

Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

Note 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. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

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

UK Overseas Territories Conservation Forum

102 Broadway
Peterborough
Cambridgeshire PE1 4DG
UK

Email: pienkowski@cix.co.uk

FOR OFFICE USE ONLY.

DD MM YY		

Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

11 November 2004

3. Country:

UK (Turks and Caicos)

4. Name of the Ramsar site:

Grand Turk salinas, ponds and shores

5. Map of site included:

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

a) **hard copy** (required for inclusion of site in the Ramsar List): yes ☒ -or- no ☐

b) **digital (electronic) format** (optional): Yes

6. Geographical coordinates (latitude/longitude):

21 27 N 71 08 W

7. 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: Cockburn Town, Grand Turk

The site occurs within and adjacent to the town, which is the capital of the Turks & Caicos Islands.

Administrative region: Turks and Caicos

8. Elevation (average and/or max. & min.) (metres): 9. Area (hectares): approx 200

Min. 0

Max. 2

Mean No information available

10. Overview:

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

Abandoned salt-pans, freshwater pools and adjacent coasts throughout Grand Turk, including ones viewable in the centre of TCI's capital. Includes Town Salina, North Salina, South Salina, Great Salina, Hawes Pond Salina & Hawkes Nest Salina, North and South Wells and nearby shores. The area supports internationally important numbers of migrant shorebirds in the non-breeding season, as well as breeding and resident waterfowl.

11. 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, 3, 6

12. Justification for the application of each Criterion listed in 11. 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).

1 The salinas of Grand Turk have been the key element of the environment for several centuries. These are complemented by the freshwater pools at North and South Wells and the coastal marshes at the creeks.

3 The dryland areas support the endemic Turks & Caicos heather *Limonium bahamense*, as well as several rare local *Bouyeria* sub-shrubs (*B. thymifolia*, *B. inaguensis*) and a regionally endemic *Euphorbia* herb, *E. wilsonii*

6 The site regularly supports internationally important populations (assessed against Anon 2003) of :

	Breeding pairs	Non-breeding
<i>Pelecanus occidentalis</i> Brown Pelican		60 (2% Caribbean)
<i>Charadrius wilsonia</i> Wilson's Plover	30 (1% Global)	
<i>Tringa melanoleuca</i> Greater Yellowlegs		1000 (1% G)
<i>Tringa flavipes</i> Lesser Yellowlegs		6000 (> 1% G)
<i>Limnodromus griseus</i> Short-billed Dowitcher		4000 (> 1% G)
<i>Micropalama himantopus</i> Stilt Sandpiper		2500 (> 1% G)
<i>Larus atricilla</i> Laughing Gull		900 (6% C)
<i>Sterna maxima</i> Royal Tern		40 (3% C)
<i>Sterna sandvicensis</i> Sandwich Tern		60 (> 1% C)
<i>Sterna antillarum</i> Least Tern	420 (8% Caribbean)	400 (8% C)

13. 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):**14. 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	basic, biogenic reef, limestone, mud, nutrient-poor, sand
Geomorphology and landscape	Coastal, enclosed coast (including embayment), intertidal sediments (including sandflat/mudflat), islands, lagoon, lowland, open coast (including bay), pools, subtidal rock (including rocky reefs), subtidal sediments (including sandbank/mudbank), freshwater pools at wells, salt-pans
Nutrient status	mesotrophic, oligotrophic
pH	alkaline
Salinity	brackish / mixosaline, fresh, hypersaline / hyperhaline, saline / euhaline

Soil	mainly mineral
Water permanence	usually permanent, usually seasonal / intermittent
Summary of main climatic features	Rainfall averages 700 mm per year but is very variable. Potential evapotranspiration exceeds rainfall. Temperatures vary between 20°C and 35°C. Highest temperatures and rainfall occur in the summer.

15. 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).

The Turks and Caicos Islands lie between the Bahamas, Cuba and Hispaniola. Together with southern Florida, the Bahamas and northern Cuba, they are part of a platform of rocks formed as limestone depositing in shallow seas as the crust slowly subsided. Virtually all these rocks of the area, to a depth of several thousand metres, are directly of marine origin, except some fossil soils and sand-dune rock (aeolian limestone). The region has always had a marine environment from the time of its formation until the present.

The Turks and Caicos Islands are on two shallow banks (Turks Bank and the larger Caicos Bank), with deep ocean between them. The maximum altitude is about 50 m asl. There are further shallow banks (Mouchoir, Silver and Navidad) to the south-east but without islands; some of these banks are within TCI territory. They are important for whales and probably for feeding seabirds. The Bahamas lie on separate banks to the northeast, and share some aspects of the geography.

16. Hydrological values:

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

Flood control

17. Wetland types

Code	Name	% Area
A	Permanent shallow marine waters	
B	Marine subtidal aquatic beds	
C	Coral reefs	
D	Rocky shores	
E	Sand / shingle shores (including dune systems)	
G	Tidal flats	
H	Salt marshes	
I	Mangrove / tidal forest	
Ts	Freshwater marshes / pools: seasonal / intermittent	
Y	Freshwater springs	
5	Salt exploitation sites	
Other	Other	

18. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

Abandoned salt-pans and adjacent coasts throughout Grand Turk, including ones viewable in the centre of TCI's capital. Includes Town Salina, North Salina, South Salina, Great Salina, Hawes Pond Salina & Hawkes Nest Salina, North and South Wells and nearby shores. The area supports internationally important numbers of migrant shorebirds in the non-breeding season, as well as resident waterfowl. Turtle nesting areas on some beaches

19. 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

Habitat:

The mangroves of the TCI are typical of the region. Three species of mangrove, *Rhizophora mangle*, *Laguncularia racemosa* and *Avicennia germinans* grow with *Conocarpus erectus* (Combretaceae) in mixed stands along the inland margin of the islands fringing the Caicos Bank.

20. 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.*

21. Social and 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.

Salt-pans and their structures are of major importance in the cultural history and potential tourism industry of the islands. Grand Turk was the producer of the salt of highest world reputation in the late 19th and early 20th century, and this industry was the basis of the economy for centuries.

Aesthetic

Aquatic vegetation (e.g. reeds, willows, seaweed)

Archaeological/historical site

Conservation education

Current scientific research

Fisheries production

Non-consumptive recreation

Sport fishing

Subsistence fishing

Tourism

Traditional cultural

22. Land tenure/ownership:

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

23. Current land (including water) use:

Activity	On-site	Off-site	Scale
Nature conservation			
Tourism	+	+	
Recreation	+	+	
Research			
Collection of non-timber natural products: subsistence			
Cutting of vegetation (small scale/subsistence)			

Fishing: (unspecified)			
Fishing: recreational/sport		+	
Arable agriculture (unspecified)			
Grazing (unspecified)	+	+	
Urban development	+	+	
Other			

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

Activity	On-site	Off-site	Scale
Numerous small-scale in-filling of salinas	+		Large-scale by accumulation

The impacts of current cruise liner port development are not known.

25. 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
NNR		
Management plan in preparation		

26. Conservation measures proposed but not yet implemented:

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

27. Current scientific research and facilities:

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

28. Current conservation education:

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

29. Current recreation and tourism:

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

A key element of the draft management is the provision and management of trails, other viewing situations, literature and guide training at a range of situations.

30. Jurisdiction:

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

Ministry of Natural Resources, Government of the Turks & Caicos Islands, Grand Turk, Turks & Caicos Islands, British West Indies

31. 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.

32. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 13 above), list full reference citation for the scheme.

Site-relevant references

- Anon. (2003) *Caribbean IBA Resource Book*. BirdLife International, Cambridge.
- Bradley, PB (1995) *Birds of the Turks and Caicos Islands – the official checklist*. National Trust of the Turks and Caicos Islands, Turks and Caicos Islands
- Correll, DS & Correll, HB (1982) *Flora of the Bahama archipelago, including Turks & Caicos Islands*. Cramer, Vaduz
- Correll, DS & Correll, HB (1996) *Flora of the Bahama archipelago*. Lubrecht & Cramer, New York
- Ground, RW (2001) *The birds of the Turks and Caicos Islands*. Turks and Caicos National Trust, Providenciales
- Pienkowski, M (Ed.) (2002) *Plan for Biodiversity Management and Sustainable Development around Turks & Caicos Ramsar Site, version 1.0*. Turks & Caicos National Trust, UK Overseas Territories Conservation Forum & CABI Bioscience, www.ukotcf.org
- Pienkowski, M.W. (2005) Important Bird Areas in the Turks & Caicos Islands. In Sanders, SM et al (eds) *Important Bird Areas in the United Kingdom Overseas Territories*. RSPB, Sandy, UK.
- Pienkowski, M.W. (2005, in press). The Turks and Caicos Islands. In: PE Bradley & RL Norton (eds) *Island account of breeding seabirds of the Caribbean (West Indies)*. Possibly University of Florida Press. Not final
- Sealey, NE (1994) *Bahamian landscapes: an introduction to the physical geography of the Bahamas*. 2nd edn. Media Enterprises, Nassau

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Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

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2. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

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

UK Overseas Territories Conservation Forum

102 Broadway
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Cambridgeshire PE1 4DG
UK

Email: pienkowski@cix.co.uk

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DD MM YY		

Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

11 November 2004

3. Country:

UK (Turks and Caicos)

4. Name of the Ramsar site:

Salt Cay creeks and salinas

5. Map of site included:

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

a) **hard copy** (required for inclusion of site in the Ramsar List): yes ☒ -or- no ☐

b) **digital (electronic) format** (optional): Yes

6. Geographical coordinates (latitude/longitude):

21 12 00 N 71 15 00 W

7. General location:

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

Island of Salt Cay, Turks Bank

Administrative region: Turks and Caicos

8. Elevation (average and/or max. & min.) (metres): 9. Area (hectares): approx 150

Min. 0

Max. 2

Mean No information available

10. Overview:

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

Natural creek area on the SE side of Salt Cay and abandoned salt-pans throughout the island, notably ones viewable from the roads in the settlement. This natural interest complements the historic interest of the salt industry relics. The area supports internationally important numbers of migrant shorebirds in the non-breeding season, as well as resident and breeding waterfowl.

11. 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, 3, 6

12. Justification for the application of each Criterion listed in 11. 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).

1 The salinas of Salt Cay have been the key element of the environment for several centuries. The Creek area represents one of the few areas of natural coastal inlets on the Atlantic shore of the Islands.

3 ???

6 The site regularly supports internationally important populations (assessed against Anon 2003) of :

	Breeding pairs	Non-breeding
<i>Pelecanus occidentalis</i> Brown Pelican		30 (1% Caribbean)
<i>Charadrius wilsonia</i> Wilson's Plover	30 (1% Global)	
<i>Micropalama himantopus</i> Stilt Sandpiper		2500 (>1% G)
<i>Larus atricilla</i> Laughing Gull		900 (6% C)
<i>Sterna maxima</i> Royal Tern	Breeds	30 (2% C)
<i>Sterna sandvicensis</i> Sandwich Tern		60 (> 1% C)
<i>Sterna antillarum</i> Least Tern	100 (4% C)	400 (8% C)

13. 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):**14. 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	basic, biogenic reef, limestone, mud, nutrient-poor, sand
Geomorphology and landscape	Coastal, enclosed coast (including embayment), intertidal sediments (including sandflat/mudflat), islands, lagoon, lowland, open coast (including bay), pools, subtidal rock (including rocky reefs), subtidal sediments (including sandbank/mudbank), salt-pans
Nutrient status	mesotrophic, oligotrophic
pH	alkaline
Salinity	brackish / mixosaline, fresh, hypersaline / hyperhaline, saline / euhaline
Soil	mainly mineral
Water permanence	usually permanent, usually seasonal / intermittent

Summary of main climatic features	Rainfall averages 700 mm per year but is very variable. Potential evapotranspiration exceeds rainfall. Temperatures vary between 20°C and 35°C. Highest temperatures and rainfall occur in the summer.
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15. 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).

The Turks and Caicos Islands lie between the Bahamas, Cuba and Hispaniola. Together with southern Florida, the Bahamas and northern Cuba, they are part of a platform of rocks formed as limestone depositing in shallow seas as the crust slowly subsided. Virtually all these rocks of the area, to a depth of several thousand metres, are directly of marine origin, except some fossil soils and sand-dune rock (aeolian limestone). The region has always had a marine environment from the time of its formation until the present.

The Turks and Caicos Islands are on two shallow banks (Turks Bank and the larger Caicos Bank), with deep ocean between them. The maximum altitude is about 50 m asl. There are further shallow banks (Mouchoir, Silver and Navidad) to the south-east but without islands; some of these banks are within TCI territory. They are important for whales and probably for feeding seabirds. The Bahamas lie on separate banks to the northeast, and share some aspects of the geography.

16. Hydrological values:

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

17. Wetland types

Code	Name	% Area
A	Permanent shallow marine waters	
B	Marine subtidal aquatic beds	
C	Coral reefs	
D	Rocky shores	
E	Sand / shingle shores (including dune systems)	
G	Tidal flats	
H	Salt marshes	
I	Mangrove / tidal forest	
5	Salt exploitation sites	
Other	Other	

18. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

Natural creek area on the SE side of Salt Cay and abandoned salt-pans throughout the island, notably ones viewable from the roads in the settlement. This natural interest complements the historic interest of the salt industry relics. The area supports internationally important numbers of migrant shorebirds in the non-breeding season, as well as resident and breeding waterfowl.

19. 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

The mangroves of the TCI are typical of the region. Three species of mangrove, *Rhizophora mangle*, *Laguncularia racemosa* and *Avicennia germinans* grow with *Conocarpus erectus* (Combretaceae) in mixed stands along the inland margin of the islands fringing the Caicos Bank.

20. 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.*

21. Social and 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.

Salt-pans and their structures are of major importance in the cultural history and potential tourism industry of the islands. Grand Turk and Salt Cay were the producers of the salt of highest world reputation in the late 19th and early 20th century, and this industry was the basis of the economy for centuries.

Aesthetic

Aquatic vegetation (e.g. reeds, willows, seaweed)

Archaeological/historical site

Conservation education

Current scientific research

Fisheries production

Non-consumptive recreation

Sport fishing

Subsistence fishing

Tourism

Traditional cultural

22. Land tenure/ownership:

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

23. Current land (including water) use:

Activity	On-site	Off-site	Scale
Nature conservation			
Tourism			
Recreation			
Research			
Collection of non-timber natural products: subsistence			
Cutting of vegetation (small scale/subsistence)			

Fishing: (unspecified)			
Fishing: recreational/sport			
Arable agriculture (unspecified)			
Grazing (unspecified)			
Urban development			
Other			

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

Activity	On-site	Off-site	Scale
No factors reported			

25. 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
NNR		
Management plan in preparation		

26. Conservation measures proposed but not yet implemented:

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

27. Current scientific research and facilities:

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

28. Current conservation education:

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

29. Current recreation and tourism:

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

30. Jurisdiction:

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

Ministry of Natural Resources, Government of the Turks & Caicos Islands, Grand Turk, Turks & Caicos Islands, British West Indies

31. 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.

32. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 13 above), list full reference citation for the scheme.

Site-relevant references

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Bradley, PB (1995) *Birds of the Turks and Caicos Islands – the official checklist*. National Trust of the Turks and Caicos Islands, Turks and Caicos Islands

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Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

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2. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

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

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UK

Email: pienkowski@cix.co.uk

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DD MM YY		

Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

11 November 2004

3. Country:

UK (Turks and Caicos)

4. Name of the Ramsar site:

Turks Bank Seabird Cays

5. Map of site included:

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

a) **hard copy** (required for inclusion of site in the Ramsar List): yes ☒ -or- no ☐

b) **digital (electronic) format** (optional): Yes

6. Geographical coordinates (latitude/longitude):

21 mm 00 N 71 mm 00 W

7. General location:

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

Cockburn Town, Grand Turk

Administrative region: Turks and Caicos

8. Elevation (average and/or max. & min.) (metres): 9. Area (hectares): approx 120

Min. 0

Max. 12

Mean No information available

10. Overview:

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

Small rocky cays, with some sandy beaches, especially at Big Sand Cay, holding internationally important seabird breeding colonies as well as endemic reptiles and turtle nesting beaches. The cays include: Long Cay 21°25'N 71°06'W (19 ha); Penniston Cay 21°23'N 71°07'W (4 ha); East (formerly Pinzon) Cay 21°21'N 71°05'W (45 ha); Big Sand Cay 21°12'N 71°15'W (52 ha)

[Long Cay is Statutory Sanctuary 25. Other small cays near Grand Turk constitute Grand Turk Cays Land and Sea National Park (Statutory NP 7). Penniston Cay and East (formerly Pinzon) Cay need

Sanctuary status within this; Gibbs Cay should remain NP. Big Sand Cay Sanctuary is Statutory Sanctuary 23.]

11. 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, 4, 5, 6

12. Justification for the application of each Criterion listed in 11. 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).

- 1 Small rocky cays on coral reef bank
- 2 Internationally important species occurring on the site:
the following Turks & Caicos Islands endemic species of lizard:
curly tail *Leiocephalus psammodromus*,.
In addition. endemic at the subspecific level:
Turks & Caicos rock iguana *Cyclura carinata carinata* (CR; the only subspecies of *Cyclura carinata* found outside the Turks & Caicos Islands is confined to the small island of Booby Cay off nearby Mayaguana);
The waters of the Ramsar site are important for turtles:
Green *Chelonia midas*, Hawksbill *Eretmochelys imbricata*, Loggerhead *Caretta caretta*, and some of the cays provide nesting beaches.
- 3 As detailed in 2, 5 and 6. In addition, Penniston Cay supports also the only breeding colony of Brown Boobies *Sula leucogaster* in TCI and a small colony of Magnificent Frigatebirds *Fregata magnificens*, which may reach international Caribbean importance in some years.
- 4 Important surviving nesting site for turtles
- 5 As detailed in 6
- 6 The site regularly supports internationally important populations (assessed against Anon 2003) of:

	Breeding pairs	Non-breeding
<i>Puffinus lherminieri</i> Audubon's Shearwater	Counts not practicable but likely to exceed 40 (1% Global)	
<i>Phaethon lepturus</i> White-tailed Tropicbird	40 (1% Caribbean)	
<i>Larus atricilla</i> Laughing Gull	150 (2% Caribbean)	
<i>Sterna antillarum</i> Least Tern	50 (2% Caribbean)	
<i>Sterna anaethetus</i> Bridled Tern	2300 (>1% Global)	
<i>Sterna fuscata</i> Sooty Tern	44000 (18% Caribbean)	
<i>Anous stolidus</i> Brown Noddy	7400 (2% Global)	

13. 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):

14. 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	basic, biogenic reef, limestone, mud, nutrient-poor, sand
Geomorphology and landscape	Coastal, islands, lowland, open coast (including bay), subtidal rock (including rocky reefs), subtidal sediments (including sandbank/mudbank)
Nutrient status	mesotrophic, oligotrophic
pH	alkaline
Salinity	brackish / mixosaline, fresh, hypersaline / hyperhaline, saline / euhaline
Soil	mainly mineral
Water permanence	usually permanent, usually seasonal / intermittent
Summary of main climatic features	Rainfall averages 700 mm per year but is very variable. Potential evapotranspiration exceeds rainfall. Temperatures vary between 20°C and 35°C. Highest temperatures and rainfall occur in the summer.

15. 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).

The Turks and Caicos Islands lie between the Bahamas, Cuba and Hispaniola. Together with southern Florida, the Bahamas and northern Cuba, they are part of a platform of rocks formed as limestone depositing in shallow seas as the crust slowly subsided. Virtually all these rocks of the area, to a depth of several thousand metres, are directly of marine origin, except some fossil soils and sand-dune rock (aeolian limestone). The region has always had a marine environment from the time of its formation until the present.

The Turks and Caicos Islands are on two shallow banks (Turks Bank and the larger Caicos Bank), with deep ocean between them. The maximum altitude is about 50 m asl. There are further shallow banks (Mouchoir, Silver and Navidad) to the south-east but without islands; some of these banks are within TCI territory. They are important for whales and probably for feeding seabirds. The Bahamas lie on separate banks to the northeast, and share some aspects of the geography.

16. Hydrological values:

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

17. Wetland types

Code	Name	% Area
B	Marine beds (e.g. sea grass beds)	
C	Coral reefs	
D	Rocky shores	

E	Sand / shingle shores (including dune systems)	
Other	Other	

18. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

Small rocky cays, with some sandy beaches, especially at Big Sand Cay, holding internationally important seabird breeding colonies as well as endemic reptiles and turtle nesting beaches. The cays include: Long Cay 21°25'N 71°06'W (19 ha); Penniston Cay 21°23'N 71°07'W (4 ha); East (formerly Pinzon) Cay 21°21'N 71°05'W (45 ha); Big Sand Cay 21°12'N 71°15'W (52 ha)

19. 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.*

20. 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.*

Internationally important species occurring on the site:

Reptiles and amphibians:

the following Turks & Caicos Islands endemic species of lizard:

Curly Tail *Leiocephalus psammmodromus*,

In addition further lizards that are endemic at the subspecific level:

Turks & Caicos Rock Iguana *Cyclura carinata carinata* (CR; the only subspecies of *Cyclura carinata* found outside the Turks & Caicos Islands is confined to the small island of Booby Cay off nearby Mayaguana) – on Long Cay, Big Sand Cay, Pinzon (East) Cay, Pear Cay

2 endemic geckos

Marine turtles occur and one of the cays is thought to be an important surviving nesting site

Chelonia midas, *Eretmochelys imbricata*, *Caretta caretta*.

Birds:

East (or Pinzon) Cay supports an internationally important breeding proportion (2% of Caribbean) of Laughing Gulls, and breeding Audubon's Shearwaters.

Penniston Cay support internationally important breeding numbers of Bridled Terns, at Caribbean (33%) and Global (1%) levels, with smaller numbers on other cays.

Long Cay supports globally (1.5%) important numbers of breeding Brown Noddies, with the numbers here and on Penniston Cay constituting respectively "43%" and "9%" of the Caribbean population [before correction of the latter – see note in TC006].

Penniston Cay supports also the only breeding colony of Brown Boobies in TCI and a small colony of Magnificent Frigatebirds, which may reach international Caribbean importance in some years.

Audubon's Shearwaters have been seen in the vicinity of these cays, and probably breed on other cays as well as East.

Big Sand Cay's breeding Sooty Terns comprise an internationally important (18%) proportion of the Caribbean population.

21. Social and 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.

Aesthetic

Aquatic vegetation (e.g. reeds, willows, seaweed)

Archaeological/historical site
 Conservation education
 Current scientific research
 Fisheries production
 Non-consumptive recreation
 Sport fishing
 Subsistence fishing
 Tourism
 Traditional cultural

22. Land tenure/ownership:

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

23. Current land (including water) use:

Activity	On-site	Off-site	Scale
Nature conservation			
Tourism			
Recreation			
Research			
Collection of non-timber natural products: subsistence			
Cutting of vegetation (small scale/subsistence)			
Fishing: (unspecified)			
Fishing: recreational/sport			
Arable agriculture (unspecified)			
Grazing (unspecified)			
Urban development			
Other			

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

Activity	On-site	Off-site	Scale
Uncontrolled visitors	+		

25. 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
NNR		
Management plan in preparation		

26. Conservation measures proposed but not yet implemented:

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

27. Current scientific research and facilities:

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

28. Current conservation education:

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

29. Current recreation and tourism:

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

30. Jurisdiction:

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

Ministry of Natural Resources, Government of the Turks & Caicos Islands, Grand Turk, Turks & Caicos Islands, British West Indies

31. 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.

32. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 13 above), list full reference citation for the scheme.

Site-relevant references

- Anon. (2003) *Caribbean IBA Resource Book*. BirdLife International, Cambridge.
- Bradley, PB (1995) *Birds of the Turks and Caicos Islands – the official checklist*. National Trust of the Turks and Caicos Islands, Turks and Caicos Islands
- Correll, DS & Correll, HB (1982) *Flora of the Bahama archipelago, including Turks & Caicos Islands*. Cramer, Vaduz
- Correll, DS & Correll, HB (1996) *Flora of the Bahama archipelago*. Lubrecht & Cramer, New York
- Ground, RW (2001) *The birds of the Turks and Caicos Islands*. Turks and Caicos National Trust, Providenciales
- Pienkowski, M (Ed.) (2002) *Plan for Biodiversity Management and Sustainable Development around Turks & Caicos Ramsar Site, version 1.0*. Turks & Caicos National Trust, UK Overseas Territories Conservation Forum & CABI Bioscience, www.ukotcf.org
- Pienkowski, M.W. (2005) Important Bird Areas in the Turks & Caicos Islands. In Sanders, SM et al (eds) *Important Bird Areas in the United Kingdom Overseas Territories*. RSPB, Sandy, UK.
- Pienkowski, M.W. (2005, in press). The Turks and Caicos Islands. In: PE Bradley & RL Norton (eds) *Island account of breeding seabirds of the Caribbean (West Indies)*. Possibly University of Florida Press. Not final
- Sealey, NE (1994) *Bahamian landscapes: an introduction to the physical geography of the Bahamas*. 2nd edn. Media Enterprises, Nassau
- Turks and Caicos Islands Government (1975) *National Parks Ordinance (Ordinance No. 11 of 1975)*. Turks and Caicos Islands Government, Grand Turk
- Turks and Caicos Islands Government (1992a) *Maps of the national parks, nature reserves, sanctuaries and areas of historical interest as listed in the National Parks Order 1992*. Ministry of Natural Resources, Department of Environment, Heritage and Parks, Grand Turk
- Turks and Caicos Islands Government (1992b) *The National Parks (Protection and use of National Parks, Nature Reserves, Sanctuaries and Areas of Historical Interest) Regulations 1992*. Turks and Caicos Islands Government, Grand Turk
- UNEP/IUCN (1988) *Coral reefs of the world. Volume 1: Atlantic and eastern Pacific*. UNEP regional seas directories and bibliographies. IUCN/UNEP, Gland/ Cambridge/ Nairobi

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Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

Note 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. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

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

UK Overseas Territories Conservation Forum

102 Broadway
Peterborough
Cambridgeshire PE1 4DG
UK

Email: pienkowski@cix.co.uk

FOR OFFICE USE ONLY.

DD MM YY		

Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

11 November 2004

3. Country:

UK (Turks and Caicos)

4. Name of the Ramsar site:

Caicos Bank Southern Cays

5. Map of site included:

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

a) **hard copy** (required for inclusion of site in the Ramsar List): yes ☒ -or- no ☐

b) **digital (electronic) format** (optional): Yes

6. Geographical coordinates (latitude/longitude):

21 mm 00 N 71 mm 00 W

7. General location:

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

Several small cays in the southern part of Caicos Bank. These cays are at the far side of the Bank from the main islands which lie along the northern edge of the Bank. Providenciales is the nearest town to the westernmost French Cay, while South Caicos is the nearest town to the eastern cays. A resort with airstrip is being built nearer to these cays, at Big Ambergris Cay.

The cays comprise: French 21°31'N 72°11'W (8 ha); Bush 21°12'N 71°38'W (16 ha); White and Indian Cays (in Seal Cay group) 21°12'N 71°47'W (2 ha); Little Ambergris 21°18'N 71°42'N (328 ha) Fish 21°22'N 71°37'W (10 ha) and Six Hills Cays. [Little Ambergris and Fish Cays are held in trust for the country by the Turks & Caicos National Trust, and the other cays comprise a statutory Sanctuary.]

Administrative region: Turks and Caicos

8. Elevation (average and/or max. & min.) (metres): 9. Area (hectares): approx 364

Min. 0

Max. 10

Mean No information available

10. Overview:

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

Several small cays in the southern part of Caicos Bank. These cays are at the far side of the Bank from the main islands which lie along the northern edge of the Bank. The cays support internationally important breeding colonies of seabirds, provide a major location for the endemic rock iguana and other endemic reptiles, and nesting areas for vulnerable turtles.

11. 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, 4, 5, 6

12. Justification for the application of each Criterion listed in 11. 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).

- 1 Small rocky cays on coral reef bank
- 2 Internationally important species occurring on the site:
the following Turks & Caicos Islands endemic species of lizard:
curly tail *Leiocephalus psammmodromus*,
Caicos Barking gecko *Aristelliger hechti* (the type-specimen defining the species is from Six Hills Cays)
and the one endemic species of snake: the Caicos Islands trope boa *Tropidophis greenwayi*, the Ambergris Cays holding an endemic subspecies.
In addition. endemic at the subspecific level:
Turks & Caicos rock iguana *Cyclura carinata carinata* (CR; the only subspecies of *Cyclura carinata* found outside the Turks & Caicos Islands is confined to the small island of Booby Cay off nearby Mayaguana);
The waters of the Ramsar site are important for turtles:
Chelonia midas, *Eretmochelys imbricata*, *Caretta caretta*, and some of the cays provide nesting beaches.
- 3 As detailed in 2, 4, 5 and 6. In addition, there is botanical importance in this context:
Bourreria capillaris is endemic to the Ambergris Cays. Other *Bourreria* species (*B. inaguensis* & *B. thymifolia*) also found on those islands. Country's largest populations of *Bursera frenningae*, *Euphorbia gymnonota*, *Melocactus intortus*, *Mammalaria nivosa*, *Agave acklinicola*, *Agave inaguensis*, and *Calliandra formosa* also found on the Ambergris Cays.
- 4 Important surviving nesting site for turtles
- 5 As detailed in 6
- 6 The site regularly supports internationally important populations (assessed against Anon 2003) of:

	Breeding pairs	Non-breeding
<i>Sterna maxima</i> Royal Tern		30 (2% Caribbean)
<i>Sterna sandvicensis</i> Sandwich Tern		200 (4% Caribbean)
<i>Sterna dougallii</i> Roseate Tern	200 (4% Caribbean)	300 (3% Caribbean)
<i>Sterna anaethetus</i> Bridled Tern	1000 (17% Caribbean)	

Sterna fuscata Sooty Tern
Anous stolidus Brown Noddy

4300 (2% Caribbean)
 19500 (5% Global)

13. 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):

14. 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	basic, biogenic reef, limestone, mud, nutrient-poor, sand
Geomorphology and landscape	Coastal, islands, lagoon, lowland, open coast (including bay), pools, subtidal rock (including rocky reefs), subtidal sediments (including sandbank/mudbank)
Nutrient status	mesotrophic, oligotrophic
pH	alkaline
Salinity	brackish / mixosaline, fresh, hypersaline / hyperhaline, saline / euhaline
Soil	mainly mineral
Water permanence	usually permanent, usually seasonal / intermittent
Summary of main climatic features	Rainfall averages 700 mm per year but is very variable. Potential evapotranspiration exceeds rainfall. Temperatures vary between 20°C and 35°C. Highest temperatures and rainfall occur in the summer.

15. 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).

The Turks and Caicos Islands lie between the Bahamas, Cuba and Hispaniola. Together with southern Florida, the Bahamas and northern Cuba, they are part of a platform of rocks formed as limestone depositing in shallow seas as the crust slowly subsided. Virtually all these rocks of the area, to a depth of several thousand metres, are directly of marine origin, except some fossil soils and sand-dune rock (aeolian limestone). The region has always had a marine environment from the time of its formation until the present.

The Turks and Caicos Islands are on two shallow banks (Turks Bank and the larger Caicos Bank), with deep ocean between them. The maximum altitude is about 50 m asl. There are further shallow banks (Mouchoir, Silver and Navidad) to the south-east but without islands; some of these banks are within TCI territory. They are important for whales and probably for feeding seabirds. The Bahamas lie on separate banks to the northeast, and share some aspects of the geography.

16. Hydrological values:

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

17. Wetland types

Code	Name	% Area
B	Marine beds (e.g. sea grass beds)	
C	Coral reefs	
D	Rocky shores	
E	Sand / shingle shores (including dune systems)	
G	Tidal flats	
H	Salt marshes	
I	Mangrove / tidal forest	
Q	Saline / brackish lakes: permanent	
Other	Other	

18. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

Several small cays in the southern part of Caicos Bank. These cays are at the far side of the Bank from the main islands which lie along the northern edge of the Bank. The cays support internationally important breeding colonies of seabirds, provide a major location for the endemic rock iguana and other endemic reptiles, and nesting areas for vulnerable turtles.

19. 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.*

Bourreria capillaris is endemic to the Ambergris Cays. Other *Bourreria* species (*B. inaguensis* & *B. thymifolia*) also found on those islands. Country's largest populations of *Bursera frenningae*, *Euphorbia gymnonota*, *Melocactus intortus*, *Mammalaria nivosa*, *Agave acklinicola*, *Agave inaguensis*, and *Calliandra formosa* also found on the Ambergris Cays.

Information recently obtained from Six Hills Cays indicates botanical importance for:

Euphorbia wilsonii – regional endemic

Lots of woolly nipple cactus *Mammalaria nivosa*

Atriplex pentandra – only place with lots in TCI – ironshore herb

20. 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.*

Internationally important species occurring on the site:

Reptiles and amphibians:

the following Turks & Caicos Islands endemic species of lizard:

Curly Tail *Leiocephalus psammmodromus*,

and the one endemic species of snake: the Caicos Islands Trope Boa *Tropidophis greenwayi* (which has an endemic subspecies on the Ambergris Cays).

In addition further lizards that are endemic at the subspecific level:

Turks & Caicos Rock Iguana *Cyclura carinata carinata* (CR; the only subspecies of *Cyclura carinata* found outside the Turks & Caicos Islands is confined to the small island of Booby Cay off nearby Mayaguana);

Marine turtles occur and one of the cays is thought to be an important surviving nesting site

Chelonia midas, *Eretmochelys imbricata*, *Caretta caretta*.

Birds:

The cays (primarily Bush Cay with some on Fish Cays) support breeding of an internationally important proportion (17%) of the Caribbean population of Bridled Tern.

Bush and Seal Cays (with smaller numbers on the other cays) hold 2% of the Caribbean breeding population of Sooty Terns.

The cays hold internationally important breeding proportions of the global population (5%; 139% of the Caribbean population – the estimated size of which therefore needs correction to include the recently assessed TCI numbers) of the Brown Noddy. Both French Cay (3% of global) and the Bush/Seal Cay group (the White Cays within the latter) support internationally important proportions in their own rights, with smaller numbers on Fish Cay. This area is therefore the most important regionally for this species.

Little Ambergris Cay is a resting and feeding area for internationally important proportions (A4) of the Caribbean populations of Royal Tern (2%), Sandwich Tern (4%) and Roseate Tern (3%). Small numbers of restricted-range and biome-restricted species also present, and a nesting area for Laughing Gulls.

Fish Cay supports an internationally important proportion (4%) of the Caribbean breeding population of Roseate Terns.

Green-tailed Ground Warbler (restricted-range species endemic to nearby Hispaniola) has been recorded on Bush Cay (which is the first land-fall from Hispaniola).

Information recently obtained from Six Hills Cays indicates importance for:

Breeding Audubon's Shearwaters; many Brown Noddies, and Bridled/Sooty Terns; and, on the west cay, ca 6 Magnificent Frigatebirds seen on N side of middle hill, but cliffs and potential nesting area cannot be seen from above. Laughing Gulls around but not seen breeding; palm warblers.

21. Social and 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.

Aesthetic

Aquatic vegetation (e.g. reeds, willows, seaweed)

Archaeological/historical site

Conservation education

Current scientific research

Fisheries production

Non-consumptive recreation

Sport fishing

Subsistence fishing

Tourism

Traditional cultural

22. Land tenure/ownership:

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

23. Current land (including water) use:

Activity	On-site	Off-site	Scale
Nature conservation			
Tourism			
Recreation			
Research			
Collection of non-timber natural products: subsistence			

Cutting of vegetation (small scale/subsistence)			
Fishing: (unspecified)			
Fishing: recreational/sport			
Arable agriculture (unspecified)			
Grazing (unspecified)			
Urban development			
Other			

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

Activity	On-site	Off-site	Scale
Uncontrolled visits	+		
Storage of lobster pots (posing threat to birds)	+		

25. 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
NNR		
Management plan in preparation		

26. Conservation measures proposed but not yet implemented:

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

27. Current scientific research and facilities:

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

28. Current conservation education:

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

29. Current recreation and tourism:

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

30. Jurisdiction:

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

Ministry of Natural Resources, Government of the Turks & Caicos Islands, Grand Turk, Turks & Caicos Islands, British West Indies

31. 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.

32. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 13 above), list full reference citation for the scheme.

Site-relevant references

Anon. (2003) *Caribbean IBA Resource Book*. BirdLife International, Cambridge.

- Bradley, PB (1995) *Birds of the Turks and Caicos Islands – the official checklist*. National Trust of the Turks and Caicos Islands, Turks and Caicos Islands
- Correll, DS & Correll, HB (1982) *Flora of the Bahama archipelago, including Turks & Caicos Islands*. Cramer, Vaduz
- Correll, DS & Correll, HB (1996) *Flora of the Bahama archipelago*. Lubrecht & Cramer, New York
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- Turks and Caicos Islands Government (1992a) *Maps of the national parks, nature reserves, sanctuaries and areas of historical interest as listed in the National Parks Order 1992*. Ministry of Natural Resources, Department of Environment, Heritage and Parks, Grand Turk
- Turks and Caicos Islands Government (1992b) *The National Parks (Protection and use of National Parks, Nature Reserves, Sanctuaries and Areas of Historical Interest) Regulations 1992*. Turks and Caicos Islands Government, Grand Turk
- UNEP/IUCN (1988) *Coral reefs of the world. Volume 1: Atlantic and eastern Pacific*. UNEP regional seas directories and bibliographies. IUCN/UNEP, Gland/ Cambridge/ Nairobi

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Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

Note 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. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

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

UK Overseas Territories Conservation Forum

102 Broadway
Peterborough
Cambridgeshire PE1 4DG
UK

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FOR OFFICE USE ONLY.

DD MM YY		

Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

11 November 2004

3. Country:

UK (Turks and Caicos)

4. Name of the Ramsar site:

West Providenciales Wetlands

(Pigeon Pond & Frenchman's Creek NR; Chalk Sound NP; NW Point Marine NP; NW Point Pond NR)

5. Map of site included:

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

a) **hard copy** (required for inclusion of site in the Ramsar List): yes ☒ -or- no ☐

b) **digital (electronic) format** (optional): Yes

6. Geographical coordinates (latitude/longitude):

21 mm 00 N 72 mm 00 W

7. General location:

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

The site consists of the western area of the island of Providenciales and the adjoining reef.

Administrative region: Turks and Caicos

8. Elevation (average and/or max. & min.) (metres):

Min. - (minus 100m (sea floor))

Max. 18m (60 ft)

Mean No information available

9. Area (hectares): 5,613 ha (13,870 acres)

TC Site No.	Site Name	Hectares
NR19	Pigeon Pond and Frenchman's Creek Nature Reserve	2,409.7
NP8	North West Point Marine National Park	1,686.4
NP2	Chalk Sound National Park	1,460.3
NR18	North West Point Pond Nature Reserve	56.6
	Total area	5,613.0

10. Overview:

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

The site comprises an area 5,613 hectares multi-habitat wetland system with uninterrupted transitions from the seabed at 100m depth to low lying coastal ridges at 18m. The area comprises of open water, vertical coral reef wall, reef crest with inshore lagoon of patch reef and sea grass beds, sandy beaches and also limestone 'ironshore' developed into low cliffs in some areas, extensive tidal creeks and pond systems of varying salinity, dwarf tropical dry forest and related terrestrial vegetation formations. It includes a number of karst limestone features as well as archeological and historic sites. The site contains a high level of biodiversity which reflect the diversity of ecosystems, including representative examples, as well as endemic and rare species. The following more detailed description follows the four management units from North to South

North West Point Marine National Park (1,686 ha)

The marine portion features an 8 miles -12.8 km fringing reef system running parallel to the coastline. The reefs in this area are exposed to extremely high wave energies and are characterized as bank reefs with rudimentary spur-and groove formations. The spurs (reefs formations) are interspersed with sand-filled patches that are not at significantly lower depressions. The inshore side, the reef flat consists mainly of broken corals and coralline algae. Seaward the reef is more defined and is dominated by *Diploria* spp, *Montastraea* spp and *Porites* spp. This bank reef also supports a wide range of invertebrate species from a wide range of groups. A healthy back-reef lagoon consists primarily of patch reefs, dense seagrass beds (*T. testudinum* and *S. filiforme*) interspersed with algae that are probable foraging sites for the hawksbill turtle (*Eretmochelys imbricata*). The off shore open water forms part of the migration route of humpback whales (*Megaptera novaeangliae*) traveling to and from their breeding grounds on the Mouchoir and Silver Banks to the south of TCI. Other pelagic species recorded include sharks and dolphin species. On the shore, a 3-mile (4.8 km) iron shore separates a 1.5-mile (2.4 km) and a 3-mile (4.8 km) stretch of white sand beach that are up to 50 ft (15m). wide in some areas. On these beaches two Lucayan Indians sites have been recorded, and includes and anchorage used since the 18th century.

North West Point Pond Nature Reserve (56.6ha)

North West Point Pond is in two main portions. The inland pond area is completely surrounded by Red Mangroves (*Rhizophora mangle*) in what is possibly the most extensive stand of this species in the Turks and Caicos Islands and renders this part of the pond inaccessible and undisturbed. The Red Mangrove transitions into Buttonwood (*Conocarpus erectus*) mixed with Glasswort (*Salicornia bigelovii*) and Iceplant (*Sesuvium portulacastrum*) and then into coastal coppice and sand forest communities. The buttonwood areas supporting a population of the land crab (*Cardisoma guanhumi*) The most seaward pond is saline with thick biogenic lime mud, containing dense populations of molluscs (e.g *Cerithium* sp.) and supporting water bird populations including West Indian Flamingo (*Phoenicopiterus ruber*), breeding Tricolor Heron (*Egretta tricolor*), Great Blue Heron (*Ardea herodias*), Black-necked stilt (*Himantopus palliatus*), and terns such as Royal, Least and Sandwich. Waders recorded on the pond include Kildeer (*Charadrius vociferous*), Least Sandpiper (*Calidris minutilla*) Snowy Plover (*Charadrius alexandrinus* of which there is evidence of breeding.

Pigeon Pond and Frenchman's Creek Nature Reserve (2,410 ha)

This nature reserve consists of a large wetland area with numerous tidal creeks and ponds, islets and salt flats linked to the sea. These areas include Frenchman's Creek, Thomas Parker Creek, Well Creek and North Creek. There are also numerous saline ponds of varying sizes isolated from the marine environment. The largest pond is Pigeon Pond located to the north of the reserve. Many of the creeks are fringed with mangroves including Red (*Rhizophora mangle*), black (*Avicennia germinans*) and white (*Languncularia racemosa*) mangroves as well as buttonwood (*Conocarpus erectus*) in the drier areas. The creeks support breeding nurse sharks (*Ginglymostoma cirratum*), and foraging juvenile green turtle (*Chelonia midas*). Significant areas of blackland communities, the most diverse of the dwarf forest types, have canopies reaching 10m in height, which is unusual in the Turks and Caicos. Coastal coppice, whiteland and sand strand communities also occur. Pigeon Pond supports flocks of

flamingos and other wading birds. The osprey (*Pandion haliaetus*) nests on Osprey Rock located at the extreme south-west point of the reserve, and very close to this are historic rock carvings made by sailors and other visitors to the areas while looking out for ships at sea. Inland a new archeological Lucayan Indian site has been located and is possibly the largest yet discovered in the Turks and Caicos. It is one of the very few inland sites and is located on a large clay deposits which may indicate a pottery industry.

Chalk Sound National Park (1,460 ha)

The adjacent Chalk Sound is a fine example of a shallow inland sound of outstanding natural and landscape beauty containing over one hundred small cays. The site is predominantly marine with the sound supporting a large bonefish (*Albula vulpes*) population, tidal creeks with foraging green turtle (*Chelonia midas*) and channels with fringing mangrove communities, which include the red (*Rhizophora mangle*) and black (*Avicennia germinans*) mangroves. Some small salt ponds occur. The site contains a significant terrestrial habitat including coastal rock communities on the fringing iron shore, extensive whitemud and to a lesser extent blackland formations of dry dwarf forest on the ridges and valleys. Over 72 species of terrestrial higher plants have been recorded, 14 of which are endemic to the Bahamas Archipelago. The IUCN listed rare summer orchid (*Encyclia inaguensis*) also occurs in this area. The cays support the only remaining Providenciales population of the Turks and Caicos rock iguana (*Cyclura carinata*). Chalk Sound also contains a large Lucayan Indian archeological site, which has yielded significant surface artifacts.

11. 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, 4, 7

12. Justification for the application of each Criterion listed in 11. 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).

- 1 **Representative and rare ecosystems.:** The site comprises an area 5,613 hectares multi- habitat wetland system with uninterrupted transitions from the seabed at 100m depth to low lying coastal ridges at 18m. The area comprises of open water, vertical coral reef wall, reef crest with inshore lagoon of patch reef and sea grass beds, sandy beaches and also limestone 'ironshore' developed into low cliffs in some areas, extensive tidal creeks and pond systems of varying salinity, dwarf tropical dry forest and related terrestrial vegetation formations. It includes a number of karst limestone features as well as archeological and historic sites. The site contains a high level of biodiversity which reflect the diversity of ecosystems, including representative examples, as well as endemic and rare species.
- 2 **Rare and endangered species:**
 Humpback whale (*Megaptera novaeangliae*), Green Turtle (*Chelonia midas*) Hawksbill Turtle (*Eretmochelys imbricate*)
 Turks and Caicos Rock Iguana, *Cyclura carinata carinata*, TCI endemic, IUCN Critically endangered

 IUCN rare plants: *Cocothrynx inaguensis*, *Cynancum inaguensis*, *Encyclia inaguensis*.
- 3 **Biodiversity:** (nb biological inventory is far from complete)
Tropical atlantic coral reef systems: [to amplify]
Dwarf dry tropical forest:
 Only 11.4% of the natural vegetation of the wider Caribbean remains, much of it under threat.
 Over 72 higher plants recorded on the site of which 19 plant species endemic to the Bahamas Archipelago

Bahamas/TCI endemic plants:

Acacia acutifera; *Agave braceana*, *A. inaguensis*, *Caesalpinia reticulata*, *Cassia inaguensis*, *Cocothrynax inaguensis* (IUCN rare), *Croton eluthera*, *Cynancum inaguensis* (IUCN rare, summer orchid), *Encyclia altimissima*; *E. inaguensis* (IUCN rare), *E. rufa* (CITES II), *Evolvulus squamosus*, *Mimosa bahamense*, *Psidium longiopes*, *Solanum didymacanthum*, *Solanum bahamense*, *Opuntia bahamense*, *O. lucayana* (endemic TCI), *O. nashii*,

Other important plant species. CITES II - *Guaiacum sanctum*, *Swetenia Manogoni*, Orchids 3sp, Cactus 4sp, Rare in wild - *Pseudophoenix sargentii*.

Bahamas/TCI endemic/CITES birds.

Osprey* (Bahamas race) (*Pandion haliaetus*) CITESII, Bahama Woodstar Hummingbird*, Flamingo (*Phoenicopterus ruber*), American Kestrel (*Falco sparverius*)

*confirmed breeding.

Reptiles

Turks and Caicos Rock Iguana, *Cyclura carinata carinata*, TCI endemic, IUCN Critically endangered. The Chalk Sound cays support the only remaining Providenciales population of the Turks and Caicos Rock Iguana *Cyclura carinata*.

Bahamas/TCI endemic butterflies.

Sulfer Butterfly (*Eurena chamberlaini*), Swallowtail Butterfly (*Papilio andremon bohontii*) - TCI, Deadleaf Butterfly (*Anaea intermedia*) – TCI, Blue Butterfly (*Cyclargus thomasi chenchi*)- TCI,

- 4 Breeding nurse shark (*Ginglymostoma cirratum*) and bonefish (*Albula vulpes*), foraging immature (and possible nesting) Green Turtle (*Chelonia midas*).
7. The site supports a large breeding bonefish (*Albula vulpes*) population, significant coral reef fish assemblages as well as sharks and rays. [tatum please expand and include some latin names]

13. 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):

14. 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	basic, biogenic reef, limestone, mud, nutrient-poor, sand
Geomorphology and landscape	Coastal, enclosed coast (including embayment), intertidal sediments (including sandflat/mudflat), islands, lagoon, lowland, open coast (including bay), pools, subtidal rock (including rocky reefs), subtidal sediments (including sandbank/mudbank)
Nutrient status	mesotrophic, oligotrophic
pH	alkaline
Salinity	brackish / mixosaline, fresh, hypersaline / hyperhaline, saline / euhaline
Soil	mainly mineral
Water permanence	usually permanent, usually seasonal / intermittent

Summary of main climatic features

Rainfall averages 700 mm per year but is very variable. Potential evapotranspiration exceeds rainfall.
Temperatures vary between 20°C and 35°C. Highest temperatures and rainfall occur in the summer.

15. 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).

The Turks and Caicos Islands lie between the Bahamas, Cuba and Hispaniola. Together with southern Florida, the Bahamas and northern Cuba, they are part of a platform of rocks formed as limestone depositing in shallow seas as the crust slowly subsided. Virtually all these rocks of the area, to a depth of several thousand metres, are directly of marine origin, except some fossil soils and sand-dune rock (aeolian limestone). The region has always had a marine environment from the time of its formation until the present.

The Turks and Caicos Islands are on two shallow banks (Turks Bank and the larger Caicos Bank), with deep ocean between them. The maximum altitude is about 50 m asl. There are further shallow banks (Mouchoir, Silver and Navidad) to the south-east but without islands; some of these banks are within TCI territory. They are important for whales and probably for feeding seabirds. The Bahamas lie on separate banks to the northeast, and share some aspects of the geography.

16. 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

17. Wetland types

Code	Name	% Area
B	Marine beds (e.g. sea grass beds)	
C	Coral reefs	
D	Rocky shores	
E	Sand / shingle shores (including dune systems)	
G	Tidal flats	
H	Salt marshes	
I	Mangrove / tidal forest	
Sp	Saline / brackish marshes: permanent	
Ss	Saline / brackish marshes: seasonal / intermittent	
W	Shrub-dominated wetlands	
Other	Other	

18. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

The site comprises an area 5,613 hectares multi-habitat wetland system with uninterrupted transitions from the seabed at 100m depth to low lying coastal ridges at 18m. The area comprises of open water, vertical coral reef wall, reef crest with inshore lagoon of patch reef and sea grass beds, sandy beaches and also limestone 'ironshore' developed into low cliffs in some areas, extensive tidal creeks and pond systems of varying salinity, dwarf tropical dry forest and related terrestrial vegetation formations. It includes a number of karst limestone features as well as archeological and historic sites. The site contains a high level of biodiversity which reflect the diversity of ecosystems, including representative examples, as well as endemic and rare species. The following more detailed description follows the four management units from North to South

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Pigeon Pond and Frenchman's Creek Nature Reserve (2,410 ha)

This nature reserve consists of a large wetland area with numerous tidal creeks and ponds, islets and salt flats linked to the sea. These areas include Frenchman's Creek, Thomas Parker Creek, Well Creek and North Creek. There are also numerous saline ponds of varying sizes isolated from the marine environment. The largest pond is Pigeon Pond located to the north of the reserve. Many of the creeks are fringed with mangroves including Red (*Rhizophora mangle*), black (*Avicennia germinans*) and white (*Languncularia racemosa*) mangroves as well as buttonwood (*Conocarpus erectus*) in the drier areas. The creeks support breeding nurse sharks (*Ginglymostoma cirratum*), and foraging juvenile green turtle (*Chelonia midas*). Significant areas of blackland communities, the most diverse of the dwarf forest types, have canopies reaching 10m in height, which is unusual in the Turks and Caicos. Coastal coppice, whiteland and sand strand communities also occur. Pigeon Pond supports flocks of flamingos and other wading birds. The osprey (*Pandion haliaetus*) nests on Osprey Rock located at the extreme south-west point of the reserve, and very close to this are historic rock carvings made by sailors and other visitors to the areas while looking out for ships at sea. Inland a new archeological Lucayan Indian site has been located and is possibly the largest yet discovered in the Turks and Caicos. It is one of the very few inland sites and is located on a large clay deposits which may indicate a pottery industry.

Chalk Sound National Park (1,460 ha)

The adjacent Chalk Sound is a fine example of a shallow inland sound of outstanding natural and landscape beauty containing over one hundred small cays. The site is predominantly marine with the sound supporting a large bonefish (*Albula vulpes*) population, tidal creeks with foraging green turtle

(*Chelonia midas*) and channels with fringing mangrove communities, which include the red (*Rhizophora mangle*) and black (*Avicennia germinans*) mangroves. Some small salt ponds occur. The site contains a significant terrestrial habitat including coastal rock communities on the fringing iron shore, extensive whitelands and to a lesser extent blackland formations of dry dwarf forest on the ridges and valleys. Over 72 species of terrestrial higher plants have been recorded, 14 of which are endemic to the Bahamas Archipelago. The IUCN listed rare summer orchid (*Encyclia inaguensis*) also occurs in this area. The cays support the only remaining Providenciales population of the Turks and Caicos rock iguana (*Cyclura carinata*). Chalk Sound also contains a large Lucayan Indian archeological site, which has yielded significant surface artifacts.

19. 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

Dwarf dry tropical forest:

Only 11.4% of the natural vegetation of the wider Caribbean remains, much of it under threat. Over 72 higher plants recorded on the site of which 19 plant species endemic to the Bahamas Archipelago

Bahamas/TCI endemic plants:

Acacia aculeata; *Agave braceana*, *A. inaguensis*, *Caesalpinia reticulata*, *Cassia inaguensis*, *Coccoloba inaguensis* (IUCN rare), *Croton eluteria*, *Cynanthus inaguensis* (IUCN rare), *Encyclia altimissima*; *E. inaguensis* (IUCN rare), *E. rufa* (CITES II), *Evolvulus squamosus*, *Mimosa bahamense*, *Psidium longipes*, *Solanum didymacanthum*, *Solanum bahamense*, *Opuntia bahamense*, *O. lucayana* (endemic TCI), *O. nashii*,

Other important plant species. CITES II - *Guaiacum sanctum*, *Swietenia Manogoni*, Orchids 3sp, Cactus 4sp, Rare in wild - *Pseudophoenix sargentii*.

The mangroves of the TCI are typical of the region. Three species of mangrove, *Rhizophora mangle*, *Laguncularia racemosa* and *Avicennia germinans* grow with *Conocarpus erectus* (Combretaceae) in mixed stands.

20. 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.*

Biodiversity: (nb biological inventory is far from complete)

Tropical atlantic coral reef systems: [to amplify]

Bahamas endemic/CITES birds.

Osprey* (Bahamas race) (*Pandion haliaetus*) CITESII, Bahama Woodstar Hummingbird*, Flamingo (*Phoenicopterus ruber*), American Kestrel (*Falco sparverius*)

*confirmed breeding.

Reptiles

Turks and Caicos Rock Iguana, *Cyclura carinata carinata*, TCI endemic, IUCN Critically endangered

Bahamas/TCI endemic butterflies.

Sulfer Butterfly (*Eurena chamberlaini*), Swallowtail Butterfly (*Papilio andremon bohontii*) - TCI, Deadleaf Butterfly (*Anaea intermedia*) – TCI, Blue Butterfly (*Cyclargus thomasi chenchi*)- TCI,

21. Social and 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 contains three Lucayan Indian archeological sites, one of which has yielded significant surface artifacts, and another is believed to be one of the largest in the Turks and Caicos. There are historic sailors rock carvings from a vantage point on low cliffs dating from the 18th Century, as well as other historic ruins and field cultivation sites. Traditional turtle and bonefishing area. Much of the area has high landscape values as undeveloped landscape and the particularly attractive Chalk Sound. There is a popular recreation beach as well as limited tourism use from small boat tourism.

22. Land tenure/ownership:

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

23. Current land (including water) use:

Activity	On-site	Off-site	Scale
Nature conservation	+	+	(green space in masterplan)
Tourism	+	+	Low
Recreation	+	+	low
Research			
Collection of non-timber natural products: subsistence			
Cutting of vegetation (small scale/subsistence)			
Fishing: (unspecified)	+	+	
Fishing: recreational/sport	+	+	
Arable agriculture (unspecified)		+	
Grazing (unspecified)			
Residential and tourist development	+	+	Low- medium
Other			

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

Activity	On-site	Off-site	Scale
Pollution (Chalk Sound in watershed of international airport vulnerable to fuel and chemical leakage/application during emergency.	Potential	Potential	Large.
Tourism development, road building and increased access	Yes	Yes	Small to large

25. 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
NNR	+	
Management plan in preparation		

26. Conservation measures proposed but not yet implemented:

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

Management plans drafted but not approved for three of the four management units. Visitor centre proposed.

27. Current scientific research and facilities:

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

Little current research except for Turks and Caicos Rock Iguana, by Sandiego Zoo. Limited archeological work.

28. Current conservation education:

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

None at present but visitor centre on site planned.

29. Current recreation and tourism:

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

Coral reef is a key location for TCI dive industry, limited but increasing access to other areas of the site.

30. Jurisdiction:

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

Ministry of Natural Resources, Government of the Turks & Caicos Islands, Grand Turk, Turks & Caicos Islands, British West Indies

31. 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.

Mrs.M. Fulford Gardiner, Acting Director, Department of Environment and Coastal Resources. South Base, Grand Turk, Turks and Caicos Islands. Tel: 1-649-946 2801, Fax 1-649-946-1895.

32. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see **13** above), list full reference citation for the scheme.

Site-relevant references

Correll, DS & Correll, HB (1982) *Flora of the Bahama archipelago, including Turks & Caicos Islands*. Cramer, Vaduz

Correll, DS & Correll, HB (1996) *Flora of the Bahama archipelago*. Lubrecht & Cramer, New York

Homer, F. (2000) Management Plan for the Northwest Point Marine National Park and West Caicos Marine National Park 2000-2004.

Homer, F. (2000) Management Plan for Pigeon Pond and Frenchmen's Creek Nature Reserve. Department of Environment and Coastal Resources.

- Sealey, NE (1994) *Bahamian landscapes: an introduction to the physical geography of the Bahamas*. 2nd edn. Media Enterprises, Nassau
- Turks and Caicos Islands Government (1975) *National Parks Ordinance (Ordinance No. 11 of 1975)*. Turks and Caicos Islands Government, Grand Turk
- Turks and Caicos Islands Government (1992a) *Maps of the national parks, nature reserves, sanctuaries and areas of historical interest as listed in the National Parks Order 1992*. Ministry of Natural Resources, Department of Environment, Heritage and Parks, Grand Turk
- Turks and Caicos Islands Government (1992b) *The National Parks (Protection and use of National Parks, Nature Reserves, Sanctuaries and Areas of Historical Interest) Regulations 1992*. Turks and Caicos Islands Government, Grand Turk
- Wild, R.G. 2003. Draft Management Plan for Chalk Sound National Park. Department of Environment and Coastal Resources.
- Wood, K.M. (2000) A rapid assesment of the flora and faunal communities at selected protected areas in and around Providenciales, Report Department of Environment and Coastal Resources.

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

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Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

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2. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

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

UK Overseas Territories Conservation Forum

102 Broadway

Peterborough

Cambridgeshire PE1 4DG

UK

Email: pienkowski@cix.co.uk

FOR OFFICE USE ONLY.

DD MM YY		

Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

11 November, 2004

3. Country:

UK (Turks and Caicos)

4. Name of the Ramsar site:

West Caicos Saline Lake and Coral Reef Sytem

5. Map of site included:

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

a) **hard copy** (required for inclusion of site in the Ramsar List): yes ☒ -or- no ☐

b) **digital (electronic) format** (optional): Yes

6. Geographical coordinates (latitude/longitude):

21 mm 00 N

72 mm 00 W

7. General location:

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

The westernmost island of the Turks and Caicos archipelago

Administrative region: Turks and Caicos

8. Elevation (average and/or max. & min.) (metres):

Min. - (minus) 100m

Max. 15m (50ft)

Mean No information available

9. Area (hectares): 1,310

Incorporating:

Site No.	Site Name	Hectares
NR16	Lake Catherine Nature Reserve	396.5
	Lake Catherine Nature Reserve proposed extension	663.5
NP11	West Caicos Marine National Park	467.1
	South West Point Fossil Reef Proposed Nature Reserve	incl. above
	Total area	1,527.1

10. Overview:

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

The site comprises an area 1,310 hectares multi-habitat wetland system with transitions from the seabed at 100m depth to low lying ridges at 15m. The area comprises of open ocean, vertical coral reef wall, reef crest at depth with patch reef and sea grass beds, sandy beaches and also extensive limestone 'ironshore', a large hyposaline lake (185 ha), and karst features including a unique fossil coral reef. The lake supports abundant pink bivalve molluscs and black mussels. Within the lake is at least one "boiling hole" being the outlet of one or more direct tunnels to the ocean which is only 900m distance. Exploration of these tunnels indicate they are a large enough to allow passage or larger marine life including sea turtles. The lake also supports wetland birds including a regular population of flamingoes, with a historical causeway and small islands offering bird nesting sites. There is system of saline ponds, dwarf tropical dry forest and related terrestrial vegetation formations. It includes a fossil coral reef unique within the Bahamian archipelago as well as archeological and historic sites. The site contains a high level of biodiversity which reflect the diversity of ecosystems, including representative examples, as well as endemic and rare species.

11. 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, 7

12. Justification for the application of each Criterion listed in 11. 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).

- 1 Representitative and rare ecosystems: The site comprises an area 1,310 hectares multi-habitat wetland system with transitions from the seabed at 100m depth to low lying ridges at 15m. The area comprises of open ocean, vertical coral reef wall, reef crest at depth with patch reef and sea grass beds, sandy beaches and also extensive limestone 'ironshore', a large hyposaline lake (185 ha), and karst features including a unique fossil coral reef.

- 2 Rare and endangered species:

Humpback whale (*Megaptera novaeangliae*), Green Turtle (*Chelonia midas*) Hawksbill Turtle (*Eretmochelys imbricate*)

Bahamas endemic/CITES birds.

Osprey* (Bahamas race) (*Pandion haliaetus*) CITESII, Flamingo (*Phoenicopterus ruber*),

*confirmed breeding.

IUCN rare plants: *Cocothrynx inaguensis*, *Cynancum inaguensis*, *Encyclia inaguensis*.

- 3 Biodiversity: (nb The biological inventory is far from complete for this site)

The multi/biome nature of the site with high levels of biodiversity and endemism indicate a high biodiversity values: Species assemblages include, with number of species/genera recorded thus far.

Atlantic Pleagic fish and cetacean populations;

Tropical Atlantic Coral reef communities: Coral (22spp + 3genera with several sp.) Sponges (7 genera), Algae (37 genera) Reef fish(60 spp), Molluscs (25 spp), Marine invertebrates(23spp).

Saline Lake and ponds: Algae (8 spp), Wading Birds (14 spp), Mollusc (7 spp),

Dwarf dry tropical forest:

Only 11.4% of the natural vegetation of the wider Caribbean remains, much of it under threat. Over 72 higher plants recorded on the site of which 19 plant species endemic to the Bahamas Archipelago.

Tropical Dwarf Dry Forest formations including: sand dune, whiteland, blackland, saltmarsh, extensive coastal rock, with herptile and bird populations including endemics. (plants I have not really been able to put together).

4 (Very likely but insufficient knowledge at this point)

7. The site supports a significant coral reef fish assemblages as well as sharks and rays.

13. 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, Bahamas Archipelago

b) biogeographic regionalisation scheme (include reference citation):

14. 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	Geology: basic, biogenic reef, limestone, mud, Soils: sandy and stony sediments with little humic content and are nutrient-poor. The non-calcareous element of soils is hypothesized wind blown Sahelian aeolian dust deposits – this ‘Bahamas red loam’ (the source of local Lucayan Pottery) is prominent in the interior of West Caicos
Geomorphology and landscape	Coastal, intertidal sediments, subtidal rock (including rocky reefs), rocky coast, Saline Lake and Salinas, Semented sand ridges and coastal deposits
Nutrient status	mesotrophic, oligotrophic
pH	alkaline
Salinity	brackish / mixosaline, fresh, hypersaline / hyperhaline, saline / euhaline
Soil	mainly mineral
Water permanence	usually permanent, usually seasonal / intermittent
Summary of main climatic features	Rainfall averages 700 mm per year but is very variable. Potential evapo-transpiration exceeds rainfall. Temperatures vary between 20°C and 35°C. Highest temperatures and rainfall occur in the summer.

15. 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).

The Turks and Caicos Islands lie between the Bahamas, Cuba and Hispaniola. Together with southern Florida, the Bahamas and northern Cuba, they are part of a platform of rocks formed as limestone depositing in shallow seas as the crust slowly subsided. Virtually all these rocks of the area, to a depth of several thousand metres, are directly of marine origin, except some fossil soils and sand-dune rock (aeolian limestone). The region has always had a marine environment from the time of its formation until the present.

The Turks and Caicos Islands are on two shallow banks (Turks Bank and the larger Caicos Bank), with deep ocean between them. The maximum altitude is about 50 m asl. There are further shallow banks (Mouchoir, Silver and Navidad) to the south-east but without islands; some of these banks are within TCI territory. They are important for whales and probably for feeding seabirds. The Bahamas lie on separate banks to the northeast, and share some aspects of the geography.

The Island of West Caicos has developed on the western margin of the Caicos Bank, where the steep drop-off of the bank occurs only a few hundred metres from the island shore. The west side of the island is dominated by an exposed, rocky platform (30-50 m wide) which is underlain by moderately cemented (fossilized) reefal sedimentary deposits. In the southern portion of this coast is an uplifted and exposed coral reef formation that is considered unique in the Bahamas Archipelago. Eastward expansion of beach ridges has led to the development of Lake Catherine, the landscape feature which dominates the island and the salinas (Eastern Salina, and North Eastern Salina Complex) which are mostly narrow but extend along the eastern edge of the island. The North and Eastern parts of the island with the exception of the Salinas consist of beach deposits, upon which extensive palm thicket/forest has developed.

16. 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. A fragile freshwater lens occurs in isolated pockets on West Caicos, with a thin (1-3) fresh water lens floating on a thicker brackish water zone (c.20m) and the indefinitely thick saltwater zone. The hypersaline surface water bodies interrupt the freshwater lens.

17. Wetland types

Code	Name	% Area
B	Marine beds (e.g. sea grass beds)	
C	Coral reefs	
D	Rocky shores	
E	Sand / shingle shores (including dune systems)	
H	Salt marshes	
I	Mangrove / tidal forest	
Q	Saline / brackish lakes: permanent	
R	Saline / brackish lakes: seasonal / intermittent	
Sp	Saline / brackish marshes: permanent	
Ss	Saline / brackish marshes: seasonal / intermittent	
Other	Other	

18. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

The site comprises an area 1,310 hectares multi-habitat wetland system with transitions from the seabed at 100m depth to low lying ridges at 15m. The area comprises of open ocean, vertical coral reef wall, reef crest at depth with patch reef and sea grass beds, sandy beaches and also extensive limestone 'ironshore', a large hyposaline lake, extensive salinas, dwarf dry tropical forest and karst features including a unique fossil coral reef.

West Caicos Marine National Park (467.1 ha)

The 100m deep isobath forms the seaward boundary of the park. This is an area of open ocean off the coral reef wall. Seasonally Humpback Whales *Megaptera novaeangliae* migrate through the park. The near vertical coral reef wall for which the park was primarily established contains representative coral species of both soft and hard coral. Typical species include (add). The park supports a large

number of marine invertebrates as well as typical coral reef fish community including (add) Green Turtle *Chelonia midas* and Hawksbill Turtle *Eretmochelys imbricate* have both been recorded, as have southern sting ray, eagle ray, reef shark, white tipped shark.

Lake Catherine Nature Reserve (369.5 ha)

Lake Catherine (185 ha) covers 7.6% of the land area of the island, and its main landscape feature. It is a maximum of 2.3km long and 700m wide. Random salinity testing over the years 1988-2001 indicated a salinity of 37.5-42‰ salinity. Due to subterranean connections with the ocean there is significant mixing with seawater. Elevated salinity due to evaporation. Within the lake is at least one “boiling hole” being the outlet of one or more direct tunnels to the ocean which is only 900m distance. Exploration of these tunnels indicate they are a large enough to allow passage of larger marine life including sea turtles. Large specimens of probably Green Turtle are recorded from Lake Catherine.

The lake also supports some 15 species of wetland birds including a regular population of flamingos *Phoenicopterus ruber*. Occasional population counts of this species range from 12-120 individuals including juveniles. Being the nearest Caicos Island to the 50,000 strong breeding population on Great Inagua, Bahamas, one might have expected a larger population on Lake Catherine and the Salinas of West Caicos, as part of post breeding dispersion. Other wetland bird species include, the Snowy Egret *Egretta thula*, the Great Blue Heron *Ardea herodias*, Black necked Stilt () and Least Sandpiper *Calidris minutilla*.

Lake Catherine Nature Reserve Extension. (c. 369.5 ha)

In the Approved Master Plan for the Island of West Caicos there is the proposal to expand the Lake Catherine Nature Reserve. The objective of the expansion is to:

1. Provide a greater shore line buffer to the Lake, the current boundaries being close to the lake shore.
2. Include the ridgeline to the East of the Lake, being steeply sloping it is unlikely that this area was cultivated during the sisal plantation era. This then is likely to consist of undisturbed climax dwarf dry tropical forest, a habitat underrepresented in the protected area system. This ridge is also the landscape perimeter and edge of the view corridor from the Western side of the island. Including the ridge in the reserve therefore protects the landscape values of the Lake as a whole.
3. Include the Northern Salina Complex. The northern salina complex is an area of approximately 200ha of smaller Salinas, separated by salt mashes and low sand ridges which run north-south. These are hypersaline environments, seasonally flooded and with cyclic blue-green algae populations, as well as abundant molluscs including genera *Cerithidea*, *Cerithium*, *Bittium* and *Batillaria*. The saltmarsh margins of the salina include halophytic plants such as *Salicornia virginica*, *Batis maritima*, *Portulaca oleracea* and *Sesuvium portulacastrum*, and populations of the Land Crab (*Gecarcinus lateralis*) occurs. These merge into back mangrove communities including Buttonwood (*Conocarpus erectus*) and Black Mangrove (*Avicennia germinans*). The northern Salinas contain populations of wading birds similar to Lake Catherine.
4. Yankee Town as a Historical site and a corridor connecting the Nature Reserve with the Marine National Park. Yankee Town, was founded in the 1850's and deserted in 1916. It had a population of over 70 in 1906, and was the focus of the sisal plantation on the islands. The site and adjacent area is now revegetated with coastal coppice vegetation.
5. A corridor connecting Lake Catherine with the Northern Salinas

Proposed West Caicos Fossil Reef Nature Reserve: (c.50)

The extreme southern shoreline of West Caicos preserves, in situ, complete truly fossilized as opposed to sedimented coral reef structures. These fossilized reef systems are preserved just as

they were as long as 120,000 years ago when under several meters of water. Isolated coral shoals and a completely preserved spur & groove reef system are laid out on the ironshore coastline several meters above present day sea level. The West Caicos Fossil Reef is a rare formation and quite possibly unique to the Turks and Caicos Islands, and even the Bahamas archipelago. Like the Conch Bar Caves in Middle Caicos, it is an exceptional spot to learn about the geological history of our Islands. Its remoteness has so far preserved this unique site from degradation, but expanding development on West Caicos may require that the Fossil Reef receive some form of official protection soon.

19. 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.*

[Species lists for the marine areas to be appended.]

20. 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.*

[Species Lists for the marine area to be appended]

21. Social and 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.

Aesthetic

Lake Catherine is the main landscape feature, maximum land height on ridges to the east of Lake Catherine of 18m. The undeveloped western shore presents a pristine environment from the regular visiting dive boats.

Archaeological sites

There are a 3 (of >60 for TCI) Lucayan/ Taino Indian sites on West Caicos, and almost certainly more yet to be discovered. Two of the sites have been excavated. Dated Lucayan occupation of Turks and Caicos occurred between AD 1170-1490, the latter date coming from West Caicos. The oldest ship wreck yet discovered in the Caribbean region is located 13 miles to the southeast of West Caicos at Molasses Reef, at about 1530 and there may have been an surviving Lucayan community at that time. The discovery of a 'Maravedi' coin minted between 1542-1548 at a cove also containing Lucayan pottery lends some support to this conjecture.

Historic Sites

Following the extirpation of the West Caicos Lucayan Indian population the islands were uninhabited until the 1850's. In the intervening period there is evidence and accounts of occasional use of the island from passing ships both naval and pirate and possibly shipwrecked sailors (rock carvings). There is a 1587 account of British sailors (commissioned by Sir Walter Raleigh) hunting "flaming swanees" (flamingos) on West Caicos presumably from Lake Catharine. The island nominally changed hands between Spain, France and Britain numerous times. Attempts at salt 1850-61 and sisal production 1890 – 1913. By 1916 the island was deserted. The island was therefore occupied for about 35 years in the last 500, and this only within the last 150 years. The sisal company leased the whole Island, (6,000acres) and by 1906 65% of the Island (4000ac –1600 ha) were recorded as "under cultivation", of this 800 acres

(320ha) or 13.2 % of the island, was recorded as under “full-time” cultivation. This has important implications for the vegetation history of the island, and in fact Turks and Caicos as a whole. There is a widespread belief that the salt and plantations industries have had a major impact in altering the vegetation of the islands causing the loss of forests with much greater canopy heights. The history of West Caicos indicates that as much as 35% and possibly more of the island has never been cultivated and can therefore be considered the climax vegetation (The Lucayans, were not considered to have a major impact on vegetation). The fact that the areas once under cultivation cannot now be distinguished, by casual observation, from areas of climax vegetation after 90years of recovery has implies that there was no “mythic” forests at least on West Caicos. This would be an important area of combined ecological (diversity studies) and historical research, with the locating a map of the cultivated areas being a priority and giving significant impetus to the research.

Conservation education
Current scientific research
Fisheries production
Non-consumptive recreation
Sport fishing
Subsistence fishing

Conch and lobster are the traditional fisheries of the Turks and Caicos and occur around West Caicos. Fishing is not allowed in the site and only limited infringements of this occurs.

Tourism

The West Caicos Marine Park has been the focus of a tourist dive industry for 10-15 years. Dive boats travelling daily from Providenciales. Development on West Caicos itself is now in progress. In the past 2 years a marina basin has been constructed and a plan for an upmarket Ritz-Carlton hotel, and exclusive residential community at are advanced stages.

Traditional cultural

22. Land tenure/ownership:

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

23. Current land (including water) use:

Activity	On-site	Off-site	Scale
Nature conservation	+	+	Significant
Tourism	+	+	Diving, luxury hotel
Recreation	+	+	v. low
Research	+	+	v. limited
Collection of non-timber natural products: subsistence			
Cutting of vegetation (small scale/subsistence)			
Fishing: (unspecified)	+	+	
Fishing: recreational/sport			
Arable agriculture (unspecified)			
Grazing (unspecified)			
Urban development			
Other			

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

Activity	On-site	Off-site	Scale
Tourist and residential development low scale and can be mitigated. Plant and animal importation one of the highest risks given the relatively low historical impacts. It should be noted that there have been several development proposals for West Caicos over the past 20 years including a dump site for the solid waste from New York City, and large scale aragonite sand mining. The current development plans are potentially the most benign and potentially supportive alternative.	+	+	Significant

25. 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
Marine National Park	+	
Nature Reserve	+	
Proposed Extension to Nature Reserve (approved as part of the Island Master Plan)	+	
Proposed Nature Reserve to Protect Fossil Coral Reef	+	
Proposed Yankee Town Area of Historic interest nested within the Proposed Extension to the Nature Reserve	+	

26. Conservation measures proposed but not yet implemented:

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

Conservation measure	On-site	Off-site
Proposed Extension to Nature Reserve (approved as part of the Island Master Plan)	+	
Proposed Nature Reserve to Protect Fossil Coral Reef	+	
Master Plan and Development manual for the island includes a significant number of conservation measures	+	+

27. Current scientific research and facilities:

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

Coral reef monitoring. Dive returns of number of divers mandatory and collected for the past 4 years. Some biological, archaeological and historic research, some done for Environmental Impact Statement for the current development project.

28. Current conservation education:

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

Dive briefings.

29. Current recreation and tourism:

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

Regular boat based reef diving

30. Jurisdiction:

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

Ministry of Natural Resources, Government of the Turks & Caicos Islands, Grand Turk, Turks & Caicos Islands, British West Indies,

31. 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.

Department of Environment and Coastal Resources, Protected Areas Division.
Mrs M. Fulford Gardiner, Acting Director, DECR.

32. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see **13** above), list full reference citation for the scheme.

Site-relevant references

HallTech.Ltd. 2002. Environmental Impact Statement for West Caicos Island, On behalf of Logwood Development.

Turks and Caicos Islands Government (1975) *National Parks Ordinance (Ordinance No. 11 of 1975)*. Turks and Caicos Islands Government, Grand Turk

Turks and Caicos Islands Government (1992a) *Maps of the national parks, nature reserves, sanctuaries and areas of historical interest as listed in the National Parks Order 1992*. Ministry of Natural Resources, Department of Environment, Heritage and Parks, Grand Turk

Turks and Caicos Islands Government (1992b) *The National Parks (Protection and use of National Parks, Nature Reserves, Sanctuaries and Areas of Historical Interest) Regulations 1992*. Turks and Caicos Islands Government, Grand Turk

Turks and Caicos Islands Government (2003) *Ten year West Caicos Development Plan Statement*. Department of Planning, in collaboration with EDSA, HallTech and Logwood Development Co.

Please return to: **Ramsar Secretariat, Rue Mauverney 28, CH-1196 Gland, Switzerland**

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Information Sheet on Ramsar Wetlands (RIS)

Categories approved by Recommendation 4.7, as amended by Resolution VIII.13 of the Conference of the Contracting Parties.

Note 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. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers are strongly urged to provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of maps.

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

UK Overseas Territories Conservation Forum

102 Broadway
Peterborough
Cambridgeshire PE1 4DG
UK

Email: pienkowski@cix.co.uk

FOR OFFICE USE ONLY.

DD MM YY		

Designation date

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Site Reference Number

2. Date this sheet was completed/updated:

11 November 2004

3. Country:

UK (Turks and Caicos)

4. Name of the Ramsar site:

Leeward-Going-Through Cays

5. Map of site included:

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

a) **hard copy** (required for inclusion of site in the Ramsar List): yes ☒ -or- no ☐

b) **digital (electronic) format** (optional): Yes

6. Geographical coordinates (latitude/longitude):

21 mm 00 N 72 mm 00 W

7. General location:

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

These three small cays are situated off the eastern end of the island of Providenciales, and in one of the two traditional sea-routes through the islands, the Leeward Going Through. They form the TCI Princess Alexandra Nature Reserve; the Ramsar area includes also the adjacent part of the Princess Alexandra Marine National Park, including the coral reef area between the Nature Reserve and the seaward edge of the Park.

Administrative region: Turks and Caicos

8. **Elevation** (average and/or max. & min.) (metres): 9. **Area** (hectares): [450ac; approx 182 ha]

Min. 0

Max.

Mean No information available

10. Overview:

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

The cays and surrounding waters comprise a complex of ecosystems including global priority habitats: mangrove and buttonwood communities, hyper-saline aquatic and tidal flat areas, with sea-grass beds and coral, coastal coppice, and coastal scrub. Vegetation on the cays is largely coastal coppice and dune habitat, with some Coastal Scrub and Mangrove, Halophyte, and Iron-shore plant communities. Little Water Cay is home to a well-studied population of approximately 2000 endemic Turks and Caicos rock iguanas *Cyclura carinata*, with substantial numbers too on the other cays. Other endemic lizards, Anoles *Anolis scriptus*, Curly Tail Lizards *Leiocephallus psammmodromus* and Dwarf Geckos *Sphaerodactylus caicosensis* also inhabit the island. The waters are foraging sites for hawksbill and green turtles. A wide variety of birds use the site. There is a wide range of plant species.

11. 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

12. Justification for the application of each Criterion listed in 11. 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).

- 1 The cays and surrounding waters comprise a complex of ecosystems including global priority habitats: mangrove and buttonwood communities, hyper-saline aquatic and tidal flat areas, with sea-grass beds and coral, coastal coppice, and coastal scrub. Vegetation on the cays is largely coastal coppice and dune habitat, with some Coastal Scrub and Mangrove, Halophyte, and Iron-shore plant communities.
- 2 Little Water Cay is home to a well-studied population of approximately 2000 endemic Turks and Caicos rock iguanas *Cyclura carinata*, with substantial numbers too on the other cays. (CR; the only subspecies of *Cyclura carinata* found outside the Turks & Caicos Islands is confined to the small island of Booby Cay off nearby Mayaguana). The waters are foraging sites for hawksbill and green turtles
- 3 Other endemic lizards, Anoles *Anolis scriptus*, Curly Tail Lizards *Leiocephallus psammmodromus* and Dwarf Geckos *Sphaerodactylus caicosensis* also inhabit the island. A wide variety of birds use the site. There is a wide range of plant species, with 50 species of identified from Little Water Cay.

13. 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):**14. 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	basic, biogenic reef, limestone, mud, nutrient-poor, sand
Geomorphology and landscape	Coastal, enclosed coast (including embayment), intertidal sediments (including sandflat/mudflat), islands, lagoon, lowland, open coast (including bay), pools, subtidal rock (including rocky reefs), subtidal sediments (including sandbank/mudbank)
Nutrient status	mesotrophic, oligotrophic
pH	alkaline
Salinity	brackish / mixosaline, fresh, hypersaline / hyperhaline, saline / euhaline
Soil	mainly mineral
Water permanence	usually permanent, usually seasonal / intermittent
Summary of main climatic features	Rainfall averages 700 mm per year but is very variable. Potential evapotranspiration exceeds rainfall. Temperatures vary between 20°C and 35°C. Highest temperatures and rainfall occur in the summer.

15. 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).

The Turks and Caicos Islands lie between the Bahamas, Cuba and Hispaniola. Together with southern Florida, the Bahamas and northern Cuba, they are part of a platform of rocks formed as limestone depositing in shallow seas as the crust slowly subsided. Virtually all these rocks of the area, to a depth of several thousand metres, are directly of marine origin, except some fossil soils and sand-dune rock (aeolian limestone). The region has always had a marine environment from the time of its formation until the present.

The Turks and Caicos Islands are on two shallow banks (Turks Bank and the larger Caicos Bank), with deep ocean between them. The maximum altitude is about 50 m asl. There are further shallow banks (Mouchoir, Silver and Navidad) to the south-east but without islands; some of these banks are within TCI territory. They are important for whales and probably for feeding seabirds. The Bahamas lie on separate banks to the northeast, and share some aspects of the geography.

16. 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

17. Wetland types

Code	Name	% Area
B	Marine beds (e.g. sea grass beds)	
C	Coral reefs	
D	Rocky shores	
E	Sand / shingle shores (including dune systems)	
H	Salt marshes	
I	Mangrove / tidal forest	
Other	Other	

18. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site.

The cays and surrounding waters comprise a complex of ecosystems including global priority habitats: mangrove and buttonwood communities, hyper-saline aquatic and tidal flat areas, with sea-grass beds

and coral, coastal coppice, and coastal scrub. Vegetation on the cays is largely coastal coppice and dune habitat, with some Coastal Scrub and Mangrove, Halophyte, and Iron-shore plant communities. Little Water Cay is home to a well-studied population of approximately 2000 endemic Turks and Caicos rock iguanas *Cyclura carinata*, with substantial numbers too on the other cays. Other endemic lizards, Anoles *Anolis scriptus*, Curly Tail Lizards *Leiocephallus psammmodromus* and Dwarf Geckos *Sphaerodactylus caicosensis* also inhabit the island. The waters are foraging sites for hawksbill and green turtles. A wide variety of birds use the site. There is a wide range of plant species.

19. 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

Habitat:

The mangroves of the TCI are typical of the region. Three species of mangrove, *Rhizophora mangle*, *Laguncularia racemosa* and *Avicennia germinans* grow with *Conocarpus erectus* (Combretaceae) in mixed stands along the inland margin of the islands fringing the Caicos Bank.

Plants:

Latin Name	Common Name, as per Correll & Correll, 1982	Local Name	Family
<i>Acacia acuífera</i>	Pork-and-Doughboy	Casha	Fabaceae
<i>Andropogon glomeratus</i>	Bushy Beard Grass		Poaceae
<i>Antirhea myrtifolia</i>	Antirhea		Rubiaceae
<i>Argythamnia lucayana</i>	Lucayan Silverbush		Euphorbiaceae
<i>Borrichia arborescens</i>	Sea Oxeye		Asteraceae
<i>Casasia clusiifolia</i>	Seven Year Apple	Wild Guava	Rubiaceae
<i>Casuarina equisetifolia</i>	Australian Pine, Beefwood	Cedar Tree	Casuarinaceae
<i>Cenchrus tribuloides</i>	Burr Grass	Burr Grass	Poaceae
<i>Coccothrinax inaguensis</i>	Silver Thatch	Silver Top	Palmae
<i>Cocoloba uvifera</i>	Sea Grape		Polygonaceae
<i>Conocarpus erectus</i>	Buttonwood	Buttonwood	Combretaceae
<i>Crossopetalum rhacoma</i>	Poison Cherry	Pigeon Berry	Celastraceae
<i>Dichromena floridensis</i>	White Top Sedge		Cyperaceae
<i>Dodonaea ehrenbergii</i>	Dogwood		Sapindaceae
<i>Erithalis fruticosa</i>	Black Torch		Rubiaceae
<i>Ernodea littoralis</i>	Common Ernodea		Rubiaceae
<i>Euphorbia abbreviata</i>	Shortened Euphorbia	Wild Thyme	Euphorbiaceae
<i>Fimbristylis dichotoma</i>	Slender Sedge		Cyperaceae
<i>Fimbristylis inaguensis</i>	Inagua Sedge		Cyperaceae
<i>Jacquinia keyensis</i>	Joewood		Theophrastaceae
<i>Manilkara bahamensis</i>	Wild Sapodilla	Wild Dilly	Sapotaceae
<i>Panicum adspersum</i>	Red Grass		Poaceae
<i>Psidium longipes</i>	Wild Guava		Myrtaceae
<i>Reynosa septentrionalis</i>	Darling Plum		Rhamnaceae
<i>Rhacicallis americana</i>	Sandfly Bush		Rubiaceae
<i>Rhizophora mangle</i>	Red Mangrove	Mangrow	Rhizophoraceae
<i>Scaevola plumieri</i>	Ink Berry	Yankee Berry	Goodeniaceae
<i>Scaevola taccada</i>	Malaysian Ink Berry		Goodeniaceae
<i>Schizachyrium gracile</i>	Slender Beard Grass		Poaceae
<i>Sophora tomentosa</i>	Necklace Pod Tree		Fabaceae
<i>Sporobolus sp.</i>	Dropseed Grasses		Poaceae

Strumpfia maritima
Thrinax morrisii
Uniola paniculata

Strumpfia
 Buffalo Thatch Palm
 Sea Oats

Buffalo Top
 Beach Grass

Rubiaceae
 Palmae
 Poaceae

20. 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.*

Internationally important species occurring on the site:

Reptiles and amphibians:

Little Water Cay is home to a well-studied population of approximately 2000 endemic Turks and Caicos rock iguanas *Cyclura carinata*, with substantial numbers too on the other cays. Other endemic lizards, Anoles *Anolis scriptus*, Curly Tail Lizards *Leiocephallus psammomorphus* and Dwarf Geckos *Sphaerodactylus caicosensis* also inhabit the island. The waters are foraging sites for hawksbill and green turtles.

Birds:

A wide variety of birds use the site.

Several important nesting habitats for birds exist on the north side of the cay, including an osprey eyrie. Shorebirds and wading birds are common on the island. Flamingos *Phoenicopterus ruber* occur on the ponds. Green Herons *Butorides virescens* nest along the North Shore Trail. Other common wading birds are Reddish Egrets *Egretta rufescens* and Great Egrets *Ardea alba*. Scrub habitat passerines such as Blue-Gray Gnatcatchers *Polioptila caerulea*, Bananaquits *Coereba flaveola* and Bahama Woodstar hummingbirds *Calliphlox evelynae* are also frequently seen. Ospreys *Pandion haliaetus* and American Kestrels *Falco sparverius* are the most frequently sighted raptors.

21. Social and 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.

One of the cays, Little Water Cay, has been managed for some years by the Turks and Caicos National Trust, to provide for conservation of the endangered Rock Iguana and its ecosystem, and the opportunity for visitors to view these at close-quarters, with the whole operation working on a self-funding basis. In addition to the use of the facility by local residents and school parties, the close proximity to major holiday resorts has meant that many people with no or little previous interest in nature and conservation have been introduced to these. The operation has an international reputation as a model for such exercises.

Aesthetic

Aquatic vegetation (e.g. reeds, willows, seaweed)

Archaeological/historical site

Conservation education

Current scientific research

Fisheries production

Non-consumptive recreation

Sport fishing

Subsistence fishing

Tourism

Traditional cultural

22. Land tenure/ownership:

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

23. Current land (including water) use:

Activity	On-site	Off-site	Scale
Nature conservation	+		
Tourism	+	+	
Recreation	+	+	
Research	+	+	
Collection of non-timber natural products: subsistence			
Cutting of vegetation (small scale/subsistence)			
Fishing: (unspecified)		+	
Fishing: recreational/sport		+	
Arable agriculture (unspecified)			
Grazing (unspecified)			
Urban development		+	
Other			

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

Activity	On-site	Off-site	Scale
Resort development on adjacent Water Cay			

25. 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
NNR	+	+
Management plan in use	+	

26. Conservation measures proposed but not yet implemented:

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

Plans, including an international action plan workshop, are being developed to address threats to the Iguana population. Several threats to the iguana population exist on and near Little Water Cay.

1. Land Bridges and Introduced Mammals: A hurricane in 1987 and subsequent additions of sand have created a narrow but permanently dry isthmus of sand between Little Water Cay and Water Cay, along an area known as Half Moon Bay. The isthmus is vegetated by coastal scrub including dune grasses and ink berry. Another isthmus connects Water Cay to Pine Cay; consequently the three cays are linked by land bridges. A recent investigative visit has shown signs of populations of feral cats and rats inhabiting Little Water Cay. These invasive species likely utilized the land bridges formed between the cays and migrated from Pine Cay. A dump on Pine Cay no doubt supports larger populations of these animals. Evidence also exists that dogs are present on the cay, although they may be pets brought by visitors walking from Pine Cay or entering by private boat. Introduced predatory animals can quickly exterminate formerly healthy populations of rock iguanas as they have no natural enemies when fully grown. As an example, Glenn Gerber of the San Diego Zoo's Center for the Reproduction of Endangered Species has stated that a population of approximately 15,000

iguanas formerly inhabited Pine Cay. Within two years of the introduction of cats to Pine Cay, the population was estimated to be only 25 individuals.

2. Invasive Plants: Invasive plant species are a particular problem to small islet habitats.
 - a. The Australian pine (*Casuarina sp.*) is an invasive exotic species, which is gaining a foothold on the north-eastern end of Little Water Cay, adjacent to the land bridge to Water Cay. *Casuarina* trees form exclusive mono-cultures, which drown vital iguana food plants under a blanket of allelopathic (herbicidal) branches.
 - b. The Malaysian Ink Berry (*Scaevola taccada*) has begun to grow on Half Moon Bay sandbar. All individuals of this species should be rooted up and removed from the cay, and care must be taken to remove any fallen fruit as well. The fruit of *S. taccada* is white. The native ink berry (*Scaevola plumieri*) should not be removed: it has black fruit and is an important food plant for the iguanas.

27. Current scientific research and facilities:

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

The iguana population has been studied by a team from the Center for the Reproduction of Endangered Species at the San Diego Zoo. Their project focuses on repopulating cays where iguanas have become extinct. They find suitably vegetated cays, eliminate all cats, rats, and other introduced mammals from the cays, and then reintroduce as many iguanas as will spread out to cover the cay and breed successfully. So far, the reintroduction programmes have been extremely successful. All of the populations moved laid and hatched eggs within their first breeding season in their new homes. Seventy-six iguanas were removed from Little Water Cay in 2002 to stock other cays with them, and that population is doing well.

28. Current conservation education:

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

One of the cays, Little Water Cay, has been managed for some years by the Turks and Caicos National Trust, to provide for conservation of the endangered Rock Iguana and its ecosystem, and the opportunity for visitors to view these at close-quarters, with the whole operation working on a self-funding basis. In addition to the use of the facility by local residents and school parties, the close proximity to major holiday resorts has meant that many people with no or little previous interest in nature and conservation have been introduced to these. The operation has an international reputation as a model for such exercises.

29. Current recreation and tourism:

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

One of the cays, Little Water Cay, has been managed for some years by the Turks and Caicos National Trust, to provide for conservation of the endangered Rock Iguana and its ecosystem, and the opportunity for visitors to view these at close-quarters, with the whole operation working on a self-funding basis. In addition to the use of the facility by local residents and school parties, the close proximity to major holiday resorts has meant that many people with no or little previous interest in nature and conservation have been introduced to these. The operation has an international reputation as a model for such exercises.

30. Jurisdiction:

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

Ministry of Natural Resources, Government of the Turks & Caicos Islands, Grand Turk, Turks & Caicos Islands, British West Indies

31. 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.

Turks & Caicos National Trust (PO Box 540, Providenciales, Turks & Caicos Islands, British West Indies; tel +1 649 941 5710; fax +1 649 941 4258; e-mail: tc.nattrust@tciway.tc.

32. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see **13** above), list full reference citation for the scheme.

Site-relevant references

- Auffenberg, W (1983) Feeding strategy of the Caicos ground iguana. In: *Iguanas of the world: their behaviour, ecology and conservation*, ed. by G M Burghardt & A Rand, 84-116. Noyes Publishers, Park Ridge, New Jersey,
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- Sealey, NE (1994) *Bahamian landscapes: an introduction to the physical geography of the Bahamas*. 2nd edn. Media Enterprises, Nassau
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