

**Environmental Impact Assessment
and
Environmental Management Plan**

1 April, 2021

CEPF Grant: CEPF-111997

WWF Viet-Nam

Rewilding the Annamites

Central Annamites Corridor, Viet Nam

Grant Summary

1. Grantee organization: *WWF Viet Nam*
2. Grant title: *Rewilding the Annamites*
3. Grant number: *CEPF-111997*
4. Grant amount (US dollars): *USD\$235,000*
5. Proposed dates of grant: *July 1st 2021 – June 30th 2023*
6. Countries or territories where project will be undertaken: *Viet Nam*
7. Summary of the project: *The project aims to address the defaunation crisis in the Central Annamites Landscape of Viet Nam through laying the foundations for a proof of concept rewilding approach for CEPF priority species. The project team, through parallel funding, has significantly reduced the threats to wildlife in-situ in target protected areas in the landscape, however small population sizes of some highly threatened endemic taxa mean that population rebound is uncertain and will, at best, be slow. The project uses a Theory of Change that*
 - a. *IF the Activity can reduce threats to wildlife to levels acceptable for reintroduction;*
 - b. *AND populations of target wildlife species can be bred ex-situ and reintroduced;*
 - c. *THEN population reinforcement and reintroduction can be a viable conservation measure for addressing defaunation processes and small population sizes**Through identifying sites where protection is likely to succeed and which are suitable for reintroduction, coupled with captive facility setup and operationalization for captive breeding and subsequent wildlife reintroductions, the project will lay the groundwork for a new chapter in species conservation management in Viet Nam.*
8. Date of preparation of of this document: *1 April 2021*

9. **Status of area to be impacted:** This section should describe the applicant’s understanding of the site.

Located in Central Viet Nam, Bach Ma National Park is part of the CEPF priority Central Annamites Corridor identified in the CEPF Indo-Burma Ecosystem profile¹ and is listed as a priority KBA under VNM7. The parks goal is: Managing, protecting, conserving and sustainably developing all forest and forest land areas assigned for management by Bach Ma National Park, meeting economic, social and environmental requirements². Bach Ma National Park falls within the administrative boundaries of Thua Thien Hue and Quang Nam provinces, central Viet Nam. The buffer zone includes 15 communes and towns of three districts: Phu Loc and Nam Dong (Thua Thien Hue province) and Dong Giang (Quang Nam province). To the North the park borders on Phu Loc district, Thua Thien Hue province; to the South, it borders on Dong Giang district, Quang Nam province; to the east, it borders on Hoa Vang district and Da Nang city and; to the west, it borders on Nam Dong district, Thua Thien Hue province. The parks geographical coordinates are: 15°59’28 " to 16°16’02” North and 107°37’22" to 107°54’58” East (see [here](#) for Google Earth location).

Located at the end of the Northern Truong Son Range, Bach Ma NP has many mountain ranges with peaks over 1,000 m high, running horizontally from the West to the East and gradually lowering towards the sea. The terrain is rugged and very steep. The park is heavily forested, composed of closed evergreen sub-tropical forest. Bach Ma National Park is located in the intersection between two tropical monsoon belts and is in a climate transition area between the North and the South of Viet Nam with the rainy season coming early and ending late. The site plays an important hydrological role with many large and small stream originating in the park and feeding into major rivers including the Truoi river, Cu De river, Khe Su river and the Ta Trach river (the source of Huong river). Bach Ma National Park is an extremely important source of water for socio-economic development for the buffer zone communes. Due to its location, infrastructure and natural values, Bach Ma National Park is a popular ecotourism destination although has considerable additional potential.

With a total area of 37,487 ha, the park has a total natural forested area of 36,215.05 ha, including; 35,821.10 ha of broadleaf evergreen secondary forest; 72.06 ha of secondary forest of bamboo; 321.89 ha of mixed secondary forest of timber and bamboo. Classified under the Vietnamese forests classification system it includes; Rich forest 6,605.88 ha (4,744.88 ha in Thua Thien Hue province, 1,861.00 ha in Quang Nam); Medium forest 11,856.63 ha (Thua Thien Hue province 10,658.68 ha, Quang Nam province 1,197.95 ha); Poor forest 17,358.59 ha (17,260.82 ha in Thua Thien Hue province, 97.77 ha in Quang Nam) and; Planted forest 71.28 ha. Plant diversity is high, with a total of 2,421 species identified to date. The flora of Bach Ma National Park includes 266 endemic, rare and endangered plant species of which, 74 species are included in the Red Data Book of Vietnam (2007) and 20 species listed on the IUCN Red List. Animal diversity is also high, with a total of 1,728 animal species, belonging to 262 families and 52 orders having been recorded in Bach Ma NP including 133 mammal species, 363 bird species,

¹ https://www.cepf.net/sites/default/files/indoburma_ecosystem_profile_summary_english.pdf

² Bach Ma NP Sustainable Forest Management Plan 2021-2030

74 reptile species and 60 amphibian species. This includes 68 species included in the Red Data Book of Vietnam (2007) and 50 species listed in the IUCN Red List.

There are no communities living within the boundaries of Bach Ma National Park. The buffer zone of Bach Ma National Park includes 15 communes and towns, including: Phu Loc, Loc Dien, Xuan Loc, Loc Hoa, Loc Tri (Phu Loc district - TT Hue province); Khe Tre, Huong Phu, Huong Loc, Thuong Lo, Thuong Nhat, Thuong Long (Nam Dong district - Thua Thien Hue province); Ta Lu, Song Kon, A Tinh and Tu communes (Dong Giang district - Quang Nam province). The total population living in the buffer zone includes: 60,834 people in 17,318 households, including:

- Phu Loc district (05 communes in the buffer zone) with 36,251 people / 11,193 households.
- Nam Dong district (06 communes in the buffer zone): with 17,142 people / 4,104 households.
- Dong Giang district (04 communes in the buffer zone): 7,441 people / 2,021 households.

There are four main ethnic groups living in the park buffer zone: Kinh (80%), Co Tu, Van Kieu and Muong with and a small number of Ta O and Pa Ko ethnic groups (< 1.0%); the Muong migrated to the area in the 2000s. The ethnic minorities here are mainly composed of Co Tu people with low education levels, poor economic opportunity and some dependence on forest resources. The main economic activities of these communities is agricultural production with the main crops being wet rice, upland rice, vegetables, maize, and cassava. Pigs and poultry are raised mainly for meat while buffaloes and cows are used for production, with animal stocks used as a form of wealth reserve. Food per capita from agricultural production is 199 kg / person / year, which is just enough to meet the food needs of local people however there is still significant pressure on natural resources. In more recent years, the boom in agroforestry in the region has led to additional livelihood options and increased wealth. Average income per capita is from 18.5 to 23.0 million VND / person / year. One key strategy in recent years for meeting the dual goals of forest protection and community development, has been the assignation of bufferzone forests to households and communities for protection under forest protection contracts. Bach Ma National Park has contracted a total area of 9,074.17 ha and 5,766.61 ha in 2019 and 2020, respectively with a total contract payment value of 3,002,893,000 VND and 1,684,690,000 VND respectively.

Under the Forestry Law 2017 (Law Number 16/2017/QH14³), Special-Use Forests, have three designated zones within their boundaries in addition to the external buffer zone. These zones are defined under Article 2 as:

- *Strictly-protected zones of special-use forests* mean the areas subject to intact preservation in national parks, natural reserves, and species and habitat conservation zones.
- *Ecological restoration zones of special-use forests* mean the areas subject to strict management and protection for natural rehabilitation of natural ecosystem in national parks, natural reserves, and species and habitat conservation zones.

³ <https://thuvienphapluat.vn/van-ban/Tai-nguyen-Moi-truong/Law-16-2017-QH14-on-forestry-375845.aspx>

- *Service-administrative zones of special-use forests* mean the areas used for the day-to-day operation of forest management board, research facilities, and laboratory, as well as tourism and recreation facilities combined with the construction of facilities to manage services of national parks, natural reserves, and species and habitat conservation zones.

Each of these zones has a different function as defined under law, and each protected area in its Sustainable Forest Management Plan (SFMP) indicates the size and boundary of these areas and the activities to be conducted within them. This is important for the proposed development of infrastructure for ex-situ breeding facilities as documented in the proposal; document submitted to CEPF and is detailed more specifically below.

In Bach Ma NP the size of the respective zones are:

- Strictly protected subdivision: 16,849.8 ha
- Ecological rehabilitation sub-zone: 15,449.00 ha
- Service and administrative subdivision: 5,124.30 ha,

10. **Approach:** This section will describe proposed actions during the project. Specifically, what do you intend to do and how will you do it?

Bach Ma National Park, as part of its new SFMP which has at the time of writing has been submitted to the Ministry of Agriculture and Rural Development (MARD) and is awaiting approval, aims to expand construction of its Center for Rescue, Biological Conservation and Development within the sites Service-administrative zone. Originally approved by MARD in 2015⁴, The Center for Rescue, Biological Conservation and Development of Bach Ma National Park, which came into operation in February 2017, has to-date rescued, cared for and re-released 138 individuals of 14 species. These animals, rescued from from the wildlife trade, are held in basic facilities and assessed for reintroduction or movement to rescue centers. The center has been gradually improving its human resources and facilities as well as enlisting the support of domestic and foreign organizations, including the partners on this CEPF proposal. Currently, the Center has 04 officers and employees.

The SFMP for Bach Ma NP specifically aims to further expand the capacity and the function of the center to allow for captive breeding for reintroduction rather than only rescue and rehabilitation. This intention forms part of the submitted SFMP from which the relevant section is presented in Box 1.

In line with this ambition, WWF, Global Wildlife Conservation, Wroclaw Zoo and Bach Ma NP signed an MoU in early 2021 under the name of the Annamites Rewilding Alliance to *Develop a program to rewild threatened endemics of the Annamite Mountains including the establishment and management of a species Rescue and Conservation Breeding Program in Bach Ma NP*. This MoU can be found in the documents uploaded to the Conservation Grants Portal. The intent of the alliance is to upscale the impact and scope of the existing center through provision of additional facilities to hold wildlife identified as high priority for Annamitic endemics for

⁴ Decision No. 3800 QD

eventual reintroduction into the landscape and to support capacity development for management of the center. The centre will initially focus on around 15 species including ungulates (Saola and Muntjac), Annamite Striped Rabbit, pheasants (Crested Argus and Vietnamese Pheasant), and turtles (Bourret's Box Turtles and Big-headed Turtle). The aim is to grow the scope and also include other taxa such as songbirds and freshwater fish over time.

Box 1 – Bach Ma NP SFMP and Center for Rescue, Biological Conservation and Development

General objective:

Rescue, conserve and develop genetic resources of endangered wild fauna and flora - of conservation value and economic value in the North Central region's bio-geography.

Specific objectives:

- Rescue and re-release into habitat rare and precious wildlife species voluntarily surrendered by organizations and individuals, captured by specialized forces from illegal hunting, trading or illegally held in captivity in the North Central region.
- Coordinate in researching and building the process of breeding endemic endangered, precious and rare species of flora and fauna according to the current regulations of the State.

Activities:

Rescue and re-release

- Receiving confiscated organisms from violations of the law; voluntary submission of organizations and individuals for treatment, rearing and rehabilitation of the organism after treatment.
- Rescue and semi-wild farming to restore their wild instincts and re-release them to their natural habitats after rescue.

Orientation for species to rescue, conserve and develop organisms

- Birds: Rescue center for all wild animals confiscated due to violation of the law, especially rare and precious species of the galliforme order such as the Pheasant (*Rheinartia ocellata*), the white pheasant (*Lophura edwardsi*), White pheasant (*Lophura nycthemera*).
- Ungulates: Endemic, precious and rare species of the North Central region: Sao la (*Pseudoryx nghetinhensis*), Giant Muntjac (*Megamuntiacus vuquangensis*), Truong Son Muntjac (*Caninmuntiacus truongsoneensis*), Serow (*Capricornis sumatraensis*), Sambar (*Cervus unicolor*).
- Primates: Red-shanked douc (*Pygathrix nemaus*), Northern yellow-cheeked gibbon (*Nomascus annamensis*), Stump-tailed macaque (*Macaca arctoides*), Pig-tailed macaque (*Macaca leonina*).

The conservation breeding centre has been designed by top zoo architects based on field visits in 2019 and has been peer reviewed by multiple zoo directors and animal husbandry experts. Funding has been secured for most of the core elements of the centre such as veterinary facilities, quarantine space, and administrative offices, which involves repurposing existing buildings rather than additional construction (see Figure 1).

Importantly for this EIA, construction of additional animal enclosures will be supported via this CEPF grant to provide taxon specific and appropriate habitats for ex-situ breeding. (see Figure 2). The construction of these facilities will be conducted within the Service and Administrative subdivision of the park, which as notes above is, under the Vietnam Forest Law (2019) designated for the construction of facilities to manage services of protected areas. The proposed site itself is composed of cleared land and low quality secondary forest. The enclosure design aims to take advantage of the tree cover afforded in this area through creation of semi-wild muntjac enclosures which involves fencing off areas and maintain remaining tree cover to mimic more natural habitat for the individuals. Despite this approach, it does however require some minimal clearing for the construction as concrete posts and fencing will need to be installed for the perimeter fence for each enclosure which will require some removal of vegetation.

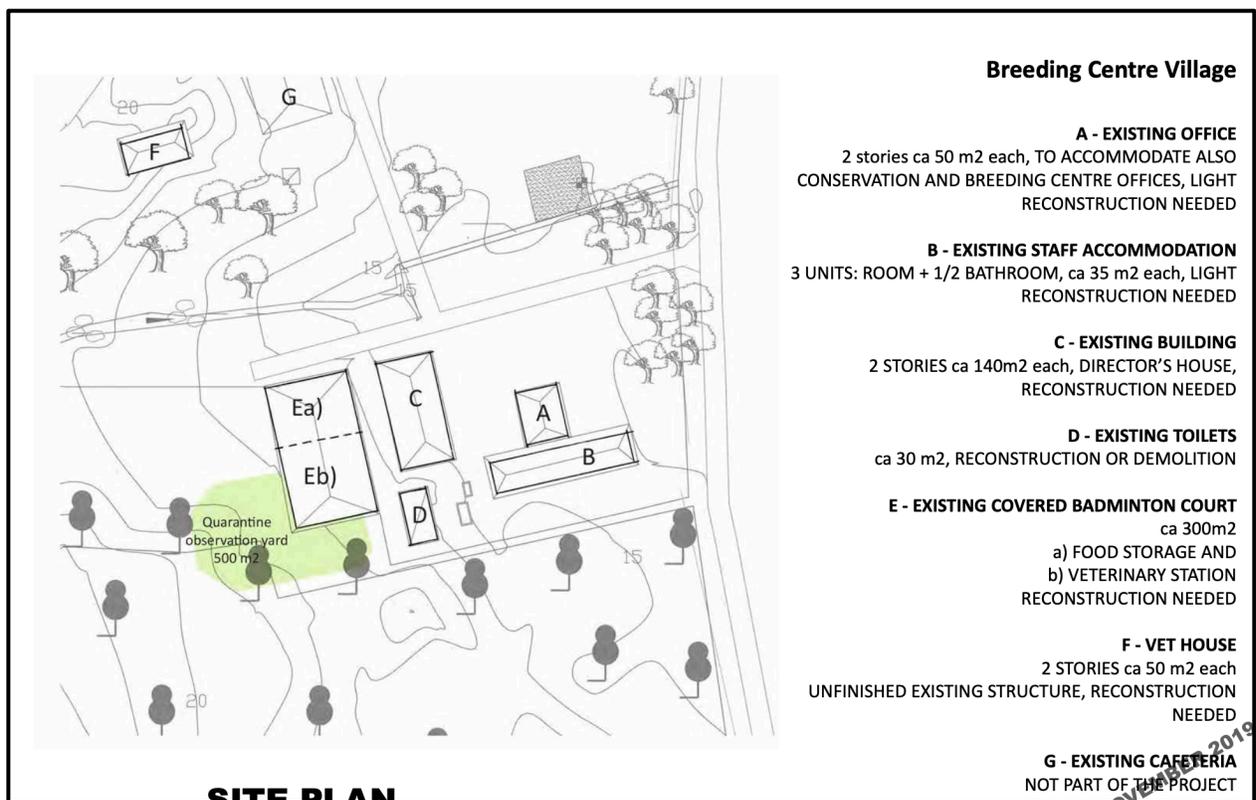


Figure 1 - Plan for repurposing of existing infrastructure

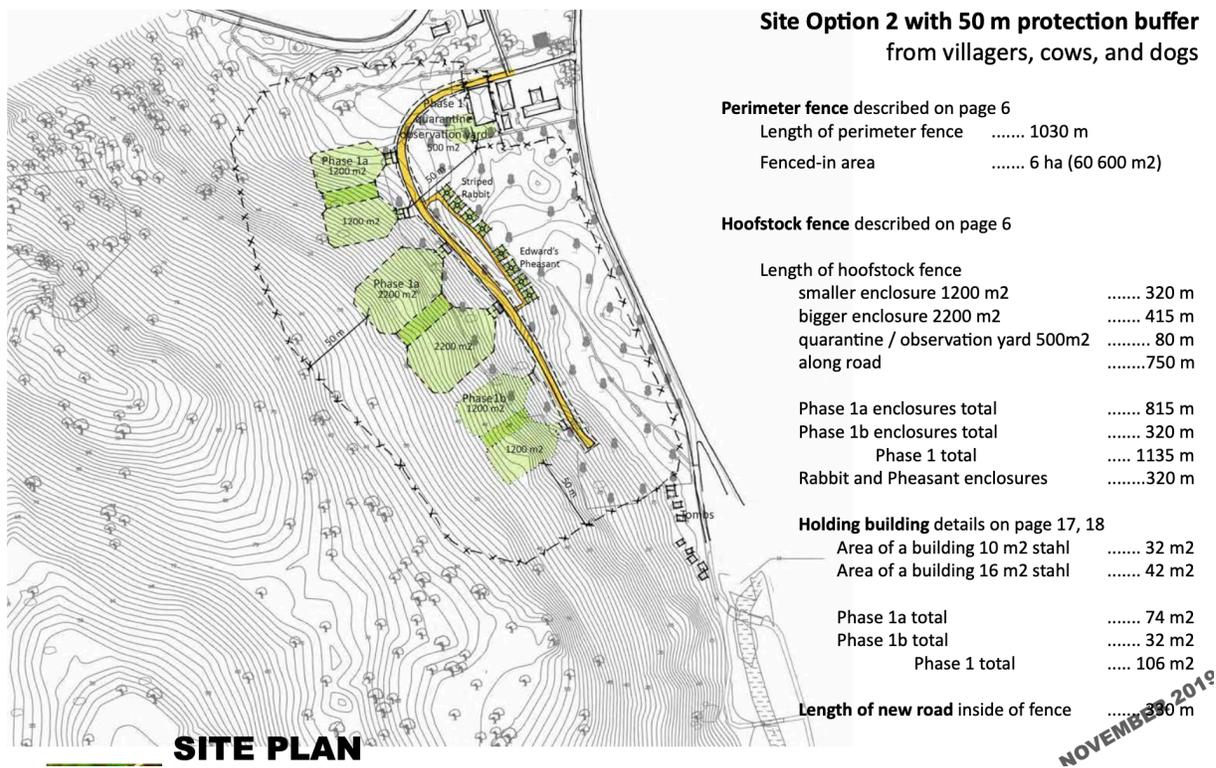


Figure 2 - Plan for new enclosures for target species

The planned construction includes:

- Construction of four habitats for ungulates of 1,200m² each with 2m high fencing and paired with a 16m² holding enclosure and 1m wide connecting gates. These are semi-wild enclosures and as such do not require clearing of the remaining secondary forest within their boundaries. Clearance is only required for placement of fencing poles.
- Construction of eight habitats for rabbits of 50 m² each with a concrete curb perimeter, dig barrier and enclosed with aviary mesh panels. Constructed is planned in an area that will not require forest clearance.
- Construction of eight pheasant aviaries of 35 m² and 4.5 m high each with a concrete curb perimeter, dig barrier and enclosed with aviary mesh panels. Constructed is planned in an area that will not require forest clearance.
- Construction of two tortoise secure cages of 150m² each subdivided into 12 breeding enclosures. The location of these cages has not been determined as yet.
- The road construction and perimeter fence shown in Figure 2 will not be constructed under this project but will be part of a later phase of construction conducted under Bach Ma NP funding.

Construction can not be carried out legally within the national park until an EIA compliant with Vietnamese law has been completed. As such, this current document represents a preliminary EIA only. WWF will contract an independent EIA company to conduct a full EIA that is compliant with Vietnamese law as part of the permissions process undertaken by Bach Ma NP to

undergo construction on site. This EIA and mitigation measures plan will be supplied to CEPF as part of measures ensuring safeguard compliance. As such, the current documentation does not fully identify the potential impacts nor mitigation measures required as these will be based on Vietnamese legal frameworks and the appropriate EIA process in country. The EIA, once completed, will be submitted to either MARD or Ministry of Natural Resources and Environment (MONRE) depending on the determined level of impact to the site; impact less than 1 ha being approved by MARD and greater than 1 ha by MONRE.

Construction will be carried out by a professional construction company to ensure quality of materials, construction to specification and appropriate health and safety protocols are followed (see Health and Safety section below). WWF-Viet Nam will, based on our policy, tender the construction out to bidders in the construction industry with clear specifications on the construction required. A procurement assessment team will assess received bids and choose the technical and financial offer which meets the requirements outlined in the Terms of Reference.

11. **Anticipated impact:** this section will describe the impact and how this impact has been determined.

It is currently beyond the scope of this EIA to document fully the impact to the site from the construction activities proposed, and this will be deferred until a full EIA by an independent contractor can be conducted post-award in line with Vietnamese legal requirements.

However, below in Table 1 the initial impact assessment based on planned construction.

Proposed Action	Environmental Implications	Environmental Impacts	Comments
Construction of animal enclosures	<ul style="list-style-type: none"> - Minor vegetation removal - Construction waste - Construction noise 	<ul style="list-style-type: none"> - Removal of saplings, small trees and undergrowth - Construction debris - Minor noise disturbance 	Short-term impacts

Table 1 - Anticipated impacts from the project

12. **Mitigation measures:** Describe measures that will be taken to mitigate negative impacts.

As noted above, a detailed EIA will be conducted by a professional contractor before construction of enclosures begins which will include development of mitigation measures. Below in Table 2 is an initial mitigation process developed by the project team which will support ensuring that contracting for construction is conducted ensuring minimal impact.

Proposed Action	Environmental Implications	Environmental Impacts	Proposed Mitigation Measures	Responsibility	Cost
Construction of animal enclosures	<ul style="list-style-type: none"> - Minor vegetation removal - Construction waste 	<ul style="list-style-type: none"> - Removal of saplings, small trees and undergrowth - Construction debris 	<ul style="list-style-type: none"> - Well planned placement of fencing and facilities to minimise cutting and maintain regrowth in enclosures - Contract to construction company includes debris removal and responsible disposal 	<ul style="list-style-type: none"> - Project owner and construction company - Construction company 	<ul style="list-style-type: none"> - No cost - Included in construction contract

Table 2 - Mitigation measures for the project impacts

13. **Actions to ensure health and safety:** Describe actions that will be taken to ensure the health and safety of workers as well as the site. Include a description of waste management and/or disposal.

The construction is likely to have minimal risks in regards to health and safety of workers engaged in the construction of the enclosures. WWF's procurement processes require public tender for the work which will attract professional construction companies to bid and undertake the construction process. One of the scoring criteria to be included in the Terms of Reference for bidders to address during the tender process will be to describe health and safety protocols in place to minimize risk in the construction process and protections in place (e.g. insurance) for workers. Similarly, tenders will be required to include costings for all waste removal from the construction process including plans for disposal.

14. **Monitoring and Evaluation:** This section aims to outline what steps the proponent will take to monitor and evaluate the impact of the proposed intervention.

WWF will hire an independent foreman to oversee construction work to ensure compliance to specifications of construction and to also ensure mitigation measures are fully carried out. Mitigation measures are outlined in Table 3 below.

Proposed Action	Environmental Implications	Environmental Impacts	Proposed Mitigation Measures	Monitoring Action	Responsibility	Cost
Construction of animal enclosures	- Minor vegetation removal - Construction waste	- Removal of saplings, small trees and undergrowth - Construction debris	- Well planned placement of fencing and facilities to minimise cutting and maintain regrowth in enclosures - Contract to construction company includes debris removal and responsible disposal	- On site independent foreman to monitor construction compliance	- Project owner	\$1,000

Table 3 - Impact monitoring plan

15. **Permission of the landowner:** Please verify permission of the landowner to undertake actions on the site, and verify that you have the required permits to undertake this work.

The landowner in this case is Bach Ma National Park, who has permission for construction in the Service and administrative subdivision in line with the project objectives as contained in Decision No. 3800 QD approved in March 2015 for the construction of the Center for Biological Rescue, Conservation and Development in Bach Ma. The construction is further detailed in the Bach Ma National Park Sustainable Forest Management Plan 2021-2030 which is pending approval by MARD. This provides the basis for the proposed construction activities. Specific construction activities however will require an EIA by an independent contractor which will then be approved by either MARD or MONRE depending on the scale of the impacts as determined by the assessors. The EIA will be conducted using funding from CEPF and will be contracted via WWF, the permissions process for construction post-EIA will be led by Bach Ma NP. It is anticipated that the EIA will be completed by August 2021 and the permissions secured by January 2022 at which time construction and appropriate mitigation measures can begin.

16. **Consultation:** This section aims to outline the range of informed consultations that the grantee has had both with experts to optimize the potential for success, and with stakeholders, particularly local communities, who are potentially affected by the proposed actions. Include dates of consultations.

Consultations with the landowner, Bach Ma National Park, have been ongoing over several years in regards to partnership for development of the center, culminating in the signing of an

institutional MoU for its development on 28th January 2021 and the inclusion of its development in Bach Ma NP's Sustainable Forest Management Plan for 2021-2030 (as detailed in Box 1), submitted in March 2021 for approval by the central government.

Consultations with local communities for the center have not been conducted as this area is under the management and jurisdiction of the national park within its administration zone and has no anticipated impact on local communities in relation to access to resources or other impacts, especially given the small scale of construction.

17. **Disclosure**: CEPF requires that safeguard documents are disclosed to affected local communities and stakeholders prior to project implementation. Please describe efforts to disclose this impact assessment and environmental management plan and provide dates.

As above, this small-scale construction process on state land is not anticipated to impact local communities in any way and as such disclosure of this preliminary EIA has not been conducted. As noted above, this EIA documentation is a preliminary scoping; a full EIA which meets government of Vietnam requirements and conducted by independent contractors will be conducted post award and prior to construction as regulated. Costs for this full EIA process are included in the submitted budget and are co-financed by WWF-Viet Nam. If any additional risks of construction in relation to stakeholder consultation are identified under this full EIA process, then these consultations will be carried out prior to construction.

18. **Grievance mechanism**: All projects that trigger a safeguard must provide local communities and other relevant stakeholders with a means to raise a grievance with the grantee, the relevant Regional Implementation Team or the CEPF Secretariat.

This grievance mechanism must include, at a minimum, the following elements.

- Email and telephone contact information for the grantee organization.
- Email and telephone contact information for the CEPF Regional Implementation Team.
- The email of the CEPF Executive Director: cepfexecutive@conservation.org
- A statement describing how you will inform stakeholders of the objectives of the project and the existence of the grievance mechanism (e.g., posters, signboards, public notices, public announcements, use of local languages).
- You should include the following text, exactly, in any grievance mechanism: “We will share all grievances – and a proposed response – with the Regional Implementation Team and the CEPF Grant Director within 15 days. If the claimant is not satisfied following the response, they may submit the grievance directly to the CEPF Executive Director at cepfexecutive@conservation.org or by surface mail.”

Following the guidance above, describe the grievance mechanism that you will use.

WWF has a Standard on Grievance Mechanism which is applied across the networks operations. This includes standards and principles for addressing grievances including timeliness, escalation processes, case logging and management, non-retaliation clauses and final arbitration which sits with the WWF Ombudsman if resolution can not be made at the landscape or national level and.

Central to this mechanism for ensuring logging of all grievances is the WhistleB site, which can be accessed at <https://report.whistleb.com/en/wwf>. The WhistleB site contains options for communities to lodge grievances which will be logged by WWF-International and stream into WWF oversight processes at both the country and international levels.

For this project a simple GRM will be implemented which provides information on site in the form of posters in Vietnamese language and will include language as per Box 2.

Box 2 – DRAFT Grievance Mechanism

If you have concerns around the construction, process or purpose of these breeding facilities then you can contact the project proponent WWF through the following contacts:

- wwfvietnam@wwf.org.vn
- 024 37193049
- Or lodge a complaint directly through our online system here: <https://report.whistleb.com/en/wwf>

Or you can contact the CEPF Regional Implementation Team through:

- Tu.NGUYENDUC@iucn.org

We will share all grievances – and a proposed response – with the Regional Implementation Team and the CEPF Grant Director within 15 days. If the claimant is not satisfied following the response, they may submit the grievance directly to the CEPF Executive Director at cepfexecutive@conservation.org or by surface mail.”

As above, this small-scale construction process on state land is not anticipated to impact local communities in any way as the construction is occurring under permissions sought from the National Park for construction on National Park land. As noted above, this EIA documentation is a preliminary scoping; a full EIA which meets government of Vietnam requirements and conducted by independent contractors will be conducted post award and prior to construction as regulated. Costs for this full EIA process are included in the submitted budget and are co-financed by WWF-Viet Nam. If any additional risks during that EIA process are identified then a more detailed Grievance Mechanism will be developed prior to construction.