Information Sheet on EAA Flyway Network Sites (SIS) – 2017 version

Available for download from http://www.eaaflyway.net/about/the-flyway/flyway-site-network/

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

Notes for compilers:

- 1. The management body intending to nominate a site for inclusion in the East Asian Australasian Flyway Site Network is requested to complete a Site Information Sheet. The Site Information Sheet will provide the basic information of the site and detail how the site meets the criteria for inclusion in the Flyway Site Network. When there is a new nomination or an SIS update, the following sections with an asterisk (*), from Questions 1-14 and Question 30, must be filled or updated at least so that it can justify the international importance of the habitat for migratory waterbirds.
- 2. The Site Information Sheet is based on the Ramsar Information Sheet. If the site proposed for the Flyway Site Network is an existing Ramsar site then the documentation process can be simplified.
- Once completed, the Site Information Sheet (and accompanying map(s)) should be submitted to the Flyway Partnership Secretariat. Compilers should provide an electronic (MS Word) copy of the Information Sheet and, where possible, digital versions (e.g. shapefile) of all maps.

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

a)

Full name: Greg Miller, Janice Worland (ex EPA)

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2. Date this sheet was completed*:

DD/MM/YYYY

xx/07/2006

3. Country*:

Australia

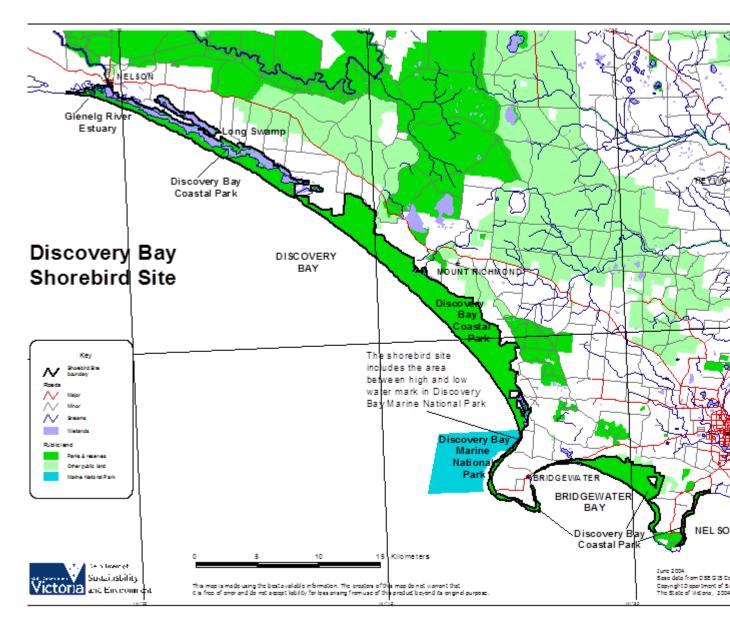
4. Name of the Flyway Network site*:

Accepted English transcription of the Site's name.

Bowling Green Bay - includes Bowling Green Bay National Park (a declared Ramsar Site), Cape Bowling Green, Bowling Green Bay Dugong Protection Area and other EPA coastal estate.

5. Map of site*:

The most up-to-date available and suitable map of the wetland should be appended to the SIS (only in digital format and shape file). The map must clearly show the boundary of the site. Please refer to the "Digitising Site Boundaries in Google Earth" file linked <u>here</u>.



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

Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is

composed of more than one separate area, provide coordinates for each of these areas.

The site's centre is located at approximately: Latitude 19° 18' 52" S, Longitude 147° 24' 30" E (Dec: Latitude -19.31667, Longitude 147.40833)

7. Elevation*: (in metres: average and/or maximum & minimum) Less than 2 m ASL.

8. Area*:

The total area of the site, in hectares. If the areas of discrete site units are known, please also list each of these together with the names (or labels) used to identify and differentiate these units.

Total area is 9033ha.

9. General overview of the site*:

A brief (two sentences) summary of the site, mentioning principal physical and ecological functions, and its importance for migratory waterbirds.

The Bowling Green Bay site includes the Bowling Green Bay Dugong Protection Area, sections of the Bowling Green Bay National Park and Ramsar Site, the Bowling Green Bay Conservation Park and an extensive sand spit which is classified as Vacant Crown Land. The sand spit is the main roost site for birds that feed across intertidal flats of the Bay; it is approximately 3 km in length, and situated on the southern boundary of one of the most expansive wetland complexes on the east coast of Australia. The site is of international significance as a migratory shorebird habitat, an important stronghold for a number of endangered and vulnerable marine fauna species, supports regionally important breeding waterfowl and waterbird populations, and sustains important recreational and commercial fisheries.

10. Justification of Flyway Site Network criteria*:

Please provide waterbird count information (with year of latest count) that demonstrates that the site meets the criteria of the Flyway Site Network (Annex 1). That is:

- it regularly supports > 20 000 migratory waterbirds; or,
- it regularly supports > 1 % of the individuals in a population of one species or subspecies of migratory waterbird; or,
- it supports appreciable numbers of an endangered or vulnerable population of migratory waterbird
- it is a "staging site" supporting > 5 000 waterbirds, or > 0.25% of a population stage at the site.

A listing of the populations of migratory waterbirds covered by the East Asian – Australasian Flyway Partnership and the 1% thresholds is attached (Annex 3).

The "staging site" criterion is particularly difficult to apply and application of this should be discussed with the Secretariat. Also note that some species have several populations that are very difficult to distinguish in the field.

The remote location and large area of this site make regular counting difficult, but also contribute to continued habitat health. Therefore, whilst some published counts date back to 1996 and no repeat counts are available, it is assumed that this large and remote site does regularly support similar numbers of the species listed below.

Bowling Green Bay meets the network criteria in that it regularly[#] supports > 1% of the individuals in the population of **three** species of migratory shorebird.(see Table below).

Popular English Name	Scientific Name	Minimum Population Estimate*	1% Criteria	Count	Count Date(s) [#]	Citation
Black-tailed godwit	Limosa limosa melanuroides	160 000	1 600	2058	13-12-96	Harrison (1997)
Bar-tailed godwit**	Limosa lapponica baueri	155 000**	1 550**	2103	13-12-96	Harrison (1997)
Red-necked stint	Calidris ruficollis	315 000	3 150	4598	31-8-99	Birds Australia database

* Minimum Population Estimates from Wetlands International (2002).

** The minimum population estimate and 1% threshold quoted here for Bar-tailed Godwit is for the subpopulation *Limosa lapponica baueri*, which this count was comprised of.

The majority of sites in the East Asian – Australasian Flyway do not have sufficient count data to meet the Ramsar guidelines for defining the term "regularly supports". Allowance has been made for sites in remote areas where only limited count information is available, and it is accepted that single counts can help establish the relative importance of the site for a species (Ramsar Convention Bureau 2000; Bamford *et al* 2006).

11. Wetland Types*:

List the wetland types present (see Annex 2). List the wetland types in order of their area in the Flyway Network site, starting with the wetland type with the largest area.

The site is a marine/coastal wetland and includes the following wetland habitat types: A, B, E and G.

12. Jurisdiction*:

Include territorial, e.g. state/region, and functional/sectoral, e.g. Ministry of Agriculture/Dept. of Environment, etc.

The Queensland Department of Primary Industries and Fisheries (State) (DPI) hold jurisdiction over the Fish Habitat Reserves. The Environmental Protection Agency (State) (EPA), Great Barrier Reef Marine Park Authority (Commonwealth) (GBRMPA) and Department of the Environment and Heritage (Commonwealth) (DEH) share jurisdiction over the State Marine Park, National Park, World Heritage Area and Dugong Protection Area. The site is within Townsville City Council and Burdekin Shire Council boundaries.

13. Management authority*:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland and the title and/or name and email address/phone number of the person or persons in this office with direct responsibility for managing the wetland.

Environmental Protection Agency, PO Box 15155, CITY EAST, QLD, 4002

14. Bibliographical references*:

A list of key technical references relevant to the wetland, including management plans, major scientific reports, and bibliographies, if such exist. Please list Web site addresses dedicated to the site or which prominently feature the site, and include the date that the Web site was most recently updated. When a large body of published material is available about the site, only the most important references need be cited, with priority being given to recent literature containing extensive bibliographies.

15. Physical features of the site:

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

16. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

17. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

18. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Flyway Network site, and the ecosystem services of the site and the benefits derived from them.

19. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the SIS.* (Please add here the species which do not come under sec no 14)

20. Noteworthy fauna:

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Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 10. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the SIS.* (Please add here the species which do not come under sec no 14)

21. Social, economic and cultural values:

a) Describe if the site has any general social, economic and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values:

b) Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning? (Double-click the checkbox to check and choose "Checked" under "Default Value" from "Check Box Form Field Options" window)

If yes, tick the box **D** and describe this importance under one or more of the following categories:

- I. Sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:
- II. Sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- III. Sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- IV. Sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

22. Land tenure/ownership:

a) Within the Flyway Network site:

b) In the surrounding area:

23. Current land (including water) use:

a) Within the Flyway Network site:

b) In the surroundings/catchment:

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

a) Within the Flyway Network site:

Current: Military training activities has caused some minor, localised damage. Illegal fish netting may be having significant adverse effects upon Dugong populations. There is pressure on fish/crab stocks from the rate of commercial and recreational fishermen. The south-eastern area of the site is also impacted by run off from agriculture and damage to nesting grounds by grazing stock. Otherwise there is little disturbance to the area.

Potential: Other than increasing pressure from recreational fishermen in the Island Head Creek section no factors are perceived as potential damaging to the area as it is subject to strict controls. Prohibition of trawling in much of the area and the current low level use for tourism and recreation limit the threat to the values of the area.

b) In the surrounding area:

25. Conservation measures taken:

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Flyway Network site:

In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.

The site is part of a more extensive site encompassed by the Shoalwater Bay Military Training Area. It is subject to the following Commonwealth legislation: Environment Protection (Impact of Proposals) Act 1974; Great Barrier Reef Marine Park Act; Defence Act 1903; Endangered Species Protection Act 1993; National Parks and Wildlife Conservation Act 1975; Whale Protection Act 1980; and Australian Heritage Commission Act 1975. Principal state legislation that will effect the area is as follows: Nature Conservation Act 1992; Marine Parks Act 1982, 1988: Queensland Marine Act 1958-1985; Fisheries Act 1976-1984, 1994; and Water Resources Act 1989. The Shoalwater Bay Inquiry (Australian Government 1994) made thirty five recommendations regarding the future use of the area, requiring in essence: `that by reason of the outstanding National Estate and World Heritage values, in particular its biodiversity and wilderness values and the ecological integrity of the whole area, including land and sea, the Area be conserved as an Area of national, state and regional significance. Future management of permissible uses and activities in the Area should be undertaken in such a way as to ensure that these values are not degraded', and `that conservation use of the area as a whole - land and sea - be elevated in importance and explicitly recognised as being a concurrent and equally

significant use with Defence use of the area'. The Inquiry also led to the preparation of the Shoalwater Bay Strategic Plan 1996, which incorporates land management plans for the area developed by the Queensland EPA and the Great Barrier Reef Marine Park Authority.

The entire area is within the Mackay-Capricorn Marine Park and managed within the provisions of its zoning plan. Conservation management of the marine areas is the responsibility of the Great Barrier Reef Marine Park Authority, the Environmental Protection Agency and the Department of Primary Industries and Fisheries. Parts of the Shoalwater Bay and Island Head Creeks sections of the site, together with a portion of the Dismal Swamp wetland, form part of the Shoalwater Bay Ramsar Site. The area was a joint nomination by the Department of Environment and Heritage, the Australian Nature Conservation Agency, Great Barrier Reef Marine Park Authority (GBRMPA) and the Dept of Defence. Much of the marine environment is managed under complimentary zoning plans of the Commonwealth Great Barrier Reef Marine Park and of the Queensland Mackay/Capricorn Marine Park. Feral animal and pest plant controls are effectively being implemented. The site is also listed in the Directory of Important Wetlands in Australia.

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate, see Annex 3):

Ia __; Ib __; II __; III __; IV __; V __; VI __; N/A __

c) Does an officially approved management plan exist; and is it being implemented?:

If yes, is it being implemented?: If no, is one being planned?

d) Describe any other current management practices:

26. Conservation measures proposed but not yet implemented:

e.g. management plan in preparation; official proposal as a legally protected area, etc.

Future growth potential in marine based ecotourism may require a planning exercise in accordance with the National Ecotourism Strategy. Management strategies are being developed with fisheries to counter adverse impacts.

27. Current scientific research and facilities:

e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

It is believed the low level of disturbance, high wilderness value and diverse plant communities and integrity of the many ecosystems make the area an ideal benchmark for scientific research. The Commonwealth Scientific and Industrial Research Organisation (CSIRO) established at least 20 permanent reference sites in the area during 1972-73. These were broadly characterised and measurements of fuel accumulation and the occurrence of fire recorded for a number of years.

Directed by Col Limpus of the QLD EPA, ongoing monitoring of turtle population dynamics has occurred in western Shoalwater Bay since 1986. Species include the green, loggerhead, hawksbill and flatback turtles. The project is based on a tag-recapture method of research, with records including capture site, turtle measurements, sex, maturity and breeding status of each captured turtle documented. These records allow detailed descriptions of herd composition and changes, growth rates, breeding rates and geographical range to be monitored and assessed (Limpus, C. pers. comm.).

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

e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc. Local conservation groups regularly provide information on the area to various local, national

and international interest groups. Dugong and turtle issues have been a focus for marine education in the region. Central Queensland University and other educational and research institutions use the area for research and educational purposes (Childs and Healy, pers. comm., 1995).

29. Current recreation and tourism:

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

Very limited recreation and tourist activity due to minimal vehicle access and development, the remoteness of site and restricted public access to the area due to military training.

30. Threats*:

Which of the following threats is present historically – when the threat stopped but the effects are still there (H), currently (C) or potentially (P)?

	Historically	Currently	Potentially
Residential and commercial development			
housing and urban areas			

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commercial and industrial areas		
tourism and recreation areas		
Agriculture and aquaculture		
annual and perennial non-timber crops		
wood and pulp plantations		
livestock farming and ranching		
marine and freshwater aquaculture		
Energy production and mining		
oil and gas drilling		
mining and quarrying		
renewable energy		
Transportation and service corridors		
roads and railroads		
utility and service lines		
shipping lanes		
flight paths		
Biological resource use		
hunting and collecting terrestrial animals		
gathering terrestrial plants		
logging and wood harvesting		
fishing and harvesting aquatic resources		
Human intrusions and disturbance		
recreational activities		
war, civil unrest and military exercises		
work and other activities		
Natural system modifications		
fire and fire suppression		
dams and water management/use		
other ecosystem modifications		
Invasive and other problematic species and genes		

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	invasive non-native/alien species		
	problematic native species		
	introduced genetic material		
Pollut	ion		
	household sewage and urban waste water		
	industrial and military effluents		
	agricultural and forestry effluents		
	garbage and solid waste		
	air-borne pollutants		
	excess energy		
Geolo	gical events		
	volcanoes		
	earthquakes/tsunamis		
	avalanches/landslides		
Clima	te change and severe weather		
	habitat shifting and alteration		
	droughts		
	temperature extremes		
	storms and flooding		

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

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

(From the Partnership Text)

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

- a. Convention on Wetlands (Ramsar, Iran, 1971) criteria for internationally important sites for migratory waterbirds. That is:
 - Criterion 2: A wetland should be considered internationally important if it supports vulnerable, endangered, or critically endangered species or threatened ecological communities.
 - Criterion 5: A wetland should be considered internationally important if it regularly supports 20,000 or more waterbirds.
 - Criterion 6: A wetland should be considered internationally important if it regularly supports 1% of the individuals in a population of one species or subspecies of waterbird.
- b. The staging criteria as applied under the Asia Pacific Migratory Waterbird Conservation Strategy. That is:
 - i. A staging site should be considered internationally important if it regularly supports 0.25% of individuals in a population of one species or subspecies of waterbirds on migration.
 - ii. A staging site should be considered internationally important if it regularly supports 5,000 or more waterbirds at one time during migration.
- c. Under exceptional circumstances a site can be nominated if it supports migratory waterbirds at a level or stage of their life cycle important to the maintenance of flyway populations. Justification of such nominations will be considered by the Partnership on a case by case basis.

Annex 2: Ramsar Classification System for Wetland Type

The codes are based upon the Ramsar Classification System for Wetland Type as approved by Recommendation 4.7 and amended by Resolutions VI.5 and VII.11 of the Conference of the Contracting Parties. The categories listed herein are intended to provide only a very broad framework to aid rapid identification of the main wetland habitats represented at each site.

To assist in identification of the correct Wetland Types to list in section 19 of the RIS, the Secretariat has provided below tabulations for Marine/Coastal Wetlands and Inland Wetlands of some of the characteristics of each Wetland Type.

Marine/Coastal Wetlands

- A -- **Permanent shallow marine waters** in most cases less than six metres deep at low tide; includes sea bays and straits.
- B -- Marine subtidal aquatic beds; includes kelp beds, sea-grass beds, tropical marine meadows.
- C -- Coral reefs.
- D -- Rocky marine shores; includes rocky offshore islands, sea cliffs.
- E -- Sand, shingle or pebble shores; includes sand bars, spits and sandy islets; includes dune systems and humid dune slacks.
- F -- Estuarine waters; permanent water of estuaries and estuarine systems of deltas.
- G -- Intertidal mud, sand or salt flats.
- H -- Intertidal marshes; includes salt marshes, salt meadows, saltings, raised salt marshes; includes tidal brackish and freshwater marshes.
- I -- Intertidal forested wetlands; includes mangrove swamps, nipah swamps and tidal freshwater swamp forests.
- J -- Coastal brackish/saline lagoons; brackish to saline lagoons with at least one relatively narrow connection to the sea.
- K -- Coastal freshwater lagoons; includes freshwater delta lagoons.
- Zk(a) Karst and other subterranean hydrological systems, marine/coastal

Inland Wetlands

L	Permanent inland deltas.
M	Permanent rivers/streams/creeks; includes waterfalls.
N	Seasonal/intermittent/irregular rivers/streams/creeks.
0	Permanent freshwater lakes (over 8 ha); includes large oxbow lakes.
P	Seasonal/intermittent freshwater lakes (over 8 ha); includes floodplain lakes.
Q	Permanent saline/brackish/alkaline lakes.
R	Seasonal/intermittent saline/brackish/alkaline lakes and flats.

Тр	Permanent freshwater marshes/pools; ponds (below 8 ha), marshes and swamps on inorganic soils;
	with emergent vegetation water-logged for at least most of the growing season.
Ts	Seasonal/intermittent freshwater marshes/pools on inorganic soils; includes sloughs, potholes,
	seasonally flooded meadows, sedge marshes.
U	Non-forested peatlands; includes shrub or open bogs, swamps, fens.
Va	Alpine wetlands; includes alpine meadows, temporary waters from snowmelt.
Vt	Tundra wetlands; includes tundra pools, temporary waters from snowmelt.
W	Shrub-dominated wetlands; shrub swamps, shrub-dominated freshwater marshes, shrub carr, alder
	thicket on inorganic soils.
Xf	Freshwater, tree-dominated wetlands; includes freshwater swamp forests, seasonally flooded forests,
	wooded swamps on inorganic soils.
Хр	Forested peatlands; peatswamp forests.
Y	Freshwater springs; oases.
Zg	Geothermal wetlands
Zk(b) –	Karst and other subterranean hydrological systems, inland

Permanent saline/brackish/alkaline marshes/pools.

Seasonal/intermittent saline/brackish/alkaline marshes/pools.

<u>Note</u>: "**floodplain**" is a broad term used to refer to one or more wetland types, which may include examples from the R, Ss, Ts, W, Xf, Xp, or other wetland types. Some examples of floodplain wetlands are seasonally inundated grassland (including natural wet meadows), shrublands, woodlands and forests. Floodplain wetlands are not listed as a specific wetland type herein.

Human-made wetlands

Sp --Ss --

- 1 -- Aquaculture (e.g., fish/shrimp) ponds
- 2 -- **Ponds**; includes farm ponds, stock ponds, small tanks; (generally below 8 ha).
- 3 -- Irrigated land; includes irrigation channels and rice fields.
- 4 -- Seasonally flooded agricultural land (including intensively managed or grazed wet meadow or pasture).
- 5 -- Salt exploitation sites; salt pans, salines, etc.
- 6 -- Water storage areas; reservoirs/barrages/dams/impoundments (generally over 8 ha).
- 7 -- **Excavations**; gravel/brick/clay pits; borrow pits, mining pools.
- 8 -- Wastewater treatment areas; sewage farms, settling ponds, oxidation basins, etc.
- 9 -- Canals and drainage channels, ditches.
- Zk(c) -- Karst and other subterranean hydrological systems, human-made

Annex 3: IUCN Protected Areas Categories System

IUCN protected area management categories classify protected areas according to their management objectives. The categories are recognised by international bodies such as the United Nations and by many national governments as the global standard for defining and recording protected areas and as such are increasingly being incorporated into government legislation.

la Strict Nature Reserve

Category Ia are strictly protected areas set aside to protect biodiversity and also possibly geological/geomorphical features, where human visitation, use and impacts are strictly controlled and limited to ensure protection of the conservation values.

Ib Wilderness Area

Category Ib protected areas are usually large unmodified or slightly modified areas, retaining their natural character and influence without permanent or significant human habitation, which are protected and managed so as to preserve their natural condition.

II National Park

Category II protected areas are large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible, spiritual, scientific, educational, recreational, and visitor opportunities.

III Natural Monument or Feature

Category III protected areas are set aside to protect a specific natural monument, which can be a landform, sea mount, submarine cavern, geological feature such as a cave or even a living feature such as an ancient grove. They are generally quite small protected areas and often have high visitor value.

IV Habitat/Species Management Area

Category IV protected areas aim to protect particular species or habitats and management reflects this priority. Many Category IV protected areas will need regular, active interventions to address the requirements of particular species or to maintain habitats, but this is not a requirement of the category.

V Protected Landscape/ Seascape

A protected area where the interaction of people and nature over time has produced an area of distinct charcter with significant, ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.

VI Protected area with sustainable use of natural resources

Category VI protected areas conserve ecosystems and habitats together with associated cultural values and traditional natural resource management systems.