Technical Information

How much of our native vegetation is protected?

This document describes the sources of information, advice, methods, indicators and data processing procedures used to develop the reports. Reliability of data, as well as metadata attributes, are also described.

State NRM Plan Guiding Target:
Increase extent & improve condition of native vegetation.

State NRM Plan Representative Measure:
Trends in the area of native vegetation protected on public and private land.

Data collection period:
1972 to December 2013.

Expected frequency of reporting:
Annual.

Data sources:
1. Public protected areas include the following categories: National, Conservation and Recreation Parks, Game, Regional and Conservation Reserves, Wilderness Protection Areas and Native Forest Conservation Areas. Private protection areas include Indigenous Protection Areas (DSEWPC 2009, DEWNR 2012).

2. DSEWPC database of IBRA bioregions and subregions (The National Reserve System (NRS) - Australia’s bioregions IBRA) (DSEWPC 2009, DEWNR 2012).

3. DEWNR database of IBRA Association Areas (DEWNR 2005).

4. DEWNR’s Protected Area Information System database.

5. Heritage Agreement data from the Conservation Veg Heritage Agreements GIS layer (included data to March 2012 agreements).

6. The Heritage Agreement data post March 2012 until end of December 2013 are from the Native Vegetation Council (Native Vegetation and Biodiversity Management Unit, DEWNR).

7. The Forestry SA data are from Forestry SA in Mt Gambier. Note that Forestry SA advised that Locality Forests (LF) should now be referred to as Conservation Areas (CA).

Indicators used:
1. TREND: NRM regional Trends are classified as stable, getting better or getting worse based on the number of environmental associations that were classified as being adequately protected (more than 10% protected area) over the 6 years to the end of 2013 (combines private and public protected land).

2. STATUS: The percentage of environmental associations with more than 10% protected area in each NRM region and statewide is presented. The figure of 10% is used because DSEWPC and SA DEWNR use it to define the term adequate protection. The current Status is classified as good (>50%), fair (25-50%) or poor (<25%), based on the percentage of environmental associations classified as adequately protected.

3. The total area of protected land as a proportion of the total area of land in the State.

4. The number of IBRA bioregions, subregions and environmental associations in the State and in each NRM region are taken from the DEWNR GIS mapping data, which contains the IBRA data.
Methods of data collection and processing:

The GIS analyses were undertaken using IBRA 6.1 boundaries (last updated in 2007).

The percentage of protected land in each NRM region is calculated by summing the protection categories (listed above in data sources) and dividing by the total land/freshwater area of each NRM region. The total area of each NRM region excludes the marine areas. Marine Parks are not included as protected areas, but these are the subject of a separate report.

The percentage of protected land in each IBRA association area is calculated by summing the protection categories (listed above in data sources) and dividing by the total land/aquatic area of each environmental association area. Environmental association areas were classified as having adequate protection if greater than 10% by area was protected.

To be classified as adequately protected, an association area may be 0% protected in one NRM region, but greater than 10% of the entire association may be protected in a different region. This is consistent with DEWNR’s Conserving Nature Strategy and the Australian Government’s Australia’s Strategy for the National Reserve System 2009-2030.

To be scored as adequately protected, an association area had to be 10% protected in SA. The percentage protected in other states was not taken into account for these analyses. This is consistent with DEWNR’s Conserving Nature Strategy (DEWNR 2012).

The DEWNR GIS layer of protected areas is periodically updated to reflect the addition of new protected areas. For heritage agreements, there is a lag between the date the land was formally protected and the date the SDE layer is updated. This slight lag means that for the census dates (e.g., end of 2007 and end of 2013 in this report) to calculate “trends”, some heritage agreements might not be represented in the correct period, which may slightly change the “trend”.

Environmental associations are derived from Laut et al. (1977). This foundational work was developed by CSIRO as a test case in South Australia. It is LANDSAT imagery based. While it represents the finest scale of mapping in the IBRA hierarchy for SA it is still quite coarse at approximately 1:500,000 scale.

Future reporting measures:

Future reports will use IBRA 7.1 (i.e. the most up to date version of IBRA boundaries. The use of these boundaries will require that the environmental association area boundaries are updated by DEWNR (DEWNR 2005, DSEWPC 2009, DEWNR 2012).

The report cards/snapshots may report against other categories of IBRA (e.g. bioregions or subregions) (DSEWPC 2009).

Future measures may include the percent of priority vegetation types in protected areas in each region.

Future reports may consider reporting on other objectives/targets under the National Reserve System (Australia’s Strategy for the National Reserve System 2009-2030) and Conserving Nature (SA Govt strategy), which highlight that protected areas are assessed based on the Comprehensive, Adequate, and Representative system.

The following government agencies contributed to this report:

DEWNR, SA Water, and Forestry SA.

The following non-government agencies contributed to this report:

None.

Key stakeholders:

NRM Council, NRM Boards, DEWNR Policy (Protected Areas Acquisition section), Native Vegetation Council, environmental NGOs.

This report also relates to the Australian Government’s Australia’s Strategy for the National Reserve System 2009-2030.
Information reliability scoring:

Information is scored for reliability based on average scores given for information currency and applicability, and its level of spatial representation (Tables 1–3).

Table 1. Information currency

<table>
<thead>
<tr>
<th>Reliability</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Information up to 3 years old</td>
</tr>
<tr>
<td>4</td>
<td>Information up to 5 years old</td>
</tr>
<tr>
<td>3</td>
<td>Information up to 7 years old</td>
</tr>
<tr>
<td>2</td>
<td>Information up to 10 years old</td>
</tr>
<tr>
<td>1</td>
<td>Information &gt;10 years old</td>
</tr>
</tbody>
</table>

Table 2. Applicability of the information

<table>
<thead>
<tr>
<th>Reliability</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>All data based on direct indicators of the measure</td>
</tr>
<tr>
<td>4</td>
<td>Most data based on direct indicators of the measure</td>
</tr>
<tr>
<td>3</td>
<td>Most data based on indirect indicators of the measure</td>
</tr>
<tr>
<td>2</td>
<td>All data based on indirect indicators of the measure</td>
</tr>
<tr>
<td>1</td>
<td>Data are based on expert opinion of the measure</td>
</tr>
</tbody>
</table>

Table 3. Spatial representation of information (sampling design)

<table>
<thead>
<tr>
<th>Reliability</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Information is collected from across the whole region/state (or whole distribution of asset within the region/state) using a stratified sampling design</td>
</tr>
<tr>
<td>4</td>
<td>Information is collected from across the whole region/state (or whole distribution of asset within the region/state) using a sampling design that is not stratified</td>
</tr>
<tr>
<td>3</td>
<td>Information is collected from an area that represents less than half the spatial distribution of the asset within the region/state</td>
</tr>
<tr>
<td>2</td>
<td>Information is collected from an area that represents less than 25% the spatial distribution of the asset within the region/state</td>
</tr>
<tr>
<td>1</td>
<td>Information is collected from an area that represents less than 5% the spatial distribution of the asset within the region/state or spatial representation unknown</td>
</tr>
</tbody>
</table>

Based on tables 1, 2 & 3 above, respectively, the information relating to protected areas presented in this report has a reliability score of \((3+5+5)/3 = 4\) (Very Good). The Information currency is scored a 3 because it uses the IBRA 6.1 boundaries (IBRA 7.1 boundaries are available, but cannot be used in this report until the environmental association area boundaries are updated by DEWNR).

This report is linked to the following report cards/snapshots:

1. Is the condition of our native vegetation improving?
2. Are the extent and connectivity of our native vegetation improving?
3. How many of our species are extinct or threatened with extinction?
4. How many of our ecological communities are extinct or threatened with extinction?
5. Are South Australia’s marine parks effective in protecting marine habitats and species?
6. How many people visit parks?
7. Is the condition of our geological features improving?
8. Are landscapes that are culturally important to Aboriginal communities being managed appropriately?
**Project/Dataset name:** NPWSA Reserves

**Abstract/description**
Dataset is legal boundaries of reserves dedicated under the National Parks and Wildlife Act, Wilderness Protection Act and reserves under the Crown Land Management Act.

**Data types**
Spatial data
The GIS analyses were undertaken using IBRA 6.1 boundaries (DEWNR 2005).

**Organisation/DEWNR business area that sponsors/holds/manages the data**
DEWNR (Protected Area Policy and Planning) and DEWNR GIS and Mapping.

**Date range**
Date: 1972. Last update: 31 December 2013

**Study area**
South Australia

**Data format**
ArcGIS with Excel outputs

**Data distribution rules**
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**Is the dataset source data (raw), value-add data (analysed/summarised) or final indicator/score data?**
The data is value-add. The areas of each protected area were summed and divided by the area of NRM region. The areas of each IBRA that are protected were then used to determine the IBRA that were adequately (10%) protected. The GIS analyses were undertaken using IBRA 6.1 boundaries.

**Photo credit details:**
Title: “Our native vegetation”
Owner: DEWNR

SE photo: Title: Lake Hawdon
Owner: DEWNR (B.Taylor)

**Scientific literature referred to in the report:**

