



Part I: Project Information

GEF ID

10942

Project Type

MSP

Type of Trust Fund

GET

CBIT/NGI

CBIT No

NGI No

Project Title

Reducing the threats to endangered reptiles from habitat loss and Invasive Alien Species (IAS) through enhanced biodiversity governance and strengthened bio-security in Barbados

Countries

Barbados

Agency(ies)

UNEP

Other Executing Partner(s)

Centre for Agriculture and Bioscience International (CABI)

Executing Partner Type

Others

GEF Focal Area

Biodiversity

Sector

Taxonomy

Focal Areas, Biodiversity, Protected Areas and Landscapes, Community Based Natural Resource Mngt, Terrestrial Protected Areas, Species, Threatened Species, Invasive Alien Species, Financial and Accounting, Conservation Finance, Influencing models, Demonstrate innovative approach, Transform policy and regulatory environments, Strengthen institutional capacity and decision-making, Stakeholders, Private Sector, SMEs, Individuals/Entrepreneurs, Type of Engagement, Partnership, Participation, Information Dissemination, Consultation, Civil Society, Non-Governmental Organization, Community Based Organization, Academia, Local Communities, Beneficiaries, Communications, Behavior change, Public Campaigns, Awareness Raising, Gender Equality, Gender Mainstreaming, Gender-sensitive indicators, Sex-disaggregated indicators, Women groups, Gender results areas, Capacity Development, Knowledge Generation and Exchange, Capacity, Knowledge and Research, Targeted Research, Knowledge Exchange, Learning, Theory of change, Indicators to measure change, Knowledge Generation

Rio Markers

Climate Change Mitigation

No Contribution 0

Climate Change Adaptation

No Contribution 0

Biodiversity

Principal Objective 2

Land Degradation

No Contribution 0

Submission Date

3/14/2023

Expected Implementation Start

9/1/2023

Expected Completion Date

9/1/2027

Duration

48In Months

Agency Fee(\$)

82,008.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
BD-2-6	Address direct drivers to protect habitats and species through the prevention, Control and Management of Invasive Alien Species	GET	863,241.00	5,292,056.00
Total Project Cost(\$)			863,241.00	5,292,056.00

B. Project description summary

Project Objective

To reduce the threats to endangered reptiles from habitat loss and Invasive Alien Species by enhancing biodiversity governance and biosecurity frameworks in Barbados.

Project Component	Financi ng Type	Expected Outcomes	Expected Outputs	Tru st Fun d	GEF Project Financing (\$)	Confirme d Co- Financing (\$)
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Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing (\$)	Confirmed Co-Financing (\$)
Component 1: Strengthening the enabling environment for reducing threats to biodiversity loss through improved policy and governance	Technical Assistance	<p>1.1: National lead agencies and relevant stakeholders adopt an improved integrated, regulatory framework to address drivers of biodiversity loss and enhance biosecurity.</p> <p><i>Indicators: (i) Number of lead agencies with responsibility for biodiversity and biosecurity that endorse and adopt the National Biodiversity Conservation Bill, associated regulations and management recommendations</i></p>	<p>1.1.1: <i>Policy recommendations, drafting instructions and draft National Biodiversity Conservation Bill</i> with biosecurity elements based on the Cabinet-Approved Policy for National Biodiversity Management, made available to Cabinet for consideration</p> <p>1.1.2: <i>Suite of gender-responsive regulations and management recommendations and capacity-building</i> to support operationalization of the proposed legislative and regulatory framework, endorsed by stakeholders, for consideration by Cabinet</p>	GET	123,000.00	250,600.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing (\$)	Confirmed Co-Financing (\$)
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1.1.3: Suite of public educational resources and an interactive public awareness campaign for uptake by stakeholders.

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing (\$)	Confirmed Co-Financing (\$)
Component 2: Targeted interventions to reduce threats to critically endangered biodiversity and enhance population viability	Technical Assistance	<p>2.1: Enhanced national capacity for conservation of global populations of critically endangered endemic reptilian fauna.</p> <p><i>Indicators:</i> <i>(i) number of reports on distribution, survivorship /recruitment data to track species recovery trends;</i> <i>(ii) number of management protocols successfully applied;</i> <i>(iii) number of specialists trained and demonstration of enhanced skills;</i> <i>(iv) number of financial mechanisms/policies approved for long-term financial commitment/flows to facility and management operations.</i></p>	<p>2.1.1: <i>Additional bio-secure facility installed at Ragged Point (with predator exclusion, habitat augmentation and conservation education centre) for safeguarding endangered reptilian fauna, associated operational protocol/manuals and capacity building for use by lead national agencies and partners.</i></p> <p>2.1.2: <i>Population status and threat assessments, and conservation requirements to inform management planning and interventions by lead national agencies</i></p>	GET	661,765.00	4,533,456.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing (\$)	Confirmed Co-Financing (\$)
			<p>2.1.3: <i>Financial sustainability options to support species recovery presented to key stakeholders, to secure long-term financial commitment and sustained execution by lead national agencies through innovative partnerships</i></p> <p>2.1.4: Project monitoring and evaluation system</p>			
				Sub Total (\$)	784,765.00	4,784,056.00
Project Management Cost (PMC)						
	GET					
					78,476.00	508,000.00
					78,476.00	508,000.00
					Total Project Cost(\$)	5,292,056.00

Please provide justification

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Recipient Country Government	Ministry of Environment and National Beautification, Green and Blue Economy	Grant	Investment mobilized	80,000.00
Recipient Country Government	Ministry of Environment and National Beautification, Green and Blue Economy	In-kind	Recurrent expenditures	1,711,056.00
Recipient Country Government	Ministry of Agriculture and Food Security.	In-kind	Recurrent expenditures	432,000.00
Recipient Country Government	Ministry of Housing, Lands and Rural Development / Town and Country Planning Development Office	In-kind	Recurrent expenditures	48,000.00
Recipient Country Government	Barbados Defense Force	In-kind	Recurrent expenditures	192,000.00
Recipient Country Government	Office of the Attorney General	In-kind	Recurrent expenditures	144,000.00
Recipient Country Government	Environmental Health Department	In-kind	Recurrent expenditures	1,440,000.00
Recipient Country Government	National Conservation Commission	In-kind	Recurrent expenditures	480,000.00
Recipient Country Government	Natural Heritage Department	In-kind	Recurrent expenditures	48,000.00
Other	Caribbean Youth Environment Network (CYEN)	In-kind	Recurrent expenditures	30,000.00
Other	CAB International (CABI)	In-kind	Recurrent expenditures	300,000.00

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Other	University of the West Indies (UWI)	In-kind	Recurrent expenditures	240,000.00
Other	Fauna & Flora International (FFI)	In-kind	Recurrent expenditures	72,000.00
Other	Re:wild	In-kind	Recurrent expenditures	75,000.00
Total Co-Financing(\$)				5,292,056.00

Describe how any "Investment Mobilized" was identified

The Government of Barbados under the Ministry of Environment and National Beautification, Green and Blue Economy will contribute \$80,000 as investment mobilized through core budget allocation toward the project management costs.

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNEP	GET	Barbados	Biodiversity	BD STAR Allocation	863,241	82,008	945,249.00
Total Grant Resources(\$)					863,241.00	82,008.00	945,249.00

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required **true**

PPG Amount (\$)

50,000

PPG Agency Fee (\$)

4,750

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNEP	GET	Barbados	Biodiversity	BD STAR Allocation	50,000	4,750	54,750.00
Total Project Costs(\$)					50,000.00	4,750.00	54,750.00

Core Indicators

Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
6000.00	6000.00	0.00	0.00

Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
6,000.00	6,000.00		

Indicator 4.2 Area of landscapes under third-party certification incorporating biodiversity considerations

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4.4 Area of High Conservation Value or other forest loss avoided

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4.5 Terrestrial OECMs supported

Name of the OECMs	WDPA-ID	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)

Documents (Please upload document(s) that justifies the HCVF)

Title

Submitted

Indicator 11 People benefiting from GEF-financed investments

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	550	550		
Male	550	550		
Total	1100	1100	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Part II. Project Justification

1a. Project Description

1) Global environmental and/or adaptation problems, root causes and barriers that need to be addressed:

Barbados, the most easterly of the Caribbean islands, is a small coral limestone island with an area of 431 km² and a coastline measuring 97 kilometers. The island lies in the north-east trade wind belt and has a moderate tropical marine climate with average annual temperatures of 26-30°C. The rainfall is seasonal with a dry season from December to May and a wet season from around June to October. Average annual rainfall ranges between 1,254 mm in the lower elevations to approximately 1,650 mm in higher elevations. Barbados lies within the southern region of the Atlantic Hurricane Basin, hence has been affected occasionally by major hurricanes, notably Hurricane Janet which struck directly in 1955 and caused major damage and loss of life. Hurricane Allen in 1980 and Hurricane Elsa in 2021 caused significant infrastructural damage and loss of trees. Barbados has been affected by other natural disasters such as the recent eruption of the La Soufriere volcano in St. Vincent, which blanketed the island in ash fall. This event had a number of short-term impacts on biodiversity, and some lasting effects on particularly vulnerable species such as the Barbados Leaf-toed Gecko (*Phyllodactylus pulcher*).

About 86% percent of Barbados is capped by a layer of coral up to 90 m thick that is dissected by a complex system of gullies that extend from the upland regions in the central parts of the island to the west coast. These gullies form an integral part of the island's natural drainage system, acting as major conduits of recharge to the limestone aquifers via underground streams, and discharging into the west coast. The coral limestone cap has been completely eroded from about 14% of the island, exposing the complex mix of impermeable clays that comprise the sedimentary formations that lie beneath. Known as the Scotland District, this may be regarded as the most distinctive physiographic region of the island, presenting a set of unique land management and other environmental problems. It is marked by highly rugged terrain with areas of slippage and slumping, presenting some of the most scenic landscapes on the island.

According to the National Biodiversity Strategy and Action Plan (2002)[1] the estimated total tree cover of Barbados is 2% of the area of the island or about 800 ha, which includes gullies, coastal wetlands, undercliff woods and planted wooded areas. Remnants of the xerophytic coastal forest can be found at Cluffs, Bath and Batts Rock and is essentially an inland extension of the *Coccoloba* association of the beaches and sandy bushland. Turner's Hall wood (approx. 21 ha), in the Scotland District is the least disturbed wooded habitat in Barbados and is the best example of a Tropical Mesophytic (semi-deciduous) forest. There are two discernable canopy layers, occasionally a third layer consisting mainly of palms, a moderately developed evergreen shrub layer, a poorly developed herbaceous layer, poorly developed climbers and few epiphytes. Of the roughly 700 species of flowering plants on the island, two are known to be endemic, *Phyllanthus andersonii* - a gully shrub, and *Metastelma barbadense* - a slender climber. These species are found only in the wooded areas of the island. A preliminary conservation assessment in 2017 determined that both these species met the IUCN Red List criteria for classification as endangered, but neither of them is currently categorised as such. Some 23 plant species require protection at the national level, although all are found elsewhere in the Lesser Antilles.

Partly due to the widespread destruction of natural vegetation for monocultures of sugar cane, and other crops, following European colonization, terrestrial fauna in Barbados is severely limited. Barbados has 261 recorded species of birds, but most are migratory visitors. Barbados lies within the North Atlantic

Flyway and is therefore a stop-over for many species of migratory birds undertaking transoceanic flights. Of note are shorebirds such as the American Golden-Plover (*Pluvialis dominica*) and the Near-Threatened Red Knot (*Calidris canutus*; Endangered in Canada) and Buff-breasted Sandpiper (*Calidris subruficollis*; considered a species of Special Concern in Canada)[2]2 which would benefit from coastal protections. Only about 34 bird species are resident and/or breed in Barbados. Four species of snakes (one of which, the Barbados Racer, *Erythrolamprus perfuscus*[3]3, is listed as extinct), two amphibians and eight species of lizards have been recorded (NBSAP, 2020). The only indigenous mammals on the island are six species of bats. Of conservation interest are the Critically Endangered endemic Barbados Threadsnake (*Tetracheilostoma carlae*)[4]4, the Barbados Leaf-toed Gecko (*Phyllodactylus pulcher*)[5]5 and the Barbados Skink (*Alinea lanceolata*)[6]6, although the latter has not been seen for more than 50 years. Other reptile species of concern are the Hawksbill Turtle (*Eretmochelys imbricata*) and the endangered Leatherback Turtle (*Dermochelys coriacea*).

Other species of conservation interest include the Barbados Bullfinch (*Loxigilla barbadensis*), the only endemic bird species on Barbados. The bird is common across the island and classified by IUCN as Least concern?[7]7 however given its very restricted geographic range, is of global significance. There are six endemic avian sub-species; the Antillean Crested Hummingbird (*Orthorhyncus c. cristatus*), Caribbean Elaenia (*Elaenia martinica barbadensis*), Scaly-breasted Thrasher (*Alenia fusca atlanticus*), Yellow Warbler (*Dendroica p. petechia*), Carib Grackle (*Quiscalus lugubris fortirostris*) and the Bananaquit (*Coereba flaveola barbadensis*). The Scaly-breasted Thrasher is possibly extinct.[8]8 The Barbados Anole (*Anolis extremus*) is also endemic to the island (with populations established on some of the neighboring islands). It is classified as Least Concern by IUCN assessment [9]9 but is of global significance given its extremely narrow global range. The Barbados Myotis (*Myotis nyctor*) is an insectivorous a bat species known only from Barbados and Grenada and is listed as Vulnerable[10]10 by IUCN.

Of the island's molluscan fauna, the endemic snail *Pseudopineria barbadensis* is of note. It is a small terrestrial species rediscovered in 2003 with a highly fragmented population spread among a few small, isolated patches of habitat (Fields, 2014)[11]11. Little is known about the ecology of this species except that it is found only on limestone rock habitat on the coasts of Barbados. The lack of gene flow as a result of their small population size and the isolated nature of their sub-populations makes this species highly vulnerable to extinction. Habitat destruction and degradation is likely a primary cause for the species' rarity as habitat is lost to expansion of residential and commercial development.

Socio-Economic Context: The population of Barbados in 2021 was recorded as 287,708 comprising 48.4% males and 51.6% females. Life expectancy at birth for males and females at this time in Barbados were 78 and 81 years, respectively. The large net emigration to the United States of America, Canada and the United Kingdom during the 1950s, 1960s and 1970s, coupled with a very successful family planning programme, resulted in a low national average population growth rate. In fact, this figure for 2021 was only 0.1 %. Barbados is one of the most developed countries in the Eastern Caribbean and enjoys one of the highest per capita incomes in the region recorded at USD 17,044 in 2021. In 2021 the unemployment rate in Barbados was 14.1% with the rate for women (14.5%) being greater than men (13.7%). Some income disparity exists for men and women in Barbados which is relatively similar to other territories in the Caribbean, with women's income being about 86.8 per cent that of men[12]12.

According to UNDP's *Human Development Report 2021-2022*, Barbados has a Gender Development Index of 1.034 and a Gender Inequality Index of 0.268[13]¹³. According to the World Economic Forum's *Global Gender Gap Report for 2022*, the Gender Gap Index ranking for Barbados stands at 0.765 (imparity = 0; parity = 1), where the country attained a regional rank of 3 and global rank of 30[14]¹⁴. The enrolment ratio in primary and secondary education is 100 per cent. Barbados boasts one of the highest levels of educational attainment among the Caribbean territories. The literacy rate in Barbados, which is 99.7%, is also believed to be one of the highest in the Caribbean[15]¹⁵.

Policy and Legal Context: Barbados is a small island developing state with finite land space and limited natural resources. The island also has one of the highest population densities in the world, coupled with a rapidly improving standard of living that manifests itself in a growing demand for the provision of goods and services. These increasing demands in turn place ever-increasing pressures on natural habitats, freshwater resources and energy supplies giving rise to such problems as groundwater reserve depletion, destruction of natural vegetation and coastal ecosystems along with problems of solid waste disposal. Negative impacts on the natural environment as a result of development activities have far-reaching social and economic implications. Thus, the island requires a very strong policy on conservation that emphasizes the protection of remaining natural resources, habitats and species. There is currently no comprehensive national policy on the management of biodiversity in Barbados (Government of Barbados, 2002)[16]¹⁶. However, measures to overcome this deficiency are outlined in various sectoral plans that are in existence. Some of these plans are as follows:

- ? The Draft National Physical Development Plan (PDP) 2017[17]¹⁷
- ? The Fisheries Management Plan (FMP) 2004-2006[18]¹⁸
- ? The Environmental Management and Natural Resources Management Plan 1998
 - o The Environmental Management and Natural Resources Management Plan is accompanied by area-specific plans, namely: The National Park Development Plan 1999[19]¹⁹, and the Coastal Zone Management Plan 1998[20]²⁰

Barbados has no legislation designed specifically to deal with the protection of biodiversity enacted in response to the country's ratification of the 1992 Convention on Biological Diversity. Environment-related legislation currently in force in Barbados is dispersed over several statutes charging various government bodies with the management of the environment, including biological resources. A review of existing legislation relevant to the management and conservation of biodiversity identifies the need for a legal regime to be developed which would give a comprehensive response to the requirements for the protection of biological diversity with clear roles and functions for a coordinating body/entity for the management of the environment, including biological resources. The challenges are further elaborated under the Barriers and Baseline scenario sections.

Threats: Biodiversity is of enormous importance in all aspects of human life and the biodiversity of Barbados, apart from its global significance, is equally important at the national level for food, industrial and agricultural products, medicines and as a basis for recreation and tourism. Threats to biological

diversity in Barbados are closely associated with issues related to landscape modification and land degradation over the past 300 years, including large scale land clearing for the practice of plantation agriculture, contributing to significant biodiversity loss. The Barbados Cedar (*Juniperus barbadensis var barbadensis*) for example, previously found only on Barbados and Saint Lucia, is now extinct on Barbados having been lost over 280 years ago as natural habitats were converted to sugar cane fields. The species now only occurs on Saint Lucia, confined to a single mountaintop in the southwest of the island, rediscovered in 1985 (classified as IUCN Red List of Threatened Species in 2012 as critically endangered)[21]21. The construction of hotels and marinas, particularly along the west and south coasts, has caused the destruction of native plant communities and negatively impacted sea turtle nesting sites. Although there is no scientific data available it is postulated that free range grazing by cattle, sheep and goats, a common practice in rural Barbados, has also had a negative impact on selected natural plant communities.

Besides landscape and habitat modification, invasive alien species (IAS) are among the biggest threats to biodiversity in Barbados. Settlement of the island from the early seventeenth century saw the introduction of brown and black rats, cats, mice, mongoose, hares, goats, cane toads, tilapia, centipedes, and others. In the 1600s, the Green Monkey (*Chlorocebus sabaues*), native to West Africa was introduced to the island. The species has been considered an agricultural pest since the 1680s, when a bounty was first offered for their heads. The population has grown and declined several times over the past four hundred years. There are more recent arrivals, some of which are accidental releases associated with the pet trade, for example the Rose-ringed Parakeet (*Psittacula krameri*), Giant Ameiva (*Ameiva ameiva*), and Common Green Iguana (*Iguana iguana*). The proliferation of IAS in Barbados has been enhanced in large measure to landscape modification and the creation of disturbed environments that have made it more conducive to the expansion of invasive populations. IAS have probably contributed to the declines in some notable species. Green Monkeys have an eclectic diet and will opportunistically feed on birds' eggs and reptiles (Horrocks, 1986). The relatively recently introduced parthenogenetic Brahminy Blindsnake (*Indotyphlops braminus*) is a potential competitor with the endemic thread snake, while mongoose prey on terrestrial and marine reptiles and their eggs (Leighton et al., 2008). Of highest conservation concern, are impacts of faunal IAS on the endemic Barbados Leaf-toed Gecko, Barbados Threadsnake and the Barbados Skink while presenting a wider threat to faunal biodiversity in general (some of those identified in the preceding section). In terms of flora, there are nine species of verified invasive terrestrial plants; five tree, two shrub, one vine, and one grass species. Notable species include Casuarina (*Casuarina equisetifolia*), River tamarind (*Leucaena leucocephala*), Sweet lime (*Triphasis trifolia*) and Johnson grass (*Sorghum halepense*). Several other plant species have been flagged as potentially invasive in the island's gully ecosystems including Flamboyant (*Delonix regia*), Ackee (*Melicoccus bijugatus*) and the African tulip tree (*Spathodea campanulata*).

In 2016, the Barbados Leaf-toed Gecko, one of few extant endemic vertebrate species in Barbados and the only species of this genus in the Lesser Antilles, gained the designation of Critically Endangered status (IUCN, 2017)[22]22. It had not been sighted for 30 years, and was assumed extinct, until a small

population was reported on Culpepper Island off the east coast of Barbados in 2011, where its range was estimated at only 0.31 km² (Williams et al., 2015)[23]23. Based on surveys that were completed in 2014, the population was estimated through extrapolation to be approximately 12,000 individuals. However, this estimate was based on mark-recapture in only a few locations and needed to be expanded to improve confidence. The most recent estimate of the spatial extent of distribution reported by Blades (2019) was more conservative, proposing only 0.18 km² of occupied habitat, nearly half of the 2014 estimate. Blades estimated the population at 6000 in 2019 and an even more recent study estimates 4700 geckos in 2022. The gecko inhabits limestone coastal cliff habitats on the north, east and southeast coasts of the island, but whether this is the preferred habitat or the only remaining habitat that it has been able to survive in is unknown. Sighting locations are often isolated. Small populations with reduced gene flow make the species vulnerable to extinction. *Phyllodactylus* usually lays one egg into rock crevices and cracks, and preys on invertebrates including spiders, cockroaches, crickets and termites (Williams et al., 2015).

The Barbados Threadsnake (*Tetracheilostoma carlae*) is a critically endangered (Daltry et al 2016) [24]24 species endemic to Barbados. Little is known about this species due to its cryptic subterranean habit of hiding under rocks and burrowing in soil. The threadsnake is known to be oviparous, producing one large egg at a time. Holding the record of the world's smallest snake, hatchlings are half the size of adults which only grow to 10.4 cm in length and weigh 0.6 g (Hedges 2008)[25]25. A very rare species, the last recorded specimen was collected in 2008 in a small remnant of secondary growth forest from east-central Barbados. Prior to this it was only recorded in 1918, 1966, 1997, and 2005 (Daltry et al 2016). Records are confined to gullies and forest habitats which cover only 4,000 ha of Barbados' terrestrial surface. Its rarity is likely a direct result of extensive habitat loss from urbanization and agriculture although it likely also faces detriment from the introduced competitor Brahminy blindsnake (*Indotyphlops brahminus*). To preserve the Barbados Threadsnake among many other native and endemic species on the island will require efforts to not only protect existing forest but also to promote forest regrowth in suitable areas to increase the area of small habitat patches and to facilitate habitat interconnectedness.

The Barbados skink (*Alinea lanceolata*) is listed as critically endangered (Horrocks and Daltry 2016)[26]26. It is only known from two wetland sites on the southern tip of the island, Graeme Hall Swamp and Chancery Lane Swamp, which are separated by 8 km (Hedges and Conn 2012)[27]27. In total, these two sites represent an area of less than 1 km² of habitat. Only three specimens of the skink are known, and the last confirmed record was in 1889 over 130 years ago. Nothing is known about its ecology or biology except that it is viviparous. The cause for their catastrophic decline is likely a combination of factors between predation by invasive mongooses and rats, and habitat loss from housing development and agriculture. If this species still exists, the protection of its wetland habitat will be an essential component of conservation efforts.

The threats to these endangered reptiles are noted to include predation, likely from Small Indian Mongoose (*Herpestes auropunctatus*), black rats (*Rattus rattus*), brown rats (*Rattus norvegicus*), mice (*Mus musculus*), domestic cats (*Felis catus*) and in the case of the leaf-toed gecko there has been confirmed predation by centipedes (*Scolopendra* spp.). This is likely the cause of the high incidence of tail loss reported in individuals studied, but tail loss may also result from intra-species aggression (Itescu et al., 2016). Cane toads (*Rhinella marina*) may prey on *P. pulcher* and compete with geckos for food. The populations may be impacted by the non-native competitors such as the Brahminy Blindsnake (*Indotyphlops braminus*) in the case of the threadsnake, and the Common Tropical House Gecko (*Hemidactylus mabouia*) which is a competitor for habitat and prey of the leaf-toed gecko (Williams et al., 2015). As noted above, each species is affected by habitat loss through the expansion of residential and commercial development leading to the loss of primary and secondary forests, as well as urban and touristic development along coastal cliffs (Williams et al., 2016). The gecko has been found on the small offshore islet, Culpepper Island, but the island is close enough for rats to swim across to, and the habitat is likely sub-optimal judging by the condition of geckos found there (Williams et al., 2016).

In the case of the gecko, the populations are considered to remain under significant risk in light of the prevailing developmental pressures. Coastal cliffs are protected from development activities in accordance with the Physical Development Plan, but the vicinity of human development to these critical habitats means that IAS are abundant and pose a significant risk. In the context of conservation of the gecko, this needs to be addressed with most urgent priority. Based on expert assessment there has to be additional investment in the establishment of protected areas that meets the urgent conservation requirements to stave off the worsening risks that are likely being posed to species. The *UNEP-GEF Preventing COSTS of Invasive Alien Species (IAS) in Barbados and the OECS Countries Project* (GEF-UNEP IAS Project for short) that is under implementation will assist to some measure, but expanded national efforts are required. The needed conservation measures for the gecko that are being advanced under the GEF-UNEP IAS Project, this proposed project, and other national interventions are anticipated to have co-benefits for the threadsnake and the skink.

Climate change is expected to take a toll on the country, including on its biodiversity, already evident by the loss of sea turtle nesting beaches and storm-caused damage to vegetation. According to the Barbados State of the Environment Report 2000 and supported by the Barbados 2021 Update of the First Nationally Determined Contribution (NDC) under the Paris Agreement on Climate Change[28]28, the foremost concerns are the accelerated rates of change in mean sea level with associated possibilities for increased coastal flooding and shoreline instability, possible changes in weather patterns, including the potential for increases in the intensity and frequency of tropical storms and hurricanes, and changes in precipitation and temperature patterns. Most highly at risk are the tourism and agriculture sectors that are particularly vulnerable to adverse climatic regimes and extreme weather events and sea level rise. Manufacturing and other commercial sectors are similarly vulnerable, given that a large proportion of industrial parks and business houses are located within two kilometers of the shore, below the 25 m contour. The impacts of climate change on biodiversity of the country are not well understood and is identified as a gap in the NBSAP. However, it is recognized that a changing climatic regime will likely drive water and

temperature-related stressors, triggering hazards such as fire occurrence, proliferation of invasives among others, that will in turn result in changes in ecosystems and threaten biodiversity.

The *long-term problem* is that critically endangered reptile species endemic to Barbados, notably the Barbados Leaf-toed Gecko, the Barbados Threadsnake and the Barbados Skink will likely face extinction if more direct conservation measures are not applied that address the issue of land conversion, and that measures to curb the influence of invasive species that pose direct risks, are not implemented. This threat extends to other native biodiversity in the country. This problem is exacerbated by the fact that the country does not have effective integration between national lead agencies and relevant stakeholders with responsibility for management of biodiversity and management of land resources. Without this integration, the drivers of biodiversity loss that include proliferation of IAS will remain. A joined-up approach that is enshrined in policy, and supported by legislative and regulatory provisions, political and societal commitment, and the fiscal means to enhance sustainability of investments is needed.

Barriers: The project considers key long-term solutions to address the risk of loss of a globally threatened species that occurs only in Barbados in the wider drivers of terrestrial biodiversity loss, with continued emphasis on addressing IAS, while addressing landscape development (and habitat conversion) that does not take adequately into account protection of threatened biodiversity. There are two key barriers that need to be addressed under the project:

Barrier 1: Lack of integrated framework to effectively reduce risk to terrestrial biodiversity: Development planning in the economic sectors in the country does not sufficiently incorporate conservation of terrestrial biodiversity and remains at a relatively low level in national development priority. Further, the policy and legislative environment is fragmented across sectors with significant areas of non-clarity, agency overlap and institutional conflict. Additional constraints include low human and financial capacity and lack of information sharing between agencies. There is, in reality, an expansive legislative and regulatory framework in the country that governs various aspects that has some bearing on biodiversity management and conservation. Key among those related to land resource management include the *Town and Country Planning Act (Cap. 240)*, *Land Acquisition Act (Cap. 228)*, *Section 16 of The Constitution*, *Soil Conservation (Scotland District) Act (Cap. 396)*, *National Conservation Commission Act (Cap. 393)*, *Trees (Preservation) Act (Cap. 397)*, *Cultivation of Trees Act (Cap. 390)*, *Physical Development Plan (amended 2017)*. In respect to the conservation of terrestrial biodiversity, legislation include the *Wild Birds Protection Act (Cap. 398)*, *Protection of New Plant Varieties Act*, a draft Zoos legislation and the *International Trade in Endangered Species of Wild Fauna and Flora Act (Cap. 262)*.

Notwithstanding the availability of these legislative instruments, mechanisms to foster improved integration of the provisions of existing biodiversity-related legislation into landscape development planning is poorly defined. This is due to the fact that overarching policy to drive this integration process is weak, from which it follows that the regulatory instruments and operational practice are not appropriately effected. In the context of biosecurity and IAS control, the enabling regulatory environment is not robust enough to safeguard against future introductions of IAS. A closely related contributing factor is that policy makers, the private sector and the wider community are not sufficiently aware or sensitized to the compounding issues of landscape development on the country's biodiversity. Under the regional GEF-UNEP IAS Project, the country has been developing a National

Invasive Species Strategy and Action Plan (NISSAP) that will provide policy direction, but it is anticipated that the process will require continued support into the medium to longer term, that extends beyond timeframe of that project. A Policy for National Biodiversity Management (2020) was approved in conjunction with Barbados' revised National Biodiversity Strategy and Action Plan, which speaks to the legal and institutional requirements for the effective conservation and management in Barbados. However, execution of the policy directions and actions under the NBSAP is challenged given the limited fiscal space of the government to make significant investments, hence innovative means of financing need to be sought.

Barrier 2: Inadequate national capacity to mitigate loss of globally threatened biodiversity: While there has been some level of concerted research effort in assessing the status of the population and ranges of the Barbados Leaf-toed Gecko, Barbados Threadsnake and Barbados Skink with the elaboration of urgent management measures that are needed, a key gap that remains is how to effectively transition these recommendations into sustainable in-field action. This is both in terms of investment in on-ground habitat restoration solutions and investment in the human resource capacity. Under the national sub-project of the regional GEF-UNEP IAS Project, the government is collaborating with CABI and Fauna and Flora International (FFI) to support an initial pilot investment in a bio-secure facility to safeguard a population of the Leaf-toed Gecko. This investment is a fraction of what is required however, as recent assessments on requirements for safeguarding and conserving a viable population suggests that additional safe zones need to be established[29]29. This was borne out by evidence in the aftermath of the heavy volcanic ashfall from the eruption of La Soufriere Volcano on St. Vincent in April 2021, where the site at Paragon designated for installation of a bio-secure facility under the GEF-UNEP IAS Project was blanketed with ash. Body measurements in a sample population of Leaf-toed Geckos suggested physiological stresses likely due to the changed local habitat conditions[30]30. While the installation of the bio-secure facility is expected to be completed at Paragon, having only one secure conservation area is a risk in the event of disaster. A closely associated requirement is the need for trained expertise in population and habitat quality assessments that need to form the basis of dynamic management decisions in linking operations between the bio-secure facility to restorative actions in the field. There have been several relevant studies and investments on establishment and operation of bio-secure environments in other parts of the globe that local authorities in Barbados have yet to gain familiarity and experience with, which constitutes a capacity gap. The other crucial gap is the financial means to ensure long-term sustainability in the management and operation of environments that have been rendered bio-secure from invasive alien species and other threats. Financial flows from non-consumptive use of biodiversity particularly via ecotourism enterprises can offset operational costs. A potential financial viability model for conservation spaces that can be drawn upon, is the Folkestone Marine Museum, which hosts a visitor and interpretation centre within the boundaries of the Folkestone Marine Reserve, Barbados' first marine protected area (MPA). The facility, which is run by the National Conservation Commission, has been in operation since 1994 and uses a combination of governmental support, visitor fees, usage fees and a gift shop as parts of its effective cost-recovery strategy.

2) Baseline scenario and any associated baseline projects

Baseline - Government investments: The Biodiversity Conservation and Management Section of the Ministry of Environment and National Beautification, Green and Blue Economy is the frontline agency for policy coordination of biodiversity matters in the country. Although lacking a specific national legislative and regulatory instrument and framework, the Section does operate within the scope of a Biodiversity Conservation and Management Programme where it collaborates with other line agencies including representatives from the Ministry of Agriculture's plant and animal quarantine services and stakeholders. The Section coordinates the Working Group on Biodiversity, which has been appointed by Cabinet (Note 20 969/MENB 48; October 2020) to serve as a scientific and technical advisory body on issues related to conservation and management of Biodiversity, the implementation of Biodiversity and Land Management related Multilateral Environmental Agreements and as the project steering committee for national projects executed by the Biodiversity Conservation and Management Section. The Government of Barbados has approved a Policy for National Biodiversity Management in 2020 which directs the constitution of a National Biodiversity Unit (upgrade of the current Biodiversity Conservation and Management Section) with adequate allocation for staffing and funding to address key threats to the preservation and conservation of biodiversity.

Relevant legislative instruments towards the management of biodiversity and biosecurity (including IAS control) in the context of regulation of import and export of biological resources into and out of the country include the *Quarantine Act*, the *Animal (Diseases and Importation) Act Chapter 253*, *Plant Pest and Disease (Importation control)*, *Protection of New Plant Varieties Act*, the *International Trade in Endangered Species of Wild Fauna and Flora Act (Cap. 262)* and the *Wild Birds Protection Act (Cap. 398)*. There is also a Draft Zoos Act that seeks to govern the acquisition, housing, maintenance and treatment of exotic species, including those that might become invasive if released into the wild, by various private sector entities. The lead collaborating agencies are the Plant Quarantine Unit which oversees and enforces phytosanitary requirements for all plant imports and exports, the Veterinary Services Department which oversees and enforces animal health requirements for all animal imports and exports, including meats, the Entomology Unit of the Ministry of Agriculture which addresses invasive species which may pose threats to species relevant to Agriculture and the Vector Control Unit of the Ministry of Health which is tasked with the control of various IAS that pose a risk to human health and wellness.

The guiding framework that governs management of the land resource base in the context of terrestrial habitat conservation is the *Barbados Physical Development Plan (PDP)*[31]31. Since 1970, Barbados has produced Physical Development Plans that seek to identify land use practices, community facilities and physical infrastructure that would support the island's development goals. The 2017 PDP lays out policies to guide relationships among land uses, built form, mobility, community facilities and physical infrastructure. It is intended to be a framework to facilitate and guide investment, both public and private, in Barbados to the year 2035. The Plan lays out strategic policies[32]32 that are centered around promoting sustainable development and protecting core assets, specifically the resource base for food and agriculture, maintaining a natural heritage system, water resources, natural park, cultural heritage and community core. The policy areas most closely linked to the proposed GEF investment are assets related to the natural heritage system, water resources and the natural park. It noted further that the PDP

has highly relevant provisions in the context of this project for developing and implementing restoration plans for open land areas within Groundwater Protection Zones, open gullies and maintaining, managing, and increasing forest cover, including through the development of National Forest Sites and minimizing habitat modification and loss in gully ecosystems.

The *Barbados National Park Plan*[33]33 under the remit of the Natural Heritage Department, is intended to establish policies to guide future land use and development within the National Park. The Plan aims to conserve and enhance the character and quality of the landscape and marine resources in the Park and define and protect a functionally connected natural heritage system based on an ecosystem approach. It also aims to ensure sustainable use and management of the land and marine resources in the Park that is supportive of the social and economic development of local communities and mitigate against activities which conflict with or are detrimental to the landscape, seascape and environmental qualities that led to National Park designation. The Plan seeks to foster an awareness of the value of the National Park to the daily lives of residents of Barbados and provide opportunities for passive recreation and to promote an understanding and enjoyment of the special qualities of the park. The development, maintenance and operation of green open spaces is the remit of the National Conservation Commission, which was established to conserve the natural beauty, topographic features, historic buildings, sites and monuments of Barbados as well as control, maintain and develop the public parks, public gardens and beaches of Barbados.

Based on the recurrent investments through the work of frontline agencies in biodiversity management, the government invests approximately US\$2 million annually as baseline contributions. Over the project period it is estimated that continued investment will approximate US\$8 million.

Baseline - donor and partner assistance programmes: Since 2013, the Government of Barbados with technical guidance and assistance from the University of West Indies, Fauna & Flora International (FFI) and Durrell Wildlife Conservation Trust, conceptualized through preliminary surveys and consultations, the concept of establishment of a 'mainland island'[34]34 or ecological island on Barbados, to safeguard a core population of the Leaf-toed Gecko. This is based on proof-of-concept initiatives that have been successfully implemented in New Zealand, Hawaii and the Christmas Islands for similar species.

As part of the GEF-UNEP IAS Project, the erection of an invasive pest-proof bio-secure fence is being executed in partnership with CABI, FFI and UWI. A one-hectare (1 ha) area on lands under the control of the Barbados Defence Force at Paragon has been selected for an initial pilot with support from the Ministry of Housing and Lands and the Office of the Attorney General. However, based on recent assessments by FFI and UWI, in collaboration with the Ministry of Environment, and in light of stresses on the species imposed by the recent La Soufriere volcanic eruption of April 2021, further investment is needed in development of additional bio-secure areas and the augmentation of relevant habitats to encourage the proliferation of the species at multiple sites to reduce the risk of extinction. The national pilot of the GEF-UNEP IAS Project also includes contribution to strengthening of the policy environment related to IAS control with the development of a National Invasive Species Strategy and Action Plan (NISSAP), an associated legal framework and heightening awareness around the impacts of IAS. The

project is also assisting with the identification of cost recovery financial mechanisms to support IAS control measures that are typically capital-intensive.

The Ministry of Environment maintains a working partnership with the University of the West Indies to support undergraduate and graduate research into population numbers, density, distribution and genetic analysis through the development and execution of graduate theses and research projects. The Ministry also provides annual grants to support the work of UWI projects in reptile conservation. Through partnerships with FFI the Ministry has been able to identify external and innovative sources of funding for IAS management for the training of national stakeholders, procurement of bait and traps for IAS control and removal as well as public awareness, education and community engagement in relevant areas. The Ministry also leverages significant technical support from UWI and FFI, to support the work of the Biodiversity Section in surveying methods, IAS removal and eradication and predator exclusion. The value of the baseline investment through cooperative efforts with partners in recent years approximates US\$1 million annually, which is expected to be maintained over the project period.

3) Proposed alternative scenario with a brief description of expected outcomes and components of the project

Project Overview: The GEF's incremental funding and co-financing resources will be used to overcome the identified barriers that prevents the country from advancing a coherent policy response framework and innovative time-sensitive solutions to address the drivers of loss of endangered biodiversity particularly through the threats posed by habitat change and inability to address biosecurity risks. The project is substantially focused on conservation of reptilian endemic biodiversity that are now critically endangered on the island; however, management measures supported under the project will contribute to the conservation of other endemic species and subspecies found in Barbados (for example the Barbados Bullfinch, Barbados Anole, Barbados Myotis, *Pseudopineria barbadensis*) that also constitute globally very small and relatively vulnerable populations. The targeted species are the Barbados Leaf-toed Gecko and the Barbados Threadsnake, given the highly vulnerable status of known remaining populations, based on IUCN assessments of 2015 (Daltry et al, 2016). While there have been no recent sightings of the Barbados Skink and the population status remains uncertain based on the 2015 IUCN assessment (Horrocks, J. & Daltry, J.C. 2016) and it is thought that the Barbados Racer is likely extinct (cite Daltry/IUCN), conservation efforts under the project will provide the opportunity for associated conservation co-benefits for conservation of these species. The project addresses the overarching significant risk that remaining populations of the gecko and threadsnake can be extirpated if urgent management measures are not implemented, while ensuring that the wider threats to native biodiversity can be minimized.

The project theory of change is underpinned by achieving desired intermediate states of (a) a strengthened enabling environment for reducing threats to biodiversity loss through improved policy and governance and (b) effective conservation measures that reduce threats to endangered biodiversity and enhanced population viability. Attainment of these intermediate states is expected to lead to reduced threat to endangered reptilian biodiversity and other species at a broader level, supported by adequate policy/institutional enabling environment and enhanced, sustained management capabilities among lead

management agencies and stakeholders. In the longer term, it is anticipated that the project contributions will eventually create conditions that leads to the populations of the Barbados Leaf-toed Gecko and the Barbados Threadsnake showing positive recovery, with the means to assure long-term viability sustained, while realizing co-benefits of reduced threat to other biodiversity. This will contribute to global environmental benefits. The project design is reflective of a causal pathways captured in the theory of change below.



Figure 1. Project theory of change

Investment under **Component 1** will realize the outcome of adoption of an integrated regulatory framework to address drivers of biodiversity loss and enhance biosecurity by national lead agencies and relevant stakeholders. This component will contribute to enhancing long-term sustainability of investments under **Component 2**. Investment under Component 2 will realize an enhanced national capacity among lead national agencies and stakeholders including the Ministry of the Environment; University of the West Indies (UWI); and the National Conservation Commission (NCC) for long-term conservation of global populations of critically endangered reptiles endemic to Barbados with co-benefits to other native biodiversity.

The project is framed against the backdrop of *assumptions* that have bearing on the anticipated outcomes to be realized through the proposed causal pathways. A critical assumption is that there will be a *continued strong policy directive* to conserve remaining natural spaces and critical habitats for threatened and endangered biodiversity that is enshrined in the Policy for National Biodiversity Management (and NBSAP) and that it will transition into the eventual adoption of a National Biodiversity Conservation Bill with provisions to address biosecurity (including IAS) within a strong regulatory framework. A foundational assumption is that there will be *buy-in by lead governmental partners, the private sector and wider beneficiary stakeholders* in the national strategy to strengthen biosecurity and IAS management as elaborated under the NISSAP and other relevant policy instruments to realize the desired outcomes. It is also assumed that there will be *sufficient dedicated resources* from Government with co-financing from partners and stakeholders to maintain investments made in addressing mitigation of threats from IAS. It is further assumed that partner *collaborations established and/or strengthened sustained under the project, will continue* post-project. Another critical assumption is that the *technical knowledge and know-how developed and piloted under the project in conservation of endangered biodiversity will build sustainable capacity* among front-line agencies and positively influence behavior change from direct beneficiary to policy-maker level. The project also assumes that should hurricanes and other natural or man-made events occur during implementation, the *impacts will not completely debilitate continuity, and that adaptive mechanisms will be effected*. Finally, with the ongoing COVID-19 pandemic, a crucial assumption is that the Government of Barbados through its frontline health care sector will be able to *mitigate and manage the impacts, and that business continuity is maintained* within mandated protocols.

The components are described in more detail below.

Component 1: Strengthening the enabling environment for reducing threats to biodiversity loss through improved policy and governance. This component will result in the realization of **Outcome 1.1: National lead agencies and relevant stakeholders adopt an improved integrated, regulatory framework to address drivers of biodiversity loss and enhance biosecurity.**

The Government of Barbados, under its Biodiversity Conservation and Management Programme, led by the Biodiversity Conservation and Management Section of the Ministry of Environment and National Beautification, Green and Blue Economy will engage relevant stakeholders in contribution to the continued strengthening of the policy environment. There will be specific focus on critical requirements for enhancing biosecurity and management of IAS, safeguarding critical habitats and landscapes that need to remain intact in the interest of conservation of biodiversity, and determining pathways toward sustainability. This effort will be framed against the backdrop of the National Biodiversity Strategy and

Action Plan, the Sixth National Communication to the CBD and the National Invasive Species Strategy and Action Plan (NISSAP). Charting the way forward will require guidance from the Town and Country Planning Department in consideration of the Physical Development Plan (2017).

The project will contribute to the enabling environment strengthening in a two-pronged approach; (1) strengthen the legislative and regulatory framework within the scope of the draft National Biodiversity Conservation Bill and (2) rationalization of the required organizational framework to effect the provisions of the Bill once passed into law. Based on policy directions by the Government of Barbados, the Biodiversity Conservation Bill (BCB) is intended to provide an overarching framework for integrating relevant legislative instruments across sectors within the framework of the Policy for National Biodiversity Management. The project component will contribute to sustainability of the investment proposed under Component 2.

Output 1.1.1: Policy recommendations, drafting instructions and draft National Biodiversity Conservation Bill with biosecurity elements based on the Cabinet-Approved Policy for National Biodiversity Management, made available to Cabinet for consideration

This output seeks to strengthen the underpinning enabling environment for reducing threats to biodiversity loss through improved policy and governance in the country.

Through a series of at least four national consultations and focus group dialogues (with participation by at least 100 personnel from lead agencies) building on the existing policy and strategies, an expert group lead by the Legal Expert with public policy expertise, will prepare a *suite of policy recommendations to update the Policy for National Biodiversity Management* focusing on (i) improved landscape management to safeguard critical habitat (with particular consideration for the endangered reptiles) with conservation co-benefits for other species that inhabit these ecosystems and (ii) enhancing biosecurity measures to reduce threats to biodiversity in an integrated manner that considers IAS management and port security. Related to item (i) it should be noted that the critical habitat for the Barbados Leaf-toed Gecko are coastal cliff areas, where in accordance with the Physical Development Plan, some 6,000 ha are zoned as cliff areas. These cliff areas are important nesting areas for seabirds (terns, tropicbirds, shearwaters, boobies), and other species. In this regard, the project will *support the intention of the government to designate these cliff areas under the national parks framework* that will be in alignment with the NBSAP in the context of species recovery plans for gecko.

These recommendations will consider all existing policy/legislative and regulatory instruments and associated areas of deficiency and incoherence among these instruments, and specify required improvements. It should be underscored that proposed updated policy directives will ensure that wider ecosystem services benefits will be attended to in the context of maintaining and preserving natural spaces for species conservation, maintaining and enhancing productive landscapes for livelihood benefits.

These policy recommendations, as vetted and accepted by the Working Group on Biodiversity will be presented by the Biodiversity Conservation and Management Section to the lead management agencies for consideration in upgrading related policies and support actions at the agency level. These agencies will include among others, the Town and Country Development Planning Office (related to land planning and development), the Plant Quarantine and Veterinary Services Departments, Entomology and the Vector Control Units in the context of biosecurity, in addition to the Customs and Excise Department and the air and sea port authorities. Also integral in the consultation process will be the National Conservation Commission, academic institutions such as the University of the West Indies (Department of Life Sciences and the Biosecurity Institute), environmentally-oriented youth organizations, as well as relevant private sector organizations identified in Annex O. The project will facilitate inputs from stakeholders at the wider societal level from across public and private sectors, as well as from the NGO and CBO organizations to ensure that the policy and legislative proposals have the broadest buy-in from the national community.

On review of the recommendations with inputs from the agencies, this will lay the basis for definition of *drafting instructions* that will upgrade the draft National Biodiversity Conservation Bill so as to adequately integrate required considerations in the policy analysis. These drafting instructions will be developed by the project's legal specialists under the guidance of the Working Group on Biodiversity and Biodiversity Conservation and Management Section. The Office of the Attorney General will play a critical advisory role in guiding the project team in development and preparation of these instructions that will be the primary framework for upgrading the National Biodiversity Conservation Bill.

Through an iterative consultation process led by the Biodiversity Conservation and Management Section, the first draft of the NBCB and associated policies to facilitate its implementation will be available by the first quarter of Year Three with a *stakeholder-endorsed NBCB and policies submitted for Cabinet's consideration* by the end of Year Three.

Output 1.1.2: Suite of gender-responsive regulations and management recommendations and capacity-building to support operationalization of the proposed legislative and regulatory framework, endorsed by stakeholders, for consideration by Cabinet

Complementary to the draft National Biodiversity Conservation Bill will be the *formulation of a suite of regulations* that will operationalize the Bill. These regulations will be at the core of the required inter-agency management arrangements that will be needed to give effect to the provisions of the Bill. It is anticipated that existing regulations already in effect within various relevant agencies (refer to the Policy and Legal Context under Section 1) may require only enhancements, but it is expected that there will be need to formulate entirely new regulatory provisions based on the proposed policy and legislative upgrades. As with the policy and NBCB upgrade process under Output 1.1.1, the regulatory development will be informed by a consultative process under the aegis of the Working Group on Biodiversity through the Biodiversity Conservation and Management Section. The Office of the Attorney General will remain engaged in providing policy guidance and oversight to the legal experts that will have responsibility for elaborating the regulations for consideration.

The project will contribute to determination of pathways for strengthened inter-agency collaboration that will be defined under the framework of the upgraded Policy for National Biodiversity Management and the updated National Biodiversity Conservation Bill. This will be elaborated within a proposed *agency operational framework* that will include revised agency mandates and responsibilities, terms of reference for key personnel, inter-agency memoranda of understanding and cooperation agreements as relevant. Considerations for enhancing engagement of non-governmental organizations and participation by civil society will also form part of this framework. Accompanying the proposed framework will be an analysis and presentation of the *recurrent cost requirements to be borne by the Government of Barbados and other key collaborating organizations*. This framework will be nested within oversight of the strengthened Working Group on Biodiversity.

Integral to strengthening the inter-agency framework to foster cooperation for biodiversity conservation in Barbados to effectively implement the NBCB is capacity enhancement. In this regard, the *capacities of relevant policy and technical personnel in the associated agencies will be strengthened through interactive training* by the lead specialists. This will be accomplished via a training programme for 80 persons (with gender-balance) from both government and non-governmental agencies to develop the capacity in critical areas of decision making and policy implementation associated with the NBCB. The core areas and themes for capacity building will be determined in parallel with the formulation of the policy and legislative upgrades (under Output 1.1.1) based on an *analysis of the institutional and personnel capacity gaps*. Training will cover knowledge requirements to achieve an improved integrated, regulatory framework to address drivers of biodiversity loss and enhance biosecurity protection in general, building out from the conservation priority associated with securing the fate of the country's endangered reptiles.

It is anticipated that the capacity building will be a knowledge sharing collaboration between national and external institutions with relevant expertise in participatory formats ranging from in-person instruction to hybrid in-person/virtual sessions, to fully online instruction/interaction. It is expected that expertise from the University of the West Indies, CABI and affiliates will be core in delivery of resources

and in securing partners that will contribute to capacity building efforts. A *suite of training resources* will developed by the project specialist team and collaborators for application in the training efforts under the project, that will remain available to the front-line agencies namely the Biodiversity Conservation and Management Section of the Ministry of Environment and National Beautification, Green and Blue Economy, the Agronomy, Plant Quarantine and veterinary services Unit of the Ministry of Agriculture and Food Security, the Town and Country Development Planning Office, the Environmental Health Department and the Office of the Attorney General, to train additional staff as it becomes necessary as a result of staff turnover and succession.

This will result in a human resource cadre with enhanced capacity to implement management recommendations for improved inter-agency collaboration that also lends appropriate gender-sensitive empowerment of personnel in discharge of duties under the upgraded institutional framework.

1.1.3 Suite of public educational resources and an interactive public awareness campaign for uptake by stakeholders

The project will launch a national education and outreach campaign to engage all relevant stakeholders and wider civil society, that focuses on biodiversity conservation, highlighting the special plight of the country's endangered reptilian biodiversity. This will be guided by a *Communication, Education and Public Awareness (CEPA) Strategy* that will be developed by the project Communications and Public Awareness Specialist under the guide of the Working Group on Biodiversity during the first six months after project inception. The strategy will seek to:

- Establish the baseline knowledge of key actors and other stakeholders in relation to threats to Barbados' biodiversity in general and endemic reptiles in particular.
- Effect the means to continuously assess data gaps and needs in data and knowledge to best inform the public to importance of Barbados' biodiversity in general with particular reference to its endangered endemic reptiles.
- Adopt various strategies such as promoting 'Conservation Champions for Barbados' Biodiversity?; communication specialists customized the technical information to develop professional training materials targeting various key stakeholders, and effective social media engagement to create greater awareness to the general public, among others.
- Identify the most effective means and channels to disseminate information about the project, its objective and the successes achieved by the project to national, regional and international audiences.
- Share lessons learned and network with key partners, nationally, regional and internationally.

The CEPA Strategy will take into consideration the following elements and associated key actions needed to increase awareness on wider biodiversity concerns highlighting the leaf-toed gecko, threadsnake and skink, the impacts of the threats they face and the areas where societal mobilization is required.

Roll-out a Public Education and Outreach Campaign to support biodiversity conservation with particular reference to endemic reptile conservation. Key actions:

? Develop targeted educational resources for dissemination across various media formats; radio, television and the web, channeled through the main government information service and the Ministry of Environment and National Beautification, Green and Blue Economy.

? Formulate key messages to re-energize public and political support for these endemic reptiles to raise funds and receive necessary socio-political support through the engagement of environmental and social media. It will also encourage all stakeholders to visit the proposed Barbados Reptile Conservation Centre (Component 2) for more information where they will get a fuller understanding of the issues of biodiversity conservation in general, and the endangered reptile conservation in particular. A key message will be the importance of protecting Barbados' endangered reptiles to global good of conserving all endemic biodiversity.

? Foster ?*Conservation Champions for Barbados? Biodiversity?* envisaged as a core of well-known local public figures who will be effective advocates for environmental conservation and support the efforts under the project.

? Promote the biosecure sites as an important tool in conservation efforts to preserve Barbados? endangered reptiles. Information for visitors (locals and tourists) will be made available on government websites such as MENB Biodiversity Conservation Unit <https://biodiversity.gov.bb/> and sites that promote Barbados such as Totally Barbados <https://www.totallybarbados.com>.

? Design and develop content to deliver key messages using key channels to targeted demographics. Short videos will be hosted on various social media platforms to increase engagement and awareness about conservation efforts and risks to survivability of Barbados? endangered reptiles.

? Maintain close stakeholder engagement to educate key stakeholders about the persistent threat of IAS, namely mongoose, rats, cats, cane toads, and giant centipedes posed to Barbados? endemic reptiles.

Engage in annual and themed advertising opportunities, both national and international such as festive season and wildlife/environmental days. Key action:

- Issue press releases on positive news stories such as increasing leaf-toed gecko populations and eradicated IAS to coincide with appropriate national and international themed days.

Implement a protocol to share scientific data and knowledge from the project through a range of dissemination channels and formats that are readily taken up by target audiences. Key actions:

- Identify key scientific journals that are accessed by national and regional scientists, natural resource managers as well as policy makers to publish the scientific findings of the project.

- Prepare news articles and interviews for mass media that targets policy makers and natural resource managers highlighting the threats facing endangered reptiles and what the project is doing to conserve these endangered species.

- Create new learning resources to be used to train both current and future natural resource managers with a mandate for protecting Barbados? biodiversity and its endangered reptiles.

Administer a questionnaire to collect feedback from relevant stakeholders to assess awareness of the ongoing threats to biodiversity in general and endangered reptiles in particular as a means to analyze effectiveness of the project outreach. Key action:

- Compile and distribute a questionnaire at the start, mid-project and at the end of project to evaluate the effectiveness of the communication strategy and outputs of the project.

The project will facilitate opportunities for engagement with work of the University of the West Indies via on-site learning and interaction with facility staff, scientists and affiliates. Priority emphasis will be placed on school engagement. The Public Education and Outreach Campaign is expected to be rolled out by the third quarter of Year One under the oversight of the Communications and Public Awareness Specialist, supported by the Working Group on Biodiversity. The project anticipates the hosting of at least 8 major awareness-raising events with attendance by at least 660 participants (gender balanced) from a wide cross section of society over the four-year project duration.

Component 2: Targeted interventions to reduce threats to endangered biodiversity and enhance population viability. This component will contribute to realizing. **Outcome 2.1:** *Enhanced national capacity for conservation of global populations of critically endangered endemic reptilian fauna. (Please see Reptile Specialist report for detailed breakdown of all related activities)*

The project will support work that has been initiated on the conservation of the Barbados Leaf-toed Gecko under the regional *GEF-UNEP Preventing the Costs of Invasive Alien Species in Barbados and OECS Countries (IAS) Project*. The project, under execution and technical oversight by CABI, is expected to complete the construction of a bio-secure area within the lands at Paragon situated just south of the Grantley Adams International Airport in Christ Church (Annex E), which have been designated by Cabinet for the Sole Use in the protection and conservation of the species. The site is a rocky, wind-swept cliff area underlain by a thick limestone substrate and thin sedimentary soil layer, supporting salt resistant grasses and other flora (such as seaside sage) which represents the same habitat that the gecko

is known to inhabit and in which they are naturally occurring. An implementation plan for management of the site, informed by an extensive monitoring programme by UWI and FFI has been underway since 2013. A Memorandum of Understanding to effect management of the site between the Ministry of Environment and National Beautification, Green and Blue Economy and the Ministry of Housing and Lands is operational.

Under this component an additional bio-secure facility will be installed at Ragged Point for safeguarding endangered reptilian fauna. This will include the establishment of a proposed Barbados Reptile Conservation Centre (BRCC) within the adjacent area to the bio-secure area. Operational protocols will be developed, along with requisite capacity building for the lead national agencies and partners. Population status and threat assessments, and conservation requirements for endangered reptile species to inform management planning and interventions will be undertaken. Financial sustainability options through innovative partnerships to support the species recovery will be developed.

Output 2.1.1: Additional bio-secure facility installed at Ragged Point (with predator exclusion, habitat augmentation and conservation education centre) for safeguarding endangered reptilian fauna, associated operational protocol/manuals and capacity building for use by lead national agencies and partners.

Based on preliminary costings derived during development of the GEF-UNEP IAS project, it was determined that a two-hectare (2 ha) site was optimal to balance cost while attaining a healthy population size for species recovery. However, as a result of significant cost increases due to travel and shipping during the COVID-19 pandemic, the site at Paragon was down-sized to 1.2 ha. Additionally, vulnerability of having only a single site was exposed by challenges recently faced by the population at Paragon specifically. Based on expert assessment, this area was heavily impacted by the La Soufriere Volcano ashfall event of April 2021, with individuals at Paragon exhibiting reduced body condition (low weight-to-length ratio) since the event, in comparison to other populations, such as at Ragged Point. The development of a second conservation site at Ragged Point would not only increase the total conservation area for the species nationally but provide resilience against site specific environmental impacts caused by unforeseen natural disasters. Investment in an additional site, while with a primary focus on conservation of the gecko, will also have conservation co-benefits for the threadsnake (known from adjacent forest in St. Philip, St. John and St. Joseph (Daltry et al, 2016)), and the skink, if rediscovered.

The project will contribute to the *establishment of a second bio-secure environment at Ragged Point*. Preliminary research carried out by UWI and FFI[35]35 suggests that the eradication of invasive species and their further exclusion from the biosecure areas should have significant positive impacts on endangered reptiles, ground foraging birds, invertebrates and coastal shrubs. This is supported by similar IAS eradication work in Christmas Island, Hawaii and Redonda Island. Ragged Point is located in the parish of Saint Phillip on the east coast of Barbados approximately 12 kilometers northeast of the site at Paragon (Annex E). The site has similar ecological characteristics as the site at Paragon and suitable habitat for the species. **Ragged Point is within the Area of Occupancy of the leaf-toed gecko and is already home to a population of geckos currently under threat by invasive predators.** Ragged Point is dominated by short grasses and shrubs, but also represents a more vertical and three-dimensional landscape. On the windward portion of the headland is a collection of large (>2m diameter) limestone boulders surrounded by seaside sage (*Croton flavens*) and sour grass (*Bothriochloa* sp.). The leeward portion has few dispersed large boulders surrounded by sour grass. Large limestone boulders are also strewn at the base of the cliffs. This provides additional vegetative cover, more complex rocky substrate and a greater number of crevices in which individuals can find shelter, escape predation, nest and breed. The ecosystem, typical to the Atlantic coast has evolved under sustained exposure to windy saline conditions with a rainfall regime of 1,200 mm per annum, mostly distributed between the months of June and November. The area that remains relatively undeveloped at Ragged Point comprises of approximately 11 hectares, dominated by a relatively flat grassy area at the Ragged Point headland to the east, with steep wooded areas extending westward along the coastline toward Culpepper Island. The Ragged Point Lighthouse and the Barbados Advanced Global Atmospheric Gases Experiment (AGAGE)

station are located in the area. The AGAGE station was established in 1978 as part of a global network to measure the composition of the global atmosphere. Its scientific program is supervised by the University of Bristol and its operation is funded by NASA and NOAA[36]36.

Habitat will be enhanced at the site replicating known microhabitat qualities of the leaf-toed gecko to increase the carrying capacity of the enclosed site. These microhabitat needs will be guided by the habitat augmentation document prepared for the Paragon bio-secure site (under the regional project *Preventing COSTS of Invasive Alien Species (IAS) in Barbados and the OECS Countries*). Augmentation activities involve the transport and placement of boulders to create habitat 'patches' on the grass pasture which does not represent suitable gecko habitat or natural coastal vegetation. These boulders will be processed *in situ* to create deep, narrow crevices to be used as diurnal refugia. Existing saxicolous habitat will not be disturbed. Native coastal scrub will be preserved as far as possible through limitations on heavy machinery use on site and by use of dedicated tracks to minimize damage. Any vegetation lost will be replaced using suitable native coastal scrub adjacent to boulder patches to provide insect prey and barriers for foraging geckos. Soil will not be introduced to the site, including via transplanted plant roots, and invasive species eradications will follow augmentation. Habitat augmentation costs are expected to approximate US\$40,000 based on costs of equivalent activities at Paragon.

The bio-secure enclosure will cover approximately 5,000 (0.5 ha) square meters over the rocky coastal cliff at Ragged Point (Annex E). This 0.5 ha site will be under improved invasive species management, monitoring to ensure biosecurity, and reporting on the benefits to the leaf-toed gecko and co-benefits to other native species. The enclosure is anticipated to accommodate between 500 and 1,500 individuals based on observed population densities in adjacent wild where the gecko has been found and studied. Surveys in 2022 concluded that the gecko population in a 2,000 m² area at Ragged Point was 67 individual geckos (0.033 geckos/m²). The enclosure design will replicate the configuration that has been installed at the Paragon site (under component two of the regional IAS Project) and will comprise of *corrugated metal mesh fencing, clad in PVC for environmental resistance, affixed to wooden posts with metal skirting and hoods*. The enclosure will be designed to exclude predators that have been determined most likely to pose a threat to the gecko; these include mongoose, rats, cats, cane toads, and giant centipedes. The cost of the bio-secure fence is approximately US\$86,655 extrapolated from the known costs of the bio-secure fence at Paragon. These activities will result in the establishment of a fenced biosecure area with appropriate natural habitat by the mid-term of the project.

After the bio-secure area has been created, invasive species eradication measures outlined in Reptile Specialist Report[37]37 (Annex U2) that target *inter-alia*, rats, mice, cats, cane toads and centipedes will be undertaken a trained team led by the Reptile Conservation Specialist. The methods proposed under this project are based on recommended global best practice in managing bio-secure sites with the objective of conservation of endangered reptiles. To note, low environmental impact controls will be applied. For example, centipede control will be assisted by use of permethrin was as a recommended control due to its short half-life. Rodenticide will be placed after the fence has been erected, greatly reducing the threat of secondary poisoning. Six weeks post-control, geckos and invertebrate prey will be reintroduced to the biosecure area and monitored to ensure successful recruitment. Equipment to support eradication and monitoring efforts are estimated to approximate \$5,000. To support biosecurity and monitoring activities, a *biosecurity manual and a management plan* will be produced. These documents will be used to develop educational materials to *train a team of 20 people (10 male and 10 female), to support monitoring, maintenance, and educational activities* at the Ragged Point educational facility and bio-secure area.

The health of the populations of geckos will be monitored within the bio-secure area by the trained team and protocols developed for possible translocation of individuals into non-secure adjacent areas with suitable habitat quality. Three indicators related to gecko population size and morphometry (population density, body condition, and tail autotomy) will be reported at the mid-term and end of the project to quantify the benefits of invasive species removal. The field methodology and data analyses to report

these indicators are detailed in Annex U2. To prevent inbreeding and genetic depression, a minimum of 500 geckos within the bio-secure area is recommended. Given the location of the proposed site, there will be conservation benefits to other species, notably birds that nest in the coastal cliff habitats, such as terns, tropicbirds, shearwaters, boobies whose eggs and fledglings may be subject to predation due to invasive species. While *P. pulcher* are not selective of species of vegetation cover, native coastal xeric vegetation must be used within the enclosure. The existing vegetation *in situ* will be preserved as much as possible with additional vegetation introduced to replace any that is lost.

Ragged Point is the location of the Ragged Point Lighthouse constructed in 1875 to warn ships of the treacherous Cobbler's Reef upon which there were numerous wrecks. Ragged Point Lighthouse is the tallest of Barbados' lighthouses with a stone tower 30 metres high. The lighthouse was renovated in 2017, and given its attractive location, it is selected to house the proposed Barbados Reptile Conservation Centre (BRCC) that will feature Barbados' endangered and extinct biodiversity, with a particular focus on the critically endangered Barbados threadsnake and Barbados leaf-toed gecko as conservation flagships. The history of the lighthouse itself will also be highlighted to offer a diverse heritage tourism experience to the visitor. This Centre will allow for creation of 'easy-reach' visibility and learning opportunities that can greatly assist with conservation messaging and gaining buy-in from stakeholders and the general public, given the otherwise difficulty to observe the flagship reptile species in open 'natural' conditions.

The building will require some renovation to, *inter alia*, replace plaster, rewire, replace old sockets, and install air conditioning. Following an engineer's inspection, refurbishment work will begin by the third quarter of Year one. A call for submissions from exhibit design teams will be circulated by the Ministry of Environment. Proposals will be vetted by the Ministry as well as the national Working Group on Biodiversity. The awarded contractor will coordinate with the Biodiversity Conservation and Management Section and the reptile conservation specialist to fabricate and install the exhibits over a 7-month period starting by the first quarter of Year Two. The establishment of the BRCC will be used as an opportunity to involve women in the construction sector by encouraging their contribution in the design phase as well as employment during construction.

A range of interactive (tactile and digital) and static interpretive displays will highlight information on the reptiles, along with the wider context natural history of Barbados. The facility will include spaces to allow visitors to interact with staff and be integrated within the wider adjacent biosecure area with appropriate access controls. The facility will incorporate state-of-the-art green technologies such renewable energy systems (likely photo-voltaic power), use of rainwater and recycling systems and will feature educational content that promotes sustainable management practices related to resource use efficiency as it relates to creating positive impacts for biodiversity and land resource management. The use of the lighthouse will also provide opportunities for integrating historic materials in the educational facility. By the project mid-term, the conservation education centre will be open to the public.

The Ragged Point site is under government ownership, and an operational agreement will be signed between the Government of Barbados and the National Conservation Commission for management of the overall facility (inclusive of the biosecure area and the BRCC). This inclusion will enhance Barbados' co-finance to the project. The institutional management arrangements for the centre will be modelled on the arrangements of the Marine and Coastal Interpretive Centre, another currently operating educational facility, which is located within the Folkestone Marine Protected Area. The National Conservation Commission is the national implementing arm of the Ministry of Environment and National Beautification, Green and Blue Economy and is mandated to undertake priority tasks identified by the Government of Barbados. This effort will include strengthening or setting a similar group like the Herpetile Conservation group of Jamaica with the aim of studying and conserving native reptiles in Barbados.

The Ragged Point Lighthouse floor space covers an area of roughly 116 m² and has a visitor capacity of 10 to 15 in the structure at any given time, while the surrounding area adjacent to the bio-secure site is estimated to have a capacity of 30; this means a total visitor capacity of 40 to 45 at a time between the outside biosecure area and the indoor BRCC facility. Concurrent tours guided by a cohort of dedicated

trained staff and volunteers can be conducted in the visitor's centre and the biosecure site, allowing a turnaround for incoming visitors. It is expected that the facility will receive 14,000 visitors by the end of the project. The Biodiversity Conservation and Management Section will coordinate tasks related to ensuring that the lighthouse meets expected visitor standards.

Financial sustainability will be facilitated via visitors' fees, installing donation boxes, sale of locally produced souvenirs, crafts, and food and drink, and through an 'Adopt-a-Gecko' programme. Additionally, the project will seek out support under the government's programme of installing photovoltaic cells and batteries on public buildings to generate electricity excess electricity to the grid; approaches will be made to the private sector partners for material investments in the Centre.

It is anticipated the entire facility (biosecure enclosure and conservation centre) will require 4 full-time operational staff and an additional 8 persons who will be employed on a part-time basis and/or volunteer arrangement. Youth and women will be encouraged to apply for employment. The operational costs of the facility, including amenities, landscape management, maintenance, and security staff, are estimated at US\$125,000 per annum. The staffing costs are expected to be covered by the Government of Barbados and the other operational costs will be recovered from income generating activities as seen in the financial analysis. **The Government of Barbados anticipates to invest some \$3.14 million in in-kind contribution toward the establishment of the biosecure area and the BRCC over the project duration, that will augment the GEF investment of \$377,255.**

The project will support the development of associated *operational protocol/manuals on predator exclusion, predator removal, habitat augmentation and population monitoring* to be utilized in a *capacity building programme for lead national agencies* and collaborators. This effort will be built on best practices that has been successfully demonstrated in programmes in other parts of the globe. The protocols/manuals will be made available in print and digital formats within a partnership programme with affiliated organizations including Ministry of Environment, National Conservation Commission, University of the West Indies, Fauna and Flora International. The project will support *in-country training* on a range of related topics including reptile handling, identification, measurement, relocation and population distribution; bio-secure fence construction, repair and maintenance. Twenty or more individuals from the surrounding community, the Biodiversity Conservation and Management Section, the National Conservation Commission, the University of the West Indies and local NGOs such as the Caribbean Youth Environment Network will be identified as recipients of this training. Theoretical and practical training sessions will be carried out over sessions spanning two to three weeks, providing opportunities for participants to learn hands-on skills and support the project during the training period. In addition, the project will support twinning capacity building activities with programmes run by Fauna and Flora International, Pacific Rim in Hawaii and the Christmas Island National Park.

The project will continue consultations with the surrounding communities of Ragged Point and wider areas within Saint Phillip, namely the communities of Bayfield, Sealy Hall and Whitehaven. The project plans at least 2 community meetings with participation by at least 200 community members to build local buy-in to the conservation approaches and seek out opportunities for engagement in nature-based tourism that the investment is anticipated to trigger.

Output 2.1.2 Population status and threat assessments, and conservation requirements to inform management planning and interventions by lead national agencies.

The project will continue to provide support to ongoing *scientific assessments on population status, threats and conservation requirements* to inform management planning and intervention by lead national agencies that will build on the previous and ongoing scientific work. The primary focus of the continued research within the scope of the project will be to map distribution of the target reptile species over the island and identify the most threats they face. It is generally accepted that there are direct pressures from potential predation from rats, mice, mongooses and giant centipedes, and competition from other invasive reptilian species, but more studies are needed to adequately inform long-term management measures from direct field conservation to land development policy. The range and population size of the Barbados leaf-toed gecko have been examined several times by Blades and Williams since rediscovery in 2011.

The population size and range are trending downwards, presenting significant concerns for the long-term persistence of this species, and further justifying its Critically Endangered status.

The Extent of Occurrence (EOO) of *P. pulcher* is a thin strip of coastal cliff and scrub on the south-east and north coasts of the island. Williams *et al* (2015) reported the Area of Occupancy (AOO) to be 0.31 km² which Blades (2020) later documented to be 0.18 km². There has been no confirmed sighting of the Barbados threadsnake for 14 years despite recent efforts by Daltry and Horrocks. The persistence of this species on the island is therefore called into question and surveys to confirm its presence are necessary. Presence /absence surveys are a critical initial phase in developing an effective targeted strategy to protect this species and its habitats into the future. The Barbados skink has not been collected in over 130 years and its persistence on the island is unlikely but not scientifically confirmed. The Barbados leaf-toed gecko was thought to be extinct for over 30 years until it was rediscovered in 2011, though sightings were reported by Horrocks in the 1990?s. Monitoring of the threadsnake cannot commence without confirmation of its persistence on the island. Targeted surveys to detect remnant populations are a necessary first step towards monitoring and conservation of the threadsnake. Findings from these intense, targeted surveys can provide evidence to conclude whether this species is critically endangered or, in fact, now extinct.

The trained team guided by the Reptile Conservation Specialist will *conduct surveys for the Barbados threadsnake and Barbados skink in key locations*, namely swamps, gullies and connected woodland where they have been collected in the past to generate an Area of Occupancy (AOO) map for these species. Namely Blackman?s gully, Jack-in-the-Box gully, Hillaby and Codrington College for the threadsnake, and Chancery Lane Swamp and Graeme Hall Swamp for the skink (Annex E). These surveys will begin by quarter two of Year one and are expected to continue for at least two months. *In situ* surveys will be conducted, searching in crevices, leaf litter, and under rocks and logs throughout the identified habitats. Specimens will be identified *in situ* if possible, and photographs will be taken and referred to experts if specimens cannot be reliably identified. Additionally, soil and water samples will be collected for eDNA analysis in search of the cytochrome oxidase subunit 1 (COI) genetic signature of the leaf-toed gecko, threadsnake and skink. Samples will be placed in falcon tubes and stored in a freezer until sequencing. The GPS locations of sighted animals will be used to generate a map of the AOO of the threadsnake and skink.

The known AOO of the leaf-toed gecko will be searched at night between 19:00 and 23:00 from quarter 1, Year 1 and repeated annually to establish an updated AOO for this species. Habitats where eDNA were collected that possess the COI genes of the leaf-toed gecko will also be surveyed. Surveys will entail search of the area for geckos, looking underneath vegetation and in crevices. Each sighted gecko will be geolocated. Attempts will be made to capture sighted geckos for morphometric data collection. Captured geckos will be measured (snout-vent-length and tail length), weighted, sexed, reproductive condition assessed, and signs of tail autotomy noted. After data collection, each gecko will be released where they were first sighted. The GPS coordinates will be used to generate a map of the EOO of the leaf-toed gecko. SVL and weight measurements will be log transformed and regressed. The residuals from the regression of these data will be used to generate an index of body condition. The population density at College Savannah, a location where the species population has been monitored since 2014, will be assessed using capture-mark-recapture surveys. The population density will be combined with the AOO to generate an estimate of the population size of this species.

The additional research findings, lessons learned from the management and operation of the bio-secure facility and accompanying recommendations amassed under the project will contribute to development of *management and species recovery plans*. These plans will be completed by quarter two of Year Three and will be reviewed by national consultation with experts through the Working Group on Biodiversity and key stakeholders identified during implementation led by the Biodiversity Conservation and Management Section.

Output 2.1.3 Financial sustainability options to support the species recovery presented to key stakeholders to secure long-term financial commitment and sustained execution by lead national agencies through innovative partnerships.

The management and species recovery plan will include in addition to the conservation actions, *financial sustainability options* for future investment and maintenance of the bio-secure areas (Paragon and Ragged Point) inclusive of the conservation centre operations. The analysis of financial requirements for the programme will inform budgetary requirements from recurrent government resources, linked to the wider finance commitments to be assessed under Component 1. A component of the financial sustainability options will be a *business management plan for the Reptile Conservation Centre and the Ragged Point bio-secure facility* considering revenue generation potential from visitation to that facility. It will also serve as the basis for further resource mobilization through the engagement of conservation partners, including local and international private sector. A preliminary financial analysis is attached as Annex U3 and shows that the potential annual recurrent expenditure of US\$125,000 to operate the facility in year five (post-project) will be generated from three main sources; (i) visitor fees: US\$14,000, (ii) sale of souvenirs: US\$14,000 and (iii) sale of electricity to the national grid: US\$90,000. The capital expenditure for the installation of the solar system on lands allocated at Ragged Point is expected to be negotiated from the programme of the government of Barbados to outfit public buildings with solar panels in its aim to achieve 100% of electricity from non-petroleum sources. The findings of the sustainability options will be presented to the project National Coordinating Committee and the Biodiversity Working Group among other key policy stakeholders (at least 20 persons) within the lead agencies for consideration.

4) Alignment with GEF focal area and/or Impact Program strategies.

BD-2-6 Address direct drivers to protect habitats and species through the Prevention, Control and Management of Invasive Alien Species: The project is in full alignment with the GEF7's focal area objective in addressing invasive alien species, one of the critical drivers of biodiversity loss, a concern that is significant on islands. It is recognized that islands have exceptionally high numbers of endemic species, with 15% of bird, reptile and plant species on only 3% of the world's land area hence support under GEF7 will help address IAS on island ecosystems. Despite its loss of native forests and woodlands, Barbados still has extant populations of native plants and animals. There at least two endemic plants, one endemic bird, the Barbados Bullfinch (*Loxigilla barbadensis*), at least 11 terrestrial invertebrates, one mammal, a rodent, which is now likely extinct, and four reptiles. The table below provides a list of total and endemic fauna to Barbados.[38]³⁸ The project will contribute to the main elements of the GEF strategy in bolstering prevention and early detection measures and investment in control and management frameworks that mitigate adverse outcomes, by focusing on the high-risk invasion pathways. The project will build on already ongoing efforts from GEF6 under the regional IAS project within Barbados and the OECS, that has demonstrated initial successes and important lessons on approaches for targeted low-cost, and effective eradication measures.

Group	Totals	Number of Endemics
Plants	~732	2 (<i>Metastelma barbadense</i> and <i>Phyllanthus andersonii</i>)
Amphibian and Reptiles	~17	4 (<i>Tetracheilostoma carlae</i> , <i>Anolis extremus</i> , <i>Alinea lanceolate</i> , <i>Phyllodactylus pulcher</i>)
Birds	~262	1 (<i>Loxigilla barbadensis</i>)
Mammals	~10	1 (<i>Megalomys georginae</i>)
Invertebrates	n/a	11 (<i>Plectromerus louisantoini</i> , <i>Lagocheirus unicolor</i> , <i>Chrysobothris antillarum</i> , <i>Phyllophaga smithi</i> , <i>Cyrtopholis annectans</i> , <i>Epiperipatus barbadensis</i> , <i>Epulotheres angelae</i> , <i>Synalpheus microneptunus</i> , <i>Atya brachyrhinus</i> , <i>Pleurodonte Isabella</i> , <i>Brachypodella costata</i>)

5) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing.

Baseline	Incremental Cost
<p>Under the baseline scenario, the fragmented approach to management of biodiversity and low capability to manage biosecurity and IAS risks will likely persist. The current lack of integration between management and development of landscapes in the interest of protection of threatened biodiversity will continue to contribute to the detriment of critically endangered reptile species such as the Barbados Leaf-toed Gecko. This will be amplified by the fact that the legislative and regulatory framework will remain inadequate to allow for closer institutional coordination among concerned agencies with the inability to effectively execute organizational mandates. The baseline situation of relatively low policy level priority accorded to management of biodiversity and IAS will continue to manifest in low human and finance resource commitment that will remain insufficient to address the operational requirements for effectively addressing biosecurity risks and IAS in the country. Although there are efforts to raise public awareness on the status of biodiversity, IAS and general issues of concern related to the state of the environment, articulation of needed actions may remain diffuse without clear understanding of roles across different segments of society, private sector and concerned stakeholders. Stakeholders will likely remain insufficiently aware of the compounding impacts of landscape development on the country's biodiversity and possible economic opportunity loss.</p>	<p>With the GEF incremental investment the country will advance to close the institutional policy coordination gap, reduce fragmentation of approaches in management of biodiversity, and enhance effectiveness in management of IAS and reduction of biosecurity risks in the country. This will serve to create an improved enabling regulatory and decision-making environment for long-term conservation particularly of endangered species including the Barbados Leaf-toed Gecko and Barbados Threadsnake with wider biodiversity conservation benefits. This will be supported by a strengthened legislative and regulatory framework that enhances institutional roles and responsiveness to management needs. The GEF investment will lend continued support to raising the policy level priority that can be anticipated to translate to increased human and financial resource commitment as reflected in national budgets. The project will enhance the level of awareness of the urgent challenges of conservation of threatened biodiversity and risks posed by IAS so as to elicit behavioral change among stakeholders across all sectors, particularly in relation to how physical development impacts the landscape and habitat quality particularly for the critically endangered reptile species. A heightened level of awareness will support buy-in to new policy and legislative instruments and enhance active stakeholder participation in ongoing efforts, those under the proposed project, and in future investments.</p>

Baseline	Incremental Cost
<p>Under a business-as-usual scenario the threat to survivorship of the critically endangered reptiles, notably the Barbados Leaf-toed Gecko and Barbados Threadsnake will remain unabated and status of the population species will likely become more critical. This comes against the backdrop that the favored habitats of the species are becoming increasingly occupied by development in areas of its known distribution. In addition, the threats posed by IAS remain high without further targeted intervention. While there are efforts to develop a bio-secure habitat that is free of IAS and other threats needed to safeguard a core population, expanded efforts are necessary, which are currently beyond the means of the country. Without expanding capability to ensure protection of habitats the species could be subjected to genetic erosion from a declining gene pool that will likely result in the inability of maintaining a resilient viable population in the long term. Under the baseline scenario, national capacity to routinely assess and monitor the status of the populations may be challenged and relegated to sporadic academic studies that may not be sufficient to guide management decisions at critical decision points. Human and institutional capacity limitations will have implications for ongoing work with respect to the current investment in the bio-secure facility for the Leaf-toed Gecko (at Paragon) in terms of long-term maintenance. This is linked to the current lack of a financial recovery mechanism where resources can be ploughed back into operations of the facility. Under the prevailing conditions, professionals in the country have not gained needed exposure to best practice examples from other parts of the globe to learn methods and tools that are needed to realize successful replication in Barbados.</p>	<p>The GEF investment will contribute further concrete investment that will boost the country's efforts at protecting the critically endangered endemic reptiles with focus on the Barbados Leaf-toed Gecko and Barbados Threadsnake and enhance the chances of maintaining stable viable populations into the long term that are resilient to IAS threats and landscape modifications within their natural ranges on the island. This will be done through additional investment in transforming areas into bio-secure zones, specifically an area at Ragged Point, to augment initial pilot efforts and applying the lessons learned. The project will significantly enhance local capacity to carry out routine scientific assessments on the species that can inform dynamic decision making and be responsive to address threats, rather than place sole reliance of sporadic scientific assessments by specialized research partners. With the GEF contribution the issue of cost recovery measures and development of innovative financial streams to support IAS control and management of bio-secure facilities will be explored. Business models will be proposed to encourage expanded investment from core government budgetary allocation and incentivize partnership with the private sector. Under the project, technical exchange opportunities will be made available for local professional to see and learn firsthand tools and methods applied in other countries in conservation of critically endangered species and reducing threats from IAS.</p>

6) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

Barbados is an island that has had a very long period of landscape modification initiated with European colonization that dated back to the early 1600s. The extent and completeness of the landscape changes over the island was attributable to the gentle terrain that yielded ideal conditions to sugar cultivation. This was compounded by the influence of IAS introduced to the island and as a result, the original biodiversity that will have once flourished on the island was largely extirpated. The Barbados Anole, Barbados Leaf-toed Gecko, Barbados Threadsnake and the Barbados Skink are the only endemic species that remain today, the latter three which are critically endangered and are of significant global conservation priority. The project will make very direct conservation to ongoing national efforts to conserve the Barbados Leaf-toed Gecko with co-benefits to the Threadsnake and Skink. This will assure

that the country has enhanced capacity to undertake measures to safeguard the remaining populations and ensure that threats to survival are mitigated in the long-term, in consideration of IAS management, developmental pressures and the background threat posed by climate change. The project will assist improving understanding of ecosystem level impacts with the ability to deliver appropriate response that will contribute to global environmental benefits and benefits to livelihoods. The project will build collective knowledge on lessening biosecurity risks, management of IAS and implementation of innovative biosecurity safeguard measures in Barbados, and assist building the community of practice in the Caribbean region that will widen experiences and knowledge at the SIDS and global levels.

7) Innovativeness, sustainability and potential for scaling up.

Innovation: The project will contribute innovative approaches to conservation of a critically endangered species in an island environment that has a high level of landscape modification. Solutions to reduce conflictive land use and consequent threats to biodiversity will be conveyed in specific innovative recommendations for action within a coordinated approach to integrated spatial planning. These will be enshrined in synergistic policy directives in the scope of the Physical Development Plan, National Biodiversity Strategy and Action Plan, National Park Plan and National Action Plan for Sustainable Land Management. It should be further noted that the Barbados Physical Development Plan is innovative among Caribbean SIDS (where few Caribbean countries have fully developed such plans), as it provides the spatial framework for realizing its national sustainable development agenda, inclusive of biodiversity management that via this project, can provide a model for learning within the region. The project will continue to support ongoing efforts to pilot test bio-security measures and associated capacity building to increase the likelihood of long-term survivorship of the Barbados Leaf-toed Gecko with co-benefits to the Barbados Threadsnake and the Barbados Skink and other native biodiversity found within the target area. The project will draw on successful approaches tried and tested in New Zealand, Hawaii and the Christmas Islands where these treatments will be adapted to conditions in Barbados. The project will seek out innovative avenues to enhance national coordination and stakeholder inclusion for biodiversity conservation and foster sustainable funding options to ensure national actions are sustained over time.

Sustainability: Long-term institutional sustainability of the project outputs will be based on the strengthened policy environment that the project will contribute to. Key will be high-level policy buy-in along with buy-in from the stakeholders and beneficiaries. The country has already recognized the issues to be addressed under the project as having critical importance as referenced in the National Biodiversity Strategy and Action Plan which was endorsed by Cabinet in 2020. Barbados is participating in the regional GEF-UNEP IAS project, where the national sub-project is lending support to conservation of the gecko and addressing the impacts of IAS in the country. The contributions from this project will be leveraged to secure engagement of private sector and other partners to expand targeted and sustainable interventions by enhancing the conditions to generate opportunities for increased and sustainable revenue streams for conservation.

The combined biosecure area and the Barbados Reptile Conservation Centre dedicated to the conservation of some of the planet's most critically endangered species, will be the very first of its kind in Barbados and in the Eastern Caribbean, and will be promoted as a significant educational asset for schools and local communities, as well as a tourism attraction. There are at least 35 active environmental

clubs and affiliated organizations engaged with environmental conservation in the country and within the outreach and awareness-raising work under the project, these organizations will be brought into active engagement with the project.

The facility will be a hub for learning and engagement of the community to support field conservation efforts around reptile and wider biodiversity conservation and ongoing IAS controls. Prior to the onset of the COVID-19 pandemic, the country received some 1.5 million visitors annually, with an estimated 53% of those from cruise ships. Of that overall number of visitors, the Barbados Tourism and Marketing Inc (BTMI) estimates that between 20,000 and 80,000 partake of nature-oriented excursions to various sites across the island. This corresponds closely to the assumptions used in the business analysis that approximately 3% of all visitors to the island will visit the facility, contributing to the financial sustainability of the facility.

Based on demand for such experiences, the addition of this conservation attraction will constitute a significant asset with good revenue generation potential that will be a critical underpinning of the sustainability model post-project. Already the National Conservation Commission successfully manages and operates the Folkestone Marine Park & Museum, from which relevant approaches will be adapted in development of the facility at Ragged Point. The Folkestone Marine Museum was established in 1994 with extensive assistance and capacity building facilitated by the Barbados Museum. In addition to the financial commitment from the government of Barbados, the National Conservation Commission has implemented entrance fees, usage fees and a gift shop which increases the revenue generating capacity. Based on this successful experience, the National Conservation Commission will bear responsibility of maintenance and monitoring of this new facility alongside the accompanying biosecure area intended at Ragged Point. The project will consider long-term national financing needs from government and other collaborators, and consider all potential avenues for revenue generation.

The scaling ? up potential: The prospect for replication of project outputs and results will be very high as conservation of endangered species under threat from habitat modification and IAS is of interest particularly in SIDS. The opportunity for exchange of lessons and learning from this project will be of use to other countries in the Caribbean and global SIDS that are attempting to address similar issues. The tools and approaches will be designed, keeping in mind the inherent resource limitations in small islands in maintaining operational protocols and infrastructure. A key aspect to ensuring sustainability of scaling up opportunities will be through continued partnership building with research organizations, private sector and relevant stakeholder groups, supported by wider public engagement.

[1] <https://www.cbd.int/doc/world/bb/bb-nbsap-01-en.pdf>

[2] <https://www.shorebirdplan.org/wp-content/uploads/2018/08/Shorebird-hunting-Barbados-Wege-2014.pdf>

[3] <https://www.iucnredlist.org/species/12081/115104581>

[4] <https://www.iucnredlist.org/species/203637/115351519>

- [5] <https://www.iucnredlist.org/species/48443321/115401286>
- [6] <https://www.iucnredlist.org/species/44579133/115387376>
- [7] <https://www.iucnredlist.org/species/22734682/95094761>
- [8] <https://bou.org.uk/barbados-sample.pdf>
- [9] <https://www.iucnredlist.org/species/203883/2771991>
- [10] <https://www.iucnredlist.org/species/76435059/76435083>
- [11] https://www.researchgate.net/publication/268746158_Under_threat_-_the_molluscan_fauna_of_Barbados
- [12] WEF Gender Gap report
- [13] https://hdr.undp.org/system/files/documents/global-report-document/hdr2021-22pdf_1.pdf
- [14] https://www3.weforum.org/docs/WEF_GGGR_2022.pdf
- [15] <https://www.countryreports.org/country/Barbados/population.htm>
- [16] <https://www.cbd.int/doc/world/bb/bb-nbsap-01-en.pdf>
- [17] <http://townplanning.gov.bb/physical-development-plan/>
- [18] <https://faolex.fao.org/docs/pdf/bar175971.pdf>
- [19] http://www.townplanning.gov.bb/pdp/Downloads/files/pdp/A-04_System%20of%20Parks%20and%20Open%20Spaces.pdf
- [20] <http://www.coastal.gov.bb/content/integrated-coastal-zone-management-plan>
- [21] <https://threatenedconifers.rbge.org.uk/conifers/juniperus-barbadensis-var.-barbadensis>, <https://www.iucnredlist.org/species/44164/2992304>
- [22] <https://www.iucnredlist.org/species/48443321/115401286>
- [23] https://www.researchgate.net/publication/275211264_Natural_history_distribution_and_conservation_status_of_the_Barbados_leaf-toed_gecko_Phyllodactylus_pulcher_Gray_1828_Squamata_Gekkonidae
- [24] Daltry, J.C., Powell, R. & Henderson, R.W. 2016. *Tetracheilostoma carlae* (errata version published in 2017). The IUCN Red List of Threatened Species 2016: e.T203637A115351519. <https://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T203637A2769298.en>. Accessed on 18 May 2022.

[25] Hedges, B. 2008. At the lower size limit in snakes: two new species of threadsnakes (Squamata: Leptotyphlopidae: Leptotyphlops) from the Lesser Antilles. *Zootaxa* 1841: 1-30.

[26] Horrocks, J. & Daltry, J.C. 2016. *Alinea lanceolata* (errata version published in 2017). The IUCN Red List of Threatened Species 2016: e.T44579133A115387376.

<https://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T44579133A44579169.en>. Accessed on 18 May 2022.

[27] Hedges, S.B. and Conn, C.E. 2012. A new skink fauna from Caribbean islands (Squamata, Mabuyidae, Mabuyinae). *Zootaxa* 3288: 1-244.

[28]

<https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Barbados%20First/2021%20Barbados%20NDC%20update%20-%202021%20July%202021.pdf>

[29] Based on expert evaluation from the University of the West Indies, 2022

[30] J. Horrocks, pers. comm. 2022

[31]

<http://www.townplanning.gov.bb/pdp/#:~:text=What%20is%20the%20PDP%3F,community%20facilities%20and%20physical%20infrastructure.>

[32] http://www.townplanning.gov.bb/pdp/Downloads/files/pdp/A-02_Strategic%20Policies.pdf

[33]

http://heritage.gov.bb/national_park.html#:~:text=The%20National%20Park%20Plan%20which,of%20natural%20and%20cultural%20heritige.

[34] The mainland island is an area of suitable habitat enclosed by a pest-proof barrier intended to exclude predator and other harmful IAS

[35] Prof. Julia Horrocks and Dr Jenny Daltry, per comms

[36] <https://agage.mit.edu/stations/ragged-point>

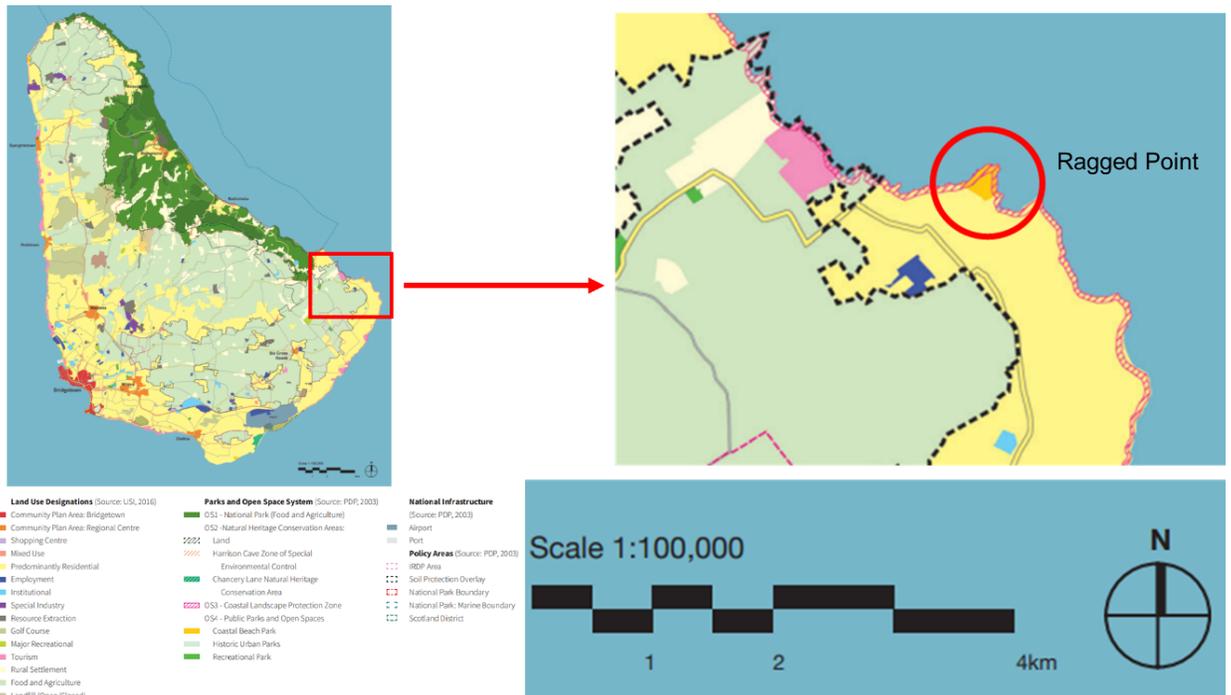
[37] Blades D.C. 2023. Conserving Barbados? Endemic Reptiles: implementation plan for Component II. Unpublished 145p.

[38] https://www.researchgate.net/publication/336699483_BIO-PROSPECTING_IN_THE_CARIBBEAN_REGION_Biodiversity_Summary_of_eight_Caribbean_countrie

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

The site-specific Component 2 of the project will focus on Ragged Point, situated on the east coast of Barbados.



Map 1. Land use (2017) at Ragged Point and adjacent areas (Barbados Physical Development Plan - National Maps[39]). Refer to Annex E for detailed site layout and specifications.

[39] http://www.townplanning.gov.bb/pdp/Downloads/files/pdp/X_Appendix%20A%20-%20National%20Maps.pdf

1c. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Civil Society Organizations Yes

Indigenous Peoples and Local Communities

Private Sector Entities Yes

If none of the above, please explain why:

Please provide the Stakeholder Engagement Plan or equivalent assessment.

ANNEX O: STAKEHOLDER ENGAGEMENT PLAN

1. Stakeholder Engagement Plan Guidance

1.1 Introduction

This Stakeholder Engagement Plan (SEP) Guidance aims at ensuring that the Project addresses stakeholders' genuine interests and avoids negative and unforeseen impacts. It is also aimed at ensuring stakeholder ownership over the project is strong. This guidance aims to enable full, effective, and inclusive engagement of stakeholders, including government authorities, the private sector, local communities, disadvantaged groups, Non-Governmental Organizations (NGOs), regional and international development partners, and others throughout the project cycle. It is important to fully engage stakeholders for the following key reasons:

- ? Identifying stakeholders' needs and expectations: Consultation also provides opportunity for project management to be aware of and to be able to manage stakeholder expectations,
- ? Managing risk: Engagement helps project proponents and communities to identify, prevent and mitigate environmental and social impacts that can threaten project viability,
- ? Enhancing reputation: By publicly recognizing human rights and committing to environmental protection, considering women's rights and empowerment, project proponents and financial institutions involved in financing the project boost their credibility and minimize risks,
- ? Avoiding conflict: Understanding current and emerging issues in terms of genetic resources, ownership of resources and benefiting from access to such resources is important to ensuring conflicts do not develop over rights to access and resulting benefits.
- ? Identifying, monitoring, and reporting on impacts: Understanding a project's impact on stakeholders, evaluating, and reporting back on mechanisms to address these impacts.

This SEP Guidance is intended to assist the project to refine its Stakeholder Engagement Plan at project inception to foster creativity and active participation of stakeholders. This stakeholder engagement plan is designed to:

- ? Understand the context and specific requirement of each stakeholder group,
- ? Ensure that the engagement of stakeholders is carried out in accordance with the requirements set by the Government of Barbados, UNEP, and GEF, including requirements with regard to gender mainstreaming,
- ? Identify key stakeholders that may be affected, and/or able to influence the project and its activities, as well as their priorities and needs,
- ? Identify the most effective methods and structures through which to disseminate project information, and to ensure regular, accessible, transparent, and meaningful consultation,
- ? Guide project management to build mutually respectful, beneficial, and lasting relationships with stakeholders,
- ? Ensure a stakeholder engagement process that provides stakeholders with an opportunity to influence project planning and design, including participatory decision-making,
- ? Establish formal grievance redress mechanisms,
- ? Define roles and responsibilities for the implementation of the SEP,
- ? Define reporting and monitoring measures to ensure the effectiveness of the SEP and periodical reviews of the SEP based on findings.

1.2 Principles of Stakeholder Engagement

The general principles based on international best practices of stakeholder engagement include:

- ? Commitment is demonstrated when the need to understand, engage and identify the community is recognized and acted upon early in the process,
- ? Integrity occurs when engagement is conducted in a manner that fosters mutual respect and trust,
- ? Respect is created when the rights, cultural beliefs, values and interests of stakeholders and neighbouring communities are recognized,
- ? Transparency is demonstrated when community concerns are responded to in a timely, open, and effective manner,
- ? Inclusiveness is achieved when broad participation is encouraged and supported by appropriate participation opportunities, and
- ? Trust is achieved through open and meaningful dialogue that respects and upholds a community's beliefs, values, and opinions.

Based on the principles identified above, the project SEP will be informed by the following guidance as articulated by UNEP and the GEF. These include the following:

- ? UNEP Environmental, Social and Sustainability Framework (ESSF)
- ? UNEP Access to Information Policy
- ? UNEP Partnership Policy and Procedures
- ? UNEP Private Sector Engagement Policy
- ? UNEP Policy and Strategy for Gender Equality and the Environment
- ? GEF Policy on Stakeholder Engagement
- ? GEF Policy on Gender Equality

2. Context of Stakeholder Engagement

2.1 Social and Environmental Considerations

In accordance with the GEF Policy on Environmental and Social Safeguards, safeguard measures have been built into the project design and implementation. Under this project, Strategic Environmental and Socio-economic Assessments (SEAs) using UNEP's Environmental, Social and Economic Sustainability Framework (ESES) framework standards including guidelines and templates have been used to undertake a screening of environmental and social impacts using the Safeguard Risk Identification Form (SIRF) that is structured around guiding principles, safeguard standards and related operational modalities including gender mainstreaming and grievance resolution. The findings from the SIRF will help streamline and focus the incorporation of environmental and social concerns into the decision-making process among stakeholders, making project-level safeguards assurance a more effective process.

As outlined in the Gender Action Plan, the Project will collaborate with the Bureau of Gender Affairs (BGA) through their participation at the Steering Committee to institutionalize gender mainstreaming to ensure a gender perspective is incorporated in all activities. In its efforts to fully integrate gender mainstreaming, the Project will be guided by the principles that gender elements are important drivers and incentives for achieving global environmental benefits, and in ensuring gender equity and social inclusion.

The stakeholder engagement will seek to ensure participation and representation, particularly around the project components that address awareness raising activities. The monitoring and evaluation of project impacts will enable the Project Management Team to reassess project intervention strategies and make revisions as needed to strengthen environmental and social outcomes.

3. Stakeholder Identification and Analysis

The stakeholder analysis was prepared following the standard UNEP methodology, focusing on an examination of the broad social, environmental, political, economic and technical contexts as well as appropriate responses or mitigation strategies, the social consequences of the Project, a discussion of existing or potential conflicts of interest along with appropriate mitigation strategies and a description of stakeholder expectations of the Project and its outcomes.

The primary beneficiaries of the Project will be nationals, and regional and international visitors to the island. The private sector engaged in eco-tourism. The scientific community both nationally, regionally and internationally interested in biodiversity conservation in general and reptile conservation in particular. Additionally, government agencies mandated with promoting environmental sustainability will benefit through a substantial increase in institutional capacities, which will also strengthen their institutional positions within the government and contribute to achieving their mandates under various multilateral agreements for the conservation of biodiversity and the management of IAS.

Stakeholder expectations from the Project and its outcomes are very high. The Project is seen as an opportunity to transform the Barbados leaf toe gecko from critically endangered to stable while quantifying the status of the threadsnake and the skink. At the same time, stakeholders expect direct benefits from the project in terms of training opportunities, access and to expand the eco-tourism product of the island.

Based on the stakeholder consultations conducted, stakeholders were analyzed and categorized according to their level of power and interest in the project, the various means by which they will be engaged, and the anticipated behavioural changes that can be expected as a result of those engagements. The table summarizes how stakeholders participated in project design and how the project captures their priorities and concerns, along with their roles and responsibilities in project implementation.

Stakeholder Analysis: Project Role	Stakeholder	Strategy/ Method of Engagement	Means of communication	Involvement Schedule and project Stage
<p>Key Stakeholders: High Power/High Interest: These stakeholders are to be <u><i>managed closely</i></u></p> <p>Roles: Project executing partners who, based on their portfolios, will play a role on the steering committee or through other direct project activity involvement, including the integration of traditional knowledge. Stakeholders in this group are critically involved in the areas within which the project will have most impact, have oversight of the areas within which the project will have most impact or are directly related to the target issues for the project.</p>	<ol style="list-style-type: none"> 1. Ministry of Environment and National Beautification, Green and Blue Economy 2. Ministry of Agriculture and Food Security. 3. Ministry of Housing, Lands and Rural Development / Town and Country Planning Development Office 4. Barbados Defense Force 5. Office of the Attorney General 6. Environmental Health Department 	<p>Engagement should be through face to face meetings, individual consultations, and assignments of project activity completion. Stakeholders in this category will be included in all project meetings. This will particularly be so in the case of necessary leadership and/or management meetings for the project.</p>	<p>Preferred means of communication for this group is email and/or telephone with at least a quarterly face to face meeting.</p>	<p>This group of stakeholders has been involved from the onset of the project and will be kept involved throughout the life of the project at each stage. Contact will be done through regular management meetings held at least once per quarter</p>

Stakeholder Analysis: Project Role	Stakeholder	Strategy/ Method of Engagement	Means of communication	Involvement Schedule and project Stage
	7. National Conservation Commission 8. National Heritage Department 9. Bureau of Gender Affairs 10. Barbados Hotel and Tourism Association 11. Barbados Real Estate Association 12. Communities of Ragged Point and wider areas within Saint Phillip 13. Caribbean Youth Environment Network (CYEN) 14. University of the West Indies 15. CAB International (CABI) 16. University of the West Indies (UWI) 17. Fauna & Flora International (FFI) 18. Re:wild	The project coordinating committee that is envisioned will include these agencies, organizations or groups as permanent members or members of specially appointed sub-committees. Stakeholders in this group will be included in decision-making meetings regarding project activities within their area of expertise.		
Stakeholders to be <i>Monitored</i> for inclusion as necessary and for inclusion in PR as well as community awareness activities.	19. Barbados Chamber of Commerce and Industry (BCCI) 20. Barbados Environmental Conservation Trust (BECT) 21. Barbados Estate Agents & Valuers Association Inc	Stakeholders in this group will be kept on the radar of the project management team with intermittent check ins to determine if this group needs to be	Preferred means of communication with this group is via emails or telephone.	One-time events, presentations, workshops, webinars, story projects, etc. at intermittent times throughout the project

Stakeholder Analysis: Project Role	Stakeholder	Strategy/ Method of Engagement	Means of communication	Involvement Schedule and project Stage
	22. National Organisation of Women	changed to one of the other groups over the life of the project		will be facilitated for this group
	23. Walkers Institute for Regeneration Research Education and Design Inc. (WIRRED)			
	24. Emera Caribbean Inc. (ECI)			
	25. Caribbean Hotel Energy Efficiency Action Program (CHENACT)			
	26. Barbados Hotels			
	27. Cruise Liners			
	28. Totally Barbados			
	29. Tour Operators			
	30. Girl Guides Association of Barbados			
	31. Barbados Boy Scouts Association			

4. Principles of Engagement

The fundamental principles of stakeholder engagement identified in 1.2 will be operationalized in the project as follows:

Stakeholder engagement principle	Means of practical operationalization in the Project
Commitment (demonstrated when the need to understand, engage and identify the community is recognized and acted upon early in the process)	<ul style="list-style-type: none"> ● Stakeholders, including marginalized groups have been identified, and will be engaged throughout project implementation ● Project implementation will build on identified and expressed stakeholder priorities ● Stakeholders' priorities will guide the entire project cycle ● Commitment will be upheld by closely communicating with all stakeholders

<p>Integrity (occurs when engagement is conducted in a manner that fosters mutual respect and trust)</p>	<ul style="list-style-type: none"> ●No acts of intimidation, provision of bribes or unregulated patronage will be tolerated and if any come to the notice of the Project, these will be reported and dealt with using appropriate government and/or UNEP channels ●All obligations of government to ensure public participation where relevant, consent processes, transparency, redress for grievances and accountability shall be upheld ●Security measures to ensure safety of all staff and project participants will be allotted high priority
<p>Respect (created when the rights, cultural beliefs, values and interests of stakeholders and neighbouring communities are recognized)</p>	<ul style="list-style-type: none"> ●All project planning, design and implementation shall be consistent with local customary processes regarding public engagement and local decision-making ●Culturally appropriate mechanisms/processes of communication will be upheld in all aspects of project implementation ●Engagement that is culturally appropriate to the norms and standards of Carriacou must be adhered to. Standard procedure for stakeholder engagement in local communities proceed through the customary channel involving an appropriate local community group before initiating work or consultations with community residents.
<p>Transparency (demonstrated when community concerns are responded to in a timely, open, and effective manner)</p>	<ul style="list-style-type: none"> ●Key stakeholders will be involved via the national steering committee in project inception planning processes and feedback will be reflected in project implementation ●Information on project progress, incl. reports will be disclosed regularly ●Decision-making on project implementation will be based on stakeholder consultations and shared regularly ●Stakeholders will be involved in screening of project for social and environmental risks
<p>Inclusiveness (achieved when broad participation is encouraged and supported by appropriate participation opportunities)</p>	<ul style="list-style-type: none"> ●All aspects of project interventions will account for differentiated roles and interests of Barbadian men and women, with special consideration to women and youth. ●Diverse project communication materials will be tailored for different stakeholders in an understandable, accessible, appropriate times frames to ensure equity in information access ●Adequate budget to address capacity needs will be allocated
<p>Trust (achieved through open and meaningful dialogue that respects and upholds a community's beliefs, values, and opinions)</p>	<ul style="list-style-type: none"> ●The Project will address local needs on a priority basis ●Working relations with communities will be built and nurtured through continuous engagement in planning, decision-making and implementation

5. Methods of Engagement

The Project will apply various methods of stakeholder engagement that vary by the purpose of engagement. The main purposes of engagement include i) project implementation, ii) consultation and joint decision-making, iii) capacity development, iv) participatory monitoring, and v) dissemination of information. The individual methods of engagement for these purposes have been outlined in table 13 and reiterated below.

While the PSC represents the highest form of engagement under the project, there will be several other opportunities and avenues for stakeholders to engage with the project over the life of the project. These include *inter-alia* the following:

- Working groups, Training programs and Workshops
- Awareness and education campaigns
- Gender-sensitisation and mainstreaming events
- Notice boards, via Community Focal Persons
- Ministry's website and social media campaigns
- Brochures, bulletins, press releases, Policy briefs.
- Local radio/TV
- Barbados Reptile Conservation Centre

6. Removing barriers to stakeholder engagement ? women and marginalized groups

In order to facilitate social inclusiveness by mainstreaming gender considerations in project development and implementation, the Project has prepared a Gender Action Plan which will seek to institutionalize gender mainstreaming in line with the program of the Bureau of Gender Affairs. A gender perspective is, therefore, incorporated in all plans and activities that will be implemented under the project. In its efforts to fully integrate gender mainstreaming, the Project will be guided by the principles that gender elements are important drivers and incentives for achieving global environmental benefits, and in ensuring gender equity and social inclusion. The Project also embraces the fact that the needs, interest, and capabilities of women are habitually and structurally different from those of men, in relation to the access, use, and management of biodiversity resources within project intervention areas, and thus, must be given special consideration in ensuring equal access to the resources and services of the Project, in order to facilitate social inclusiveness by mainstreaming gender considerations in project development and implementation.

The provisions for removing barriers to the active and genuine engagement of females and of marginalized groups will include (i) administering of gender-disaggregated Focus Group Discussions, and of gender-disaggregated consultation meetings, (ii) training contents, methods, timings and venue adjusted to the specific needs of women and other incentives established under the project.

7. Engaging the private sector

The private sector will be engaged particularly in the implementation of Component 2 which provides for the establishment of the Barbados' Reptile Conservation Centre which will cater to both nationals and regional and international visitors. This facility will offer opportunities to collaborate with the private sector engaged the production of electricity from wind and solar. Tour guides that specializes in eco-tours. Women and youth skilled in the manufacture of crafts. It is anticipated that sustainability will be achieved through accessing government support, generation of income from the sale of electricity to the national grid as well as visitor fees and the sale of souvenirs in addition to grants and donations. These mechanisms will be based on business and marketing principles and the private sector will be consulted

and engaged in the context of product development and market access opportunities to facilitate the uptake of investment in biodiversity-based activities that support livelihoods.

Stakeholder engagement has different phases of engagement. The first engagement phase was during the preparation of the PIF. That was followed by stakeholder engagement during the PPG, during which the extensive engagement was conducted to set the stage for the implementation of the project. Project implementation requires stakeholder engagement customized not only in terms of formats that are adequate to the specific needs to the concerned stakeholders but also to the subject matter of individual project components. The stakeholder engagement activities related to individual project components/outputs as well as project management activities are presented in below:

Project Output	Stakeholder engagement activity	Methodology	Timing	Stakeholder involved
Outcome 1.1: National lead agencies and relevant stakeholders adopt an improved integrated, regulatory framework to address drivers of biodiversity loss and enhance biosecurity				
Output 1.1.1: Policy recommendations, drafting instructions and draft National Biodiversity Conservation Bill with biosecurity elements based on the Cabinet-Approved Policy for National Biodiversity Management, made available to Cabinet for consideration	? Activity 1.1.1.1. Host 4 national consultations on updating the draft National Biodiversity Conservation Bill (NBCB) ? Activity 1.1.1.2. Prepare suite of policy recommendations to update national policy for biodiversity management	1.1.1.1 National Consultation meetings 1.1.1.2.: Inter-departmental meetings, Focus Group Discussions, Consultation meetings.	1.1.1.1: Y1, one per quarter 1.1.1.2: Y2 Q1	Key stakeholders and relevant stakeholders
Output 1.1.2: Suite of gender-responsive regulations and management recommendations and capacity-building to support operationalization of the proposed legislative and regulatory framework, endorsed by stakeholders, for consideration by Cabinet	? Activity 1.1.2.1 Prepare NBCB regulations; enhancements of regulations of associated existing laws ? Activity 1.1.2.2: Prepare inter-agency operational framework and associated costs	1.1.2.1: Focus group discussions between consultant and key stakeholders 1.1.2.2 Focus group discussions between consultant and key stakeholders	1.1.2.1: Y 3, Q 1.1.2.: Y3 Q3	Key and relevant stakeholders Key and relevant stakeholders

Project Output	Stakeholder engagement activity	Methodology	Timing	Stakeholder involved
Output 1.1.3: Suite of public educational resources and an interactive public awareness campaign for uptake by stakeholders	? Activity 1.1.3.3 Launch event - Public Education and Outreach Campaign ? Activity 1.1.3.4 Design and disseminate learning resources for schools ? Activity 1.1.3.5 Develop and disseminate suite of targeted educational resources; short video series ? Activity 1.1.3.6 Host series of stakeholder/public engagement events ? Activity 1.1.3.1 & 1.1.3.7 Evaluate public perceptions pre and post-project	1.1.3.3 Public high-profile media event 1.1.3.4 School lectures, field school experiences 1.1.3.5 Public media interviews, programmes on radio; television, information via social media channels 1.1.3.6 Meetings, townhall events, expose events, lectures 1.1.3.1 & 1.1.3.7 Public poll surveys	1.1.3.3 Y1 Q2 1.1.3.4 Y1 Q1 to Y4 Q1 1.1.3.5 Y1 Q1 to Y4 Q1 1.1.3.6 Y1 Q3 to Y4 Q3 1.1.3.1 & 1.1.3.7 Y1 Q1 & Y4 Q3	All stakeholders
Outcome 2.1: Additional bio-secure facility installed at Ragged Point (with predator exclusion, habitat augmentation and conservation education centre) for safeguarding endangered reptilian fauna, associated operational protocol/manual and capacity building for use by lead national agencies and partners.				
Output 2.1.1: Additional bio-secure facility installed at Ragged Point (with predator exclusion, habitat augmentation and conservation education centre) for safeguarding endangered reptilian fauna, associated operational protocol/manuals and capacity building for use by lead national agencies and partners	? Activity 2.1.1.1: Town hall meeting(s)/ ? consultations with the Ragged Point and surrounding communities	2.1.1.1: Focus groups discussions with community leaders and interested residents	2.1.1.1 Y1 Q3	Community and social Leaders and interested residents

Project Output	Stakeholder engagement activity	Methodology	Timing	Stakeholder involved
Output 2.1.2: Population status and threat assessments, and conservation requirements to inform management planning and interventions by lead national agencies	? Activity 2.1.2.2 Implement management / species recovery (monitoring) Plan ? Activity 2.1.2.5 Conduct annual surveys for <i>T. carlae</i> ; <i>A. lanceolate</i> and <i>P. pulcher</i>	2.1.2.2 Focus group meetings with key science-based stakeholders 2.1.2.5 Community engagement in sighting reporting; support to field data gathering	2.1.2.2 Y2 Q4; Y3 Q4; Y4 Q4 2.1.2.5 Y1 Q4; PY2 Q4; Y3 Q4; Y4 Q4	Community and social leaders and interested residents; schools
Output 2.1.3 Financial sustainability options to support species recovery presented to key stakeholders to secure long-term financial commitment and sustained executions by lead agencies through innovative partnerships	? Activity 2.1.3.1 Convene stakeholder consultations	2.1.1.3.1 Key private sector entities and individual firms mentioned in the stakeholder analysis above	2.1.3.1 Y3 Q1	Key Private sector representative bodies as well as individual firms
Project Management				
Management arrangements	1. Inception Workshop 2. Project Coordination Committee meetings	1. Workshop 2. Meetings incl. minutes; reports 3. Contract/MoU negotiations	1. Inception Phase 2. Bi-annually 3. Need-based	All stakeholders All PSC members Project partners
Monitoring & evaluation	1. Safeguard risk monitoring 2. Process monitoring 3. Impact monitoring 4. Mid-term & Terminal Evaluation	1. Environmental and Social Management Framework and Plan 2. Implementation & financial monitoring 3. Tracking Results Framework indicators 4. External evaluation	1. Inception Phase; continuous 2. Continuous 3. Midterm & project end 4. Midterm & project end	PMU & Partners All stakeholders

Project Output	Stakeholder engagement activity	Methodology	Timing	Stakeholder involved
Reporting	1. Quarterly Financial Reporting 2. Half Annual Progress Reporting 3. GEF Project Implementation Review 4. Annual Co-financing report	Reports	1. Quarterly 2. Annual 3. Annual 4. Annual	PMU PMU PMU
Communication	1. Internal Communication 2. External Communication	1. Internal Communication 2. External Communication	Continuous	Project implementers All stakeholders

8. Resources and responsibilities

Resources: Sufficient human and financial resources will be allocated to ensure that the stakeholder engagement activities can be implemented in a resource-effective manner.

In terms of human resources, each consultant hired to carry out the responsibility of the activities will have included in their contract the implementing of activities related to stakeholder engagement as defined in the present plan. Besides, the Project will collaborate with the Government Information Office for a broad dissemination of project information.

Responsibilities: Stakeholder engagement will mean interaction with different teams during different project phases (table above). During the Inception Phase and the Project Implementation Phase the overall responsibility rests with the Project Management Unit. In addition, the Project's Implementing an executing Agency will share this responsibility.

9. Monitoring, reporting and disclosure

Monitoring: The implementation of the present Stakeholder Engagement Plan should be monitored and periodically evaluated by the Project Steering Committee, assisted by the PMU. Additionally, the following impacts of stakeholder engagement are monitored and evaluated:

- ? Level of understanding of the project stakeholders,
- ? Annual grievances received and how they have been addressed, and
- ? Level of involvement of stakeholders in project implementation.

In order to measure these indicators, the following means for capturing the data will be used:

- ? Issues and management responses linked to the minutes of meetings,
- ? Quarterly reports,
- ? Feedback from primary stakeholder groups,
- ? Grievance register.

Reporting: Stakeholder consultations will be reported to capture the following information in each case:

- ? Date and location of each meeting, incl. mode of notifying stakeholders
- ? The purpose of the consultation/engagement
- ? The mode of engagement and consultation (e.g., individual/group meetings, FGDs, written, etc)
- ? Number of participants by category, sex, etc.
- ? Summary of main points discussed, information provided, and concerns raised by stakeholders
- ? Summary of how stakeholder concerns were responded to and considered
- ? Issues that require follow up actions, including clarifying how stakeholders are informed of decisions

Disclosing of Information

The Project will ensure all relevant information is duly disclosed to stakeholders and the public through an active, targeted, and continuous process that will form part of the Project's Communication Strategy.

Throughout project implementation, including in the process of preparing Annual Work Plans, the PMU will assess stakeholder who may potentially be affected by individual activities. Targeted measures will be taken to engage these affected stakeholders. In compliance with Free, Prior, and Informed Consent (FPIC) procedures, proper dissemination of information will be ensured particularly for the engagement of local communities so that these can take informed decisions on whether to approve of and engage on planned project activities. Potential impacts will be assessed in terms of environmental and social aspects, presented to the stakeholders and if required, amendments and mitigating options will be identified.

Updates on project progress (including progress towards indicator targets) and on stakeholder engagement will be disclosed regularly through i) Project Coordinating Committee meetings, ii) regular progress reporting as per UNEP and GEF requirements, and iii) all other communication platforms utilized by the Project.

Special attention will be paid to enabling an understanding of and disclosing of the environmental and social risks and any applicable mitigation measures. Risk assessment will be a continuous process and results will be disclosed synchronously with periodic GEF and UNEP reporting, which will document risk assessment, mitigation measures and any applicable grievances. Disclosure will be done through periodic reporting. In a similar manner, grievances and measures for their resolution will be disclosed as described in the next Section.

In addition, the PMU will maintain a database and activity file on the details of all public consultations, disclosure information and grievances collected throughout the project, which will be accessible for public review on request.

Grievance redress mechanism

A grievance is a concern or complaint raised by an individual or group affected directly or indirectly by the project development, or implementation. Both concerns and complaints can result from either real or perceived impacts and their filing and handling may follow the same procedure. The specific objectives of the grievance redress mechanism are to:

- ? Provide stakeholders with a transparent process for providing comments and raising concerns and complaints, optionally in an anonymous manner,
- ? Structure the handling and management of comments, responses and grievances, allowing for monitoring of the process,
- ? Ensure that all comments, concerns, and complaints are handled in a fair and transparent manner.

Stakeholder Response and Grievance Redress Mechanism

The project aims to be stakeholder responsive and relevant. For any perceived concerns and negative impacts caused by the project to the stakeholders, the project team, Government of Barbados, the UNEP, and the GEF are willing to hear and address them in an impartial and transparent manner.

UNEP's measure to handle complaint-related matters is called the Stakeholder Response Mechanism (SRM). UNEP SRM provides further details on the SRM eligibility and related process. The document

may be accessed using the following link:

<https://wedocs.unep.org/bitstream/handle/20.500.11822/32023/ESSFRM.pdf?sequence=13> Eligible cases should meet the following criteria:

- ? Complaints raised for currently proposed or implemented UNEP projects
- ? Demonstration of the adverse impacts due to UNEP-implemented project activity
- ? Complaint is related to UNEP's commitment on safeguards through the ESSF or the project safeguard documents

Complaints can be ideally forwarded to the project team through CABI at n.ramnanan@cabi.org for speedy and informed assessment of the context and the issues. However, complaints can be also registered to UNEP and the GEF as outlined below. Request for anonymity of the complainers is respected if requested.

Compliance and grievance contact information:

The following contact information can be used to report any grievance from any party at the project, UNEP or GEF level at any time.

Government of Barbados Response Mechanism

At the level of the project, complaints can be sent to the project management unit through the Ministry of Environment and National Beautification, Green and Blue Economy. The department may be reached through the following contact details:

Ms. Kim Downs-Agard
Senior Environmental Officer
Ministry of Environment and National Beautification, Green and Blue Economy
9th Floor Warrens Tower II, Warrens,
St. Michael, Barbados, BB12001

Tel: (246) 535-4350; email: Kim.DownesAgard@barbados.gov.bb

UNEP Stakeholder Response Mechanism

Complaints can be sent to the UNEP-IOSSR directly by completing the UNEP Online Project Concern Form, which is available both online and in PDF format here (<https://wedocs.unep.org/bitstream/handle/20.500.11822/14115/ComplianceRequestForm-English.pdf?sequence=1&isAllowed=y>). The Form is available in English, Arabic, Chinese, French, Russian or Spanish.) However, submission in local languages is welcome. The form can be emailed or mailed to IOSSR. They can also be reached by telephone.

Independent Office for Stakeholder Safeguard-related Response (IOSSR) &
Director of Corporate Services Division
UNEP
P.O. Box 30552, 00100
Nairobi, Kenya
Tel: +254 709 023 421 / +254 207 626 711

For GEF projects - Concerned stakeholders may also submit a written complaint in any language to GEF's Conflict Resolution Commission (<https://www.thegef.org/projects-operations/conflict-resolution-commissioner>) and send it to:

Mr. Peter Lallas
GEF Conflict Resolution Commissioner
E-mail: plallas@thegef.org
Mailing Address:
Mr. Peter Lallas
Global Environment Facility
The World Bank Group, MSN N8-800

1818 H Street, NW
Washington, DC 20433-002

A grievance is a concern or complaint raised by an individual or group affected directly or indirectly by the project development, or implementation. Both concerns and complaints can result from either real or perceived impacts and their filing and handling may follow the same procedure. The specific objectives of the grievance redress mechanism are to:

- ? Provide stakeholders with a transparent process for providing comments and raising concerns and complaints, optionally in an anonymous manner,
- ? Structure the handling and management of comments, responses and grievances, allowing for monitoring of the process,
- ? Ensure that all comments, concerns, and complaints are handled in a fair and transparent manner.

At project inception the Project Steering Committee will develop an appropriate mechanism that will facilitate the receipt of comments, and grievances from beneficiaries and stakeholders and for ensuring that these are correctly handled and documented. This mechanism will be made known to project beneficiaries and stakeholders that will be inclusive of defined focal point(s) persons to whom grievances may be directed, along with modes for uptake of comments and grievance (e.g., writing via email, social media, or the suggestion box, both under disclosure of their names and anonymously based on a prescribed format), and the process for redress. Grievances may be voiced at any time.

General guidelines:

- ? A formal documentation process for receipt of grievances and tracing of the resolution process needs to be established. Beyond the capture of the case data, elements to consider may include (i) the adequacy of the mechanism, (ii) the timeliness of the process and (iii) lessons learned and adjust procedures in response. This should be maintained in an appropriate database.
- ? There should be an agreed timeframe from receipt of the grievance to transmission of acknowledgement from the project management, with outline of the resolution process to address the complainant.
- ? There should be an initial screening of complaints by the grievance mechanism to determine eligibility for further assessment or rejection. Where cases may be rejected, rationale must be communicated to the complainant with opportunity provided for further review if deemed necessary.
- ? Grievances that are determined for investigation should be processed within a proposed standard timeframe with complaints kept informed of status and advised of outcome.
- ? Where concerned parties agree on the findings and appropriate remedial measures taken and deemed resolved the grievance will be concluded. If the grievance still stands, further investigations should be undertaken to determine steps for future action, consistent with the laws of Barbados.

SEP Review Process

The Stakeholder Engagement Plan should be reviewed periodically by the PMU based on consultations with all concerned stakeholders. The first review and formalization of the SEP will be carried out during the Project Inception Phase and annually thereafter with an account provided in the semi-annual progress reporting and monitoring and annual progress implementation review (PIR) reporting.

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

Stakeholders have been consulted in determining means of gaining effective engagement to realize the project intended results. Emphasis was on identifying project priorities, particularly as it related to

activity areas within which they have a direct interest as a potential beneficiary or where they have agreed, to partner with MENB in the implementation of the project. Project Stakeholders and their roles in project implementation is presented in Table 1 below.

Table 1. Project Stakeholders and their Roles in Project Implementation

Stakeholders	Roles in Project Implementation
Ministry of Environment and National Beautification, Green and Blue Economy - Biodiversity Conservation and Management Section	<i>Executing Agency, stakeholder and co-financer.</i> The Ministry, through the Biodiversity Conservation and Management Section will provide overall project direction in collaboration with CABI that will serve the role of national project Executing Agency and will lead project implementation in collaboration with key stakeholders, and as Operational Focal Point, will be the liaison with UNEP and GEF. The Working Group on Biodiversity (Cabinet-appointed) will provide policy and technical oversight
Ministry of Agriculture and Food Security ? Agronomy, Plant Quarantine and veterinary services	<i>Stakeholder and co-financer.</i> Policy and technical inputs in project implementation as part of the National Biodiversity Conservation Working Group. The ministry and the departments are responsible for the biosecurity at the ports of entry and will be critical during project implementation in assisting in public awareness of how IAS threaten the Barbados? endangered reptiles in particular and biodiversity in general.
Town and Country Development Planning Office	<i>Stakeholder.</i> Policy-level inputs in achieving key project outputs in addressing land management and habitat conservation/protection for the Leaf-toed Gecko under Component 1.
Environmental Health Department	<i>Stakeholder.</i> Achieving outputs related to policy formulation and operational approaches in IAS (including rodents) management under both project components.
Coastal Zone Management Unit	<i>Stakeholder.</i> Policy-level inputs on coastal zone conservation aspects in achieving key outputs under Component One .
Office of the Attorney General	<i>Stakeholder and co-financer.</i> Critical to achieving the legal and policy outputs under Component One.
Bureau of Gender Affairs (BGA)	<i>Stakeholder.</i> Guidance and information as it pertains to ensuring that the policies recommended by the project would not undermine the equal benefits and participation of women and youth during the implementation and post project.
National Conservation Commission	<i>Stakeholder and co-financer.</i> Policy-level inputs in project implementation related to enhancing environmental resource management and expanding stakeholder engagement under both project components. Key role in development, operation and management of the proposed Barbados Reptile Conservation Centre biosecure environment.

Stakeholders	Roles in Project Implementation
Ministry of Tourism & International Transport	<i>Stakeholder and co-financer.</i> Policy-level inputs during project implementation in particular to achieving key legal and policy outputs under Component One and the promotion of the Barbados Conservation Centre under Component Two.
Barbados Defence Force	<i>Stakeholder.</i> Sharing of experience in security and installation of the biosecure fencing at Ragged point based on the experience at the bio-secure facility at Paragon.
Barbados Environmental Conservation Trust (BECT)	<i>Stakeholder.</i> Support in actively promoting visitation to the Barbados Reptile Conservation Centre and supporting resource mobilization in making the facility sustainable post project.
National Organisation of Women	<i>Stakeholder.</i> Assist in mobilising women during project implementation to be involved in the project activities and to disseminate gender disaggregated data generated by the project.
Barbados Chamber of Commerce and Industry (BCCI)	<i>Stakeholder.</i> Provide representation on behalf of wider private sector in contribution to promoting the conservation effort to the island's business community, and gaining buy-in among private sector. Assist with resource mobilization.
Barbados Hotel and Tourism Association	<i>Stakeholder.</i> Support in promoting visitation to the Barbados Reptile Conservation Centre and supporting the achievements of key components inputs on project design related to land development policy and critical habitat conservation and resource mobilization in environmental resource management.
Barbados Real Estate Association	<i>Stakeholder.</i> Participate in the dialogue related to land development policy and critical habitat conservation.
Barbados Estate Agents & Valuers Association Inc	<i>Stakeholder.</i> Participate in the dialogue related to land development policy and critical habitat conservation.
Walkers Institute for Regeneration Research Education and Design Inc. (WIRRED)	<i>Stakeholder.</i> Lend technical advice and cooperaton to on-site restoration efforts at the new bio-security site incorporating climate-smart regenerative landscape practices.
Totally Barbados	<i>Stakeholder.</i> Support educational and promotional efforts in destination marketing associated with eco-tourism based opportunities around reptile conservation
Communities of Ragged Point and wider areas within Saint Phillip (communities of	<i>Stakeholder.</i> Participate in the dialogue related land development policy with the Biodiversity Conservation and Management Section in formulation of the National Biodiversity Strategy and Action Plan and local landscape conservation. These communities will continue to be consulted to with respects to the key outputs relating to legal and policy issues under Component One.

Stakeholders	Roles in Project Implementation
Bayfield, Sealy Hall, Whitehaven)	
Centre for Agriculture and Bioscience International (CABI)	Project Executing Agency. Will Coordinate project implementation with the Biodiversity Conservation and Management Section of the MENB.
University of the West Indies (UWI)	<i>Stakeholder and Co-financier.</i> Key member of the Biodiversity Working Group that will serve as the steering committee for the project during project implementation with particular focus on Component 2 in conservation of the Leaf-toed Gecko.
Institute of Gender and Development Studies, UWI	<i>Stakeholder.</i> Will provide support to project implementation team and stakeholders to ensure greater gender responsivity during project implementation; Support greater visibility of gender issues in the environment and in species conservation in particular.
Caribbean Youth Environment Network (CYEN)	<i>Stakeholder and Co-financier.</i> Engagement in youth advocacy across both project components and support to in-field technical work under Component 2.
Caribbean Hotel Energy Efficiency Action Program (CHENACT)	<i>Stakeholder.</i> Provide guidance to replication of relevant sustainable tourism approaches based on experiences and knowledge gained in promoting energy efficiency programmes (related to the reptile conservation centre.
Emera Caribbean Inc. (ECI) / Emera Caribbean Renewables Limited	<i>Stakeholder.</i> Support to on-site sustainable energy investments to meet the proposed reptile conservation center's power needs and provide technical guidance.
Fauna & Flora International (FFI)	<i>Stakeholder and Co-financier.</i> Provide technical inputs and guidance in the construction of the biosecure facility and the conservation efforts under Component 2.
Re:wild	<i>Stakeholder and Co-financier.</i> Provide technical inputs and guidance in the construction of the biosecure facility and the conservation efforts under Component 2.
Caribbean Herpetological Society	<i>Stakeholder.</i> Sharing of knowledge and experience on reptile conservation in the Caribbean with particular focus on Component 2 in conservation of the Leaf-toed Gecko.

Local high-profile persons renowned for supporting conservation in Barbados will be solicited to serve as environmental conservation patrons, enabling a spotlight to be cast on the special plight of endangered species through their advocacy and support. The Prime Minister of Barbados for example will be among those who will be solicited. Such highly visible championship is expected to bolster public buy-in to conservation goals, prioritizing ecosystem health and promoting nature-based tourism as a valued facet of the Barbadian lifestyle.

Like-minded corporate citizens will be solicited to align themselves with the conservation efforts of Barbados' endangered reptiles with demonstration of commitment via material contributions, through donations, sponsorships, volunteering employee time and other means of support. This will create a win-win gain for conservation while garnering corporate visibility and customer loyalty. A concerted effort will be made as part of the project communication and public awareness activities to reach out to successful businesses that appeal to nationalism as in their marketing strategies to partner with the project to feature the endangered reptiles in their marketing strategies. The Barbados Chamber of Commerce and Industry will be engaged to partner with the project to promote national biodiversity conservation through its members.

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor;

Co-financier; Yes

Member of project steering committee or equivalent decision-making body; Yes

Executor or co-executor;

Other (Please explain)

Specialist agencies that focus on endangered species recovery will be important partners. The project partnership will rely on their networks to reach out to other international partners engaged in biodiversity and reptile conservation such as Island Conservation, The Nature Conservancy and the International Union for Conservation of Nature. It is anticipated that conservation organizations within the Caribbean region will partner to share knowledge and best practices based on ongoing work by organizations such as the Environmental Action Group (Antigua & Barbuda), the National Trust for the Cayman Islands and the Anguilla National Trust.

Besides providing direct technical inputs on the project, it is anticipated that UWI's Centre for Resource Management and Environmental Studies (CERMES) of Cave Hill Campus (Barbados) and the Department of Life Sciences of St. Augustine Campus (Trinidad & Tobago) will field students to undertake projects as part of formal studies or work as interns that contribute to project activities. Students will also be encouraged to pursue higher degrees in collaboration with the project. Opportunities for student engagement will also be sought from other regional and international universities.

Local member clubs and associations such as the Barbados Boy Scout Association and the Girl Guides Association of Barbados have indicated interest in supporting conservation efforts and these will be finalized as part of the communication and awareness programme during project implementation. Like-minded local special interest groups will be solicited for partnership during implementation; these include land and water-based sports, fitness, social clubs.

The Stakeholder Engagement Plan (Annex O) outlines the stakeholder engagement process developed during the PPG phase of project, and how engagement will continue during project implementation. The Stakeholder Engagement Plan indicates the communication needs and the timelines for communication. The Plan also includes a Grievance Mechanism that the project will put in place in the event of disputes relating to the implementation of the project. At Project Inception the Stakeholder Engagement Plan will be reviewed and validated.

Details of stakeholder consultations during the PPG Phase is presented in Annex T.

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

Barbados has a Draft Gender Policy (2016), which was reviewed and endorsed by Cabinet in 2020[40] It is currently being reviewed by the Ministry of People Empowerment and Elder Affairs before being laid in Parliament. The project will emulate the strategic directions laid out in the national gender policy through support of the BGA which has responsibility for gender mainstreaming at the national level. The project will ensure gender equality and in this regard, a Gender Action Plan (GAP) has been developed (Annex P) based on a situational analysis of gender issues in Barbados as well as an assessment of gender responsiveness of some stakeholder agencies.

Table 2 presents the gender gaps identified and proposed actions to be address these gaps. The project will facilitate gender responsiveness among stakeholders in engagement in project implementation through targeted outreach to community groups and those with gender empowerment agendas, including youth groups. To assist with monitoring of gender equity, the project will utilize sex-disaggregated indicators to track participation at both policy and technical levels and track the degree to which there are equitable accrual of benefits to stakeholders. This will be particularly relevant to the livelihood support elements of the project, more specifically, under Component 2 where potential for revenue generation associated with tourism linked to operation of the conservation education centre will be developed. The project will ensure that planned investments take gender and disability issues related to accessibility of benefits into consideration, and otherwise mitigate limitations in respect to achieving long term sustainability in maintaining gender balance. At project inception a gender diagnosis exercise of the communities within the project on-ground investment area will be carried out to further validate the findings from the PPG and the Gender Action Plan. This will be led by the representative from the Bureau of Gender Affairs that will occupy a seat on the Project Steering Committee.

Table 2. Summary of key gender gaps to be addressed under the Gender Action Plan

Gender Gap Identified and Targeted	Gender Transformation Targeted	Project Actions to achieve Targeted Intervention
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Gender blind approach to project implementation (this is being assumed particularly for Government Agencies)	Empowerment of women through: ? Increased employment opportunities ? Power relations which may exist between women and men exhibited through wage differentials for similar jobs	? Ensure that at least 50 per cent of beneficiaries of income earning opportunities are women
Tendency to have higher unemployment of women	? Hiring policy for project staff and consultants will be gender sensitive	? Ensure equal opportunities for men, women and youth in project activities
The existence of wage disparity between women and men		? Ensure that there are no wage disparities according to sex.
The possible lower participation of women in the area of science and technology in general and in the area of herpetology. Further investigation may be required to make more conclusive statement since there was higher female registration at the post graduate level in the area of science and technology at the UWI in Barbados.	Personal Empowerment of individuals including women and youth via ? acquisition of skills ? knowledge on Conservation of Species and ability to implement this new knowledge Reduction of Gender stereotypes by encouraging greater visible female participation in herpetology	? Educational activities should target both male and female participants
The population 24 years and younger has the highest poverty rate		? Youth should be targeted to contribute and benefit from project implementation. Youth involvement can also contribute to sustainability of conservation activities

Further details are highlighted in the Gender Action Plan which will guide the overall project implementation. The project also considers risks and limitations in respect to achieving gender balance in the context of the safeguards risk assessment and the stakeholder engagement plan (Annexes N and O).

[40] <https://www.caribank.org/publications-and-resources/resource-library/gender-assessments/country-gender-assessment-barbados-2016>

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes

Closing gender gaps in access to and control over natural resources;

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women

Does the project's results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Elaborate on the private sector's engagement in the project, if any.

It is well recognized that the private sector will need to play a critical role in the project. This is mainly related to how property and infrastructure investment may be compromising ecosystem and habitat quality across landscapes. The core habitat of the Leaf-toed Gecko falls within highly sought-after coastal lands that possess views of the sea and access to beaches. Habitats for the other endangered target species, the Threadsnake and the Skink are confined to remnant forest fragments and wooded gullies that in many areas are potentially under threat from development. Land values are high and there is a strong drive for development and conservation that poses direct threat to the species. The project will engage stakeholders in the real estate development sector to consider their perspectives and build consensus in long-term development options in areas that are deemed crucial for conservation of these endangered species. These dialogues will need to be in close consultation with the Town and Country Development Planning Office.

The private sector will also be instrumental in working toward development of viable enterprises around potential ecotourism and other opportunities that marries conservation objectives and landscape conservation. Recent estimates from the Barbados Tourism Marketing Inc (BTMI) indicates upwards of 80,000 visitors take local nature-based excursions annually. Attractions that feature prominently include Harrison's Cave, Flower Forest, Andromeda Botanical Garden, Welchman Hall Gully and the Barbados Wildlife Reserve. Based on demand for such experiences, the addition of the proposed Barbados Reptile Conservation Centre will constitute a significant asset with high revenue generation potential that will be a critical underpinning of the sustainability model post-project. The fact that it will give prominence to featuring some of the planet's most critically endangered species (a first of its kind in Barbados and in the Eastern Caribbean) the project anticipates willing private sector uptake, expanding nature-based tourism offerings that are available.

Engagement of hospitality private sector in the project will be solicited to offer input in design elements of the proposed conservation centre that will build on and maximize visitor experience in the context of marketing a unique Barbadian experience. Eco-tourism operators and tour groups will be targeted in outreach activities to promote the proposed conservation centre concept and solicit promotion to clients

once commissioned. Avenues will be explored for gaining philanthropic support from clients, local and international companies through tour promotions. Some approaches that may be considered include (i) marketing packages where guests are offered the opportunity to volunteer in the conservation of Barbados' endangered fauna during the vacation stay, (ii) promoting conservation efforts on promotional websites to enhance tour sales, elicit donations and support product sales from the proposed conservation centre and (iii) in the case of cruise liners (day visitors) engage in direct on-ship marketing and tour sales. The project anticipates engagement of women and youth entrepreneurs to produce souvenirs representing local biodiversity featuring the endangered reptiles. Hotels will be encouraged to support this effort by carrying such items in their on-property shops.

Besides hotel properties and tour operators, the project will cultivate partnerships with other entities that have indicated willingness to engage with the project. The *Barbados Chamber of Commerce and Industry (BCCI)*, formed in 1825 is the oldest private sector organization in Barbados and is an ideal umbrella partner representing the wider private sector that can contribute to promoting the conservation effort to the island's business community, and gaining buy-in. *Walkers Institute for Regeneration Research Education and Design Inc. (WIRRED)*[41] whose work focuses on restoration within the Walkers Reserve (a former sand quarry) is a not-for profit research centre and consultancy dedicated to the study and implementation of climate smart regenerative agroforestry practices. With a 'natural alignment' to the conservation aims under the project around in terms of landscape restoration and habitat regeneration, it will potentially be a valuable partner. *Totally Barbados* is a promotional firm specializing in destination marketing, having earned awards for the World's Leading Travel Destination Website and the Caribbean's Leading Travel Destination Website, is well-suited to partnership in promoting the endangered reptiles' conservation project. *Emera Caribbean Inc. (ECI) / Emera Caribbean Renewables Limited* has installed 2.5 Megawatts (MW) of solar photovoltaic energy on the island with the island's first large scale 10 MW solar farm at St. Lucy, Barbados. The company can offer support to on-site sustainable energy investments to meet the conservation center's power needs. The Caribbean Tourism Organization and partners effected the *Caribbean Hotel Energy Efficiency Action Program (CHENACT)* that led to various hotels pledging to take a sustainable tourism approach towards their financial and social impact. A similar approach will be adopted by the project.

During the PPG phase a feasibility assessment was undertaken to develop a sustainable funding plan for the Barbados' Reptile Conservation Centre and Biosecure Facility. The report *Feasibility of valorising the Barbados' Endemic species to generate funding for endemic reptiles of Barbados* (Annex U3) considered successful models applicable to Barbados and presented a financial analysis and business model for adoption under project implementation. The study cited the conservation success story of the Cayman Islands Blue Iguana[42] Conservation (BIC) programme that could emulated in Barbados.

[41] <https://wirred.org/about/>

[42] The Blue Iguana was considered functionally extinct in 2002 with between 10 to 25 individuals in the wild in the Cayman Islands. In 2012, the Blue Iguana was downgraded from critically endangered to endangered with the release of the 1000th release into the wild. In 2019, the Blue Iguana Recovery project shifted from recovery to sustainable conservation.

5. Risks to Achieving Project Objectives

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

Risk	Risk level	Mitigation Measures
Limited policy level buy-in in respect to perceived priority and other competing national priorities.	Medium	The project will seek to gain commitment through expanded awareness among stakeholders including decision makers, institutions, private sector and communities in recognition of safeguarding and conservation of endangered biodiversity while contributing to enhanced economic benefits.
Limited public awareness and stakeholder apathy	Low-Medium	The project will ensure inclusion of a comprehensive stakeholder education programme based on messaging that underscores benefits for participation and investment. The design and implementation of the communications and outreach strategy will be core to raising awareness and creating buy-in.
Gender inequity in access to benefits and opportunities	Low	Project will follow recommendations laid out in the Gender Action Plan (Annex P), the Safeguards risk assessment (Annex N) and the stakeholder engagement plan (Annex O)
Lack of private sector participation	Medium	The project will establish working relationships with private sector groups and cooperatives to gain inputs in the project design and to maintain buy-in and active participation over the course of the project.
Occurrence of natural and climate change-induced hazards (particularly tropical storms/hurricanes)	Medium	The augmented habitat within the biosecure site will provide some protection to the geckos against storms and ash from future eruptions of the Soufriere Volcano in St. Vincent. The management plan will also assess ways of mitigating against climate change and natural disasters.
Imposition of pandemic measures against COVID19 or other similar occurrences.	Low	Barbados has developed tried and tested strategies for managing pandemics. In the case of occurrence of any pandemics these measures will be rolled out at the earliest to avoid any significant disruptions of the project activities. Also, for a national project it has developed significant ties with international NGOs that will be able to provide assistance in to minimize the disruptive impact of any future pandemics.

6. Institutional Arrangement and Coordination

Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

Project Implementing Agency: The United Nations Environment Program (UNEP) is the GEF Implementing Agency for this project. UNEP is tasked with the overall responsibility of ensuring that GEF policies and criteria are adhered to and that the project meets its objectives and deliver on expected outcomes. Other specific Implementing Agency responsibilities include ensuring compliance with GEF policies and standards for results-based M&E, fiduciary oversight, safeguards compliance, project budget approvals, technical guidance and oversight of project outputs, approval of Project Implementation Reports (PIRs), and participation in the project's superior governance structure.

Project Executing Agency: CAB International (CABI), Regional Office the Caribbean and Central America will perform the role of Executing Agency. This decision was made by the Ministry of Environment and National Beautification, Green and Blue Economy of Barbados, which has adopted a collaborative approach with partners to facilitate execution of various initiatives on biodiversity conservation in the country. This is due in part to limited human resources within the Biodiversity Unit but is also the government's approach to strengthening existing networks for collaboration with regional and international partners.

National Coordinating Committee (NCC): The Biodiversity Working Group which was appointed by Cabinet and coordinates all projects related to biodiversity conservation in Barbados will serve as the National Coordinating Committee. All key stakeholders engaged in biodiversity conservation are currently

serving on this committee. The project will be directed by the NCC. However, the project will build the capacity of this working group to better understand the issues of IAS as it impacts biodiversity conservation in general and reptile conservation in particular. The NCC will establish technical working groups (TWGs) as needed to provide technical guidance on thematic areas in accordance with defined terms of reference. The Bureau of Gender Affairs, as the primary technical resource on gender affairs, will form part of all these groups to ensure gender mainstreaming is considered across all project activities and provide relevant guidance to the consulting specialists. The representative of the Bureau of Gender Affairs will also have oversight for ensuring the Gender Action Plan is mainstreamed within project implementation. These technical working groups will be constituted in as far as possible within existing institutional arrangements to ensure mainstreaming. The NCC will convene on a quarterly basis to review workplan execution and reporting outputs, decide on project directions and integration within national frameworks. The committee will also execute the following functions:

- ? Provide input into planning and coordination of the project;
- ? Review and approve project policies and procedures in a manner that ensures gender mainstreaming under project activities;
- ? Review and approve Annual Operational Plans and Budgets at the beginning of each fiscal year, to allow for smooth project execution through-out the rest of the fiscal year
- ? Review the progress of the project and ensure activities are in line with approved annual operational plan and budget;
- ? Review and approve all project technical and financial reports (quarterly, semi-annual reports, PIRs, and audited financial statements);
- ? Ensure that required resources are committed and arbitrates any conflicts within the project or negotiates a solution to any problems between the project and external entities
- ? Promote partnerships with relevant government ministries/agencies/departments for monitoring and execution of the project;
- ? Facilitate the coordination of project financed activities with other related investments and institutions in Barbados where applicable;
- ? Ensure accountability by making decisions in accordance with standards that ensure management brings about development results, best value for the money, fairness, integrity, transparency, gender equality and effective international competition

The PSC shall appoint as required, technical working groups (based on agreed TORs) to oversee and ensure technical quality of outputs.

Project Management Unit: A Unit (PMU) will be established by CABI and the Biodiversity unit of the Ministry of the Environment and National Beautification, Green and Blue Economy to undertake day-to-day management of the project and be responsible for all technical and financial reporting. The PMU will be responsible for fiduciary oversight and reporting of the project, including financial management and procurement consolidation according to the project's operational manual and procurement plan. It is also responsible for monitoring and evaluation (M&E), providing and coordinating technical advice, and coordinates and assists with overall project focus concerning project strategies, criteria and methodologies.

The PMU will be staffed by a Project Coordinator, Technical Coordinator and an Administrative Assistant. The Project Coordinator and Administrative Assistant will provide support from the CABI offices in Trinidad and Tobago. The Technical Coordinator based in Barbados will undertake the substantive technical oversight. The Project Coordinator will engage with the Technical Coordinator and Project Director (the Senior Environmental Officer in the Ministry of the Environment and National Beautification, Blue and Green Economy, the National Executing Agency) to hire the PMU staff and determine the most suitable candidate for each position in line with CABI recruitment procedures, while ensuring that equal opportunity is available to both men and women in staffing the team. The Technical Coordinator will have a double reporting line; to (1) CABI and (2) the Biodiversity Management Unit of the Ministry of Environment and National Beautification, Blue and Green Economy. The administrative support and financial management and procurement services will be provided directly by CABI, and technical delivery of project outputs will be complemented by CABI experts' backstopping, other relevant national government agencies and specialist consultants on an as needed basis. The PMU will ensure annual financial audits of expenditure are

conducted and contribute to the mid-term review and terminal evaluation, with engagement of the beneficiary stakeholders.

UNEP in the capacity as Implementing Agency will have a seat on the NCC and be recipient of substantive technical reports (half-year, and annual Project Implementation Review reports) and quarterly financial reports. The work of the NCC will be disseminated through the national public awareness program associated with the project with opportunity for stakeholder and community consultation. The NCC will be chaired by the Ministry of Environment and National Beautification, Green and Blue Economy. The project's overall institutional and implementation structure is presented in Figure 2 below.

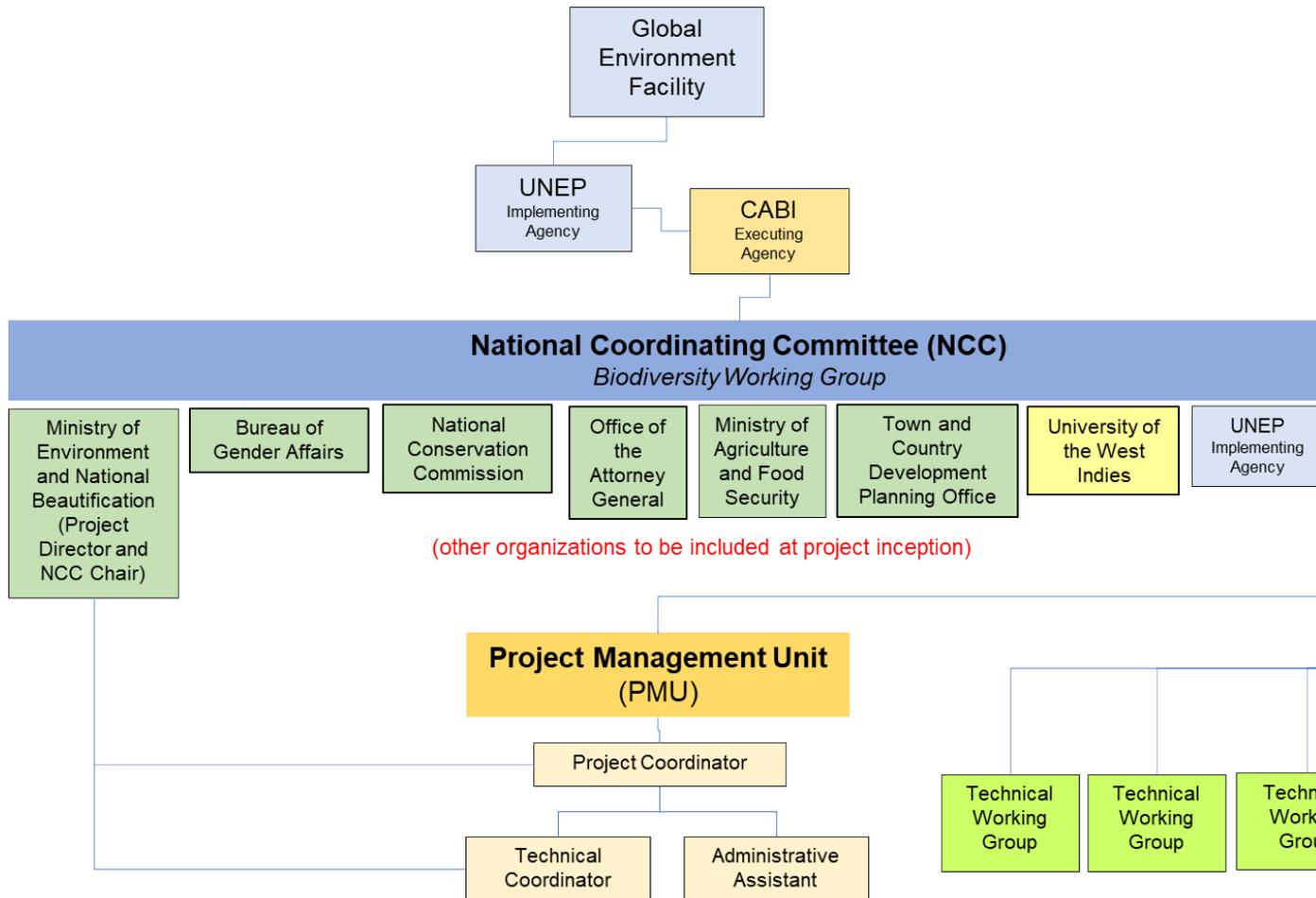


Figure 2: Project Institutional and Implementation Structure

Coordination with other relevant GEF-financed projects and other initiatives:

(1) UNEP-GEF Preventing COSTS of Invasive Alien Species (IAS) in Barbados and the OECS Countries: This project commenced in mid-2018 and is scheduled to be completed by the end of 2022. Barbados is one of the three countries for which targeted on-ground pilot interventions are being implemented. The country

is also benefiting from regional-level cooperation for capacity building and strengthening of regulatory systems. Under the project a Critical Situation Analysis (CSA) on IAS has been completed and the National Invasive Species Strategies and Action Plan (NISSAP) for country is under development. The project is contributing to the legislative drafting required to effect IAS control. A key highlight in the national pilot is the establishment of a bio-secure site for threatened native reptiles including the Barbados leaf-toed Gecko at Paragon within the compound of the Barbados Defence Force. Research collaboration between UWI and FFI is ongoing to monitor the population and distribution of the gecko. Barbados' national sub-project also includes control of invasive alien plant species in the context of an Integrated Gully System Management Plan, a rat and mongoose control program associated with mitigating nesting predation of hawksbill turtles and lionfish assessment and management. The country will also benefit from implementation of a regional IAS strategy and action plan, the adoption of the Caribbean Biosecurity Interception Database in Barbados and the wider Caribbean, the 'Declare, Dispose or Be fined' pilot, implementation of recommendations of the various risk assessments and access to the IAS App and Field Guides for improving IAS surveillance.

(2) Biodiversity Enabling Activities Project - Assessment of Capacity Building needs and Country Specific Priorities in the Conservation of Biodiversity and Participation in the National Clearing House Mechanism which includes components on taxonomic assessment, IAS and ABS. Under this project, the IAS Component includes a review of Plant Quarantine and Veterinary Services facilities at ports of entry with a view of upgrading these facilities to reduce the likelihood of the introduction of IAS through trade and transboundary movements, a review of local pet shops and breeders of popular pet species to create an up-to-date baseline on the state of the pet shop industry and exotic wildlife breeding industry and a review of draft Zoos legislation and survey of zoos and zoo-like institutions (exotic animal display facilities) with a view of updating the current baseline of the industry.

(3) There have also been multiple training workshops on the local and regional level to train officers on different aspects of biodiversity, including but not limited to multiple stakeholder inclusion, risk assessment for biosafety, training in access to benefit sharing of genetic resources, training of enforcement officers on illegal wildlife trade. Regionally, there is also the CARICOM Biosafety Bill and the CARICOM Biodiversity Strategy which Barbados is implementing.

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

National Biodiversity Strategy and Action Plan (NBSAP): The revised (from 2002) NBSAP of 2020^[43] will guide the conservation, management and sustainable use of biodiversity through 2035. It defines the current status of Barbados' biodiversity resources, the threats leading to its degradation and the strategies

and priority actions to ensure its conservation and sustainable use. It specifies priority actions that span across issues in the areas of conservation and sustainable utilization of biodiversity; public awareness and education on biodiversity; biodiversity research, data storage and monitoring of species conservation. Target 6 of the NBSAP addresses IAS; *By 2030, invasive alien species and pathways are identified and prioritized, priority established species are managed and measures are in place to prevent the introduction and establishment of new invasive alien species.* The Strategic Objectives under this target are (1) To minimize the impacts of invasive alien species of flora and fauna on local biodiversity and (2) To reduce the pathways by which invasive alien species of flora and fauna can enter local ecosystems. The following are the strategic actions:

1. Identify and update the list of IASs to Barbados.
2. Compile existing information and conduct studies to determine the population size of the priority IAS identified and their impact on biodiversity to date.
3. Establish species-specific strategies to eradicate or control population sizes of IAS to manageable levels. In cases where IAS impacts on native biodiversity cannot be controlled, biosecure areas for the conservation of threatened native species will be identified and resources sought to implement them.
4. Establish monitoring programmes, in collaboration with key agencies, to track populations of priority invasive species and their impact on biodiversity.
5. Develop legislation or amend existing legislation and regulations for border controls at all seaports and the airport with respect to all imported species

The project will align to the newly adopted *Kunming-Montreal Global Biodiversity Framework (GBF)* of December 2022. *Goal A* of the GBF places priority on halting human induced extinction of threatened species and that by 2050, the extinction rate and risk of all species will be reduced tenfold and that the abundance of native wild species is increased to healthy and resilient levels. Under the GBF, while several of the targets are relevant to the project contributions, Targets 4 and 6 are directly relevant:

- ? *Target 4:* Ensure urgent management actions to halt human induced extinction of known threatened species and for the recovery and conservation of species, in particular threatened species, to significantly reduce extinction risk, as well as to maintain and restore the genetic diversity within and between populations of native, wild and domesticated species to maintain their adaptive potential, including through in situ and ex situ conservation and sustainable management practices, and effectively manage human-wildlife interactions to minimize human-wildlife conflict for coexistence.
- ? *Target 6:* Eliminate, minimize, reduce and or mitigate the impacts of invasive alien species on biodiversity and ecosystem services by identifying and managing pathways of the introduction of alien species, preventing the introduction and establishment of priority invasive alien species, reducing the rates of introduction and establishment of other known or potential invasive alien species by at least 50 per cent, by 2030, eradicating or controlling invasive alien species especially in priority sites, such as islands.
- ? *Target 23:* Ensure gender equality in the implementation of the framework through a gender-responsive approach where all women and girls have equal opportunity and capacity to contribute to the three objectives of the Convention, including by recognizing their equal rights and access to land and natural resources and their full, equitable, meaningful and informed participation and leadership at all levels of action, engagement, policy and decision-making related to biodiversity.

Barbados Physical Development Plan: The Overall guiding framework that governs management of the land resource base is the Barbados Physical Development Plan (PDP). Since 1970, Barbados has produced Physical Development Plans that seek to identify land use practices, community facilities and physical infrastructure that would support the island's development goals. The 2017 PDP lays out policies to guide relationships among land uses, built form, mobility, community facilities and physical infrastructure. It is intended to be a framework to facilitate and guide investment, both public and private, in Barbados to the year 2035. The Plan lays out strategic policies^[44] that are centered around promoting sustainable development and protecting core assets, specifically the resource base for food and agriculture, maintaining a natural heritage system, water resources, natural park, cultural heritage and community core. The plan also includes advancing implementation of the National Park and the Barbados System of Parks and Open Spaces, to preserve and expand natural systems, protecting the agricultural land base from fragmentation and alienation of land to non-agricultural uses, reserving the highest classes of agricultural land for the growth of food crops, and that agricultural practices are environmentally sustainable and implementing restorative actions, such as increasing vegetative cover. There was no significant advancement in the policy positions since the development of the PIF.

United Nations Cooperation Framework: The United Nations coordinated support to Barbados is under a *UN Multi-Country Sustainable Development Framework (MSDF)*. The 2012-2026 UN MSDF in the Caribbean^[45] includes Priority Area 3 'Resilience to Climate Change and Shocks and Sustainable Natural Resource Management' which is relevant to the objectives under this project. Under this priority area the UN system will support coherent efforts to strengthen the resilience of the Caribbean and its peoples by mitigating the effects of climate change, disasters and environmental degradation in the context of sustainable development, livelihoods, and the economies. The anticipated relevant outcome is Outcome 6 'Caribbean countries manage natural resources and ecosystems Strengthening their resilience and enhancing the resilience and prosperity of the people and communities that depend on them?.'

The Office of the UN Resident Coordinator with responsibility for Barbados covers that country and the Eastern Caribbean. The UN Country Team is based in Barbados and includes within the network, UNEP's Caribbean Sub-Regional Office (CSRO). UNEP participates in the UNCT and works to ensure UNEP-led initiatives align with the Country Implementation Plan and the relevant Multi-Country Sustainable Development Framework (MSDF). During project implementation, UNEP's CSRO based in Jamaica will be kept in close communication to facilitate as relevant and necessary, avenues for building synergies between related initiatives. The CSRO will be furnished with key reports that will include *inter-alia*, annual progress implementation reviews, mid-term reviews and terminal evaluation reports for feedback particularly related to ensuring coherence with wider UN-led initiatives within the Caribbean region. The UN Resident Coordinator's Office has been advised in parallel with the formulation of the project and feedback will be incorporated into further drafts of the project documentation and appropriately incorporated into governance arrangements at implementation.

[43] <https://biodiversity.gov.bb/wp-content/uploads/2021/02/NBSAP-Report-Barbados-2020.pdf>

[44] http://www.townplanning.gov.bb/pdp/Downloads/files/pdp/A-02_Strategic%20Policies.pdf

[45] https://unsdg.un.org/sites/default/files/2021-11/Caribbean%20Multicountry%20Sustainable%20Development%20Framework_2022_2026_0.pdf

8. Knowledge Management

Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.

The project's knowledge management strategy will be embedded within a Communication, Education and Public Awareness (CEPA) Strategy that will be developed at within the first six months of project effective implementation as part of Output 1.1.3. This strategy will be developed and executed in a national conservation education programme led by a CEPA Expert.

The CEPA Strategy will identify key messages that will underpin the successful execution of the project. These messages will highlight the rationale behind the effort to conserve globally highly endangered species that occur only in Barbados and the extreme risk that further habitat modification, land use changes and IAS introductions may pose to the species, and how ecosystem conservation and restoration needs to be integrated within careful land use policy and planning matters to secure habitat. An important part of the messaging will be the risk that climate change poses to conservation of biodiversity in terms of risk factors such as increasing threat of extreme drought and associated fire hazard that can destroy sensitive habitats. Also to be communicated is the fact that climate change can also alter ambient conditions that may favor proliferation of harmful invasives, predators and diseases and change habitat suitability. The justification of the project investments in terms of the expansion of the biosecure areas for the endangered reptiles and the establishment of a flagship Conservation Education Centre will be a central theme.

Core to the CEPA Strategy is how it will address knowledge needs of the target audiences, to whom messaging, and modes of engagement will need to be tailored. The Strategy will advance innovative ways to gain engagement based on stakeholder needs and roles within the project that are reflective of wider roles in public policy setting, business practice, research, education, community development and public engagement in general. The project will identify advocates and conservation patrons in positions of influence in public policy, business and wider community arenas who will be effective messengers to transmit knowledge to help influence behavioral change.

The strategy will guide the process of curating knowledge that has been accumulated by the research partnerships and seek out ways to effectively translate to capacity building and awareness raising. This will include the uptake and application of knowledge contributions from the national elements of the regional GEF-UNEP Preventing the COSTS of IAS Project. The University of the West Indies and other research affiliates will continue to grow and curate the scientific knowledge that will be generated under the project and work following the project. The work from this project will build into the regional Caribbean Invasive Alien Species Network[46], a collaborative regional effort supported by CABI and affiliates to address the issue of IAS in the Caribbean.

Knowledge management will be integrally linked to all areas of capacity building where the project will put in place measures to ensure that resources are within easy access to professionals and the user community within Barbados. The project will foster a learning-by-doing approach particularly in respect to the field assessment work to be implemented under Component 2, where opportunities for technical exchanges between field conservation and IAS projects in other SIDS regions will be expanded. This will be facilitated by a network of capacity building collaborators nationally, regionally and internationally.

All communication and knowledge management activities under the project will apply a gender sensitive approach with following principles:

- Use of male and female knowledge product and public education developers for diversity of perspectives and approaches, as well as male and female reviewers of these products.
- Use of gender sensitive language and gender balanced images (women not presented as victims but as agents of change).
- Check context and content (use gender analysis; use convincing gender arguments based on reliable sources and qualitative and quantitative data including sex disaggregated data).
- Refer to the Barbados Draft Gender Policy (2016) in framing communications content and knowledge management as appropriate.

The CEPA Specialist will translate the scientific content generated by the project into awareness-raising resources tailored for various audiences that are made available through readily accessible formats. This material will be incorporated within the proposed conservation centre that will be a focal point for research

and a permanent public repository of conservation resources and knowledge that highlight the endangered reptiles of Barbados.

[46] <http://caribbeaninvasives.org/>

9. Monitoring and Evaluation

Describe the budgeted M and E plan

The project will follow UNEP's standard monitoring, reporting and evaluation processes and procedures. Substantive and financial project reporting requirements are summarized in Table 3. Reporting requirements and templates are an integral part of the UNEP legal instrument to be signed by the executing agency and UNEP

The project M&E plan is consistent with the GEF Monitoring and Evaluation policy. The Project Results Framework presented in Annex A includes SMART indicators for each expected outcome as well as mid-term and end-of-project targets. These indicators along with the key deliverables and benchmarks included in Annex J will be the main tools for assessing project implementation progress and whether project results are being achieved. The means of verification and the costs associated with obtaining the information to track the indicators are summarized in the Costed M&E Plan below and are fully integrated in the overall project budget.

The M&E plan will be reviewed and revised as necessary during the project inception workshop to ensure project stakeholders understand their roles and responsibilities vis-?-vis project monitoring and evaluation. Indicators and their means of verification may also be fine-tuned at the inception workshop. Day-to-day project monitoring is the responsibility of the project management team but other project partners will have responsibilities to collect specific information to track the indicators. It is the responsibility of the Project Coordinator to inform UNEP of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely fashion.

The PSC will receive periodic reports on progress and will make recommendations to UNEP concerning the need to revise any aspects of the Results Framework or the M&E plan. Project oversight to ensure that the project meets UNEP and GEF policies and procedures is the responsibility to the Task Manager in UNEP-GEF. The Task Manager will also review the quality of draft project outputs, provide feedback to the project partners, and establish peer review procedures to ensure adequate quality of scientific and technical outputs and publications.

Project supervision will take an adaptive management approach. The Task Manager will develop a project supervision plan at the inception of the project which will be communicated to the project partners during the inception workshop. The emphasis of the Task Manager supervision will be on outcome monitoring but without neglecting project financial management and implementation monitoring. Progress vis-?-vis delivering the agreed project global Environmental benefits will be assessed with the Coordination Committee at agreed intervals. Project risks and assumptions will be regularly monitored both by project partners and UNEP. Risk assessment and rating is an integral part of the Project Implementation Review (PIR). The quality of project monitoring and evaluation will also be reviewed and rated as part of the PIR. Key financial parameters will be monitored quarterly to ensure cost-effective use of financial resources.

In line with the GEF Evaluation requirements and UNEP's Evaluation Policy, any project with a duration of 4 years or more will be subject to an independent Mid-Term Evaluation or management-led Mid-Term Review at mid-point. The review will be carried out using a participatory approach whereby parties that may benefit or be affected by the project will be consulted. Members of the Project Steering Committee could be interviewed as part of the MTR process and the Project Coordinator will develop a management response to the review recommendations along with an implementation plan. Results of the MTR will be presented to

the Project Steering Committee. It is the responsibility of the UNEP Task Manager to monitor whether the agreed recommendations are being implemented.

All GEF funded projects are subject to a performance assessment when they reach operational completion. This performance assessment will be either an independent Terminal Evaluation or a management-led Terminal Review. In case a Review is required, the UNEP Evaluation Office will provide tools, templates, and guidelines to support the Review consultant. For all Terminal Reviews, the UNEP Evaluation Office will perform a quality assessment of the Terminal Review report and validate the Review's performance ratings. This quality assessment will be attached as an Annex to the Terminal Review report, validated performance ratings will be captured in the main report. However, if an independent Terminal Evaluation (TE) of the project is required, the Evaluation Office will be responsible for the entire evaluation process and will liaise with the Task Manager and the project implementing partners at key points during the evaluation. The TE will provide an independent assessment of project performance (in terms of relevance, effectiveness and efficiency), and determine the likelihood of impact and sustainability. It will have two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UNEP staff and implementing partners. The direct costs of the evaluation (or the management-led review) will be charged against the project evaluation budget. The TE will typically be initiated after the project's operational completion. If a follow-on phase of the project is envisaged, the timing of the evaluation will be discussed with the Evaluation Office in relation to the submission of the follow-on proposal.

The draft TE report will be sent by the Evaluation Office to project stakeholders for comment. Formal comments on the report will be shared by the Evaluation Office in an open and transparent manner. The project performance will be assessed against standard evaluation criteria using a six-point rating scheme. The final determination of project ratings will be made by the Evaluation Office when the report is finalized. The evaluation report will be publicly disclosed and will be followed by a recommendation compliance process. The evaluation recommendations will be entered into a Recommendations Implementation Plan template by the Evaluation Office. Formal submission of the completed Recommendations Implementation Plan by the Project Coordinator is required within one month of its delivery to the project team. The Evaluation Office will monitor compliance with this plan every six months for a total period of 12 months from the finalization of the Recommendations Implementation Plan. The compliance performance against the recommendations is then reported to senior management on a six-monthly basis and to member States in the Biennial Evaluation Synthesis Report.

Table 3. Indicative monitoring and evaluation workplan

Type of M&E Activity	Responsible Parties	GEF Budget (USD)	Co-Finance in kind (USD)	Time Frame
Inception Workshop	CABI, Gov't of Barbados, MENB, Biodiversity Conservation & Management Section	2,000	10,056	Within 2 months of project start-up
Inception Report	CABI	1,000	1,000	1 month after project inception meeting

Type of M&E Activity	Responsible Parties	GEF Budget (USD)	Co-Finance in kind (USD)	Time Frame
Measurement of project indicators (outcome, progress and performance indicators) including baseline data collection	CABI International and local Consultants (related project outputs under all components)	2,000	10,000	Outcome indicators: start, mid and end of project Progress/performance indicators: annually
Standard semi-annual progress reporting and monitoring to UNEP	CABI	1,000	6,000	Within 1 month of the end of reporting period
Monitoring by the Project Steering Committee and advisory technical group of environmental and social risks, and corresponding management plans as relevant	CABI, Gov't of Barbados, MENB, Biodiversity Conservation & Management Section	5,000	20,000	Once a year minimum
Project Implementation Review (PIR)	CABI	2,000	2,000	Annually, part of reporting routine
Mid Term Review	CABI	20,000		At mid-point of project implementation
Terminal Evaluation	UNEP	30,000		Within 6 months of end of project implementation
Project Final Report	CABI	3,000	2,000	Within 2 months of the project completion date
Co-financing report	Gov't of Barbados, MENB, Biodiversity Conservation & Management Section, CABI	1,000	4,000	Within 1 month of the PIR reporting period
Project Closing Workshop	Gov't of Barbados, MENB, Biodiversity Conservation & Management Section, CABI		5,000	Within one month of project closure
Total M&E Plan cost		67,000	60,056	

10. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCE/SCCF)?

The project aims to address direct drivers that are threatening endemic biodiversity in Barbados that are of global significance by strengthening the policy environment for sensitive ecosystem protection and conservation, and expanding protective landscapes that are IAS-free to assist with species recovery efforts. The project will be a flagship initiative aimed at preventing further species extinctions in Barbados and will contribute to the global knowledge commons in innovative conservation approaches for critically endangered endemic reptiles in small island environments. The project will continue to upscale ongoing

work in the Caribbean and other SIDS that will result in global environmental benefits in reducing rates of biodiversity loss in vulnerable ecosystems.

The project will contribute to expanding benefits among the local communities. This will be through the opportunities created through nature-based tourism associated with visitation to the conservation centre. It is expected that local enterprises will be fostered and/or diversified through product offerings to visitors in terms of souvenir, culinary and cultural experiences that will generate revenue. The project, guided by the business plan will explore benefits with focus on ensuring gender equity and youth engagement in access to these opportunities.

A concrete benefit the project intends to deliver on is contribution to mainstreaming of ecosystem management considerations within physical development planning through enhanced guidelines and statutory frameworks (under the national Physical Development Plan) that better informs land use planning to ensure that landscape conservation efforts under the 'flagship' theme of endangered reptile conservation are sustainable in the long-term. This is of increasing priority in Barbados where as a SIDS, needs to carefully balance growing development needs against maintaining the natural environment to preserve the flow of ecosystem benefits that include water security, food security and biodiversity conservation. This is of particular importance under changing climate where careful landscape management is needed to lessen vulnerabilities particularly as an already water-scarce island.

The project will assist Barbados fulfil its commitment to attaining global biodiversity benefits under the *Kunming-Montreal Global Biodiversity Framework* adopted by countries in December 2022. The project will contribute to meeting *Goal A* that focuses on halting human induced extinction of threatened species and that by 2050, extinction rate and risk of all species are reduced tenfold and abundance of native wild species is increased to healthy and resilient levels. Specifically, the project will deliver benefits aligned to *Target 4* that seeks (in short) to institute urgent management actions to halt human induced extinction of known threatened species and for the recovery to significantly reduce extinction risk and maintain and restore the genetic diversity through in situ and ex situ conservation and sustainable management practices. The project brings direct benefits in the context of *Target 6* that aims to eliminate, minimize, reduce and or mitigate the impacts of invasive alien species on biodiversity and ecosystem services by identifying and managing pathways of the introduction of alien species, preventing the introduction and establishment of priority invasive alien species, reducing the rates of introduction and establishment of other known or potential invasive alien species by at least 50 per cent, by 2030, eradicating or controlling invasive alien species especially in priority sites, such as islands.

11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification *

PIF	CEO Endorsement/Approval	MTR	TE
Low	Low		

Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

https://acrobat.adobe.com/link/review?uri=urn:aaid:scds:US:fa94abfa-3b2a-3037-98a2-e458675f68e2_

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
ANNEX N - Safeguard Risk Identification Form	CEO Endorsement ESS	
CRC SRIF Barbados IAS_clean (uploaded)	Project PIF ESS	

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

Outcomes/outputs	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
Project Objective: To support implementation of innovative management interventions to lessen threats to critically endangered reptilian biodiversity from the impacts of habitat loss and alien invasive species and strengthen national capacity to maintain viability of target populations and prevent new IAS threats in Barbados.						
Component 1: Strengthening the enabling environment for reducing threats to biodiversity loss through improved policy and governance						
Outcome 1.1: National lead agencies and relevant stakeholders adopt an improved integrated, regulatory framework to address drivers of biodiversity loss and enhance biosecurity	<i>Number of lead agencies with responsibility for biodiversity and biosecurity that endorse and adopt the National Biodiversity Conservation Bill (NBCB), associated regulations and management recommendations</i>	Weak national biodiversity (BD) management framework	NCBC Bill, support regulations, mgmt. recommendations finalized	Integrated BD management framework under NBCB adopted by at least 3 agencies	? Gazetted documentation on the NBCB - enacted by Parliament ? Agency operational reports (personnel deployment; enhanced administrative protocols effected)	Government, MENB officials, partners provide sufficient resources to maintain investments by the project in addressing IAS threat mitigation and support

Outcomes/outputs	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
Output 1.1.1: Policy recommendations, drafting instructions and draft National Biodiversity Conservation Bill with biosecurity elements based on the Cabinet-Approved Policy for National Biodiversity Management, made available to Cabinet for consideration	(i) Policy dossier (recommendations, drafting instructions for draft NBCB);	No integrative policy/legislative framework; NBCB in draft	Draft integrative policy/legislative framework; upgraded NBCB	Integrative policy/legislative framework adopted by 3 lead agencies; NBCB presented to Cabinet	? Cabinet Note accompanying draft NBCB.	wider biodiversity conservation.
	(ii) Designation of cliff ecosystems within national park framework [Core indicator 4.1]			6,000 ha of coastal cliff ecosystem designated within national park framework	? Cabinet Approval and Instructions for the Attorney General to draft Bill for enactment by Parliament.	Technical knowledge piloted and generated under the project maintains sustainable capacity among front-line agencies and positively influences behaviour change.
	(iii) Number of stakeholder consultations; number participants (50/50 gender split) [Core indicator 11]	0	3 events; 50 participants	6 events; 100 participants	? Minutes of stakeholder consultations	Partner and academic collaborations (MENB officials; Biodiversity Working Group and key private

Outcomes/outputs	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
Output 1.1.2: <i>Suite of gender-responsive regulations and management recommendations and capacity-building to support operationalization of the proposed legislative and regulatory framework, endorsed by stakeholders, for consideration by Cabinet</i>	(i) Accepted interagency cooperation for BD supported by regulations and management recommendations	No well-defined interagency cooperation for BD framework among lead agencies	Proposal for interagency cooperation framework agreed by lead agencies	Interagency cooperation framework agreed by lead agencies	? Report containing regulations and management recommendations ? Training package (resources) and training reports for staff /stakeholders	sector and NGOs) established and strengthened under the project continue post-project.
	(ii) Number of training events on the implementation of legislation for The Working Group on Biodiversity	0	2	4		Lead governmental partners, private sector, wider beneficiary stakeholders sustain buy-in to national strategy to strengthen biosecurity/IAS management.
	(iii) Number of professionals and key stakeholders trained (50-50 male-female ratio) [Core indicator 11]	0	40	80		Continued strong senior policy

Outcomes/outputs	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
1.1.3 Suite of public educational resources and an interactive public awareness campaign for uptake by stakeholders	(i) Number of Communication, Education and Public Awareness (CEPA) Strategy	0	1	1	? Communication, Education and Public Awareness (CEPA) Strategy Report	directive on innovative approaches to conserve natural spaces/critical habitats for threatened and endangered biodiversity. COVID19 pandemic impacts continue to lessen, and health care sector continue to mitigate further effects.
	(ii) Number of knowledge and education product packages developed	0	5	10	? Package of communications resources; printed and electronic	
	(iii) Number of awareness events convened; number participants [Core indicator 11]	0	4 events; 250 participants	8 events; 660 participants		
	(iv) Number of KAP feedback surveys conducted	0	1	2		
Outputs under Component 1 Output 1.1.1 Policy recommendations, drafting instructions and draft National Biodiversity Conservation Bill with biosecurity elements based on the Cabinet-Approved Policy for National Biodiversity Management, made available to Cabinet for consideration Output 1.1.2 Suite of gender-responsive regulations and management recommendations and capacity-building to support operationalization of the proposed legislative and regulatory framework, endorsed by stakeholders, for consideration by Cabinet Output 1.1.3 Suite of educational resources and an interactive public awareness campaign for uptake by stakeholders						
Component 2: Targeted interventions to reduce threats to critically endangered biodiversity and enhance population viability						

Outcomes/outputs	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
Outcome 2.1: 1 Enhanced national capacity for conservation of global populations of critically endangered endemic reptilian fauna	(i) Area of biosecure habitat (ha) (ii) Number of trained specialists (50/50 male-female ratio) (iii) Visitation to conservation centre (iv) Change in financial resource commitment for reptile conservation	- National biosecure landscape at 1 ha (Paragon site only) - Limited management capacity - Limited stakeholder engagement - No financial models	- National biosecure landscape expanded to 1.5 ha - increased stakeholder engagement ? 250 visitors to cons. centre - Augmented tech. & mgmt. capabilities of 14 trained specialists	- National biosecure landscape expanded to 1.5 ha; - Augmented tech. & mgmt. capabilities of 40 trained specialists - Active stakeholder engagement ? 14,000 visitors to cons. centre - Financial model defined	? Biosecure area operational report ? Agency management reports ? Conservation centre visitation records ? Budget estimates of the Government of Barbados and other donor commitments (increased financial allocations)	Government, MENB officials, partners provide sufficient resources to maintain investments by the project in addressing IAS threat mitigation and support wider biodiversity conservation. Technical knowledge piloted and generated under the

Outcomes/outputs	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
Output 2.1.1: <i>Additonal bio-secure facility installed at Ragged Point (with predator exclusion, habitat augmentation and conservation education centre) for safeguarding endangered reptilian fauna, associated operational protocol/manuals and capacity building for use by lead national agencies and partners.</i>	(i) Area of additional bio-secure habitat established (ha)	0	0.5	0.5	-Design approvals and construction/upgrade clearances	project maintains sustainable capacity among front-line agencies and positively influences behaviour change. Partner and academic collaborations (MENB officials; Biodiversity Working Group and key private sector and NGOs) established and
	(ii) Number of conservation education facilities commissioned	0	1	1	-Town and Country Planning completion certifications; construction standard compliance	
	(iii) Number of visitors (with gender parity) following commissioning	0	250	14,000	-Visitor logs and feedback	
	(iv) Number of management protocols/manuals prepared and applied.	0	1	2	-Facility management protocols/manuals	
	(v) Number of specialists trained (50-50 male-female ratio) [Core indicator 11]	0	6	20	-Training package (resources) and training reports for staff	
Output 2.1.2 <i>Population status and threat assessments, and conservation requirements to inform management planning and interventions by lead national agencies.</i>	(i) Number of field assessments completed (and accompanying recommendations reports)	0	3	6	-Field study reports with management recommendations	strengthened under the project continue post-project. Lead governmental partners, private
	(ii) Number of field personnel trained (50-50 male-female ratio) [Core indicator 11]	0	6	20	-Scientific publications -Training package (resources) and training reports for field staff	

Outcomes/outputs	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
<p>Output 2.1.3 <i>Financial sustainability options to support the species recovery</i> presented to key stakeholders to secure long-term financial commitment and sustained execution by lead national agencies through innovative partnerships.</p>	<p>(i) Number of financial sustainability plans approved</p> <p>(ii) Number of stakeholder consultations; number participants (50-50 male-female ratio) [Core indicator 11]</p>	<p>0</p> <p>0</p>	<p>1</p> <p>1 event; 10 participants</p>	<p>1</p> <p>2 events; 20 participants</p>	<p>-Report on financial options</p> <p>-Minutes of stakeholder consultations</p>	<p>sector, wider beneficiary stakeholders sustain buy-in to national strategy to strengthen biosecurity/IAS management.</p> <p>Continued strong senior policy directive on innovative approaches to conserve natural spaces/critical habitats for threatened and endangered biodiversity.</p> <p>Impacts from hurricanes / natural disasters will not completely debilitate on-ground continuity, and that adaptive</p>

Outcomes/outputs	Indicators	Baseline	Mid-term Targets	End of Project Targets	Means of Verification	Assumptions
						mechanisms will be effected. COVID19 pandemic impacts continue to lessen, and health care sector continue to mitigate further effects.
Output 2.1.4 Project monitoring and evaluation system	M&E system is established and approved by UNEP	0	1	1	-Project management reports -M&E records; Half-year progress reports, PIRs -Mid-term Review and Terminal Evaluation	
<p>Outputs under Component 2</p> <p>Output 2.1.1: Population status and threat assessments, and conservation requirements to inform management planning and interventions by lead national agencies</p> <p>Output 2.1.2: Additional bio-secure facility installed at Ragged Point (with predator exclusion, habitat augmentation and conservation education centre) for safeguarding endangered reptilian fauna, associated operational protocol/manuals and capacity building for use by lead national agencies and partners</p> <p>Output 2.1.3 Financial sustainability options to support the species recovery presented to key stakeholders to secure long-term financial commitment and sustained execution by lead national agencies through innovative partnerships.</p> <p>Output 2.1.4 Project monitoring and evaluation system</p>						

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

Refer to the GEF Sec Review and Agency Response at project page at <https://www.thegef.org/projects-operations/projects/10942>

PIF Text	CEO ER Text	Explanation for changes
<p>Output titles:</p> <p>1.1.3 <i>Suite of educational resources and an interactive public awareness campaign</i> for uptake by stakeholders</p> <p>2.1.3 <i>Financial sustainability options and targeted education and awareness resources to support the species recovery</i> presented to key stakeholders to secure long-term financial commitment and sustained execution by lead national agencies through innovative partnerships.</p> <p>1.1.2 Suite of regulations and gender-sensitive management recommendations and capacity building to support operationalization of the proposed legislative and regulatory framework, endorsed by stakeholders, for consideration by Cabinet</p>	<p>Revised output titles:</p> <p>1.1.3 <i>Suite of public educational resources and an interactive public awareness campaign</i> for uptake by stakeholders</p> <p>2.1.3: <i>Financial sustainability options to support species recovery</i> presented to key stakeholders, to secure long-term financial commitment and sustained execution by lead national agencies through innovative partnerships</p> <p>1.1.2 Suite of gender-responsive regulations and management recommendations and capacity-building to support operationalization of the proposed legislative and regulatory framework, endorsed by stakeholders, for consideration by Cabinet</p>	<p>Output 1.1.3: word <i>public</i> added in the title. This is to reflect the change made to Output 2.1.3 where the targeted education resource development was part of that output that is now included under this output.</p> <p>As per above, Output 2.1.3 changed to exclude the words <i>and targeted education and awareness resources</i>?. The public awareness activities are now all under 1.1.3.</p> <p>Output 1.1.2: the regulations are to also consider gender dimensions.</p>

PIF Text	CEO ER Text	Explanation for changes
Table B Component estimated costs GEF budget: Component 1: \$117,715 Component 2: \$667,050 Co-financing: Component 1: \$895,056 Component 2: \$4,600,000 PMC: \$610,000	Table B Revised component costs GEF budget: Component 1: \$123,000 Component 2: \$661,765 PMC: 78,476 Co-financing: Component 1: \$250,600 Component 2: \$4,533,456 PMC: \$508,000	Costs assigned to the GEF budget were re-evaluated in consultation with stakeholders based on scope of work for consulting service engagement and goods procurements, costs for travel, meetings and training. The co-financing budgets were revised based on secured co-financing (see below)
Table C Indicative Sources of Co-financing Estimated co-financing at PIF: \$6,105,056	The overall project co-financing amount adjusted from \$6,105,056 to \$5,292,056 Changed co-financing: ? Fauna & Flora International <u>Revised down</u> to \$72,000. At PIF was \$480,000 ? Re:wild <u>Revised down</u> to \$75,000. At PIF was \$480,000	(1) Fauna & Flora International, (2) Re:wild <u>have reduced</u> the amount of committed co-financing to 72,000 and 75,000 USD repectively. Based on the updated project costing, the proponents consider the revision downwards in the overall amount levered for co-financing will not adversely impact output achievement and or compromise the expected outcomes.
	Narratives included on the Socio-Economic Context and the Policy and Legal Context	Additonal background context.

ANNEX C: Status of Utilization of Project Preparation Grant (PPG).

(Provide detailed funding amount of the PPG activities financing status in the table below:

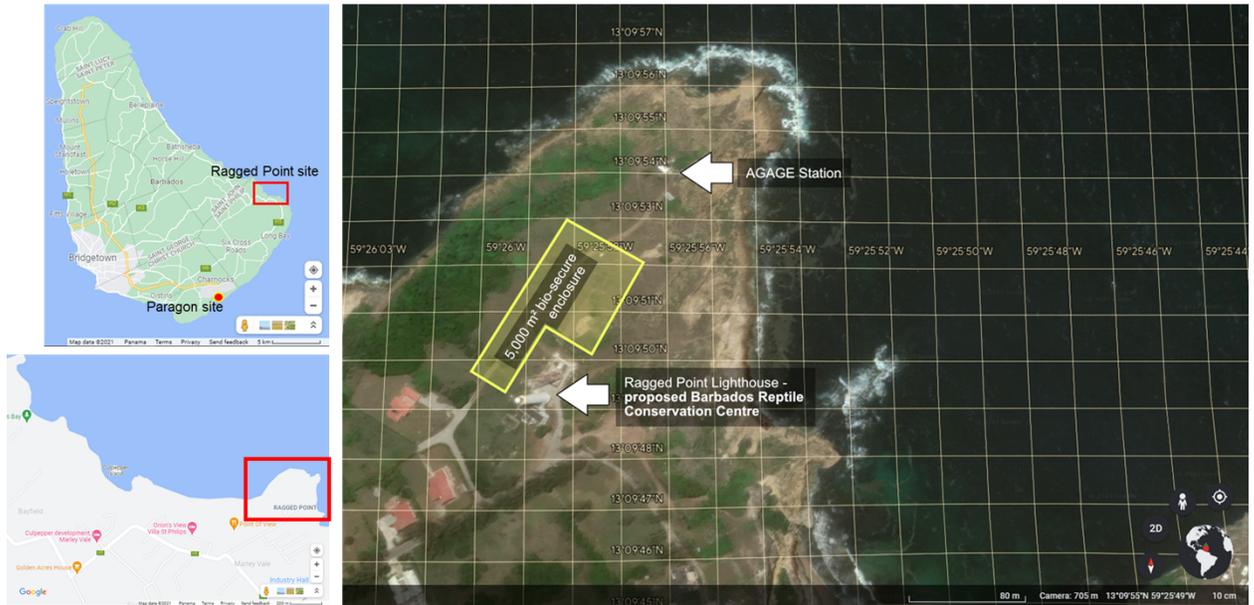
PPG Grant Approved at PIF: 50,000			
<i>Project Preparation Activities Implemented</i>	<i>GETF/LDCF/SCCF Amount (\$)</i>		
	<i>Budgeted Amount</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>

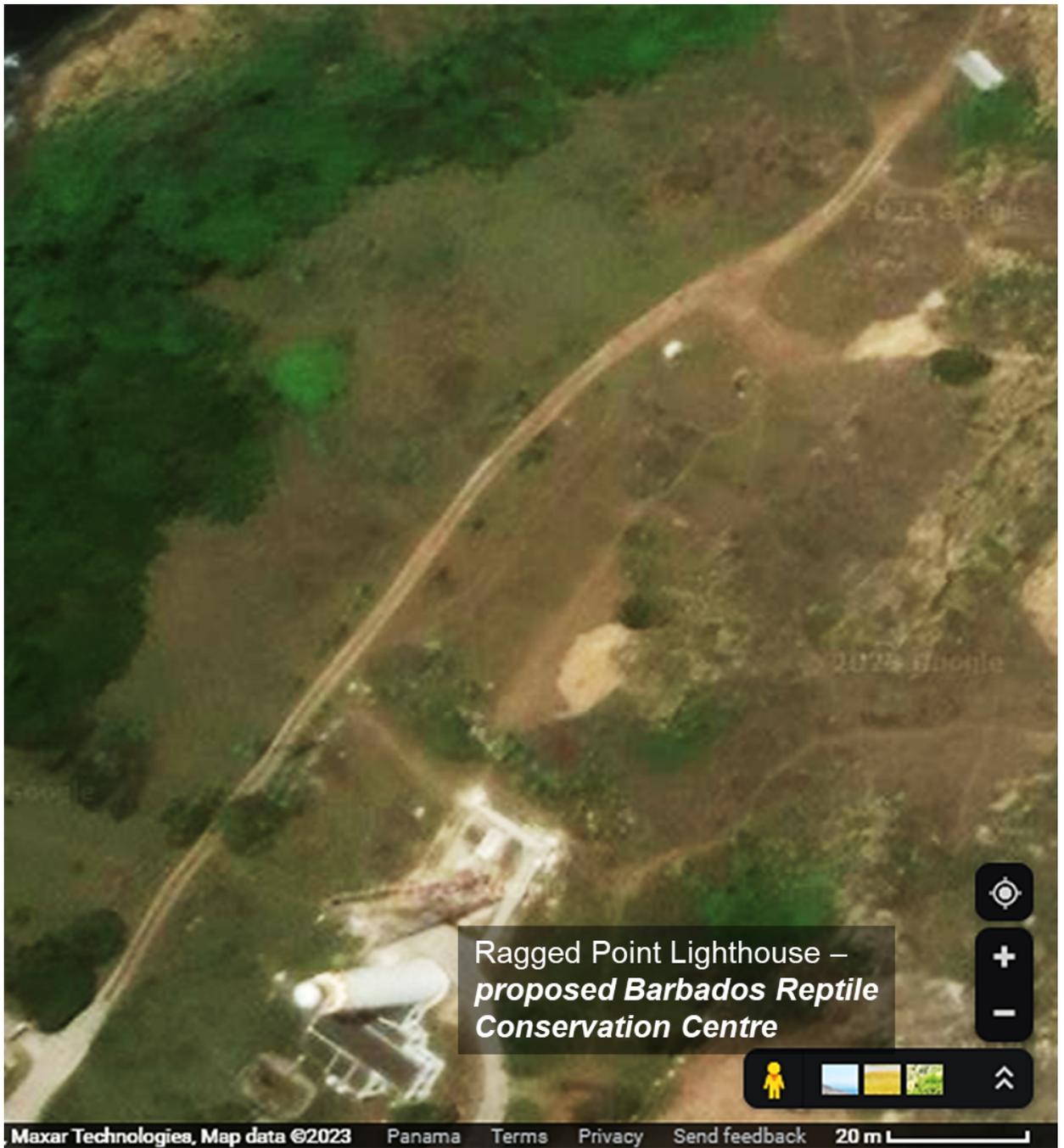
Expert assessment on IAS and communication/KM	43,000	16,500	26,500
Consultation process meetings and travel	2,000	1,000	1,000
Workshops	3,000	1,500	1,500
Communication, dissemination, translation, data, miscellaneous	2,000	1,000	1,000
Total	50,000	20,000	30,000

ANNEX D: Project Map(s) and Coordinates

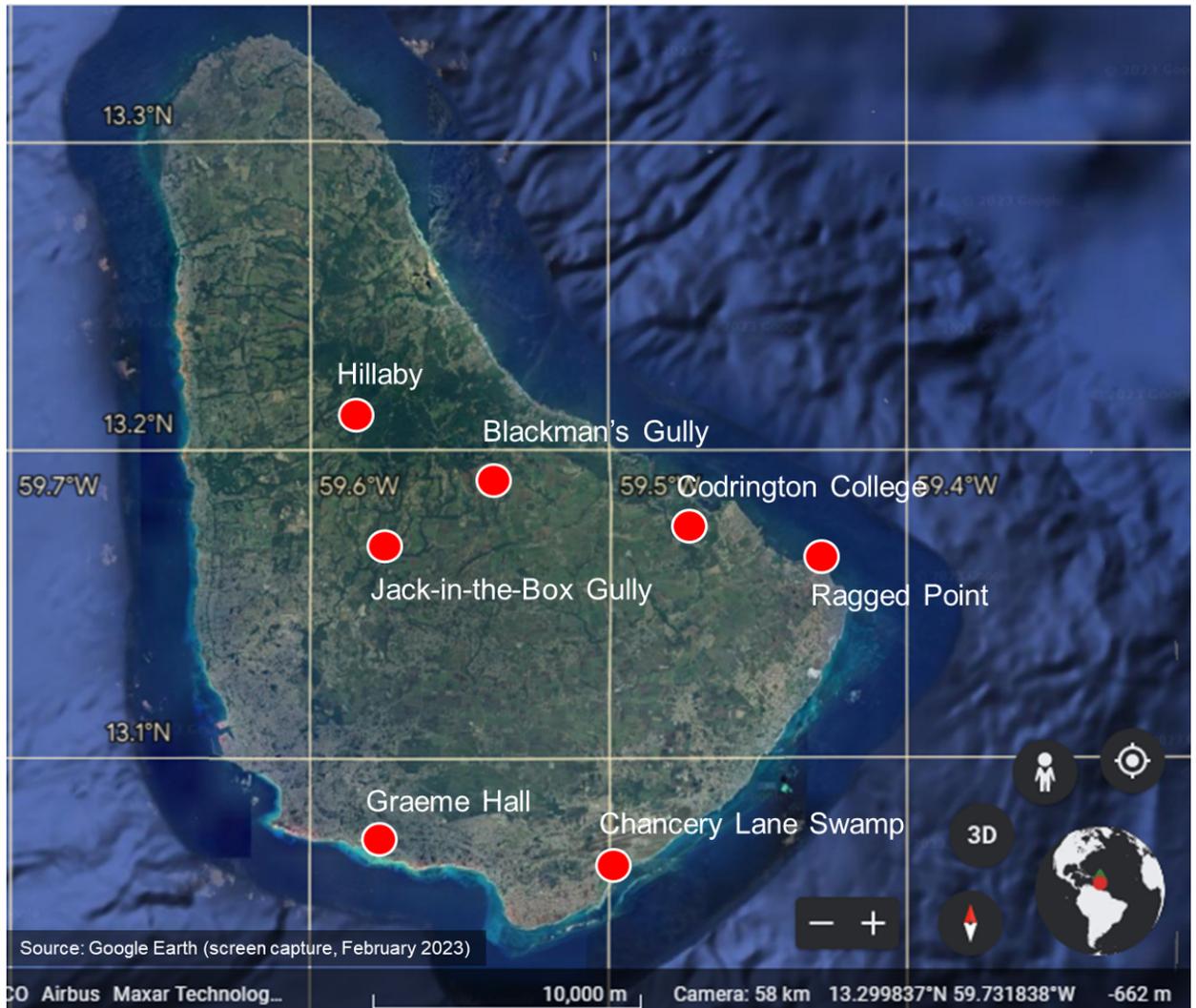
Please attach the geographical location of the project area, if possible.

Location map – Ragged Point





Ragged Point Lighthouse –
*proposed Barbados Reptile
Conservation Centre*



Proposed survey locations for the Barbados threadsnake and Barbados skink in key locations to generate an Area of Occupancy (AOO)

ANNEX E: Project Budget Table

Please attach a project budget table.

GEF ID: 10942 Reducing the threats to endangered reptiles from habitat loss and Invasive Alien Species (IAS) through enhanced governance and strengthened bio-security in Barbados

Appendix H-1: Indicative GEF Project Budget

Expenditure Category UNEP Budget code	Detailed Description (activities)	Component (\$U S)		Sub-Total	M&E	PMC	Total (\$)
		Component 1	Component 2				
		Outcome 1.1	Outcome 2.1				
Works				0			
2301	Habitat augmentation		40,000	40,000			40,000
2301	Construction of biosecure fence		86,655	86,655			86,655
2301	Refurbishment of lighthouse/conservation centre		132,000	132,000			132,000
Goods							
2301	Biosecure site, learning centre operational costs		22,255	22,255			22,255
				0			0
				0			0
Sub-contract to executing partner/ entity							
2301				0			0
Contractual Services – Company							
2301	Design, fabrication, installation cons centre exhibits		96,345	96,345			96,345
				0			0
International Consultants							
1201	Wildlife Conservation Specialist	3,000	6,000	9,000			9,000
5303	Mid-Term Review			0	20,000		20,000
5303	Terminal Evaluation			0	30,000		30,000
				0			0
	...			0			0
Local Consultants							
1202	Reptile Specialist	25,000	80,500	105,500			105,500
1202	Communication, Education and Public Awareness Specialist	25,000	45,000	70,000			70,000
1202	Policy and Legal Expert	35,000	5,000	40,000			40,000
1202	Business Development Specialist	15,000	25,075	40,075			40,075
5202	Audits (1 per year)			0		12,000	12,000
Salary and benefits / Staff costs							
1101	Project Coordinator			0		65,000	65,000
1101	Technical Coordinator	15,000	15,000	30,000	10,000		40,000
1120	Administrative Assistant	0	0	0		0	0
Trainings, Workshops, Meetings							
3201	National Training	5,000	5,000	10,000			10,000
3301	Inception Workshop			0	2,000		2,000
3301	Project Steering Committee Meetings			0	5,000		5,000
				0			0
Travel							
1601	Staff Travel & Transport		9,685	9,685			9,685
				0			0
Office Supplies	...			0			0
4101	Office Supplies		4,000	4,000			4,000
Other Operational	...			0			0
4102	Laboratory supplies and consumables		5,000	5,000			5,000
4201	Non Laboratory purchase		10,000	10,000			10,000
5101	Equipment Maintenance		7,250	7,250			7,250
4301	Office Rent			0			0
5301	Communications (telephone - Internet)			0		1,476	1,476
Grand Total		123,000	594,765	717,765	67,000	78,476	863,000

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template

provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

N/A

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agency is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

N/A

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies' capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).

N/A