

Location



Introduction

The island nation of Trinidad and Tobago is located in the southern Caribbean Sea, just east of Venezuela. In addition to the two main islands, there are multiple smaller islands, mainly along the northeast coast of Trinidad and the northwest coast of Tobago. The country's 362 km of coastline includes one marine and seven coastal protected areas.

Due to its proximity to the equator the country experiences two seasons and two transitional months. The dry season lasts from January to May and is characterised by moderate to strong winds, warm days and cool nights with some rain showers. Moist weather with hot, humid days and nights characterise the wet season from June to December. Late May and December are transitional times between wet and dry seasons. The highest risk for hurricanes occurs between August and October, although hurricane season lasts from June to November. On Trinidad, the population is concentrated on the western half of the island and on Tobago, on the southern half of that island.

Trinidad and Tobago, Barbados, Guyana and Venezuela have some ongoing maritime boundary issues, currently in arbitration under the UN Convention on the Law of the Sea (UNCLOS).

Regional Seas and Biogeography

Caribbean Sea (Atlantic Ocean).

Large Marine Ecosystems: Caribbean Sea.

Habitats

The coastline of Trinidad and Tobago is largely made up of intertidal mud, sand and/or salt flats with some mangrove forests, and tidal swamps and estuaries.

- **Mangroves** are concentrated on the northwest coast, with some further areas on the northeast coast, the southwest and south coasts, and the southwestern tip of Tobago.
- **Coral Reefs** surround much of Tobago, particularly on the southern coast, while on Trinidad, the very northeast coast hosts limited coral habitat.
- **Seagrass beds** are found in the highest concentration along the northwestern peninsula of Trinidad in Chaguaramas and Carenage Bays. On Tobago, the southwestern side of the island, particularly Bon Accord Lagoon and from La Guira Bay to Canoe Bay, host the highest concentrations.
- **Saltmarshes** cover a significant portion of the northeast and north coast of Trinidad and many areas of Tobago. Some scattered marshes may be found in other parts of Trinidad.
- **Tidal flats** cover much of the west coast and northeast coast of Trinidad, and the northeast coast of Tobago. More limited tidal flats are found on the northwest of Tobago and the south coast of Trinidad.

Biodiversity Hotspots

→ RAMSAR sites

Buccoo Reef/Bon Accord Lagoon Complex (also a National Marine Park) is located on the southwestern coast of Tobago, the site includes coral reefs, seagrass beds and mangrove forests, hosting Hawksbill Turtle (CR).

Caroni Swamp (also an IBA) is an estuarine mangrove swamp on the west coast, including inland swamp and extensive coastal mudflats, hosting approximately 15,000 Scarlet Ibis (*Eudocimus ruber*), roosting cormorants, crakes and bitterns. Crab-eating raccoon (*Procyon cancrivorus*) are also found here.

Nariva Swamp is largely situated inland and consists of swamp forest, seasonal marshland and mangrove forest complex which hosts American Manatee (VU) and at least 13 avian species.

→ National Parks

National Parks in Trinidad and Tobago are divided into Wildlife Sanctuaries, Forest Reserve and Game Sanctuaries. Three of these host marine and coastal wildlife.

Saldado Rock Wildlife Sanctuary, located 12 km off the Venezuelan coast, this wildlife sanctuary is an islet important for breeding seabirds, particularly Magnificent Frigatebird (*Fregata magnificens*), Brown Noddy (*Anous stolidus*), and Royal (*Thalasseus maximus*) and Sooty (*Onychoprion fuscatus*) Terns. The area also hosts a number of other seabirds throughout the year.

St. Giles Islands Game Sanctuary is a group of tiny islands off the northern coast of Tobago, this sanctuary hosts important breeding areas for a number of birds.

Godineau Swamp Forest Reserve is a tidally influenced estuarine wetland which includes mangroves, marshes, islands and rivers, streams and lagoons. It is the second largest wetland system on the Gulf of Paria and hosts many aquatic avian species, including large numbers of Scarlet Ibis (*Eudocimus ruber*).

→ IBAs

Little Tobago Island (also a Game Sanctuary) is an uninhabited island off northeast Tobago and is an important breeding site for Audubon's Shearwater (*Puffinus lherminieri*), Red-Billed Tropicbird (*Phaethon aethereus*), as well as noddys, boobys, terns and gulls.

Saint Giles Island is composed of one main island and several outlying rocks off the northeast coast of Tobago, this IBA hosts one of the most important seabird breeding colonies in the southern West Indies. Frigatebirds, boobys, shearwaters, noddys and Red-billed Tropicbirds (*Phaethon aethereus*), breed here.

The West Coast Mudflats extend from Port of Spain to the Godineau River and include the coast portion of Caroni Swamp. The mudflats host large numbers of gulls, terns, pelicans and coastal shorebirds, with large numbers of gulls and sandpipers overwintering here. Heron and ibis that roost in the swamp feed on the mudflats.

→ IMMAs

The waters around Trinidad and Tobago have not yet been evaluated for IMMAs.

At risk Wildlife

In this section, some individual wildlife species are mentioned followed by a letter in parentheses. These are species included in the IUCN Red List of Threatened Species within the top three categories of risk - Vulnerable to extinction (VU), Endangered (EN) or Critically Endangered (CR). A more complete list of IUCN listed species is found in Appendix 1.

→ At risk birds

Situated on the Atlantic Americas Flyway, the tidal mudflats, estuaries and lagoons of Trinidad and Tobago host a variety of migratory waterfowl and wading species, particularly during spring and autumn migration. Of these, several species of sandpiper, egret and heron are considered Near Threatened. Populations of over 15,000 Scarlet Ibis (*Eudocimus ruber*) overwinter along the west coast. Numerous gull, tern, shearwater and storm-petrel species are found offshore and two resident species that forage on the coast, the Rufous Crab-hawk (*Buteogallus aequinoctialis*) and Caribbean Coot (*Fusca caribaea*), are of special concern locally.

→ At risk reptiles

Of the five species of sea turtle found in Trinidad and Tobago waters, Green Turtles (EN), Leatherbacks (VU) and Hawksbill Turtles (CR) nest on Trinidad and Tobago beaches, while Loggerhead Turtles (VU) and Olive Ridleys (VU) are occasional visitors. The majority of nesting beaches are found along the northeast coasts of Trinidad and the southwest coast of Tobago.

The country hosts the largest nesting assemblage of Leatherbacks (VU) on Matura and Grand Riviere beaches. Several species of caiman also inhabit these islands.

→ At risk mammals

In addition to the nineteen species of whale and dolphin found in Trinidad and Tobago's waters, many of whose population status is not yet determined, the American Manatee (VU) is found in nearshore and coastal waters, and Crab-eating Raccoon (*Procyon cancrivorous*) and Neotropical Otter (*Lontra longicaudis*) forage along the coast.

Past experience with oil spill and potential risks

Although there has been a long history of oil and gas exploration and production in Trinidad and Tobago, there have been few large spills. A major incident occurred in 1979 off the coast of Tobago when two vessels, the

Atlantic Empress and the *Aegean Captain*, collided but most of the hundreds of thousands of gallons of oil did not reach land.

In 2013, a series of pipeline ruptures resulted in approximately 7,500 barrels of oil being spilled. Response to oiled wildlife was limited, however a few animals were rehabilitated at one small facility.

Chronic leaks from oil platforms offshore cause regular, low-level impact, particularly along the southern coast of Trinidad with the main concentration of activity in or near the Gulf of Paria. Heavy shipping traffic is also concentrated in this area.

International and Regional Treaties and Agreements

→ Oil spill and HNS Response

- CLC Convention 69
- CLC Protocol 76
- CLC Protocol 92
- FUND Protocol 76
- FUND Protocol 92
- FUND Protocol 2003
- LLMC Convention 76
- LLMC Protocol 96
- OPRC Convention 90
- HNS Convention 96
- HNS PROT 2010
- OPRC_HNS 2000
- BUNKERS CONVENTION 01

→ Marine Biodiversity Protection

- Cartagena Convention for the Protection and Development of the Marine Environment in the Wider Caribbean Region
- The Protocol Concerning Co-operation and Development in Combating Oil Spills in the Wider Caribbean Region (the Oil Spills Protocol)

Oil Spill Response and HNS Spill Response

→ National Contingency Plan?

The National Oil Spill Contingency Plan (NOSCP) was in place as of 2013. The plan is designed to relate to the Caribbean Island Oil Pollution Preparedness, Response and Cooperation Plan (The Caribbean Plan or OPRC). In larger spills both the Caribbean Plan and the Cartagena Convention's Oil Spill Protocol and Special Protected Areas and Wildlife Protocol may be brought into play.

→ Role of Competent National Authorities

Under the NOSCP, the Ministry of Energy and Energy Industries (MEEI, formerly the Ministry of Energy and Energy Affairs/MEEA) is the lead agency for response. The MEEI appoints an Incident Commander who directs the activities of the Trinidad and Tobago Coast Guard (TTCG) and oversees the Incident Command Team (ICT) which includes representatives from the MEEI, Environmental Management Agency (EMA), The Trinidad and Tobago Air Guard, and the Ministry of National Security, among others.

Oiled Wildlife Preparedness and Response

→ Formal guidelines?

Although wildlife response is included in the NOSCP, there is no comprehensive oiled wildlife response plan for Trinidad and Tobago.

The NOSCP states that the Wildlife Section of the Forestry Division of the Ministry of Housing and the Environment has the authority to arrange for oiled wildlife to be sent for rehabilitation at a registered centre. To date only one organisation is registered.

The Environmental Management Authority (EMA) Biodiversity Officer and Forestry Division Forestry Officer are included in the Wildlife Branch of the Operations section with the Forestry Division listed in the Recovery and Rehabilitation Group.

→ Response objectives and strategy

The primary strategy is to prevent oil from reaching sensitive habitats and affecting wildlife.

→ Euthanasia or rehabilitation?

The NOSCP allows for rehabilitation, at the discretion of the Forestry Division and there is a history of wildlife rehabilitation in the country, however, responses to oiled wildlife have been limited to date.

→ Impact assessment

Although the NOSCP does not provide details, the ICT lists the EMA's Biodiversity Officer in the Wildlife Branch, with EMA and Institute of Marine Affairs (IMA) Ecological Assessment Specialists in the Environmental Unit. Staff from the Mount Hope School of Veterinary Medicine and the Ministry of Fisheries, Agriculture, Land and Fisheries' Veterinary Diagnostic Laboratory (which share facilities) pathologists would likely provide necropsy and testing services as needed.

→ Notification and early response

The ICT is activated when a threat of oil is reported to the TTCG, at which point it is assumed that the Wildlife Branch and the Environmental Unit would make decisions on any further notification regarding wildlife. However, there are no details regarding notification of, or response to, wildlife.

→ Wildlife responders

There is limited capacity for oiled wildlife response in the country. The El Socorro Center for Wildlife Conservation and the Pointe-a-Pierre Wildfowl Trust have done some wildlife rehabilitation, however, both organisations have limited staff, space and experience, therefore, it is likely that international assistance would be needed.

The Trinidad and Tobago SPCA (TTSPCA) has offices on both islands but little wildlife experience.

The Wildlife Branch maintains an ambulance for wildlife rescue.

The Manatee Conservation Trust responds to manatee and cetacean strandings.

→ Cooperation between stakeholders

To date, responses have been limited to small numbers of animals, with limited opportunities for collaboration.

→ Permanent facilities

The El Socorro Center for Wildlife Conservation, the Pointe-a-Pierre Wildfowl Trust, and the Mount Hope School of Veterinary Medicine have limited facilities. On Tobago there are no permanent facilities other than a few cages at the TTSPCA facility in the south. In addition, there are community outreach centres, run by local governments, which may be approached for use as temporary facilities.

→ Current processes

N/A

Documentation and references

SAF CWRP 2014: <https://www.sea-alarm.org/publications/country-wildlife-response-profiles/>

ITOPF Country Profile 2013: https://www.itopf.org/fileadmin/uploads/itopf/data/Documents/Country_Profiles/trintob.pdf

RAC-REMPEITC Country Profile 2012: <http://www.racrempeitc.org/sites/default/files/Trinidad%20%26%20Tobago%20-%20Country%20Profile%202012.pdf>

Map source: https://en.wikipedia.org/wiki/Trinidad_and_Tobago

Large Marine Ecosystems Hub: <https://www.lmehub.net/#caribbean>

NOSCP 2013: https://www.energy.gov.tt/wp-content/uploads/2013/11/National_Oil_Spill_Contingency_Plan_2013.pdf

Draft National Wildlife Policy: <https://drive.google.com/file/d/1ugaxDkHTrd5BD2I8f5eH0iLabZN46Y9U/view>

Trinidad and Tobago Climate: <https://www.metoffice.gov.tt/Climate>

SWOT Report vol.15 Sea Turtles of the Caribbean 2020: <https://www.seaturtlestatus.org/articles/2020/2/25/sea-turtles-of-the-caribbean>

Sea Turtle Recovery Action Plan (SNAP) for the Republic of Trinidad and Tobago 2010: https://www.widecast.org/Resources/Docs/STRAP_Trinidad_and_Tobago_2010.pdf

French, R. 1989. The Birds and Other Vertebrates of Soldado Rock, Trinidad. (in) Living World Journal of the Trinidad and Tobago Field Naturalists' Club 1989-1990. Accessed online: <https://ttfnc.org/livingworld/index.php/lwj/article/download/1990french/1990french/494>

Juman, R.A and Alexander, J.A. 2006. An Inventory of Seagrass Communities around Trinidad and Tobago.

Coastal Conservation Project: <https://www.ima.gov.tt/wp-content/uploads/2018/04/Seagrass-inventory-report.pdf>

UNEP Ocean Data Viewer: <https://data.unep-wcmc.org/datasets/>.

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Appendix 1

→ **At risk birds**

Common name / Latin name / IUCN Red List Category (CR,EN,VU) / Resident-Migratory (season) / Breeding-Nesting-Pupping (season)

Leach's Storm-petrel / *Hydrobates leucorhous* / VU / Migratory (largely found offshore) / Non-breeding
Agami heron / *Agamia agami* / VU / Resident / Breeding (inland June-Sept.)

→ **At risk reptiles**

Common name / Latin name / IUCN Red List Category (CR,EN,VU) / Resident-Migratory (season) / Breeding-Nesting-Pupping (season)

Hawksbill Turtle / *Eretmochelys imbricata* / CR / Migratory / Breeding/Nesting (March-Sept.)
Green Turtle / *Chelonia mydas* / EN / Migratory / Breeding/Nesting (uncommon)
Leatherback / *Dermochelys coriacea* / VU / Migratory / Breeding/Nesting (March-Sept.)
Loggerhead Turtle / *Caretta caretta* / VU / Migratory (Rare visitor) / Non-Breeding
Olive Ridley / *Lepidochelys olivacea* / VU / Migratory (Rare visitor) / Non-Breeding

→ **At risk mammals**

Common name / Latin name / IUCN Red List Category (CR,EN,VU) / Resident-Migratory (season) / Breeding-Nesting-Pupping (season)

Sperm Whale / *Physeter macrocephalus* / VU / Migratory (variable) / Breeding pupping not well understood
American Manatee / *Trichechus manatus* / VU / Resident / Breeding (year round)