

Information Sheet on Ramsar Wetlands (RIS) – 2006-2008 version

Available for download from http://www.ramsar.org/ris/key_ris_index.htm.

Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8th Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX.22 of the 9th Conference of the Contracting Parties (2005).

Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 7, 2nd edition, as amended by COP9 Resolution IX.1 Annex B). A 3rd edition of the Handbook, incorporating these amendments, is in preparation and will be available in 2006.
3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

1. Name and address of the compiler of this form:

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Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

14 November 2007

3. Country:

Mauritius

4. Name of the Ramsar site:

Blue Bay Marine Park

5. Designation of new Ramsar site or update of existing site:

This RIS is for (tick one box only):

- a) Designation of a new Ramsar site ; or
b) Updated information on an existing Ramsar site

6. For RIS updates only, changes to the site since its designation or earlier update:

a) Site boundary and area

The Ramsar site boundary and site area are unchanged: ;

Or

If the site boundary has changed: No major changes noted

- i) the boundary has been delineated more accurately ; or
ii) the boundary has been extended ; or
iii) the boundary has been restricted**
and/or

If the site area has changed:

- i) the area has been measured more accurately ; or
ii) the area has been extended ; or
iii) the area has been reduced**

** **Important note:** If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:

7. Map of site:

Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

a) A map of the site, with clearly delineated boundaries, is included as:

- i) A hard copy (required for inclusion of site in the Ramsar List):
ii) An electronic format (e.g. a JPEG or ArcView image):
iii) A GIS file providing geo-referenced site boundary vectors and attribute tables: .

b) Describe briefly the type of boundary delineation applied:

On land, the boundary delineation runs up to the High Water Mark along the seashore of the Blue Bay Public Beach, from the northernmost point known as Pointe Corps de Garde

to the southernmost point known as Pointe Vacoas. From both the Pointe Corps de Garde and Pointe Vacoas, it extends seawards for up to about 1 km.

8. Geographical coordinates (latitude/longitude, in degrees and minutes):

The central coordinates of this site are: 57°42'38"E 20°27'00"S

The Blue Bay Marine Park is bounded as follows:

Towards the East: Starting from a point at 1019589mE, 972579mN (57°42'59.73"E 20°26'44.54"S) on the seashore, the boundary runs along an imaginary line bearing an angle of 15300 26' up to the coral reef, thence in the same direction to a point 1km from the reef (point 57°43'E 20°27'S).

Towards the South: From the last mentioned point, the boundary runs along another imaginary line parallel to and at a distance of 1 km from the coral reef to a point on a third imaginary line bearing an angle of 1350 from a point at 1017971mE, 971350mE (57°42'03.96"E 20°27'24.56"S) on the seashore.

Towards the West: From the last mentioned point, the boundary runs along the said imaginary line parallel to the seashore.

Towards the North: From the last mentioned point, the boundary follows generally northeast along the seashore up to the starting point.

9. General location:

Located in the South East coast of Mauritius in the Grand Port district; nearest town Mahebourg (with a population of about 20 000 inhabitants) also in the district of Grand Port, under the administration of Grand Port Savanne District Council.

10. Elevation: (in metres: average and/or maximum & minimum)

0 meters above sea level

11. Area: 353 hectares

12. General overview of the site:

The Blue Bay Marine Park is recognised for its exceptional underwater seascape and unique coral garden. The patch reef of the lagoon is spectacular coral reef community with luxuriant coral growth of approximately 4 hectares in excellent condition.

The Blue Bay Marine Park harbours a marine ecosystem of rich biodiversity in marine fauna and flora especially in terms of its coral assemblage. The coral species diversity is

high. About 38 coral species representing 28 genera and 15 families and some 72 fish species have been recorded. The patch reef of the Blue Bay Marine Park is the only location where convoluted *Montipora aequituberculata* has been recorded it ranks among the best in the world for its exceptional beauty and health. Dense growth of table corals, cactus corals, staghorn corals, and fire corals alternate and co-exist.

13. Ramsar Criteria:

Tick the box under each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11). All Criteria which apply should be ticked.

1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9

14. Justification for the application of each Criterion listed in 13 above:

Criterion 1:

Criterion 2:

Sea turtles (*Chelonia mydas* commonly known as the green turtle an endangered species) have been sighted in the park.

Officers of the Marine Conservation Division have come across turtles during their routine monitoring activity in the park.

Criterion 3:

The Blue Bay Marine Park is recognised for its exceptional underwater seascape and unique coral garden. It harbours a marine ecosystem of rich biodiversity in marine fauna and flora especially in terms of its coral assemblage. High coral species diversity (about 38 coral species representing 28 genera and 15 families) and some 72 fish species have been recorded here, contributing to the maintenance of this ecosystem

Two species of mangroves plant are found in Blue Bay namely *Bruguiera gymnorrhiza* and *Rhizophora mucronata*. These act as shoreline stabilizers, silt trap, nursery grounds and habitat for many marine organisms. Sea grass meadows consists mainly of *Halodule uninervis*, *Halophila ovalis* and *Syringodium* sp while species of macro algae such as *Sargassum* sp, *Turbinaria* sp, are present at specific location. Sea grass meadows and macro algae stabilise the sea bed thus preventing erosion.

Table coral colonies have attained diameters up to 16m. *Pavona* sp form mounts. Species of convoluted *Montipora* also form part of the coral garden. The size of the brain coral are striking, one attaining around 6 – 7 metres. Some 38 species of corals have been recorded from the Blue bay Marine Park (Re annex to section 22)

Criterion 4:

The seagrass meadows and the algae as well as the mangroves root system are habitats and nursery grounds for juvenile marine organisms as well as grazing grounds for herbivorous fish species.

The area harbours turtle nesting site, shelter for juvenile fish species, commercial fish species, occasionally certain fresh water fish species, medusae, jelly fish sea anemones.

Criterion 7:

72 fish species belonging to the following families are found in the park: Holocentridae, Syngnathidae, Scorpaenidae, Serranidae, Apogonidae, Carangidae, Lutjanidae, Lethrinidae, Mullidae, Chaetodontidae, Pomacentridae, Pomacanthidae, Labridae, Sphyrnaeidae, Scaridae, Gobiidae, Acanthuridae, Siganidae, Balistidae, Ostraciidae, Tetraodontidae, Diodontidae,.

1 example of endemic fish species is damsel fish (*Chrysiptera sp*)

Barracudas have also been sighted in the Blue Bay Marine Park. Barracudas are natural predators and feed on other fish specimens, so that their presence in the park is indicative that food (ie fish) is available.

Criterion 8:

The sea grass meadows and the algae as well as the mangroves are habitats and nursery grounds for juvenile marine organisms as well as grazing grounds for herbivorous fish species. The list of fish families found in the park is same as that for criterion 7 above.

15. Biogeography (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

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a) **biogeographic region:** Indian Ocean , Mascarene Islands.

b) **biogeographic regionalisation scheme:** African Region, (Southern Africa)

16. Physical features of the site:

The Blue Bay Marine Park is a natural marine lagoon. The sea water quality is generally within the limits of the Guidelines for Coastal Water Requirements around the republic of Mauritius(EPA 2002). The water depth varies from 1m to 150m, thereby water is permanently present. Diurnal tides with a fluctuation of 50cm to 70cm do occur.

Annual rainfall and 1 723 mm

Temperature: winter 22 celcius, summer 25. 6 c

Sea water temperature: (Winter 24.1 celcius and summer: 25.7 celcius)

Seasons: Summer from November to April and Winter: May to October

17. Physical features of the catchment area:

Climate: Tropical maritime with south easterly trade

Rainfall: Average annual rainfall is 1 723 mm

- Temperature:
 - Average winter temperature: 22.00 C
 - Average summer temperature: 25.60 C
 - Average sea water temperature (winter): 24.10C
 - Average sea water temperature (summer): 25.70 C

The approximate area of the entire catchment area = 1000 ha.

18. Hydrological values:

Part of the coast bordering the Blue Bay Marine Park has mangroves stands, which trap sediment during periods of floods. The mangroves also act as shoreline stabiliser, preventing erosion. Similarly, the coral reefs attenuate the waves from the open sea and protect the shoreline from erosion. The dense sea grass meadows found in the park serve as seabed stabiliser thus preventing erosion.

19. Wetland Types

a) presence:

Circle or underline the applicable codes for the wetland types of the Ramsar "Classification System for Wetland Type" present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

Marine/coastal: A • B • C • D • E • F • G • H • I • J • K • Zk(a)

Inland: L • M • N • O • P • Q • R • Sp • Ss • Tp • Ts • U • Va •
Vt • W • Xf • Xp • Y • Zg • Zk(b)

Human-made: 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

b) Dominance:

E, C, D, B in order of decreasing dominance.

20. General ecological features:

The patch reef of the Blue Bay Marine Park forms the main habitat among which live a variety of marine organisms such as fishes, crustaceans, sea cucumbers, sea urchins, sea shells, cephalopods, starfishes, sponges, sea anemones, and jelly fish among others.

The North and North-western parts of the site consist of strict conservation zones A and B respectively (see site zoning map). The Eastern, Central and Western parts of the site

are conservation zones and the Southern part of the site is a multiple use zone (see zoning map).

21. Noteworthy flora:

Two species of mangroves plant are found in Blue Bay namely *Bruguiera gymnorrhiza* and *Rhizophora mucronata*. These act as shoreline stabilizers, silt trap, nursery grounds and habitat for many marine organisms. Sea grass meadows consists mainly of *Halodule uninervis*, *Halophila ovalis* and *Syringodium* sp while species of macro algae such as *Sargassum* sp, *Turbinaria* sp, are present at specific location. Sea grass meadows and macro algae stabilise the sea bed thus preventing erosion. They are habitats and nursery grounds for juvenile marine organisms as well as grazing grounds for herbivorous fish species.

22. Noteworthy fauna:

Coral – Blue Bay Marine Park has exceptional coral covers. Table coral colonies have attained diameters up to 16m. *Pavona* sp form mounts. Species of convoluted *Montipora* also form part of the coral garden. The size of the brain coral are striking, one attaining around 6 – 7 metres. Some 38 species of corals have been recorded from the Blue bay Marine Park (Re annex to section 22)

Fish- 72 fish species belonging to the following families are found in the park: *Holocentridae*, *Syngnathidae*, *Scorpaenidae*, *Serranidae*, *Apogonidae*, *Carangidae*, *Lutjanidae*, *Lethrinidae*, *Mullidae*, *Chaetodontidae*, *Pomacentridae*, *Pomacanthidae*, *Labridae*, *Sphyrnidae*, *Scaridae*, *Gobiidae*, *Acanthuridae*, *Siganidae*, *Balistidae*, *Ostraciidae*, *Tetraodontidae*, *Diodontidae*,.

Sea turtle-Sea turtles (*Chelonia* sp an endangered species) have been found in the park

23. Social and cultural values:

a) Describe if the site has any general social 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:

The site is nursery ground for juvenile specimens. It also adjoins a popular public beach some 5 metres away called Blue Bay beach. It is widely used by the local community for recreation purposes. They visit the beach for sun bathing and swimming in the lagoon. There are two hotels in the area. One is located within the vicinity of the park while the other is found outside the boundary of the park. It may wish to note that these two hotels were built before the proclamation of the site as marine protected areas.

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? **NO**

If Yes, tick the box 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:
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24. Land tenure/ownership:

- a) within the Ramsar site: **Ministry of Agro Industry and fisheries**
 - b) in the surrounding area: **State land and private ownership**
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25. Current land (including water) use:

- a) within the Ramsar site:
Recreational, Tourism activities, including different types of permissible water sports carried out in specific demarcated zones.
 - b) in the surroundings/catchment:
Residential, Agricultural, hotel development
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26. 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 Ramsar site:**
Recreational, Tourism activities, including different types of water sports. Here, it is necessary to indicate the impact of Tourism activities: Diving activities may impact negatively on the coral eco system. However it is necessary to note that all divers operating in the area are certified.
 - b) **In the surrounding area:**
Residential, Agricultural, hotel development. No negative impact has been noted for the surrounding area.
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27. Conservation measures taken:

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar 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.

Proclamation of Blue Bay & Balaclava as national parks in 1997 under the Wildlife and National Parks Act 1993. ; Blue Bay & Balaclava proclaimed MPA and declared marine parks since July 2000. Regulations governing MPAs, the Fisheries and Marine (Marine Protected Areas) Regulations were published in 2001 (Government Notice no 172 of 2001). The Blue bay Marine Park has been demarcated into different zones for specific activities.

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

Ia ; Ib ; II ; III ; IV ; V ; VI

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

The Fisheries and Marine (Marine Protected Areas) Regulations 2001 (Government Notice no 172 of 2001) makes provision for managing marine protected areas in general while Part VI of these regulations provides specific provisions for Blue Bay Marine Park.

d) Describe any other current management practices:

(i) A Steering Committee for the Management of the Blue Bay Marine Park has been set up in February 2006. Members of this committee are representatives from the Marine Conservation Division, Fisheries Division of the M/Agro Industry, M/ Environment, M/ Tourism, M/ Housing and Lands, the Police de l'Environnement, the Beach Authority, Non Governmental Organisations (Mauritius Marine Conservation Society, Eco Sud) involved in the protection and ecological aspects of the marine environment. The committee meets every two months to discuss matters related to the park such as management, any action to be taken in relation to the park and its immediate surroundings.

Afloat and coast patrols are conducted daily by Fisheries Protection Officers posted at the centre and are responsible for enforcing the regulations as set in the Fisheries and Marine (Marine Protected Areas) Regulations 2001. A permit system has been introduced to control access and permissible activities in the park.

28. Conservation measures proposed but not yet implemented:

Certain measures would be taken when the amendments in the Fisheries and Marine (Marine Protected Areas) Regulations 2001 would come into force;

For example, banning of boat raise, holding of exhibition, forbidding of fire work displays, once regulations are amended.

Possible collaboration with other institution involved in marine studies in the future. (e.g. the University).

29. Current scientific research and facilities:

Coral monitoring, visual census of fauna and flora at established stations along 460m transects; monitoring of water quality.

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

Core staff posted at the visitors' centre, responsible for surveillance, patrol and monitoring of the activities of the park and enforcement of the MPA regulations. Staff also attend to local and foreign visitors/students, provide information; Pamphlets on the marine park, posters are distributed to visitors.

31. Current recreation and tourism:

Yes; Water sports (swimming, snorkelling, diving, line fishing, sailing, canoeing); Glass bottom boats carry local and foreign tourists to see the fauna and flora of the park. Most of these activities are carried out daily. Some of these activities are controlled through a permit system with charges.

32. Jurisdiction:

Marine Conservation Division, Fisheries Division, Ministry of Agro Industry and Fisheries., 4th Level LIC Building, John Kennedy Street, Port Louis.

Phone no. 00230 238 4100

Fax No.: 00230 238 4184

Email: fisheries@mail.gov.mu

Authority with territorial jurisdiction over the wetland is the State

33. Management authority:

Marine Conservation Division, Fisheries Division, Ministry of Agro Industry and Fisheries., 4th Level LIC Building, John Kennedy Street, Port Louis.

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Fax No.: 00230 238 4184

Email: fisheries@mail.gov.mu

34. Bibliographical references:

Canada Mauritius Coastal and Marine Conservation Project (CAMCAM PROJECT has been completed and a report is available in house (unpublished).

Annual report - Fisheries Division, Ministry of Agro Industry and Fisheries (unpublished in house documents)

Overview of the Fisheries Sector (paper submitted for publication.

Leckraz S., Management of the Blue Bay Marine Park (Submitted for publication).

Pillay R. M., Terashima H., Vencatasamy A. and Uchida H., Field guide to corals of Mauritius (Under the coastal Fisheries Resources and Environment Conservation Project).

Government Notice No. 172 of 2001, 2001. The Fisheries and Marine (Marine Protected Areas) Regulations 2001.

Annex to Section 22

List of corals recorded in Blue Bay Marine Park

Pocillopora domicornis

P eydouxi

Seriatopora hystrix

Acropora aculeus

A. acuminata

A. austera

A. cythera

A. digitifera

A. florida

A. formosa

A. hyacinthus

A. nobilis

A. pharaonis

A. robusta

Montipora australiensis

Montipora aequituberculata

Montipora (endemic)

Pavona cactus

P danai

P. decussata

Fungia fungites

F. repanda

Herpolitha limax

Alveopora lizardi

Alveopora sp

Goniopora planulata

Porites lutea

Faria rotundata

Pectinia sp

Galaxea sp

Turbinaria sp

Millepora sp

Lobophyllia hemprichii

L. corymbosa

Leptoria phrygia

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