

Government of the Republic of Trinidad and Tobago

NATIONAL WILDLIFE POLICY

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LIST OF ABBREVIATIONS AND ACRONYMS

CBO	Community-Based Organisation
CBD	United Nations Convention on Biological Diversity
CDA	Chaguaramas Development Authority
CEP	Caribbean Environment Programme
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
COPE	Council of Presidents of the Environment
CoWA	Conservation of Wildlife Act
DNRE	Department of Natural Resources and the Environment
EIA	Environmental Impact assessment
EMA	Environmental Management Authority
ESA	Environmentally Sensitive Areas
ESS	Environmentally Sensitive Species
FAO	Food and Agriculture Organization of the United Nations
FPAMA	Forest and Protected Areas Management Authority
GIS	Geographic Information Systems
GMO	Genetically Modified Organism
HGW	Honorary Game Warden
IAS	Invasive Alien Species
ICME	Inter-Sectoral Committee for Monitoring and Evaluation
IUCN	International Union for the Conservation of Nature and Natural Resources
LMO	Living Modified Organism
MOU	Memorandum of Understanding
NAPCLD	National Action Programme to Combat Land Degradation

NBP	National Biosafety Policy
NBSAP	National Biodiversity Strategy and Action Plan
NCCP	National Climate Change Policy
NEP	National Environmental Policy
NFP	National Forest Policy
NPAP	National Protected Areas Policy
NGO	Non-Governmental Organisation
NRWRP	National Reforestation and Watershed Rehabilitation Programme
NTFP	Non-timber Forest Product
NWP	National Wetlands Policy
PNA	Protected Natural Area
SGL	State Game Licence
SPAW	Specially Protected Areas and Wildlife Protocol
THA	Tobago House of Assembly
UNFCCC	United Nations Framework Convention on Climate Change
UNCCD	United Nations Convention to Combat Desertification
UTT	University of Trinidad and Tobago
UWI	University of the West Indies
WLCC	Wildlife Conservation Committee

1.0 INTRODUCTION

1.1 Justification and Background

Despite the diversity of wild organisms and their importance to the culture, recreation and sustainable livelihoods of the people of Trinidad and Tobago, there has never been a standalone National Wildlife Policy. To date, formal policy statements that address the management of the country's wildlife resources have been integrated into the National Environment Policy (NEP), the National Wetland Policy (NWP) and the National Forest Policy (NFP) and National Protected Areas Policy (NPAP). This policy framework has also been rapidly evolving to reflect the changes in the status of wild animals and plants nationally, changes of attitudes of the society towards wildlife use and value, and obligations under global multilateral agreements on wildlife to which the country is a Party.

Implementation of these policy frameworks for wildlife management is effected primarily through the Conservation of Wildlife Act (CoWA), Chapter 67:01, and enforced in Trinidad by the Forestry Division, through its Wildlife Section and in Tobago by the Department of Natural Resources and the Environment (DNRE) of the Tobago House of Assembly (THA). The management of wildlife is also regulated through the environmentally sensitive species and areas (ESS and ESA) rules of the Environmental Management Act Chap. 35:05, which is primarily implemented by the Environmental Management Authority (EMA) and the DNRE in Tobago.

However, despite this existing legislative and policy framework, there is a need to address the conservation and management of wild organisms through a specific policy on wildlife conservation. In spite of the relatively recent development of the new NFP and NPAP, there remain significant gaps and unresolved conflicts in national policy consensus on the use, management and protection of wild plants and animals. Further, the existing regulations (CoWA, ESS and ESA) are inadequate to allow for the implementation of policies already agreed to (e.g. the new NFP and NPAP) to enable adoption of new or evolving wildlife management techniques, or to address threats to endangered wildlife.

An effective, comprehensive policy framework that has the consensus of the general public and the Government is necessary to guide the future evolution of the legislative and administrative framework for wildlife management. The current legislative, management and administrative systems for management of the country's wildlife resources remain outdated, inflexible and largely ineffective for addressing the negative impacts on wildlife resources by a rapidly changing, increasingly sophisticated and modern society.

In recognition of this reality and of the obligations inherent in the recent adoption of the NFP and NPAP, the Government has called for the development of a National Wildlife Policy. This Policy was developed through an analysis of all relevant documents, policies, sectoral and strategic plans related to wildlife management and through feedback from national consultations to ensure that the needs and aspirations of all stakeholders were considered. This Policy document is the result of this rigorous process, and it is hoped that its adoption and implementation will lead to the effective conservation and management of the country's wildlife resources.

This National Wildlife Policy is not an isolated statement, but builds on the existing policy framework and supplements and enhances other public policies and plans, including the NEP, NFP, NPAP, National Wetlands Policy (NWP), National Climate Change Policy (NCCP), National Biodiversity Strategy and Action Plan (NBSAP) and the National Action Programme to Combat Land Degradation (NAPCLD). It is also envisaged that this Policy will be enabled through existing and proposed legislation, strategic plans of key government agencies and other private and public institutions, and management plans for specific areas and species.

This National Wildlife Policy recognises that wild species contribute significantly to national development, livelihoods and human well-being. The Policy also identifies that the quality and extent of these wildlife resources have deteriorated due to the direct loss of wildlife populations and their associated habitats through multiple factors including forest fires, unsustainable harvesting of game and timber, lack of appropriate regulation of the horticulture and pet trade, increased habitat loss and fragmentation through industrial and infrastructural developments (e.g. roads, bridges, ports etc.) by State and private landowners, quarrying and unsustainable agricultural practices. In addition, the Policy acknowledges that indirect factors such as climate change and pollution also have important ramifications for wild species and their habitats.

Increasing global connectivity, Trinidad and Tobago's strong industrial and manufacturing sectors and its geographical location, make the country an ideal transhipment point between South America, North America and Europe for the illegal wildlife trade. The wildlife trade monitoring network (TRAFFIC) estimates the global illegal wildlife trade to be US$24.8 – 33 billion per year. The Policy recognises this reality and the associated need to strengthen the surveillance systems at the country's ports of entry to minimise the risk of accidental and/or intentional introduction of invasive alien species (IAS) and diseases that can have devastating impacts on the country's wildlife.

The global phenomena of climate change can also have devastating impacts on the ecology of small islands like Trinidad and Tobago, and the Policy explicitly considers these potential impacts. Changes in patterns of animal and plant phenology, such as timing of migration, flowering and fruiting in different ecosystems due to changing rainfall patterns and temperature, will have tremendous implications for the resiliency of native wildlife populations and their ecological communities. In this regard, the country's strategy for adaptation to climate change will have important implications for wildlife conservation.

Given that the relationships among wildlife management, human well-being and the economy are varied and complex, this policy statement encompasses all the main dimensions of wildlife use, management and conservation including the challenges of climate change, IAS and the development and introduction of living modified organisms (LMOs). The key challenge of this policy is the effective management and conservation of wildlife resources in light of competing demands for these resources and global phenomena.

1.2 Wildlife Resources of Trinidad and Tobago

Trinidad and Tobago has a rich diversity of wild animals and plants due primarily to its geographical and geological relationship with the South American continent. Although the national species inventory remains incomplete, the country is known from existing literature to support over 420 species of birds, at least 600 species of butterflies, over 95 mammals, 85 reptiles, 32 amphibians, 42 species of freshwater fishes and 957 species of marine fishes. There are also over 2,465 different flowering plants, including over 190 species of orchids. Approximately 2% of these flowering plants are thought to be endemic. While the extent of the terrestrial vegetation communities have recently been mapped, the population size, trends in population change and factors driving such trends, remain virtually unknown for most wild plants and animals in the country.

1.3 Current Uses of Wildlife Resources

The country's wildlife resources are of great importance to all sectors of Trinidad and Tobago's society. They play a critical role at both national and local levels, mainly through tourism, hunting, collection of ornamental plants and plant materials for traditional medicines, agriculture, fishing, recreation, culture and scientific research. Rural communities depend upon a variety of wild flora and fauna for their existence through hunting, fishing, craft, tour guiding and other nature-based activities. Activities such as nature tours to the Caroni Swamp, forest trails, marine turtles nesting sites and coral reefs in Tobago generate revenue and sustainable livelihoods for individuals and rural communities associated with these features. Trinidad's five (5) terrestrial game mammals also support an economically significant wildlife trade. Historically, hunting of game animals has been a widespread recreational activity in Trinidad and Tobago. It continues to be done for sport, subsistence and a commercial wild meat trade, despite the rapid urbanization of the population. Well over ten thousand hunters purchase hunting permits from the Forestry Division's Wildlife Section each year

There has also been growing public interest in the husbandry of exotic and local wildlife as pets, resulting in unsustainable practices such as removal of juvenile parrots and macaws, snakes, large land arthropods (e.g. tarantulas), and threatened vertebrate wildlife (e.g. monkeys, ocelots, anteaters etc.) from the wild. Paradoxically, there has also been in parallel, an increased concern among the public for the welfare of such captive wildlife and the adoption of humane treatment standards for such animals. Additionally, the country's wildlife is prized in the international pet (particularly tropical fish, reptiles and birds) and horticultural markets. These phenomena have led to an increase in wildlife trade both into and out of the country, which unregulated could pose a threat to native and global wildlife, and provide an avenue for the introduction of diseases into the country.

1.4 Existing Wildlife Management Regimes

1.4.1 Legislative and Institutional Arrangements

The Forestry Division through its Wildlife Section has responsibility for the enforcement of the CoWA and the management of wildlife on the island of Trinidad, such management requires 24-hour monitoring and enforcement. The Wildlife Section was established in 1981 as a sub-unit of the Forestry Division and is staffed by fourteen (14) Game Wardens, four (4) Forest Rangers, seven (7) Foresters, one (1) Assistant Conservator of Forests, and supervised by a Wildlife Biologist. The Chief Game Warden/Conservator of Forests has overall responsibility for the implementation of the CoWA. The roles and functions of the Section currently include:

i. enforcement of the Conservation of Wildlife Act
ii. management activities in game sanctuaries
iii. sale and issue of permits
iv. wildlife research
v. management of game and controlling over abundant wildlife
vi. invasive species management
vii. wildlife farming
viii. management of the exploitation of species collected and kept for research, breeding, education and as pets in Trinidad
ix. public education on issues related to wildlife management
x. evaluation of the impact of activities on the habitats and ecosystems
xi. evaluation of the socioeconomic contribution of wildlife to the national community
xii. management of wildlife trade
xiii. implementation of the Convention of International Trade of Endangered Species of Wild Flora and Fauna (CITES) and the Ramsar Convention on Wetlands of International Importance

The Wildlife Section has also pioneered work in community co-management of wildlife resources in Trinidad and Tobago through its marine turtle protection programme and Honorary Game Warden Programme (HGW).

In Tobago, the Wildlife Unit of the Department of Natural Resources and the Environment (DNRE) of the Tobago House of Assembly (THA) has a role similar to that of the Wildlife Section in Trinidad. In addition, it is responsible for Wetlands Management and responding to Wildlife Stranding. The Head of the Wildlife Unit is a Wildlife Management Officer, and the Unit is presently staffed by six (6) Game Wardens and two (2) Foresters.

Many other government agencies are also involved in wildlife management. The Chaguaramas Development Authority (CDA) has responsibility for the management of wildlife on the lands vested to it, which consist of the entire north-western peninsular of the island of Trinidad. The Environmental Management Authority (EMA) also currently has a

role in managing wildlife species and habitats that have been declared as ESSs and ESAs under its legislative framework. The Fisheries Division of the Ministry of Food Production, Land and Marine Affairs and the Department of Marine Resources and Fisheries of the THA have responsibility for, or jurisdiction over marine wildlife resources including fishes, shellfish (oysters, bivalves, crabs, lobsters etc.), whales and dolphins and marine turtles through the Fisheries Act and the THA Act. State Veterinarians, Customs, Coast Guard and Plant Quarantine Division also play a critical role in the management of wildlife trade in Trinidad and Tobago.

It should be noted that there has been management conflicts over jurisdictions and interpretations of precedence between the Fisheries Act and the CoWA which has direct impacts on management of wild species. It was envisioned that these conflicts would have been addressed with the enactment of a new Fisheries Act and a new CoWA however these legislative changes have not been effected. Some important areas of conflict and ambiguity include:

- Regulation of the harvest of freshwater fish species used in the aquarium trade and the freshwater fishery (e.g. cascadura) have not been explicitly regulated by the Fisheries Division, while Forestry Division can and does regulate such exploitation through control of access to habitats located in Forest Reserves that have been declared Prohibited;

- Regulation of the shellfish fishery, particularly oysters and crabs inhabiting mangrove wetlands located in forest reserves under the jurisdiction of the Forestry Division;

- Marine mammal conservation appears to fall under the rubric of “wildlife” as defined by the CoWA, and so should fall under the jurisdiction of the Forestry Division; however, these mammals are also defined as “fish” under Fisheries Act, which leads to ambiguity in management responsibility and law enforcement jurisdiction.

A number of non-governmental organizations, private citizens and the private sector have increasingly taken an active role in assisting the State in wildlife management. Examples of this participatory approach to wildlife management are reflected in the HGW Programme and the engagement of community groups neighbouring marine turtle nesting beaches in protection of these critically endangered animals. Through the HGW Programme the Forestry Division engages responsible private citizens to enforce the CoWA by granting these volunteers the powers accorded to game wardens under the CoWA.

The private sector has also demonstrated willingness to support wildlife management efforts, with, a number of energy companies supporting marine turtle conservation and the Guardian Holding Group establishing the Guardian Wildlife Fund. There are also numerous multi-sectoral committees established around the management of specific areas (for example, such committees exist for the management wetlands and ESAs), and in the development of recovery plans for threatened species (e.g. the Trinidad Piping Guan species recovery plan). However, it should be noted that many of these committees and

participatory management efforts are often advisory and inter-sectoral communication and coordination between these institutions and committees remains mostly informal.

Importantly, the existing legal framework does not readily facilitate the engagement of civil society in the management of the nation's wildlife, beyond the HGW programme. Leveraging increasing public concern and interest in wildlife management will require revision of the existing wildlife management legislation if such community co-management and other participatory arrangements are to be formalised and encouraged. Such an approach has been strongly advocated in the new NFP and NPAP, and should be extended to the management of wildlife resources.

1.4.2 Game Species (Mammals, Reptiles, Waterfowl and Cage Birds)

The Second Schedule of the CoWA lists species that can be captured/taken/killed/hunted during the open hunting season from October 1st to the end of February, by persons in possession of a State Game Licence (SGL). Part I of the Second Schedule lists the wildlife species that are classified as game species, which includes five (5) mammal species; the red-rumped agouti, collard peccary, lappe, armadillo and the red-brocket deer - and three (3) reptilian species – spectacled caiman, iguana and matte. Part II of the Second Schedule lists waterfowl species such as ducks and herons, but is also inclusive of all shorebirds (plovers, rails and sandpipers). Part III of the Second Schedule lists cage birds which are mostly seed finches that are prized for their colouration and melodious calls. In addition, the Act also prescribes limited provisions under which such cage birds can be kept in captivity.

The Act also makes the distinction that a SGL is required to hunt on state lands. However, the Act does not explicitly stipulate that a SGL is required to hunt in general which has been interpreted by some stakeholders to mean that a SGL is not required for hunting on private lands during the open season. This ambiguity is a significant challenge to management of game populations on the islands.

State Game Licences (SGL) currently issued for game species (Mammals, Reptiles, Waterfowl and Cage Birds) are colour coded and specific to a particular game species or group of species. There are species-specific SGLs for the Agouti, Wild Hog; Lappe; Armadillo; and Deer. SGLs for groups of related species include those issued for Lizards and Waterfowl. Traditionally, a person in possession of SGLs for lizards would hunt the caiman, iguana and matte. The CoWA however, does not specify the lizard species and as a consequence any species of lizard can be legally taken. A Waterfowl permit enables persons to hunt any of the species listed in Part II of the Second Schedule. These Licences include a Mandatory Hunter Return Data Form which must be completed and returned in order for the licensee to be considered for the issue of a SGL in the future. It was intended that analysis of return data would provide an indication of the population status of the game species (Mammals, Reptiles, Waterfowl and Cage Birds) populations and the impact of hunting. The data collected from the hunting return data forms have for the most part however, not been systematically analysed due to human resource constraints at the Forestry Division.

Since the enactment of the CoWA in 1958, management changes required to support wildlife conservation efforts have been effected primarily through the enactment of subsidiary regulations. There currently exist regulations for imposing daily bag limits on the taking of waterfowl particularly ducks; and the harvest of cage birds. The Forestry Division has also utilised the provisions under the Act to place limits on hunting effort during the open season including; prohibition on hunting after environmental disturbances such as severe forest fires, limiting the number of state game licences that could be issued to an individual; limiting the use of firearms, limiting hunting hours, limiting the use of dogs, and shortening the open season for certain species such as waterfowl.

In addition, it is broadly recognised by all stakeholders that the fees for obtaining access to the country's game wildlife resources, are greatly under-priced. At present, persons wishing to hunt in Trinidad and Tobago pay a fee of TT$20 per species-specific permit. Such fees do not allow for financial sustainability of the management systems established for conservation of the country's wildlife. Furthermore, the penalties for violation of the existing wildlife regulations are not considered to be a deterrent to illegal activities such as hunting in the closed season, or harming protected species. This has compounded and incentivised current levels of unsustainable harvest of wildlife by poachers in Trinidad and Tobago.

However, this practice of making minor incremental amendments to the CoWA and enacting supporting regulations to facilitate adjustments to the management regime for game species, has created ambiguity in the interpretation of the law by hunters, enforcement officials and the judiciary. There is now a need to rationalise all the amendments and regulations under the CoWA and redraft the Act to allow incorporation into the parent Act, all the changes that have been made to ancillary regulations since the Act was first enacted. Further, the Act requires radical revision to provide greater flexibility to the management agency to respond in a timely fashion to environmental changes affecting game wildlife populations and their ecosystems.

1.4.3 Vermin

The Third Schedule of the Conservation of Wildlife Act lists species that are classified as vermin. This list includes venomous snakes, bats, rats, mice and species considered agricultural pests such as the orange-winged parrot, yellow tails, and squirrels. This vermin designation means that such species can be hunted/killed/taken on privately owned land without a SGL, at any time. However, the designation does not give persons the right to hunt/kill/take vermin species on State Lands. On State Lands species classified as vermin remain protected and can only be hunted in the open season by persons possessing a SGL. There is however, ambiguity as to whether farmers leasing State Lands for agricultural purposes are permitted to hunt/kill/take vermin species on such lands. The framing of the legislation designating where species can be considered vermin has also led to much misconception by hunters, landowners and general public. It is often assumed that vermin species may be hunted anywhere they occur, that all snakes and bats can be killed, and that all parrots can be controlled. Such misinterpretation of the law can lead to declines in the populations of these species and cause significant ecological consequences for the country's terrestrial ecosystems. Additionally, the classification of all rats as a vermin

makes it legally permissible for rodents such as the Trinidad Spiny Rat *Proechimys trinitatus* to be killed on private land holdings, despite the lack of any evidence that they pose a threat to agriculture or human health.

There is therefore a need for the classification of wildlife species as vermin to be re-examined. In this regard, greater precaution should be exercised in the use of the management strategy of vermin designations as a means to control problem wildlife species. The classification of vermin should take into consideration the ecological, demographic and other natural history aspects of a potential vermin species as well as their impacts on human health and agriculture.

1.4.4 International Wildlife Trade

Some species that occur in Trinidad and Tobago are desired by international pet and horticultural traders, particularly aquarium fishes (marine and freshwater), live rocks/corals, parrots, orchids, snakes, frogs, large beetles and arachnids such as tarantulas. This trade can lead to the over-collection of high value and prized species from natural habitats which can irreversibly deplete wild populations. Trinidad and Tobago's geographical proximity to the South American mainland also makes the country an ideal transhipment point for legal and illegal wildlife trade between South America and Europe and North America. Transit of wildlife species through the country's ports of entry must be carefully monitored not only as a responsibility to neighbouring States to curtail illegal wildlife shipments that could deplete wildlife population of these countries, but also to prevent the unintentional introduction of zoonotic diseases and invasive species into the natural ecosystems of Trinidad and Tobago.

The global community has recognised these challenges and the negative impacts that the international wildlife trade poses to wildlife conservation. Accordingly, a global permit system has been established through the CITES. Trinidad and Tobago is a Party to this Convention and has designated the Forestry Division and the DNRE of the THA as National Management Authorities that administer the CITES permit system, with the Wild Life Conservation Committee (WLCC) functioning as the national CITES Scientific Authority. Notably, however, Trinidad and Tobago has not enacted enabling legislation for national enforcement of CITES. Thus, while CITES permits have been implemented as an administrative requirement for the export of wildlife, this administrative arrangement is not supported by enabling legislation.

Nonetheless, Clause 18 of the CoWA stipulates that "*No animal shall be exported or carried coastwise without the written permission of the Chief Game Warden".* This clause uses a permit system to control export of wildlife, and the Management Authorities have used this clause to mandate the administrative issue of CITES permits as a pre-condition to the issuance of an export permit under Clause 18. However, this provision of the Act is limited to species defined as "animals" under the Act. This limits its use to mammals, birds and reptiles and so does not currently apply to species such as aquarium fish, marine fishes, plants, arthropods, corals, and many plants that must be regulated under the CITES treaty. The CoWA also does not require permission of the Chief Game Warden to be

obtained for importation or transhipment of wildlife. The control of the transboundary movement (importations, transhipments and exports) of wildlife not covered under the CoWA is undertaken through the customs and plant and animal quarantine ordinances.

These limitations in the CoWA means that the administrative systems that have been established nationally for the implementation of CITES are being undertaken without the benefit of the force of law nationally. Due to these regulatory gaps, there is therefore, an urgent need for greater coordination among the CITES Management Authorities and border protection authorities, particularly the Coast Guard, Customs and Plant and Animal Quarantine to ensure enforcement of the country's obligations under CITES. These weaknesses in the current administrative and legislative framework for management of transboundary movement of wildlife highlights a critical need for legislative reforms to give the force of law nationally to CITES.

1.4.5 Invasive Alien Species (IAS)

As small-island ecosystems, Trinidad and Tobago are particularly susceptible to the negative impacts of IAS. As has been highlighted above, there is a need for the strengthening of the capacity and collaborative efforts of border protection agencies to ensure that alien species that could become invasive are not unintentionally introduced into the country. There has been ambiguity nationally as to the definition of an invasive species, which creates uncertainty about how such species are managed. In some instances, there is no doubt that a species is invasive and should be eradicated such as the pink mealy bug, giant African snail, green mussel and escaped exotic freshwater and marine aquarium fish. In other instances such as through natural colonisations and intentional introduction of biological control agents there is debate as to whether the species should be treated as invasive.

Trinidad and Tobago has had a long history of intentional introduction of biological control agents for the control of pests. The earliest known introduction was the mongoose by the British Colonial Government to control snakes on the sugar plantations. The mongoose, which is an aggressive carnivore with no natural predators in Trinidad and Tobago, has migrated from the sugar plantations and established viable populations throughout the country. Perceived negative impacts on chicken farms have led to its classification as a vermin species under the CoWA. The tilapia was introduced to control mosquitoes in cooling ponds at the petroleum refinery. This species subsequently escaped from a hatchery during a flood and established a population in the Caroni River where as it is negatively impacting the freshwater plants of the Caroni's wetland ecosystem, one of the country's three Ramsar sites.

Given the historical problems caused by invasive biological control agents, precaution is today exercised to ensure that such introductions do not become invasive. For instance, when the ladybug was introduced as a biological control agent for the pink mealy bug, the then Ministry responsible for Agriculture used the "*Code of Conduct for the Introduction, Rearing and Release of Natural Enemies*", as the basis for managing this introduction. Scientific dossiers were also developed before selection of the target natural enemy and

research undertaken between 2000 - 2008 revealed that there were no unintentional effects on other insect species.

The geographical proximity of Trinidad and Tobago to the South American mainland, its location in the mouth of the Orinoco River and influence by the outflow of the Amazon River provides numerous opportunities for natural colonisation by South American wildlife. It is known that freshwater lenses and flotillas of river debris containing snakes, amphibians, small mammals, freshwater and estuarine fishes, various invertebrates (insects, spiders, etc.) are transported to Trinidad's southwest peninsula by outflows from the Orinoco and Amazon Rivers. The wildlife transported through this mechanism can potentially establish viable populations in Trinidad and Tobago.

The challenge for wildlife managers in the absence of agreed national policy or legislative guidance has been to determine whether incidents of natural colonisation should be allowed to proceed as a natural process or treated as an alien invasion and eradicated due to concerns for potentially negative impacts on existing native wildlife populations. In this regard, a Draft National Alien Invasive Species Strategy is being finalized.

In the past, small populations of Capybara established in the south-western peninsula of Trinidad were eradicated largely because it could not be determined whether the population was established as a result of natural colonization or through the escape of specimens illegally imported from Venezuela. An individual Tapir discovered in the south-western peninsula was also eradicated despite consensus that its presence was probably the result of natural transportation from the mainland and that a single individual would not likely lead to establishment of a population.

These cases highlight the importance of a long-term wildlife monitoring programme on the south-western peninsula to track incidents of natural colonization and the impact on native wildlife. Importantly, there is a need for a national policy guidance/criteria/definition for IAS and protocols for managing such species.

1.4.6 Living Modified Organisms

Advances in modern biotechnology have enabled scientists to move genetic material from a donor organism with a desired trait, to the genetic material of an unrelated recipient organism. This allows the recipient organism to express traits of the donor organism. This type of gene manipulation was not possible through traditional techniques such as the cross fertilization of different plant varieties and cross breeding of related animals. To distinguish the resulting organism as a product of these modern biotechnology techniques from those produced by traditional gene crossing techniques, the terms genetically modified organism (GMO) or living modified organism (LMO) are now being used.

Most commercially available LMOs are agriculture crops that have been altered to provide protection from pests, tolerance to pesticides, drought resistance, salt tolerance or improve quality. The best known example of commercially available LMOs is the Bt-corn which is produced by incorporating into the corn genome, a gene from the soil bacterium, *Bacillus*

thuringiensis, that produces the Bt delta endotoxin. This endotoxin kills caterpillars, thus making the plant resistant to the European corn borer.

The intentional use of LMO crops in the environment may have negative effects including: gene transfer to wild relatives or conventional crops, weediness, and trait effects on non-target species. Although scientists disagree on degree of such risks, it is generally agreed that the environmental impacts of LMOs need to be assessed on a case-by-case basis and post-release ecological monitoring is recommended when managing such crops. LMO trees present similar environmental concerns, although there are additional concerns because of their long life cycle. Environmental concerns about LMO fish primarily focus on their potential to breed with and out-compete wild relatives. LMO farm animals would typically be used in highly confined conditions and may pose little risk to native wildlife species.

The issue of the intentional introduction of LMOs into the Trinidad and Tobago environment has been comprehensively examined by a Cabinet Appointed Committee which drafted a National Biosafety Policy (NBP). The NBP calls for the establishment of a new administrative system which would conduct an analysis of the risks and institute management systems for mitigating risk on farms before permission is granted to intentionally introduce LMOs into the environment. This policy is being considered by the Government.

1.4.7 Protected Species and Wildlife Habitat Conservation

Protected animals are defined under the CoWA as any animal not included in the Second (game species i.e. Mammals, Reptiles, Waterfowl and Cage Birds) and Third (vermin) Schedules of the Act. Animals are defined as undomesticated mammals, birds and reptiles under the Act, and as a result it confers no legal protection to amphibians, fishes, and arthropods (butterflies, other insects, spiders etc.) or wild plants. The Act also only allows animals to be taken with State Game Licences during the open season. As a result, all undomesticated mammals, birds and reptiles including snakes native to Trinidad and Tobago are fully protected during the closed season except for those classified by vermin, which can only be hunted on private lands. During the open season only animals listed in the Second and Third Schedules have limited protection as they can be hunted by persons possessing a State Game Licence, under the Conservation of Wildlife Act.

Protection of native plants is partially regulated the Forests Act, but such provisions are confined to trees and minor forest products. Certain marine species are also accorded protection under the Fisheries Act. The ESS Rules of the Environmental Management Act can be used to provide additional protection to animal and plant species. To date, only three (3) species have been designated under the ESS Rules. Notably, no amphibians, fishes, arthropods or other species have received legal protection under existing legislation. Importantly, the CoWA in its current form does not allow for elevated levels of protection or mandate recovery action for species that may be threatened with extinction.

The maintenance of viable populations of wildlife species requires the protection and conservation of the habitats where these species occur. The conservation of wildlife habitats is currently managed through the existing system of Forest Reserves, Game Sanctuaries, Prohibited Areas and ESAs. However, these protected area designations only confer limited forms of protection. For example, within a designated Game Sanctuary only hunting is prohibited. This designation does not necessarily protect wildlife habitats, because the CoWA does not prohibit the removal of forest cover in a Sanctuary. Notable examples where this has occurred include the Valencia Game Sanctuary which has been almost entirely denuded through quarrying, and the on-going habitat fragmentation within the Trinity Hills Game Sanctuary due to activities of the oil and gas industry. The ESA Rules are subsidiary legislation and cannot confer restrictions on an area that are not allowed under primary legislation such as the Forests Act and the CoWA.

In order to take more stringent management actions to protect critical wildlife habitats, the Forest Division has declared certain Forest Reserves and Game Sanctuaries as Prohibited Areas under the Forest Act, thereby limiting access to these areas by permit holders. This strategy has been employed in the Northern Range Forest Reserve, Caroni Bird Sanctuary, Bush-Bush Game Sanctuary and the Aripo Savannahs Scientific Reserve. Recognizing this limitation in the current system of protected areas, among others, the NPAP calls for a complete revision of the existing national protected areas system.

Under the new system of national protected areas, the proposed Forest and Protected Areas Management Authority (FPAMA) would be responsible for the management and administration of the national protected areas system. The Authority would conduct an assessment of the existing protected areas with a view to re-categorizing the existing protected areas into the new protected areas categories. This process of revising the national system for protected areas includes consideration of the need to maintain viable populations of wildlife species.

1.5 Issues and Main Drivers of Change

Growing human populations, industrialization and unsustainable utilization of the country's living resources have resulted in the significant deterioration of the natural environment. The rich biological diversity of the country within a very small geographic area implies that relatively small incremental losses in natural areas can have serious impacts on ecosystem integrity and resiliency of the country's wildlife.

Some of the major direct and indirect causes for wildlife loss in Trinidad and Tobago include:

- increasing transformation of remaining natural areas to industrial, and commercial landscapes, including development of roads, pipelines and other types of utility rights-of-way, flood mitigation and drainage works, infrastructure for the oil and gas industry, development of tourism in Tobago, and development of other public infrastructure;
- forest fires, which remove soil-stabilizing vegetation on hillsides;
- quarrying (strip mining for sand, limestone and gravel);

- agriculture and residential squatting, including marijuana cultivation in forested areas;
- house construction on sensitive hillsides or in forested areas;
- unsustainable agricultural practices (slash and burn, overuse of agricultural chemicals);
- invasive alien species;
- pollution of rivers, coastal and marine waters;
- natural disasters such as storms, hurricanes, drought, floods etc.
- coastal erosion;
- unsustainable extraction of wildlife, including illegal logging, illegal hunting and over-hunting (of game and protected species), and over harvesting of non-timber forest products (e.g. herbs, horticultural species and raw materials for craft);
- weak legislation and poor enforcement of existing wildlife conservation regulations;
- weak administrative institutional support for wildlife conservation;
- the absence of appropriate and sustained research on populations and habitats of wildlife as well as the broader relationships between wildlife resources and other sectors (e.g. socio-economic development, agriculture and land use), and emerging issues such as climate change;
- lack of full economic valuation of goods and services that wildlife resources provide to the country, when determining national policy;
- outdated land use planning policy that has led to ad hoc land management detrimental to wildlife conservation;
- the lack of wider institutional mechanisms that mandate and facilitate close collaboration of all State agencies in the management of wildlife and their habitats, where activities of these agencies directly or indirectly affect wildlife and their habitats (e.g. management of riverine habitats, marine ecosystems, wildlife corridors etc.);
- the lack of broader institutional mechanisms and capacity to facilitate participatory approaches to wildlife management;
- actual and perceived contradictions between the dominant development paradigm and wildlife conservation and management.

2.0 POLICY CONTEXT

The policy context for this wildlife policy includes all the existing national policies, laws, plans, budgets, programmes and practices relevant to wildlife conservation, use and management. The implementation of a new National Wildlife Policy (NWP) therefore, requires an integrated approach and should be considered in the development of impending National Land Use Policy.

The primary policy statement on the environment is the NEP. This document recognises the importance of maintaining an ecological balance, preservation of biological diversity and water conservation to national well-being and development. Sectoral policies also have important implications for the NWP. In this regard, the recently adopted NFP, NPAP and NCCP provide important context and synergies for the NWP. The NFP defines the development of a new legislative and administrative framework for the sustainable forest

resources management in Trinidad and Tobago. The NFP acknowledges that forests, forest resources and forest uses contribute significantly to national development, livelihoods and human well-being, and adopts significant policy shifts to ensure that these values are maintained and inter-generational equity of access to these resources is assured. Given that conservation and sustainable management of forests requires the maintenance of viable wildlife populations and vice-versa, the effective implementation of the NFP is critical to wildlife management efforts.

The NPAP provides guidelines for the selection, designation and management of protected areas established for the conservation of biological resources, including forests and wildlife habitats. Recognising the intimate interconnectedness of the goals and objectives of the Wildlife, Forest and Protected Areas Policies, and the inherent synergies among the administrative structures required to realise them, it is proposed that the implementation of these three (3) policies be undertaken by the proposed FPAMA.

The NCCP provides a road map for the development of an administrative and legislative framework for a low-carbon development path for Trinidad and Tobago, including sectoral and cross-sectoral adaptation and mitigation measures. In this regard, the NCCP explicitly recognises the critical role that forests play in the mitigation of, and adaptation to climate change, and highlights the need for sustainable management of forests. In this way the NCCP's implementation is supportive of the wildlife conservation and management objectives of this policy.

The specific policy framework for wildlife conservation, use and management in Trinidad and Tobago is highly complex and includes numerous policies, laws, and plans at the national level, as well as regional and international agreements and formal commitments. At the regional level, the main instrument for cooperation in the management of wildlife is the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean (also known as the Cartagena Convention), in particular its Protocol on Specially Protected Areas and Wildlife (SPAW). At the global level, Trinidad and Tobago is a signatory to all the main international agreements relevant to wildlife conservation: including CITES, the United Nations Convention on Biological Diversity (CBD), the United Nations Convention to Combat Desertification (UNCCD), the United Nations Framework Convention on Climate Change (UNFCCC) and the Ramsar Convention on Wetlands of International Importance (Ramsar).

A list of key national policies, laws and plans and international agreements relevant to wildlife conservation in Trinidad and Tobago is provided in **Appendix I**.

3.0 SCOPE AND PURPOSE

The scope of the NWP is to provide guidance on the sustainable management of undomesticated animals and plants found in Trinidad and Tobago, whether introduced, resident or migratory, their parts or derivatives thereof, and their habitats. In particular, the NWP focuses on the issues of endangerment of wild plants and animals by providing specific guidance on the management of such threatened species. It also addresses key

policy issues on the management of game species, wildlife habitat management and the engagement of civil society stakeholders in the management of wild animal and plant resources.

The NWP recognises and endorses the roles of the NFP, as the guiding policy for the management of trees and all other plants contained in forest ecosystems, and the NPAP, as the policy framework for the identification, designation, and management of protected areas including the protection of freshwater, marine and terrestrial wildlife habitats, respectively. There is therefore an intimate relationship among the NWP, the NFP and the NPAP. Together these three policies provide an integrated framework for the sustainable management of the biological resources of the country, and must be implemented concomitantly.

This Policy defines wildlife as any undomesticated plant and animal. “Animal” in this policy means all members of the animal kingdom including the Ecdysozoa (insects, crustaceans, arachnids, myriapods, round worms etc.), Lophotrochozoa (annelids, snails, clams and squids) Cnideria (corals, jellyfish, sea anemones, hydra etc.), Proifera (sponges), echinoderms (sea urchins, sea cucumbers and star fish), freshwater fishes, amphibians, mammals, reptiles and birds whether terrestrial, estuarine or marine, and whether occurring on state or private lands. This also includes any part (horn, beak, feather, shell, meat, blood, tissues, skin, skull, skeleton, carcass etc.), derivative, product, or young thereof (nest, eggs, fawn, tadpoles, larvae, pupa, nymph, chick, hatchling etc.) whether introduced, naturally colonized, endemic, resident and/or migratory.

Commercial marine fisheries are excluded from the ambit of the NWP, except where such species are designated under CITES or are found within areas designated as protected areas and vested in the FPAMA. Plants are considered to be all undomesticated members of the plant kingdom. Here plants mean all wild members of the plant kingdom including Bryophyta, Pteridophyta and Spermatophyta, and their pollen, spores, seeds and various vegetative forms (both gametophyte and sporophyte forms). For the purposes of this policy and any arising legislation, the fungi (including unicellular and multicellular protozoa, unicellular and multicellular algae) and Monera (including true bacteria and cyanobacteria) are also included in the definition of “wildlife”.

For the purposes of this NWP, wild plants are not considered to include non-native plants used as crops in agriculture, nor plants found on private property. However, the State reserves the right to ownership of all plants designated as critically endangered, endangered, threatened or near threatened, wherever they occur.

The Policy is concerned with natural and captive bred populations which include wildlife being maintained in farms, zoological collections, aquariums, aviaries, pets and travelling circuses. The NWP also applies to artificially propagated populations and specimens of any plant species designated as threatened under any of the threat categories defined in this policy. In addition, the policy document recognises the important contribution of wild species in the maintenance of ecological and agricultural processes through pollination, seed dispersal; control of agricultural pest through predation (e.g. snakes controlling rodent populations); contribution to food security and livelihoods through wildlife framing, hunting

and fisheries, recreation and ecotourism. The policy therefore defines a protected species as those which may be designated within the threatened species categories defined herein or which may require special protection, and does not include those designated as a game species, or agricultural pests.

The Policy reflects the commitment of the Government, as a responsible member of the global community, to give priority to maintaining sustainable and viable populations of endemic species and ensuring that appropriate mechanisms are established to prevent illegal trade of wildlife through the country's borders and making every effort to repatriate illegally imported endangered species to the country of origin.

In this document, "management" is understood to include all measures and actions which determine the extent to, and conditions under which, wildlife resources are conserved, accessed, used, transformed and marketed. While a few key government agencies currently have primary responsibility for implementing most of the provisions of this policy (e.g. DNRE of the THA; EMA; Fisheries Division and Forestry Division), it is the intention of the Government that the management of wildlife, forest and protected areas be coordinated by the new FPAMA.

The NWP is envisioned to be a living document that will be monitored, formally reviewed, and updated every 10 years to reflect new needs, issues, and opportunities and to allow for adaptation to changing conditions.

4.0 VISION

Trinidad and Tobago embraces a vision of national development in which the native wildlife and their habitats are ecologically healthy, biologically diverse and contributing to the well-being of all people and to the national economy in current and future generations.

To fulfil this vision, the Government in consultation with all national stakeholders shall ensure that wildlife populations will be sustainably managed and the people of Trinidad and Tobago will have a good understanding and appreciation of wildlife resources and their values including their economic and the intrinsic, ecological, social, cultural and spiritual/religious values. These values of wildlife will be considered in national development and physical planning that impacts wildlife resources, will be included in national accounting; and the management of wildlife in Trinidad and Tobago will lead to an efficient use of these resources and equitable participation of stakeholders.

5.0 GOAL

The goals of this policy are the sustainable management of the wildlife resources of Trinidad and Tobago which provide for the social, economic, ecological, cultural and spiritual needs of present and future generations and wildlife management that contributes to the sustainable development of the country and enhances the quality of human life, while at the same time protecting ecological processes.

6.0 PRINCIPLES AND VALUES

The overarching principles which have informed the formulation of this policy statement and will guide its implementation are:

Respect and care for the community of life: human beings and communities are part of a larger ecosystem in which all forms of life deserve to be respected and maintained.

Ecosystem approach to wildlife management: Wildlife resources must be managed as a key component of complex ecological systems, with the maintenance of ecosystem functions and ecological processes as a critical objective. The ecosystem-based approach assumes that all management decisions will explicitly account for the impact of those interventions on ecological patterns and processes at the landscape scale.

Evidence-based management: policy formulation and implementation must be based, to the maximum extent possible; on tangible evidence and information, including scientific data, results of scientific research, and popular or grassroots knowledge as the basis of decision-making.

Precautionary principle: in cases where there is a lack of scientific certainty as to the likelihood, magnitude, or causation of a potentially negative environmental impact, the course, or courses, of action taken will avoid serious or irreversible potential harm.

Sustainability and carrying capacity: all forms of resource use and patterns of development must remain within the capacity of specific ecosystems, and of the country as a whole, to support and maintain these activities indefinitely.

Maintenance of future options: the patterns of consumption and production that are adopted will safeguard the regenerative capacities of natural ecosystems, human rights and well-being, and thus maintain options for future generations.

Valuing of wildlife resources: the tangible and intangible (cultural, spiritual/religious) value of wildlife resources, and the goods and services they provide, are an important national heritage and must be recognised by all, and be taken into account in the design and implementation of management arrangements.

Payment for wildlife goods and services:, Users and beneficiaries of wildlife goods and services must be aware of, and contribute to, the true cost of wildlife management and conservation, including paying for the costs of loss or depletion of wildlife population caused by unsustainable activities such as hunting in the closed season and in areas where hunting has been prohibited and poaching of protected species.

Enforcement and effective control: the main challenge to giving effect to policy always rests with implementation, and policy measures and instruments have little value unless they are properly enforced. In this regard, the State, and other actors in civil society will take all measures to ensure that this policy and its enabling legislation are adequately enforced through the provision of adequate personnel and material (equipment, vehicles, etc.).

Policy Integration: wildlife management, as of all other areas of human development and natural resource management, is a complex process that must recognise the multiple functions and uses of wildlife, and must ensure that all decision-making is integrated and multi-disciplinary. This will require the wildlife policy to be linked to, and harmonised as far as is possible with, other relevant policy areas and instruments.

Adaptation and "learning-by-doing": ecological, economic, social and cultural conditions are constantly evolving and changing, and as a result policy and management responses must be able to adapt to that change, through continuous improvement and innovation. Monitoring and evaluation must form integral parts of policy implementation, with data, results and lessons being used to make management adaptive and responsive.

Accountability: there must be fairness, transparency and accountability in the formulation, adoption and implementation of policy instruments and measures.

Subsidiarity: action should be taken, and responsibility should be delegated to, the most effective and appropriate level of governance (e.g. local, national).

Empowerment, collaboration and participation: the costs, benefits and responsibility for wildlife management must be shared among all stakeholders, who share in the management of the resources and the right to participate in decision-making. The value systems, interests and priorities of all stakeholders must therefore be understood and respected.

Inter-and Intra-generational equity: patterns of wildlife use and management will ensure that there is equitable access to wildlife goods and services, for the present and future generations.

7.0 POLICY OBJECTIVES

The Government of Trinidad and Tobago recognises that all native wildlife within the national jurisdiction of the country belongs to the State, and that these resources are held in trust by the State for the benefit of the citizens of Trinidad and Tobago, of both present and future generations. Thus, in conserving, managing and developing its wildlife resources, Trinidad and Tobago will pursue the following mutually-reinforcing objectives:

1. To protect nationally and globally critically endangered, endangered, vulnerable, and/or near threatened wildlife populations, whether resident or migratory;

2. To maintain viable representative populations of native wildlife species particularly endemics;

3. To optimise the contribution of wildlife resources to livelihoods, cultural and spiritual/religious use, while ensuring sustainable use of wildlife resources, including hunting, capture of cage birds, captive breeding, artificial propagation and international trade, and non-destructive uses such as ecotourism, and ecosystem services where possible, feasible and desirable;

4. To maintain and enhance the ecological integrity of wildlife habitats in order that they continue to function to support sustainable and viable populations of wildlife species;

8.0 POLICIES TO ACHIEVE OBJECTIVES

8.1 Protection of Critically Endangered, Endangered, Vulnerable, and Near-Threatened Wildlife Species

Many wild animal and plant species that occur within the national jurisdiction of Trinidad and Tobago face the threat of extinction or local extirpation, as a direct result of human actions. The loss of these species represents a degradation of Trinidad and Tobago's national patrimony and the loss of the goods and services that such species provide to the people of the country. In this regard, Trinidad and Tobago will act to protect and recover species that are nationally critically endangered, endangered, vulnerable, or near threatened, which may or may not have a similar status globally. Such species typically have small population sizes and their vulnerability nationally may be due, for example, to limited availability of breeding or other specialized habitats, over harvesting, the impacts of IAS or due to ecosystem stressors such as pollution or climate change.

While many species deserving of designation as critically endangered, endangered, vulnerable, or near threatened may be resident species, many other threatened species are also migratory. In particular, the country's wetlands and coastal areas are especially valuable to migratory birds and as nesting beaches for migratory marine turtles. The Trinidad and Tobago Government, in recognition of its responsibility as a member of the global community and as caretaker for migratory species that are important elements of the national patrimony, shall make every effort to not only protect species that are critically endangered, endangered, vulnerable, or near threatened nationally, but species that are also globally significant.

For the purposes of this policy, the Government of Trinidad and Tobago shall adopt the following modified IUCN categories of endangerment as the scheme for designation of the degree of risk for which a species may become extinct or extirpated from the country's national jurisdiction:

- Critically Endangered – species which, based on the best available information, are considered to be at an **extremely high risk of becoming extinct in the wild** in Trinidad and Tobago
- Endangered – species which, based on the best available information, are considered to be at a **very high risk of becoming extinct in the wild** in Trinidad and Tobago
- Vulnerable – species which, based on the best available information, are considered to be at **a high risk of becoming extinct in the wild** in Trinidad and Tobago
- Near Threatened – species which, based on the best available information, are considered not to meet the criteria established for being vulnerable, but are close to attaining such a status or **may qualify for listing in the other threat categories if prevailing conditions affecting the species persists** in Trinidad and Tobago.

The details of the criteria to be used to determine whether a species should be assigned to one of these threat categories are described at **Appendix II**.

In order to ensure the maintenance of viable populations of species that may be at risk of extinction or extirpation nationally, the Government in consultation with all stakeholders shall:

i. establish a legally designated national list of animals, plants, fungi and/or Monera species, whether resident or migratory, that are critically endangered, endangered, vulnerable, or near threatened, based on the definition and criteria set-out in Appendix II, and using as far as possible, the best available local and international scientific information on the status of the populations of the species to be so designated;

ii. prohibit the capture, taking, hunting, harassing, possession, offering for sale and/or export of any species, or parts and products of any species legally designated as critically endangered, endangered, vulnerable, or near threatened, as pets, for sport, zoological exhibits or commercial purposes;

iii. strictly regulate the capture, taking, handling and possession of any species, or parts and products of any species legally designated as critically endangered, endangered, vulnerable, or near threatened, for scientific research through an appropriate permit system, particularly techniques which could cause harm to such species:

   a. trapping with nets, cages, tranquilizers etc.;
   b. attaching devices such as tags, bands, collars, radio/satellite telemetry emitter etc.;
   c. marking with paint, dyes, clipping body of parts (fins, feathers, flippers, ears, etc.)
   d. drawing body fluids such as blood, cerebrospinal fluid, semen and ova

iv. establish national standards and strictly regulate through an appropriate permit system, the operations of all captive breeding and plant propagation facilities or programmes that utilise critically endangered, endangered, vulnerable, or near threatened species;

v. strictly regulate the export of critically endangered, endangered, vulnerable, or near threatened wildlife species that originate from a nationally recognized captive breeding programmes or plant propagation programme;

vi. develop management and recovery plans for critically endangered, endangered, vulnerable, or near threatened species to facilitate the restoration of populations of these species that may include *ex-situ* conservation where necessary and appropriate;

vii. take all necessary steps to eradicate where possible, invasive species in cases where critically endangered, endangered, vulnerable, or near threatened species are at risk of extinction/extirpation by an IAS;

viii. develop captive breeding/reintroduction programmes where economically feasible and scientifically defensible for species designated as critically endangered, endangered, vulnerable, or near threatened, consistent with the regulatory system established for the possession of wildlife;

ix. establish penalties that reflect the national value of threatened species and that serve as an appropriate deterrent to wildlife crime for persons responsible for killing and/or causing harm to any designated critically endangered, endangered, vulnerable, or near threatened wildlife species, or their habitats;

x. ensure the highest level of protection possible to habitats containing viable representative populations of critically endangered, endangered, vulnerable, or near threatened species through their declaration as Scientific Reserves or Special Conservation Reserves in the new national system of protected areas, as appropriate;

xi. ensure that where habitats important for critically endangered, endangered, vulnerable, or near threatened species occur on private lands, that the FPAMA develop joint management plans with landowners for the protection of these habitats, and where no agreement can be reached, as a last resort undertake compulsory acquisition at fair market rates of such habitats; and

xii. develop public awareness and education programmes specifically relevant to designated critically endangered, endangered, vulnerable, or near threatened species, which aim to increase public understanding, participation, and support for recovery of such species;

xiii. develop compensation mechanisms in cases where the management of any designated critically endangered, endangered, vulnerable, or near threatened wildlife species or their habitats negatively impacts livelihoods;

xiv. promote the establishment of multi-agency planning teams in cases where proposed or existing management action taken by a State entity poses a risk to the viability or recovery of designated critically endangered, endangered, vulnerable or near threatened species. Such multi-agency planning teams would be chaired by the FPAMA, and serve as focal points for developing risk reduction strategies for proposed State action(s) that could harm a threatened species;

8.2 Maintain Viable Representative Populations of Native Wildlife Species

To ensure the conservation and management of the country's rich wildlife resources and genetic and species diversity, the Government, and all relevant stakeholders, shall:

i. prohibit the hunting, capture, taking, harassing, possession and sale of all wildlife species, or parts and products of such species, whether resident or migratory, unless permission has been granted by the FPAMA though an appropriate permit;

ii. strictly regulate through an appropriate legally enforced permit system the collection, possession and sale of all wild plant and fungi species not managed as timber or non-timber forest products under the Forest Act and Sawmills Act, and their parts or products, originating from areas designated as protected natural areas (PNAs);

iii. promote captive breeding and artificial propagation programmes for native wildlife, particularly for endemic species consistent with the regulatory system established for the possession of wildlife;

iv. encourage wildlife farming, and development of a system of certification, monitoring, and regulation for wildlife farms and wildlife meat shops to ensure such farming does not lead to trafficking of wild caught game including the use of genetic testing to determine identity;

v. promote scientific research on native wildlife including game species (Mammals, Reptiles, Waterfowl and Cage Birds) that provide demographic and distribution information that can be used to ensure the maintenance of viable wildlife populations;

vi. regulate through an appropriate legally enforced permit system, scientific research that could potentially cause harm to wildlife species including those that involve:

- trapping with nets, cages, tranquilizers etc.;

- attaching devices such as tags, bands, collars, radio/satellite telemetry emitter etc.;
- marking with paint, dyes, clipping body of parts (fins, feathers, flippers, ears, etc.)
- drawing body fluids such as blood, cerebrospinal fluid, semen and ova

vii. prevent or mitigate against threats posed to native wildlife by:

- IAS;
- Introduction of diseases through wildlife trade;
- planned and unplanned physical development in important wildlife habitats including in designated protected areas or areas important as wildlife corridors;
- unsustainable practices such as forest fires, squatting, unregulated quarrying, illegal logging, poaching, illegal trade wild animals, plants and their products and derivatives;
- natural disasters;

viii. strengthen monitoring and surveillance systems at ports of entry to prevent the introduction of IAS that could cause harm to native wildlife populations, including the introduction of disease;

ix. establish a scientifically robust monitoring programme for naturally colonising species especially at the south western peninsula, which can provide data to inform management actions directed at such colonising species, where such management is necessary;

x. ensure that management programmes for wildlife habitats and wildlife species are explicitly designed to ensure maintenance of viable populations in the face of the impacts of climate change;

xi. give priority to the establishment of new national system of protected areas, as recommended in the NFP and NPAP, that ensures critical wildlife habitats are conserved for the maintenance of wildlife populations, and which are explicitly designed to maintain genetic and ecological connectivity between these wildlife populations; and

xii. develop public awareness and education programmes specifically relevant to wildlife species and their habitats, that aim to increase public knowledge, support and participation in the national wildlife management programme;

xiii. develop where necessary emergency response protocols for wildlife rescue and rehabilitation, in cases of natural or man-made disaster;

8.3 Optimise the Contribution of Wildlife Resources to Livelihoods

Recognising the critical contribution of the sustainable use of wildlife resources to the socio-economic development of Trinidad and Tobago, the Government, in collaboration with all relevant stakeholders, shall:

i. within one (1) year of the adoption of this Policy, review the existing list of game species (Mammals, Reptiles, Waterfowl and Cage Birds) with a view of establishing a revised legally designated list of game species (Mammals, Reptiles, Waterfowl and Cage Birds) based as far as possible on the best scientific and local knowledge of the status of these populations and their ability to be sustainably harvested;

ii. regulate hunting, capturing, harassing and taking of designated game species (Mammals, Reptiles, Waterfowl and Cage Birds) on private and State lands through appropriate legislative, administrative and policy measures which ensure that such wildlife are sustainably extracted, without compromising the viability of their populations and ecosystem processes and services. Such regulatory systems may include:

a. designating hunting seasons for individual game species (Mammals, Reptiles, Waterfowl and Cage Birds) based on best available scientific and/or local knowledge of reproductive cycles (mating, gestation, weaning periods etc.) and the status of these wildlife species populations;

b. prohibiting the hunting, capturing, taking, possession and offering for sale of young (juveniles, fauns, piglets, hatchlings, eggs, chicks, etc), pregnant or nesting females of game species (Mammals, Reptiles, Waterfowl and Cage Birds);

c. annually regulating the number of hunting permits issued for individual game species (Mammals, Reptiles, Waterfowl and Cage Birds) in any one hunting season, based on an analysis of the best available scientific data on hunting success from the preceding season, the status of wildlife habitats, and the status of populations;

d. treating the training, practising and exercising of hunting dogs as equivalent to a normal hunt given its potential to lead to mortality of game species, and subjecting such practices to the same regulations as that proposed for regular hunting;

e. prohibiting the hunting, capturing, taking, possession and offering for sale of designated game species(Mammals, Reptiles, Waterfowl and Cage Birds), or parts and products thereof, outside of the designated hunting season for the individual game species;

f. establishing bag limits where appropriate for the hunting, capturing, taking, possession and offering for sale of designated game species (Mammals, Reptiles, Waterfowl and Cage Birds), based on an analysis of the best available scientific data on hunting success from the preceding season, the status of wildlife habitats, and the status of populations;

g. the prohibition of the commercial sale of wild caught game and waterfowl species;

h. the prohibition of the use of non-selective hunting techniques that can injure or harm non-target species such as trap guns and bird-lime ("l'aglie");

i. the prohibition of the hunting wildlife species at night;

j. stipulating the conditions under which wildlife species can be kept in captivity as pets;

iii. protect wildlife habitats of game species (Mammals, Reptiles, Waterfowl and Cage Birds) through the designation of Habitat or Species Management Reserves under the new system of protected areas defined in the NPAP. Such Habitat or Species Management Reserves will function as wildlife refuges for these species and shall be designed and managed to be of adequate size and ecologically capable of supporting viable populations of game species(Mammals, Reptiles, Waterfowl and Cage Birds);

iv. monitor and regulate the harvest, possession and offering for sale of plants and their parts and products originating from State forests, to ensure that such harvest is sustainable and does not threaten these populations, ecosystem patterns and processes supported by such plants;

v. encourage the establishment of wildlife farms for designated game species (Mammals, Reptiles, Waterfowl and Cage Birds) by offering market based incentives and low interest loans;

vi. encourage the sustainable use of wild plants and their products by promoting floriculture/horticulture as an alternative to the wild collection of such species, through market based incentives and low interest loans for the development of such closed system farming of wild plants;

vii. review the current list of vermin, within (1) year of the adoption of this Policy, through the development of scientifically defensible criteria and a public consultation process, which identifies agricultural pest species that:

a. can be hunted, captured and taken on private or leased state lands without a permit; or

b. can be hunted, captured and taken on private or leased state lands with a permit.

viii. regulate hunting, capturing, taking and possession of those designated agricultural pest species that require a permit on private lands or leased state lands through appropriate legislative, administrative and policy measures to ensure that such pest wildlife are sustainably controlled, without compromising the viability of their populations and ecosystem processes and services that they provide, by:

a. granting permission to the owner of private lands or the holder of a lease for agricultural state lands to hunt, capture and take those designated agricultural pests only upon the submission to the FPAMA of:

- documented evidence that the private lands or leased state lands in question are currently being used for agricultural production;
- and certification by an Agricultural Officer that the designated agricultural pests are having an impact on agricultural production;

b. limiting permission for private land owners or the holder of a lease for state lands to hunt, capture take, and possess designated agriculture pests to a period of one (1) year, which would be subject to renewal based on the submission of an independently verified annual report on agricultural pests that were hunted, captured and/or taken in the preceding year;

c. prohibit the offering for sale of designated agriculture pest species hunted, captured or taken under permits issued for control of such species; and

d. prohibit the hunting, capturing, taking and possession of agriculture pest species on State lands, except where permission is granted under (a) above;

e. promote the use of non-lethal methods (such as integrated pest management and translocation) for control of agricultural wildlife pest;

ix. regulate the transboundary movement (import, export, re-export, and transit) of all wildlife species (CITES and non-CITES regulated species) through an appropriately legislated permit system.

x. develop an appropriate mechanism to allow the University of the West Indies, the University of Trinidad and Tobago, and other appropriate entities to function as CITES Scientific Authorities, and to put in place adequate

budgeting to allow the FPAMA to provide Secretariat services for the designated national CITES Scientific Authority(ies);

xi. strengthen the capabilities of border protection agencies including the Coast Guard, Police Service, Customs and Plant and Animal Quarantine to prevent the illegal transboundary movement of wildlife species;

xii. promote the sustainable development of nature-based tourism on both private and State lands;

xiii. provide equitable access to, and manage recreational opportunities (e.g. hiking, bird watching) for, all stakeholders;

xiv. promote a positive cultural relationship between people and wildlife, including the prevention of cruelty to wildlife;

xv. support lifestyles that value the livelihood benefits of wildlife, both in rural communities and in urban spaces;

xvi. develop legislative, administrative and policy measures to protect intellectual property rights arising from the utilisation of wildlife resources;

xvii. ensure that the results of research and development, including traditional knowledge, and the benefits arising from the commercial and other utilisation of wildlife resources are shared in a fair and equitable way, which benefits local and national stakeholders; and

xiv. develop public awareness and education programmes that aim to increase public knowledge, recognition, and support for the value of wildlife in providing sustainable livelihoods to local people;

8.4 Maintain and Enhance the Ecological Integrity of Wildlife Habitats

In order to maintain and enhance the natural productivity of wildlife habitats and ecological processes, the Government, in collaboration with all key relevant stakeholders, shall:

i. ensure that lands best suited for wildlife habitats particularly for the maintenance of viable populations of game, endemic, critically endangered, endangered, vulnerable, and near threatened species remain ecologically intact;

ii. identify, protect and manage wildlife habitats providing key ecological services, including areas that are:

- important game, endemic, critically endangered, endangered, vulnerable, and near threatened species habitats;

- significant stop-over, wintering, breeding, or corridor habitats for migratory species;
- critically important watersheds and freshwater habitats including riverine ecosystems;
- important for soil conservation and prevention of land degradation (e.g. steep slopes);
- protecting land vulnerable to natural disasters;
- providing coastal protection (e.g. coastal mangroves, marshes and wind-belts);
- providing protection for sensitive ecosystems (e.g. coastal wetlands protecting reefs, sea-grass beds and fish spawning grounds);
- important in climate regulation;
- important in agricultural production;
- important for maintaining genetic and demographic connectivity for wild animals and plants (e.g. wildlife corridors); and
- important for natural colonisation and dispersal processes;

iii. manage wildlife habitats to ensure maintenance of evolutionary and ecological processes;

iv. conserve ecologically functional wildlife habitat areas found on both State and private lands in Trinidad and Tobago including:

- ecological corridors and buffer areas (including agricultural land and other semi-natural ecosystems of importance to biodiversity conservation);
- critically threatened ecological communities;

v. conduct appropriate rehabilitation and restoration of wildlife habitats, including in threatened, sensitive or critical areas (e.g. steep slopes in upper watersheds, ecological corridors, buffer zones) and degraded areas (e.g. abandoned quarries and non-productive agricultural areas). This will include use of appropriate native species in all reforestation initiatives, with the primary goal of returning forests to their natural biodiversity;

vi. recognise the importance of land uses that contribute to wildlife habitat conservation and ecological services and promote the establishment or maintenance of wildlife habitats in urban and industrial areas and sustainable agriculture systems (including agro-forestry); and

vii. utilise wildlife species especially keystone species such as amphibians, fishes and aquatic arthropods as an early warning system to detect the impacts of pollution, climate change, etc. on important wildlife habitat.

9.0 POLICIES TO GUIDE IMPLEMENTATION

Implementation of the above policies will require integration of existing and proposed national land use and physical development planning, the establishment of enabling policies, laws, management arrangements (including mechanisms for participatory management and conflict management), technical and financial instruments, capacity building, knowledge management and knowledge sharing, livelihood development, research, education and awareness and cooperation at the regional and international levels. These specific actions are outlined below.

9.1 Management Arrangements

In order to administer and effectively manage the implementation of this National Wildlife Policy, the Government, in collaboration with all relevant stakeholders, shall:

i. undertake within three years of adoption of this Policy, the establishment of a FPAMA to administer the coordination and implementation of the National Wildlife Policy on the island of Trinidad. This Authority shall:

   a. be established so as to facilitate:

      i. efficient coordination of sustainable wildlife management;
      ii. transparency and accountability in wildlife management;
      iii. development of partnerships with stakeholders for participatory wildlife management;
      iv. flexibility in responding to wildlife management needs;
      v. development of the necessary multi-disciplinary capacity for wildlife management;
      vi. human resource management that is suitable to the special demands of managing wildlife and their habitats; and
      vii. independent access to and management of funding;

   b. have an Executive Board to guide its operations including the recruitment of the Managing Director/Chief Executive Officer of the Authority. The Board shall comprise representation from government, community organisations, non-profit organisations, academic institutions, and the private sector. Its membership will encompass the disciplines of protected area management, environmental management, wildlife management, ecology, land use planning, tourism, fisheries, forestry, social and community development, local government, law, and business. Among the membership of the Executive Board, one member shall represent the Tobago House of Assembly, while the Director of Town and Country Planning and the Commissioner of State Lands shall serve as ex-officio members;

   c. appoint such committees, working groups, or councils to assist in the performance of its functions;

d. enter into contracts with national, regional and international agencies involved in wildlife management;

e. establish, administer and utilise a Forestry and Protected Areas Fund to enable implementation of this Wildlife Policy. The Fund will be financed via the deposition of donations, grants, subventions, penalties and fees (including compensation payments) collected in relation to the implementation of the Wildlife Policy and its enabling legislation, and from external sources such as multilateral donor agencies and Governments;

f. establish and maintain a regional network of offices, and develop an information technology network and suite of e-services that would facilitate the decentralization of its services to enable the efficient and economic administration of wildlife resources;

g. ensure the highest level of protection to endemic, critically endangered, endangered, vulnerable, and near threatened species and their habitats including the development of captive breeding/reintroduction programmes and rehabilitation of degraded habitats;

h. have the power to seize and dispose of any wildlife species for which permission has not been explicitly granted by the Authority or where the holder of such permission has violated the conditions under which such permission was granted;

i. have the power to issue fines and penalties for violations of wildlife regulations that have been made consistent with this policy;

j. have the power to remove squatters from lands vested in the Authority particularly those that are habitats for endemic, critically endangered, endangered, vulnerable, or near threatened wildlife species;

k. have the power to modify the length of the hunting season, the conditions under which hunting permits are issued; the dates for opening and closing of the hunting season, species that could be hunted; establish fees and penalties for violation of wildlife management regulations; and all other management issues that may be related to the regulation of hunting;

l. have sufficient staffing, training and equipment, and establish and maintain a regular in-service training programme for wildlife management/conservation staff on wildlife and habitat management techniques, including law-enforcement, so as to effectively and efficiently implement this National Wildlife Policy;

m. function to:

i. regulate the harvesting and management of game species (Mammals, Reptiles, Waterfowl and Cage Birds), and agricultural pest through an appropriate legislated permit system;

ii. function as Trinidad and Tobago's management authority for CITES and regulate the transboundary movement (import, export and transit) of wildlife species (CITES and non-CITES), through the seizure of illegally imported wildlife and its repatriation to a range state for the species involved;

iii. collaborate with the Fisheries Division, border protection agencies (Customs, Coast Guard, Animal and Plant Quarantine), and international law enforcement and monitoring agencies (e.g. CITES and Interpol) to prevent the illegal trade of wildlife and the introduction of IAS;

iv. develop a scientific robust programme for monitoring natural colonisation by wildlife species especially at the South Western Peninsula of Trinidad;

v. collaborate with relevant authorities in the granting of approval for the intentional introduction of the LMOs into the environment;

vi. develop and implement policies and programmes for the efficient management of wildlife in Trinidad and Tobago, including recommendations for the revision and updating of this National Wildlife Policy and its enabling legislation;

vii. implement provisions under national laws and regulations governing wildlife resources;

viii. make recommendations for the rationalisation of policies, laws, regulations, and administrative arrangements for the management of wildlife resources in Trinidad and Tobago;

ix. collaborate with relevant government agencies and other stakeholders (civil society, NGOs, CBOs, private sector, Universities, Hunting Associations, etc.) for management of wildlife resources, including:

- the management of areas surrounding critical wildlife habitats so as to minimise negative impacts;
- convening multi-agency planning/mitigation teams in cases where proposed or existing management action by a State entity could pose a risk to the viability or recovery of a designated critically endangered, endangered, vulnerable or near threatened species, or their habitats ;

- development of mechanisms for sharing of information and resources;
- development of collaborative management/co-management or delegated responsibility arrangements for issues related to management of non-commercial wildlife species in marine protected areas;
- development and implementation of collaborative programmes (e.g. for research and management);
- development of formal collaborative mechanisms with implementing agencies and national focal points for Ramsar, SPAW, CITES, CBD, UNCCD and UNFCCC treaties to ensure that development of agency's wildlife work-plans and programmes are consistent with agreed MEA targets
- national law enforcement (include Police, Defence Force, municipal authorities, etc.);
- development of mechanisms for controlling the introduction of species in ballast water.

x. establish and implement appropriate management arrangements for wildlife that may include provisions for management of wildlife species and their habitats by communities, civil society organisations, or the private sector;

xi. delegate management functions to relevant government agencies and other appropriate stakeholders as necessary;

xii. establish multi-stakeholder management committees as required to coordinate and facilitate the management of particular wildlife species and habitats. These would include representatives of all of the government agencies with responsibility for wildlife management as well as other key stakeholders from civil society and the private sector;

xiii. collaborate with existing national committees with responsibilities and interests relevant to wildlife management;

xiv. strengthen the financial and human capacity of key government agencies and other stakeholders with responsibility for and involved in wildlife management;

xv. strengthen structures and mechanisms for effective inter-agency and inter-sectoral communication, collaboration and coordination which may be facilitated via Memoranda of Understanding, periodic meetings of senior policy makers and technocrats, mechanisms for sharing of information and resources, development and implementation of collaborative programmes (e.g. for research, for coordination of marine and freshwater wildlife management in protected areas, enforcement of legislation to enable this Policy, etc.);

xvi. produce an annual “State of Wildlife Resources Report” to be presented to the Parliament, which includes a summary statement on numbers of personnel assigned to, and funds allocated for, specific wildlife management programmes and annual management targets;

xvii. develop and implement a monitoring and surveillance system (including use of remote sensing tools) for wildlife species populations;

xviii. design a mechanism in collaboration with the THA for the coordination of the implementation of the National Wildlife Policy on the island of Tobago, consistent with the Tobago House of Assembly Act of 1996;

xix. design a mechanism for strengthening the efficiency of the administration of judicial matters relevant to the implementation of this policy;

xx. until such time as the FPAMA is established the Forestry Division shall assume responsibility for the implementation of the goals and objectives stated in this policy.

9.2 National System for Protected Areas

Wildlife species are intricately linked and interdependent on their habitats. Wild animal species are important pollinators, seed dispersers and decomposers, while wild plants provide the structural diversity, primary productivity and ecosystem services that support the animal diversity. Wildlife habitats provide shelter, nesting sites, nursery areas, water and food resources for wildlife species. In order to maintain viable populations of wildlife, it is necessary for the maintenance of ecological functions of critical wildlife habitats. Therefore, to ensure the protection of these ecological functions, the Government, in consultation will all key stakeholders shall review the existing national system of protected areas and establish a new administrative and legislative framework for protected areas that includes new classifications for protected areas as approved in the National Protected Area Policy. In this regard, the government shall:

i. assess the existing protected areas with a view to re-designating existing Game Sanctuaries, within five (5) years of the adoption of this Policy, to suitable categories in new protected areas Classification System as approved in the National Protected Areas Policy of 2011 (including: Scientific Reserves, Special Conservation Reserves, National Parks, Natural Landmarks, Habitat or Species Management Areas, Protected Landscapes or Seascapes, or Sustainable Use Reserves);

ii. provide the highest level of protection to the habitats of endemic, critically endangered, endangered, vulnerable, and near threatened species through designation where possible as Scientific Reserves or Special Conservation Reserves;

iii. establishment of mechanisms to ensure geographic, ecological and genetic connectedness among protected areas;

iv. conduct a national gap analysis to identify priority areas for designation as new protected areas, and in particular, areas important as wildlife corridors;

v. determine and implement targets for protected areas coverage with the intention to exceed international norms for the proportion of terrestrial and marine areas designated as protected areas.

9.3 Participatory Management

In order to ensure equitable and effective participation of the private sector and civil society in the management of wildlife resources and habitats, the Government, in collaboration with all relevant stakeholders, shall develop and adopt appropriate enabling legislative framework and policy guidelines to:

i. institutionalise co-management and other forms of participatory wildlife management, including mechanisms for stakeholder participation in the development, implementation, review and evaluation of all policies, plans and reports;

ii. facilitate management of wildlife species on private lands especially those that are endemic, critically endangered, endangered, vulnerable, and/or near threatened to advance the objectives of this National Wildlife Policy (e.g. through voluntary compliance, market based incentives, facilitative tax structures and compensation programmes, enforcement or land acquisition as a last resort); and

iii. enable delegation of appropriate management responsibilities (including monitoring and enforcement) to civil society and the private sector (e.g. community-based patrols, honorary wardens, community wardens) where possible and desirable, and where such delegation will lead to improved wildlife management.

9.4 Conflict Management

Recognising that different stakeholders with sometimes conflicting perspectives and interests are involved in and affected by decisions on wildlife conservation, use and management, the Government, and all relevant stakeholders, shall ensure that conflicts in the implementation of the National Wildlife Policy are resolved in a manner that is in alignment with the principles and values articulated in this Policy. In this regard, the mandate of the Environmental Commission will be extended to adjudicate appeals of decisions taken by the FPAMA.

9.5 Legislation

The revision, development and declaration of supporting legal instruments (laws and regulations) will be required to implement this National Wildlife Policy and to achieve harmonisation with the existing legislative framework. In order to achieve this, the Government, in collaboration with all relevant stakeholders, shall within 3 years of the adoption of this policy:

i. revise the Conservation of Wildlife Act (Chap. 67:01) and other key enabling laws and regulations to give effect to all policy statements in this National Wildlife Policy;

ii. amend the Environmental Management Act (Chap. 35:05) and the Town and Country Planning Act (Chap. 35:01) to:

   a. include in relevant regulations the compulsory conduct of environmental impact assessments (EIA) for developments and projects that could potentially affect critical wildlife habitats.
   b. amend the Certificate of Environmental Clearance (CEC) Rules of the Environmental Management Act (Chap. 35:05) to require, subject to consistency with the land use policy, that where wildlife habitats are cleared there must be habitat restoration to ensure 'no net loss' of habitat extent and/or quality of those areas;

iii. develop new enabling laws and regulations to give legal status to the objectives in this National Wildlife Policy, including:

   - establishment of a Forest and Protected Areas Management Authority (FPAMA)
   - establishment of a Forest and Protected Areas Fund
   - designation of the Environmental Commission as the appellate court for actions by the FPAMA
   - guide the conservation, use and management of wildlife resources on private lands (including through a spectrum of mechanisms from voluntary compliance and incentives to government intervention) in sensitive or critical wildlife habitat areas or where activities are having a significant negative impact, including enforcement and acquisition, with compulsory acquisition a last resort;
   - institutionalise participatory wildlife management, including developing legally binding agreements (e.g. conservation easements) between State, private and civil society organisations including CBOs and NGOs;
   - establish an appropriate structure of fines that will serve as a deterrent to inappropriate use of wildlife resources and the degradation of their habitats;
   - use Protected Areas Management Plans and Species Recovery Plans as key technical instruments;

- implement obligations under the multilateral agreements to which Trinidad & Tobago is a signatory (e.g. Ramsar, UNCCD, CITES, CBD, Rio+20, and the SPAW Protocol);
- provide for government intervention on private lands where necessary to conserve endemic, critically endangered, endangered, vulnerable, and near threatened species and their habitats;
- provide for the protection of intellectual property rights for wildlife-derived products and processes;
- establish an appropriate framework for access to wildlife resources by researchers and the sharing of the benefits derived from such research

9.6 Harmonising Policies

In order to ensure that there is harmonisation of relevant policies and programmes with this National Wildlife Policy, the Government, and all relevant stakeholders, shall:

i. address any areas of conflict with existing and proposed policies and programmes (e.g. Quarry Policy, agricultural incentives programme, energy policy, trade policy, fisheries policy, Integrated Water Resources Management Policy, transport policy, etc.) through a multi-sectoral collaborative approach;

ii. integrate the provisions of this National Wildlife Policy into existing and proposed policies (e.g. National Land-Use Policy, National Physical Development Plan, NAPCLD, Draft Chaguaramas Development Plan, Integrated Water Resources Management Policy, tourism and agriculture policies, etc.);

iii. address gaps and areas of overlap with existing approved policies, plans and programmes (e.g. NBSAP, NAPCLD, etc.) to ensure coherence and complementarity.

9.7 Technical Instruments

In order to develop and implement various technical instruments to give effect to the vision, goal, principles and objectives of this National Wildlife Policy, the Government, and all relevant stakeholders, shall:

i. coordinate sectoral and agency strategic programmes/plans and work programmes/plans;

ii. formulate and adopt legally binding Wildlife Recovery Plans for all designated critically endangered, endangered, vulnerable, and/or near threatened species to facilitate the continued ecological viability of their populations;

iii. define and adopt standards for wildlife products and services (e.g. nature-based tourism attractions);

iv. formulate and adopt Codes of Conduct/Practice for managers and wildlife resource users from government, civil society and the private sector on matters including ethical treatment of captive wild animals, wildlife rehabilitation, acceptable hunting practices, etc.;

v. develop and adopt Memoranda of Understanding (MOU) with private landowners, civil society and private sector organisations in the co-management of wildlife resources, where such MOUs are necessary to ensure the conservation of wildlife.

9.8 Financial Mechanisms

In order to ensure the development of mechanisms for the sustainable financing of wildlife management in Trinidad and Tobago, the Government, and all relevant stakeholders, shall:

i. create and use the Forest and Protected Areas Fund as a mechanism to directly channel funds from users to wildlife and wildlife services, including ~~through~~ the use of schemes for payments for ecosystem services that can provide incentives to private landowners to conserve wildlife and wildlife habitats;

ii. provide adequate annual budgetary allocations in relevant Ministries and agencies responsible for wildlife management;

iii. implement the Green Fund in a manner that supports and strengthens civil society participation in wildlife management;

iv. facilitate revenue collection through application of appropriate fees for access to wildlife resources, payments for ecosystem services, taxes, and penalties and charges for offences and caution fees or bonds;

v. use caution fees, bonds or other financial mechanisms to ensure restoration of critical wildlife habitats following potentially negative activities and development (including payments for damage to wildlife habitats as a result of development activities);

vi. provide fiscal incentives to private and community owners and managers of wildlife and wildlife habitats (e.g. waiver of land taxes for abandoned land that is allowed to revert to forests or is reforested, or for deliberate species recovery actions for threatened species by a private landowner);

vii. provide adequate funding for wildlife research;

viii. ensure harmonisation of incentives for wildlife management and conservation with other fiscal policies (e.g. through taxation, market-based incentives and subsidy schemes),

ix. ensure that perverse incentives that encourage abuse of wildlife resources are eliminated from national fiscal policies;

x. take advantage of opportunities offered by new global environmental markets (e.g. carbon trading), whenever they are relevant and potentially beneficial to wildlife conservation in Trinidad and Tobago;

xi. partner with the private sector to commercialise goods and services from wildlife resources, in particular biotechnological goods and services, where such commercialisation does not lead to negative impacts on wildlife species and their ecosystems;

xii. ensure that the benefits of commercialisation of goods and services arising from biotechnological exploitation of native wildlife, are equitably shared by all stakeholders;

xiii. partner with the private sector to support sponsorship of wildlife management, conservation and public education; and

xiv. develop a cost-recovery mechanism for actions taken by the FPAMA, THA or other State agencies to suppress the destruction of wildlife, and their habitats by forest fires on private properties, when such actions are in the public interest.

9.9 Capacity Building

In order to facilitate effective participatory wildlife management in Trinidad and Tobago, the Government, in collaboration with all relevant stakeholders, shall:

i. build the capacities of stakeholders from government, civil society and the private sector in:

- skills both in technical aspects of wildlife management as well as best practices and broader management skills (e.g. habitat management, endangered species recovery, IAS management, communication, stakeholder mobilisation, facilitation, conflict management); and
- understanding multiple value systems, world views, beliefs, cultures and perceptions concerning how wildlife should be used and managed and how people should be involved;

ii. provide resources to assist Non-Governmental Organisations (NGOs) and Community-based Organisations (CBOs) to effectively participate in wildlife management (this may include the provision of technical assistance, financial or material resources, access to and rights to manage wildlife habitats, offices and facilities, etc.) ;

iii. improve and adapt the skills-mix and increase the number of staff in key government agencies at technical and professional levels (including through

succession planning, upgrading of the capacity of wildlife managers through in-service training and the designation of new positions such as population biologists, landscape ecologists, rural sociologists, environmental economists, community officers, etc. as may be relevant); to improve the administrative and management efficiency and effectiveness of the key government agencies;

iv. continue to and improve technical level training on wildlife management and conservation, (e.g. diploma programmes through the UTT, and professional development training at the UWI);

v. strengthen related programmes at the undergraduate and graduate levels (e.g. in biodiversity conservation, wildlife management, landscape ecology, conservation biology, natural resource management);

vi. promote the development of a local undergraduate and graduate programme in wildlife management that has potential for attracting national, regional and international students to ensure the viability of such programmes;

vii. enhance training in participatory wildlife management for both government and civil society stakeholders;

viii. institutionalise mechanisms for continuing professional education of wildlife managers in the public service which will include the provision of information related to the country's international commitments to wildlife relevant treaties;

ix. develop terms and conditions of employment within the FPAMA and THA that are appropriate to the exigencies of wildlife management;

x. promote study visits, exchange programmes and short professional workshops and seminars to national, regional and international higher education institutions, government agencies and CBOs and NGOS, as a means to develop human resource capacity within the FPAMA, THA and the civil society partners involved in wildlife management;

xi. build partnerships between management agencies and academic institutions to strengthen the use of relevant research by management agencies and to provide guidance on research priorities for wildlife management and conservation to academic institutions;

xii. build formal and informal partnerships between national, regional and international academic institutions to enhance the development and delivery of diploma, undergraduate and graduate programmes on wildlife management and conservation; and

xiii. build "academic tourism" by fostering and supporting programmes that bring regional and international students to Trinidad and Tobago to study wildlife management.

9.10 Research

In order to facilitate effective research and monitoring to inform decisions regarding wildlife management in Trinidad and Tobago, the Government, and all relevant stakeholders, shall:

i. facilitate and support the design and implementation of an integrated Wildlife Research Agenda and Programme to support wildlife management with the involvement of key stakeholders from government, academia, civil society and the private sector (including FPAMA, THA, UWI, UTT, the Central Experimental Station, COPE, Asa Wright Nature Centre, and other NGOs);

ii. promote and support use of the best available technologies (including Geographic Information Systems (GIS), satellite-based remote sensing and other forms of telemetry, and computer-based modelling) to facilitate management of wildlife;

iii. ensure the design, identification, surveying and boundary demarcation of the various categories of PNA that will ensure conservation of viable wildlife populations by the FPAMA and the THA;

iv. collect baseline data and conduct continuous and periodic inventories of wildlife populations and their habitats, using appropriate technology, including GIS, Remote Sensing, satellite imagery etc., by the FPAMA, the THA and other agencies with management responsibility;

v. collect ecological data to guide a broad ecosystem approach to wildlife management, sustainable use and conservation, including information on:

- direct and indirect threats to wildlife
- status and distribution of wildlife populations particularly critically endangered, endangered, vulnerable, near threatened, endemic, game, invasive and keystone species;
- wildlife health
- location, extent and status of critical wildlife habitats;
- extent and location of degraded wildlife habitats;

vi. collect socio-economic data on the links between wildlife resources and their related goods and services and the livelihoods of local people;

vii. conduct an economic valuation of the direct and indirect benefits of wildlife resources and their related services to the people of Trinidad and Tobago, for inclusion in national economic accounting;

viii. use traditional knowledge to inform management; and

ix. ensure provision of appropriate levels of financial support for wildlife research in Trinidad and Tobago.

x. promote collaboration with foreign-based researchers to strengthen the research capability of local stakeholders and management agencies, particularly where such techniques, skills or resources are unavailable locally.

9.11 Knowledge Sharing and Knowledge Management

In order to facilitate effective information access and exchange, information management, and use of traditional knowledge for wildlife management in Trinidad and Tobago, the Government, and all relevant stakeholders, shall:

i. develop a national system for rationalising and standardising ecological, social and economic data-collection and management;

ii. develop a national public-access database on wildlife management;

iii. ensure that protocols are developed to ensure that data held by public institutions relevant to wildlife conservation and management (including remote-sensing and GIS data) and information are shared by, and available to all government agencies, academic and research institutions, the private sector, civil society and local people (at the national, regional and international levels);

iv. ensure that national and local stakeholders have equitable access to, and benefit from, information and knowledge on wildlife resources, including information and knowledge of foreign stakeholders (including researchers).

9.12 Livelihood Development

In order to ensure that benefits from wildlife resources are equitably distributed to the people of Trinidad and Tobago, the Government, and all relevant stakeholders, shall:

i. develop community based programmes that will enable community stakeholders to benefit from management and use of wildlife resources;

ii. provide technical and financial support for sustainable wildlife-based industries and small businesses, particularly the farming of game species, ecotourism, tour guiding, commercialisation of wildlife genetic resources;

iii. ensure equitable, sustainable access of the population to wildlife resources and recreation etc., which does not compromise the viability and resiliency of wildlife populations;

iv. develop mechanisms to ensure that the benefits derived from the commercial applications of the country's biological resources by foreign and local researchers and companies are equitably shared with the national community; and

v. explore the use of payment for ecosystem services as a mechanism to capture currently un-valued ecosystem benefits, provided by the country's wildlife.

9.13 Education and Awareness

Recognising that awareness and understanding of the economic, social, cultural values (including scientific and recreational values) and the intrinsic value of wildlife resources are essential for successful implementation of this National Wildlife Policy, the Government, and all relevant stakeholders, shall:

i. integrate educational programmes on wildlife conservation into primary and secondary school curricula, particularly the geography, environmental science, integrated science and biology curriculum;

ii. partner with tertiary institutions to establish and/or enhance existing programmes on wildlife conservation and management;

iii. partner with the private sector and media (print and electronic) on education and awareness programmes;

iv. strengthen public awareness programmes and initiatives targeting key audiences (e.g. decision-makers, wildlife users, hunters, tour guides, community groups) utilising a variety of methods and media including the internet.

v. promote the development of multimedia and informal educational materials to engage the young, including preschool children on wildlife conservation

9.14 Regional and International Programmes

Recognising that Trinidad and Tobago has obligations under a number of international agreements, and that these and other international initiatives provide opportunities to facilitate and support wildlife conservation, use and management in Trinidad and Tobago, the Government, and all relevant stakeholders, shall:

i. cooperate with regional and international partners and participate in regional and international programmes for the implementation of this National Wildlife Policy, including participation in and implementation of relevant Multi-lateral Environmental Agreements (e.g. SPAW, CBD, UNCCD, UNFCCC, and CITES);

ii. provide support to enable enhancement of the participation of civil society (NGOs, CBOs, etc.) in all aspects of the implementation of relevant Multi-lateral Environmental Agreements, including the incorporation of civil society representation on national delegations to international environmental negotiations.

9.15 Monitoring, Evaluation and Reporting

Monitoring, evaluation, reporting and review will be integral parts of the policy implementation and management process, in order to ensure that the provisions of the National Wildlife Policy remain relevant to current and emerging needs, that lessons gained from experience are applied, changes are made whenever necessary, and that there is full transparency and accountability in the management of the country's wildlife resources. To achieve this objective, the Government, and all relevant stakeholders, shall:

i. ensure that participatory monitoring and evaluation (M&E) of implementation of the National Wildlife Policy is coordinated by an independent inter-sectoral committee for monitoring and evaluation (ICME), mandated through legislation and appointed by Cabinet, with administrative support from the FPAMA. This ICME will be appointed by the Minister with responsibility for wildlife management, and include representation from the Tobago House of Assembly, the EMA and other relevant government agencies, the private sector and civil society with responsibility for, and interests in the implementation of the Policy. The ICME will be authorised to convene specialised committees to focus on specific areas of implementation of this NWP, and related activity of the FPAMA;

ii. ensure that monitoring is based on relevant science, is continuous and informs adaptive management by the FPAMA and other implementing agencies and organisations;

iii. conduct a comprehensive review of the National Wildlife Policy every ten years;

iv. ensure that any minor revisions or adjustments needed to the NWP are coordinated by the Ministry under which the FPAMA falls, and are approved by the inter-sectoral committee;

v. ensure that the results of any review of the National Wildlife Policy by the Cabinet-appointed ICME are reported to Cabinet and the FPAMA, with any recommendations for substantial policy revisions;

vi. ensure that the review of the implementation of this National Wildlife Policy is linked to, and integrated into, other national M&E and reporting requirements (e.g. reporting obligations under international conventions) by including representatives of the agencies responsible on the Cabinet-appointed ICME; and

vii. ensure that all reports and results from the M&E process are made available to the public, in a timely fashion.

GLOSSARY

AGRICULTURAL OFFICER: in this policy means an official of the Ministry with responsibility for agriculture, who has been officially designated by that Ministry to verify that the activities of pest species have led to loss of agricultural crops;

ANIMAL: includes all members of the animal kingdom including the Ecdysozoa (insects, crustaceans, arachnids, myriapods, round worms etc.), Lophotrochozoa (annelids, snails, clams and squids) Cnideria (corals, jellyfish, sea anemones, hydra etc.), Proifera (sponges), echinoderms (sea urchins, sea cucumbers and star fish), freshwater fishes, amphibians, mammals, reptiles and birds whether terrestrial estuarine or marine, occurring on state or private lands. This also includes any part (horn, beak, feather, shell, meat, blood, skin, skull, skeleton, carcass etc.), derivative or young thereof (nest, eggs, fawn, tadpoles, larvae, pupa, nymph, chick, hatchling etc.) whether introduced, naturally colonised, endemic, resident and/or migratory. Commercial marine fisheries are excluded, except where such species are designated under CITES or are found within areas designated as protected areas and vested in the FPAMA.

BIODIVERSITY: is the variability among living organisms; this includes diversity within species (genetic diversity), between species and of ecosystems.

CO-MANAGEMENT: is a process of management by which government shares power with stakeholders, with each given specific rights and responsibilities.

CONSERVATION: is an integrative approach that ensures the protection and management of biodiversity by using appropriate principles from biological, social science and economic fields

COVER (FOREST): is the percentage of a fixed area covered by the crown of an individual plant or delimited by the vertical projection of its outermost perimeter.

DEFORESTATION: is the long-term or permanent loss of forest cover.

ECOSYSTEM: is a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.

ECOLOGICAL CORRIDOR: is a route that allows movement of individual species from one area to another.

ECOLOGICAL PROCESS: is a continuous action or series of actions that is influenced by one or more ecosystems.

ECOSYSTEM SERVICES: include provisioning services such as food, water and energy; regulating services such as flood, air purification and disease control; cultural services such as spiritual, recreational; education, scientific and cultural benefits, and supporting services such as nutrient cycling and soil generation.

ENDEMIC SPECIES: is a species that only occurs in Trinidad and Tobago.

ENVIRONMENT: is all land, area beneath the land surface, atmosphere, climate, surface water, groundwater, seas, marine and coastal areas, seabed, wetlands and "natural resources".

ENVIRONMENTALLY SENSITIVE AREA (ESA): is part of the environment that is a significant part of a country's natural heritage and of great importance to the sustenance of life, science, the country or the international community. An ESA may even include areas with natural assets, which if destroyed could severely affect the economy of the country or even the possibility of life for endangered, vulnerable or endemic species of animals or plants dependent on the area.

EX-SITU CONSERVATION: the conservation of biological diversity outside of its natural habitats.

FAUNA: all animals that occur in Trinidad and Tobago.

FLORA: all plants that occur in Trinidad and Tobago.

FORESTRY: is the science, art and practice of understanding, managing and wisely using the natural resources associated with, and derived from forests.

FORESTS: are ecosystems occurring on areas of land with existing or potential tree canopy of at least 50% that cover a minimum land area of 0.4 ha.

FOREST DEGRADATION: changes within the forest which negatively affect the structure or function of the stand or site.

FOREST MANAGEMENT: include all measures and actions which determine the extent to, and conditions under which forest resources are conserved, accessed, used, transformed and marketed.

FOREST PLANTATION: a forest stand established by planting or/and seeding in the process of afforestation or reforestation.

FOREST PRODUCTS: are physical goods of biological derivation, which originate from forests.

GAME SPECIES: are wild animals that have been designated under the Conservation of Wildlife Act as being potentially harvested species, under a permit/license system during an open season, including game mammals, reptiles, cage-birds and waterfowl ;

GENETICALLY MODIFIED ORGAMSIM: same meaning as Living Modified Organism

HABITAT: the place where an organism or population naturally occurs.

HUNT: the killing, wounding, pursuing, capturing or molesting by any method, of any animal, and also attempting to do any of such things

INVASIVE ALIEN SPECIES: a species whose deliberate or accidental introduction to an area different from its native range threatens biological diversity, to the area where it has been introduced.

JUVENILE: any individual from a wildlife population that has not attained sexual maturity, and includes eggs, hatchlings, piglets, fawns, chicks etc.

LIVELIHOODS: comprises the capabilities, assets and activities required for a means of living.

LIVING MODIFIED ORGANISM: living organism whose genetic material has been modified by modern biotechnology in a way which does not occur naturally by mating or recombination

NATIVE SPECIES: plants, animals, fungi, and micro-organisms that occur naturally in a given area or region.

NATURAL RESOURCES: living plants, animals, organisms and other biological factors within the environment, the geological formations, mineral deposits, renewable and non-renewable assets, and the habitat of the living plants, animals, organisms and other biological factors within the jurisdiction of Trinidad and Tobago.

NATURALLY COLONISING SPECIES: are species that reach Trinidad and Tobago from foreign lands via natural processes of wind and water dispersal (e.g. in air or sea currents).

NON-TIMBER FOREST PRODUCTS: are products of biological origin other than wood derived from forests.

PARTICIPATION: is a process through which stakeholders influence and share control over the decisions and resources which affect them.

PEST (AGRICULTURAL): are species of wild animals and plants that have been demonstrated to have a significant negative economic impact on agricultural crop or livestock production, or pose a threat to human and animal health (see definition of “Vermin”)

PLANTS: all undomesticated members of the plant kingdom, Bryophyta, Pteridophyta and Spermatophyta, the fungi (including unicellular protozoa, unicellular and multicellular algae) and Monera (including true bacteria and cyanobacteria). This also includes their pollen, spores, seeds and various vegetative forms (both gametophyte and sporophyte forms)

PRIVATE LAND: land other than State land.

PROTECTED AREA: a geographically defined area designated and managed to achieve specific conservation objectives.

REFORESTATION: the re-establishment of forest formations after loss of cover due to human-induced or natural perturbations.

STATE LANDS: lands in Trinidad and Tobago which are not privately owned or held, and over which the State, through the Commissioner of State Lands, exercises the rights conferred upon that office by the State Lands Act (Chap. 57:01).

SUSTAINABLE USE: is the use of biological diversity in a way and at a rate that does not lead to its long-term decline.

SUSTAINABLE DEVELOPMENT: development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

TIMBER: includes trees when they have fallen or been felled, and all wood whether cut up or fashioned for any purpose or not.

TREE: is a woody perennial with a single main stem, or in the case of coppice with several stems (including bamboos, plants, stumps, brushwood and canes), having a more or less definite crown.

UNSUSTAINABLE HARVEST: harvesting of a renewable wildlife resource at a rate greater than the natural rate of replenishment, or that leads to a decline in the population of the harvested species.

VERMIN: are species of wild animals and plants that have been demonstrated to have a significant negative economic impact on agricultural crop or livestock production, or to pose a threat to human and animal health (see definition of “Pest”).

VULNERABLE SPECIES: are those species that, based on the best available information are considered by the National Forest and Protected Areas Management Authority to be at a high risk of becoming extinct in the wild in Trinidad and Tobago and which meet the criteria established in Appendix II of the National Wildlife Policy.

WATERSHED: is the specific land area that drains water into a river system or other body of water.

WILDLIFE: includes any undomesticated animal, and plant species (this definition does not include non-native plants used as crops in agriculture, nor plants found on private property, **with the exception of** any plant designated as critically endangered, endangered, threatened or near threatened).

YOUNG: means juvenile.

Appendix I: Key National Policies, Laws, Plans and International Agreements

Policies

- Trinidad and Tobago National Forest Policy (2011)
- Trinidad and Tobago National Protected Areas Policy (2011)
- Trinidad and Tobago Environmental Policy (2006)
- Quarry Policy White Paper for Trinidad and Tobago (2007, not yet formally approved)
- Trinidad and Tobago Tourism Policy (2007, currently before Cabinet for review)
- Towards a Wildlife Policy for Trinidad and Tobago (draft September 2007)
- National Integrated Water Resources Management Policy
- Draft National Fisheries Policy (October 2011)

Laws

- Forests Act, Chap. 66:01
- Conservation of Wildlife Act, Chap. 67:01 (Act 16 of 1958)
- Plant Protection Act, Chap. 63:56 (Act No. 7 of 1997)
- Sawmills Act, Chap. 66:02
- The Environmental Management Act, Chap. 35:05 (No. 3 of 2000).
- Tobago House of Assembly Act, Chap. 25:03 (Act No. 40 of 1996)
- Agricultural Fires Act, Chap. 63:02 (Act 20 of 1965)
- Chaguaramas Development Authority Act, Chap. 35:02
- Land Acquisition Act, Chap. 58:01
- State Lands Act, Chap. 57:01 (1969)
- Town and Country Planning Act, Chap. 35:01
- Regularization of Tenure (State Lands) Act, Chap. 57:05 (No. 25 of 1998)
- Three Chains (Tobago) Act, Chap. 57:04 (1865)
- Litter Act, Chap. 30:53
- Public Health Ordinance, Chap. 12:04 (1950 Rev.) (and its amendments)
- Occupational Safety and Health Act, Chap. 88:08 (Act No. 1 of 2004)
- Fisheries Act Chapter 67:51 (Act 39 of 1916)
- Marine Areas (Preservation and Enhancement) Act Chapter 37:02

Plans

- A System of National Parks and other Protected Areas (1980)
- Forestry Division Strategic Plan (2005-2009)
- National Reforestation and Watershed Rehabilitation Programme Strategic Plan (2004-2009)
- Trinidad and Tobago National Action Programme to Combat Land Degradation 2006-2020
- Biodiversity Strategy and Action Plan for Trinidad and Tobago (NBSAP) (2001)

- Government of Trinidad and Tobago (2005). A Comprehensive Economic Development Plan for Tobago (2006-2010). Tobago, Capital of Paradise: Clean, Green, Safe and Serene. 2005
- Tobago House of Assembly (THA). North East Tobago Management Plan. Draft Final Report, December 2002
- National Forestry Action Plan (1992)
- Trinidad and Tobago Tourism Master Plan (1995)

International Agreements

- United Nations Convention on Biological Diversity
- United Nations Convention to Combat Desertification
- United Nations United Nations Framework Convention on Climate Change
- Convention on International Trade of Endangered Species (CITES)
- Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention)
- 1992 Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of all Types of Forests
- Convention on Nature Protection and Wild Life Preservation in the Western Hemisphere (Western Hemisphere Convention)
- Fourth ACP-EEC Convention
- International Tropical Timber Agreement
- World Heritage Convention
- Convention Establishing the World Intellectual Property Organisation (WIPO)
- Union of Protection of Plant-Variation Convention (UPOV)

Appendix II: Criteria for Threat Ranking of Wildlife Species in Trinidad and Tobago

The following threat categories and their associated criteria will be adopted as the basis for designating threatened species in Trinidad and Tobago:

Critically Endangered (CR)

Critically Endangered species are those that, based on the best available information, are considered by the Forest and Protected Areas Management Authority to be at an extremely high risk of becoming extinct in the wild in Trinidad and Tobago and which meet **any** of the following criteria:

a) A measured population decline of >90% over 10 years (or 3 generations, whichever is longest), or a population decline (observed, estimated or inferred) in the past, currently underway or anticipated in the future of >80% (estimated through direct observation, an appropriate index, a decline in area of occupancy or occurrence, actual or potential levels of exploitation, or from the impacts of introduced species, hybridization, pathogens, pollutants, competitors or parasites), over a 100 year time horizon.

b) Geographic range size and fragmentation, decline or fluctuation such that **either** the species extent of occurrence is <100km^2 or area of occupancy is <10km^2. In addition, **at least 2 of the following** criteria should be met:

- Populations are severely fragmented or restricted to one location;
- There is a continuing decline in any of the following: extent of occurrence; area of occupancy; habitat area, extent or quality; number of sub-populations; number of mature individuals;
- Extreme fluctuations in any of the following: extent of occurrence; area of occupancy; habitat area, extent or quality; number of sub-populations; number of mature individuals;

c) Small population size and fragmentation, decline or fluctuation such that the population has < 250 mature individuals **AND either:**

- an estimated decline of 25% in 3 years (or 1 generation), or
- a continuing population decline, where either each sub-population has <50 mature individuals (or has 90-100% of the population in a single sub-population) or there are extreme fluctuations in the number or mature individuals.

d) Very small population i.e. a population estimated at fewer than fifty (50) mature individuals;

e) Quantitative analysis of extinction risk (e.g. through Population Viability Analysis (PVA)) that indicates a probability of extinction in the wild of >50% in 10 years or three (3) generations.

Endangered (EN)

Endangered species are those which, based on the best available information, are considered by the Forest and Protected Areas Management Authority to be at a very high risk of becoming extinct in the wild in Trinidad and Tobago and which meet the following criteria:

a) A measured population decline of >70% over 10 years (or 3 generations, whichever is longest), or a population decline (observed, estimated or inferred) in the past, currently underway or anticipated in the future of >50% (estimated through direct observation, an appropriate index, a decline in area of occupancy or occurrence, actual or potential levels of exploitation, or from the impacts of introduced species, hybridization, pathogens, pollutants, competitors or parasites), over a 100 year time horizon.

b) Geographic range size and fragmentation, decline or fluctuation such that **either** the species extent of occurrence is <5,000km^2 or area of occupancy is <500km^2. In addition, **at least 2 of the following** criteria should be met:-

- Populations are severely fragmented or restricted to <5 locations;
- There is a continuing decline in any of the following: extent of occurrence; area of occupancy; habitat area, extent or quality; number of sub-populations; number of mature individuals;
- Extreme fluctuations in any of the following: extent of occurrence; area of occupancy; habitat area, extent or quality; number of sub-populations; number of mature individuals;

c) Small population size and fragmentation, decline or fluctuation such that the population has < 2500 mature individuals **AND either:-**

- an estimated decline of 20% in 5 years (or 2 generations), or
- a continuing population decline, where either each subpopulation has <250 mature individuals (or has 95 -100% of the population in a single sub-population) or there are extreme fluctuations in the number or mature individuals.

d) Very small population i.e. a population estimated at fewer than two hundred and fifty (250) mature individuals

e) Quantitative analysis of extinction risk (e.g. through Population Viability Analysis) that indicates a probability of extinction in the wild of >20% in 20 years or five generations

Vulnerable (VU)
Vulnerable species are those that, based on the best available information are considered by the National Forest and Protected Areas Management Authority to be at a high risk of becoming extinct in the wild in Trinidad and Tobago and which meet the following criteria

a) A measured population decline of >50% over 10 years (or 3 generations whichever is longest), or a population decline (observed, estimated or inferred) in the past, currently underway or anticipated in the future of >30% (estimated through direct observation, an appropriate index, a decline in area of occupancy or occurrence, actual or potential levels of exploitation, or from the impacts of introduced species, hybridization, pathogens, pollutants, competitors or parasites), over a 100 year time horizon.

b) Geographic range size and fragmentation, decline or fluctuation, such that **either** the species extent of occurrence is <20,000km^2 or area of occupancy is <2,000km^2. In addition, **at least 2 of the following** criteria:

- Populations are severely fragmented or restricted to <5 locations;
- There is a continuing decline in any of the following: extent of occurrence; area of occupancy; habitat area, extent or quality; number of sub-populations; number of mature individuals;
- Extreme fluctuations in any of the following: extent of occurrence; area of occupancy; habitat area, extent or quality; number of sub-populations; number of mature individuals;

c) Small population size and fragmentation, decline or fluctuation such that the population has < 10,000 mature individuals **AND either:-**

- An estimated decline of 10% in 10 years (or 3 generations), or
- A continuing population decline, where either each subpopulation has <1,000 mature individuals (or has 100% of the population in a single sub-population) or there are extreme fluctuations in the number or mature individuals.

d) Very small population or very restricted distribution – i.e. a population estimated at fewer than one thousand (1000) mature individuals and/or an area of occupancy or less than 20km^2 or present at fewer than 5 locations;

e) Quantitative analysis of extinction risk (e.g. through Population Viability Analysis) that indicates a probability of extinction in the wild of >10% in 100 years

Near Threatened (NT)
Near Threatened species are those that, based on the best available information are considered by the Forest and Protected Areas Management Authority to not meet the criteria established for being vulnerable, but are close to attaining such a status or may qualify for listing in the above-mentioned categories if prevailing conditions affecting the species population persists in Trinidad and Tobago.