 Communities/assemblages</strong></td>
<td>4.2.1 Conservation status of wetland regional ecosystems—Herbarium biodiversity status, NC Act¹, EPBC Act²</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td><strong>5 Priority species and ecosystems</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>5.1 Species</strong></td>
<td>5.1.1 Presence of aquatic ecosystem dependent ‘priority’ fauna species (expert panel list/discussion or other lists such as ASFB³, WWF, etc)</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>5.1.2 Presence of aquatic ecosystem dependent ‘priority’ flora species</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>5.1.3 Habitat for, or presence of, migratory species (Expert Panel list/discussion and/or JAMBA⁴/CAMBA⁵ agreement lists and/or Bonn Convention)</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>5.1.4 Habitat for significant numbers of waterbirds</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td><strong>6 Special features</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>6.1 Geomorphic features</strong></td>
<td>6.1.1 Presence of distinct, unique or special geomorphic features</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td><strong>6.2 Ecological processes</strong></td>
<td>6.2.1 Presence of (or requirement for) distinct, unique or special ecological processes</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td><strong>6.3 Habitat</strong></td>
<td>6.3.1 Presence of distinct, unique or special habitat (including habitat that functions as refugia or other critical purpose)</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>6.3.2 Significant wetlands identified by an accepted method such as Ramsar, Australian Directory of Important Wetlands, regional coastal management planning, world heritage areas, etc.</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Criteria and Indicators</td>
<td>Measures</td>
<td>Riverine</td>
<td>Non-riverine</td>
</tr>
<tr>
<td>-------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>----------</td>
<td>--------------</td>
</tr>
<tr>
<td>6.4 Hydrological</td>
<td>6.4.1 Presence of distinct, unique or special hydrological regimes (e.g. Spring fed stream, ephemeral stream, boggomoss)</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td>6.4.2 Hydrological diversity within the estuary/marine area</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>7 Connectivity</td>
<td>7.1 Significant species or populations 7.1.1 The contribution (upstream or downstream) of the spatial unit to the maintenance of significant species or populations, including those features identified through criteria 5 and/or 6</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7.2 Groundwater dependent ecosystems 7.2.1 The contribution (upstream or downstream) of the spatial unit to the maintenance of groundwater ecosystems with significant biodiversity values, including those features identified through criteria 5 and/or 6 (e.g., karsts, cave streams, artesian springs)</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>8 Representativeness</td>
<td>8.1 Wetland protection 8.1.1 The percent area of each wetland type within protected areas.</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8.1.2 The percent area of each wetland type within a coastal/estuarine area subject to the Fisheries Act, Coastal Management Act or Marine Parks Act.</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8.2 Wetland uniqueness 8.2.1 The relative abundance of the wetland management group to which the wetland type belongs within the catchment or study area (management groups ranked least common to most common)</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8.2.2 The relative abundance of the wetland management group to which the wetland type belongs within the sub-catchment or estuarine/marine zone (management groups ranked least common to most common)</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8.2.3 The size of each wetland type relative to others of its management group within the catchment or study area</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8.2.4 The size of each wetland type relative to others of its type within a sub-catchment (or estuarine zone)</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td></td>
<td>8.2.6 The size of each wetland type relative to others of its type within the catchment or study area</td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>

2. EPBC Act – Environmental Protection and Biodiversity Conservation Act 1999 (Commonwealth legislation)
3. ASFB – Australian Society of Fish Biology
4. JAMBA – Japan-Australia Migratory Bird Agreement
5. CAMBA – China-Australia Migratory Bird Agreement