

Turks and Caicos Islands



M. W. Pienkowski



Dr Mike Pienkowski, UKOTCF

Stilt Sandpipers and Lesser Yellowlegs at Freshwater Well, Grand Turk

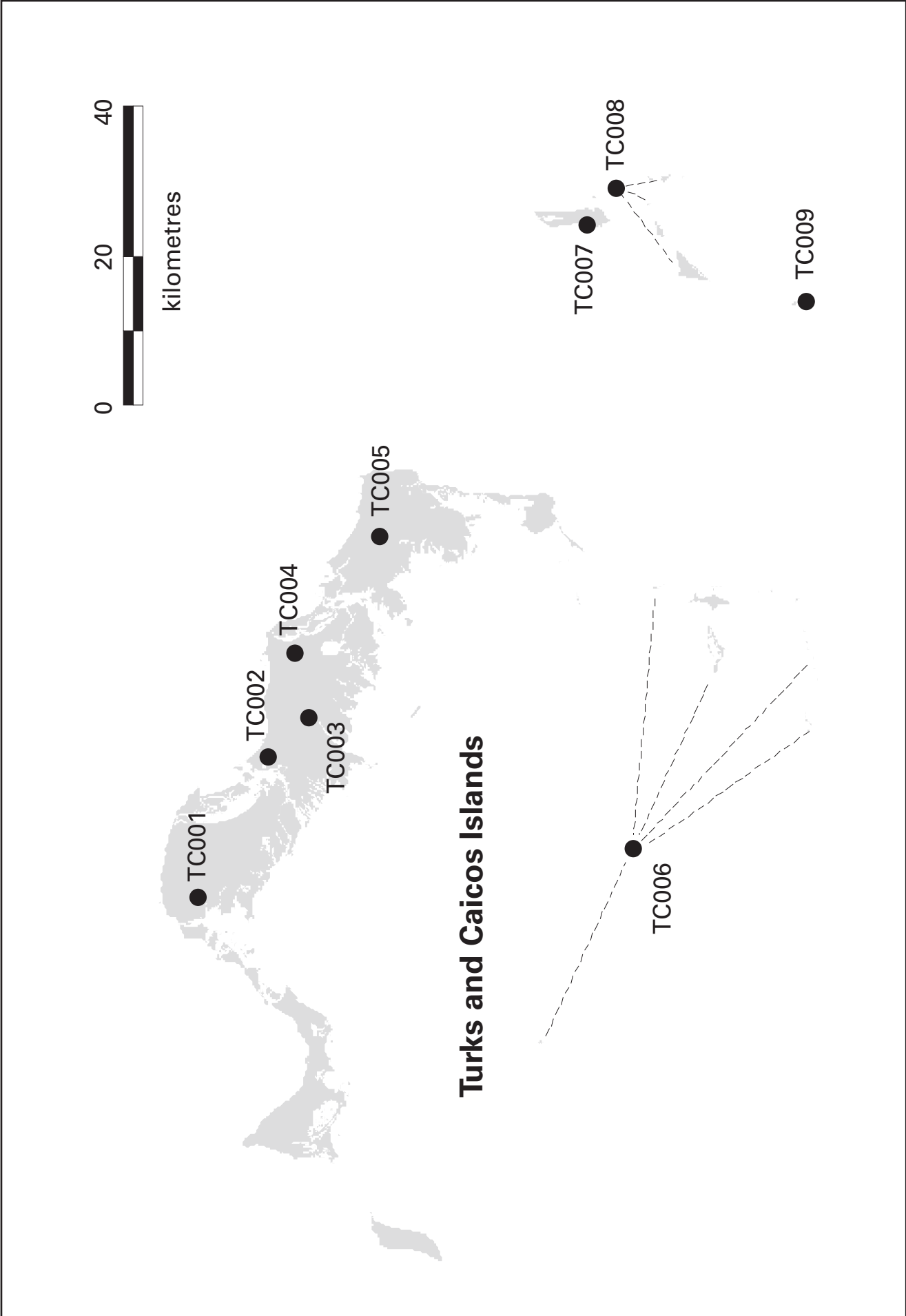
General introduction

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 limestone platform formed from calcareous marine sediments in shallow seas as the crust slowly subsided. Virtually all the 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 Turks and Caicos Islands (TCI) are on two shallow banks (Turks Bank and the larger Caicos Bank), with deep ocean between them. The maximum altitude is about 50 m. 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 north-east, and share some aspects of the geography.

The land form origins date from the Pleistocene Ice Ages, which began approximately two million years ago, when the level of the oceans dropped. In the third glacial, the sea level in the region fell by well over 120 m (400 ft) and, in the last one, by just under 120 m. As the sea level fell, the oolite was blown up from the beach to form dunes, which hardened as rock ridges. Of great importance to the later development of the TCI ridge are caves and related features. Blue holes and underground caves are features of great importance to some birds.

The shallow, submerged banks are made up of the Turks Bank, 98 square miles (254 square km) in area, and the Caicos Bank, 2,059 square miles (5,334 square km) in area, of which substantial proportions are less than 2 m deep. There are about 38,000 ha of inter-tidal sand banks and mudflats. Of the 50,000 ha total dry land area of the Turks and Caicos Islands, 26,669 ha (over half the land area) are wetlands.



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The largest islands lie along the northern edge of the Caicos Bank, and comprise, from west to east: West Caicos (about 6.2 miles/10 km N-S by 1.8 miles/3 km E-W); Providenciales (about 14 miles/23 km E-W by up to 6.2 miles/10 km); the small cays of Mangrove, Donna, Little Water, Water, Pine, Fort George, Stubbs, Dellis and Parrot; North Caicos (about 15.5 miles/25 km NW-SE by 9 miles/15 km); Middle Caicos (about 15.5 miles/25 km E-W by 9 miles/15 km); East Caicos (about 12.5 miles/20 km E-W by 9 miles/15 km); and South Caicos (about 5.5 miles/9 km N-S by 3 miles/5 km), together with some smaller cays. Several very small cays, important for breeding seabirds, lie on the southern edge of the Caicos Bank (about 19–31 miles/30–50 km south of the larger islands on the northern edge of the Bank). Providenciales, North, Middle and South Caicos are inhabited. The smaller Turks Bank holds the inhabited islands of Grand Turk (6.2 miles/10 km N-S by 1.9 miles/3 km) and Salt Cay (3.7 miles/6 km SW-NE by 1.2 miles/2 km), as well as numerous smaller cays, many of which are important for seabirds (see below).

The islands of the Turks and Caicos are affected by the west-setting North Equatorial Current on both their northern and southern extremities. After entering the Caribbean, the North Equatorial Current splits into two branches, the northern branch flowing north-east of the Turks and Caicos and the Bahamas as the Antilles Current, with an average velocity of approximately 0.5 knots. To a lesser extent the Antilles Current also flows through the Old Bahama Channel along the northern coast of Cuba and through the islands of the Turks and Caicos themselves. The more southern branch of the North Equatorial Current makes its way around the Caribbean and the Gulf of Mexico and enters the Straits of Florida as the Gulf Stream, with an average velocity of approximately 2.5 knots in a northward direction. Once north of the Bahamas, the stronger Gulf Stream merges with the weaker Antilles Current and bears off north and north-eastward across the North Atlantic.

Tidal amplitude varies from less than 1 m (about 2 ft) at neap tides to a little more than 1 m (about 4 ft) at spring tides (at new and full moon). Water levels may depend more on wind and atmospheric pressure than a regular tidal cycle proper. In the shallows on the Caicos Bank on the south side of the islands, strong and persistent northerly winds may keep water down. Strong southerly winds will give the southern shore higher tides than normal. In addition, the water level on the flats and marshes is very variable according to recent rainfall.

The Turks and Caicos are at the end of a gradation of climate types from the wetter northern Bahamas, through the southern Bahamas group to Turks and Caicos, receiving only about half the rainfall of the northern islands. The Turks and Caicos Islands are therefore examples of small dry islands, and lack large watershed systems such as rivers and estuaries. Instead there are relatively large areas of shallow marine banks and inter-tidal creeks, lagoons and flats. Inland water bodies are made up of salinas and salt

ponds, with relatively few, but important, freshwater formations such as marshes and sinkholes.

The climate is generally warm and dry, with occasional heavy rain. The Turks and Caicos Islands lie in the path of the north-east trade winds. Temperatures usually stay in the neighbourhood of 70–85°F (21–29°C). Winter temperatures in the Turks and Caicos rarely fall below 60°F (16°C) and generally are above 75°F (24°C) in the daytime. The average year-round temperature in the Turks and Caicos is 83°F (28°C). During the summer months the lows are around 75–78°F (24–26°C), while the highs seldom rise above 90°F (32°C) except in the hottest months of September and October when they can reach 95°F (35°C). Seawater temperatures normally vary between 74°F (23°C) in February and 84°F (29°C) in August. The trade winds also bring rain to these islands, although there can be prolonged droughts. Grand Turk averages 50 cm per year, while the Caicos group averages around 100 cm. The rainiest month is May; the summer months may see a lot of rain, depending on the actions of tropical waves and hurricanes. In the winter, rainfall is dependent upon frontal passages.

Humidity is fairly high throughout the year, especially during the summer months, but breezes can lessen the effect. In the summer, winds tend to be light, 10 knots or less from the south-east with more calms, especially at night. In the winter, the prevailing winds are east-south-east and stronger. It is not unusual to get a week of strong winds, 20 knots or more, during the winter months as fronts move through. These fronts tend to move through with regularity during the winter months and become more infrequent as spring approaches.

In the summer the weather pattern is typically scattered showers with the occasional line squall. Although the main concern from June to November is hurricanes, the Turks and Caicos are more often visited by a tropical wave with its strong winds and drenching rains. Tropical waves, sometimes called easterly waves, are low-pressure systems that can strengthen and turn into a tropical depression or hurricane.

In pre-Columbian times, the islands were important centres of population. Archaeological investigations have been made at several small sites and one large settlement, as well as in some cave sites. The indigenous population was wiped out within a generation of Columbus's arrival in the region. The area apparently remained largely unoccupied for long periods following this. Subsequently, the Turks Bank islands plus South Caicos (the 'salt islands') followed a rather different history until recently from the rest of the Caicos Islands. These salt islands were used to supply salt from about 1500. They were settled, from Bermuda and initially on a seasonal basis, for this purpose from the 1660s. Salt was important both as a food preservative and seasoning. The islands were cleared of trees to facilitate salt production by evaporation. By about 1900, Grand Turk was world famous as the source of the world's best salt. In the latter part of the 20th century, the salt industry closed down, following various problems and the development elsewhere of cheaper means of salt production. Production

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ceased in 1975. The salt pans remain as undervalued historic features and places where birds in large numbers can be viewed closely with great ease. In the late 19th and early 20th centuries, Grand Turk's position made it something of a transportation and communications centre, but air travel and modern communications have largely displaced this.

The Caicos Islands remained largely uninhabited for 200 years, although their shallow and complex channels, requiring much local knowledge to navigate safely, made them a main resort of some of the more famous pirates of the period up to the 18th century, Parrot Cay being a corruption of Pirate Cay. From 1787, land in the Caicos Islands was given to 'Empire loyalists' who had lost their lands in the newly created United States, because they wished to remain British. The resulting plantations (initially mainly for cotton) cleared much of the high forest, which appears to have survived until that time in largely pristine state, the pre-Columbian population having apparently used forest and marine products, rather than clearing large areas. Although leaving a substantial archaeological heritage, the main plantation period lasted rather few decades, and met a series of natural and economic misfortunes. The last record of cotton exportation is for 1812. Most of the plantation owners eventually left the Caicos Islands or moved to the salt islands. It was their former slaves and their descendants who developed a subsistence economy and a great knowledge of the medicinal and nutritional uses of the re-establishing native vegetation. There were some later cotton and sisal plantation initiatives in the late 19th and early 20th centuries.

The major change of the 20th century was the land grant of much of Providenciales to US development companies, and the establishment there of holiday resorts and private homes. In the last quarter of the 20th century, Providenciales was converted from an island of three small villages (probably rather like the present Middle Caicos) to a largely unplanned urban sprawl, rapidly destroying the remaining natural habitats. Providenciales is now the commercial centre of the country, with the government remaining largely at Grand Turk.

At present, the human population of the Turks and Caicos Islands is about 20,000, mainly on Providenciales, with significant numbers also on Grand Turk, South Caicos and North Caicos, and smaller communities on Middle Caicos and Salt Cay. There are resort developments on some of these islands as well as Pine Cay and Parrot Cay, with others under construction or planned at West Caicos, Water Cay, Joe Grant Cay, East Caicos and Big Ambergris Cay. Economic activity includes tourism, offshore finance and fishing. Only a small area is under cultivation.

The marine and wetland habitats of the Caicos Islands were probably largely untouched by human impacts until the late 20th century. The terrestrial habitats, where these have not been destroyed by bulldozing prior to building, typically on Providenciales but spreading rapidly, are in various stages of recovery to high tropical dry forest. This process is slow, and scrub forest is the most widespread at present.

The vegetation classification summarised below was developed by Fred Burton, of the Cayman Islands and formerly Programme Director of the Cayman Islands National Trust, for the Turks and Caicos National Trust/United Kingdom Overseas Territories Conservation Forum/CAB International (TCNT/UKOTCF/CABI) Plan for Biodiversity Management and Sustainable Development around Turks and Caicos Ramsar Site. The starting point was a satellite image, which was classified and ground-truthed. Although this was developed on Middle and North Caicos, it is a convenient approximation at this stage for TCI. The habitats and vegetation types are most easily introduced by taking a cross-section through a Caicos island from the deep sea (generally on the north) to the shallow bank (generally to the south). There are variants to this, which are summarised later.

On the outer (generally northern) side, usually a few hundred metres or less offshore is the reef edge, plunging to oceanic depths. This is a biologically rich system, including typical Caribbean barrier reef communities, including a reef crest and a back-reef lagoon.

In some areas there is rocky shore, either cliffs or low rocks. These can be weathered to sharp edges. In places, depressed rock pavement areas, intermittently filled by high tides, become extremely hypersaline due to evaporation, forming crystalline salt at the margins. More generally, the coast consists of sandy beaches backed by low scrub. In places there are sand-dune areas, which may hold Fanner Grass, an important local product for weaving.

The scrub becomes quite thorny and impenetrable, and grades into regenerating high forest with ponds, which would have been the original vegetation of much of this area before the plantation period. The dry shrublands, woodland and forest consist of diverse xerophytic mixed evergreen/deciduous shrublands, merging to higher woodland and forest, on limestone bedrock and thin soils. Species composition varies with elevation above groundwater and exposure to salt spray. Abundant tree species include *Lysiloma latisiliquum*, *Coccoloba diversifolia*, *Tabebuia bahamensis*, *Coccothrinax argentata*, *Thouinia discolor*, *Metopium toxiferum*, *Acacia choriophylla*, *Cephalocereus millspaughii*, *Guaicum sanctum* and *Thrinax morrisii*. Several orchid species in the genus *Encyclia* are also widespread and conspicuous in these habitats.

Scattered through the dry forest are many ponds of various sizes and differing hydrologies. Many are shallow brackish to hypersaline ponds, usually narrowly fringed by mangroves and succulent halophytes, and otherwise unvegetated. Water levels fluctuate seasonally and many ponds may dry out periodically or seasonally. Some are freshwater and permanent, often being 'blue holes': deep solution holes formed at a time of lower sea levels during glacial periods. These freshwater sources, which may float on deeper saline water, are of great importance, not least to birds.

At the complex transition zone, as the dry ground grades into wetter ground towards the southern side of the islands, in some places, particularly on North and Middle Caicos, there are areas of native Caicos Pine. This is now

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the national tree of the Turks and Caicos. *Pinus caribaea* woodland occurs in extensive stands intermingled with other seasonally flooded habitats. The limestone bedrock has very thin soils, and many seasonally flooded sinkholes: the entire habitat floods with fresh water during periods of intense rain. *Sabal palmetto* and *Cladium jamaicense* grow in the sinkholes. The shrub layer is usually sparse, with *Coccoloba uvifera*, *Thrinax morrisii*, *Randia aculeata*, *Tabebuia bahamensis*, *Cassia inaguensis*, *Byrsinomia lucida*, *Lysiloma latisiliquum*, *Savia erythroxyloides*, *Conocarpus erectus*, *Metopium toxiferum*, *Acacia choriophylla*, *Swietenia mahagoni*, *Ernodea serratifolia* and *Erithalis fruticosa*. Herbaceous species include *Rhynchospora colorata*, *Jacquemontia havanensis*, *Cassytha filiformis*, and the ground orchid *Spiranthes vernalis*.

Two other seasonally flooded woodland types also occur in this zone at various localities. First there is *Conocarpus erectus*, including var. *seriacea*, which forms seasonally/intermittently flooded woodland communities on very slightly raised sand banks amid tidal flats. The tree layer may be monospecific, or may variously include *Pithecellobium keyense*, *Dodonea viscosa*, *Guapira discolor*, *Swietenia mahagoni*, *Maytenus phyllanthoides* and *Metopium toxiferum*. The shrub layer may include the endemic *Eupatorium lucayanum*, *Crossopetalum rhacoma*, *Borrchia frutescens*, *Thrinax morrisii*, *Coccoloba uvifera* and *Erithalis fruticosa*, while the herbaceous layer typically includes *Sporobolus virginicus*, *Chamaesyce vaginulatum* and *Lycium tweedianum*. Second, *Sabal palmetto* palms form seasonally flooded woodlands in association with *Gundlachia corymbosa* where fresh to brackish flood water accumulates during the rainy season. The two species are strongly codominant, with *Distichlis spicata* also often abundant.

Generally, the usually dry upland area slopes down into the area of flats, which are inundated periodically either by rain or high seas. This area is an open savannah of mangrove and buttonwood trees, grading down through various interesting marsh types to the complex of mangrove inlets, themselves merging into the permanent water over the Caicos Bank. This natural inter-gradation of habitats is a very important feature of the site, and very rare in coastal areas nowadays.

Some of the main types of ecosystem here are as follows.

Conocarpus shrubland on saltmarsh grasses: *Conocarpus erectus*, usually var. *seriacea*, forming a 1–3 m seasonally flooded shrubland over a herbaceous community dominated by *Sporobolus virginicus* or occasionally *Distichlis spicata*. *Conocarpus erectus* var. *erectus* is often present as a prostrate shrub, with *Salicornia virginica*, *Portulaca rubricaulis*, *Borrchia frutescens*, *Rhachicallis americana*, *Jacquinia keyensis*, *Rhynchospora colorata*, *Fimbristylis ferruginea*, *Agalinis maritima* and, occasionally, *Rhizophora mangle* and/or *Avicennia germinans* as shrubs.

Conocarpus-Rhachicallis dwarf shrubland: a seasonally flooded shrubland with most woody vegetation dwarfed, on calcareous silt with emergent limestone bedrock. Dominated by prostrate *Conocarpus erectus*, with *Rhachicallis*

americana, *Rhizophora mangle*, *Jacquinia keyensis*, *Manilkara bahamensis*, *Thrinax morrisii*, *Borrchia frutescens*, *Coccoloba uvifera*, *Cladium jamaicense*, *Swietenia mahagoni*, *Gundlachia corymbosa*, *Strumpfia maritima*, *Crossopetalum rhacoma*, *Sophora tomentosa*, *Fimbristylis ferruginea* and *Distichlis spicata*.

Unvegetated rock and mudflats: rock pavements and dark calcareous silt flooded by seasonal/intermittent expansion of natural brine pans. Virtually devoid of higher plants due to extremely high salinity. Slightly raised rock areas may rarely support a few prostrate *Conocarpus erectus*, severely stunted *Avicennia germinans*, *Salicornia virginica* or *Rhachicallis americana*.

Sparsely vegetated saline sand flats: approximately 75% unvegetated sand with a thin algal crust, supporting local aggregations of *Avicennia germinans* shrubs, and the succulent halophytes *Portulaca rubricaulis*, *Salicornia virginica* and *Suaeda conferta*. Intermittently flooded by rain and/or tide. Old flamingo nests were observed in this habitat.

Salicornia-Batis-Portulaca saltmarsh: a succulent herbaceous saltmarsh community, on a flat calcareous silt substrate. Dominated by *Salicornia virginica*, *Salicornia bigelovii*, *Batis maritima* and *Portulaca rubricaulis*. *Lycium tweedianum*, *Chamaesyce vaginulatum*, *Sporobolus virginicus* and scattered *Avicennia germinans* shrubs may be present.

Distichlis/Sporobolus saltmarsh: a grass-dominated saltmarsh community, on a flat calcareous silt substrate. Dominated by *Sporobolus virginicus* and *Distichlis spicata* in varying proportions. *Borrchia frutescens*, *Salicornia virginica*, *Salicornia bigelovii*, *Lycium tweedianum*, *Portulaca rubricaulis*, with *Conocarpus erectus* as isolated shrubs or trees, may be present.

Mixed saltmarsh with sparse silver Conocarpus: scattered *Conocarpus erectus* var. *seriacea* shrubs and trees forming up to 20% cover on a calcareous silt substrate with emergent limestone bedrock. *Sporobolus virginicus*, *Salicornia virginica*, *Rhachicallis americana*, *Borrchia frutescens*, *Portulaca rubricaulis*, *Salicornia bigelovii*, *Fimbristylis ferruginea* and *Batis maritima* form a partial ground cover in varying combinations. *Avicennia germinans* may be present as a rare emergent shrub or tree.

Rhizophora and Avicennia mangrove shrublands: mangrove shrubland communities 1 m tall, forming 40–60% cover on soft calcareous mud covered with a thick algal turf, and a network of tidal creeks. Ranging from monospecific *Avicennia germinans* at the landward extreme of the community, through mixed *Avicennia germinans* *Rhizophora mangle*, to monospecific *Rhizophora mangle* towards the seaward edge. *Rhizophora*, *Avicennia* and *Laguncularia racemosa* shrublands also occur in more inland sites, associated with *Conocarpus erectus* and succulent halophytes on pond fringes and in seasonal floodwater channels.

Inter-tidal mud: unvegetated sand and silt substrates.

Water: open seawater over sand banks south of the Caicos Islands, and in channels between them.

There are variants from this general pattern. For example,

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West Caicos has a low rock edge on its western shore and a more varied, but largely narrow-beached eastern shore on the Bank side. Grand Turk tends to have a rocky eastern shore, but a beach-dominated western shore. The small cays of both banks have varied shore types, both within

and between cays. These types range from mangrove swamps, through sandy beaches to sharp, iron-pan rock. As noted earlier, the former salt islands of Grand Turk, Salt Cay and South Caicos have almost treeless environments due to earlier clearance for the salt industry microclimate.

Ornithological importance

The avifauna of the Turks and Caicos Islands include 204 recorded species, of which 58 are recorded as breeding species and a further 110 as regularly occurring non-breeding species (Bradley 1995, updated by Pienkowski 2002, and additional records).

In summary, the Turks and Caicos Islands are important for birds for several reasons:

- 1 endemic birds, in some cases threatened, generally shared with the Bahamas and/or with Cuba
- 2 seabird concentrations
- 3 wetland birds
- 4 other characteristic local species, especially in woodlands and wetlands
- 5 vulnerable migrants in their non-breeding seasons.

The following globally threatened bird species occur in the Turks and Caicos Islands: the West Indian Whistling-duck, Piping Plover and Kirtland's Warbler. All are classified as Vulnerable. The endangered Blue-headed Quail-dove and the Giant Kingbird, although not listed in *Threatened birds of the world* (2004), have been recorded but are irregular visitors and therefore not used to qualify Important Bird Area (IBA) sites.

The Turks and Caicos Islands form part of the Bahamas Endemic Bird Area (EBA) 026. TCI and the Bahamas share a number of restricted-range species. These include the Bahama Woodstar, Bahama Mockingbird, Pearly-eyed Thrasher and the Thick-billed Vireo. An endemic sub-species of the Thick-billed Vireo is restricted to the Caicos Bank. The nominate sub-species is found in the Bahamas, Isle Tortue off Hispaniola, the Cayman Islands and Providencia.

Despite the small size of the archipelago and the short distance between the islands, there are some important, and apparently consistent, differences in the avifauna between the TCI and the Bahamas. For example, TCI shares the Cuban Crow only with Cuba. Several species of the adjacent Cuba EBA 025 and Hispaniola EBA 024 occur also in the Turks and Caicos Islands, in some cases probably as irregular visitors, but others as important parts of the population. These are reflected in the Greater Antilles (GAN 07) biome species recorded on the islands. See the table on the next page for the occurrence of globally threatened, restricted-range and biome species at IBAs on TCI. The Greater Antillean Bullfinch *Loxigilla violacea ofella* is an endemic sub-species restricted to Middle and East Caicos, with occasional records on North Caicos. The nominate race occurs in Crooked and

Acklins Islands and the Inaguas in the Bahamas, Hispaniola and Jamaica.

The small cays of both the Caicos and the Turks Banks, as well as some cliffs and stacks of the main islands, are important breeding sites for substantial numbers of seabirds, which range over a wide area. For some species, these are the largest recorded colonies in the Caribbean.

It has long been recognised that the Turks and Caicos Islands are of great importance to wetland birds, and that usage is very variable. This variability is seasonal and year to year, and probably relates largely to weather conditions. It is important that human intervention does not make things yet more complicated.

Substantial numbers of migrant shorebirds use the area, particularly on spring and autumn migrations, but also over winter, with some summering immatures. Some shorebirds and several members of the heron family are resident or summer breeding visitors. The area also provides particularly good opportunities for viewing waterfowl at close quarters, the most remarkable example being the old salt pans in the town at Grand Turk, where a wide range of species feed and roost a few metres from public roads and footpaths. Several waterbird populations are supported in internationally (Caribbean or global) important populations (see below).

While the importance of the wetlands is increasingly well known, the dry woodlands (ranging from scrub to high forest) had not been noted for their wildlife. It is now clear, however, that the birds here make themselves obvious only for one or two hours just after dawn and at certain times of year. Recent study has found that these woodlands support important breeding populations of characteristic local birds, some widespread but others endemic to the Turks and Caicos Islands, in some cases in combination with the Bahamas and, in others, Cuba or Hispaniola. These include the Cuban Crow, Thick-billed Vireo, Greater Antillean Bullfinch, Bahama Woodstar, Bahama Mockingbird, Pearly-eyed Thrasher, Stripe-headed Tanager, Key West Quail-dove, West Indian Whistling-duck and the Kirtland's Warbler.

Archaeological studies from a site in Grand Turk occupied between AD 705 and 1170 suggest that less than 1% of meat intake was from birds, but that the most common bird in the sample was the Red-footed Booby, commonly extirpated when humans reach an area. Excavations in the Caicos Islands also revealed the former presence of a parrot. It is not clear when this became extinct but the extensive clearance of the plantation period removed most of the habitat for parrots.

The occurrence of globally threatened, restricted-range and biome species at Important Bird Areas on the Turks and Caicos Islands

Important Bird Area	TC001	TC002	TC003	TC004	TC005	TC006	TC007	TC008	TC009
A1 globally threatened species									
West Indian Whistling-duck <i>Dendrocygna arborea</i> (VU)			X	X	X				
Piping Plover <i>Charadrius melodus</i> (VU)					X		X		
Kirtland's Warbler <i>Dendroica kirtlandii</i> (VU)			X	X	X				
A2 restricted-range species									
Bahama Woodstar <i>Calliphlox evelynae</i>	X	X	X	X	X				
Bahama Mockingbird <i>Mimus gundlachi</i> (A3)	X	X	X	X	X				
Pearly-eyed Thrasher <i>Margarops fuscatus</i>	X		X	X					
Thick-billed Vireo <i>Vireo crassirostris stalagmum</i> (A3)	X		X	X	X				
A3 biome-restricted species									
Key West Quail-dove <i>Geotrygon chrysis</i>	X								
Antillean Nighthawk <i>Chordeiles gundlachi</i>		X		X	X				
Greater Antillean Bullfinch <i>Loxigilla violacea ofella</i>			X	X	X				
Stripe-headed Tanager <i>Spindalis zena</i>	X		X						
Cuban Crow <i>Corvus nasicus</i>	X		X	X	X				

Conservation infrastructure and Protected Area system

Two main legislative means are available to give statutory protection to areas. These may be used separately or in combination. One of these, the National Parks Ordinance 1992, defines four categories of protected area:

- 1 National Parks (based more on the UK model than the IUCN definition, with some emphasis on recreation)
- 2 Nature Reserves (with an emphasis on nature conservation, and with visiting restrictions if appropriate)
- 3 Sanctuaries (nature areas with a presumption against visiting)
- 4 Areas of Historic Interest (for human heritage sites).

The other means, the National Trust Ordinance 1992, established the Turks and Caicos National Trust as a statutory but non-governmental membership body. Among other elements, it gave the Trust powers to hold land inalienable and in trust for the nation, with the ability to prepare by-laws for its protection.

The Department of Environmental and Coastal Resources (DECR), within the Ministry of Natural Resources, is the TCI government department responsible for nature conservation, fisheries and related matters. It includes the Protected Areas Department. The DECR is based in Grand Turk, with smaller offices (concerned mainly with fisheries) in South Caicos and Providenciales. Its Protected Areas Department is based in the new National Environment

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Centre in Providenciales, whose building was supported in part by a grant from the UK Government.

The Turks and Caicos National Trust is the only statutory, independent organisation in the Turks and Caicos Islands responsible for safeguarding the environmental, cultural and historical heritage of the islands for present and future generations. One of the Trust's statutory roles is to hold environmentally important land in trust for the country, and the TCI Government has started transferring some such lands to the Trust to hold and manage. The Trust works in partnership with the TCI Government, local businesses, national and international conservation organisations, schools and the community, and is a popular and respected organisation among local people. It plays a unique role in its partnership approach to sustainable conservation, the protection of the natural environment and promotion of environmental awareness and responsibility. Since 1998, the Trust has successfully implemented a varied programme of environmental initiatives and projects. The Trust is supported by membership fees, private sponsorship and project grants, and fulfils its mission by implementing a range of sustainable projects and initiatives, some of which are revenue generating and used to finance new programmes (the Trust's website is at www.nationaltrust.tc).

Although statutory Protected Areas have existed since the early 1990s, resource limitations have delayed much progress on the management of Protected Areas by official bodies. Because of this, the UK's Department for International Development (DFID) funded for several years from 1998 a project – the Coastal Resources Management Project (CRMP) – with the TCI Government, to develop and implement management plans for three of the Turks and Caicos Islands' marine National Parks, in the seas adjacent to Providenciales and West Caicos. Meanwhile, the National Trust has centred on terrestrial and wetland areas, developing in the mid-1990s the effective management of Little Water Cay, as well as several historic sites. Jointly

with the local community, the UK Overseas Territories Conservation Forum and some of the other member bodies of that, and with support from the UK Government's Darwin Initiative and Environment Fund for Overseas Territories, it has developed a management plan (available at www.ukotcf.org) for the large Ramsar site on North, Middle and East Caicos and its surroundings. The Trust has started implementation of this plan.

TCI benefits from having a newly established Conservation Fund. This is funded by a 1% addition to the previously existing 8% tax on visitors, charged mainly on accommodation and meals. This provides a mechanism for ongoing funding for the management of Protected Areas. The ways of implementing these intentions are still being developed.

International measures relevant to the conservation of sites

The Turks and Caicos Islands are included in UK's ratification of the Ramsar Convention on Wetlands, the London Convention on the Prevention of Marine Pollution by Dumping of Wastes and other Matter, the Bonn Convention on the Conservation of Migratory Species of Wild Animals, the Cartagena Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, and its Protocol concerning Cooperation in Combating Oil Spills to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region. TCI is also moving towards inclusion in the UK's ratification of the Convention on Biological Diversity and the Convention on Trade in Endangered Species. These are being progressed in the context of the development of a strategy for action to implement the Environmental Charter. Such charters were signed between the UK Government and the governments of UK Overseas Territories in September 2001. In 2002–2003, TCI provided the pilot exercise in developing a strategy for implementation, facilitated by the UK Overseas Territories Conservation Forum.

Overview of the inventory

The programmes of work of several projects throughout the period since 1998 have been designed to cover as much of the area as possible and, where feasible, at different seasons and in different years. For example, systematic surveys through the Middle Caicos woodlands and wetlands, as well as the areas on North Caicos and Grand Turk, have been achieved on several occasions each year in this period. Systematic efforts have been made to fill gaps in coverage, leading to several specially organised visits to the Salt Cay, the seabird cays, East Caicos and other sites. In addition to those aspects of this material already collated for separate publication, other studies are ongoing.

The identification of IBAs has involved meetings with personnel from the TCNT and DECR, as well as those observers still active in TCI, or still in contact for those who have left. The exercise has benefited also from discussions

being held in the same period as the development and implementation of the Plan for Biodiversity Management and Sustainable Development around the Turks and Caicos Ramsar Site, the development of the strategy for action to implement the Environment Charter for TCI, the review of actual and potential Ramsar sites, and a review of domestic formally protected areas.

Nine IBAs are identified in the Turks and Caicos Islands. They are summarised, approximately from west to east, in the table below. These include two areas of forest (in one case including important ponds), two groups of seabird breeding cays, two areas of former salt pans and adjacent creeks, and three other mainly wetland areas, although including some related habitats including cliffs and other coastal types. The IBAs cover approximately 84,850 ha. They include substantial shallow marine areas as well as

Turks and Caicos Islands

dry land and wetlands. The sites cover all the globally threatened and restricted-range species found in the Turks and Caicos Islands.

The total area of the IBAs is about 15% of the total area of the two banks. The IBAs occur at or near North, Middle and East Caicos, Grand Turk, Salt Cay and several small cays. There are no IBAs listed on West Caicos, Providenciales or South Caicos.

Sites of global conservation importance

IBA code	Site name	Island	A1	A2	A3	A4i	A4ii	A4iii
TC001	Gallery Forest at Wades Green and Teren Hill	North Caicos		X	X			
TC002	Fish Ponds and Crossing Place Trail	Middle Caicos		X	X			
TC003	North, Middle and East Caicos Ramsar Site	North, Middle and East Caicos	X	X	X	X		X
TC004	Middle Caicos Forest	Middle Caicos	X	X	X			
TC005	East Caicos and adjacent areas	East Caicos	X	X	X	X		
TC006	Caicos Bank Southern Cays	Caicos Bank				X		X
TC007	Grand Turk Salinas and Shores	Grand Turk	X			X		
TC008	Turks Bank Seabird Cays	Long, Penniston, East, Big Sand Cay				X		X
TC009	Salt Cay Creek and Salinas	Salt Cay				X		

Several other features should be noted in areas not included in the IBA list. This is done below, approximately from west to east.

West Caicos needs further survey and assessment. This is particularly the case in that a major built development is in progress on this formerly uninhabited island. This will affect much of the island, including the statutory Nature Reserve at Lake Catherine.

Providenciales has been converted rapidly since about 1975 from a rural village community to a development sprawl. This island has an increasing number of resorts, and commercial and private developments, so it receives most of the tourists and has the main international airport. Development does not follow a strategic plan and planning regulations are frequently breached. At the time of writing (2003), an unapproved road is being bulldozed across Pigeon Pond and Frenchman's Creek statutory Nature Reserve in the west of the island. Several areas of Providenciales (including Pigeon Pond and Frenchman's Creek Nature Reserve and the undesignated Juba Creek and Flamingo Lake in the south-east of the island) probably qualified for IBA status and may still do so (although survey data are needed). However, the rate of attrition by built development is so rapid that there is little point in listing Juba Creek and Flamingo Lake as IBAs. Some areas

on Providenciales remain important for conservation, including birds, and this should be pursued.

Two of the smaller cays that lie between Providenciales and North Caicos (Parrot Cay and Pine Cay) have been developed as expensive inclusive holiday resorts, although some natural habitat is retained in each. A third (Water Cay) is also proposed for intensive development. The remaining cays are very small, and in some cases mangrove banks rather than dry islands. Three, adjacent to Providenciales, are a statutory nature reserve and under the management of the Turks and Caicos National Trust. Little Water Cay is managed by the Trust as a successful conservation and public-awareness project for the endemic Rock Iguana, and an extension of conservation management to Mangrove and Donna Cays and the adjacent mainland of Providenciales at Bird Rock Point is envisaged. These are important areas for birds too, but not of IBA status.

In addition to the IBAs on North Caicos, several other Protected Areas have bird importance and might have been included in the IBA list with more survey information and subject to coverage of interest in other IBAs. These include the marshes and shores at East Bay Islands National Park and at Dick Hill Creek and Bellefield Landing Pond Nature Reserve, as well as the large ponds at Pumpkin Bluff Pond

Important Bird Areas in the United Kingdom Overseas Territories

Nature Reserve, Mangrove Pond, Mud Hole Pond, St Thomas Hill Pond and Moore Hall Pond. In previous years, the breeding colony of flamingos at Pumpkin Bluff Pond would have warranted IBA status, but this has not been recorded for some years in accordance with the normal highly irregular breeding of the species. Major built developments are now starting in the north-west part of North Caicos immediately adjacent to the ponds.

In addition to the IBAs on Middle Caicos, there is substantial bird interest at Conch Bar Caves National Park, and the ponds between Conch Bar and Bambarra, Middle Caicos, both of which would have qualified as IBAs if coverage of the relevant interest had not been achieved by the other IBAs listed.

On South Caicos, part of the extensive salt pan area is very good for birds. If the density of bird usage near the connection with the sea at Boiling Hole extended more

widely across the salinas, the area would undoubtedly qualify as an IBA. However, much of the area seems to be of little value due to limited tidal flow. If this were reinstated to oxygenate the water, bird usage would probably extend. Further survey information may indicate IBA status for the seabirds of Admiral Cockburn Nature Reserve (Long Cay, Middleton Cay, Six Hills Cay) off this island.

Further south on the Caicos Bank, Big Ambergris Cay is not included in the IBA, but is the most important island in the country for the endemic Rock Iguana and the Turks Head Cactus, although both are threatened by the construction of a resort and exclusive holiday housing over the whole cay.

On the Turks Bank, the Columbus Landfall Marine National Park on the west side of Grand Turk, and the seasonally flooded land at North Wells in northern Grand Turk and South Wells in southern Grand Turk, are both important bird habitats.

Site accounts

TC001: Gallery Forest at Wades Green and Teren Hill, North Caicos

Ref number	TC001
Admin region	Turks and Caicos Islands
Coordinates	21°54'N 72°01'W
Area	300 ha
Altitude	6–30 m
IBA categories (details below)	A2, A3
Status	Mainly unprotected

Site description

The most important remaining high forest area in Turks and Caicos Islands. In the vicinity of two major historic plantation ruins in north-western North Caicos.

Birds

See the accompanying table for details of key species. The globally threatened Blue-headed Quail-dove, a Cuban endangered endemic is recorded occasionally. It is the only recorded location on TCI for this species but its rare occurrence does not qualify the site for A1 status. The site is important for restricted-range species including the Pearly-eyed Thrasher, for which it is probably the most important area in TCI; also the Bahama Woodstar and the Thick-billed Vireo. Biome-restricted species include the Key West Quail-dove, for which it is probably the most important area in TCI, the Stripe-headed Tanager and the Cuban Crow. The site contributes to a network for these species, here and below (see the table on page 258).

Other threatened/endemic wildlife

It is the most important area in TCI for high forest, the dominant vegetation prior to about 1800. Site for several

endemic reptiles, including one rediscovered following presumed extinction. These include the gecko *Aristelliger hechti* (CR), Curly Tail *Leiocephalus psammomodromus*, Caicos Islands Reef Gecko *Sphaerodactylus caicosensis*; and the one endemic species of snake, the Caicos Islands Trope Boa *Tropidophis greenwayi*. In addition, there are three further lizards that are endemic at the sub-specific level: the Turks and Caicos Bark Anole *Anolis scriptus scriptus*, Turks and Caicos Rock Iguana *Cyclura carinata carinata* (CR; the only sub-species of *Cyclura carinata* found outside the Turks and Caicos Islands is confined to the small island of Booby Cay off nearby Mayaguana) and the Mabuya Skink *Mabouya mabouya sloanei* (or Slippery Back or Snake-Doctor). There is one snake: the Bahaman Rainbow Boa *Epicrates chrysogaster chrysogaster*.

Conservation issues/threats

TCI Executive Council agreed a 99-year lease to the TCNT for the central buildings area at Wades Green on 17 November 1999, because of historic importance. The TCNT manages that site. A wider area needs protection for biodiversity interest, but boundaries are only now being

Key species

Criteria	Key species	Number of breeding pairs (if known)	Notes
A2, A3	Bahama Woodstar <i>Calliphlox evelynae</i>	Breeding resident	
A2, A3	Bahama Mockingbird <i>Mimus gundlachi</i>	Breeding resident	
A2, A3	Pearly-eyed Thrasher <i>Margarops fuscatus</i>	Breeding resident	Most important known site in country
A2	Thick-billed Vireo <i>Vireo crassirostris (stalagmium)</i>	Breeding resident	
A3	Key West Quail-dove <i>Geotrygon chrysis</i>	Breeding resident	Most important known site in country
A3	Stripe-headed Tanager <i>Spindalis zena</i>	Breeding resident	
A3	Cuban Crow <i>Corvus nasicus</i>	Breeding resident	

Important Bird Areas in the United Kingdom Overseas Territories

defined because of the recent discovery of this interest. The area falls within the remit of the TCNT Biodiversity Management Plan. Nature Reserve status and TCNT management are needed over the rest of the area to recognise natural importance.

Further reading

See full details at end of chapter.

White (1998), Pienkowski (2002).

Site accounts

TC002: Fish Ponds and Crossing Place Trail, Middle Caicos

Ref number	TC002
Admin region	Turks and Caicos Islands
Coordinates	21°51'N 71°50'W
Area	1,100 ha
Altitude	0–15 m
IBA categories (details below)	A2, A3
Status	Unprotected

Site description

Western part of the northern coast of Middle Caicos, including Fish Ponds, Crossing Place Trail, Indian Cave, and Blowing and Juniper Holes. Limestone cliffs, with small offshore cays, slope inland to ponds, which are connected to the sea under the cliffs. There are several sea caves and a dry inland cave (Indian Cave) within the site.

Birds

See the accompanying table for details of key species. Several restricted-range and biome-restricted species occur, including the Antillean Nighthawk, Bahama Woodstar and the Bahama Mockingbird. The offshore cays are one of the few sites in TCI where there are reports of breeding Audubon's Shearwaters and numbers are probably of regional importance. There are several other species of regional importance in relation to the Caribbean population: breeding White-tailed Tropicbirds (50 breeding pairs), Greater (Caribbean) Flamingos (500 individuals), Laughing Gulls (150 individuals), Gull-billed Terns (50 individuals), Royal Terns (120 individuals), Sandwich Terns (50 individuals) and Least Terns (50 individuals). There are also small numbers of migrant Sandhill Cranes.

Other threatened/endemic wildlife

Crossing Place Trail is the traditional route along the Caicos

Islands, in particular the Middle Caicos section. As such, it is of great cultural importance. It is also of great scenic value, and along its route are important sites for wildlife, including specialist plants and butterflies, including the endemic Drury's Hairstreak Butterfly *Strymon acis leucostricha*. Fish Ponds comprise some of the most important wetlands in the area not included within the Ramsar site. The area is rich in fish and invertebrate life.

Conservation issues/threats

The Crossing Place Trail has interim protection against development by measures under the planning regulations but more substantive protection is required, both against built development and any effects of the proposed causeway to link North and Middle Caicos. The track built in the area to the existing ferry to North Caicos cuts across some of the Fish Ponds and disrupts flow patterns, causing deoxygenation and mass fish deaths, of great concern to local residents. This needs addressing, as noted in the TCNT Biodiversity Management Plan. Nature Reserve status is also required.

Further reading

See full details at end of chapter.

Clarke and Norton (1987), Pienkowski (2002).

Key species

Criteria	Key species	Number of breeding pairs (if known)
A2, A3	Bahama Woodstar <i>Calliphlox evelynae</i>	Breeding resident
A2, A3	Bahama Mockingbird <i>Mimus gundlachii</i>	Breeding resident
A3	Antillean Nighthawk <i>Chordeiles gundlachii</i>	Breeding resident

Site accounts

TC003: North, Middle and East Caicos Ramsar Site

Ref number	TC003
Admin region	Turks and Caicos Islands
Coordinates	21°45'N 71°45'W
Area	58,617 ha
Altitude	0–25 m
IBA categories (details below)	A1, A2, A3, A4i, A4iii
Status	Statutory Nature Reserve, Ramsar site

Site description

The area comprises Statutory Nature Reserve 17, and within this includes the overlapping Vine Point (Man O'War Bush and Ocean Hole) Statutory Nature Reserve 22. Its boundaries coincide with those of the Ramsar site, designated in June 1990. It is included in the TCNT Biodiversity Management Plan. It is a wetland complex including a range of wetland and some linked dry-land ecosystems with important natural transitions between them. The site stretches along the wetland (mainly south-west) side of North Caicos, Middle Caicos and part of East Caicos. Ideally, the statutory Nature Reserve should extend to ecologically linked dry land and ponds in Middle Caicos, more fully to East Caicos, and reef areas to the north and east (see TC002, TC004 and TC005).

Birds

See the accompanying table for details of key species. Important throughout the year for the globally threatened West Indian Whistling-duck and for the Kirtland's Warbler during the non-breeding season. The area is important, too, for restricted-range species, the Bahama Woodstar, Bahama Mockingbird, Pearly-eyed Thrasher and the Thick-billed Vireo (an endemic sub-species). The real number of breeding Gull-billed Terns is rather higher than shown in the table but only a small proportion of the area concerned could be accessed.

Other biome-restricted species present are the Greater Antillean Bullfinch; endemic sub-species are the Stripe-headed Tanager and the Cuban Crow (endemic to Cuba and Caicos Islands), as well as holding the largest colony of Magnificent Frigatebirds in the islands. It is thought to hold, on a regular basis, more than 20,000 waterbirds, therefore the site qualifies for A4iii status. Species greater than 1% of the bioregional population and thus qualifying for A4i status are listed below. Also present are Caribbean important populations of Brown Pelicans (150 individuals), White-cheeked Pintails (1,000 individuals), Sandhill Cranes (three individuals), American Oystercatchers (100 individuals), Wilson's Plovers (100 individuals), Laughing Gulls (900 individuals), Royal Terns (150 individuals), Sandwich Terns (150 individuals) and Least Terns (100 individuals).

Other threatened/endemic wildlife

The North, Middle and East Caicos wetlands comprise interrelated ecosystems complete with submerged mangroves, algal flats and seagrass beds. It is a wetland site of international importance containing a variety of marine and coastal habitat types and complex natural transitions. Noteworthy are mangrove swamps, diverse birdlife, numerous Arawak sites and several inlet cays. The whole area is a particularly good example of coastal wetland habitat in the Caribbean, providing shelter and nursery locations for various species of waterfowl, turtles and commercial fish species.

Additionally, submerged mangroves and algal flats are important in contributing suspended material to nearby sand banks and, by virtue of circulation to and from the cuts and creeks, the mangroves also contribute materials to the coral reefs.

The wetlands are thought to play a major role in providing a nursery and feeding grounds for numerous fauna. They act also as land protection against hurricane damage. The shallow flats where the seagrasses grow serve as major nursery areas of the inshore marine environment. They are the immediate recipients of nutrients produced from the mangrove areas themselves. The areas often do not contain many species, but some exist in high numbers. Thus the economic value of these areas, particularly with regard to edible species such as mullets and shrimp, and sport species such as bonefish, is high.

Conservation issues/threats

Working with the local community, the Turks and Caicos National Trust, the UK Overseas Territories Conservation Forum and CAB International, with the support of the UK Government's Darwin Initiative, have produced a Plan for Biodiversity Management and Sustainable Development around Turks and Caicos Ramsar Site (available at www.ukotcf.org). The main implementation of this by the Trust and its partners awaits some governmental procedures.

Further reading

See full details at end of chapter.

Clarke and Norton (1987), Pienkowski (2002).

Turks and Caicos Islands

Key species

Criteria	Key species	Number of breeding pairs (if known)
A1, A3	West Indian Whistling-duck (VU) <i>Dendrocygna arborea</i>	Breeding resident
A1	Kirtland's Warbler (VU) <i>Dendroica kirtlandii</i>	Non-breeding season
A2, A3	Bahama Woodstar <i>Calliphlox evelynae</i>	Breeding resident
A2, A3	Bahama Mockingbird <i>Mimus gundlachii</i>	Breeding resident
A2, A3	Pearly-eyed Thrasher <i>Margarops fuscatus</i>	Breeding resident
A2, A3	Thick-billed Vireo <i>Vireo crassirostris (stalagmium)</i>	Breeding resident
A3	Greater Antillean Bullfinch <i>Loxigilla violacea (ofella)</i>	Breeding resident
A3	Stripe-headed Tanager <i>Spindalis zena</i>	Breeding resident
A3	Cuban Crow <i>Corvus nasicus</i>	Breeding resident
A4i	Reddish Egret <i>Egretta rufescens</i>	400 non-breeding
A4i	Greater (Caribbean) Flamingo <i>Phoenicopterus ruber</i>	3,000 non-breeding
A4i	Black-bellied Plover <i>Pluvialis squatarola</i>	2,500 non-breeding
A4i	Greater Yellowlegs <i>Tringa melanoleuca</i>	>1,000 non-breeding
A4i	Lesser Yellowlegs <i>Tringa flavipes</i>	>5,000 non-breeding
A4i	Short-billed Dowitcher <i>Limnodromus griseus</i>	>3,200 non-breeding
A4i	Least Sandpiper <i>Calidris minutilla</i>	>6,000 non-breeding
A4i	Stilt Sandpiper <i>Micropalama himantopus</i>	>2,000 non-breeding
A4i	Gull-billed Tern <i>Sterna nilotica</i>	110 in breeding season, at least 60 breeding
A4iii	Combined waterbirds	>23,210

Site accounts

TC004: Middle Caicos Forest

Ref number	TC004
Admin region	Turks and Caicos Islands
Coordinates	21°48'N 71°42'W
Area	1,500 ha
Altitude	0–15 m
IBA categories (details below)	A1, A2, A3
Status	Unprotected

Site description

Area of forest, between the settlements of Lorimers and Bambarra, at various stages of recovery after clearance in the plantation period, from scrub to higher forest and including various types of permanent and temporary wetland. The site is adjacent and ecologically linked to TC003.

Birds

See the accompanying table for details of key species. Important throughout the year for the globally threatened West Indian Whistling-duck and for the Kirtland's Warbler in the non-breeding season. This area supports the most consistently recorded breeding and the largest and most consistently recorded roost for the duck, and the most sightings of the warbler in TCI.

The area is important, too, for the restricted-range species the Bahama Woodstar, Bahama Mockingbird and the Thick-billed Vireo (an endemic sub-species for which it is probably

the most important area). Other biome-restricted species include the Antillean Nighthawk, Greater Antillean Bullfinch (an endemic sub-species) and the Cuban Crow, probably the most important area in the country for the last two.

Other threatened/endemic wildlife

Important habitat for certain bats, including the Big-eared Bat *Macrotus waterhousii*, Buffy Flower Bat *Erophylla sezekorni*, Leach's Long-tongued Bat *Monophyllus redmani*, Cuban Fruit-eating Bat *Brachyphylla nana* and the Red Bat *Lasiurus borealis*. One of the most important habitats for the following Turks and Caicos Islands endemic species of lizard: the gecko *Aristelliger hechti* (CR), Curly Tail *Leiocephalus psammodromus*, Caicos Islands Reef Gecko *Sphaerodactylus caicosensis*; and the one endemic species of snake, the Caicos Islands Trope Boa *Tropidophis greenwayi*. In addition, there are further lizards that are endemic at the sub-specific level: the Turks and Caicos Bark Anole *Anolis scriptus scriptus*, Mabuya Skink (or Slippery Back or Snake-

Key species

Criteria	Key species	Number of breeding pairs (if known)	Notes
A1, A3	West Indian Whistling-duck (VU) <i>Dendrocygna arborea</i>	Breeding resident	
A1	Kirtland's Warbler (VU) <i>Dendroica kirtlandii</i>	Non-breeding season	Most important known site in country
A2, A3	Bahama Woodstar <i>Calliphlox evelynae</i>	Breeding resident	
A2, A3	Bahama Mockingbird <i>Mimus gundlachi</i>	Breeding resident	
A2, A3	Pearly-eyed Thrasher <i>Margarops fuscatus</i>	Breeding resident	Most important known site in country
A2, A3	Thick-billed Vireo <i>Vireo crassirostris stalagmium</i>	Breeding resident	Most important known site in country
A3	Antillean Nighthawk <i>Chordeiles gundlachi</i>	Breeding resident	
A3	Greater Antillean Bullfinch <i>Loxigilla violacea ofella</i>	Breeding resident	Most important known site in country
A3	Cuban Crow <i>Corvus nasicus</i>	Breeding resident	Most important known site in country

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doctor) *Mabuya mabouya sloanei* and one snake, the Bahaman Rainbow Boa *Epicrates chrysogaster chrysogaster*.

The site is one of the areas in which re-establishment of woodland towards forest has moved furthest in places, so there is a good range of scrub and woodland types represented. Thus, there is a correspondingly wide range of invertebrate and plant species. It is an important area for plants still used for traditional purposes – this is important both for local people using these resources and for the potential interest to visitors; additionally, there are some important plantation ruins in the area.

Conservation issues/threats

The area needs Nature Reserve status. It is in the TCNT Biodiversity Management Plan. The TCNT has applied to the TCI Government to manage parts of the area. This great

importance and interest is reflected in the fact that several of the field-roads reopened by the Trust for development of interpretative trails run through these areas. Many parts of the area are in private ownership, and it is recommended that the Trust enter negotiations with appropriate owners to ensure awareness of the value of these areas, their conservation and appropriate access for visitors. Some parts of the area are in Crown ownership. It is recommended that suitable parts of this important area be transferred to conservation ownership and management as soon as possible.

Further reading

See full details at end of chapter.

Pienkowski (2002).

Site accounts

TC005: East Caicos and adjacent areas

Ref number	TC005
Admin region	Turks and Caicos Islands
Coordinates	21°42'N 71°33'W (centre)
Area	22,500 ha
Altitude	0–50 m
IBA categories (details below)	A1, A2, A3, A4i
Status	Unprotected

Site description

The site includes areas to the east of TC003 and include: East Caicos, a large and totally uninhabited island, including caves, ponds, woodlands, flats and marshes, Joe Grant Cay, Windward Going Through and, on Middle Caicos, Long Bay and the creeks and flats at Lorimers and Increase, together with the reef off Middle and East Caicos.

East Caicos is a complex of interrelated dry land, pond, cave, marshes, flats and other wetlands, adjoining an existing Ramsar site (TC003), which covers only a small part of East Caicos.

Long Bay is the north-east shore of Middle Caicos and the adjacent dry-land peninsula backing this.

The intervening area at the eastern end of Middle Caicos

and around Joe Grant Cay is a complex of cays, creeks and marshes, around to Windward Going Through, and adjoining the existing Ramsar site. Varied scrub ecosystems occur on small cays.

From the north shores of Middle and East Caicos and the east coast of East Caicos to the near offshore reef-wall is an extremely important coral reef area.

Birds

See the accompanying table for details of key species. East Caicos needs more survey information, but is probably important throughout the year for the globally threatened West Indian Whistling-duck and for the Kirtland's Warbler during the non-breeding season. It is the only site where several Piping Plovers have been found together.

Key species

Criteria	Key species	Number of breeding pairs (if known)
A1, A3	West Indian Whistling-duck (VU) <i>Dendrocygna arborea</i>	Breeding resident
A1	Piping Plover (VU) <i>Charadrius melodus</i>	Non-breeding season
A1	Kirtland's Warbler (VU) <i>Dendroica kirtlandii</i>	Non-breeding season
A2, A3	Bahama Woodstar <i>Calliphlox evelynae</i>	Breeding resident
A2, A3	Bahama Mockingbird <i>Mimus gundlachii</i>	Breeding resident
A2, A3	Thick-billed Vireo <i>Vireo crassirostris (stalagmium)</i>	Breeding resident
A3	Antillean Nighthawk <i>Chordeiles gundlachii</i>	Breeding resident
A3	Greater Antillean Bullfinch <i>Loxigilla violacea (ofella)</i>	Breeding resident
A3	Cuban Crow <i>Corvus nasicus</i>	Breeding resident
A4i	Reddish Egret <i>Egretta rufescens</i>	>300 non-breeding
A4i	Common Tern <i>Sterna hirundo</i>	200 breeding

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The area is important, too, for restricted-range species the Bahama Woodstar, Bahama Mockingbird and the Thick-billed Vireo (an endemic sub-species), and other biome-restricted species the Greater Antillean Bullfinch (an endemic sub-species) and the Cuban Crow. It is the sole location where the Cuban Emerald *Chlorostilbon ricordii* is recorded but it occurs only occasionally and is not resident. Quantitative information is limited but in terms of the Caribbean region, there are significant numbers of Brown Pelicans (150 individuals), American Oystercatchers (>40 breeding pairs), Wilson's Plovers (>30 breeding pairs), Laughing Gulls (>150 individuals), Gull-billed Terns (>20 breeding pairs), Royal Terns (>60 individuals), Sandwich Terns (>50 individuals) and Least Terns (>100 individuals and >30 breeding pairs).

Other threatened/endemic wildlife

The Middle and East Caicos wetlands comprise interrelated ecosystems complete with submerged mangroves, algal flats and seagrass beds. It is a wetland site of international importance containing a variety of marine and coastal habitat types and complex natural transitions. Noteworthy are mangrove swamps, diverse birdlife, numerous Arawak sites and several inlet cays. The whole area is a particularly good example of coastal wetland habitat in the Caribbean, providing shelter and nursery locations for various species of waterfowl, turtles and commercial fish species.

The East Caicos cave system is probably important for bats and endemic invertebrates.

Internationally important species occurring on the site include the following Turks and Caicos Islands endemic species of lizard: the gecko *Aristelliger hechti* (CR), Curly Tail *Leiocephalus psammmodromus*, Caicos Islands Reef Gecko *Sphaerodactylus caicosensis*; and the one endemic species of snake, the Caicos Islands Trope Boa *Tropidophis greenwayi*. In addition, there are further lizards that are endemic at the

sub-specific level: the Turks and Caicos Bark Anole *Anolis scriptus scriptus*, Mabuya Skink (or Slippery Back or Snake-Doctor) *Mabuya mabouya sloanei* and one snake, the Bahaman Rainbow Boa *Epicrates chrysogaster chrysogaster*.

The reef is important for marine ecosystems and is a feeding area for some seabirds. The waters and reef are important for turtles *Chelonia midas* (EN), *Eretmochelys imbricata* (CR) and *Caretta caretta* (EN), and most nesting beaches are thought to occur on East Caicos and Long Bay.

Additionally, submerged mangroves and algal flats are important in contributing suspended material to nearby sand banks and, by virtue of circulation to and from the cuts and creeks, the mangroves also contribute materials to the coral reefs. The wetlands are thought to play a major role in providing a nursery and feeding grounds for numerous fauna. They act also as land protection against hurricane damage. The shallow flats where the seagrasses grow serve as major nursery areas of the inshore marine environment. They are the immediate recipients of nutrients produced from the mangrove areas themselves. The areas often do not contain many species, but some exist in high numbers. Thus the economic value of these areas, particularly with regard to edible species such as mullet and shrimp, and sport species such as bonefish, is high.

Conservation issues/threats

The currently uninhabited area has previously been threatened by major resort development, and some threats remain. It urgently needs Nature Reserve status as recommended by Clarke and Norton (1987) and in the TCNT Biodiversity Management Plan.

Further reading

See full details at end of chapter.

Clarke and Norton (1987), Spalding *et al.* (2001), Pienkowski (2002).

Site accounts

TC006: Caicos Bank Southern Cays

Ref number	TC006
Admin region	Turks and Caicos Islands
Coordinates	21°18'N 71°57'W
Area	Total 364 ha: French (8 ha), Bush (16 ha), White (2 ha), Little Ambergris (328 ha), Fish (10 ha)
Altitude	0–10 m
IBA categories (details below)	A4i, A4iii
Status	Statutory Sanctuaries or NGO Nature Reserves

Site description

The site is composed of several small cays in the southern part of the Caicos Bank. These cays are therefore at the far side of the Bank from the main islands, which lie along the northern edge of the Bank.

French, Bush and Seal Cays constitute Statutory Sanctuary 24. Fish and Little Ambergris Cays need statutory Nature Reserve status but are Nature Reserves of the Turks and Caicos National Trust, on a 99-year lease from the TCI Government to the TCNT, which manages the sites.

Fish Cay is a small rocky cay on the Caicos Bank between South Caicos and the Ambergris Cays.

Little Ambergris Cay consists of several small cays surrounding a central lagoon, far removed from the larger cays of the Caicos Bank. An extremely long spit extends westwards from the Cay over the Bank.

Bush and Seal Cays are small rocky cays near the south-eastern extremity of Caicos Bank. French Cay is a small sandy cay several kilometres to the west along the southern edge of the Caicos Bank.

Birds

See the accompanying table for details of key species. The site is thought to hold, on a regular basis, more than 20,000 waterbirds and thus qualifies for A4iii status.

The cays, primarily Bush Cay with some on Fish Cays, support breeding of a bioregionally important population of the Bridled Tern (17%).

The cays hold internationally important breeding proportions of the global population of the Brown Noddy. Both French Cay 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 one of the most important regionally for this species.

Fish Cay supports a bioregionally important proportion of the breeding population of Roseate Terns (300 individuals).

Little Ambergris Cay is a resting and feeding area for Royal Terns (30 individuals), Sandwich Terns (200 individuals) and Roseate Terns. Small numbers of restricted-range and biome-restricted species are also present.

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

The Green-tailed Warbler, a restricted-range species endemic to nearby Hispaniola, has been recorded on Bush Cay, which is the first landfall from Hispaniola. It is the only recorded location in the country.

Other threatened/endemic wildlife

Internationally important species occurring on the site include the following Turks and Caicos Islands endemic species of lizard: the Turks and Caicos Rock Iguana *Cyclura carinata carinata*, Curly Tail *Leiocephalus psammodromus*, Caicos Islands Reef Gecko *Sphaerodactylus caicosensis*; and the one endemic species of snake, the Caicos Islands Trope Boa *Tropidophis greenwayi*.

In addition, there are further lizards that are endemic at the sub-specific level: the Turks and Caicos Bark Anole *Anolis scriptus scriptus*, and one snake, the Bahaman Rainbow Boa *Epicrates chrysogaster chrysogaster*.

The waters and reef are important for turtles *Chelonia midas*

Key species

Criteria	Key species	Number of breeding pairs (if known)
A4i	Roseate Tern <i>Sterna dougallii</i>	200; 300 non-breeding
A4i	Bridled Tern <i>Sterna anaethetus</i>	1,000
A4i	Brown Noddy <i>Anous stolidus</i>	19,500
A4iii	Combined waterbirds	>21,000

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(EN), *Eretmochelys imbricata* (CR) and *Caretta caretta* (EN), with important nesting beaches.

Conservation issues/threats

Sanctuary status is not widely realised and there are many unauthorised landings from yachts, boats carrying illegal immigrants, and the like.

Further reading

See full details at end of chapter.

Pienkowski *et al.* (in press).

Site accounts

TC007: Grand Turk Salinas and Shores

Ref number	TC007
Admin region	Turks and Caicos Islands
Coordinates	21°27'N 71°08'W
Area	200 ha
Altitude	0–2 m
IBA categories (details below)	A1, A4i
Status	Unprotected

Site description

Abandoned salt pans, wells 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, Hawkes Pond Salina and Hawkes Nest Salina, and nearby shores.

Birds

See the accompanying table for details of key species. An important site bioregionally for waterbird populations. The Vulnerable Piping Plover has been seen during the non-breeding season. Other waterbirds with populations of Caribbean significance include Brown Pelicans (60 individuals), Wilson's Plovers (30 breeding pairs), Laughing Gulls (900 individuals), Royal Terns (40 individuals) and Sandwich Terns (60 individuals).

Other threatened/endemic wildlife

There are important nesting areas for turtles *Chelonia midas* (EN), *Eretmochelys imbricata* (CR) and *Caretta caretta* (EN) on some beaches.

Conservation issues/threats

Salt pans are regarded as wasteland rather than the unique resource that they are, and are being infilled. They need statutory Nature Reserve status for both their historic interest and as a major wildlife feature. The TCI Government Development Manual requires an Environmental Impact Assessment for any development in a salina, but the Department of Planning does not enforce this requirement.

Further reading

See full details at end of chapter.

Ground (2001).

Key species

Criteria	Key species	Number of breeding pairs (if known)
A1	Piping Plover (VU) <i>Charadrius melodus</i>	Non-breeding season
A4i	Greater Yellowlegs <i>Tringa melanoleuca</i>	1,000 non-breeding individuals
A4i	Lesser Yellowlegs <i>Tringa flavipes</i>	6,000 non-breeding individuals
A4i	Short-billed Dowitcher <i>Limnodromus griseus</i>	4,000 non-breeding individuals
A4i	Stilt Sandpiper <i>Micropalama himantopus</i>	2,500 non-breeding individuals
A4i	Least Tern <i>Sterna antillarum</i>	840

Site accounts

TC008: Turks Bank Seabird Cays

Ref number	TC008
Admin region	Turks and Caicos Islands
Coordinates	21°18'N 71°09'W
Area	Total 120 ha: Long (19 ha), Penniston (4 ha), East (45 ha), Big Sand (52 ha)
Altitude	0–12 m
IBA categories (details below)	A4i, A4iii
Status	Sanctuaries, and some areas within the National Park that need Sanctuary status

Site description

Small rocky cays, with some sandy beaches, especially at Big Sand Cay.

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 transferring from this to Sanctuary status; Gibbs Cay should remain a National Park. Big Sand Cay Sanctuary is Statutory Sanctuary 23.

Birds

See the accompanying table for details of key species. The site qualifies for A4iii status since it is known to hold, on a regular basis, more than 20,000 waterbirds. East (or Pinzon) Cay supports a regionally important breeding proportion of Audubon's Shearwaters. They probably breed on other Cays as well as East. Laughing Gulls (150 breeding pairs) and White-tailed Tropicbirds (40 breeding pairs) are also recorded. Penniston Cay supports internationally important breeding numbers of Bridled Terns, with smaller numbers on other cays. Penniston Cay supports also the only breeding colony of Brown Boobies in TCI and a small colony of Magnificent Frigatebirds, which may reach

Caribbean importance in some years. Long Cay supports important numbers of the Caribbean population of breeding Brown Noddies (7,400 breeding pairs) with the numbers here and on Penniston Cay constituting respectively 43% and 9% of the Caribbean population. Big Sand Cay's breeding Sooty Terns comprise more than 1% of the global population.

Other threatened/endemic wildlife

Some cays are important for endemic vegetation and the lizard species the Turks and Caicos Rock Iguana *Cyclura carinata carinata* and Curly Tail *Leiocephalus psammomachus*. Shores are likely to be nest sites for turtles *Chelonia midas* (EN), *Eretmochelys imbricata* (CR) and *Caretta caretta* (EN).

Conservation issues/threats

There is a problem in enforcing the sanctuary status of these cays, leading to disturbance. The status of some of the non-sanctuary cays requires urgent review, as several are wrongly classified in the Protected Area system (see above).

Further reading

See full details at end of chapter.

Pienkowski *et al.* (in press).

Key species

Criteria	Key species	Number of breeding pairs (if known)
A4i	Bridled Tern <i>Sterna anaethetus</i>	2,300
A4i	Sooty Tern <i>Sterna fuscata</i>	44,000
A4iii	Combined waterbirds	>46,300

Site accounts

TC009: Salt Cay Creek and Salinas

Ref number	TC009
Admin region	Turks and Caicos Islands
Coordinates	21°12'N 71°15'W
Area	150 ha
Altitude	0–2 m
IBA categories (details below)	A4i
Status	Effectively unprotected

Site description

Natural creek area on the south-east 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.

Birds

See the accompanying table for details of key species. In terms of the Caribbean, the site holds significant numbers of Brown Pelicans (30 individuals), Wilson’s Plovers (30 breeding pairs), Laughing Gulls (900 individuals), Royal Terns (30 individuals), Least Terns (400 individuals, 280 breeding) and Sandwich Terns (60 individuals).

Other threatened/endemic wildlife

Shores are probably important for nesting turtles *Chelonia midas* (EN), *Eretmochelys imbricata* (CR) and *Caretta caretta* (EN).

Conservation issues

Parts of the salt pans are Statutory Area of Historic Interest 32. Nature Reserve status needs to be added, and the boundary of this needs to include the creek area, which is only an informal sanctuary at present, as well as the salt pans. The area needs conserving also for historic interest and for the wildlife feature in town.

Further reading

See full details at end of chapter.

Ground (2001).

Key species

Criteria	Key species	Number of breeding pairs (if known)
A4i	Stilt Sandpiper <i>Micropalama himantopus</i>	2,500 non-breeding individuals

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Acknowledgements

There are two main sources for the information used in the site accounts in this chapter. These are based in part on the published work of Don Buden, Patricia Bradley, Tony White and Richard Ground. The other main source, incorporating most of the more recent sightings and numeric information, is based on work coordinated since 1998 by Dr Mike Pienkowski, which includes observations by several people, particularly Ann Pienkowski, Bryan Naqqi Manco, Ethlyn Gibbs-Williams, Dr Tony Hudson, Richard Ground, Tony Murray, Dr Geoff Hilton and Tim Cleeves, as well as others who have deposited their reports with the Turks and Caicos National Trust. Local residents – notably Cardinal Arthur, Alton Higgs and Telford Outton, among others – have provided useful inputs, particularly in the community meetings undertaken during the research work by the Turks and Caicos National Trust and the UK Overseas Territories Conservation Forum.

The advice and guidance throughout of the Turks and Caicos National Trust (TCNT) and Executive Director Ethlyn Gibbs-Williams is greatly appreciated. Some information has been gathered during or incidentally to work partly supported by the UK Government's Darwin Initiative, the UK Foreign and Commonwealth Office's Environment Fund for Overseas Territories, the UK Overseas Territories Conservation Forum, the RSPB, and the WWF-UK. The cooperation of the Department of Environmental and Coastal Resources (DECR), in particular Michelle Fulford-Gardiner, Judith Garland-Campbell and Rob Wild, is appreciated in several regards, including the provision of permits to survey the statutory sanctuaries. For help in boat access to these difficult sites, thanks are due to Captains Alessio Girotti, Allen-Ray Smith and Cardinal Arthur, and able crews Phillip Garneau and Bryan Naqqi Manco.