CRITICAL ECOSYSTEM PARTNERSHIP FUND

# Environmental Impact Assessment and Environmental Management Plan

**May 2019**

**CEPF Grant 108820**

**Grantee**
**NGO Mediterranean Center for Environmental Monitoring (MedCEM)**

***Project Title***
***"Support local community's involvement in protection and promotion of the potential marine protected area – Katič"***

**Project Location**
**Future MPA Katič, Petrovac, MNE**

**Grant Summary**

1. Grantee organization – NGO Mediterranean Center for Environmental Monitoring - MedCEM
2. Grant title - ***"Support local community's involvement in protection and promotion of the potential marine protected area – Katič"***
3. Grant number -***108820***
4. Grant amount (US dollars) $232,376.20
5. Proposed dates of grant December 2018 – November 2021
6. Countries or territories where project will be undertaken.- Montenegro
7. Summary of the project

Project: Support local community's involvement in protection and promotion the future Marine protected area – Katic has been realized by NGO Green Home in cooperation with MedCEM and Montenegrin Ecologist Society. The project duration is 36 months. The main aim of the project is to reduce impacts on marine biodiversity while supporting locally based management for biodiversity conservation and creating incomes for from the low negative impacts activities.

The project is divided in four components:

- Building capacity and networking of local actors in protection and promotion the first potential marine protected area;
- Supporting development and marketing products for a sustainable development: promotion Katič as the first marine protected area and promotion diving tourism;
- Advocate on national and international level establishemnt the marine protected area – Katič in Montenegro;
- Field work – Collecting the data in potential MPA.

Activity: Installation of ecological moorings for *Posidonia* protection in Katic area. *NGO MedCEM with support of NGO Green Home , NGO MES and local community will install 10 pilot ecological moorings for small boats. This activity contains procurement of moorings, collecting approval from relevant institution, setting up and promoting. Activity will take place from April 2019 to June 2019. In order to ensure and reduce impact on environment, before activity will be prepared Environmental Impact Assesment. These ecological moorings are designed as the most effective way of Posidonia protection for medium size boats anchoring will be free of charge during first year of use. After project ends, infrastructure and care on moorings and anchoring could be delegated for management to stakeholder (or project associated partner) who could legally collect taxes from use of moorings (or to management body of future MPA). This activity will be coordinated by NGO MedCEM with support of Green Home and NGO MES.*

8. Date of preparation of this document – May 2019

9. **Status of area to be impacted**: In recent two decades, Montenegro is facing significant growth of nautical tourism. Mooring facilities that used to be maintained only in a few marinas along the coast, now are in the focus of future nautical infrastructure development. Public Enterprise for Coastal Zone Management (Morsko dobro) within their capacities established sector for Managing local ports of interest, that is developing first spatial plans for moorings for some municipalities. MedCEM from the earliest stages of CEPF project started to develop collaboration with this sector, and we believe that final results will bring a mutual benefits.
   First 10 pilot ecological moorings in Montenegro where installed in 2013 by MedCEM in wider area that surrounds Katič within MedPAN project "Economic benefits of sustainable development and

potential Blue carbon of future Katič MPA". This was successful free-of-charge experiment promoting a new types of mooring that raised up public awareness on this issue, with a lot of positive feedback from users. Knowledge and experience from previous ecological mooring installation is a corner stone for this study and future regulation of anchorage in this area.
The act of mooring with an anchor means, dropping an anchor overboard to enable the immobilization of a boat because the anchor falls and is wedged on to the bottom. When removed, this anchor will be pulled up forcibly in order to be freed from the seabed. Depending on the fragility of the seabed or the sea life (animals or plants) that are developing there, the impact can be significant. The areas most adapted to moorings are dependent on hydrological factors (currents, wave exposure) and meteorological factors (wind exposure). Along a stretch of MNE coast these areas are not especially numerous and the pressure of moorings on the seabed can be frequent and significant. Every manager or organization in charge of managing a coastal marine area will be
facing this choice: **preserve as good as possible the seabed or allow unregulated moorings with all the potential negative results that can ensue**. In addition to general boat use, the future rangers/managers themselves may need mooring for their own boats, permanent floating structures (pontoon or buoy) - or immersed structures (sign for diving trail, canalization, etc.). This EIA Study should try to give answer how does one choose in cases solution that has minimal negative impact for the environment.

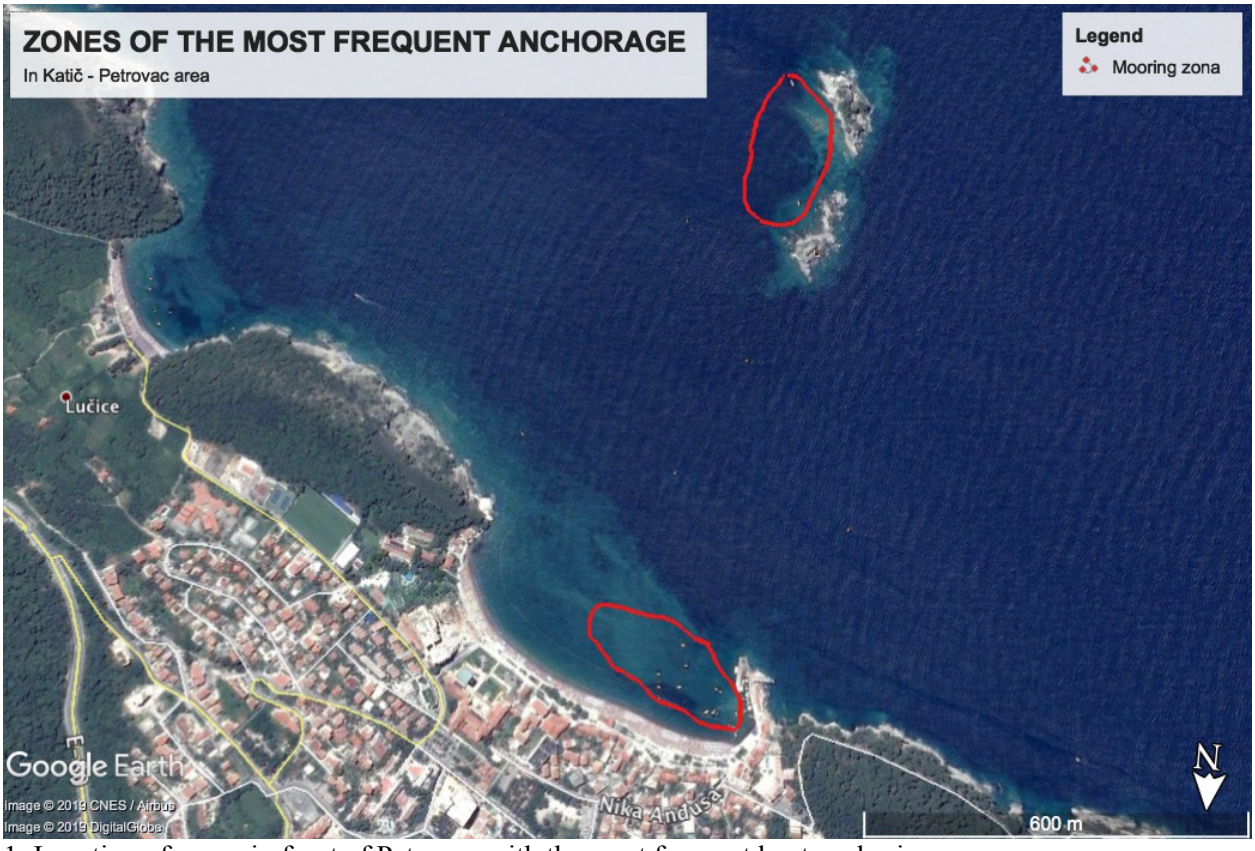
**Approach**: Present situation in project area is an increasing number of nautical tourists visiting
the Katiči Islets and Petrovac by yachts or small leisure boats, using anchors or small number of private moorings, all of which lack legal concessions. Unregulated anchoring is practiced in almost all bays and coves along the MNE coast, with damaging effects on the seabed, habitats and species. It also contributes to the spreading of invasive marine species. This EIA should propose solutions for the necessity to reduce the negative impact of nautical tourists on marine resources and increase the safety of visitors. Priority is to decrease the degradation of *Posidonia oceanica* meadows on locations under the nautical pressure. Public Enterprise for Coastal Zone Management didn't defined anchoring plans for this area yet (but the procedure and plans are in preparation from 2018). Katič area is visited by hundreds of boats per year (no official data available), which implies the throwing of as many anchors and much damage to the seabed. Number of nautical tourists in the area is increasing each year and destruction of the seabed continues. One of the first steps of future management body of MPA Katič must be to plan and install optimal number of ecological moorings and buoys in the area, and to stop uncontrolled anchoring offering safer mooring for sailors. Usage and maintenance of these moorings should be designed to generate additional incomes for local environmental funds and revenues for MPA budget. Without any doubt, here proposed pilot eco-moorings should initiate future design, management and maintain models of anchoring and mooring in MPA Katič.

For Katič area the total maximum number of boats per bay should be set by the PE Coastal Zone Management and future general Anchoring and Mooring Plan for Montenegro and Detailed Physical Plans of Municipalities of Budva and Bar. If sustainable nautical tourism development is to be adopted, any construction of new mooring facilities has to respect carrying capacities (the amount of use an area can sustain while maintaining its productivity, adaptability, and capability for renewal) of
coves, bays and ecosystems in general in order to avoid destroying the main assets that are attracting tourists. This cannot be done without being preceded by the EIA studies in details related to this subject. Determination of the maximum number of boats per bay should be based on the optimum surface needed per boat. The system of buoys would also be designed to have a low impact on the surrounding environment and landscape. Main outcomes and results should be monitored through indicators like disturbance/recovering of posidonia beds, number of invasive species, perception of tourists, etc. For suggested approach to classification in moorings installation, as referent document for the best available practice and methods is choosen MedPANs manual "PERMANENT

ECOLOGICAL MOORINGS" (2006)
http://www.medmpaforum.org/sites/default/files/ancrages_ecologiques_en.pdf
In undefined area of future MPA Katič, the total maximum number of boats per bay will be set by the Municipal Physical Plan of Moorings, but without being preceded by the all necessary studies and field monitoring. Studies on mooring capacities of each bay and cove are needed before project implementation, as are detailed plans for implementation of the mooring system, i.e. whether it will involve fixed moorings, marinas, buoys, pontoons or any other solution. After all information has been collected, the studies for wider area could be produced in a cooperative way. Implementing the findings and detailing the recommendations that can be of interest for the management of the impact of the marine tourism activity in the marine ecosystem. All of this should be considered within sustainable use of natural resources and eco-friendly development in domain of nautical tourism.

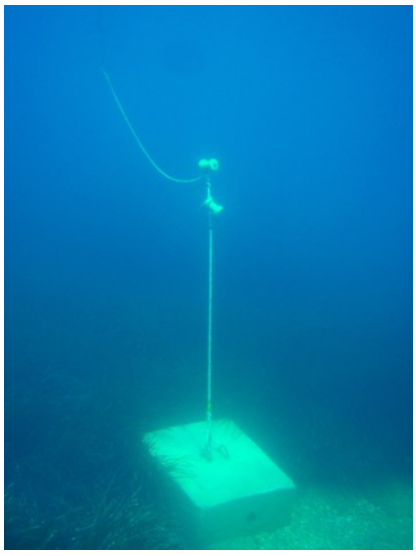
ZONE PLANNED FOR INITIAL MOORING INSTALATION

Prior to this Study, MedCEM did underwater survey of locations. Within this EIA, MedCEM will propose model of design, installation, usage and maintenance of the 10 ecological pilot mooring buoys in Katiči islets surrounding area. This proposed number of buoys (10 moorings) is surely smaller than really needed, and it is a far from "overpopulated" at targeted area. But it is a good base for developing future plans related to this subject. We identify two zones in core area that are exposed to frequent anchoring and mooring installation: first on the sheltered eastern side of the islets, and second in front of the Petrovac Beach, close to the border of swimming area (see the map
below).



1. Location of zones in front of Petrovac with the most frequent boat anchoring

The usual area for anchoring closer to the Katič island is located on a very healthy *Posidonia oceanica* meadow, so without any doubt each anchoring on this place produce visible (or more often invisible) damage to this important habitat. In the area closer to the beach, patches of Posidonia meadow are also present, but more visible are destruction from traditional mooring system and anchors on *Pinna nobilis* (Pen shell) population. This directed us for choosing two separate areas for organizing ecological pilot mooring installations. On each of these two locations we planned to install 5 buoys as ecological moorings. (In previous MedPAN project NGO MedCEM installed several prototypes of ecological moorings in the future area planned for protection around Katič, and two of these particular mooring position on eastern part of island is perfectly matching with on-going development of mooring positions. Since these two "anchors" are out of function, they will be renewed and re-used as parts for new grid of moorings in the area (it is a type of concrete "dead
weight", approx. 800 kg each).

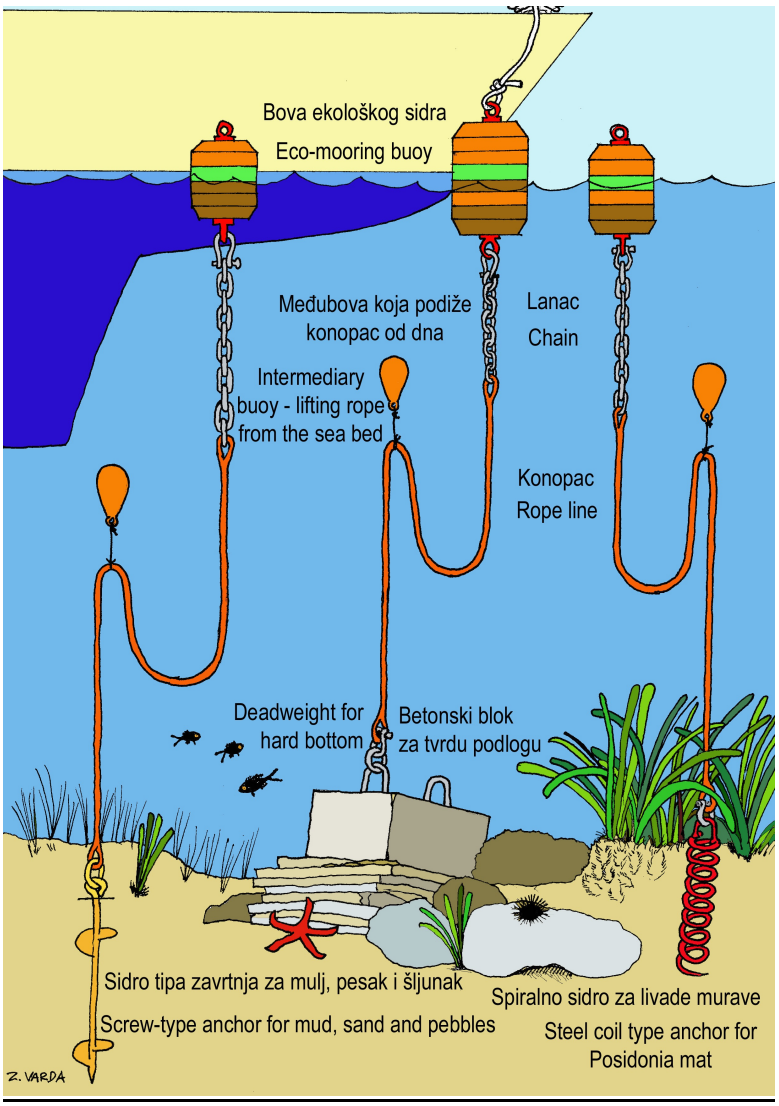


2. Sand screw and dead weight types of anchors – pictures from installation in 2013

The anchors will be installed at average depth from 4-6 meters in area near coast, and in depths of 5-8 meters on eastern part of Katič island (this part of island is sheltered from the waves and usual winds, so it is the favorite place for anchoring in islets surrounding. All other sides of islands are far less exposed to anchoring by leisure boats.)


3. Proposed places for 10 (5+5) ecological moorings

Aside of these already positioned two concrete blocks, 2 or 3 additional "dead weight" type of mooring points should be added in this place. Shall all of them 5 will be in form of dead weight, or some of them could be realized through sand/pebble screw, will depend on possibility of use (penetrating) anchor type of "Sand screw" into bottom. (We will try to avoid each unnecessary dragging through the water a tone of concrete to the island). Sand screws, as the easiest and the most effective solution for anchoring buoys will be used everywhere it is possible to be installed. We estimate that we could have in total 5 concrete "dead weight" anchors, and 5 as the solution in form of iron "Sand screw" that can be more easily (and less-cost) installed. This proportion of types could be changed if some of planned screws could not penetrate sea bottom in proper way – they will be replaced by deadweight, which can go on the place where Sand screw cannot be installed. All those types of anchors will be made according to proportion tables in mentioned WWF/MedPAN manual. For small leisure boats (6-9m) this means that screw shaft diameter will be above 20 mm, and "dead weight" will have above 1t in dry weight.




4. Leaflet graphic with types of ecological moorings from previous MedCEM project

**Anticipated impact:** In some MPAs where the nautical tourism is one of the main economy branches, significant income could be generated through payments for mooring services. It is foreseen that future Katič MPA could be the same case, due to nature and nautical potentials that this area have. Even if the symbolical number of installed ecological mooring places could not generated significant income, it will be a great showcase to local community how the evaluation of environmental protection could generate new kind of income and bring benefits on various levels. One of the most important outcome of ecological mooring concept development is raising up awareness and educational function that this part of project implementation will bring to local community, and to the tourists, too. But, the most significant role of this activity is in real protection and conservation of the valuable meadows of

seagrass. With a growing number of future ecological moorings, effect of nature protection could multiply – maybe it will be the one of the crucial arguments that will demonstrate effectiveness of integrated management in future MPA.
this section will describe the impact and how this impact has been determined.

Proposed installation of ecological moorings will contribute to mitigation of negative effect that anchoring have on Posidonia oceanica meadows, as well on some other benthic species. Ecological moorings are always a win-win situation, because a multiply benefits that they brings presents one of the most obvious improvements in reaching good balance between nature protection and developing challenges. For future management of MPA, developing a grid of ecological moorings is an opportunity for better control growing demands for nautical expansion towards conservation of fragile habitats. If the installation of the buoys is done according to defined standards, it will also increase safety of anchoring and prevent accidents that might occur due to bad weather, or usual simple mistakes from the boat skippers. Minimal negative effect on environment that concept of ecological moorings have versus classical moorings system is advantage that cannot be disregarded. Positioning recommended installation on the places where the boat anchors making damage each day may only be characterized as the most desirable and permanent solution of serious problem.

**Mitigation measures**: Katič area is visited by hundreds of boats per year (no official data available), which implies the throwing of as many anchors and much damage to the seabed. Number of nautical tourists in the area is increasing each year and destruction of the seabed continues. One of the first steps of future management body of MPA Katič must be to plan and install optimal number of ecological moorings and buoys in the area, and to stop uncontrolled anchoring offering safer mooring for sailors. Usage and maintenance of these moorings should be designed to generate additional incomes for local environmental funds and revenues for MPA budget. Without any doubt, here proposed pilot eco-moorings should initiate future design, management and maintain models of anchoring and mooring in MPA Katič.

In order to minimize impact on environment during the setting up ecological moorings, all those types of anchors will be made according to proportion tables in mentioned WWF/MedPAN manual It is important to stress that all new "dead weights" anchors will be made in the shape or artificial reef, with several holes and cracks on the body: that can offer suitable substrate or hiding place for many marine organisms, and additional detail for further level of nature protection.

10. **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.

All engaged on procurement, composing mooring parts or working underwater on mooring installation will work within described safety precautions for every work. There will be no waste disposal.

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

The main aim of the setting up ecological moorings is to reduce impact on the *Posidonia oceanica* meadows. The state of the Posidonia meadows could be done through the monitoring. Within this project in 2020. it is planned to be done monitoring of Posidonia oceanica meadows in selected site. Based on the results of that monitoring and in comparison with the monitoring that has been conducted in previously period, it will be seen the results of the setting up ecological moorings. With assessments of the carrying capacity and resilience of the area, it would then be possible to study nautical tourists' willingness to pay

to use moorings. This could be translated into higher mooring fees, which ideally would be recycled into environmental investments. A permit or a reservation system can include benefits for users that behave in a specific manner or fulfill environmental requirements set by the MPA authority (or PE for Coastal Zone management) Mooring systems in suitable places and convenient numbers can be deployed to protect the seabed while serving the needs of the visitors. Manager of these moorings could set up the fee for daily (or half day) period use, based on the length of vessel - or the number of persons in crew list. Anyhow, the price that will be defined for one day should be in range of 20 - 80 euros. Defining amount of money for mooring ticket will also be correlated to service that manager of moorings could offer to the boat crew: garbage removal, shuttle transport to the land, wi-fi, leaflet distribution, delivery from the shore, etc. Concessions for the setup of moorings in bays for day and/or overnight anchoring are a business that can generate revenues in summertime to local entrepreneurs in the coastal area. According to existing spatial plans, it is possible to apply to the tendering processes called by the county authorities, and operate the concessions for a number of years.

This project have a plan to install these 10 ecological moorings (buoys) that will be in use for free during first summer exploitation, maintain them during season dismantle system at the end of the season - and install them again in the third project year (2020). We expect that until that time local diving club, fishing association, some kind of touristic organization, or other stakeholders that could overtake future maintaining of these moorings (ideal manager will be management body of future MPA). We also hope that in future some efficient rules and agreement on use for such anchorage types will be cleared with all official instances up to some mutual acceptable solution.

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. –

Public Enterprise for Coastal Zone Management (Morsko dobro) within their capacities established sector for Managing local ports of interest, that is developing first spatial plans for moorings for some municipalities. MedCEM from the earliest stages of CEPF project started to develop collaboration with this sector, and we believe that final results will bring a mutual benefits. All above proposed activities will be done in cooperation with Public Enterprise for Coastal Zone.

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. –

The main consultations will be done with Public Enterprise for Coastal Zone in terms of getting permission's. Almost all buoys in Petrovac where set without any permits, but local inhabitants have their own knowledge about who's buoys is where - and they "traditionally" already set places for anchoring, entering port, etc. This plan also must be discussed with them. Having in mind that mainly anchoring in the selected place is done by fisherman and diving clubs, in order to introduce them with the ecological moorings, will be organized meetings prior the moorings will be set.

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.

Plans for installation of ecological moorings will be discussed with local stakeholders. As we mentioned above, meetings will be organized with Public Enterprise for Coastal Zone, fisherman and diving clubs. The main aim of the meetings will be explanation benefits of using ecological moorings.

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, the CEPF Secretariat or the World Bank.

Any person or group of person who has a complaint regarding projects activities ("claimants") could raise it to the project manager. Complaints could raised during regular meetings, by e – mail and phone. All complaints raised will be documented by the project manager, and filed. NGO Green Home will inform CEPF (RIT and Grant director) - every six months, at the time of the performance report under the section "safeguard" of the report - Within 15 days in case of complaints that are of particular importance Should no solution satisfactory to all parties be reached after step 1, or if the issue cannot be raised initially to the project manager (conflict of interest, desire to remain anonymous) the claimant(s) can raise the complaint directly to CEPF by contacting the *(RIT person in charge, for instance, programme officer)* and the CEPF grant director for the hotspot.

The contact (email, phone) of these persons should be made publicly available to stakeholders and community members. The RIT and CEPF Grant director will then communicate with claimant, the organization in charge of project and other stakeholders if needed, within 15 days, to find out solutions satisfactory to all parties.

Prior to the implementation of the project, meeting with the project partners will be organized to disclose once again the objectives and detailed activities of the project to the local communities. During the meetings with local communities contacts of the coordinator – NGO Green Home, NGO MedCEM and NGO MES, the Regional Implementation Team for CEPF (Birdlife International) and the CEPF Grant Director will be provided to the local population.

The dedicated email account for CEPF (cepfexecutive@conservation.org) will be mentioned, for grievances sent by email. 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. If the claimant is not satisfied with the response from the CEPF Executive Director, they may submit the grievance to the World Bank at the local World Bank office.