

Management Planning and Implementation in the Portland Bight Protected Area, Jamaica funded by the Critical Ecosystem Fund – 2022 to 2025

Implemented by the Caribbean Coastal Area Management Foundation, Bustamante Drive, P.O. Box 33, Lionel Town, Clarendon, Jamaica

Basic Project Information

Strategic Direction from the CEPF Ecosystem Profile 1 Improve the protection and management of 33 priority sites for long-term sustainability

CEPF Funds Requested: \$388,483.58

Project Lead: Ingrid Parchment

Country(ies): Jamaica

Key Biodiversity Area(s): Portland Bight Protected Area KBA JAM-22

Taxon: Amphibians;Plants;Reptiles

Habitat: Forest

Project Rationale:

Importance of the Portland Bight Protected Area

According to the Caribbean Ecosystem Profile, Portland Bight Protected Area (PBPA) Key Biodiversity Area (KBA) is one of the most biodiverse areas in the region. It is a multi-use protected area that was designed to integrate conservation of its interdependent terrestrial, freshwater, marine and wetland habitats and the ecological services they support, with sustainable human economic, social and cultural activities. It provides essential habitat for 14 KBA trigger species, including 7 plants - *Auerodendron jamaicense* V, *Bursera hollickii* CR, *Eugenia eperforata* EN, *Lunania polydactyla* V, *Phialanthus revolutus* T, *Zanthoxylum harrisii* T, *Consolea spinosissima* CR; 2 mammals Jamaican Hutia *Geocapromys brownii* EN, West Indian Manatee *Trichechus manatus* V; 5 reptiles - Jamaican Ground Iguana *Cyclura collei* CR, Jamaican Boa *Chilabothrus subflavus* CR, Jamaican Skink *Spondylurus fulgida* CR, Jamaican/Cat Island Slider *Trachemys terrapen* V; and an amphibian – Portland Ridge Frog *Eleutherodactylus cavernicola* CR. This list includes 6 critically endangered and 2 endangered species. The only trigger species that are currently the subject of specific conservation actions in the PBPA are the Jamaican Rock/Ground Iguana and *C. spinosissima*. At least 15 additional IUCN Red List species occur in the PBPA.

Legal protection

The PBPA covers an area of 187,815 ha of land and sea including 135,640 ha of marine space. The area includes the best remaining dry forests in the region, also the most extensive contiguous mangrove coastline in Jamaica. It also includes agricultural areas, quarries, settlements and towns, ports and industrial sites. 100% of the KBA is nominally protected as a "Protected Area" under the Natural Resources Conservation Authority (NRCA) Act, 1998. Unfortunately, the Act lacks the regulations necessary to give effect to the designation. Additional legal protection under other legislation includes 3 Special Fishery

Conservation Areas (SFCAs) (declared under the Fisheries Act), 2 Forest Reserves (Forestry Act), 3 National Heritage Sites (Jamaica National Heritage Trust Act) and 3 Game Reserves (Wild Life Protection Act) as well as protection of selected species under the Wild Life Protection Act. Most of the area's coastal mangroves, coral reefs and seagrass beds are included in the Portland Bight and Cays Ramsar Site (see uploaded maps). Of trigger species, only the Jamaican Iguana, Jamaican Boa and the Jamaican Slider and West Indian Manatee are currently protected under the Wild Life Protection Act. All the specifically designated areas and the overall protected area lack sufficient resources for management, education or enforcement of laws protecting species and habitats.

Management arrangements and planning

The Caribbean Coastal Area Management Foundation (C-CAM) manages the PBPA under an arrangement with the Natural Resources Conservation Authority (NRCA). This mandate is implemented in partnership with National Environment and Planning Agency (NEPA), Forestry Department, National Fisheries Authority, Urban Development Corporation and National Heritage Trust coordinated through the Portland Bight Management Committee. C-CAM also manages the 3 PBPA SFCAs. Overall management is guided by the PBPA Management Plan 2013-2018, which is now out of date. There are also detailed sub-area plans including the Portland Ridge and Hellshire Sub-Area Management Plans 2013-18, and the Hellshire and Goat Islands and Portland Ridge Biodiversity Action Plans 2013-2018 (which were developed under a previous CEPF project) and separate management plans for the three SFCAs. A management plan for the proposed Great Goat Island is currently under development. The implementation of all the management plans is coordinated through annual PBPA Operations Plans, which are prepared by C-CAM in partnership with the other management agencies. There are national species conservation action plans for the Jamaican Iguana and the Jamaican Hutia, and action plans for control of the invasive alien Cuban Tree Frog *Osteopilus septrionalis* and Green Iguana *Iguana iguana*.

Threats

The biodiversity of the Portland Bight Protected Area (including the 14 KBA trigger species) is under threat from both large scale and small scale pressures. Large scale pressures come from developers and decision-makers who are not aware of the importance of biodiversity or the impacts of climate change or are constrained by land-use zoning. This results in existential threats to wetlands, farm lands, coasts and cays from new towns, a special economic zone, limestone and sand mining, industry, port expansion and housing developments.

PBPA biodiversity is also affected by smaller-scale threats to species and their habitats. Threats affect the integrity of all the forest-dependent plants (*Auerodendron jamaicense* V, *Bursera hollickii* CR, *Eugenia eperforata* EN, *Lunania polydactyla* V, *Phialanthus revolutus* T, *Zanthoxylum harrisii* T, *Consolea spinosissima* CR; and animals - Jamaican Hutia *Geocapromys brownii* EN, Jamaican Ground Iguana *Cyclura collei* CR, Jamaican Boa *Chilabothrus subflavus* CR, Jamaican Skink *Spondylurus fulgida* CR, Portland Ridge Frog *Eleutherodactylus cavernicola* CR). Threats include charcoal burning, fragmentation and loss of connectivity due to extraction of sticks and fence posts, trails, and roads; the unsustainable harvest of non-timber products such as thatch. These threats are exacerbated by the disruption of livelihoods and the local economy, which drive people towards illegal and unsustainable activities. They are compounded by a lack of awareness of laws, boundaries and alternatives.

Some trigger species are also affected by direct threats. Only the Jamaican Iguana has been sufficiently well studied for the threats to its population to be well understood. The ecology and distribution of most of the trigger species have never been studied and the threats to their status have not been documented. For the purpose of management planning, C-CAM assumes that the threats to the populations of lesser-known forest trigger species can be nested under the general threats to the forest.

Some actual or potential threats, such as invasive alien species (IAS) are better understood than others (such as the potential impacts of disease, parasitism or the loss of seed dispersers). Invasive alien predators are known to prey on young Jamaican Iguana (resulting in the need for ongoing control of mongooses, dogs and cats). The effect of IAS wild pigs on forest regeneration is currently being assessed on exclusion plots in Portland Ridge. Known emerging alien invasive species (IAS) threats include the actual or potential establishment of the Green Iguana (*Iguana iguana*) and the Cuban Tree Frog (*Osteopilus septentrionalis*) in the forests. Green Iguanas have been found on Portland Ridge. The individuals were removed and humanely euthanized, but there is a need for constant vigilance. Cuban Tree Frogs are abundant on the coastal plains and in proximity to forests within the PBPA. If these species were to become established in the forests they would threaten the Jamaican Iguana and the Portland Ridge Frog and other CR or EN species. By then it would be impossible to eradicate them. Therefore monitoring leading to prompt preemptive action is very important. The Yellow Boa is threatened by illegal hunting, fueled by ignorance because people are afraid of them and are not aware of their protected status under the Wild Life Protection Act. The Jamaican Skink CR, Portland Ridge Frog CR and other IUCN threatened animal species are not protected.

The impacts of climate change are exacerbating all these issues. A climate change risk assessment that was carried out for C-CAM by the Climate Studies Group of the University of the West Indies with funding from the Caribbean Community Centre for Climate Change supported by the KfW German Development Bank in 2018 determined that the PBPA was the most vulnerable area in Jamaica for climate change.

Synergies

Since 1998, C-CAM has been working to implement the various management plans through a participatory adaptive management approach, using funds from international and local donors and subventions from the Government of Jamaica. The main emphases have been on working in partnership with government and communities to implement environmental education and awareness, monitoring, enforcement (especially of the 3 SFCAs), habitat restoration through work on the Conservation Nursery and Conservation Gardens programmes and support for sustainable livelihoods.

The extent of success of these measures is to be assessed through a project that is being funded by BIOPAMA, "*Implementing adaptive management of the Portland Bight Protected Area through METT-4 assessment*" which will result in the development of a "*State of the Portland Bight Report*". This report will be very important in refining the specific approaches to be implemented in the CEPF project and will support a Management Effectiveness Tracking Tool assessment in May 2022.

A two-year project currently being funded by the European Union "*Enhancing the capacity for management of dry forests in the Portland Bight Protected Area – Jamaica*" will run concurrently with the first 1.5 years of the CEPF project. It will support the management

planning process by carrying out rapid surveys of the forests of the Braziletto Mountains and Kemps Hill, and developing conservation action plans for three trigger species (Jamaican Hutia and Portland Ridge Frog) plus the threatened Kite Swallowtail *Protographium marcellinus*). *The findings will form the basis for a dry forest management plan, which will be incorporated into the comprehensive PBPA management plan that will be developed under this project.* The EU project will also provide support for the Conservation Nursery and the Conservation Garden programmes that were started under previous CEPF projects, including paying a part-time gardener until the end of 2023.

Although there have been many successes, C-CAM's capacity to implement the plans has been negatively affected by shortfalls in core funding from the Government of Jamaica, resulting in cuts in all core expenses including staff cuts, wage cuts and reduced funding for travelling, vehicle and equipment maintenance, which reduced education, monitoring and enforcement programmes. These problems were compounded in 2020 by issues related to COVID-19. The various management plans have all expired, and while their recommendations are still applicable, it is very important to update them using participatory processes in order to address emerging and changing threats, to re-engage the stakeholders in implementation and ensure that climate change is incorporated throughout.

Challenges

Some of the challenges that were identified in the management plans have not been fully addressed. These include a lack of an agreed zoning plan for the PBPA supported by regulations; weak land use planning; development decisions by government and developers that do not sufficiently take biodiversity and climate change into account; community dependence on vulnerable and damaging livelihoods (such as unsustainable use of forests). These are compounded by limited awareness of the importance of biodiversity and the impacts of climate change at all levels (decision-makers, political representatives, local government, central government, planners, communities, businesses, youth, and women) and limited capacity for enforcement of environmental laws. Meanwhile, biodiversity and climate change are not fully mainstreamed into policies and plans that affect the PBPA. As mentioned above, C-CAM's capacity to respond to the many threats and challenges to effective conservation is limited by the lack of secure funding and its dependence on project funds.

Opportunities

The expiry of the previous PBPA management plan offers a timely opportunity to use participatory processes to reassess the management of the PBPA, to re-engage the stakeholders and to incorporate climate change adaptation into all aspects of planning and implementation.

Other opportunities include the potential to build on previous achievements e.g. establishment of the Portland Bight Discovery Centre (PBDC) (which forms the focal point for C-CAM's education and outreach programmes), the conservation nursery and conservation gardens programme (started with previous funding from CEPF); trial cultivation and replanting of threatened plant species, and establishing exclusion and monitoring plots in the forests. The PBDC and the nursery have huge potential for supporting C-CAM's education and awareness programmes, providing revenue from tourism and supporting the development of new approaches to dry forest restoration. Unfortunately, the full opening of the PBDC was delayed due to COVID restrictions. The time is now ripe for moving the PBDC and nursery into full operational mode.

C-CAM's community monitoring/citizen science programme has shown a lot of promise but needs further support to expand to its full potential. C-CAM's BIOPAMA funded project (scheduled for completion by June 2022) will identify how to adapt the current monitoring framework to ensure that it is supporting adaptive management, while the ongoing EU funded project will test new approaches to community monitoring that may be incorporated into the CEPF project. Meanwhile, we also need to engage a broader spectrum of stakeholders, especially women and youth.

If the project is not implemented, C-CAM will continue to manage the PBPA at a less-than-optimal level, and an important opportunity to build on our past achievements (including the initiatives developed under past CEPF projects) will have been lost. The threats will continue to escalate and their impacts will be compounded, resulting in accelerated loss of biodiversity, and the further loss of livelihoods, homes, and workplaces for the communities of the area.

Project Approach:

This project will greatly increase the capacity of the Caribbean Coastal Area Management Foundation (C-CAM) and its partners to implement effective management of the Portland Bight Protected Area (PBPA), which supports 14 CEPF trigger species including 6 CR and 2 EN species. It was developed through consultations with stakeholders, including discussions at the last multi-agency Operations Planning meeting in October 2021, as well as one-on-one discussions with NEPA, National Fisheries Authority, and Forestry Department in 2021 and 2022, a review of the 2018 METT assessment, and Vulnerability Risk Assessment (VRA) workshops. Letters of endorsement have been received from National Environment and Planning (NEPA) and Forestry Department and the National Fisheries Authority (NFA) and have been uploaded in ConservationGrants. The conceptual diagram for the project has also been uploaded.

The project will be implemented through seven mutually supporting components that will address major threats to the EN and CR species of the PBPA including habitat loss and degradation, invasive alien species, and climate change, and will directly or indirectly support the conservation of all the trigger species and provide C-CAM with the institutional capacity to implement the project according to CEPF's requirements.

1. Preparation of PBPA Management and Zoning Plan (2023-2028), will form the basis for a formally agreed framework for the management of the PBPA and will address both general and specific threats to biodiversity and livelihoods.
2. Preparation and implementation of species action plans will support threat reduction to selected EN and CR species. Experimental cultivation will support measures to ensure their survival in the wild.
3. Reduction of the threat of invasive alien species (IAS) to dry forest trigger species and their habitats through actions focused mainly on the impacts of Cuban Tree Frog *Osteopilus septrionalis* on Portland Bight Frog *Eleutherodactylus cavernicola* CR.
4. Participatory monitoring of the PBPA to support management and implement CEPF monitoring requirements
5. Engagement of stakeholders in the conservation of the important biodiversity (including triggers species) and making them aware of the need and options for conservation and climate change adaptation. The outreach will prepare communities, decision-makers, and

local and national government agencies for informed participation in the management planning and zoning processes for the PBPA. It will support mainstreaming of biodiversity into national and local policies and plans and raise awareness of how our national and local government partners, corporate bodies, and NGOs. CBOs, communities, and individuals can implement the management plan and species action plans to comply with laws and zoning and thereby reducing direct and indirect threats to the CR and EN species of the PBPA and their habitats.

6. Institutional strengthening and capacity building of C-CAM, including the hiring of project staff and consultants to support implementation. Overall coordination will be provided by a project coordinator consultant, while the planning, education and monitoring aspects will be overseen by the lead consultant.

7. Ensure efficient project management and compliance with CEPF policies.

Support from CEPF for this project will build on approximately \$350,000 being provided by European Union and BIOPAMA for two projects currently being implemented by C-CAM.

Component 1: Preparation of the PBPA Management and Zoning Plan (2023-2028)

The existing PBPA management plan 2013- 2018 is out of date. This presents an opportunity for a participatory update to re-engage partners and address emerging threats, and integrate climate change throughout the plan. The planning process will be led by the lead consultant and supported by C-CAM staff. It will include a series of in-person, hybrid, and online workshops followed by document reviews by national and local government agencies, community organizations, and other stakeholders. Through plan development and acceptance, C-CAM will consult and engage a new generation of stakeholders and thus revitalize compliance and awareness. Every effort will be made to support the integration of the distinct role of gender in achieving the PBPA's conservation and sustainable development goals to ensure equity in the development and implementation of the plans and ensuing projects that will ensure that conservation objectives are achieved.

The management planning process has already been started through a project supported by the European Union (EU), "*Enhancing the capacity for management of dry forests in the Portland Bight Protected Area – Jamaica*", which will produce the chapter on dry forest conservation by December 2022. Another project funded by BIOPAMA, "*Implementing adaptive management of the Portland Bight Protected Area through METT-4 assessment*", will carry out a Management Effective Tracking Tool assessment in May 2022 (including detailed threats analysis and recommendations for addressing threats, which will be updated at the start of the CEPF project. The CEPF planning process will begin with the preparation of the GIS analysis of land-use changes and the distribution of habitats, species (including trigger species, where data exist), and threats. C-CAM will hire a GIS consultant to update the maps in the previous management plan and undertake the GIS analyses using available information. This will be followed by a series of participatory workshops focused on developing workable actions to address the threats to the biodiversity of the PBPA, especially those that affect the 14 CEPF trigger species and their habitats. These meetings will be hybrid where possible. Based on the meetings, the existing management plan will be revised. It will follow the standard template provided by the NEPA and will include a chapter on preventing further decline or extinction of vulnerable and endangered species, especially the CEPF trigger species. It will incorporate the framework to implement species action plans and will identify the need for additional species action plans (including the data that are needed to support them). The chapter on socio-economic conditions will include a focus on how gender issues affect natural resource management, and how these issues can be addressed.

A zoning plan will be developed and supporting regulations that will lead to the reduction of actual and potential threats to biodiversity from unsustainable land uses (such as the development of industrial sites, mass tourism, new towns, roads, encroachment for small and large-scale agriculture, squatting, purposeful and accidental release of IAS) will be identified. Sustainable land uses that can help relieve human pressure on biodiversity will also be identified.

The zoning plan will involve regulations under several acts, including the Natural Resources Conservation Authority (NRCA) Act, Town and Country Planning Act, Fisheries Act, and others. The complexity of the legal framework with actual or potential implications for zoning means that legal advice from a qualified attorney will be essential to this process. The draft zoning plan will be reviewed with the relevant agencies, communities, and stakeholder groups through further in-person and virtual meetings. The extreme vulnerability of the biodiversity and livelihoods of the PBPA to climate change means that climate change adaptation will be considered throughout the management plan, which will also integrate recommendations developed by a climate change consultant under the EU project. The final plan and a popular summary will be submitted to all the major agencies for them to formally accept by providing letters of support, which, if received in time, will be included in the preface to the document(s). In order to promote implementation, the popular summaries will be shared with communities through a series of in-person meetings led by project staff.

The implementation of the PBPA management plan occurs through the preparation of annual Operations Plans by the agency partners, which guide annual budgeting and work plans. 3 Operation Plans will be developed under this project.

A final METT analysis will be carried out at the end of the project. Under this component, an important gap identified in previous METT analyses – the need to make stakeholders aware of the boundaries of the PBPA through signage – will be addressed by developing a signage plan, designing, constructing, and installing large signs on major roads leading into the PBPA and small signs on minor roads. This will require permits from NEPA and Municipal Corporations. The installation of signs will be celebrated through a ceremony with relevant local and national government officials.

Component 2: Support Conservation Action Planning and Implementation to Conserve Three EN and CR Red Listed species

Development and implementation of species conservation action plans that comply with IUCN standards for EN and CR trigger species are an important focus of this component. It will include implementing the national species conservation action plan for the Jamaican Hutia *Geocapromys brownii* CR, developing a species conservation action for the cactus *C. spinosissima*, and laying the groundwork for preparing species conservation action plans for *Bursera hollicki*, the Jamaican Boa, and the Jamaican Skink. The ongoing *ex situ* cultivation programme at the PBDC conservation nursery, which was started in a previous CEPF project, will be expanded to support *ex situ* cultivation of the cactus and *B. hollicki*. These activities are part of the educational offerings at the PBDC, where community members can learn about these activities and get involved in the conservation garden programme. This will be supported by the design, printing, and installation of signs in the nursery for *C. spinosissima* and *B. hollicki*.

Consolea spinosissima CR

C-CAM will use participatory processes to develop a conservation action plan, for the endemic cactus *Consolea spinosissima* CR. The process will result in a plan and a design for expanding the cultivation of the cactus and experimental out-planting in forests, which will be tested through the establishment and monitoring of plots by C-CAM staff and community monitors under the project. The data will be analyzed and recommendations presented in a report on best practices for the cultivation of the species. The process will be led by the Science Officer with support from the Assistant Science Officer and community monitors.

B. hollickii

Preparations for species conservation action planning include an experimental attempt to bring *Bursera hollickii* CR into cultivation with the long-term objective of being able to restore its population in the forests. This will start with exploratory collecting trips to collect seeds by the Assistant Science Officer assisted by community monitors. The next steps will include an experimental investigation of ways to stimulate germination and growth. Upgrading and maintenance work on the nursery will continue under the EU forest project, which is supporting staff and training until the end of December 2023. The other preparations for species conservation action planning for this species are described below.

Jamaican Hutia

The existing national species conservation action plan for the hutia recommends actions to re-establish the species in locations where it was formerly present. A detailed conservation action plan for the species and an assessment of its distribution in the PBPA are being developed under the EU project. These assessments are expected to show that the hutia population of Portland Ridge is either very small or extirpated and to recommend re-establishing the species there. This project will support a pre-feasibility study that will assess what research would be necessary and the costs that would be involved in carrying out a full feasibility study for reintroducing the species to Portland Ridge. The pre-feasibility study is necessary because C-CAM needs to garner expert advice about the need to do detailed studies of the reasons why the hutia population declined at the site, whether the present conditions could support hutias, and to assess the ecological dynamics, genetics, disease, and parasitism in potential source populations as well as to get support from the land managers. We expect the pre-feasibility study to be completed in the first 6-9 months of the project, which would allow C-CAM to apply for additional funds to support the feasibility study and, if the results are positive, possibly begin implementation during CEPF's current project cycle. Through preliminary discussions, ReWild has offered to provide technical support for this process, and C-CAM will explore possible this and other potential sources of financial support.

Other CR and EN species

The data on the distribution, ecological requirements, and threats for the other PBPA KBA trigger species are insufficient to support the development of species conservation action plans. Under the CEPF project, C-CAM will lay the groundwork to develop and implement species action plans for *Bursera hollickii*, the Jamaican Boa, and the Jamaican Skink. The main steps include:

1. Under the CEPF project
 - a. By the end of 2022, consult with experts to develop terms of reference and project proposals for studies and costings to provide the precise information that is essential to support conservation action plans.
2. Under follow up projects

- a. Once funding has been identified, C-CAM will carry out the necessary studies, prepare reports, hold species conservation action planning workshops and develop species action plans
- b. Develop projects to implement the species action plans.

Component 3: Reduction of the threat posed by IAS to dry forest trigger species including the actual threat from the Cuban Tree Frog the potential threat from the Green Iguana and other newly introduced species

The updated management plan will include a comprehensive strategy to address the actual and potential threats posed by invasive alien species (IAS) in the KBA. This is expected to have three main foci:

a. the Cuban Tree Frog (CTF)(*Osteopilus septentrionalis*)

This voracious predator appears to have been introduced to Jamaica in or near the PBPA. Its most dense populations are in and around the Braziletto Mountains and Portland Cottage in the PBPA, which is adjacent to Portland Ridge, one of the two known habitats for the species.

A national action plan for the CTF, prepared in 2021, identified the threat posed by the CTF to all Jamaican endemic herps (including the Portland Ridge Frog (PRF) in the PBPA and other CEPF EN trigger frog species found in the Blue and John Crow Mountains and Cockpit Country) and determined, based on expert opinion and experience in Dominica, that eradication of CTFs at the national level is not feasible except in very limited areas occupied by range-restricted CR/EN species.

For the PBPA, it identified the need for immediate action to minimize the spread of the CTF and for preparations for preemptive actions to be made to eradicate CTFs from the vicinity of caves occupied by PRFs, should the species become established nearby. Under the EU project, C-CAM is assessing whether the PRF survives in known cave sites in Portland Ridge, and will develop a PRF Species Action Plan. This is expected to include recommendations for the installation and monitoring of simple CTF traps made of PVC pipe around the selected caves, which will be installed under the CEPF project and monitored by community monitors. If CTFs are detected, the trapping, removal, and euthanasia process will be intensified.

In support of these actions, the national plan recommended community engagement in minimizing the spread of the species. C-CAM will develop and deliver educational materials (including a small poster, a leaflet, and a PowerPoint presentation) that will encourage communities in affected areas (especially those near Hellshire and Portland Ridge) to take action to reduce the threats from these species, including humanely euthanizing adults, removing egg masses and reducing breeding habitat. Protocols will be developed to ensure that euthanasia will be done humanely. This will not involve using pesticides. Community monitors will be trained to identify the species and to record their observations, thus providing an indication of the distribution of the species.

The approaches and materials developed under this project will be applicable at the national level and could be adopted in other KBAs in Jamaica and other islands, where other CR/EN species are potentially threatened by CTFs. The findings of the process will be presented in a webinar and incorporated into a knowledge product that can be widely disseminated.

b. The Green Iguana (*Iguana iguana*) has been detected in the PBPA and may or may not still be present in the KBA. The national Green Iguana action plan developed in 2017, noted that the Green Iguana poses a dual-threat of hybridization and predation to the Jamaican Iguana, and a predation threat to many other range-restricted endemic reptiles and an amphibian in the PBPA, including the Portland Ridge Frog (*Eleutherodactylus cavernicola*). To ensure that this threat is eradicated as quickly as possible, community monitors will be

trained to identify and report sightings of Green Iguanas. If iguanas are detected, C-CAM and Hope Zoo staff will be called in, so that they can be removed from the wild promptly for humane euthanasia using non-chemical methods.

c. Other IAS. There is a constant threat that additional IAS may be introduced to the PBPA through the ports or on boats. Early detection is the key to effective action. Therefore C-CAM will include IAS monitoring in the community monitoring/citizen science programme and incorporate a module in the community monitoring handbook. This will involve reporting occurrences of Cuban Tree Frog, Green Iguana, and other species. It will support the early detection of new IAS. The Education Officer, Science Officer, and Assistant Science Officer will lead the distribution of materials and will support the training of community members in relevant skills. The findings of the programme will be presented to the public at a webinar designed to share lessons learned and practices that may be applied at the community level islandwide or in other jurisdictions.

d. C-CAM will also continue to advocate for broad national actions to reduce the threat from IAS through its participation in the national Invasive Alien Species Working Group.

Component 4: Participatory monitoring of the PBPA to support management and CEPF monitoring requirements

C-CAM already has a monitoring plan and a community monitoring programme. However, the monitoring plan needs to be updated to reflect the recommendations that will be developed under the current BIOPAMA State of the PBPA Report, as well as to meet the recommendation of CEPF that the monitoring plan should be consistent with BirdLife International Important Bird Area monitoring protocols and CEPF KBA biodiversity monitoring protocols. In addition, C-CAM plans to expand its Community Monitoring/Citizen Science programme. This might include more detailed monitoring protocols for climate change, air pollution, water pollution, solid waste pollution, activities in no-build zones, invasive species, etc. We are seeking to experiment with paying selected and trained community monitors a small stipend to offset travel costs and related incidental expenses (which they have requested) and improving data collection by providing them with tablets equipped with SMART software for data entry. Reporting on the results of monitoring in popular and accessible formats is expected to be an important output of these activities. The results of the monitoring will be used to support operations planning and will inform the METT. In the last 6 months of the project, C-CAM will assess the success of the stipend programme as a means to increase the quality and quantity of data from the community monitoring programme, and to increase the engagement of community monitors. If it is successful, C-CAM will identify sources of additional finance to support the programme e.g. by incorporating it in the budget, sponsorship, or through follow-up projects.

C-CAM will attend CEPF training to enable it to prepare and implement the KBA biodiversity monitoring framework, supported by appropriate database and protocols, training of project staff, and preparation of annual reports.

Component 5: Stakeholder outreach campaign to support management planning, threat reduction and conservation of KBA trigger species and their habitats in the PBPA

The stakeholder outreach programme will be targeted to build support for the management planning process, species conservation, and addressing the focal threats identified by this project, including IAS.

C-CAM will develop a comprehensive stakeholder outreach plan and programme focused on education and awareness plan and programme. It will be designed to support specific project priorities and address threats to trigger species. The target audience of the plan will include C-CAM staff, local and central government agencies, decision-makers including

politicians, business people, community leaders, CBOs, NGOs, journalists, media, and the general public. It will seek to develop a supportive network of citizen scientists, volunteers, and interns. The plan will focus on the following:

1. Supporting the development and implementation of participatory preparation of the management plan and zoning plan through increasing awareness of the importance of biodiversity, threats, and governance.

Participatory planning is based on two main assumptions about the stakeholders that can only be addressed through continuous, broad-based education and awareness activities *viz.*:

- a. they have sufficient knowledge and understanding of the importance of natural resource management to motivate them to participate, and to ensure that they can make meaningful contributions to the process

- b. they have confidence that the process will have positive outcomes for the biodiversity.

Once the plans have been developed and reviewed the plan will focus on dissemination and implementation of the management and zoning plans, through community meetings and sharing the popular version of the plan.

In the absence of an informed group of key stakeholders, plans will not address root causes and may suggest impractical or culturally unacceptable solutions. If the plans, once developed are not widely disseminated, understood, and implemented, they will not have any impact on the threats they were designed to address. Therefore public education and awareness are essential. Activities under this heading must be well-designed and focused on promoting effective conservation action to reduce pressure on the trigger species and their habitats.

2. Reduction of the threats to trigger species caused by unsustainable large-scale developments. The plan will focus on making decision-makers aware of the importance of the PBPA and the trigger species and on making them aware of the need for mainstreaming biodiversity conservation, species conservation, and adaptation to climate change into multisectoral policies and plans. The outreach/awareness programme will promote the implementation of management, zoning, and species conservation action plans and encourage compliance with recommendations, regulations and zoning.

3. Reduction of threats to 5 trigger species (Jamaican Iguana, Jamaican Hutia, Portland Ridge Frog, Jamaican Boa and *C. spinosissima* in 3 communities. The management plan and the species action plans are expected to recommend making communities more aware of the importance of the species and the benefits derived from conserving them. This aspect of the education plan will focus on how communities can help conserve the species by complying with environmental laws, assisting with community monitoring (including the Cuban Tree Frog monitoring) and getting involved in the conservation gardens programme and taking action to adapt to climate change.

4. Development of a future generation of conservationists through engagement of young adults in a conservation forum that will help this important and potentially active group of stakeholders to define and begin to implement their roles in conserving the biodiversity of the PBPA (including species, ecosystems and the livelihoods that depend on them) through implementing the management and zoning plans and thereby addressing threats such as unsustainable use and development and climate change

The Portland Bight Discovery Centre and the Conservation Nursery will provide a focus for the stakeholder outreach programmes. There will be a series of events at the PBDC focused on reducing threats to biodiversity. The programme will include developing a set of display panels for the Portland Bight Discovery Centre on the amelioration of threats to CR and EN species of the PBPA. A second set of panels will focus on the threats posed by IAS and what is being done to reduce the threats. Other outreach materials will include leaflets, posters,

powerpoints, and web pages. The programme will utilize and complement existing awareness resources, including existing exhibition materials at the PBDC.

The programme will include community meetings (virtual and in-person, depending on COVID), observations of international environmental days and exhibitions at the PBDC, as well as social media. There will also be a Youth Action Forum, designed to identify and engage future conservationists in the implementation of the management and zoning plans. The Education Officer will give talks in PBPA communities throughout the project and will support visits for agencies, media representatives, decision-makers, and community groups to exhibitions on climate change and biodiversity at the Portland Bight Discovery Centre. A Communications Consultant will be hired to provide ongoing coverage of project activities.

Component 6 Institutional strengthening and capacity building of C-CAM

Successful implementation of this project will require an effectively coordinated complement of well-trained staff and consultants working in favourable conditions with the equipment, supplies, and transportation they need. A highly experienced project coordinator will be hired to support implementation, including the development of Terms of Reference, hiring and monitoring performance of staff, ensuring reports are prepared accurately and on time, and ensuring all CEPF standards, policies, and guidelines are adhered to in all aspects of the project, developing a volunteer and internship programme and coordinating workshops. Implementing the CEPF project at the same time as the EU project will involve rapid expansion of staff and capacity. C-CAM expects to continue to grow, and in the future, it will be implementing several large projects simultaneously. In order to ensure that this expansion of capability is handled effectively, C-CAM will hire a management consultant to produce an institutional development plan that will review the current governance, management, and staffing structure, and assess training needs, to support the implementation of multiple large projects, and achieve the goals to be established under the revised strategic plan (which is currently under review). This will involve developing a 10-year plan for staffing (including a review of staff and board positions, qualifications, training, and succession planning).

C-CAM's Articles of Association and by-laws were developed more than 20 years ago and have become dated. Therefore C-CAM will also hire an attorney to conduct a legal review of its Articles and recommend a path to make changes, if necessary.

C-CAM's human capacity for project implementation will be met by developing contracts for 10 staff members (5 male, 5 female) and 9 consultants (5 female, 4 male). C-CAM will also use paid interns (50% female) to supplement its staff capacity in 2023-25. Not only will the interns expand C-CAM's human resources, C-CAM sees these internships as part of its contribution to building capacity among the next generation of conservationists.

Staff and interns will participate in annual workshops designed to increase their awareness of PBPA biodiversity and how to promote C-CAM's work. They will also be encouraged to enhance their personal capacity to carry out their work by taking up training opportunities under this project.

The purchase of the necessary equipment and the tools C-CAM needs to carry out its work (including a vehicle, phones, desks and chairs, computers, tablets, software, and supplies) is also included under this heading. The purchase of a vehicle is essential because the distance between the eastern and western boundaries of the PBPA is more than 75 km, and it takes more than an hour to drive by the fastest route. The area includes 3 forest areas that can only be accessed by 4WD. Public transportation is irregular, expensive, and unsafe, especially for female members of staff who have to travel to do fieldwork or meetings at night. On a typical day, we would expect to have one or two science teams working in the forests or wetlands, one or two teams working in communities, while others are attending

community meetings, supporting training, surveys, or educational activities, or traveling to Kingston to attend higher-level meetings. We currently have two aging vehicles, and the shortage of transportation options limits our activities. An additional vehicle will greatly expand our capacity to implement this project.

C-CAM's office space at Lionel Town and Salt River needs to be enhanced to accommodate the 5 additional staff and consultants to be employed on the project. The Lionel Town office is on a busy street and it is noisy, hot (daily high temperatures in July can reach 38oC), and dusty. This reduces working efficiency in the summer months) and affects equipment. At the Salt River field office, the heat problem is compounded by high humidity, sand flies, and mosquitoes. The project will install air conditioning in the main offices at both locations.

C-CAM's financial sustainability will be enhanced through the implementation of the funding plan (updated under the BIOPAMA project in 2022), the development of follow-up projects, and fundraising from donors.

Component 7: Project management

Effective and timely management of the project in a manner that conforms with CEPF requirements and guidelines will be a very important part of the project approach. This will include implementation, monitoring, and quarterly reporting on the ESS; informing stakeholders of the grievance mechanism through appropriate measures, and taking prompt action if and when necessary. C-CAM's institutional capacity will be assessed through the annual CSTT and the GTT at the start and end of the project. C-CAM will also engage a consultant to develop a gender policy for the organization and its activities in the PBPA and will train its staff to implement it. This policy is expected to take into account the distinct roles of men and women in the management of the PBPA and the development and implementation of management plans and PBPA projects. Performance of conservation efforts and threats reduction actions will be assessed through 2 METT workshops and an annual application of the IBA monitoring and KBA frameworks, as well as the Biodiversity Tracking Tool.

C-CAM will hold an inception workshop to which all major stakeholders, including community leaders, will be invited. We will establish a project management committee that will meet annually to monitor project performance.

Link to CEPF Investment Strategy:

Strategic directions

Goals: This project addresses the Biodiversity goal (*improve the status of globally significant biodiversity within hotspots*)

Strategic direction 1: *Improve the protection and management of 33 priority sites for long-term sustainability).*

It will improve the management and protection of the PBPA, by updating the management plan, engaging stakeholders in implementation, developing a zoning plan, and developing regulations to support zoning.

Investment priorities under strategic direction 1

This project addresses at least 4 investment priorities:

1.1 (*strengthen legal protection*) This will include supporting the zoning and associated regulations to support the legal protection of important biodiversity habitats throughout the KBA. This zoning plan will be designed to address all threats related to unsustainable development and land use.

1.2 (*prepare and implement participatory management plans*) The PBPA management plan will be updated through participatory processes and implemented by C-CAM and partners and implemented through actions informed by 3 annual operations plans.

1.3 (*assess climate change impacts and integrate climate change adaptation into management plans*) Climate change impacts will be assessed through GIS analysis and the findings used to guide the strategies and actions in the plan. Climate change will be integrated into all aspects of the plan, and considered in all aspects of implementation as well as being the subject of a specific section of the plan. Climate change is a major focus of the supporting stakeholder outreach campaign, including exhibitions at the PBDC.

1.4 *Eradicate, control or prevent further spread of invasive plants and animals that are affecting globally threatened species populations at priority sites.* This project will support mainstreaming awareness of the impacts of invasive species in the PBPA and how to address them and contribute to C-CAM's input to national IAS policies, programmes, and plans. It will implement national action plans for the Cuban Tree Frog and Green Iguana, two of the most important IAS threats facing the biodiversity of the PBPA, assess the threat to the Portland Ridge Frog and develop an early warning system for IAS in the KBA based on citizen science monitoring.

Project Long-term Sustainability:

Overall, the project will build and strengthen partnerships with the government, community and private sector which will allow for positive working partnerships to implement the plans going forward. The annual Operations Planning sessions will continue to provide an opportunity for partners to come together to review the management plan and consider how implementation can be integrated into agency work plans for the PBPA and other areas. The community monitors/Citizen Science programme participants will continue to implement the programme since they would have received training and other tools to implement the programme and C-CAM will continue to provide oversight. The planners, politicians, and local government agencies will incorporate the relevant aspects of the updated plan and lessons learnt during public awareness sessions into planning and approvals at the various levels. C-CAM will utilize the results of the capacity building components including the management capacity report to continue to build the institutional capacity with other current funding and future funds. The displays at the PBDC will help to build the educational capacity at that facility which persons can continue to access by paying a fee or other sources of funding. We expect to build on this project by sourcing additional grant funding for specific aspects of the programme such as capacity building for C-CAM and community partners, we also recognize the need for greater financial independence through increasing our capacity for fundraising. Regarding replication, we note that there is broad interest in conservation nurseries and we will make our facilities and expertise available to others on request. The materials and approaches developed for the Cuban Tree Frog programme will be suitable for use in communities islandwide and will thus fill an important gap. We expect our efforts to mainstream awareness of issues related to biodiversity and climate change among national and local government agencies, and companies will have a broad impact. The Citizen Science Programme will test the hypothesis that working with community stakeholders (including the training and stipend) to improve biodiversity conservation can be successful and has the potential to be replicated elsewhere. If the final report indicates that is successful, plans will be developed for its continuation and funding sought to support the plans, from sources that are yet to be developed but could include sponsors, donors, subventions or projects. The timing of our management planning and implementation process should allow us to contribute to Jamaica's response to the Post 2020 Global Biodiversity Framework, once this has been established.

Organizational Strengths:

The Caribbean Coastal Area Management Foundation has been working on implementing biodiversity, climate change, and livelihood projects and programmes in the PBPA for more than 20 years with and for the stakeholders. Our focus has always been on improving lives and livelihoods while conserving natural and heritage resources by working collaboratively with partners and stakeholders, and we believe we have earned their respect and trust. As the designated manager of the PBPA and the manager of 3 SFCAs in the PBPA, we are ideally positioned to revise the PBPA Management Plan 2013-18, which we prepared through participatory processes. Our work has involved managing many large and small projects, including 2 projects under the last CEPF Caribbean programme, and we believe we have demonstrated our capacity to develop and manage projects of this size. Our long commitment to the area means that we have a deep understanding of the underlying social issues and the ecological dynamics of the area. Through our work, we have established several resource user groups (e.g. the Portland Bight Fisheries Management Council - made up of representatives from fisherfolk organizations and government agencies and the Portland Bight Enforcement Council). An additional Forest Management User Council has been proposed and will be established by 2023 under the parallel EU Forest project. These groups and our partners have guided the development of this project and will support implementation. C-CAM pioneered participatory collaborative development of multi-agency annual Operations Plans which have allowed us to maximise the impacts of limited human and financial resources. We have been carrying out education and monitoring programmes in the PBPA since 1998, and have a lot of experience and materials. The Portland Bight Discovery Centre includes climate change, biodiversity, and dry forest exhibitions, a boardwalk through the wetlands (including mangroves), a bird hide and a river trail, and a conservation nursery that provides a magnificent focal point for our educational and ecotourism programmes. The PBDC has scope for further enhancement including the inclusion of more community tour guides and Interns. We also have robust internal controls, financial reporting practices and operating policies (some of which were developed under previous CEPF projects) that will ensure that we are fully compliant with local laws and regulations and meet international standards. These will enable us to work in full compliance with CEPF requirements.

Partners and Stakeholders:

As noted above, C-CAM has a long history of working closely with various stakeholders (e.g. government, community, women, youth) in the PBPA. This project is the latest step in a programme that we have been developing incrementally over a long period, in response to community and partner needs as expressed through meetings and workshops and scientific assessments. As we developed this project we had discussions with Government agencies (Forestry Department, National Environment and Planning Agency, and the National Fisheries Authority) regarding the main deliverables of the project. They have each provided letters of support indicating the level of technical and other support they are committing to ensuring the successful implementation of the project. Some aspects of the project, such as the need for an updated management plan, reflect needs that are established in our existing agreements with partners. Community members have indicated an interest in the community monitoring programme; however, they have also asked if a stipend could be made available, which we are hoping to explore in this project. Several workshops held with funding from the Global Partnership Network (GPN) have focused on women and their specific needs, and we have integrated these considerations into the project. Forestry Department has offered technical support for the Conservation Nursery programme. We also

work closely with government agencies and other partners through various committees including the Jamaica Iguana Recovery Group, the Ramsar Committee (currently chaired by C-CAM), the Gamebird Committee, the Biodiversity Committee, and the Alien Invasive Species Working Group. A more detailed stakeholder assessment can be found in the Stakeholder Engagement plan.

Project Assumptions and Risks:

1. Assumptions

- a. The budget is adequate, inflation is manageable, deliverables are achievable, and political conditions remain stable.
- b. There are no further outbreaks of COVID or other changes that reduce the GOJ funding or we can make up the shortfall from other projects or fundraising.
- c. World Bank/CEPF environment and social standards (ESS) and other requirements can be met.
- d. Project funds from CEPF will be received promptly based on successful submission of quarterly financial reports and projections of project cash flow needs
- e. The project provides the necessary institutional capacity and vehicles, and we can hire the skilled people we need.

2. Risks

a. Participation burnout in communities

We will make sure schedules for meetings that involve the same groups are planned to minimise burnout, and make meetings as meaningful and interactive as possible so stakeholders feel like their participation is important. We will provide data to stakeholders who need it for virtual meetings and provide tasty refreshments for in-person meetings.

b. Weak leadership from National Environment and Planning Agency

We will work closely and transparently to encourage our NEPA counterparts and support the things they need to meet mutual targets as far as possible.

c. Political will and short-termism

Our outreach to stakeholders will be designed to build understanding in communities of the risks to them of projects that bring them short-term benefits that are outweighed by long-term costs.

d. COVID resurgence or other outbreaks of diseases

We will ensure we have COVID supplies on hand, encourage staff to take precautions, and comply with all government recommendations.

e. Disasters and unforeseen changes e.g. hurricanes, COVID, and the war in Ukraine increasing fuel prices

We have disaster risk management plans in place for C-CAM and its equipment, offices and infrastructure. These plans will be put into place when there is a credible threat. If a major disaster such as a hurricane occurs, we will implement our plans, secure our equipment and staff and resume operations as soon as conditions allow. We will also document all impacts on our infrastructure. As soon as we can access damaged habitats we will assess them for impacts on trigger species and if necessary take action to protect them. This is further detailed in Community Health and Safety plan.

Social Context:

The Portland Bight Protected Area spans the southern part of the parishes of Clarendon and St. Catherine in Jamaica. The area encompasses 49 communities with a total population of about 50,000 people, most of whom depend on the natural resources of the area. Livelihoods include artisanal fishing (boat owners, fishermen, vendors, and scalers),

charcoal burning, small-scale agriculture, fish farming, livestock rearing, and micro-business (bars, shopkeepers, barbers, etc.). Historically and until the 2010's large-scale sugar cane production provided an income for people on the coastal plains, but this has been abandoned except in small pockets, causing substantial disruption to the local economy. The negative impacts of climate change as experienced through prolonged droughts and flooding, hurricanes, and storm surges as well as the exacerbating effects of COVID19 have worsened the poor socio-economic situation of most of the persons within the PBPA. Many people are seeking new sources of income. This provides an opportunity to direct them into more sustainable activities.

The project will improve the capacity of the C-CAM team to support training and management planning as well as develop the Citizen Science programme. This will allow community members to participate in interactive sessions and activities which will improve their lives and livelihoods and improve opportunities for them to have a say in the planning process. This is further detailed in the Stakeholder engagement plan

Grievance Mechanism:

Affected local communities and other interested stakeholders will be informed about the provisions of CEPF's Environmental and Social Management Framework, including its grievance mechanism. This will include making them aware that with regard to the management of environmental and social risks, they may raise a grievance, at any time, to the grantee, the regional implementation team, or the CEPF Secretariat. C-CAM will closely follow the grievance mechanism described in the project environmental and social management framework, as outlined in the Stakeholder Engagement plan. The contact information of C-CAM (including street address, mailing address, email address, telephone/WhatsApp numbers, social media, and website), the regional implementation team, and the CEPF Secretariat will be made publicly available through our website, social media, PowerPoint presentations and provision of leaflets at relevant stakeholder meetings. We will include in our staff assignments the responsibility for monitoring the receipt of grievances, as well as the obligation to report the grievance to the Executive Director and Project Manager and to work with them to respond in writing within 15 calendar days of receipt, and if the claimant is not satisfied, support for submitting the grievance promptly to the CEPF Secretariat. We will share all grievances — and a proposed response — with the Regional Implementation Team and the CEPF Grant Director within 15 days

Project Impacts

Impact Description	Term
By June 2025, ex-situ conservation of 2 plant trigger species that are potentially impacted by climate change increased through a conservation action plan for the <i>Consolea spinosissima</i> and protocols for the cultivation of the <i>Bursera hollickii</i> , based on trial cultivations in the nursery.	Short Term
By June 2025, protocols to reduce the spread of the invasive Cuban Tree Frog in critical habitats in the PBPA are adopted and utilized by 20 households in three communities, located near the habitat of the Portland Ridge frog (<i>Eleutherodactylus cavernicola</i>).	Short Term
By June 2027, C-CAM's organizational capacity strengthened as demonstrated by an annual 5-point increase in the CEPF Civil Society Tracking Tool.	Long Term
By June 2025, C-CAM's capacity strengthened to integrate gender into its operations, to achieve a 3-point increase in the CEPF Gender Tracking Tool.	Short Term
By June 2025, threats to biodiversity in the Portland Bight KBA reduced by 5%, as measured on the IBA Scorecard.	Short Term
By June 2025, 50 stakeholders (at least 40% women) in at least 3 communities have demonstrated their support for the management planning process, as demonstrated through pre and post-testing at relevant activities and Knowledge Attitudes and Practices Assessment.	Short Term
By June 2025, visits to C-CAM's social media and webpage increase by 25% from baseline, to serve as a leading source of conservation information on the PBPA.	Short Term
By June 2025, the framework for long-term sustainable management of the PBPA KBA, (designed to address threats and support the conservation of trigger species) will be established through the approval of the PBPA management plan and zoning plan by the National Environment and Planning Agency, Forestry Department, National Fisheries Authority and Urban Development Corporation.	Short Term
Participatory management and zoning plan prepared and approved by the National Environment and Planning Agency, Forestry Department, National Fisheries Authority, and Urban Development Corporation implemented to reduce threats to trigger species and their habitats. The plan will develop workable strategies and actions that will inform management of the protected area to 2028	Long Term

Components, Deliverables and Activities

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
1	Update PBPA Management and Zoning Plan (2023-2028)	1.1	Maps prepared to support management planning and zoning (MV copies of maps) (Dec 24)	1.1.1.	GIS data compilation and analysis of Google Earth images of key parameters that include changes in major habitats, and threats, including trigger species, conservation areas, management activities and draft and final zoning plan maps. (Sep 22- Dec 24)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.10	Preparation of final METT for CEPF in 2025 (MV: Document) (Jun 25)	1.10.1	One virtual METT workshop with at least 12 stakeholders including 40 % women ((May 25 - Jun 25)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.10	Preparation of final METT for CEPF in 2025 (MV: Document) (Jun 25)	1.10.2	Draft METT (May 25-Jun 25)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.10	Preparation of final METT for CEPF in 2025 (MV: Document) (Jun 25)	1.10.3	Submission of METT to 4 ministries, agencies, departments and partners (May 25 - Jun 25)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.11	Preparation and submission of draft PBPA Zoning Plan that identifies terrestrial and marine zones and other geographic restrictions within the PBPA, (MV: Plan, Agenda, list of participants, reports on meetings) (Sep 24)	1.11.1	6 stakeholder consultation meetings with 20 persons each (50% women) face to face (Jan 24 - Jul 24)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
1	Update PBPA Management and Zoning Plan (2023-2028)	1.1 1	Preparation and submission of draft PBPA Zoning Plan that identifies terrestrial and marine zones and other geographic restrictions within the PBPA, (MV: Plan, Agenda, list of participants, reports on meetings) (Sep 24)	1.11.2	3 meetings with local and national government agencies online (Jan 24 – Jul 24)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.1 1	Preparation and submission of draft PBPA Zoning Plan that identifies terrestrial and marine zones and other geographic restrictions within the PBPA, (MV: Plan, Agenda, list of participants, reports on meetings) (Sep 24)	1.11.3	Legal review of zoning recommendations under all applicable acts (Jan 24 – Jul 24)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.1 1	Preparation and submission of draft PBPA Zoning Plan that identifies terrestrial and marine zones and other geographic restrictions within the PBPA, (MV: Plan, Agenda, list of participants, reports on meetings) (Sep 24)	1.11.4	Final review workshop for zoning plan (hybrid) (20 in person 30 on line) face to face (Oct 24 – Oct 24)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
1	Update PBPA Management and Zoning Plan (2023-2028)	1.1 1	Preparation and submission of draft PBPA Zoning Plan that identifies terrestrial and marine zones and other geographic restrictions within the PBPA, (MV: Plan, Agenda, list of participants, reports on meetings) (Sep 24)	1.11.5	Final zoning plan (including maps) shared with NEPA and other relevant government agencies for shepherding through the legislative process. (Nov 24 – Nov 24)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.1 2	Protected area signage 6 large, on major access roads and 15 small on minor access roads along the PBPA borders (MV: Plan, photos of installed signs) (Jul 23.)	1.12.1	Development of signage plan, including preparation of location map for signs and finalization of designs for large and small signs.(Sept 22 – Oct 22)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.1 2	Protected area signage 6 large, on major access roads and 15 small on minor access roads along the PBPA borders (MV: Plan, photos of installed signs) (Jul 23.)	1.12.2	Seek permits from NEPA and Municipal Corporations to install signs (Aug 22 – Sep 22)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.1 2	Protected area signage 6 large, on major access roads and 15 small on minor access roads along the PBPA borders (MV: Plan,	1.12.3	Fabrication of signs (Oct 22 – Dec 22)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
			photos of installed signs) (Jul 23.)				
1	Update PBPA Management and Zoning Plan (2023-2028)	1.1 2	Protected area signage 6 large, on major access roads and 15 small on minor access roads along the PBPA borders (MV: Plan, photos of installed signs) (Jul 23.)	1.12.4	Placement of 21 signs (Dec 22 – Jul 23)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.1 2	Protected area signage 6 large, on major access roads and 15 small on minor access roads along the PBPA borders (MV: Plan, photos of installed signs) (Jul 23.)	1.12.5	Ceremony with local and national government representatives during installation of 2 major signs (Dec 22 – Jul 23)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.2	10 Consultations held with key stakeholder groups, aiming for 200 people, from 3 municipalities, 5 communities and 4 national agencies (50% women). (MV: agendas, participant lists, results of survey- support for the management planning process), (Dec 23)	1.2.1.	9 participatory planning workshops including a gender presentation with at least 20 stakeholders per meeting, representing 5 communities and 4 Government agencies, with 50% participation of women (Jan 23 – Nov 23)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
1	Update PBPA Management and Zoning Plan (2023-2028)	1.2	10 Consultations held with key stakeholder groups, aiming for 200 people, from 3 municipalities, 5 communities and 4 national agencies (50% women). (MV: agendas, participant lists, results of survey- support for the management planning process), (Dec 23)	1.2.2	Final review and validation workshop with at least 20 key stakeholders (50% women) (Dec 23 -Dec 23)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.3	Draft PBPA management plan, (MV: Draft plan) (Dec 23)	1.3.1	Compilation and drafting of management plan with inputs from 10 workshops and analyses (including gender and climate change considerations, as well as dry forest analyses prepared under the EU project) (Jun 23- Dec 23)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.4	Endorsement letter from at least 3 agencies for the draft PBPA management plan (MV: copies of letters) (March 25)	1.4.1	Dissemination of plan to relevant agencies (Sep 24 – Mar 25)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.4	Endorsement letter from at least 3 agencies for the draft PBPA management plan (MV:	1.4.2	Virtual meeting with agencies to review plan (Sep 24 – Mar 25)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
			copies of letters) (March 25)				
1	Update PBPA Management and Zoning Plan (2023-2028)	1.4	Endorsement letter from at least 3 agencies for the draft PBPA management plan (MV: copies of letters) (March 25)	1.4.3	Receipt of endorsement letters from at least 3 agencies (Dec 24 – Mar 25)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.4	Endorsement letter from at least 3 agencies for the draft PBPA management plan (MV: copies of letters) (March 25)	1.4.4	Submission of final management plan to agencies (May 25 – May 25)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.5	Plain language version of the management plan produced (MV: copy of plan) (Mar 25).	1.5.1	Preparation of plain language summary of management plan (Feb 25 – Mar 25)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.5	Plain language version of the management plan produced (MV: copy of plan) (Mar 25).	1.5.2	Design and layout plan and print 100 copies for dissemination (Mar 25 – Apr 25)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.6	Widespread dissemination of popular version of management plan (MV: Dissemination report, popular version of management plan) (Apr 25 – Jun 25).	1.6.1	Presentation of management plan in 5 PBPA communities at community meetings, (50% women) (Apr 25 – Jun 25)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
1	Update PBPA Management and Zoning Plan (2023-2028)	1.6	Widespread dissemination of popular version of management plan (MV: Dissemination report, popular version of management plan) (Apr 25 – Jun 25).	1.6.2	Social media posts with links to downloadable version of the management plan and popular version (Apr 25 – Jun 25)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.6	Widespread dissemination of popular version of management plan (MV: Dissemination report, popular version of management plan) (Apr 25 – Jun 25).	1.6.3	Dissemination of hard and electronic copies to at least 70 PBPA community and local government officials (Apr 25 – Jun 25)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.6	Widespread dissemination of popular version of management plan (MV: Dissemination report, popular version of management plan) (Apr 25 – Jun 25).	1.6.4	Press release to 3 local media outlets, including radio, and newspaper. (Apr 25 – Jun 25)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.7	PBPA Operations Plan 2023, (MV: Document) (Nov 22).	1.7.1	One virtual operations plan workshop with at least 8 people representing 4 agencies (50% women) (Oct 22 – Nov 22)		
1	Update PBPA Management and	1.7	PBPA Operations Plan 2023, (MV: Document) (Nov 22).	1.7.2	Draft operations plan (Oct 22 – Nov 22)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
	Zoning Plan (2023-2028)						
1	Update PBPA Management and Zoning Plan (2023-2028)	1.7	PBPA Operations Plan 2023, (MV: Document) (Nov 22).	1.7.3	Submission to 4 government ministries, departments and agencies for incorporation into budgets/workplans (Oct 22 – Nov 22)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.8	PBPA Operations Plan 2024, (MV: Document) (Nov 23)	1.8.1	One virtual operations plan workshop with at least 8 people representing 4 agencies (50% women) (Oct 23 – Nov 23)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.8	PBPA Operations Plan 2024, (MV: Document) (Nov 23)	1.8.2	Draft operations plan (Oct 23 – Nov 23)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.8	PBPA Operations Plan 2024, (MV: Document) (Nov 23)	1.8.3	Submission to 4 government ministries, agencies and departments for incorporation into budgets/workplans (Oct 23 – Nov 23)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.9	PBPA Operations Plan 2025, (MV: Document) (Nov 24)	1.9.1	One virtual Operations plan workshop with at least 8 people representing 4 agencies (50% women) (Oct 24 – Nov 24)		
1	Update PBPA Management and Zoning Plan (2023-2028)	1.9	PBPA Operations Plan 2025, (MV: Document) (Nov 24)	1.9.2	Draft operations plan (Oct 24 – Nov 24)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
1	Update PBPA Management and Zoning Plan (2023-2028)	1.9	PBPA Operations Plan 2025, (MV: Document) (Nov 24)	1.9.3	Submission to 4 ministries, departments and agencies (MDAs) for incorporation into budgets/workplans (Oct 24 – Nov 24)		
2	Support Conservation Action Planning and Implementation to Conserve Three EN and CR Red Listed species	2.1	Conservation Action Plan for EN Consolea spinosissima to support preparation and implementation of dry forest reforestation, aiming to replant 50 plants (MV: conservation action plan, sign, monitoring reports) (Jun 25)	2.1.1	Literature review on existing data from conservation garden programme (Nov 22 – Nov 22)		
2	Support Conservation Action Planning and Implementation to Conserve Three EN and CR Red Listed species	2.1	Conservation Action Plan for EN Consolea spinosissima to support preparation and implementation of dry forest reforestation, aiming to replant 50 plants (MV: conservation action plan, sign, monitoring reports) (Jun 25)	2.1.10	Report preparation on best practice for cultivation of C. spinosissima (Apr 25 – May 25)		
2	Support Conservation Action Planning and Implementation to Conserve Three EN and CR Red Listed species	2.1	Conservation Action Plan for EN Consolea spinosissima to support preparation and implementation of dry	2.1.11	Design and install sign about C. spinosissima in the nursery (Dec 22- Dec 22)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
			forest reforestation, aiming to replant 50 plants (MV: conservation action plan, sign, monitoring reports) (Jun 25)				
2	Support Conservation Action Planning and Implementation to Conserve Three EN and CR Red Listed species	2.1	Conservation Action Plan for EN <i>Consolea spinosissima</i> to support preparation and implementation of dry forest reforestation, aiming to replant 50 plants (MV: conservation action plan, sign, monitoring reports) (Jun 25)	2.1.12	Disseminate Species Conservation Action Plan for <i>C. spinosissima</i> through social media (Jun 23 – Jun 25)		
2	Support Conservation Action Planning and Implementation to Conserve Three EN and CR Red Listed species	2.1	Conservation Action Plan for EN <i>Consolea spinosissima</i> to support preparation and implementation of dry forest reforestation, aiming to replant 50 plants (MV: conservation action plan, sign, monitoring reports) (Jun 25)	2.1.2	1 online workshop with 10 community members, 3 agency reps to prepare Conservation Action Plan for <i>C. spinosissima</i> including design of experimental programme/controlled study to expand cultivation and and begin replanting (Nov 22 – Nov 22)		
2	Support Conservation Action Planning and Implementation to	2.1	Conservation Action Plan for EN <i>Consolea spinosissima</i> to support preparation and	2.1.3	Online workshop with experts to develop detailed plans for implementation and assessment of		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
	Conserve Three EN and CR Red Listed species		implementation of dry forest reforestation, aiming to replant 50 plants (MV: conservation action plan, sign, monitoring reports) (Jun 25)		replanting programme (Nov22 - Jan 23)		
2	Support Conservation Action Planning and Implementation to Conserve Three EN and CR Red Listed species	2.1	Conservation Action Plan for EN <i>Consolea spinosissima</i> to support preparation and implementation of dry forest reforestation, aiming to replant 50 plants (MV: conservation action plan, sign, monitoring reports) (Jun 25)	2.1.4	Develop Species Conservation Action Plan for <i>C. spinosissima</i> (Nov 22 - Jan 23)		
2	Support Conservation Action Planning and Implementation to Conserve Three EN and CR Red Listed species	2.1	Conservation Action Plan for EN <i>Consolea spinosissima</i> to support preparation and implementation of dry forest reforestation, aiming to replant 50 plants (MV: conservation action plan, sign, monitoring reports) (Jun 25)	2.1.5	Implement expansion of cultivation of <i>C. spinosissima</i> to produce 100 additional plants (Aug 22 - Jun 25)		
2	Support Conservation Action Planning and Implementation to	2.1	Conservation Action Plan for EN <i>Consolea spinosissima</i> to support	2.1.6	Identify sites and get permission to establish		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
	Conserve Three EN and CR Red Listed species		preparation and implementation of dry forest reforestation, aiming to replant 50 plants (MV: conservation action plan, sign, monitoring reports) (Jun 25)		demonstration plots. (Dec 22 – Feb 23)		
2	Support Conservation Action Planning and Implementation to Conserve Three EN and CR Red Listed species	2.1	Conservation Action Plan for EN Consolea spinossima to support preparation and implementation of dry forest reforestation, aiming to replant 50 plants (MV: conservation action plan, sign, monitoring reports) (Jun 25)	2.1.7	Use community labour to establish 10 demonstration plots marked with flagging and plant 50 seedlings (Mar 23 – Jun 23)		
2	Support Conservation Action Planning and Implementation to Conserve Three EN and CR Red Listed species	2.1	Conservation Action Plan for EN Consolea spinossima to support preparation and implementation of dry forest reforestation, aiming to replant 50 plants (MV: conservation action plan, sign, monitoring reports) (Jun 25)	2.1.8	Monitor and maintain 10 experimental plots quarterly (community monitors and project staff) (Mar 23 – Jun 25)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
2	Support Conservation Action Planning and Implementation to Conserve Three EN and CR Red Listed species	2.1	Conservation Action Plan for EN <i>Consolea spinosissima</i> to support preparation and implementation of dry forest reforestation, aiming to replant 50 plants (MV: conservation action plan, sign, monitoring reports) (Jun 25)	2.1.9	Technical analysis of monitoring data (Apr 23 – Jun 25)		
2	Support Conservation Action Planning and Implementation to Conserve Three EN and CR Red Listed species	2.2	Protocols for ex situ cultivation/propagation of EN <i>Bursera Hollickii</i> to support implementation of dry forest reforestation (MV: photos, technical reports), (Dec 23)	2.2.1	Design experimental programme/controlled study to test conditions for the cultivation of <i>B Hollickii</i> (Jan 23 – Feb 23)		
2	Support Conservation Action Planning and Implementation to Conserve Three EN and CR Red Listed species	2.2	Protocols for ex situ cultivation/propagation of EN <i>Bursera Hollickii</i> to support implementation of dry forest reforestation (MV: photos, technical reports), (Dec 23)	2.2.2	12 collecting trips by staff and community monitors to dry forest to collect seeds/seedlings/cuttings for experimental cultivation (Mar 23 – Apr 25)		
2	Support Conservation Action Planning and Implementation to Conserve Three EN and CR Red Listed species	2.2	Protocols for ex situ cultivation/propagation of EN <i>Bursera Hollickii</i> to support implementation of dry	2.2.3	Experimental germination, and cultivation in conservation nursery. (Mar 23 – Apr 25)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
			forest reforestation (MV: photos, technical reports), (Dec 23)				
2	Support Conservation Action Planning and Implementation to Conserve Three EN and CR Red Listed species	2.2	Protocols for ex situ cultivation/propagation of EN Bursera Hollickii to support implementation of dry forest reforestation (MV: photos, technical reports), (Dec 23)	2.2.4	Technical analysis of monitoring data. (Apr 25 – May 25)		
2	Support Conservation Action Planning and Implementation to Conserve Three EN and CR Red Listed species	2.2	Protocols for ex situ cultivation/propagation of EN Bursera Hollickii to support implementation of dry forest reforestation (MV: photos, technical reports), (Dec 23)	2.2.5	Report preparation on best practices on protocols for ex situ cultivation/propagation of EN Bursera Hollickii (Apr 25 – May 25)		
2	Support Conservation Action Planning and Implementation to Conserve Three EN and CR Red Listed species	2.2	Protocols for ex situ cultivation/propagation of EN Bursera Hollickii to support implementation of dry forest reforestation (MV: photos, technical reports), (Dec 23)	2.2.6	Design and install sign about B. hollicki in the nursery. (Mar 23 – Apr 23)		
2	Support Conservation Action Planning and Implementation to Conserve Three EN and CR Red Listed species	2.3	Pre-feasibility study for reintroduction of the Hutia to Portland Ridge to increase range as recommended in the	2.3.1	Design feasibility study for reintroduction with costing through 6 online consultations with 6 experts on hutias and		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
			national species action plan (MV: Study) (Dec 24)		reintroductions. (Sep 24 - Oct 24)		
2	Support Conservation Action Planning and Implementation to Conserve Three EN and CR Red Listed species	2.3	Pre-feasibility study for reintroduction of the Hutia to Portland Ridge to increase range as recommended in the national species action plan (MV: Study) (Dec 24)	2.3.2	1 online consultation with 10 community members and 3 Government agencies. (Sep 22 - Oct 22)		
2	Support Conservation Action Planning and Implementation to Conserve Three EN and CR Red Listed species	2.3	Pre-feasibility study for reintroduction of the Hutia to Portland Ridge to increase range as recommended in the national species action plan (MV: Study) (Dec 24)	2.3.3	Prepare the pre-feasibility study (Dec 22 - Dec 22)		
2	Support Conservation Action Planning and Implementation to Conserve Three EN and CR Red Listed species	2.3	Pre-feasibility study for reintroduction of the Hutia to Portland Ridge to increase range as recommended in the national species action plan (MV: Study) (Dec 24)	2.3.4	Project proposal developed and submitted to CEPF or other donors for funding to carry out the feasibility study (Jan 23 - May 23)		
3	Reduction of the threat posed by IAS to dry forest trigger species including the actual threat from the Cuban	3.1	Monitoring reports on presence/absences and if present, control of the Cuban Tree Frog, Green Iguana and other IAS in	3.1.1	Development of monitoring protocol for Cuban Tree Frog control at 2 verified Portland Ridge Frog sites (Dec 22 - Dec 22)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
	Tree Frog the potential threat from the Green Iguana and other newly introduced species		the PBPA, to include assessment of impacts on the PRF population (MV: list of trainees and agenda, monitoring progress reports) (Dec 25)				
3	Reduction of the threat posed by IAS to dry forest trigger species including the actual threat from the Cuban Tree Frog the potential threat from the Green Iguana and other newly introduced species	3.1	Monitoring reports on presence/absences and if present, control of the Cuban Tree Frog, Green Iguana and other IAS in the PBPA, to include assessment of impacts on the PRF population (MV: list of trainees and agenda, monitoring progress reports) (Dec 25)	3.1.2	Installation of 6 CTF monitoring stations at 2 verified PR frog cave sites and monthly data retrieval and euthanasia if necessary. . (Jan 23 – Feb 23)		
3	Reduction of the threat posed by IAS to dry forest trigger species including the actual threat from the Cuban Tree Frog the potential threat from the Green Iguana and other newly introduced species	3.1	Monitoring reports on presence/absences and if present, control of the Cuban Tree Frog, Green Iguana and other IAS in the PBPA, to include assessment of impacts on the PRF population (MV: list of trainees and agenda, monitoring progress reports) (Dec 25)	3.1.3	Update community monitoring handbook to include module on monitoring IAS (Dec 22 – Dec 22)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
3	Reduction of the threat posed by IAS to dry forest trigger species including the actual threat from the Cuban Tree Frog the potential threat from the Green Iguana and other newly introduced species	3.1	Monitoring reports on presence/absences and if present, control of the Cuban Tree Frog, Green Iguana and other IAS in the PBPA, to include assessment of impacts on the PRF population (MV: list of trainees and agenda, monitoring progress reports) (Dec 25)	3.1.4	Training of 5 community monitors. (Jan 23 – Jan 23)		
3	Reduction of the threat posed by IAS to dry forest trigger species including the actual threat from the Cuban Tree Frog the potential threat from the Green Iguana and other newly introduced species	3.1	Monitoring reports on presence/absences and if present, control of the Cuban Tree Frog, Green Iguana and other IAS in the PBPA, to include assessment of impacts on the PRF population (MV: list of trainees and agenda, monitoring progress reports) (Dec 25)	3.1.5	Performance assessment of achievement of training objectives. (Jan 23 – Jan 23)		
3	Reduction of the threat posed by IAS to dry forest trigger species including the actual threat from the Cuban Tree Frog the potential threat from the Green	3.1	Monitoring reports on presence/absences and if present, control of the Cuban Tree Frog, Green Iguana and other IAS in the PBPA, to include assessment of impacts on the PRF population	3.1.6	Data compilation, systematization, and analysis conducted monthly. (Jan 23 – Jun 25)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
	Iguana and other newly introduced species		(MV: list of trainees and agenda, monitoring progress reports) (Dec 25)				
3	Reduction of the threat posed by IAS to dry forest trigger species including the actual threat from the Cuban Tree Frog the potential threat from the Green Iguana and other newly introduced species	3.1	Monitoring reports on presence/absences and if present, control of the Cuban Tree Frog, Green Iguana and other IAS in the PBPA, to include assessment of impacts on the PRF population (MV: list of trainees and agenda, monitoring progress reports) (Dec 25)	3.1.7	Map occurrence of Cuban Tree frog based on monitoring results (Jan 23 – Jun 25)		
3	Reduction of the threat posed by IAS to dry forest trigger species including the actual threat from the Cuban Tree Frog the potential threat from the Green Iguana and other newly introduced species	3.1	Monitoring reports on presence/absences and if present, control of the Cuban Tree Frog, Green Iguana and other IAS in the PBPA, to include assessment of impacts on the PRF population (MV: list of trainees and agenda, monitoring progress reports) (Dec 25)	3.1.8	Report preparation on Cuban Tree Frog monitoring and control and dissemination. (Apr 25 – May 25)		
3	Reduction of the threat posed by IAS to dry forest trigger species including the actual	3.2	Cuban Tree Frog community awareness campaign to support household-level action	3.2.1	Develop Cuban Tree Frog educational materials. (Jan 23 – Feb 23)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
	threat from the Cuban Tree Frog the potential threat from the Green Iguana and other newly introduced species		to reduce habitat and report sightings (MV = Educational materials, participant lists, agendas, photos, monitoring report, Knowledge product) (Jun 25)				
3	Reduction of the threat posed by IAS to dry forest trigger species including the actual threat from the Cuban Tree Frog the potential threat from the Green Iguana and other newly introduced species	3.2	Cuban Tree Frog community awareness campaign to support household-level action to reduce habitat and report sightings (MV = Educational materials, participant lists, agendas, photos, monitoring report, Knowledge product) (Jun 25)	3.2.2	10 visits to community meetings by staff to present on IAS threat and removal technique. (Feb 23 – Jun 25)		
3	Reduction of the threat posed by IAS to dry forest trigger species including the actual threat from the Cuban Tree Frog the potential threat from the Green Iguana and other newly introduced species	3.2	Cuban Tree Frog community awareness campaign to support household-level action to reduce habitat and report sightings (MV = Educational materials, participant lists, agendas, photos, monitoring report, Knowledge product) (Jun 25)	3.2.3	Webinar presentation for NGOs and agencies of results of actions to reduce the threat of the Cuban Tree Frogs in the PBPA (Feb 25 - Feb 25)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
3	Reduction of the threat posed by IAS to dry forest trigger species including the actual threat from the Cuban Tree Frog the potential threat from the Green Iguana and other newly introduced species	3.2	Cuban Tree Frog community awareness campaign to support household-level action to reduce habitat and report sightings (MV = Educational materials, participant lists, agendas, photos, monitoring report, Knowledge product) (Jun 25)	3.2.4	Prepare and disseminate knowledge product among partner agencies and NGOs (Feb 25 - Feb 25)		
3	Reduction of the threat posed by IAS to dry forest trigger species including the actual threat from the Cuban Tree Frog the potential threat from the Green Iguana and other newly introduced species	3.2	Cuban Tree Frog community awareness campaign to support household-level action to reduce habitat and report sightings (MV = Educational materials, participant lists, agendas, photos, monitoring report, Knowledge product) (Jun 25)	3.2.5	Collect data for monitoring report on household use/adoption of protocols in 20 households in communities near PRF (Feb 25 - Feb 25)		
4	Participatory monitoring of the PBPA to support management and CEPF monitoring requirements	4.1	KBA biodiversity monitoring framework developed and annual monitoring (MV: monitoring framework, annual progress reports) (Jun 25)	4.1.1	Attend CEPF training to prepare the KBA biodiversity monitoring framework. (Jul 22 - Oct 22)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
4	Participatory monitoring of the PBPA to support management and CEPF monitoring requirements	4.1	KBA biodiversity monitoring framework developed and annual monitoring (MV: monitoring framework, annual progress reports) (Jun 25)	4.1.2	Prepare monitoring framework for CEPF Secretariat approval. (Jul 22 – Sep 22)		
4	Participatory monitoring of the PBPA to support management and CEPF monitoring requirements	4.1	KBA biodiversity monitoring framework developed and annual monitoring (MV: monitoring framework, annual progress reports) (Jun 25)	4.1.3	Establish monitoring database and protocols to implement monitoring framework. (Sep 22 – Dec 22)		
4	Participatory monitoring of the PBPA to support management and CEPF monitoring requirements	4.1	KBA biodiversity monitoring framework developed and annual monitoring (MV: monitoring framework, annual progress reports) (Jun 25)	4.1.4	Train project staff on monitoring protocols and practices - virtual. (Sep 22 – Dec 22)		
4	Participatory monitoring of the PBPA to support management and CEPF monitoring requirements	4.1	KBA biodiversity monitoring framework developed and annual monitoring (MV: monitoring framework, annual progress reports) (Jun 25)	4.1.5	Conduct annual monitoring and prepare and submit report (Dec 22 – Jun 25)		
4	Participatory monitoring of the PBPA to support management and CEPF	4.2	Community monitoring through Citizen Science program in fulfilment of KBA monitoring	4.2.1	Development of citizen science programme/monitoring protocols to implement KBA		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
	monitoring requirements		framework (MV: citizen science handbook, training reports, annual monitoring reports and datasets), (Jun 25)		biodiversity monitoring plan. (Oct 22 – Dec 22)		
4	Participatory monitoring of the PBPA to support management and CEPF monitoring requirements	4.2	Community monitoring through Citizen Science program in fulfilment of KBA monitoring framework (MV: citizen science handbook, training reports, annual monitoring reports and datasets), (Jun 25)	4.2.2	Train 20 community monitors using updated manual to include 50% women. (Jan 23 – Mar 23)		
4	Participatory monitoring of the PBPA to support management and CEPF monitoring requirements	4.2	Community monitoring through Citizen Science program in fulfilment of KBA monitoring framework (MV: citizen science handbook, training reports, annual monitoring reports and datasets), (Jun 25)	4.2.3	Compile, systematize, and analyze monitoring data. (Mar 23 – Jun 25)		
5	Stakeholder outreach campaign to support management planning, threat reduction and conservation of KBA trigger species and their habitats in the PBPA	5.1	Stakeholder outreach plan developed and implemented in at least 3 communities (50% female) to raise awareness on value and threat reduction for selected trigger species and habitats. (MV: plan,	5.1.1	Preparation of the stakeholder outreach plan (Sep 22 – Oct 22)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
			registration forms, panels and outreach material) (Jun 25)				
5	Stakeholder outreach campaign to support management planning, threat reduction and conservation of KBA trigger species and their habitats in the PBPA	5.1	Stakeholder outreach plan developed and implemented in at least 3 communities (50% female) to raise awareness on value and threat reduction for selected trigger species and habitats. (MV: plan, registration forms, panels and outreach material) (Jun 25)	5.1.2	Design, print and install 2 sets of display panels for the PBDC (CR and EN species, and invasive alien species) (Jul 23 – Dec 23)		
5	Stakeholder outreach campaign to support management planning, threat reduction and conservation of KBA trigger species and their habitats in the PBPA	5.1	Stakeholder outreach plan developed and implemented in at least 3 communities (50% female) to raise awareness on value and threat reduction for selected trigger species and habitats. (MV: plan, registration forms, panels and outreach material) (Jun 25)	5.1.3	Preparation of outreach materials for 3 species – 100 leaflets and 30 posters each (Oct 22 – Sep 24)		
5	Stakeholder outreach campaign to support management planning, threat reduction and conservation of KBA	5.1	Stakeholder outreach plan developed and implemented in at least 3 communities (50% female) to raise	5.1.4	3 Study tours with 4 local journalists to the PBDC (photographs, copies of resulting media posts and articles) (Jan 23 – Jul 24)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
	trigger species and their habitats in the PBPA		awareness on value and threat reduction for selected trigger species and habitats. (MV: plan, registration forms, panels and outreach material) (Jun 25)				
5	Stakeholder outreach campaign to support management planning, threat reduction and conservation of KBA trigger species and their habitats in the PBPA	5.1	Stakeholder outreach plan developed and implemented in at least 3 communities (50% female) to raise awareness on value and threat reduction for selected trigger species and habitats. (MV: plan, registration forms, panels and outreach material) (Jun 25)	5.1.5	2 tours to the PBDC for 20 national and local government planners in each session (May 24 – Jul 24)		
5	Stakeholder outreach campaign to support management planning, threat reduction and conservation of KBA trigger species and their habitats in the PBPA	5.2	Report on biennial Youth Environment Action to support management planning (40 persons with at least 40% female) (MV: annual report, photos, participants list) (Jun 25)	5.2.1	Identify at least 40 young people, including at least 40% females who are potential community environmental leaders (Sep 23-Jun 25)		
5	Stakeholder outreach campaign to support management planning, threat reduction and	5.2	Report on biennial Youth Environment Action to support management planning	5.2.2	Design and implement a biennial PBPA Youth Environment Action forum		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
	conservation of KBA trigger species and their habitats in the PBPA		(40 persons with at least 40% female) (MV: annual report, photos, participants list) (Jun 25)		(Participants list, photos) (Sep 23-Jun 25)		
5	Stakeholder outreach campaign to support management planning, threat reduction and conservation of KBA trigger species and their habitats in the PBPA	5.3	3 annual reports on climate change adaptation, (biodiversity and livelihoods) awareness programme implemented in 3 communities and 10 schools (MV: reports, photos, results of visit assessment sheets, KAP) (Jun 25)	5.3.1	Host 4 visits per year to the PBDC to climate change adaptation (biodiversity and livelihoods) and IAS exhibitions for at least 3 communities (30 persons per visit with at least 40% women) (Jan23- Jun 25)		
5	Stakeholder outreach campaign to support management planning, threat reduction and conservation of KBA trigger species and their habitats in the PBPA	5.3	3 annual reports on climate change adaptation, (biodiversity and livelihoods) awareness programme implemented in 3 communities and 10 schools (MV: reports, photos, results of visit assessment sheets, KAP) (Jun 25)	5.3.2	Endline KAP assessment in target communities (using 2022 baseline developed under the EU project) (Mar 25 – Jun 25)		
6	Institutional strengthening and	6.1	Preparation, approval, and implementation of a CCAM Gender	6.1.1	Hold virtual workshop 20 CCAM staff and board members (Aug 22 – Oct 22)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
	capacity building of C-CAM		Strategy (MV: registration sheets, strategy document) (Mar 23)				
6	Institutional strengthening and capacity building of C-CAM	6.1	Preparation, approval, and implementation of a CCAM Gender Strategy (MV: registration sheets, strategy document) (Mar 23)	6.1.2	Develop CCAM Gender Strategy (Aug 22 – Oct 22)		
6	Institutional strengthening and capacity building of C-CAM	6.1	Preparation, approval, and implementation of a CCAM Gender Strategy (MV: registration sheets, strategy document) (Mar 23)	6.1.3	Conduct virtual training for staff to implement gender strategy (Aug 22 – Oct 22)		
6	Institutional strengthening and capacity building of C-CAM	6.10	Procurement and installation of CCAM office equipment and vehicle upgrades. (MV: Photographs, invoices and insurance policy) (Jun 25)	6.10.1	Installation of two air conditioners at Lionel Town office and Salt River Field Station (Aug 22 – Oct 22)		
6	Institutional strengthening and capacity building of C-CAM	6.10	Procurement and installation of CCAM office equipment and vehicle upgrades. (MV: Photographs, invoices and insurance policy) (Jun 25)	6.10.2	Procurement, maintenance, policy compliance and insurance of one project car. (Aug 22 – Jun 25)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
6	Institutional strengthening and capacity building of C-CAM	6.10	Procurement and installation of CCAM office equipment and vehicle upgrades. (MV: Photographs, invoices and insurance policy) (Jun 25)	6.10.3	Procurement, maintenance of office furniture, hardware, (Aug 22 – Jun 25)		
6	Institutional strengthening and capacity building of C-CAM	6.2	Strengthened C-CAM online presence MV: (copies of social media postings, webpages, and statistics) (Jun 25)	6.2.1	3 posts each month of CEPF project on social media (Sep 2022 - Jun 25)		
6	Institutional strengthening and capacity building of C-CAM	6.2	Strengthened C-CAM online presence MV: (copies of social media postings, webpages, and statistics) (Jun 25)	6.2.2	Preparation and posting of at least 3 additional pages for website including one on CEPF project (Sep 22 - Jun 25)		
6	Institutional strengthening and capacity building of C-CAM	6.2	Strengthened C-CAM online presence MV: (copies of social media postings, webpages, and statistics) (Jun 25)	6.2.3	Monitoring of on-line visits. (Sep 22 - Jun 25)		
6	Institutional strengthening and capacity building of C-CAM	6.3	Institutional development plan developed. (MV: plan, needs assessment) (Jun 23)	6.3.1	Team workshop – Virtual (Jan 23 - Feb 23)		
6	Institutional strengthening and capacity building of C-CAM	6.3	Institutional development plan developed. (MV: plan, needs assessment) (Jun 23)	6.3.2	Draft plan (Jan 23 – May 23)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
6	Institutional strengthening and capacity building of C-CAM	6.3	Institutional development plan developed. (MV: plan, needs assessment) (Jun 23)	6.3.3	Review workshop – Virtual (May 23 – May 23)		
6	Institutional strengthening and capacity building of C-CAM	6.3	Institutional development plan developed. (MV: plan, needs assessment) (Jun 23)	6.3.4	Finalize plan (Jun 23 - Jun 23)		
6	Institutional strengthening and capacity building of C-CAM	6.4	Capacity of at least 10 C-CAM staff (5 male, 5 female) to implement project increased through participation in at least 1 training course relevant to project implementation (MV: certificates of participation, evaluation report) (Jun 25)	6.4.1	10 C-CAM staff participate in at least 1 training course (online/face to face) each (Jan 23 - Jun 25)		
6	Institutional strengthening and capacity building of C-CAM	6.4	Capacity of at least 10 C-CAM staff (5 male, 5 female) to implement project increased through participation in at least 1 training course relevant to project implementation (MV: certificates of participation, evaluation report) (Jun 25)	6.4.2	Monitoring/evaluation to ensure capacity has been successfully strengthened. (Jan 23 - Jun 25)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
6	Institutional strengthening and capacity building of C-CAM	6.5	Capacity of 20 C-CAM staff (40% women) to promote C-CAM's work and its values enhanced through 3 annual staff training workshops (MV: agendas, participants list, and training evaluation results), (Jun 25)	6.5.1	Develop biodiversity training materials (ppt, booklet) (Feb 23 – May 23)		
6	Institutional strengthening and capacity building of C-CAM	6.5	Capacity of 20 C-CAM staff (40% women) to promote C-CAM's work and its values enhanced through 3 annual staff training workshops (MV: agendas, participants list, and training evaluation results), (Jun 25)	6.5.2	3 annual training session for awareness and how to develop, present and share educational materials 20 persons) (Jun 23-Jun 25)		
6	Institutional strengthening and capacity building of C-CAM	6.5	Capacity of 20 C-CAM staff (40% women) to promote C-CAM's work and its values enhanced through 3 annual staff training workshops (MV: agendas, participants list, and training evaluation results), (Jun 25)	6.5.3	Monitoring/evaluation to ensure capacity has been successfully strengthened. (Jun 23-Jun 25)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
6	Institutional strengthening and capacity building of C-CAM	6.6	Report on need to bring C-CAM's legal status up to date (Dec 23)	6.6.1	Review and update Articles of Association (Sep 23 - Dec 23)		
6	Institutional strengthening and capacity building of C-CAM	6.6	Report on need to bring C-CAM's legal status up to date (Dec 23)	6.6.2	Assessment report drafted and approved by CCAM Board (Dec 23 - Dec 23)		
6	Institutional strengthening and capacity building of C-CAM	6.7	Implement the C-CAM funding plan (updated under the BIOPAMA project 2022) to diversify its funding base (MV: updated fund-raising plan, CCAM brochure, (Jun 25)	6.7.1	Develop an CCAM institutional brochure for use with donors, (Sep 23 - Oct 23)		
6	Institutional strengthening and capacity building of C-CAM	6.7	Implement the C-CAM funding plan (updated under the BIOPAMA project 2022) to diversify its funding base (MV: updated fund-raising plan, CCAM brochure, (Jun 25)	6.7.2	Print 20 copies of CCAM institutional brochure (Nov 23 - Nov 23)		
6	Institutional strengthening and capacity building of C-CAM	6.7	Implement the C-CAM funding plan (updated under the BIOPAMA project 2022) to diversify its funding base (MV: updated fund-raising plan, CCAM brochure, (Jun 25)	6.7.3	Conduct outreach to 5 donors (to be identified under the Global Partnership Fund (GPN) project - June 22) to raise awareness of C-CAM and to identify opportunities for funding. (Dec 23 - Jun 25)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
6	Institutional strengthening and capacity building of C-CAM	6.8	2 proposals submitted to 2 donors to facilitate the sustainability of CEPF -funded results (MV: donor outreach reports), (Jun 25)	6.8.1	Prepare and submit 2 proposals to at least 2 donors (Oct 22- Jun 25)		
6	Institutional strengthening and capacity building of C-CAM	6.8	2 proposals submitted to 2 donors to facilitate the sustainability of CEPF -funded results (MV: donor outreach reports), (Jun 25)	6.8.2	Conduct follow up to proposal submission. (Oct 22- Jun 25)		
6	Institutional strengthening and capacity building of C-CAM	6.9	CCAM volunteer and intern programme established and maintained for 1 male and 1 female annually. MV: intern/volunteer plan and report), (Jun 2025)	6.9.1	Develop a volunteer and internship plan for C-CAM (Jan 23 – Mar 23)		
6	Institutional strengthening and capacity building of C-CAM	6.9	CCAM volunteer and intern programme established and maintained for 1 male and 1 female annually. MV: intern/volunteer plan and report), (Jun 2025)	6.9.2	Recruit and train 2 volunteers and 2 interns in 2023 & 2024 to work on CEPF-priority programs (Apr 23 – Jun 25)		
6	Institutional strengthening and capacity building of C-CAM	6.9	CCAM volunteer and intern programme established and maintained for 1 male	6.9.3	Monitoring/evaluation to ensure capacity has been successfully strengthened. (Apr 23 – Jun 25)		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
			and 1 female annually. MV: intern/volunteer plan and report), (Jun 2025)				
7	Project management	7.1	ESS policies implemented, monitored, and reported every six months to CEPF to ensure full compliance, verified through bi-annual progress reports. (Jun 25)	7.1.1	ESS instruments for policies ESS 2, 4, 5, and 10 implemented, monitored, and reported on every six months, per the grant agreement deadlines. (Jul 22- Jun 25)		
7	Project management	7.1	ESS policies implemented, monitored, and reported every six months to CEPF to ensure full compliance, verified through bi-annual progress reports. (Jun 25)	7.1.2	Grievance mechanism implemented, disseminated, and monitored to project partners and beneficiaries, prior to implementation of CEPF funded activities. (Jul 22- Jun 25)		
7	Project management	7.2	Institutional Capacity of CCAM evaluated through submission to CEPF of the CSTT and GTT (Jun 25)	7.2.1	Monitoring systems established and implemented to measure project impacts in accordance with CEPF indicators and project logical framework. (Jul 22- Jun 25)		
7	Project management	7.2	Institutional Capacity of CCAM evaluated through submission to	7.2.2	Annual completion of CSTT performed starting in the first implementation quarter		

Comp #	Component Description	Del #	Deliverable Description	Activity #	Activity Description	Activity From	Activity To
			CEPF of the CSTT and GTT (Jun 25)		and terminating in 2027. (Jul 22- Jun 27)		
7	Project management	7.2	Institutional Capacity of CCAM evaluated through submission to CEPF of the CSTT and GTT (Jun 25)	7.2.3	Baseline assessment using the GTT at first quarter of project implementation and final assessment at project close. (Jul 22- Jun 25)		
7	Project management	7.3	Performance of conservation efforts and threats monitored through submission of the METT and IBA monitoring framework (Jun 25)	7.3.1	Annual completion of IBA monitoring framework performed at first quarter of project implementation and final assessment at project close. (Jul 22- Jun 25)		
7	Project management	7.3	Performance of conservation efforts and threats monitored through submission of the METT and IBA monitoring framework (Jun 25)	7.3.2	Baseline assessment using the METT at first quarter of project implementation and final assessment at project close. (Jul 22- Jun 25)		
7	Project management	7.4	Submission of an article and photograph demonstrating project benefits to local communities and biodiversity (Jun 25)	7.4.1	Preparation and submission of article and photograph demonstrating project benefits to local communities and biodiversity submitted at least annually. Project photo submitted in first implementation quarter. (Jul 22- Jun 25)		

13- Portfolio Indicators

Number	Short Name	Expected Numeric Contribution	Expected Contribution Description
1	Number of KBAs with sustainable management plans in place	1	Management plan for PBPA KBA formally accepted by at least 1 agency
1	Number of hectares within KBAs that have sustainable management plans in place	1817815	PBPA KBA
1.4	Number of participatory or collaborative management arrangements developed or strengthened	1	Management planning will strengthen partnerships for implementation in the PBPA
4	Number of targeted civil society organizations with increased capacity to reduce threats to biodiversity	1	C-CAM
5	Number of targeted civil society organizations with increased organizational capacity [by at least five points on CSTT]	1	C-CAM

Number	Short Name	Expected Numeric Contribution	Expected Contribution Description
7	Number of priority KBAs with reduced threat(s) to biodiversity	1	PBPA KBA
1.1	Number of hectares of protected area with an increased METT score	187815	PBPA KBA
1.3	Number of management plans developed or updated with CEPF support that incorporate measures for climate change resilience	1	PBPA Management plan updated, SFCA management plan prepared
5.5	Number of grantee biodiversity monitoring frameworks prepared	1	C-CAM
3.4	Number of CEPF priority species that benefit from conservation actions through CEPF-supported management plans and their implementation	14	The management plan will be designed to promote conservation actions for all 14 trigger species. Specific actions will benefit EN and CR trigger species e.g. Jamaica Hutia, Portland Bight Frog, C. spinosissima, Bursera hollicki)

Number	Short Name	Expected Numeric Contribution	Expected Contribution Description
4.2	Number of small-scale climate change demonstration projects in priority sites and conservation corridors planned and implemented to illustrate the benefits of biodiversity conservation and ecosystem services for adaption and mitigation	1	Portland Bight Discovery Centre, Conservation Nursery
4.5	Number of priority sites with increased awareness of, and support for, conservation issues among stakeholders	1	PBPA KBA
6.3	Number of CSOs supported by CEPF that secure follow-up funding to promote the sustainability of their CEPF grants	1	Caribbean Coastal Area Management Foundation
3.1	Number of priority species conservation plans prepared at the site level	1	Consolea spinosissima conservation action plan will be completed
3.2	Number of species or species-group management plans and programs updated to integrate climate change responses	1	PBPA Management plan

14- Red List Species

Common Name (English)	Genus	Species	Red List Status	Species ID	Red List Status Original Value
West Indian Manatee	Trichechus	manatus	VU	22103	VU
Portland Ridge Frog	Eleutherodactylus	cavernicola	CR	7143	CR
	Consolea	spinosissima	EN	151874	EN
	Bursera	hollickii	EN	33853	EN
	Eugenia	eperforata	EN	33824	EN
Jamaican Ground Iguana	Cyclura	collei	CR	6027	CR
	Auerodendron	jamaicense	VU	35240	VU
	Lunania	polydactyla	VU	35593	VU
Jamaican Yellow Boa	Chilabothrus	subflavus	VU	7826	VU
Indian Coney	Geocapromys	brownii	EN	9001	EN
	Phialanthus	revolutus	EN	33873	EN
Jamaican Skink	Spondylurus	fulgidus	EN	47103157	EN
Cat Island Freshwater Turtle	Trachemys	terrapen	VU	22027	VU

15- Safeguards

Safeguard Questions

Will the proposed project support any physical construction or building of trails?

No

Will the proposed project support any forestry activities?

No

Will the proposed project support activities in an area used or inhabited by Indigenous Peoples?

No

Will the proposed project involve activities that are likely to have adverse impacts on the local community?

No

Will the proposed project result in the strengthened management of a protected area?

Yes

Will the proposed project result in reduced or restricted access to the resources in a protected area?

Yes

Will the proposed project result in the physical resettlement of communities, households or individuals?

No

Will the proposed project involve use of herbicides, pesticides, insecticides or any other poison?

No

Will the proposed project include any activities that might impact the health or safety of project staff or other people associated with the project? No

Will the proposed project involve the removal or alteration of any tangible cultural heritage (including movable or immovable objects, sites, structures and natural features that have archaeological, historical, architectural, religious or other cultural significance)?

No

If you have answered "yes" to any of the above questions, give details below:

The project will strengthen the management of the PBPA by providing additional resources to C-CAM, and by updating and implementing the management plan in order to reduce threats. The recommendations are expected to be similar to those in the existing plan that was developed through participatory processes and is being implemented without adverse impacts on the community. Any changes will be fully discussed with the affected persons or communities and redress provided as necessary or appropriate.