Information Sheet on Ramsar Wetlands (RIS)

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 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 Official Respondent:

FOR OFFICE USE ONLY.

DD MM YY

Designation date | Site Reference Number

Joint Nature Conservation Committee
Monkstone House
City Road
Peterborough
Cambridgeshire PE1 1JY
UK
Telephone/Fax: +44 (0)1733 – 562 626 / +44 (0)1733 – 555 948
Email: RIS@JNCC.gov.uk

Name and address of the compiler of this form:
Updated by Joseph Smith Abbott, Director,
BVI National Parks Trust,
P.O. Box 860, Road Town, Tortola, British Virgin Islands
(with assistance from UK Overseas Territories Conservation Forum,
102 Broadway, Peterborough, PE1 4DG, UK)

2. Date this sheet was completed/updated:

Designated: 10 May 1999

3. Country:

UK (British Virgin Islands)

4. Name of the Ramsar site:

Western Salt Ponds of Anegada

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

This RIS is for: 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:

** 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 included:

Refer to Annex III of the *Explanatory Notes 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) **hard copy** (required for inclusion of site in the Ramsar List): *yes* ✓ -or- *no* □;
ii**) an electronic format** (e.g. a JPEG or ArcView image)
iii) **a GIS file providing geo-referenced site boundary vectors and attribute tables** *yes* ✓ -or- *no* □;

b) Describe briefly the type of boundary delineation applied:

e.g. the boundary is the same as an existing protected area (nature reserve, national park etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The site boundary is the same as, or falls within, an existing protected area.

For precise boundary details, please refer to paper map provided at designation

---

8. Geographical coordinates (latitude/longitude)**:**

018 42 07 N 064 17 01 W

---

9. General location:

Include in which part of the country and which large administrative region(s), and the location of the nearest large town.

Nearest town/city: The Settlement, Anegada.

The site is at the western end of Anegada, at an approximate distance of 2.8 km on a bearing of 282° from the Settlement, the largest village and partial administrative centre on Anegada. Anegada lies approximately 19 km north of Virgin Gorda, separated by a shallow passage. It is the northernmost of the British Virgin Islands.

Administrative region: British Virgin Islands

---

10. Elevation (average and/or max. & min.) (metres)**:** **11. Area** (hectares)**:** 1071

Min. 0
Max. 8
Mean No information available

---

12. General overview of the site:

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The wetland is comprised of brackish saline lagoons amongst shrub-dominated vegetation.The ponds are partially-filled depressions in the lower part of a limestone ridge and are predominantly isolated from the sea by multiple ridges and dunes. There is one small channel connecting the ponds with the sea. Most of the ponds rise and fall with the highest tides, although many dry-out during the dry periods.

Anegada contains four major vegetation habitats: salt ponds, dry woodlands, cactus scrub, and mangroves. The wetland is the largest in the territory and provides a habitat for six endemic and endangered species of flora and fauna.

The shallow lagoons also support a fishery based on mullet fish.

---

13. Ramsar Criteria:

Circle or underline 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).

1, 2, 3, 8

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

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

Ramsar criterion 1

The Western Salt ponds of Anegada are a particularly good example of salt pond wetlands within the Greater Antilles.

Ramsar criterion 2

The site supports a number of endangered fauna and flora. The site provides a habitat for six species of global significance; the most notable are the critically endangered endemic Anegada rock iguana *Cyclura pinguis* about 2 m long, and *Cordia rupicola* (Boraginaceae), a Puerto Rican bank endemic that is recorded only for Puerto Rico and Anegada, and its widespread occurrence on Anegada makes this the most globally important site.

Ramsar criterion 3

The site is a very important habitat and nesting site for both sea and shore birds, with many species present that are not found elsewhere in the British Virgin Islands or other islands on the Puerto Rico shelf, and provides an important stopover site for migratory birds from North America.

Five species of flora of global significance exist within the Western Ponds on Anegada, including: *Acacia anegadensis* (Leguminosae) an Anegada endemic, *Metastelma anegadensis* (Ascepiadaceae) a BVI endemic, *Cordia rupicola* (Boraginaceae) a Puerto Rican bank endemic, *Leptocereus quadricostatus* (Cactaceae) a Puerto Rican bank endemic, and *Malpighia woodburyana* (Malpighiaceae) a Puerto Rican bank endemic.

Ramsar criterion 8

The ponds provide a spawning area for the Curry-mole mullet fish *Mugil cephalus*, which enter the ponds each year from November to February through a channel connected to the sea to spawn.

See Sections 21/22 for details of noteworthy species

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

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

a) biogeographic region:

Caribbean

b) biogeographic regionalisation scheme (include reference citation):

16. 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.

Soil & geology	sand, mud, nutrient-rich, limestone

Geomorphology and landscape	lowland, island, coastal, subtidal sediments (including sandbank/mudbank), lagoon, pools
Nutrient status	highly eutrophic
pH	alkaline
Salinity	brackish / mixosaline, hypersaline / hyperhaline
Soil	mainly organic
Water permanence	usually permanent, usually seasonal / intermittent
Summary of main climatic features	Anegada lies in the hurricane area. Prevailing winds are easterly. Average temperature range 24 – 34° C. Rainfall is 750 – 1000 mm per annum.

General description of the Physical Features:

No information available

17. Physical features of the catchment area:

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

Being of (coquina) limestone formation, the island of Anegada is unique in the BVI. Soils are shallow and alkaline, predominantly composed of calcium carbonate and detritus. There are a network of salt ponds throughout the western and eastern sections. The eastern and central parts of the island are eroded with coverage of hole-pocked limestone plains. The western sandy plain consists of edaphic and xeric vegetation. The island is subjected to constant wind-driven sea and salt spray, and with little rain, its vegetation is mostly stunted scrub and dry woodland (commonly known as Antillean xerophytic thorn forest or scrub formation). Although Anegada's permanent human population is less than 200 individuals, various resources are increasingly strained due to external demands. For example, with fishing as the major economic activity and because of growing tourist demands, the waters around Anegada have become over-exploited, whilst there is increasing pressure for the development of tourism infrastructure throughout the island, with particular reference to the coastal zone. Soil pH, limited rainfall, and constant winds preclude extensive agricultural development. Driving winds increase erosion in exposed areas, and gullying takes place after heavy rainfalls.

18. Hydrological values:

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

Shoreline stabilisation and dissipation of erosive forces, Sediment trapping, Flood water storage / desynchronisation of flood peaks, Maintenance of water quality (removal of nutrients)

19. Wetland types:

Marine/coastal wetland

Code	Name	% Area
W	Shrub-dominated wetlands	52.2
Q	Saline / brackish lakes: permanent	22.1
J	Coastal brackish / saline lagoons	11.7
H	Salt marshes	9.3
I	Mangrove / tidal forest	4.7

20. General ecological features:

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

There are five main habitat types at the Western Salt Ponds. These are:

1) Tidal mudflats - areas of silty sand and mud that are periodically covered by tide waters. The often sparse vegetation is typified by *Sarcocornia perennis, Salicornia bigloveii, Distichlis spicata* and stunted mangroves.

2) Mangrove/Tidal Forest - areas that are more or less enclosed except for some interplay with lagoon habitats. Conditions are generally brackish. Vegetation is patchy with clumps of red *Rhizophora mangle*, black *Avicennia germinans* and buttonwood *Conocarpus erectus* mangroves, interspersed with ponds and mudflats. Drier areas support *Borrichia arborescens, Sesuvium portulacstrum* and *Distichilis spicata*

Many organisms aggregate in the mangrove maze of roots where organic matter is abundant. The fish, shellfish and algae depend on mangroves as a source of food and shelter. Various avian species reside in the ponds, mudflats and the canopy of the mangroves. During the winter (October to May), migratory birds stop over in the wetland to rest and feed.

3) Coastal brackish/saline lagoons - protected inlets which are tidal and open to the sea at least at very high tides. Typified by a thick border of Red mangrove. The water contains marine elements and supports a productive system with a thick soft mud layer inhabited by a high invertebrate biomass.

4) Salina - an inland pond which is generally hypersaline, the shallow open water area often dries out and salt crystallizes along the pond edges. It is the habitat of brine shrimp *Artemia* spp. and is bordered by buttonwood mangrove.

5) Salt pond - an area periodically connected to the sea. The pond supports limited submerged vegetation and is bordered by a narrow zone of mangrove species.

Ecosystem services

21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in **12**. Justification for the application of the Criteria) 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 RIS.*

Internationally important species occurring on the site.

Five species of flora of global significance exist within the Western Ponds on Anegada, including: *Acacia anegadensis* (Leguminosae) an Anegada endemic, *Metastelma anegadensis* (Ascepiadaceae) a BVI endemic, *Cordia rupicola* (Boraginaceae) a Puerto Rican bank endemic, *Leptocereus quadricostatus* (Cactaceae) a Puerto Rican bank endemic, and *Malpighia woodburyana* (Malpighiaceae) a Puerto Rican bank endemic.

Higher Plants.

Fishlockia anagadensis, Cynanchum anagadense, Sabal causiarum and *Thurinax mossisii*

Assemblage.

The site supports a diverse assemblage of plant species including:

Rhizophora mangle, Avicennia germinans, Laguncularia racemosa, Conocarpus erectus, Sarcocornia perennis, Salicornia bigloveii, Distichlis spicata, Borrichia arborescens and *Sesuvium portulacstrum*.

22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in **12**. Justification for the application of the Criteria) indicating, e.g. which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

Birds

Species Information

Species ocurring at levels of international importance.

Reptiles.

Cyclura pinguis (Iguanidae) a critically endangered Anegada endemic inhabits within the Western Ponds Ramsar site. The total remaining population is estimated at less than 200 individuals. Furthermore, the habitat of *C. pinguis*, comprised of stunted scrub and dry woodland combined with a substrate of sandy-porous limestone, is threatened by human development within and outside the Ramsar site.

Nationally important species occurring on the site.

Birds.

The avifauna of the Western Ponds, Anegada is comprised of a small core of resident breeding species including the successfully reintroduced greater flamingo *Phoenicopterus ruber* (Phoenicopteridae), which is augmented by numerous migrants from North America during the winter months, including the *Phalacrocoracidae* family, notably the Double-crested and Olivaceous Cormorants and the *Charadriidae* family, including the Black-bellied and Lesser Golden Plover.

Reptiles.

Anegada Worm Snake (*Typlops richardi catapontus*), Anegada Ground Snake (*Dromicus portoricensis anegadae / Alsophis portoricensis anegadae*). White-lipped Frog (*Leptodactylus albilabris*).

Fish.

Mugil cephalus.

---

23. Social and cultural values:

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.

Environmental education/ interpretation
Fisheries production
Livestock grazing
Scientific research
Subsistence fishing
Tourism
Traditional cultural

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, 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:

24. Land tenure/ownership:

Ownership category	On-site	Off-site
National/Crown Estate	+	+
Private		+

25. Current land (including water) use:

Activity	On-site	Off-site
Nature conservation	+	+
Tourism	+	+
Current scientific research	+	+
Cutting of vegetation (small-scale/subsistence)	+	+
Fishing: subsistence	+	+
Gathering of shellfish	+	+
Bait collection	+	+
Rough or shifting grazing	+	+
Flood control	+	+
Mining/quarrying	+	+
Transport route	+	+
Other	+	+

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

Explanation of reporting category:

1. *Those factors that are still operating, but it is unclear if they are under control, as there is a lag in showing the management or regulatory regime to be successful.*
2. *Those factors that are not currently being managed, or where the regulatory regime appears to have been ineffective so far.*

NA = Not Applicable because no factors have been reported.

Adverse Factor Category	Reporting Category	Description of the problem (Newly reported Factors only)	On-Site	Off-Site	Major Impact?
Overgrazing by domestic livestock	1		+	+	

Disturbance to vegetation through cutting / clearing	1	Whilst land clearance is a small-scale activity at present there is the potential for medium to large scale clearance if national protected area status is not legally designated to the site.	+	+	
Introduction/invasion of non-native animal species	1		+	+	
Introduction/invasion of non-native plant species	1		+	+	

What measures have been taken / are planned / regulatory processes invoked, to mitigate the effect of these factors?
Is the site subject to adverse ecological change? NO

27. Conservation measures taken:

List national category and legal status of protected areas, including boundary relationships with the Ramsar site; management practices; whether an officially approved management plan exists and whether it is being implemented.

Conservation measure	On-site	Off-site
Site management statement/plan implemented	+	
Other	+	

b) Describe any other current management practices:

28. Conservation measures proposed but not yet implemented:

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

Other - The Anegada Western Ponds Ramsar site is a proposed protected area under the National Parks Ordinance 1961, however legal designation is pending.

29. Current scientific research and facilities:

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

Research has been undertaken by the H. Lavity Stoutt Community School of Tortola about the salt ponds of Anegada.

A two-year collaborative project, 2003-2005 entitled the 'Darwin Initiative Assessment of the Coastal Biodiversity of Anegada, BVI' is in progress with a main objective to carry out a detailed assessment of the coastal biodiversity of Anegada, including the network of ponds, leading to a Biodiversity Action Plan and the creation of the capacity for its future monitoring. Partners include the BVI National Parks Trust, the BVI Conservation and Fisheries Department, H. Lavity Stoutt Community College BVI, Royal Botanical Gardens Kew, Royal Society for the Protection of Birds, and the UK Marine Turtle Research Institute.

A Darwin Initiative project entitled 'Integrating National Parks, Education and Community Development (BVI)' was conducted from 1998- 2001 at two sites in the BVI, including the Anegada Western Ponds Ramsar site by the BVI National Parks Trust. The main objectives were capacity building and staff training in monitoring techniques and management planning, whilst adding to the biodiversity inventory for Anegada and Virgin Gorda.

The Anegada Rock Iguana (*Cyclura pinguis*) Rehabilitation Project began in 1997 by the BVI National Parks Trust to protect the rapidly declining population of endemic Anegada Rock Iguanas *C. pinguis* on Anegada. A Headstart Facility was constructed with assistance from scientists from the IUCN World Conservation Union - Iguana Specialist Group (ISG) and technical input from members of the Centre for Reproduction of Endangered Species of the San Diego Zoo, the Dallas Zoo and the Fort Worth Zoo. The facility houses approximately 90 captive juvenile iguanas. A number of captive iguanas were outfitted with radio transmitters and released into the wild in 2003 and 2004 within the Anegada Western Ponds Ramsar site.

The BVI National Parks Trust (BVINPT) participated in the Royal Botanic Gardens Kew (RBG Kew) Millennium Seed Bank Project through the provision of seeds from Anegada and the Trust has an ongoing relationship with RBG Kew to collect herbarium samples for storage until the BVI has herbarium facilities.

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

e.g. visitor centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

As part of all of the aforementioned projects listed in Section 27, conservation education has been a priority with school visits and guided tours conducted by project scientists and the BVI NPT. Brochures, posters, newsletters and web pages have also been created for the 'Darwin Initiative Assessment of the Coastal Biodiversity of Anegada, BVI' and the Iguana Recovery Programme. Public lectures pertaining to the flora and fauna of Anegada are presented throughout the year by project scientists at the H. Lavity Stoutt Community College (HLSCC) on Tortola and special lectures have also been presented as part of the HLSCC course 'Environments of the BVI'. Finally, the Conservation & Fisheries Department and the National Park Trust host a summer programme for children every year and information relating to Anegada has been incorporated in the past.

31. Current recreation and tourism:

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

Presently visiting to Anegada is much lower than the other British Virgin Islands due to its remote location. The majority of visitors sail to Anegada and spend one or two nights and then leave. Visiting to the wetland areas is mainly by persons interested in viewing the Anegada Rock Iguana, flamingos and other birdlife. Most tourists, however, visit Anegada for its pristine white sandy beaches, which stretch for miles.

As part of the proposed park, the National Parks Trust has built a captive breeding facility for the Anegada Rock Iguana. Tourism to this area has not been promoted as protection to the area has been deemed advisable before uncontrolled visiting takes place.

32. Jurisdiction:

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

Ministry of Natural Resources and Labour, British Virgin Islands Government
Central Administration Complex, Road Town, Tortola
British Virgin Islands

33. 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. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

Overall authority: Ministry of Natural Resources and Labour, British Virgin Islands Government,
Central Administration Complex, Road Town, Tortola
British Virgin Islands
Managers: BVI National Parks Trust, P.O.Box 860, Road Town, Tortola, BVI

34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see **15** above), list full reference citation for the scheme.

Site-relevant references

Clubbe, C, Gillman, M, Acevedo-Rodríguez, P & Walker, R (2004) Abundance, distribution and conservation significance of regionally endemic plant species on Anegada, British Virgin Islands. *Oryx*, **38**(3), 342-346

Jennison, M (1991) *Inclusion of the British Virgin Islands into the Ramsar Convention*. Unpublished M.Sc. dissertation, Heriot-Watt University, Institute of Offshore Engineering, Edinburgh

National Parks Trust of the British Virgin Islands (1986) *A parks and protected area system plan for the British Virgin Islands*. National Parks Trust of the British Virgin Islands, Tortola

Pienkowski, MW (ed.) (2005) *Review of existing and potential Ramsar sites in UK Overseas Territories and Crown Dependencies*. (Contractor: UK Overseas Territories Conservation Forum, Peterborough.) Final report on Contract CR0294 to the UK Department for Environment, Food and Rural Affairs, Bristol. www.ukotcf.org

Proctor, D & Fleming, LV (eds.) (1999) *Biodiversity: the UK Overseas Territories*. Joint Nature Conservation Committee, Peterborough

---

Please return to: **Ramsar Secretariat, Rue Mauverney 28, CH-1196 Gland, Switzerland**
Telephone**: +41 22 999 0170** • Fax: **+41 22 999 0169** • email: **ramsar@ramsar.org**