

Technical Dossier
Nomination of the
Tobago Main Ridge Forest Reserve
as a
Natural National Heritage Site
of
Trinidad and Tobago

Prepared by:



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For



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List of Abbreviations

GoRTT	Government of the Republic of Trinidad and Tobago
IFPAM	Improved Forest and Protected Area Management Project
MRFR	Main Ridge Forest Reserve
NE Tobago	North East Tobago
NETPAMT	North East Tobago Protected Area Management Trust
NTTT	National Trust of Trinidad and Tobago
THA	Tobago House of Assembly

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1. National Heritage

A Natural National Heritage Site of Trinidad and Tobago can be described as a “place of natural beauty and national, historic, scientific, or archaeological interest”.

These nationally important properties are protected under the National Trust of Trinidad and Tobago Act 1991 against unauthorised change, alterations, or against any person who damages, injures or defaces the site. National Heritage Sites are important physical reminders of our nation’s past, and what we hope to pass on to our future generations.

The lush green forests, clear streams and rolling mountains of the Main Ridge Forest Reserve are of impressive natural beauty. Its historic significance as the first legally protected forest reserve in the Western Hemisphere is undisputed; the remarkable geology, biodiversity, ecological connectivity and location between two biogeographic regions are of high conservation value and attract eco-tourists, university groups and scientists from around the globe. The Main Ridge Forest Reserve is deeply ingrained in our islands culture and the pride of every Tobagonian.

2. Site Description and Boundaries

The Main Ridge Forest Reserve is the mountainous backbone of Tobago and covers almost 13% of the island. At a length of 17 kilometres and a width between 2 to 6 km, it expands from south-west to north-east for 3,958 hectares and reaches at Centre Hill elevations up to 630 metres. It is bordered by unprotected state and private lands, mostly comprising agricultural estates which act as a buffer zone between the protected and populated areas. The ridge is surrounded by the mainly coastal communities of Moriah, Mason Hall, Goodwood, Glamorgan, Belle Garden, Argyle, Roxborough, Betsy’s Hope, Lois D’Or, Delaford, Speyside, Charlotteville, Hermitage, L’Anse Fourmi, Bloody Bay, Parlatuvier and Castara, which have a total population of about 15,000 people.

See attached map indicating boundaries and GIS coordinates.

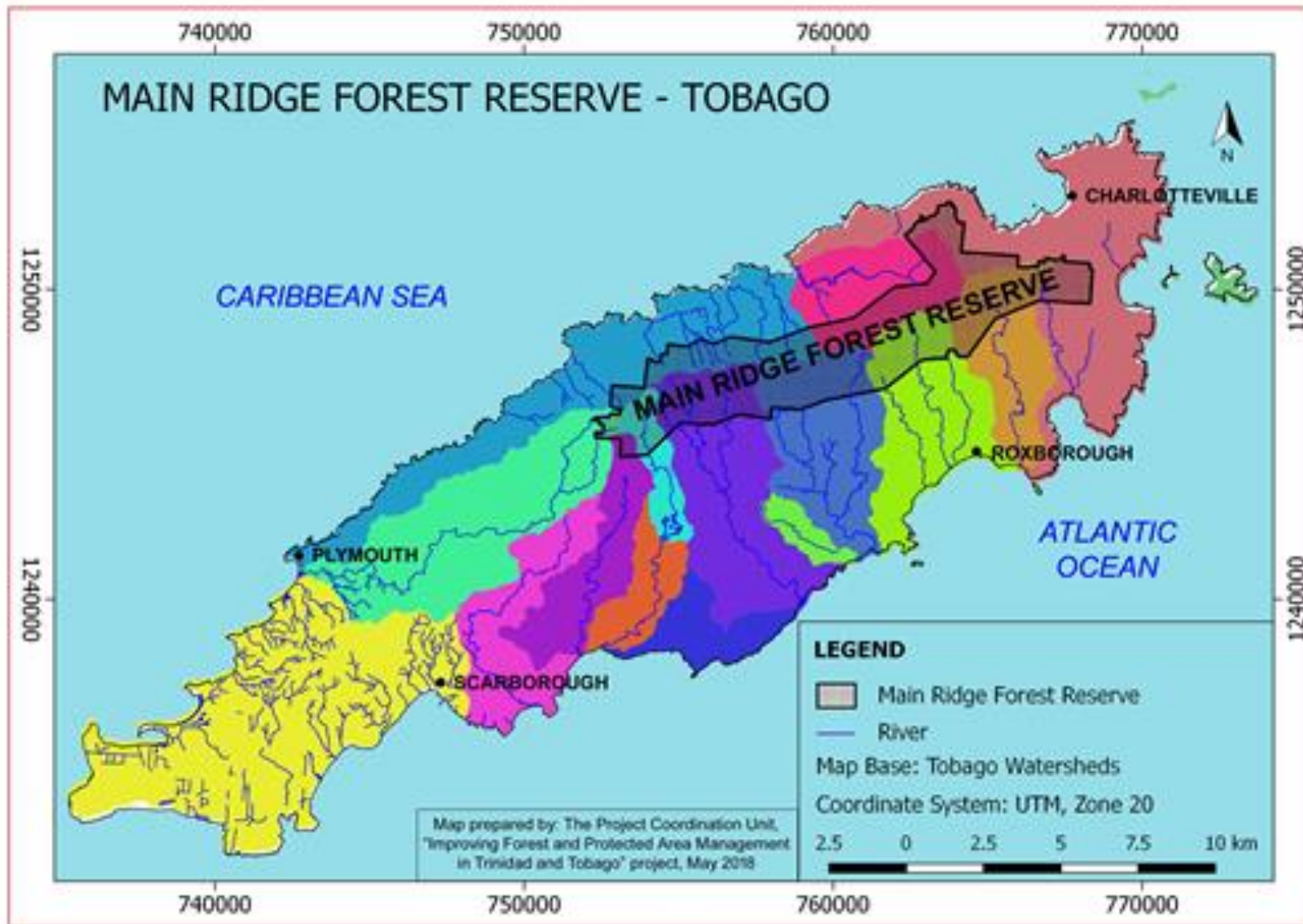


Figure 1: Location of the Main Ridge Forest Reserve

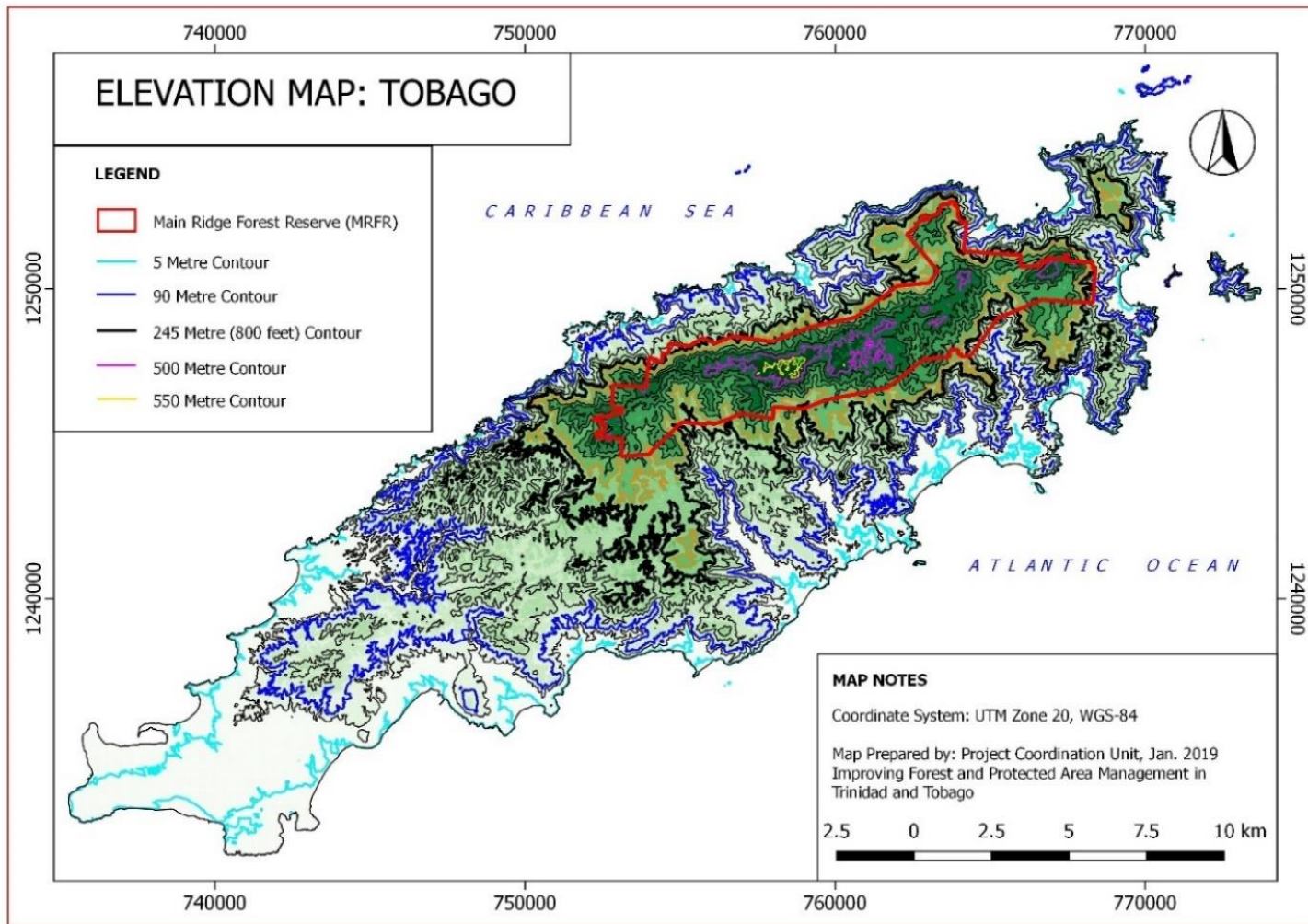


Figure 2: Elevation Map of Tobago

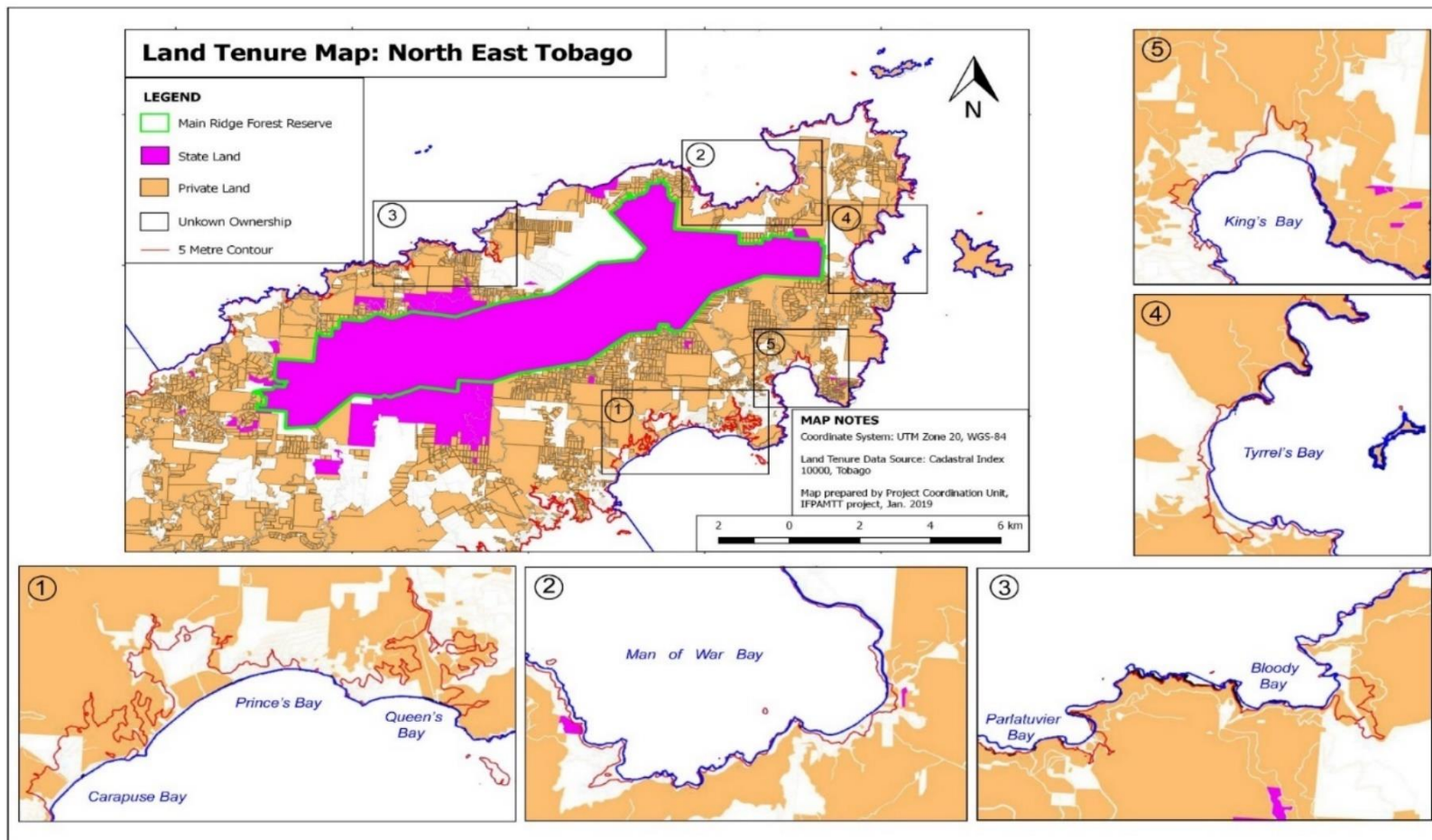


Figure 3: Cadastral Map of Area Surrounding MRFR

3. Biogeography and Ecology

The Main Ridge Forest Reserve is biogeographically classified as follows:

Realm: Neotropics

Biome A: Tropical and Subtropical moist broadleaf forest

Ecoregion: NT 0171 Trinidad and Tobago moist forests

In contrast to the more isolated islands of the Antilles, Tobago's forests constitute a mix of South American and Antillean tree and animal species. The different micro-climates within the Main Ridge Forest Reserve resulted in the formation of four different types of moist broadleaf forests: lower montane forest, xerophytic (dry) tropical forest, evergreen formations and some elfin woodland.

The rain forest is restricted to sheltered mountain valleys of the Main Ridge. The majority of the MRFR is lower montane and is found at heights above 244 metres. This area receives the greatest amount of rainfall, the greatest exposure to wind and the lowest temperatures, making it an evergreen forest. The lowland rainforest is occurring to a maximum of 366 metres. The xerophytic rainforest is found on the southern slopes of the MRFR at heights above 244 metres and is the driest compared to the other types.

This variety of forest types and micro-climates provides an abundance of ecological niches that are occupied by specialist plants and animals and traversed by ecological generalist species making tropical rain forests one of the world's most biodiverse ecosystems.

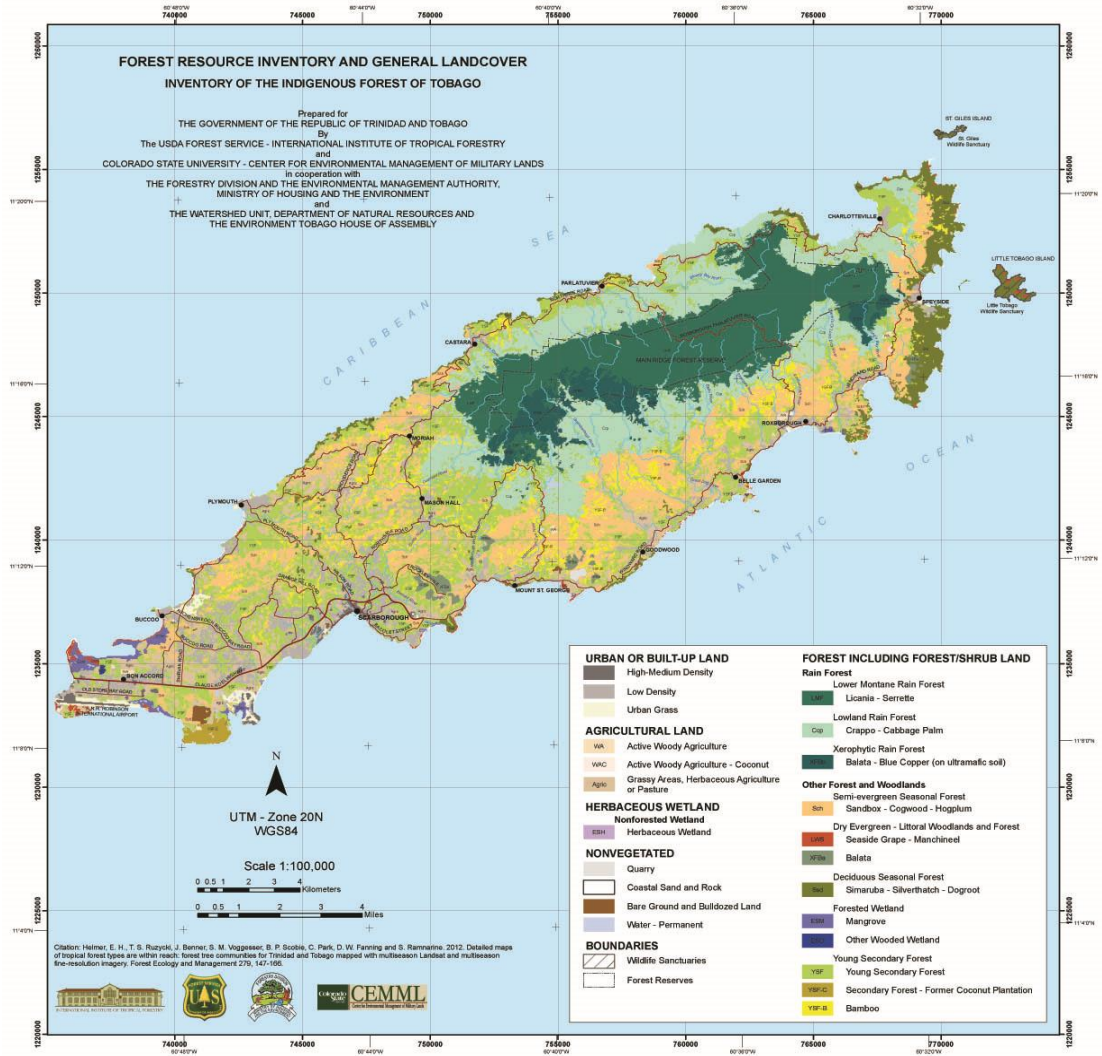


Figure 4: Tropical Forest Types and Forest Tree Communities of Tobago (Helmer et al. 2012)

4. Biodiversity

The Main Ridge supports globally significant levels of biodiversity, including 22 non-poisonous snake species, 37 mammal species, 16 lizard species and 128 bird species, 662 plant species, 15 frog species, 41 fish, and numerous invertebrates. Further research will very likely discover more new species in this area.

Most remarkably, this Natural National Heritage Site hosts 25 plant species, four frog species and one bird species that cannot be found in the wild anywhere else in the world, the so-called endemic species.

Amongst these are the Tobago Greenlet, a small passeriform bird, the Bloody Bay Poison Frog, the Tobago Glass Frog, and several snake species.

37 of plant and animal species are considered to be globally endangered or threatened with extinction according to the International Union for Conservation of Nature and Natural Resources (IUCN).

Many of these creatures can be observed alongside roads and trails, and this naturally attracts environmentalists, scientists, birders and wildlife enthusiasts from all over the world.

The significant biodiversity Main Ridge Forest Reserve offers unique opportunities to study the processes and patterns of animal and plant colonisation and speciation from nearby mainland Venezuela over the thousands of years.

For these reasons, the Main Ridge is nominated as a Queen's Commonwealth Canopy Site, is an internationally acknowledged Important Bird Area and has been named the Caribbean Nature Park of the Year in the Caribbean Journal's Green Caribbean Awards 2019.

Selected species representing the MRFR's biodiversity

White-tailed Sabre Wing Hummingbird – *Campylopterus ensipennis*

This environmentally sensitive large hummingbird is only found in Tobago and north-eastern Venezuela. It prefers breeding close to rivers and is a must-see for birders. Fears that hurricane Flora would have wiped out the entire Sabre Wing population in Tobago in 1963 did not materialise and the species has recovered greatly.

Turpin's Litter Frog/Bloody Bay Litter Frog – *Pristimantis turpinorum*

The Turpin's Litter frog is endemic to Tobago and has a vulnerable status on the IUCN red list. Leaf litter along streams in hilly forested areas seem to be the preferred habitat of these frogs. That is why they are found within the Main Ridge but also along the Northside Road. Their soft chirping vocals sound similar to insects.

Another larger and endemic *Pristimantis* species, the Charlotteville litter frog – *Pristimantis charlottevillensis* - can also be found in the Main Ridge.

Tobago Glass Frog – *Hyalinobatrachium orientale tobagoense*

The Tobago Glass Frog got its name due to its transparent belly and is another endemic and IUCN vulnerable species of Tobago. Usually found in the northeast of Tobago in and around the Main Ridge Forest Reserve along streams, these frogs place their eggs on the underside of leaves of Heliconia or cocoa. A male frog was once observed guarding seven clutches of eggs simultaneously.

Rufous-vented Chachalaca – *Ortalis ruficauda*

Every resident of Tobago knows the loud and characteristic vocals of the Cocrico as the bird is called here. It is the only Chachalaca species that is known to nest on the ground and every visitor is almost guaranteed to encounter it. It forages for fruit in flocks of four to 20 birds, but flocks over 50-strong have been recorded.

Bloody Bay Poison Frog - *Mannophryne olmonae*

The Bloody Bay Poison Frog is an endemic species only found near suitable streams in the moist, broadleaf forests of central and eastern Tobago and is listed as “vulnerable” on the IUCN red list. They are usually found at the upper course of the river in gravelled steams and riverbanks. The males care for their brood by carrying the tadpoles, which emerged from eggs that were originally laid on land, on their backs into shallow, rocky pools to mature. The amphibian chytrid fungus, which is an infectious disease for frogs, seriously threatens its population. Despite its scary name, the little frog is not poisonous.

The Immortelle Tree - *Erythrina poeppigiana*

Every year, shortly before the dry season starts great swaths of our forests turn brilliant vermillion when the Immortelles are flowering in bright spectacular orange. Most of these trees were originally planted as shade trees on cocoa farms.

Collared Trogon – *Trogon collaris exoptatus*

The male with its beautiful, bright-red belly and barred tail is an especial treat for the eye. Trogons nest in holes in a termite nest or tree, with a typical clutch of two white eggs.

See Appendix 2: MRFR Species List

5. Connectivity

In the Main Ridge Forest Reserve, riparian ecosystems, including rivers and their associated vegetation and processes, are a critical link, the “blood vessels” within the landscape. They provide corridors for animal and nutrient movement from the ridges to the ocean. Although there are four largely permanent rivers in the area, most watercourses are seasonal between dry and rainy seasons. These aquatic ecosystems are critical habitats for Tobago’s amphibian species, which include five endemic frog species.

6. Hydrology

Eleven watersheds originate from within the MRFR. Each of these watersheds, has at least one major river. The runoff and drainage from the uppermost watersheds tend to be relatively high, especially if they are gaps in the forest.

WATERSHED	RIVER	WATERWORKS	COMMENTS
Tobago East	Hermitage River and King's Bay River	2 waterworks; and 2 wells	Recently added intake at Hermitage; King's Bay Waterfall (far less flow in the dry season)
Louis D'or	Louis D'or River		Recently added intake and an irrigation system at Louis D'or; a long standing well at Bridge Gully
Roxborough	Argyle River	2 storage tanks	Argyle Waterfall the most prominent waterfall in Tobago
Richmond	Great D'or River	1 waterworks	Capacity of 4,500m ³ water per day.
Goldsborough	Lure River		Two Rivers Waterfall and Rainbow Waterfall; one of three irrigation system active
Hillsborough Dam	Mt St George River	Hillsborough Reservoir	Capacity of 9,091m ³ water per day; Green Hill Waterfall (far less flow in the dry season)
Hillsborough East	Mt St George River	There is an intake above Green Hill	Green Hill Waterfall (far less flow in the dry season)
Hillsborough West	Hope River	1 waterworks	Along Belmont Road; capacity of 5,455m ³ water per day
Bloody Bay	Bloody Bay River	2 storage tanks;	Many cascades; a localised intake here
Tobago North	Parlatuvier River and Englishman's Bay River	2 storage tanks	Top River Waterfall; has a mega aquifer at Englishman Bay
Courland	Courland River	1 waterworks; 6 storage tanks	Longest and largest watershed on the island; capacity of 9,090m water per day

Table 1 Eleven watersheds linked to the MRFR and associated with rivers, WASA facilities and other features

Source: WASA website and Annual reports of DNRF, Tobago

7. Geology

The geological history of Tobago is remarkable. The island, today sited in the south eastern corner of the Caribbean plate, was originally an oceanic island that moved from the Pacific over 10 million years ago. Together with its sister isle, Trinidad, it forms the southernmost islands of the Lesser Antilles and shares a multitude of species with the South American continent due to its repeated transitional fusions back in time. The last connection to the mainland occurred only 11,000 years ago! During periods of low sea level, as for instance in

the past ice age, the island became joined to Trinidad through a land bridge, enabling movement of flora and fauna species to Tobago. Geologically, the Main Ridge Forest Reserve is the oldest part of the North Coast Schist Group consisting of metavolcanics and metasedimentary rocks which underwent transformation by high heat and pressure.

Furthermore, some North Coast Schist, much Main Ridge formation, some Parlatuvier formation and the Mt Dillon formation are present. Very little igneous rock (Ultramafic intrusive) is reported. Much of the soil in the MRFR is the Bloody Bay loamy clay. Clay leaches easily during rainfall after relative long dry spells and loses its elasticity quickly during heavy rainfall. Therefore, landslides are common within the MRFR during the wet season.

8. Climate

Tobago experiences two seasons in a year, a dry season and a wet season. Annually, the dry season runs from January to May; the wet season from June to December. However, the effects of climate change decrease the distinctness of the seasons and lead to less, but temporarily high rainfall.

The northeast trade wind is characteristic in NE Tobago. The war waters of the Caribbean Sea and the tropical Atlantic Ocean energise storms and hurricanes. Nonetheless, Tobago currently remains under the hurricane belt. Since the Colonial period (1498-1962) to now, Tobago has been affected by about fifteen storms and hurricanes.

Name	Date of Passage	Intensity/Cat egory	Approximate Central Passage
	1878 September 2	H-1	North East of Tobago
	1886 August 12	H-1	90km North of Tobago
	1892 October 6	H*	Between Trinidad and Tobago
	1928 August 3	TS*	Northern Tobago
	1933 August 12	TS	60km North East Tobago
	1933 August 16	TS	30km North East Tobago
	1938 August 9	TS	25km North of Tobago
	1944 July 24	TS	60km North of Tobago
Anna	1961 July 20	TS	30km North of Tobago
Flora	1963 September 30	H	Tobago
Arthur	1990 July 25	TS	Tobago
Joyce	2000 October 1	TS	39km North North-West Tobago
Earl	2004 August 15	TS	55km North North-West Tobago
Ivan	2004 September 07	H-3	55km North North-West Tobago
Emily	2005 July 13	TS	48km North North-East Tobago

H* - Hurricane; TS* - Tropical Storm

Figure 5: Storms and Hurricanes that affected Tobago

Source: William Trim, 2013. Poster presentation in Dominican Republic.

Small but consistent differences in weather, altitude, and humidity can make big differences regarding habitat preferences and survival rates of many floral and faunal species.

Temperatures varying between 22°C and to 33°C on average. The humidity is high: >70% year-round, with a higher average temperature and higher average humidity in the rainy season. In the dry season humidity and temperature are at a lower average. Each type of micro-climate provides habitats for specific plants and animals whose lifecycles are interlinked and dependent on a specific micro-climate.

9. Historical Background

In 1776, NE Tobago set a globally historic milestone: after almost a decade of continuous effort and instructions to reserve the area by King George III, the Main Ridge Forest Reserve was established. Composed by the Council and the Tobago House of Assembly and signed by Major William Young, the Act for rendering a certain tract of land proper for attracting “Rains Inalienable” entered into force. This made Trinidad and Tobago the location of the first legally protected forest reserve in the Western Hemisphere. Other national forest reserves in Trinidad and Tobago were not designated until the twentieth century.

Prior to the 1498 arrival of Christopher Columbus the island of Tobago or Aloubaéra as it was known was inhabited by Ariwakan and Kalinagos peoples. These peoples, relatives of the natives found on the Orinoco Basin, persisted on the island undisturbed for centuries and did so even after Columbus’s sighting of the island. In fact, though records are sketchy, historians suggest that they were present on the island while Dutch settlements were set up here in 1632. It is believed that the natives survived here, though in declining numbers until 1810 where there were only twenty left in the north coast of the island, all coming from one family. With little regard for the original occupants, Tobago is said to have changed hands over thirty times gaining notoriety as battlefield fuelled by aspirations of conquest by European powers like the British, French, Dutch and Courlanders. Finally, in 1814 the island was rested in the hands of the British through the Treaty of Paris.

For decades, Tobago, at the hands of African slaves, was a model sugar producer. However, competition from larger and more fertile colonies like Brazil and Cuba in addition to persistent neglect and use of outdated technology along with the abolition of the slave trade and slavery all attributed to the island’s loss of profitability in the sugar trade. In 1889, following years of economic turmoil, the British made the decision to make Tobago an administrative ward of Trinidad, rooting the twin island state it is today. Following this, the island enjoyed relative prosperity as producers of cocoa, citrus and coconut that was exported to Trinidad and neighbouring Caribbean islands; however, that all came to an untimely end in 1963 when hurricane Flora flattened the island.

Tobago's history from the almost forgotten lives of the natives, to its struggles with conquest, African slavery and forging a new identity with Trinidad saw the island going through a process of indigenisation and creolisation making Tobago an isle described by historians as “sui generis”, a society with characteristics of its own.

While aspects of the culture have been eroded through evolution, acculturation and inadequate transmission, today NE Tobago represents the capital of cultural conservation. It is important to note that given Tobago's small size, cultural practices and traditions are fairly homogeneous with little to no distinctions between villages.

Ancient structures deteriorating in the periphery of everyday life serve as a reminder of the island's colonial past. The water wheel in Speyside nestled at the base of the foreboding hills to Charlotteville hide secrets of sugar plantations past. This water wheel immortalised in countless photographs and paintings is one of the best preserved. Time worn cocoa houses, guarded by idle cacao trees, serve as pictorial evidence of fond memories shared by the venerable in society, never failing to remind the youth of a taller time when cocoa was Queen. Even Great houses in places like Kings Bay and Richmond, though threatened by the elements still stand in firm rebellion; reminiscent of the temperament of the slaves that built them. These structures buttress us in the past and provide reinforcement for the intangible culture of Tobagonians today.

10. Cultural Background

Perhaps one of the most distinguishing features of the people is their spirituality. Christianity, a legacy imparted by our European colonisers by far attracts the most patrons, undoubtedly due to the Europeans quelling of African practices. African slaves who were brought to the island were stripped of their identity; their psyche was dismembered and discarded, replaced by a Eurocentric identity. African traditional worship was rooted in animism with the idea of ancestral worship and possession was prevalent, essentially accessibility to the spirit world formed the ethos of their practices. However, slaves were forbidden from practicing their religion therefore Christianity took hold. Major Christian denominations forming part of the Tobagonians religious heritage include Moravian, Anglican and Methodists. Their legacy can be seen with the numerous churches dotting the area from the 89-year-old Methodist church in Roxborough to the peculiar round Anglican church in Bloody Bay.

Though the colonisers made violent attempts to chafe away the slaves' Africanness they resisted and so continued to practice elements of their religion in secret. This led to the development of syncretic practices evident in the Orisha and Spiritual Baptist traditions. Not only that but the practice of obeah and ancestral veneration today forms part of the African continuity. Obeah stems from the belief that persons are ordained with supernatural abilities and as such is an intercessor between man and the spirit world. It is believed that those who practice are gifted with third sight, healing powers and the ability to sway events in their favour. An historical example of obeah is demonstrated in the legend of Betsey, a slave master's wife on the Queens Bay estate. It is said that the slaves were engaged in the practice of obeah and whenever they were beaten Betsey felt their pain. It is told that it was Betsey, a woman averse to slavery hope that slavery would be abolished thus the village's name of Betsey's hope. Even to this day despite obeah practices being shrouded in mystery, branded as devil worship and eliciting fear and discontent in the majority, it is still an underground practice as a means of problem solving.

The nature of socialisation within the area also exhibit cultural authenticity. In West African, tradition respect for elders forms part of the moral complex of the people, this inclination has been transposed and preserved in the Tobago context. In NE Tobago, it is quite common for the young to refer to elders as ma/moms, uncle or tantie. In past years it was also expected that indiscipline portrayed by children outside of the homes and witnessed by elders to be reprimanded without repercussions from blood relatives. Furthermore, passing strangers on the street to this day without extending a timely greeting is frowned upon. These strong social bonds within the community give life to the frequently touted adage that it takes a village to raise a child.

Rituals surrounding death epitomise the unique sense of community responsibility embedded in the people. From the time of death villagers would gather at the home of the deceased to mourn with the family. This practice culminates in a formal wake the night before the funeral and continuing possibly up to nine nights beyond. This funeral tradition involves almost all in the village where men would cut wood for dirt oven fires and women would gather to bake bread and sweet bread, prepare salt fish and fry fish and make chocolate tea for the wake night proceedings. Typically, the male present at the baking would be bestowed the task of "manning the oven" During the night, a wake and bongo is kept. This ritual typically involves the reciting of prayers as well as the singing of Christian hymns with African influences. These would range from lively chanting, passionate shouting and almost involuntary dancing to the hypnotic beats of African drums, shak shaks and other instruments. Moreover, the bongo would include limbo and other hypersexual dances. Another common sight would be men gathered playing card games. In death the wake proceedings take on a life of its own, as though the spirit of the dead possesses those present casting dominions over all; leaving them devoid of will and subject to the volition of the activity itself. While the wake is still practiced the bongo is scarcely seen.

The harvest celebration held on various Sundays around the island is another divergent characteristic of Tobago and is closely linked to the Christian churches. The peasant communities had a day to celebrate the farming prosperity of the past year at church. On the day of the village celebration, persons would bring produce as an offering to the church where it was expected to be sold. It was not uncommon to see stacks of plantains and bananas, yams, cocoa, cane and coconuts lining the perimeter of the church where prayers and hymns would be sung in adoration of God, thanking him for fertility. In the afternoon, cantata was held which was one of the most anticipated recreational activities. At the cantata the church choir decked in white uniforms and matching bonnet would perform harvest anthems; other villagers would also offer their talent whether it is through instrumentals, skits and monologues. All in all it was a grand exciting affair.

Today harvest celebrations have withstood time but not secularization. Very few attend church services and fewer cantatas. Some villages such as Roxborough retain the original structure of morning service and afternoon cantata whereas others like Delaford and Belle Garden have been forced to merge affairs having both cantata and service in one. Further changes have been seen where individuals stay at home and prepare boastful meals and

drinks for friends and strangers alike. Not only that but in many instances the feast spills over into Monday replacing the harvest dance. Despite the evolution of the harvest beyond the church, the underpinnings of thanksgiving and generosity remain.

Similarly, the fisherman festivals held to celebrate St Peter, the patron saint of fishermen, once a Christian tradition has been retained as semblance of its former self. This celebration was isolated to Charlotteville where priests would bless the boats of the fishermen and a re-enactment of St Peter coming to shore was hosted. Eventually the celebration morphed into an all weekend affair complete with street parties, jouvert and sports day and spreading to communities like Speyside, Castara and even Delaford.

The cultural practices of North East Tobagonians represent a society that is perched in the balance, resting in the threshold of so-called modernity and a heritage fashioned from a tumultuous past.

11. Folk Tales

Like the spirits in the Main Ridge Forest Reserve living in the holes of the roots of the very big trees, culture is everywhere even though it is not always seen. Folk stories about the Main Ridge Forest Reserve are experiences with the forest shared from generation to generation. If you desire a spirit's help, you should bring a silver coin and a sealed bottle of rum. You sacrifice the coin to the spirits by putting it next to the roots of the trees. You ask for what you desire and meanwhile you open the bottle of rum. For every sip you take, you should pour a sip to the roots of the tree. You share the bottle with the spirits and talk with them until the bottle is empty.

Back in times, the road through the Main Ridge Forest Reserve was originally a well-worn hunting trail; the communities along the coast used to travel by boat around the island to buy and sell their goods. When the hunting trail was developed into a more passable road, most of it by hand, the new road steered around the big and old trees honouring their cultural heritage and linkages.

Hunters in the Main Ridge Forest Reserve sometimes saw their dogs chasing phantoms they could not see. The legend told is that the dogs were chasing the forest spirits that wanted to lie down where the hunting people were resting, possibly in expectation of rum sacrifices. Another spirit, the Garby, turns the chase around. It defends the forest and allures the hunting hounds to run into unknown territory, never to be seen again.

The springs and the rivers are believed to have certain powers against evil spirits. The well-known Silk Cotton Tree is one everyone should treat with respect – if you harm the tree, the folklore holds that you will suffer an unfortunate fate.

12. Ecosystem Services

The Main Ridge Forest Reserve provides significant ecosystem services to the 15,000 people living in the communities surrounding the area and for Tobago as a whole.

A recent livelihood assessment around the Main Ridge Forest Reserve reports that 27% of adults derive income from the use of the natural resources in the form of employment through reforestation work, tourism-related jobs, tour guiding, hunting, etc. Additionally, the Main Ridge provides significant recreational value and Tobagonians appreciate the serenity of the forests and the trails as an ideal weekend getaway. With the declaration as a Natural National Heritage Site, the door opens to further link conservation to livelihoods through sustainable economic activities such as responsible tourism, education and research, as well as sustainable extraction of resources in specially designated areas.

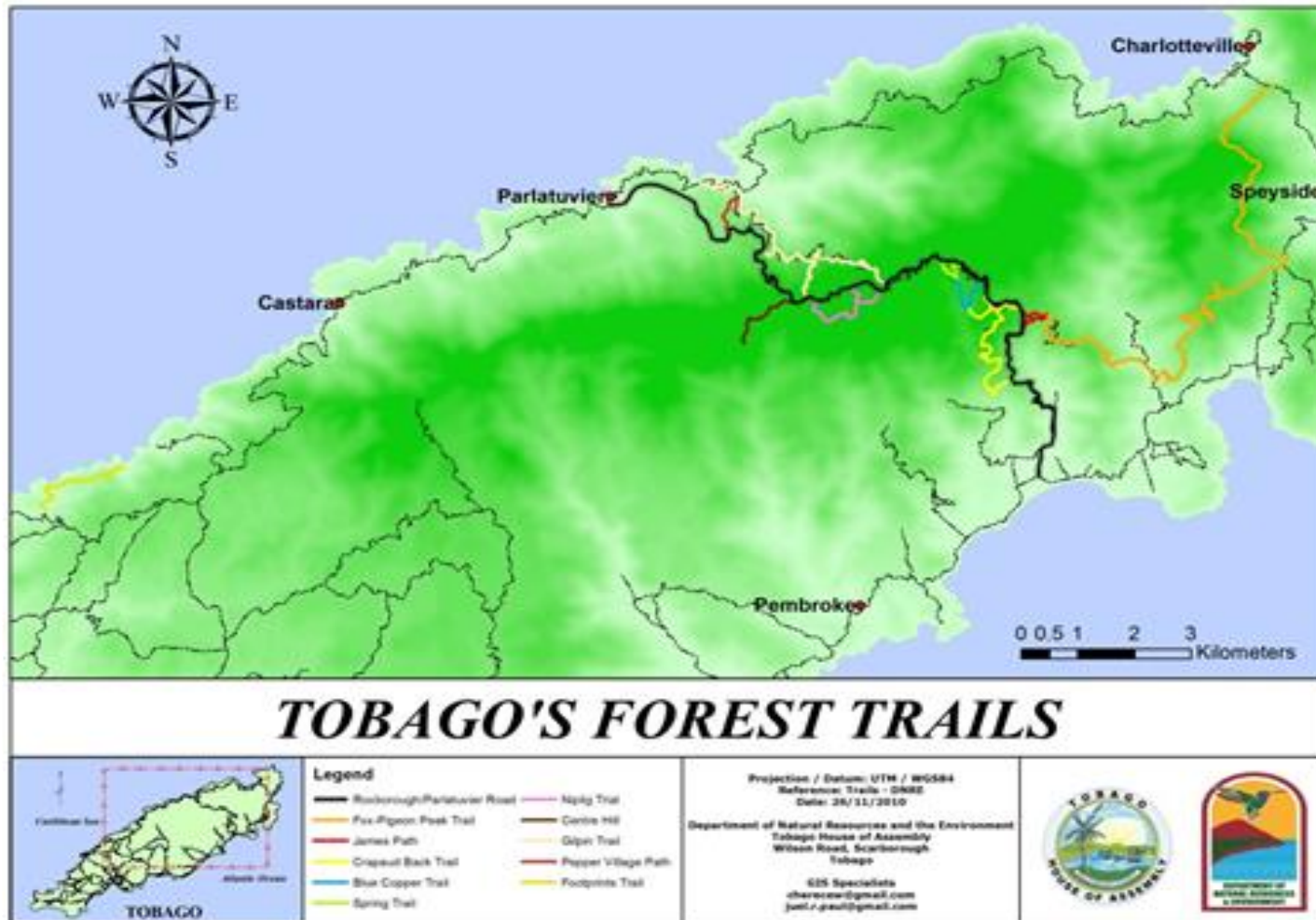


Figure 6: Map of Nature Trails within MRFR: Gilpin, Niplig, Spring and Blue Copper.

Certain herbs of the Main Ridge Forest Reserve are used for medical and spiritual practices. But you must know how to use the herbs or else you may experience effects worse than your illness. The communities surrounding the Main Ridge highly value their herbal treatments for body and spirit, passing their traditional knowledge to each generation.”.

The Vervine herb (*Verbena officinalis*) grows at sunny and dry locations, often at the side of the road; it is used to treat infections and increase lactation.

Zebapique (*Neurolaena lobate*), is used to treat ear infections, cough, and fever; its leaves contain a potent anti-parasitic agent which is effective against intestinal parasites, candida, and fungal infections.

The leaves of the Naked Boy Tree (*Bursera simaruba*) are used as treatment for dropsy, dysentery and yellow fever. Gum tree leaves are tea substitute and its bark produces a balsam resin used in varnishes and as glue, canoe paint, incense, and insect repellent. The bois canot tree’s leaves are used in the treatment of colds and coughs. Over the last decade, Bloody Bay loamy clay, in various colours, has been used for entrepreneurial business for persons masquerading with treated clay mud.

Use	% households where use is practised	% households where use is practiced daily to twice / week	% households for which this use provides income	% household where the use is personal
Recreation	21	0.5	-	21
Spring Water	18	2	-	18
Tours	16	5	16	-
Employment	10	9	10	-
Hunting	7	-	1	6
Fruits	3	0.5	-	3
Herbs	2	-	-	2
Provision	1	0.5	-	1

Figure 7: Ecosystem Services of the MRFR based on a household survey (adopted from FAO Livelihood studies, 2018).

13. Threats

NE Tobago shares threats to conservation and sustainable development to varying degrees with other Caribbean small islands. Of the 10 major conservation threats prioritised by the Caribbean Islands Biodiversity Hotspot assessment (CEPF, 2009), six play an important role in NE Tobago: residential & commercial development, climate change, human disturbance, over-exploitation, invasive alien species and pollution.

The North East Tobago Management Plan adopted by the THA and the GoRTT, raises the concerns that very little up-to-date ecological information is broadly available, that marine water quality is declining, that natural resource user conflicts need to be addressed and that limited manpower and resources are available to manage unsustainable resource use patterns.

Most recently, an IFPAM project document (2014) states that the terrestrial ecosystems of NE Tobago are considered regionally threatened and host biodiversity of global significance. Specifically listed are threats to the existing terrestrial and proposed marine protected areas in NE Tobago: hunting / overfishing, potential of un-managed levels of tourism, wildfire, alien invasive species, climate change, unregulated coastal development and pollution.

The same IFPAM project document identifies the main barriers to successful conservation in NE Tobago: an outdated legal and regulatory framework for establishing and managing protected areas, fragmented responsibilities and capacity of protected area staff, inadequate funding, lack of technical capacity to identify conservation gaps, minimal capacity on the ground with respect to practical approaches to effective biodiversity management and minimal experience with income-generating opportunities in protected areas.

Seven major threats affect the natural heritage designation area:

Infrastructure Development

Construction activities associated with private (e.g. house renovations) and public (e.g. road works) infrastructure projects are a major concern. The majority does not adhere to good environmental practises such as waste management or mitigation of erosion of construction material and disturbed soil. Road construction activities notably contribute to sedimentation on reefs and sea grass beds via ravines and rivers. Infrastructure development is an active sector of the economy governed by inadequate legislation and limited enforcement. This parallels the 'Residential & Commercial Development' threat identified by the Caribbean Islands Biodiversity Hotspot assessment.

Over-Exploitation

Unsustainable resource use, including hunting (poaching) and logging, threatens NE Tobago ecosystems. In spite of a two-year national hunting ban from 2014 to 2015, hunting remains a threat and is a socially accepted activity. The recent economic downturn and high prices for wild meat further increase the pressure on wildlife shifting hunting from a subsistence/traditional to an increasingly commercial activity. The damage caused by heavy equipment access just to extract several trees is extensive. Such logging activities are not commercial but instead are mostly small scale and could be considered praedial larceny.

Pollution

Plastic packaging material is the main solid waste found alongside roads and in waterways associated with littering, and unrestricted illegal dumping at roadside sites. The amount of solid waste in the landscape is often hidden by rainy season vegetation and becomes more visible in drier conditions. Unrestricted, illegal dumping of construction waste is also an issue locally.

Despite the relatively small scale of agricultural activities, excessive use of fertilisers and self-prepared pesticide cocktails are common in the areas surrounding the MRFR. Government-

mandated insect vector control initiatives also use aggressive and broad-spectrum pesticides, liberally dispersed in the area. Given the shallow soils, these synthetic chemicals, many of them banned in North America and Europe, end up in rivers and the coastal zone ecosystems.

Climate Change

The effects of climate change, manifesting through changing and unpredictable weather patterns, are a significant threat to the target system. Related consequences include wildfires, landslides, and disrupted animal and plant life cycles. The dissolution of distinct wet and dry seasons over the past half-century poses a major challenge for organisms to adapt their life, and especially reproductive cycles. A good example is when increased rainfall in traditionally 'dry' seasons destroys the fragile flowers of flowering plants that flower during dry conditions. This in turn affects nectar-seeking pollinators and consequently fruit-seeking animals some months later.

Long dry seasons increase the vulnerability of the various forest ecosystems to wildfires which are sometimes accidental, sometimes set on purpose for soil fertilisation or for land clearing. Wildfires can in turn lead to colonisation of the area by invasive bamboo and other, secondary bush. Subsequent landslides in the rainy season are often a result of wildfires which destroy the plant cover that was previously stabilising the soil.

Local Disempowerment

Local residents and stakeholders are only rarely inspired to undertake conservation-relevant practices. This is partly because intelligible, adequate and continuous environmental education is still in its infancy. While knowledge often exists, it is not successfully translated into a positive attitude and practise. This in turn is partially due to perceived and actual lack of ownership and empowerment on the part of residents in NE Tobago. Similarly, residents facing environmental challenges, such as developers violating laws by dumping waste illegally, are often not informed enough to take appropriate actions against those perpetrating the violations (e.g. seek assistance from the Environmental Police and/or the Environmental Commission of Trinidad and Tobago). Additionally, the lack of coherent and consistent conservation co-management often undermines good efforts in some areas by neglect in others.

Ecosystem Fragmentation

Road development, uncontrolled construction activities, partition of larger estates, and land clearing for small-scale agriculture have the potential to significantly and instantly contribute to the fragmentation of ecosystems and associated ecological processes.

Invasive Species

Alien invasive species currently pose a notable, yet not sufficiently evaluated threat to NE Tobago ecosystems. As global ecosystem connectivity increases, this issue is likely to be an increasing challenge in the future. Bamboo, originally imported for soil stabilisation, is a fast-

growing invasive species that takes over larger areas of forest especially after forest fires. A less noticeable alien invasive species is the amphibian chytrid fungus, which poses a significant risk to the endemic amphibians of NE Tobago. A third category of alien invasive species that has a significant impact on local ecosystems includes feral pets and unrestrained livestock such as cows, feral cats, roaming dogs, and unrestrained goats and yard fowl. Invasive alien species are a regional and indeed global issue prioritised by the Caribbean Islands Biodiversity Hotspot assessment.

Connected Threats in a Connected System

Although threats to NE Tobago ecosystems have been grouped and prioritised here, it is important to recognise that these categories are an aid to planning and management. They are not distinct categories in the system. NE Tobago, from ridge to ocean, is a highly connected and increasingly dynamic system where threats and challenges are tightly interrelated. For example, poorly executed road works (Infrastructure Development) lead to changes in the vegetation adjacent to the road which becomes edge habitat leading, to 'Ecosystem Fragmentation'. Edge habitat is in turn more susceptible to 'Invasive Species'. Edge habitat also burns more easily and increases the effects of wildfires associated with dry conditions (Climate Change). Poor construction waste management and road design (Infrastructure Development) also leads to increased soil erosion and sedimentation (Pollution) associated with heavy rain events (Climate Change). The tightly interrelated nature of threats speaks to a project that acts simultaneously across ecosystems and social systems. To be effective, such a project must focus on broader challenges that can lead to effective leverage points or opportunities.

14. Conservation Barriers

Two barriers to long-term conservation in NE Tobago have been prioritised: fragmented management and limited information and communication on social-ecological system trends. These barriers constitute indirect threats that exacerbate the interrelated direct threats to NE Tobago's ecosystems listed in the previous section. If these barriers are not dealt with, there is a high risk that this significant Natural National Heritage will succumb to the direct threats listed above.

Fragmented Management & Use

The principle barrier to addressing direct threats to the ecosystems of NE Tobago is fragmented management and use. Regulations and roles are unclear and consequently there is almost no "enforcement / implementation of regulations concerning natural resource use" as stated in the North East Tobago Management Plan. Fragmented formal and informal public and private land management and use create an environment where it is nearly impossible for a single stakeholder to meaningfully influence the direct threats that are degrading NE Tobago's ecosystems. This barrier has the following three components.

A **government component** involves the formal management of public lands and waters. This barrier includes outdated legislation and policy, a labyrinthine institutional structure, and limited government capacity and resources. Repeated government initiatives since the 1970s have failed to address this issue. This fragmentation has a host of direct effects, largely mediated through a lack of enforcement or implementation of government mandates for natural resource management.

Fragmented management and use of land and waters also occurs in **non-government sectors**. The absence of a national land use planning framework combined with outdated regulations and limited enforcement means that private land management and use is largely unrestricted. There is a concomitant lack of mechanisms and incentives for private landowners to engage in or benefit from conservation. The current, forested state of most private land in NE Tobago is therefore not a result of public policies or priorities, but an artefact of the priorities and preferences of individual owners. Although this speaks to the conservation commitment of some landowners, it is a highly vulnerable state for long-term conservation.

Additionally, there is a weak history of government agencies engaging civil society and the private sector in management resulting in limited opportunities and institutions for involvement of communities and civil society organisations in decision-making and management.

Consequently, there is a significant gap in current efforts to secure long-term conservation of the MRFR. Without involvement of non-government stakeholders, long-term conservation will not succeed.

Although fragmented management is the principal barrier to conservation in NE Tobago, another **critical barrier is a lack of monitoring and communication**. This issue captures two barriers to biodiversity conservation regionally as identified by the Caribbean Islands Biodiversity Hotspot assessment: limited technical and scientific knowledge and poor availability of information needed for effective decision-making, and lack of awareness of importance of biodiversity and ecosystem services. It is also prioritised by the IFPAMTT as one of four project components. Limited information and communication mean that it is difficult to: quantify conservation threats, foster informed discussions, prioritise management actions, measure the success of interventions, and inspire stakeholders to take action.

15. Stakeholders

. The Main Ridge provides many ecosystem services including “rains inalienable”, clean water, recreation, and eco-tourism opportunities. As such, there is a significant number of persons and organisations that have a legitimate interest in the conservation and health of the area. As a nationally protected area, the Main Ridge Forest Reserve, is primarily managed by the Department of Natural Resources and Forestry Since 2014, a group of stakeholders, assembled under a project managed by the Food and Agricultural Organisation of the United Nations, has been working together to improve the management of the Main Ridge for the benefit of the people and ecosystems. This group includes representatives of the Tobago

House of Assembly, academia, and civil society organisations representing people and communities whose livelihood depends on a healthy Main Ridge Forest Reserve.

The Reserve's nomination as a National Heritage Site and as a UNESCO Site widens stakeholder interest, which includes the Trinidad and Tobago National Commission for UNESCO, the National Trust of Trinidad and Tobago, and the relevant international UNESCO agencies.

For all stakeholders involved, the nomination as a National Heritage Site provides a unique opportunity to work and grow together for the betterment of all.

See Appendix 1: Stakeholder Organisations

16. Legal and Regulatory Aspects

Through the Tobago House of Assembly (THA) Act, the THA is directly responsible for formulating and implementing policy for the conservation of biodiversity resources in Tobago, including land and marine protected areas. The THA Department of Forestry and Natural Resources is responsible for the Main Ridge Forest Reserve.

The Main Ridge Forest Reserve is protected under several Acts, notably the Conservation of Wildlife Act and the Forests Act, which provide guidelines for management of the area. The Water and Sewerage Authority oversees all activities taking place in watershed protection areas, following the Water and Sewerage Act. With the designation as a Natural National Heritage Site in 2019, another layer of legal protection for the Main Ridge Forest Reserve was added through the National Trust of Trinidad and Tobago Act.

Sustainable management of the Main Ridge Forest Reserve means protecting natural resources such as land, water, soil, plants and animals, with a particular focus on how management affects the stability of the ecosystem and the quality of life for both present and future generations. In the past, the conservation of natural heritage and creation of related sustainable livelihoods has not always received the required governmental resource allocation.

The planned establishment of the NE Tobago Protected Area Management Trust (NETPAMT), is envisaged as a close collaboration between government agencies and civil society. This will open new opportunities to secure human resources (e.g. community stakeholders and academic collaborators), as well as financial support through access to funding normally inaccessible for governmental agencies. The NETPAMT will be the first organisation of its kind in Trinidad and Tobago and an important management model for other protected areas in the country and region.

The management of the forest estate and associated biodiversity is carried out by the THA Department of Forestry by virtue of pieces of legislation governing the management of forests, forest products and wildlife. There are several pieces of primary legislation pertaining to the MRFR:

- THA Act Chap. 25:03, Act 40 of 1996 amended by 17 of 2006;
- State Lands Act Chap. 57:01, Act 32 of 1918 amended by 4 of 2014;
- Forest Act Chap. 66:01, Act 42 of 1915 amended by 23 of 1999;

- Conservation of Wildlife Act Chap. 67:01, Act 16 of 1958 amended by 31 of 1980;
- Sawmills Act Chap. 66:02, Act 35 of 1943 amended 24 of 1999; and
- Environmental Management Authority (EMA) Act and regulations Chap. 35:05, 2000.
- Forest (Prohibited Areas) Order, amendments made under Chap. 66:01, Act 42 of 1915 amended by 23 of 1999
- Sawmills Act Chap. 66:02 Act, 35 of 1943 amended by 24 of 1999;
- Water and Sewerage Authority Act Chap. 54:40, Act 16 of 1965 amended by 28 of 1994; and through the Prevention of Water Pollution (Courland Water Works) Byelaws, 1980;
- Tourism Development Act Chap. 87:22, Act 9 of 2000 amended by 16 of 2006;
- Agricultural Fires Act Chap. 63:02, Act 20 of 1965;
- Fisheries Act, Chap 67:51, Act 39 of 1916 amended by 23 of 1975;
- National Trust of Trinidad and Tobago Act, Chap 40:53, Act 11 of 1991 amended by 6 of 2015;
- Planning and Facilitation of Development Act No. 10 of 2014 replaced the Town and Country Planning Act, Chap. 35:01, 1990;
- Land Acquisition Act, Chapter 58:01, Act 28 of 1994 amended by 73 of 2000;
- Animal (Diseases and Importation) Act, Chapter 67:02, Act 19 of 1954 amended by 17 of 1997 (some pages authorised in 2006); and
- Litter Act Chap 30:52, Act 27 of 1973 amended by 4 of 2014.

17. Recommendations for Sustainable Management

Currently (June 2019), a Draft Management Plan for the MRFR is developed under the IFPAM project: “Food and Agriculture Organization of the United Nations (FAO/UN). 2019. Management plan for the Main Ridge Forest Reserve (MRFR) protected area, 2019-2029. Port of Spain, Trinidad and Tobago: GORTT. Once accepted by all stakeholders, this Draft Version should become the guiding document for the management of the MRFR.

In 2017 the Tobago Stakeholder Committee agreed on the following:

Vision Statement for the Management of the MRFR: *“A conserved Tobago rainforest for generations”*;

Mission Statement was formulated as follows: *“Sustainable management of the MRFR through collaborative linkages with various stakeholders driven by research, results-based management, training, awareness and the need for livelihoods”*; and

Main Conservation Objective was stated as: *“To maintain the viability of the oldest protected forest reserve in the western hemisphere.”*

The Draft Management Plan focuses clearly on **participatory management**, an arrangement where primary stakeholders enter into mutually enforceable agreements that define their respective roles, responsibilities, benefits and authority in the management of resources or organisation. Participatory management may: help reduce conflicts, empower groups, allows

for more teamwork, help build alliances, allow for persons with skills to perform efficiently, and may bring about win-win results when there are conflicts.

The Draft Management Plan for the MRFR is expected to be finalised by August 2019 and, once accepted by all stakeholders, should be used as the guiding document to inform management principles that should be included in the legislation once the MRFR will be listed under the National Trust Act.

18. Appendix 1: MRFR Stakeholder Organisations

No	SHD Full Name	Phone	Address
1	Charlotteville Methodist Primary School	660-5166	24-26 Spring Street, Charlotteville
2	Charlotteville S.D.A Primary School	660-6002	Charlotteville
3	Speyside A.C Primary School	660-5205	Windward Road, Speyside
4	Delaford A.C. Primary School	660-5585	Louis D'or Trace, Delaford
5	Delaford R.C. Primary School	660-5003	John Gully Crown Trace, Delaford
6	Castara Government Primary School	639-5671	Castara
7	Ebenezer Methodist Primary School	660-5373	283-285 Windward Road , Betsy's Hope
8	Roxborough A.C. Primary School	660-5777	Union Street, Roxborough
9	L'Anse Fourmi Methodist Primary School	639-6689	L'Anse Fourmi
10	Parlatuvier A.C. Primary School	660-7912	Parlatuvier
11	Speyside High School	660-4201	Lucy Vale Road, Speyside
12	Roxborough Secondary School	660-4393/ 299-0779	Bloody Bay Road, Roxborough
13	University of the West Indies- Department of Life Sciences	663-1334 ext. 83095	St. Augustine, Trinidad
14	University of the West Indies- Physics Department	662-2002 Ext. 82050, 82051	St. Augustine, Trinidad
15	University of the West Indies- Department of Geomatics Engineering and Land Management	662-2002 Ext. 82108 / 82109	St. Augustine, Trinidad
16	University of the West Indies- Faculty Social Sciences	662-2002 Ext. 82027	St. Augustine, Trinidad
17	University of Trinidad and Tobago	642-8888	Chaguaramas Campus, Second Avenue North, Western Main Road, Chaguaramas
18	University of the Southern Caribbean	662-2241	St Joseph, Maracas
19	Ministry Of Planning and Development	612-3000	Level 14, Eric Williams Financial Complex
20	Environmental Policy and Planning Division	225-3392	Level 17 - Tower D – International Waterfront Centre, #1Wrightson Road, Port-of-Spain
21	Forestry Division	622-4860/225-3868	Long Circular Road, St James
22	Ministry of Agriculture, Land and Fisheries	220-6253	St Clair Circle, St Clair
23	Town and Country Planning Division-Tobago	639-2663	Tobago Regional Office, Cnr Pump Mill & Wilson Road

No	SHD Full Name	Phone	Address
24	Ministry of Education	622-2181	5 St Vincent St, Port of Spain
25	Ministry of Health	627-0010	#63 Park Street, Port of Spain
26	Ministry of Tourism	624-1403	Levels 8 & 9, Tower C, International Waterfront Centre, #1 Wrightson Road, Port of Spain
27	Ministry of Energy and Energy Industries	225- 4334	Levels 15 & 22-26, Energy Tower, International Waterfront Centre, #1 Wrightson Road, Port of Spain
28	Ministry of Trade and Industry	623-2931	Levels 9,11 to 17 Nicholas Tower, 63-65 Independence Square, Port of Spain
29	Environmental Management Authority	628-8042	8 Elizabeth Street, St Clair
30	Institute of Marine Affairs	634-4291	Hilltop Lane, Chaguaramas
31	Water and Sewerage Authority- Tobago Office	662-2302	WASA Services Division, Allfields Trace, Lowlands
32	Trinidad and Tobago Bureau of Standards	662-8827	1-2 Century Drive, Trincity Industrial estate, Macoya
33	Wildlife Conservation Committee	225-3837	Farm Road, St Joseph
34	National Trust of Trinidad and Tobago	225-4750	68-70 Sackville St, Port of Spain
35	Division of Community Development, Enterprise Development and Labour	639-2339	10 Montessori Drive, Glen Road
36	Trinidad and Tobago Electricity Commission- Tobago	639-2541 / 2542 / 2015	Tobago Area Office, Wilson Road, Scarborough
37	Tobago House of Assembly	639-2696	Administrative Complex, Calder Hall
38	Division of Infrastructure, Quarries Environment	639-0188	Tam's Building, Glen Road Scarborough
39	Division of Tourism and Transportation	639-5126	12 Sangster's Hill, Scarborough
40	Division of Food Production, Forestry, Fisheries	639-2234	Tam's Building Glen Road, Scarborough
41	Environmental Research Institute Charlotteville	788-3550	Charlotteville
42	Charlotteville Beachfront Movement	327-1605	Charlotteville
43	Charlotteville Speyside Farmers' Cooperative Society Limited	313-4667	Charlotteville
44	Parlatuvier Fishing Association	790-4832/ 358-8710	Parlatuvier
45	Charlotteville Sea Fresh Fish Association		Charlotteville
46	No Behaviour Roxborough Group	724-7656	Roxborough
47	All Tobago Fisherfolk Association	751-1793	Scarborough

No	SHD Full Name	Phone	Address
48	Tobago Fishing Cooperative	291-5110	Charlotteville
49	Bloody Bay Fisher Folk	790-4832/ 358-8710	Bloody Bay
50	Charlotteville Village Council	716-8841	Charlotteville
51	L'Anse Fourmi Village Council	790-1605	L'Anse Fourmi
52	Environment Tobago	660-7462	#11 Cuyler Street, Scarborough
53	Parlatuvier Village Council	363-9401	Jetty Street, Parlatuvier
54	Speyside Village Council	320-0885	Speyside
55	Sacred Heart RC Church	660-4762	381 Windward Road, Delaford
56	Delaford Pentecostal Church- Streams of Power	720-8048	King Street, Delaford
57	Charlotteville AC Church	660-4340	Charlotteville
58	Charlotteville Pentecostal Church	660-5949/788-3805	Church Street, Charlotteville
59	Charlotteville Methodist Church	681-5487	Charlotteville
60	Charlotteville S.D.A. Church	305-6389	Charlotteville
61	Speyside Pentecostal Church	701-6593	Crapaud Village, Speyside
62	Castara RC Church St Peters	639-2136	River Road, Castara
63	Roxborough Pentecostal Church- Roxborough Revival Centre	660-4356/781-1948/770-5143	#10 Prince Street, Roxborough
64	Roxborough AC Church	620-3696	Union Street, Roxborough
65	Roxborough S.D.A. Church	305-6389	Roxborough
66	Roxborough Spiritual Baptiste Church	660-6680 / 762- 4315	Prince Street, Roxborough
67	Roxborough RC Church	660-4762	Roxborough
68	L'Anse Fourmi Revival Tabernacle	725-3056	L'Anse Fourmi
69	L'Anse Fourmi Methodist Church	639-2476	L'Anse Fourmi
70	L'Anse Fourmi Spiritual Baptiste Church	660-7576	L'Anse Fourmi
71	L'Anse Fourmi S.D.A Church	730-1699	L'Anse Fourmi
72	Parlatuvier Pentecostal Church	710-6645	Parlatuvier
73	Parlatuvier AC Church	620-3696	Parlatuvier
74	Bloody Bay Healing Tabernacle	386-7971	Bloody Bay
75	Speyside Eco-Marine Park Rangers	762-2202	Speyside

No	SHD Full Name	Phone	Address
76	North East Sea Turtles Tobago	338-3481	Charlotteville
77	Roxborough Police Youth Club	660-5337, 750-2727	Day Street, Windward Road, Roxborough
78	Louis D'or Rising Stars Youth Group	298-5499, 731-5805	Louis D'or
79	Association of Village Councils	688-8630	Trinidad
80	Charlotteville Police Youth Club	306-2895	Charlotteville
81	Association of Tobago Dive Operators	688-5071	Tobago
82	Bloody Bay Main Ridge Nature Explorers	333-1049	Bloody Bay
83	Tobago Tour Guides Association	304-1840	Golden Road, Canaan
84	Roxborough Estate Visitor Service Co-operative	660-5337, 750-2727	Day Street, Windward Road, Roxborough
85	Speyside Pelca Youth Club	321-8035	Speyside
86	Speyside Junior Academy	464-4108	Speyside
87	Bloody Bay United Raiders	318 8034	Bloody Bay
88	Delaford Eco Tourism Association	494-8827	Delaford
89	Parlatuvier Sports and Cultural Mentors	307-8514	Parlatuvier
90	Tobago Hotel and Tourism Association	639-9543	Apt #1, Lambeau Credit Union Building, Auchenskeoch Road, Carnbee Village
91	Tobago Hunters' Group	372-6437	Roxborough
92	British High Commission	350-0444	19 St Clair Avenue, St Clair
93	US Embassy Trinidad and Tobago	622-6371	15 Queen's Park W, Port of Spain
94	German Embassy Port of Spain	628-1630	19 St. Clair Avenue, Port of Spain
95	Embassy of the Kingdom of the Netherlands	625-1210	3rd Floor Trinre Building, 69-71 Edward Street, Port of Spain
96	OAS	622-0019	15 D Wainwright St. St. Clair Port of Spain
97	GEF SGP UNDP	623-7056	3A Chancery Lane, Port of Spain
98	National Commission for UNESCO	622-2181	Ministry of Education, 5 St Vincent St Port of Spain
99	Man and the Biosphere Office EMA	628-8042	8 Elizabeth Street, St Clair
100	IFPAM Implementation Unit, FAO, Trinidad, Ms. Neila Bobb	302-3739 / 299 0027	134-138 Frederick Street, Port of Spain
101	North East Tobago Protected Area Management Trust	294-7234	c/o DIQE, Shaw Park, Tobago
102	National Trust of Trinidad and Tobago	225-4750	68-70 Sackville Street, Port of Spain

No	SHD Full Name	Phone	Address
103	Radio Tambrin	639-4921/3431	# 3 Picton Street, Scarborough
104	Hott 93.5	625-8426	#5 Rosalino Street in Woodbrook, Port of Spain, Trinidad
105	The Best Mix 95.1 FM	625-7053	#22-24 St. Vincent Street 2nd Floor, Trinidad Guardian Building Port-of-Spain
106	Power 102 FM	627-6937	88-90 Abercromby St, Port of Spain
107	The Tobago News	639-5565	TIDCO Mall, Sangster's Hill, Scarborough
108	Tobago Today	225-4645	Tomco Building, Plymouth Road, Scarborough
109	Trinidad and Tobago's Newsday	652-6533	Daily News Limited, 23A Chacon St., Port of Spain
110	The Trinidad Guardian	225-4465	22-24 St. Vincent St, (PO Box 122), Port of Spain
111	Trinidad Express Newspapers	623-1711/660-7003	35-37 Independence Square, Port of Spain,
112	Tobago Newsday	607-0224	2A Shirvan Plaza, Shirvan Road
113	Division of Infrastructure, Quarries and the Environment Facebook Page		Online
114	Tobago Channel 5	635-1005	65-67 Lambeau Road, Signal Hill
115	CNC3	225-4465	Level 4, Guardian Building, 22-24 St. Vincent Street, Port of Spain
116	CCN TV6	623-1711/8	33-35 Independence Square
117	Radio Smash	766-1735	
118	BHP Billiton	821-5100	Invaders Bay Tower, Invaders Bay Off Audrey Jeffers Highway, Port of Spain
119	Shell	628-0888	#5 St. Clair Avenue, Port of Spain
120	BP	623 2862	5 & 5A Queens Park West Plaza, Port of Spain
121	Bmobile/ TSTT	824-7288	18 Park Street, Port of Spain
122	Digicel	399-9998	11C Ansa Centre, Maraval Road, Port of Spain
123	Charlotteville Estate	793-9551	Charlotteville
124	Hermitage Estate	372-1961	Hermitage
125	Speyside Estate	688-5071	Speyside
126	Belmont Estate	688-7629	Speyside
127	Campbelton Estate	652-2701-2-3/	Campbelton, Charlotteville

