

Inter-American Development Bank

Ecuador

Terminal Evaluation of Project EC-X1004: Marine and  
Coastal Biodiversity Conservation

for the Global Environment Facility

Michael Bliemsrieder  
Consultant

Final: 12 June 2017

## Table of Contents

Acronyms and Abbreviations .....	vi
Introduction.....	1
1. Project Identification and Financial Data .....	2
1.1 Project Identification.....	2
1.2 Dates .....	2
1.3 Project Framework.....	2
1.4 Co-financing .....	2
2. Assessment of Project Results .....	4
2.1 Relevance.....	4
2.1.1 Relevance: conclusions and ratings .....	5
2.2 Effectiveness .....	5
2.2.1 MCBC objective and associated outputs .....	5
2.2.2 Attribution and vertical logic .....	5
2.2.3 Outcomes achieved by component .....	11
2.2.4 Attribution of Project outcomes.....	23
2.2.5 Unexpected results .....	24
2.3 Efficiency.....	24
2.3.1 Financial compliance .....	24
2.3.2 Ex-ante economic and financial analysis .....	25
2.3.3 Ex-post cost/benefit analysis.....	28
2.3.4 Efficiency: conclusions and rating.....	29
3. Assessment of Risks to Sustainability of Outcomes.....	29
3.1 Financial risks .....	29
3.2 Sociopolitical risks.....	31
3.3 Institutional framework and governance risks.....	32
3.4 Environmental risks .....	32
3.5 Overall Sustainability Risk Rating.....	33
4. Catalytic Role and Replicability .....	33
5. Assessment of Monitoring and Evaluation .....	33
5.1 Monitoring and Evaluation design.....	33
5.2 Monitoring and Evaluation Plan implementation .....	34

5.4	M&E rating .....	35
6.	Monitoring of Long-term Changes .....	35
7.	Assessment of Processes Affecting Attainment of Project Results .....	35
7.1	Preparation and readiness .....	35
7.2	Country ownership/ drivenness.....	38
7.3	Stakeholder involvement .....	39
7.4	Financial planning.....	39
7.5	GEF Agency supervision and backstopping .....	39
7.6	Co-financing and project outcomes and sustainability .....	40
7.7	Delays and project outcomes and sustainability .....	41
8.	Lessons and recommendations .....	41
9.	Annexes .....	42
	Annex 1. General information on the evaluation .....	42
	Annex 2. Management Plans approved during the Project's Implementation Period .....	46
10.	Literature.....	47

## List of Tables and Figures

Table 1. Vertical relationship between Project outcomes, objective, action lines, issues, problems, and indicators for each outcome .....	7
Table 2. Project outcomes and associated outputs .....	9
Table 3. Outcomes achieved .....	12
Table 4. Project outputs .....	17
Table 5. Consolidated financial position by funding source at EOP .....	25
Table 6. Project costs by output for Component 1.....	26
Table 7. Ex-post risk assessment based on an interpretation of sections II. B, C and D of the Project document .....	36
Figure 1. Project MCPA sites with their official boundaries.....	44
Figure 2. Route of the evaluation's field mission and MCPAs visited .....	45

## List of Annexes

Annex 1. General information on the evaluation.....	42
Annex 2. Management Plans approved during the Project's Implementation Period .....	46

## Acronyms and Abbreviations

ENSO	El Niño Southern Oscillation
EOP	End of Project
FAN	Ecuador National Environmental Fund
FAP	Ecuador Protected Areas Fund
GEF	Global Environment Facility
GoE	Government of Ecuador
IDB	Inter-American Development Bank
IUCN	International Union for Conservation of Nature
M&E	Monitoring and Evaluation
MAE	Ministry of Environment of Ecuador
MAGAP	Ministry of Agriculture, Livestock, Aquaculture and Fisheries of Ecuador
MCBC	Marine and Coastal Biodiversity Conservation
MCPAs	Marine and Coastal Protected Areas
MEP	Monitoring and Evaluation Plan
METT	GEF Management Effectiveness Tracking Tools
PAT-EC	National Action Plan for the Conservation and Management of Sharks
PES	Payment for Environmental Services
PMR	IDB Progress Monitoring Report
PROPESCAR	Coastal Artisanal Fisheries Support Project
SCF	Sustainable Coasts and Forests Project
SGMC	Undersecretariat for Marine and Coastal Management (Subsecretaría de Gestión Marina y Costera)
SUIA	MAE's in-house environmental information system (Sistema Único de Información Ambiental)
UNDP	United Nations Development Program
USAID	United States Agency for International Development
USD	United States Dollar

## Introduction

1. On August 6, 2010, the Government of Ecuador (GoE) and the Inter-American Development Bank (IDB) signed the Global Environment Facility (GEF) Non-Refundable Investment Financing Agreement No. GRT/FM-12084-EC. Funding was provided for the purpose of carrying out a project (hereinafter 'the Project' or 'the MCBC') for the improvement of conservation of marine and coastal biodiversity in Ecuador by means of (i) supporting a representative network of marine and coastal protected areas (MCPAs); and (ii) applying targeted actions for the protection of key threatened marine species through the implementation of the National Action Plan for the Conservation and Management of Sharks (PAT-EC) (IDB 2010, BID 2016).
2. The executing agency for the project was the Ministry of the Environment of Ecuador (MAE) through the Undersecretariat for Marine and Coastal Management (*Subsecretaría de Gestión Marina y Costera*, SGMCM), based in the coastal city of Guayaquil.
3. Specific Project objectives were:
  - a. to support the strengthening of the MCPA network by incorporating ecological and socio-economic benefits (e.g. fisheries recovery) and generating key information to ensure ecological representation and connectivity during network expansion in line with international best practices for designing marine and coastal protected area networks; and,
  - b. to advance conservation and management of sharks by supporting the implementation of PAT-EC through the strengthening of cooperation, compliance with regulations and the promotion of science-based decision-making.
4. Original Project duration was four years from agreement signature, until August 6, 2014. On July 2, 2014, a deadline extension was granted until November 30, 2015. Subsequently, in order to finish outstanding contractual commitments another extension was granted (until June 30, 2016), and a final one until August 6, 2016 to complete last payments. In total, the project was extended 24 months.
5. This evaluation (hereinafter 'the evaluation') was carried out as part of GEF and IDB requirements, following their respective guidelines for terminal evaluations (GEF Evaluation Office 2008, GEF Evaluation Office 2011).
6. The overall objective of the evaluation was to carry out "the final evaluation of the Marine and Coastal Biodiversity Conservation Project of Ecuador, providing a complete and systematic analysis of the Project's design, its implementation, its products and results and their possible impact." (BID 2016).

## 1. Project Identification and Financial Data

### 1.1 Project Identification

**GEF Project ID: 3548**

**GEF Agency Project ID: EC-X1004**

**Countries: Ecuador**

**Project Title: Marine and Coastal Biodiversity Conservation in Ecuador**

**GEF Agency (or Agencies): Interamerican Development Bank**

### 1.2 Dates

Milestone	Expected date	Actual date
CEO endorsement/approval		January 5, 2010
Agency approval date		March 3, 2010
Implementation start		August 6, 2010
Midterm evaluation		November 23, 2015
Project completion	August 6, 2014	August 6, 2016
Terminal evaluation completion		July 12, 2017
Project closing	August 6, 2014	August 6, 2016

### 1.3 Project Framework

Project component	Activity type	GEF financing (in US\$)		Cofinancing (in US\$)	
		Approved	Actual	Promised	Actual
Support for the Network of MCPAs	Technical assistance	2.600.000	1.102.727	2.200.000	495.482
Implementation of the PAT-EC	Technical assistance	1.000.000	-	1.600.000	-
Project management	Technical assistance	350.000	221.601	500.000	783.639
Audit and evaluation	Technical assistance	50.000	15.000	-	-
Total		4.000.000	1.339.328	4.300.000	1.279.121

### 1.4 Co-financing

Source of cofinancing	Type	Project preparation (in US\$)		Project implementation (in US\$)		Total (in US\$)	
		Expected	Actual	Expected	Actual	Expected	Actual
Host gov't contribution	In kind	-	-	4.300.000	1.279.121	4.300.000	1.279.121
GEF agency (ies)	Grant	-	-	-	-	-	-



Bilateral aid agency (ies)	Grant	-	-	13.000.000	-	13.000.000	-
Multilateral agency (ies)		-	-	-	-	-	-
Private sector		-	-	-	-	-	-
NGO		-	-	-	-	-	-
Other		-	-	-	-	-	-
Total cofinancing				17.300.000	7.945.656	17.300.000	7.945.656

## 2. Assessment of Project Results

### 2.1 Relevance

7. The Project's original design was based on three premises (later converted into lines of action) related to the conservation of Ecuador's marine and coastal biodiversity: (i) identifying and/or expanding MCPAs to configure a network of protected areas as a mechanism to protect biodiversity; (ii) prioritizing the improvement of the management of areas within the network as a prerequisite for their proper functioning; and (iii) implementing Ecuador's National Action Plan for the Conservation and Management of Sharks (PAT-EC for its name in Spanish) as a crucial action to protect a group of apex predator species considered key to the maintenance of marine ecological processes. These three premises included artisanal fishing as a transversal component, which was considered both one of the problems and a possible solution.
8. The Project also reflected the objectives of IDB's 2008-2011 Country Strategy as well as conservation priorities and guidelines established by IUCN (IUCN World Commission on Protected Areas IUCN-WCPA 2008) and the GEF. Although the Project document does not mention it, the Project also complied with GEF-4 Strategic Biodiversity objective I (BD1), valid at the time of design [Catalyze Sustainability of Protected Areas (GEF 2005)].
9. By EOP, the original problem that motivated the project's design exists. The Project's lack of results and delivery of outputs contributed to the fact that most problems identified during the design phase remained valid. While progress was made in addressing some issues (such as management planning and the design of management tools), there were others that worsened during the implementation period (e.g. financial sustainability of the national protected area system, the political will to maintain strong and stable protected areas, and the increasingly complex general economic situation of the country that tends to cause conflicts between extractive users and area managers). Operationally, the MCPAs remained under the same general risk levels identified in 2009. IUCN's priority lines for MCPAs (IUCN World Commission on Protected Areas IUCN-WCPA 2008) remained unchanged and continued to be used globally as a reference for the establishment and management of marine and coastal protected areas.
10. The biodiversity priorities of GEF's sixth replenishment (GEF-6), current at the time of this evaluation, remained practically unchanged regarding protected areas. Strategy 1 for the Biodiversity focal area (also called BD1 in GEF-6) maintained the priority for the establishment and expansion of MCPAs and protected area networks. In fact, GEF-6 increased its focus (compared with GEF-4) on securing financial sustainability for these areas and networks (GEF 2014).
11. Additionally, by 2011 the Project gained relevance under the umbrella of CBD's Strategic Plan for Biological Diversity 2011-2020, Strategic Objective C of the Aichi Goals, Protected Areas (*Secretaría del Convenio sobre la Diversidad Biológica* 2017). This was still current by EOP.
12. Finally, by EOP the Project was still relevant under IDB's Sectoral Framework for Environment and Biodiversity (IDB 2015b) and its Biodiversity and Ecosystem Services Program (IDB 2017b). The Project was moderately compatible with the Bank's country strategy for Ecuador 2012-2017 (IDB 2012) through the prioritization of rural development and environmental sustainability (the latter as a transversal theme). The Bank's strategy did

not specifically address the issue of protected areas and biodiversity, except for the Galapagos Islands.

#### 2.1.1 Relevance: conclusions and ratings

13. Under current GEF guidelines, Relevance is rated according to the following categories: HS (highly satisfactory), S (satisfactory), MS (moderately satisfactory), MU (moderately unsatisfactory), U (unsatisfactory) and HU (highly unsatisfactory). HS is the highest rating.
14. With certain exceptions regarding current IDB priorities, the evaluation considers that by EOP the Project remained relevant within international and multilateral contexts. Consequently, it rates Relevance as S (Satisfactory).

### 2.2 **Effectiveness**

#### 2.2.1 MCBC objective and associated outputs

15. The Project's original objective in its English version was:

“To improve the conservation of marine and coastal biodiversity in Ecuador through the promotion of a network of representative and well managed marine and coastal protected areas and targeted actions for the protection of key threatened marine species.” (IDB 2010)
16. The Project's original objective in its Spanish version was:

*“Mejorar la conservación de la biodiversidad marina y costera de Ecuador promocionando una red representativa y bien gestionada de áreas marinas y costeras protegidas y acciones enfocadas para la protección de especies marinas amenazadas.”*(BID 2010a)
17. It is noteworthy that the Spanish version omits the term “key” (“clave” in Spanish) when defining the threatened marine species addressed.
18. Expected Project outcomes according to the results matrix of the original project document in English were as follows:
  - (a) A national network of MPAs with units contributing to ecosystem representativeness, functional connectivity and resiliency has been established.
  - (b) Number and extent (coverage) of national MPAs declared and proposed that are part of the national network.
  - (c) Improved management effectiveness of MPAs as measured by individual GEF-BD/SP2 Tracking tool.
  - (d) Improved representation of marine ecosystems in the national MPA network.
  - (e) Decrease in annual landings of threatened sharks (*Sphyrna lewini* & *S. zygaena*) in Manta, Posorja, Esmeraldas, Puerto López, Bahía de Caráquez, Pedernales, Anconcito and Santa Rosa [base year 2008].
19. These outcomes were adjusted right after the beginning of the Project in consensus between IDB and SGMC to clarify certain aspects of the results matrix and improve its implementation and evaluation.

#### 2.2.2 Attribution and vertical logic

20. To determine if the Project's vertical logic and attribution were adequate, this evaluation started by recalling its original intention. The MCBC was conceived with the goal of

preventing further loss of marine and coastal biodiversity in Ecuador and reversing that which was already occurring. Although this goal is not specifically expressed in the Project document, it is inferred from the background and problems it addresses.

21. Additionally, the Project aimed to carry out actions on key threatened species, in this case several species of sharks and rays. The definition of "key" species was important due to the role of some of the shark species as apex predators and critical elements in the fishing dynamics on the Ecuadorian coast. This intervention planned to support and add to the implementation of PAT-EC (approved in 2006), to be carried out through the Coastal Artisanal Fisheries Support Project (PROPESCAR), financed with a separate IDB loan (IDB 2017a).
22. Artisanal fishing was included as a fundamental transversal Project element, considered as both a problem and a possible solution. Fishing was mentioned in the Project's three lines of action: (i) establishing and/or expanding MCPAs within a network of protected areas as a mechanism to protect biodiversity; (ii) improving the management of these MCPAs; and (iii) the implementation of PAT-EC. Project design also considered community participation as one of the pillars to achieve its goals.
23. This evaluation considers that the Project objective fully reflected both its goal and the identified problems. Although neither artisanal fisheries nor local participation were expressly mentioned, the design implicitly included them, as they were based on the related definitions by IUCN (IUCN World Commission on Protected Areas IUCN-WCPA 2008), which include local participation and fisheries management as indispensable criteria for a network of MCPAs to be "well managed".
24. To determine if the Project's outcomes in fact contributed to its objective, the evaluation performed an analysis of each outcome and its connection with the lines of action, issues and problems addressed in MCBC. This phase of the evaluation did not consider whether the outcome was achieved, but only if its definition contributed to achieving the goals (not just the main objective) of the Project. Table 1 shows this analysis.<sup>1</sup>

---

<sup>1</sup> This evaluation used the results matrix (including outcomes, indicators, actions and milestones) as adjusted by IDB and SGMC after project initiation (as opposed to the original matrix contained in the Project document).

**Table 1. Vertical relationship between Project outcomes, objective, action lines, issues, problems, and indicators for each outcome**

Outcome	Line of action/issue/problem
1. Establishment of a national network of marine and coastal protected areas with units that contribute to representativeness, functional connectivity and ecosystem resistance. <sup>2</sup>	The outcome targeted the absence of an MCPA network containing conservation units established according to ecological criteria and functioning in a coordinated and integrated manner. The lack of this network implied that each conservation unit operated independently, under its own ecological criteria, without taking into account aspects of representativeness, connectivity and resistance. The indicator used for this result was numerical, measuring whether there was a network established under a formal declaration by the GoE. The evaluation considered that this outcome did contribute to the achievement of the Project goals.
2. Number and extent of marine and coastal protected areas and proposed new areas included in the national network.	In principle, this outcome was intended to address the lack of full coverage of MCPAs, measured at a baseline value of 3,315 km <sup>2</sup> (331,573 ha or 8% of the country's total protected areas). The original Project objective was to extend this coverage to 400,000 ha by EOP by increasing the number of new areas and expanding existing ones. The evaluation was unable to identify the source of this baseline value nor the criteria for measuring the value at EOP. However, lacking other bibliographic references, it assumed that the baseline was established using a biodiversity study conducted in 2007 (Instituto Nazca de Investigaciones Marinas et al. 2007), and that the final value was measured under generally accepted criteria for MCPAs by which greater surface area implies greater protection (IUCN World Commission on Protected Areas IUCN-WCPA 2008). By taking into account the number and area in ha of the MCPAs, the original wording of the outcome <i>did</i> contribute to the purposes of the Project. In its adjusted version, the outcome only counted the number of MCPAs without taking into account their surface. Consequently, this evaluation considers that the modified version of this outcome did not contribute to the achievement of Project goals.
3. Improvement of MCPA management effectiveness as measured by the GEF tracking tool (GEF-BD/SP2).	The deployment of the GEF Management Effectiveness Tracking Tools (METT) was a framework outcome intended to measure Project achievements that addressed the following problems: (i) most MCPAs did not have management plans; (ii) there was little control and monitoring and limited compliance with existing regulations; (iii) none of the MCPAs had zoning plans or included no-extraction zones; (iv) different users did not fully recognize the boundaries of the MCPAs; most areas lacked clear demarcations and some MCPAs had boundary conflicts; (v) none of the MCPAs had a comprehensive monitoring and evaluation program nor a quantitative biodiversity baseline; (vi) financing was insufficient to cover basic operational costs and only a few MCPAs charged entry fees and received funding from Ecuador's Protected Areas Fund (FAP);

<sup>2</sup> The English version of the Project document uses the term 'resilience' as a climate change criterion for the MCPA network, while the Spanish version uses the term 'resistencia'. Although it could be easy to dismiss this difference as an issue with translation, in ecological sciences these are actually two distinct concepts and involve different characteristics of an ecosystem. A 'resistant' ecosystem does not need to prove its capabilities to recover from external impacts, while a 'resilient' ecosystem *does* include this variable. For purposes of the Project this means that the Spanish version had a less stringent measure of success for its protected areas objective than the version in English.

	<p>(vii) key stakeholders and local communities had few opportunities to participate in MCPA management;</p> <p>(viii) governance was deficient and, with the exception of national mangrove concessions, the country had little experience in shared use and management of marine resources.</p> <p>This evaluation considered that this outcome did contribute to the Project goals.</p>
4. Improved representativeness of marine ecosystems in the national MCPA network.	<p>This outcome was only focused on solving the lack of ecological representativeness of <i>marine</i> ecosystems within the network. It did not take into account the representativeness of <i>coastal</i> ecosystems. The evaluation identified a critical problem in measuring this outcome. The original baseline value was set at 49% at the start of the Project and at 58% by EOP. However, the evaluation was unable to identify the criteria used during Project design to set these values. Ecosystem representativeness can only be determined by knowing the types of ecosystems and biological communities existing in a given area, and then comparing these with the whole of the network. When complete information is not available, as was the case in this Project, gap analyses are usually carried out to prioritize research/ intervention approaches. In this Project, the evaluation concluded that SGMC staff were unaware of any study that had previously validated the baseline representativeness percentages. The solution applied by SGMC was to assume that these percentages referred to the sea surface of the 13 original Project MCPAs (rather than ecosystem types or biological communities), and, based on that figure, expanded the MCPAs until reaching the value of EOP. The outcome, as drafted, did in principle contribute to the achievement of the Project goals. However, since there were no initial biodiversity diagnostics nor full analyses of initial representativeness, the outcome did not have the necessary information to be viable or achievable.</p>
5. Reduction of annual landings of threatened sharks in Manta, Posorja, Esmeraldas, Puerto López, Bahía de Caráquez, Pedernales, Anconcito and Santa Elena.	<p>This outcome was intended to measure the impact of the Project on populations of threatened species, in this case sharks as indicator species. Indicators for this outcome identified two species of hammerhead sharks, <i>Sphyrna lewini</i> and <i>Sphyrna zygaena</i>, as indicators of the state of ecosystem conservation. Measurement of this outcome used the number of annual landings of both species. Since this outcome directly measured the conservation status of biodiversity, the evaluation considered that it did contribute to the Project goals.</p>
There was no result associated with this activity.	<p>The action proposed was the integration of local communities in the planning and management of MCPAs and the network, and the use of artisanal fisheries as a management tool.</p>

25. Table 2 shows the relationship between Project outcomes and outputs.

**Table 2. Project outcomes and associated outputs**

<b>Outcome</b>	<b>Associated outputs</b>
1. Establishment of a national network of marine and coastal protected areas with units that contribute to representativeness, functional connectivity and ecosystem resistance. <sup>3</sup>	1.1 Policies, legal instruments and guidelines for the MCPA network, drafted and available.
2. Number and extent of marine and coastal protected areas and proposed new areas included the national network.	The results matrix did not include a specific output for this outcome, although the matrix did include an indicator that mentioned the number of new and proposed areas. SGMC and IDB considered that official resolutions by MAE regarding the establishment and/or expansion of MCPAs were what contributed to this outcome. In principle, these resolutions could be considered part of output 1.1 (above), in which case this output would contribute to outcomes 1 and 2.
3. Improvement of MCPA management effectiveness as measured by the GEF tracking tool (GEF-BD/SP2).	1.2 Financial strategy for the MCPA network designed and validated. Milestone 1: MCPAs that apply pilot experiences in financial collection (fees and others). 1.3 Integral system for monitoring and evaluating the performance of the network and its elements. 1.4 Coastal Protected Areas Management plans developed and updated. 1.5 Accurate delimitation maps of MCPAs. 1.6 Zoning plans whose priority actions have been implemented. Milestone 2: Zoning plans that include no-take zones. 1.7 Joint management plans for artisanal fisheries. 1.8 Marine tourism demonstration projects. 1.9 Monitoring, control and surveillance system for MCPAs. 1.10 Communication and education plan.
4. Improved representativeness of marine ecosystems in the national MCPA network.	1.11 MCPAs and areas of possible expansion with ecosystem maps and biodiversity inventories. 1.12 Life cycle studies of key species. 1.13 Study of threats and impacts on the MCPA network. 1.14 Atlas of fishing areas. 1.15 Study of circulation patterns.
5. Reduction of annual landings of threatened sharks in Manta, Posorja, Esmeraldas, Puerto López, Bahía de Caráquez, Pedernales, Anconcito and Santa Elena.	2.1 Cooperation agreement to strengthen enforcement of regulations regarding sharks. 2.2 Proposals to update the regulatory framework regarding sharks. 2.3 Second Generation PAT-EC. Milestone 3: External evaluation of the First Generation PAT-EC. Milestone 4: Scientists and administrators trained. 2.4 Working group for shark management established and working. 2.5 Studies for decision-making on shark management and conservation.

<sup>3</sup> The English version of the Project document uses the term 'resilience' as a climate change criterion for the MCPA network, while the Spanish version uses the term that translates into 'resistance'. Although it could be easy to dismiss this difference as an issue with translation, in ecological sciences these are actually two distinct concepts and involve different characteristics of an ecosystem. A 'resistant' ecosystem does not need to prove its capabilities to recover from external impacts, while a 'resilient' ecosystem *does* include this variable. For purposes of the Project this means that the Spanish version had a less stringent measure of success for its protected areas objective than the version in English.

	<p>Milestone 5: Elasmobranch inventory.</p> <p>Milestone 6: Reference studies for 5 species.</p> <p>Milestone 7: Studies with management and conservation guidelines for 5 species.</p> <p>2.6 Critical site management plans for <i>Sphyrna lewini</i> and <i>Sphyrna zygaena</i> adopted and implemented.</p> <p>2.7 Assessment of fisheries interactions.</p> <p>2.8 Demonstration projects to reduce bycatch designed.</p> <p>2.9 Communication and education campaign for management and conservation of sharks.</p>
--	---

26. Overall, the evaluation considers that the Project kept an adequate vertical logic that would have allowed, at least partially, to achieve the objective through its outcomes and associated outputs. Some shortcomings were found, such as the lack of outcomes focused on local participation and the integration of artisanal fishing in the Project's implementation. The impact of these shortcomings was partially lessened by Milestone 2 and output 1.7, which contributed to the management of the MCPAs and (indirectly) to the solution of problems related to fishing.
27. There were no specific outputs associated with outcome 2, but this was offset by the 'legal instruments' identified in output 1.1. The evaluation considered that outcomes 1 and 2 were somewhat redundant, since the number and extension of new MCPAs could have been considered implicit in the definition of outcome 1.
28. The evaluation had doubts regarding the viability of the outputs associated with outcome 4, related to ecosystem representativeness within the MCPAs. Although all outputs contributed to the degree of representativeness within the network, no output was found that would catalyze the actual decision process to create or expand MCPAs based on representativeness criteria. In any case, during Project implementation decisions on the creation and/or expansion of MCPAs were taken *before* the associated outputs were in place, so that any information on representativeness (and connectivity, for that matter) was not considered in those decisions.<sup>4</sup>
29. The Project did not include any outputs to identify criteria for resilience (or resistance, if the Spanish version of the Project is used) and apply them to MCPA and network management. As a result, outcome 1 could not be fulfilled.
30. Finally, the evaluation found that, in general, outcome and output indicators were adequate, with two notable exceptions:
- The removal of coverage in hectares as an indicator in outcome 2, which, according to IUCN (IUCN World Commission on Protected Areas IUCN-WCPA 2008) could have compensated for the lack of information on ecosystem representativeness (see discussion in Table 1); and,
  - The criteria used to define ecosystem representativeness, which were incorrect since they measured marine area under legal protection (a purely spatial assessment) rather

---

<sup>4</sup> However, the evaluation assumes that, based on the gross surface area in hectares of MCPAs achieved by EOP, an increase in ecosystem representativeness compared to the baseline was likely. There is not enough information to determine the final percentage reached.



than the relative percentage of presence or absence of ecosystem types and/or biological communities (an ecological assessment).

31. This evaluation did not carry out an in-depth analysis of the vertical logic for component 2, since the component was not implemented. However, it was noted that, despite there not being specific actions related to the monitoring of shark landings within the nine outputs and five milestones included in component 2, the expected outputs implied a reduction in landings, thereby tacitly improving the conservation status of the target species.

### 2.2.3 Outcomes achieved by component

32. Project outcomes by component were partially achieved. The evaluation only analyzed the outcomes of component 1, since component 2 was not implemented after the originally allocated funding was no longer available due to the cancellation of the PROPESCAR project (BID 2013b).
33. As previously mentioned, some outcomes and outputs were adjusted by SGMC and IDB at the beginning of Project implementation. This was done to fill gaps that were identified after Project start.
34. These adjustments were fully reflected in the Bank's Progress Monitoring Reports (PMR). MAE reports showed some (mostly formatting) differences, which in any case did not affect the monitoring and follow-up of the Project.
35. Table 3 analyzes the outcomes achieved and discusses the validity of the corresponding indicators, including a short section containing impact indicators developed by MAE (as the original Project design did not include impact indicators). MAE did keep measuring MCPA coverage of areas under effective protection in hectares, reflecting the original indicator of outcome 2 that was removed during the adjustment of the results matrix by SGMC and IDB.
36. Table 4 shows an analysis of Project outputs.

**Table 3. Outcomes achieved**

Outcome/Indicator	Unit of measure	Baseline	Baseline year	Means of verification	Observations		2014	2015	2016	EOP
Impact #1: Number of hectares of an MCPA network under an effective management and conservation model.										
Indicator #1: Number of hectares.	Ha	331573	2010	Official MAE MCPA creation documents	The original Project design did not include impact indicators, which were incorporated by MAE in its reports to IDB. Data in this table are taken from MAE’s corrected final Project report (MAE 2016).	P				400000
						P(a)	374513	516779	606933	606933
						A	374513	232420	606933	606933
Impact #2: Reduction of the number of annual landings of threatened sharks ( <i>Sphyrna lewini</i> and <i>S. zygaena</i> ).										
Indicator #2: Number of landings.	The evaluation did not include values reported by MAE for component 2 since it was not implemented.									

Outcome/Indicator	Unit of measure	Baseline	Baseline year	Means of verification	Observations		2014	2015	2016	EOP
Outcome 1: Establishment of a national network of marine and coastal protected areas with units that contribute to representativeness, functional connectivity and ecosystem resistance.										
Indicator 1.1: Network established.	Network	0	2010	Official SGMC-MAE document establishing the network.	According to information provided by SGMC, by closing date of this evaluation the draft Ministerial resolution establishing the MCPA network had been submitted to MAE for signature by the Minister of Environment (Memorandum No. MAE-SGMC-2016- 0507 of 30 September 2016). However, since by EOP there was no official approval of the network, this outcome has not been met. Still, the	P				1

Outcome/Indicator	Unit of measure	Baseline	Baseline year	Means of verification	Observations		2014	2015	2016	EOP
					evaluation considered that, for practical purposes, MCPAs included in the Project were effectively operating as a network, in the sense that individual units maintained fluid and permanent coordination, communication and exchange of information. The newly declared areas, although not fully funded, were included in the network for administrative purposes, and there was at least a minimum of direct management (e.g. monitoring, evaluation and patrolling) shared between different areas. In any case, the outcome was not fully achieved since there was no evidence that the MCPAs met the criteria of representativeness, functional connectivity and resilience (or resistance, if the Spanish Project is used in English). * On May 17, 2017, after this evaluation had finished, SGMC informed the Bank that the MCPA network had finally and formally been established through Ministerial Resolution No. 030.	P(a)		1		1
						A		0	0	1*

Outcome/Indicator	Unit of measure	Baseline	Baseline year	Means of verification	Observations		2014	2015	2016	EOP
Outcome 2: Number and extent of marine and coastal protected areas and proposed new areas included the national network.										
Indicator 2.1: Number of MCPAs.	MCPAs	13	2010	Ministerial Resolutions creating MCPAs	In total, 4 new areas were declared under the Project, 2 more than originally expected.	P				15
						P(a)		15		15
						A		15	2	17

Outcome/Indicator	Unit of measure	Baseline	Baseline year	Means of verification	Observations		2014	2015	2016	EOP
Indicator 2.2: New areas proposed for the network.	Area	0	2010	Project data and MAE internal communications	According to information provided by SGM, by EOP there were 2 proposed MCPAs with completed baseline studies as required by the Project: Jama (MAE/Consortio GEOPLADES – ELITTORAL 2016a) and Bajo Copé (MAE/Consortio GEOPLADES – ELITTORAL 2016b).	P				2
						P(a)		2		2
						A		2	0	2

Outcome/Indicator	Unit of measure	Baseline	Baseline year	Means of verification	Observations		2014	2015	2016	EOP
Outcome 3: Improvement of MCPA management effectiveness as measured by the GEF tracking tool (GEF-BD/SP2).										
Indicator 3.1: METT scores obtained with GEF-BD/SPD2 tracking tools.	Points	40	2010	GEF-BD/SPD2 METT reports	According to the third and final METT report (Jorge Paguay Ortiz 2016), MCPA management effectiveness did not reach the final Project target of 80 points (out of a total of 138). After assessing existing threats (especially regarding financial sustainability, chronic lack of staff and equipment, absence of monitoring and evaluation mechanisms, and a lack of apparent short, medium and long term solutions), the evaluation agreed with METT results and concluded that this outcome was not met.	P				80
						P(a)		80		80
						A		42.90	73.46	73.46

Outcome/Indicator	Unit of measure	Baseline	Baseline year	Means of verification	Observations		2014	2015	2016	EOP
Outcome 4: Improved representativeness of marine ecosystems in the national MCPA network.										

Outcome/Indicator	Unit of measure	Baseline	Baseline year	Means of verification	Observations		2014	2015	2016	EOP
Indicator 4.1: Percentage of representativeness of marine ecosystems in the national MCPA network.	%	49	2010	Project data, MCPA management plans.	According to information provided by SGMC, this percentage was calculated using the total marine area relative to the total surface area of the Project MCPAs. However, the evaluation found that this method of calculation did not consider the essence of the outcome/indicator, which was the representativeness of <i>marine ecosystems within</i> the network. The evaluation assumes that, based on the gross surface area in hectares of MCPAs achieved by the Project, an increase in ecosystem representativeness compared to the baseline was nevertheless likely. There is not enough information to determine the final percentage achieved. As a result, the evaluation was unable to determine if this outcome was met.	P				58
						P(a)		58		58
						A		63.19	66.92	66.92

Outcome/Indicator	Unit of measure	Baseline	Baseline year	Means of verification	Observations		2014	2015	2016	EOP
Outcome 5: Reduction of annual landings of threatened sharks in Manta, Posorja, Esmeraldas, Puerto López, Bahía de Caráquez, Pedernales, Anconcito and Santa Elena.										
Indicator 5.1: Annual landings of <i>Sphyrna zygaena</i>	Individuals	36142	2008	SRP- MAGAP data	Since component 2 was not carried out and no verifiable sources of information were available, the evaluation did not assess outcome 5.	P				289009
						P(a)				
						A				
Indicator 5.2: Annual landings of <i>Sphyrna lewini</i>	Individuals	2368	2008	SRP- MAGAP data		P				1800
						P(a)				
						A				



**Table 4. Project outputs**

Data contained in this Table has been taken from the (i) original Project document (IDB 2010), (ii) MAE's 2016 final Project report, (iii) the last IDB PMR available (IDB 2016), (iv) the results of evaluation interviews carried out with the SGMC in Guayaquil on December 21 and 22, 2016, and (v) the results of field evaluations carried out in January and February of 2017. Values in parentheses are those found by the evaluation that differ from the last IDB PMR.												
<b>Component 1: Support for the Network of MCPAs</b>												
Output/Indicator	Unit of measure	Means of verification		2010	2011	2012	2013	2014	2015	2016	EOP	Observations
Output 1.1 Policies, legal instruments and guidelines for the MCPA network, drafted and available.	Instruments	Signed Instruments (or drafts thereof).	P				2	1			3	The evaluation identified three instruments that had initially been targeted by the Project. These included (i) a proposal to restructure MAE's institutional internal processes, (ii) a proposed legal instrument that would support the establishment of the MCPA network, and (iii) the Strategic Plan for said network. Each of these instruments included regulatory tools that would enhance this output. The instruments were produced by a consultant towards EOP (EcoBiotec del Ecuador 2015).
			P(a)					0	2	1	2 (3)	
			A					0	0 (3)	2 (0)	2 (3)	
Output 1.2 Financial strategy for the MCPA network designed and validated.	Strategy	Not applicable. This output was not achieved.	P					1			1	The financial strategy was not developed. At the time of Project implementation, MAE was developing its own umbrella financing strategy for the national protected area system with funding from the United Nations Development Program (UNDP). IDB and SGMC offered to support this process, offer that was politely declined. UNDP and MAE published the

			P(a)					0		0	0	system financial strategy in January of 2015 (MAE 2015) and continued to develop tools for its pilot implementation in seven protected areas (MAE/PNUD 2017a), including the Galera San Francisco Marine Reserve (which was one of the Project MCPAs) (MAE/PNUD 2017b). However, this evaluation found that the national strategy did not achieve meaningful financing results during the Project's implementation period. The official dissolution of Ecuador's National Environmental Fund (FAN) in April of 2016 (Ecuador 2016) exacerbated the financial situation of the country's protected areas, without an adequate replacement instrument having been implemented. Until the end of this evaluation, there were no operational mechanisms to finance the MCPAs. As a result, this output was not achieved.
			A					0	0	0	0	
Milestone 1: MCPAs that apply pilot experiences in financial collection (fees and others).	MCPAs	Not applicable. This output was not achieved.	P					6			6	Given the failure to produce a financial sustainability strategy for the MCPAs (see output 1.2 above), this milestone was not reached. Although the Galera San Francisco Marine Reserve was one of the pilot sites of the UNDP/MAE financial sustainability strategy and was indeed funded, that activity was not financed by or is attributable to the Project.
			P(a)					0		0	0	
			A					0	0	0	0	
Output 1.3 Integral system for monitoring and evaluating the performance of the	System	Not applicable. This output was not achieved.	P					1			1	This output was not achieved. Initially considered redundant by MAE because its in-house environmental information system (Sistema Único de Información Ambiental SUIA) already provided monitoring and



network and its elements.			P(a)					0		0	0	evaluation data, it was subsequently decided that that information was not sufficient and that the output was indeed necessary. However, by then the Project was coming to an end and due to time constraints it became impossible to hire the required contractors. At the closing of this evaluation, SUIA did not have the information and tools to monitor network performance as required by the Project.
			A					0	0	0	0	
Output 1.4 Coastal Protected Areas Management plans developed and updated.	Plans	MCPA management plan reports.	P			10	5				15	SGMC reported the preparation and approval of 10 management plans after 2010, the Project's first year. The evaluation found that only five of these were attributable to the Project, as the others were financed by other initiatives and/or agencies. Annex 2, provided by SGMC, contains the list of these areas.
			P(a)				5	0	2	0	17	
			A			10 (0)	1 (0)	4 (2)	2 (3)	0	17 (5)	
Output 1.5 Accurate delimitation maps of MCPAs.	Maps		P					15			15	The output was achieved. Maps were prepared for the 13 original Project areas of the Project. Annex 1 includes the respective global Project area map produced by the SGMC.
			P(a)					0	2	0	17	
			A				11	2	4 (0)	0	17 (13)	
Output 1.6 Zoning plans whose priority actions have been implemented.	Plans		P					4			4	Despite being required in its original design, the Project did not produce independent zoning plans, since MCPA zoning was part of each area's management plan. The five management plans produced under the Project did not include specific zoning priorities (as required by this output), but the evaluation found that the area managers <i>did</i> prioritize their field
			P(a)					0	2	0	5	

			A					2	3	0	5	interventions, which were in turn based on each area's zoning. As a result, it was concluded that, indirectly, this output was achieved.
Milestone 2: Zoning plans that include no-take zones.	Plans		P					4			4	In line with the previous observation, there were no independent zoning plans as zoning was included in each area's management plan. The five management plans produced by the Project contained zones with different use guidelines according to the respective management category. This included zones of absolute protection, which implied a prohibition of extracting resources. The evaluation considered that, although it did not reflect the exact wording of the results framework, this output was fulfilled.
			P(a)					0	2	0	9	
			A				4 (0)	2	3	0	9 (5)	
Output 1.7 Joint management plans for artisanal fisheries.	Plans	Not applicable. This output was not achieved.	P					2			2	No fisheries management plans were produced. According to SGMC, a standard MAE policy was to include fisheries management in protected area management plans, so independent plans were not expected. However, a pilot experience for a fishery regulatory framework was underway in Manglares Churute Ecological Reserve, which, if successful, is likely to be replicated throughout the country. This experience was not part of nor attributable to the Project.
			P(a)					0		0	0	
			A						0	0	0	
Output 1.8 Marine tourism demonstration projects.	Projects	Not applicable. This output was not achieved.	P					2			2	No marine tourism demonstration projects were produced. The contractor hired for this purpose did not finish its work and the contract was canceled.
			P(a)					0		0	0	
			A					0	0	0	0	

Output 1.9 Monitoring, control and surveillance system for MCPAs.	System	Not applicable. This output was not achieved.	P					1			1	The Project did not produce a specific monitoring, control and surveillance system for the MCPA network. According to SGMC, at the beginning and during the implementation of the Project there were four similar national systems (belonging to the Navy, MAGAP and the environmental community) whose coverage, coordination and information exchange were inadequate. These systems had a number of problems, including vandalism and theft of infrastructure, and jurisdiction issues between agencies that prevented an adequate inter-institutional coordination. After analyzing the logical framework and goals of the Project, the evaluation concluded that this output had not been properly designed, as it did not take into account the complex interinstitutional context and the logistical and technological difficulties involved in a large monitoring system as envisioned. However, towards the end of the Project two contractors were hired to develop and implement the system (WildAid 2015a, WildAid 2015b). Although by EOP the system was still not functional, the evaluation considers that at least a roadmap was in place for the system's further development and field deployment.
			P(a)					0	1	1	0	
			A					0	0	0	0	
Output 1.10 Communication and education plan.	Plans	Not applicable. This output was not achieved.	P					1			1	The Project did not produce a communication and education plan, after discrepancies with the contractor forced a cancellation of the contract. However, according to SGMC, communication and education actions within MCPAs are carried out as part of regular MAE activities.
			P(a)					0		0	0	
			A					0	0	0	0	

Output 1.11 MCPAs and areas of possible expansion with ecosystem maps and biodiversity inventories.	Areas		P					19			10	This output was achieved (BioElite 2016).
			P(a)					0	10	10	10	
			A					0	0	10	10	
Output 1.12 Life cycle studies of key species.	Studies	Not applicable. This output was not achieved.	P			3	3	1			7	The Project did not produce life cycle studies for key species. SGMC reported two studies (for the Spondylus shell, <i>Spondylus</i> spp. and Pinchagua, <i>Opisthonema</i> spp.). The evaluation found three additional related studies (Fernando Aguilar et al. INP 2013, Christian Canales et al. MAGAP/INP 2013, Natalia González et al. INP 2013), although none were funded by or attributable to the Project.
			P(a)				3	0		0	3	
			A			3 (0)		0		0	3 (0)	
Output 1.13 Study of threats and impacts on the MCPA network.	Studies	Not applicable. This output was not achieved.	P				1				1	This output was not achieved.
			P(a)				1	0		0	0	
			A					0		0	0	
Output 1.14 Atlas of fishing areas.	Atlas	Not applicable. This output was not achieved.	P				1				1	This output was not achieved.
			P(a)				1	0		0	0	
			A					0		0	0	
Output 1.15 Study of circulation patterns.	Study	Not applicable. This output was not achieved.	P					1			1	This output was not achieved.
			P(a)					0		0	0	
			A					0		0	0	
Component 2: Implementation of the PAT-EC												
There were no outputs as this component was not carried out.												

#### 2.2.4 Attribution of Project outcomes

37. Table 2 shows a relation between Project outcomes and their associated products. Since a formal impact assessment was not carried out and most outcomes were not met, this evaluation proceeded instead to make a qualitative analysis of all identified achievements that were properly documented and supported by evidence.
38. The evaluation found that only one of five expected outcomes was achieved, namely outcome 2 related to the number of MCPAs created as part of the Project. In addition, although the adjusted results matrix did not measure the coverage in hectares for this outcome, the evaluation used the impact indicators reported by MAE, which confirmed that coverage of new areas exceeded the original EOP value of 400,000 ha. Attribution in this case is clear: without Project intervention, there would have been no declaration of new MCPAs, no expansion of existing ones nor proposals for new areas within the Project timeframe and with the resources available.
39. Technically, none of the other outcomes did reach their EOP target values, nor was the Project objective met. While it is therefore not possible to state that the Project was formally successful, the evaluation *did* find significant improvements in several MCPAs as well as in the MCPA network's operations (even considering that by EOP the network itself had not yet been formally declared).
40. There are three key aspects that laid the groundwork allowing SGMC and MAE to manage the Projects' MCPAs, aspects which are fully attributable to the Project as there were no other financial resources or parallel initiatives available:
- a. The Project could prepare, through a consultancy contracted for this purpose, two key legal background instruments for the eventual declaration of the network: the corresponding draft Ministerial Agreement, and the future network's strategic plan. Without these instruments, the network could neither formally exist nor operate. There was no other project funding available to produce these outputs.
  - b. The Project funded the development of five management plans, and contributed indirectly (through the participation of the Project team) to the drafting of five additional ones, all with their corresponding zoning. Precise area boundaries and maps were also generated for the Project's 13 target MCPAs. In total, 10 management plans (although only five are attributable to the Project) and 13 official maps were produced. Given the expected official approval of the network, these plans and maps will allow for a smooth transition from current *ad hoc* area management into a formal framework contained in the network strategy.
  - c. Management effectiveness of the Project's 13 areas did not reach the EOP value of 80 points for METT. According to the third (and last) evaluation, carried out in June of 2016 (Jorge Paguay Ortiz 2016), the final average score was 73.46 points (equivalent to 53.2% management efficiency). However, this is still more than double the baseline value of 2008, which was 30.77 points (equivalent to 22.3% management efficiency). Improvements were made in content and planning, which meant that area managers and staff were aware of their strengths and weaknesses and that they had the necessary legal instruments (e.g., management plans) to support them. Progress was mostly lacking on operational issues (equipment, personnel, materials, etc.) and on financial sustainability. This agrees with documented achievements in Project outputs and with the findings of the evaluation's field mission, carried out in January and February 2017 (see Annex 1). This evaluation considers that, given the direct relationship between the outputs generated and partial progress in outcomes, the improvements in METT score

are indeed attributable to the Project, and that the lack of other advances corresponds precisely to the missing outputs and outcomes.

41. In conclusion, the evaluation determined that the reported accomplishments (in both outcomes and outputs) were attributable to the Project.

#### 2.2.5 Unexpected results

42. The evaluation did not find any unexpected results.

#### 2.2.6 Effectiveness: conclusions and ratings

43. Effectiveness is rated under the following categories: HS (highly satisfactory), S (satisfactory), MS (moderately satisfactory), MU (moderately unsatisfactory), U (unsatisfactory) and HU (highly unsatisfactory). HS is the highest rating.
44. The evaluation concluded that the Project did not achieve most outcomes (or, for that matter, that there was insufficient information to determine *whether* outcomes were achieved). Likewise, the Project failed to produce most outputs. The Project's original design and its results framework had some shortcomings that made it difficult to verify compliance with certain indicators.
45. By closing of this evaluation, the objective of establishing a formal MCPA network through an officially approved regulatory instrument had not been met, although in practice the existing network maintained an adequate level of administrative connectivity. There was no evidence to determine whether representativeness and ecological connectivity criteria were met. The expanded and new MCPAs did not meet the resilience/resistance requirement, which was part of the original Project objective statement but was not reflected in concrete actions within the results framework.
46. Component 2 of the Project, directly related to the conservation of biodiversity through key species, was not carried out.
47. Consequently, the rating given by this evaluation to Project Effectiveness is U (Unsatisfactory).

### 2.3 **Efficiency**

#### 2.3.1 Financial compliance

48. In October and December 2016, this evaluation met in joint sessions with IDB and MAE to verify and validate the latest financial information and financial progress reports. According to the latest confirmed values, by EOP in August of 2016 the Project had spent a total of USD 2,351,332.73, representing 28.33% of the Project's total budget of USD 8.3 million. This does not include USD 13 million in associated co-financing from a USAID Sustainable Coasts and Forests Project (SCF) (USAID 2016), mentioned in the Project document (see Section 4.6 for additional details).
49. Table 5 shows the summary of the Project's financial status by EOP. Data are taken from MAE's final Project report (MAE 2016) and IDB's last verified PMR (IDB 2016). Table 6 shows the same results per output.

**Table 5. Consolidated financial position by funding source at EOP**

Line item	Original budget	Actual at EOP	Actual in % at EOP
Total Budget	8.300.000	2.351.332,73	28,33
IDB/GEF contribution	4.000.000	1.339.328,04	33,48
MAE local contribution	1.150.000	1.012.004,69	88,00
PROPESCAR local contribution	3.150.000	0,00	0,00
USAID associated funding	13.000.000	n/a	n/a

### 2.3.2 Ex-ante economic and financial analysis

50. In 2009, an economic valuation study was carried out to determine the economic benefits of setting up the MCPA network within the framework of the Project (Jorge Higinio Maldonado 2009). The study considered two possible main sources of benefits derived from the successful implementation of the Project:
- A contingent valuation that calculated the approximate economic benefit for the community that resulted from an enhanced protection of marine and coastal biodiversity;
  - An approximate valuation of the economic benefit to the fishing sector resulting from the establishment of the MCPA network and the ensuing stabilization of fish stocks (because of better fishery management of both stocks and catches).
51. To estimate these values, the study considered the costs associated with the management of the MCPA network, the cost of credit required for the fishing sector to assume new responsibilities implied with the Project, and the costs associated with reducing fishing activities during the first five years of the Project (resulting from a voluntary reduction in catch volumes and the time required for stock recovery).
52. The study was based on the baseline premise that fisheries productivity was already declining by 0.5% per year and would continue at that rate in absence of the Project. If there were no changes, the study calculated that, with a 30-year outlook and a discount rate of 12% per annum, the fishing sector would generate an approximate revenue of USD 1,815 million.
53. If the Project were to succeed, assuming that fisheries and shrimp production would stabilize as a result of the implementation of the MCPA network (i.e., the reduction of stocks would stop and the fishing sector would accept the voluntary reduction in its catches by 10% beginning on year 1 of the Project), and applying the same 30-year outlook and 12% annual discount rate, the valuation calculated that by the fifth Project year the sector would generate revenue of approximately USD 2,174 million, or a net benefit of USD 359 million compared to the baseline.

Table 6. Project costs by output for Component 1

							Component Revised Cost	Component Revised Cost	
Component 1: Support for the Network of MCPAs								\$2,010,491.76	
Outputs		2010	2011	2012	2013	2014	2015	2016	Cost
Output 1.1 Policies, legal instruments and guidelines for the MCPA network, drafted and available	P				\$46,000.00	\$195,916.00			\$241,916.00
	P(a)				\$46,000.00	\$43,008.00	\$44,800.00	\$0.00	\$133,808.00
	A						\$25,920.00	\$18,592.00	\$44,512.00
Output 1.2 Financial strategy for the MCPA network designed and validated.	P				\$180,000.00	\$130,000.00			\$310,000.00
	P(a)				\$180,000.00	\$47,040.00	\$134,400.00	\$0.00	\$361,440.00
	A					\$0.00	\$107,496.00	\$26,880.00	\$134,376.00
Output 1.3 Integral system for monitoring and evaluating the performance of the network and its elements.	P				\$70,000.00	\$80,000.00			\$150,000.00
	P(a)				\$70,000.00	\$15,680.00	\$0.00	\$0.00	\$85,680.00
	A					\$0.00	\$0.00	\$0.00	\$0.00
Output 1.4 Coastal Protected Areas Management plans developed and updated.	P			\$368,060.00	\$160,590.00				\$528,650.00
	P(a)				\$160,590.00	\$50,016.96	\$0.00	\$0.00	\$210,606.96
	A		\$34,048.00	\$77,952.02	32231.57	\$49,838.33	\$0.00	\$0.00	\$194,069.92
Output 1.5 Accurate delimitation maps of MCPAs.	P					\$30,000.00			\$30,000.00
	P(a)						\$0.00	\$0.00	\$0.00
	A					\$0.00	\$0.00	\$0.00	\$0.00
Output 1.6 Zoning plans whose priority actions have been implemented.	P					\$120,000.00			\$120,000.00
	P(a)						\$0.00	\$0.00	\$0.00
	A				\$5,824.00	\$0.00	\$0.00	\$0.00	\$5,824.00
Output 1.7 Joint management plans for artisanal fisheries.	P				\$25,000.00	\$20,000.00			\$45,000.00
	P(a)				\$25,000.00		\$0.00	\$0.00	\$25,000.00
	A					\$0.00	\$0.00	\$0.00	\$0.00
Output 1.8 Marine tourism demonstration projects.	P				\$55,000.00	\$10,000.00			\$65,000.00
	P(a)				\$55,000.00	\$44,505.00	\$0.00	\$0.00	\$99,505.00
	A				\$25,800.00	\$25,800.00	\$0.00	\$2,580.00	\$54,180.00
Output 1.9 Monitoring, control and surveillance system for MCPAs.	P				\$160,000.00	\$40,000.00			\$200,000.00
	P(a)				\$160,000.00	\$71,680.00	\$89,600.00	\$0.00	\$321,280.00
	A			\$3,465.15		\$0.00	\$89,600.00	\$0.00	\$93,065.15
Output 1.10 Communication and education plan.	P			\$30,000.00	\$115,000.00	\$40,000.00			\$185,000.00
	P(a)				\$115,000.00	\$16,800.00	\$0.00	\$0.00	\$131,800.00
	A		\$ 658.56	\$2,647.68	11071.36	\$0.00	\$0.00	\$0.00	\$14,377.60



Output 1.11 MCPAs and areas of possible expansion with ecosystem maps and biodiversity inventories.	P				\$697,782.00	\$229,052.00			\$926,834.00
	P(a)				\$697,782.00	\$314,776.20	\$433,744.43	\$459,294.17	\$1,905,596.80
	A						\$239,481.87	\$546,068.00	\$785,549.87
Output 1.12 Life cycle studies of key species.	P			\$225,000.00	\$200,000.00	\$75,000.00			\$500,000.00
	P(a)				\$200,000.00		\$0.00	\$0.00	\$200,000.00
	A					\$0.00	\$0.00	\$0.00	\$0.00
Output 1.13 Study of threats and impacts on the MCPA network	P				\$89,600.00				\$89,600.00
	P(a)				\$89,600.00		\$0.00	\$0.00	\$89,600.00
	A					\$0.00	\$0.00	\$0.00	\$0.00
Output 1.14 Atlas of fishing areas.	P				\$110,000.00				\$110,000.00
	P(a)				\$110,000.00		\$0.00	\$0.00	\$110,000.00
	A					\$0.00	\$0.00	\$0.00	\$0.00
Output 1.15 Study of circulation patterns.	P				\$105,000.00	\$45,000.00			\$150,000.00
	P(a)				\$105,000.00		\$0.00	\$0.00	\$105,000.00
	A					\$0.00	\$0.00	\$0.00	\$0.00

54. It should be noted that the valuation study did not separate the economic benefits by Project component. This is important since component 1, while frequently mentioning artisanal fisheries, did not include mechanisms to measure the reduction of catch volumes or the impact of proposed fisheries management plans on commercially-used biodiversity. Only component 2 included details on fishery indicators, but only in relation to the two key species of sharks selected. Consequently, this evaluation was unable to determine what Project criteria were used to calculate the benefits for the fisheries sector.
55. Regarding the contingent valuation of the benefits of the MCPA network for the community, the valuation study analyzed the responses of a sample of households surveyed about their willingness to pay a monthly amount (e.g., through their utility bills) to finance the maintenance of the MCPAs. The amount identified by the study as socially acceptable was USD 1.96 per month. Multiplied by the population of the eight cities considered to be able to make this payment (1.35 million households in Guayaquil, Manta/Portoviejo, Machala, Quito, Cuenca and Ambato/Riobamba) and applying a conservative estimate that only half of these households would effectively make this payment, the benefit was projected at USD 15.87 million per year, or USD 64 million over five years.
56. Overall, the study set the benefits of the Project for the country at USD 416 million.

### 2.3.3 Ex-post cost/benefit analysis

57. The evaluation had some difficulties determining the ex-post cost/benefit of the Project. First, as previously mentioned, the economic valuation study focused mainly on the benefits of a possible MCPA network for the fishing sector, but did not discriminate by components and outcomes. As a result, it was not possible to identify the financial impact of (i) not having implemented Component 2, and (ii) the absence of fisheries management plans in Component 1.
58. Second, the evaluation had doubts about the suitability of contingent valuation analysis. This analysis was the equivalent of applying a Payment for Environmental Services (PES) mechanism. PES has proponents and detractors (Stefano Pagiola Elsevier 2008, Patricio Mena et al. EcoCiencia/Abya Yala 2008, Bryan Johns American University – U.N.-Mandated University for Peace 2012, Maike Hohberg 2014) and, in this evaluation's opinion, has yet to establish itself as a successful conservation tool. In any case, PSE or any similar mechanism was not considered an outcome or output of the Project. This evaluation estimates that the USD 64 million in benefits calculated by the valuation study would have been acceptable if the Project had included a PES mechanism, such as the proposed payment via fees included in monthly utility bills. Stated as it was, this amount was hypothetical and the Project included no activity that would have made it possible.
59. Finally, the evaluation disagrees with the original premise of the valuation study of reversing and stabilizing the decline and conditions of fish stocks within the expected five years of Project life. The valuation study assumed that fishing communities would agree, in the first year of the Project, to a 10% reduction in their catch volumes because of a voluntary acceptance of new access restrictions without receiving anything in return. This evaluation does not know of any previous experience where, in its first year of implementation, a MCPA project had managed to put in place a working monitoring and surveillance system for protected areas, fisheries management mechanisms and the approval by fishing communities whose access to their main way life was suddenly restricted.

60. In addition, this evaluation was unable to find technical references to support the generic premise that fish stocks were effectively capable of recovering from an annual 0.5% decrease. In biological terms, it would have been difficult to generalize such an assumption without knowing the commercial species targeted and the specific biodiversity within catch volumes. The valuation study did not discriminate between different types of fishing, apart from separating whitefish fisheries from shrimp trawling.
61. In conclusion, the evaluation considers the following:
- a. The initial value of USD 416 million in potential economic benefits was not feasible as it considered implementing a PES mechanism that was not included in the Project.
  - b. Regardless of the lack of detail about the type and volumes of fish catches used for the valuation study, in practice no benefits materialized since the necessary Project outcomes and products were not achieved.
  - c. Since Project outcomes and outputs related to fisheries were not achieved, in the absence of a viable control and surveillance system, and because no economic alternatives were developed nor put into place for the artisanal fisheries sector, this evaluation assumes that, at least in what concerns the MCBC, by EOP the reported decline of catch volumes remains at the baseline rate, with the ensuing costs to biodiversity.

#### 2.3.4 Efficiency: conclusions and rating

62. Efficiency is rated under the following categories: HS (highly satisfactory), S (satisfactory), MS (moderately satisfactory), MU (moderately unsatisfactory), U (unsatisfactory) and HU (highly unsatisfactory). HS is the highest rating.
63. The Project only managed to spend 28.33% of its overall budget despite having been extended two years beyond its original deadline. Only 33.48% of GEF grant funds were used. However, MAE still had to invest 88% of its original counterpart contribution, mainly for project management costs. Comparing this to the fact that most of the outcomes and outputs were not achieved (including all of component 2), this evaluation considered that Project implementation was not cost-efficient.
64. While the Project made significant progress in administrative efficiency managing MCPAs, the financial environment in fact worsened during its implementation period. The closure of FAN and the absence by EOP of a working financial sustainability strategy deprived the Project of one of its key goals.
65. The loss of the local PROPESCAR counterpart (equivalent to 38% of the total Project budget) and the apparent absence of a more effective contribution from USAID's SCF funding negatively impacted the Project's efficiency.
66. Consequently, the evaluation qualifies Project efficiency as U (Unsatisfactory).

### 3. Assessment of Risks to Sustainability of Outcomes

#### 3.1 Financial risks

67. To understand the financial risks to ex-post sustainability of Project outcomes, it is necessary to remember its initial design premises and recognize the changes that occurred between 2010 and 2017.

68. The Project design did acknowledge Ecuador's long-term problems regarding the financial sustainability of protected areas, including a chronic lack of funding and the resulting limitation for an efficient area management. The project included two outputs to improve this situation: (i) a working financial sustainability strategy and (ii) several MCPAs applying pilot deployments of this strategy.
69. It is important to remember that, compared to EOP, during the time when the Project was being designed and approved (2009-2010) oil prices continued to rise, Ecuador's economic context was relatively solid and the country's external debt remained manageable. FAN and MAE had comfortable budgets for protected areas which allowed MCPAs to carry out their work, although they needed improvement.
70. By 2016, MAE's protected area budget had declined dramatically. According to information gathered during this evaluation's January 2017 field mission, government allocations for individual areas did not exceed between USD 1,500 and USD 4,000 per year, with severe restrictions imposed on the type of expenditure allowed. With the additional dissolution of FAN in April 2016 (Ecuador 2016), the situation of the country's protected areas (not just MCPAs) became even more difficult.
71. As previously mentioned, by EOP the Project had succeeded in generating much of the baseline information required for an efficient area management. The MCPA network had been strengthened either through new protected areas or the expansion of existing ones. Boundaries were officially set and the corresponding official cartography had been produced and published. Management plans existed for all MCPAs, providing a sound basis for future planning processes. Most impact studies, economic assessments and biological and oceanographic diagnoses (required to make science-based management decisions) had been completed. Above all, highly trained technical teams that were fully aware of the needs, limitations and strengths of their respective areas, had been put into place. However, the necessary equipment, materials and financial resources to ensure that this information and technical capacity would be translated into effective operational field actions were absent.
72. To fix this problem, the MCPA network will require a sustained flow of funding. Unfortunately, by closing of this evaluation there were no indications that protected area financing would be available in the short and medium term.
73. By the time of this evaluation, Ecuador's economic situation was strikingly different from what it was at the beginning of the Project. The decline of oil prices in late 2015 and early 2016 and a global economic slowdown that began in 2012 created an increasingly uncertain outlook for Latin America, which was also reflected in Ecuador. The Ecuadorian government, faced with a need to limit public spending without neglecting emblematic social infrastructure projects, opted to reduce government budgets in sectors considered to be less of a priority (the environmental sector being apparently one of them), while increasing the levels of internal and external debt to meet its commitments.
74. The external shock on Ecuador's economy caused by the collapse in oil prices cannot be overstated. Although it only contributed between 12% and 14% of the country's GDP, before the crash the oil sector generated close to 30% of tax revenues and represented over 50% of exports. Unlike other countries in the region, in the case of Ecuador there are no exchange rates to help absorb external shocks since the country's official currency is the US dollar. This made it impossible for the government to adopt countercyclical monetary measures to counteract the impact of this shock on productive activities. As a result, in

2016 Ecuador's real GDP contracted by 1.5% (although by the end of that year a certain recovery was being observed).

75. This economic shock led to a deterioration of the country's fiscal situation, with a total deficit of the nonfinancial public sector amounting to 7.5% of GDP, which resulted in an increase in public debt that in unconsolidated terms stood at approximately 40% of GDP. Still, by the end of this evaluation Ecuador's level of debt remained comparatively low, and the new government had already announced that it would apply adjustment measures to slow down the pace of public debt buildup.
76. Finally, in 2016 Ecuador registered a current account surplus of around 1.5% of GDP, compared to a deficit of 2.2% in 2015. This recovery in external accounts was due in part to tariff overloads of between 5% and 45% imposed in early 2015 on 30% of the country's imports. These tariffs were removed on June 1, 2017, in compliance with Ecuador's commitments to the World Trade Organization. Despite adjustments of the current account, Ecuador's real exchange rate was still overvalued, especially against some of its main commercial competitors (especially Colombia), whose currencies had been significantly devalued because of a cyclic change in the trading of commodities.
77. Considering this context, this evaluation did not see indications that would point towards the financial sustainability of the MCPA network.
78. Financial risks are rated against the likelihood that Project outcomes and outputs will be sustainable in the long term. The categories are: L (likely), ML (moderately likely), MU (moderately unlikely), and U (unlikely). L is the highest category and implies that there are no or negligible risks to the sustainability of Project outcomes and outputs. The rating given to financial risks accordingly is U (Unlikely).

### **3.2 Sociopolitical risks**

79. The Project could strengthen the legal MCPA framework (including drafting management plans, implementing zones with restricted access to certain resources, and improving control and monitoring) but failed at implementing actions to include local communities in protected area management. Plans for fisheries management and marine tourism were not developed, and a planned local education and awareness campaign was neither designed nor implemented.
80. As a result, in practice the Project created a stronger legal framework with the potential to have a negative social impact on the artisanal fisheries sector and on local communities that depend on access to protected areas for their livelihoods, without somehow balancing this impact. The risk of this happening was low because the financial situation of the MCPAs prevented them from implementing this new framework. However, in a vicious circle, this very fact implied that local communities did not have the economic or legal incentives to respect the new regulations framework and would probably continue to interact with protected areas in a negative way. In the medium term, this interaction could also affect the management of these areas, which could diminish any positive impact of Project outcomes and outputs that were achieved. The evaluation considered that the consequence was a relatively high sociopolitical risk for the sustainability of Project outcomes and outputs.
81. Sociopolitical risks are rated against the likelihood that Project outcomes and outputs will be sustainable in the long term. The categories are: L (likely), ML (moderately likely), MU (moderately unlikely), and U (unlikely). L is the highest category and implies that there are

no or negligible risks to the sustainability of Project outcomes and outputs. The rating given to sociopolitical risks accordingly is U (Unlikely).

### **3.3 Institutional framework and governance risks**

82. One of the main findings of this evaluation was that, despite permanent efforts by IDB and SGMC Project staff, Project management faced several difficulties arising from frequent changes in budgeting and planning system that affected expenditure types and schedules. In addition, both MCPAs and the Project's management unit suffered from frequent staff turnover at managerial and technical levels, which created difficulties for the continuity and fluidity of project activities and fiduciary management.
83. By closing of this evaluation, Ecuador was at the doors of a presidential election that would define whether the country maintained its current socio-political model or turned towards less centralized management of public finances and a renewed openness to international and multilateral cooperation. The perceived choices not only had implications for the governmental decision-making process through MAE, but also for the working relationship between individual MCPA managers, MAE's provincial units and subnational governments.
84. This evaluation considered that, if Ecuador's current economic conditions continued, the institutional framework and governance risks would remain high. If there was a significant change after the elections, the context could improve, although any changes would probably not be apparent until late 2017 or early 2018.
85. Institutional framework and governance risks are rated against the likelihood that Project outcomes and outputs will be sustainable in the long term. The categories are: L (likely), ML (moderately likely), MU (moderately unlikely), and U (unlikely). L is the highest category and implies that there are no or negligible risks to the sustainability of Project outcomes and outputs. The rating given to institutional framework and governance risks accordingly is MU (Moderately unlikely).

### **3.4 Environmental risks**

86. The evaluation did not find environmental risks that could affect the sustainability of Project outcomes and outputs. However, it was noted that in some MCPA areas of influence there were infrastructure megaprojects being planned or implemented (such as the deep-water port of Posorja near the El Morro Wildlife Refuge, or the new Pacific Refinery, located six kilometers from the Coastal Marine Wildlife Refuge Pacoche).
87. Although technically the environmental risks were low or negligible, based on the precautionary principle this evaluation would advise MAE to continue with adequate monitoring of these megaprojects to avoid potential impacts on the ecosystem integrity of the associated MCPAs and prevent any effect on the viability of Project achievements in the medium and long term.
88. Environmental risks are rated against the likelihood that Project outcomes and outputs will be sustainable in the long term. The categories are: L (likely), ML (moderately likely), MU (moderately unlikely), and U (unlikely). L is the highest category and implies that there are no or negligible risks to the sustainability of Project outcomes and outputs. The rating given to environmental risks accordingly is ML (Moderately likely).

### **3.5 Overall Sustainability Risk Rating**

89. According to GEF guidelines, which indicate that the overall sustainability rating of the Project cannot be higher than the lowest of each of the individual criteria, the evaluation rates the overall sustainability of the Project as U (Unlikely).

## **4. Catalytic Role and Replicability**

90. The evaluation considers that there were two key areas where the Project paved the way for future MCPA initiatives.
- a. Except for the Galapagos Islands, in 2010 MCPA management planning and zoning had not been fully developed in Ecuador. By Project start the whole concept of MCPAs was still incipient. Protected area managers and their management plans were still using land-based approaches that targeted different needs than what was found in marine and coastal environments. The Project was successful in enabling a steep but effective learning process that provided managers with the necessary tools to properly run their areas. Although the Project failed to provide the necessary physical and financial operational support, METT deployments confirmed that planning, zoning, biological information and governance all saw improvements. By EOP, managers of Project sites were already interacting via social networks in support of their counterparts in non-Project sites. The evaluation expects that this process will continue to grow, until such time when the country will have developed a specific mainland approach (as opposed to island management, i.e. Galapagos) to MCPAs.
  - b. The concept of protected area networks has been used in Ecuador for at least two decades without a major impact on actual conservation. The concept has been essentially land-based, for the same reasons mentioned above. Except for the Amazon, where vast areas of land are still unoccupied and ecological corridors and actual networks are easier to set up, most protected area networks in the country are largely administrative and not spatial/ecological. The MCPA network proposed by the Project was designed following standard marine and coastal guidelines developed by several organizations, including the World Bank, IUCN and GEF. These guidelines are specific to MCPAs and consider the unique limitations and requirements of marine and coastal settings, both island- and mainland-based. The Project managed to successfully promote the concept and apply it in practice. By EOP the network was not formally established, but individual MCPAs were already working in a network-style coordinated manner. Biodiversity diagnoses were in place and will, in the medium- and long-term, provide the required background information for the network to make science-based management decisions.

## **5. Assessment of Monitoring and Evaluation**

### **5.1 Monitoring and Evaluation design**

91. The evaluation reviewed the Project's Monitoring and Evaluation Plan (MEP) and system, concluding that neither the plan nor the system adequately addressed the needs of the Project.

92. The MEP had 17 pages, of which three repeated the Project's administrative structure contained in the original Project document; six pages briefly mentioned the Project's organization chart, the outcome list of the Project's results matrix, the M&E budget, the proposed table of contents for reports to be delivered, and a brief reference to IDB's previous evaluation missions; another six pages quoted excerpts from GEF's METT methodology; one page recommended the structure of a database; and a final half page contained bibliographic references.
93. The MEP mentioned the existence of impact indicators, intermediate indicators and process indicators, without elaborating on what these were. In any case, these indicator definitions were not in accordance with the Project's results matrix. The MEP also stated that GEF-BD/SP1 would be used for METT deployment, which was incorrect (measurement of management effectiveness was based on GEF-BD/SP2). The MEP also confused the IDB Project code (EC-X1004) with a different project (EC-X1003). Interestingly, when describing Project outcome 1, the MEP did use the term 'resilience', which was taken from the English version of the Project document but was changed to 'resistance' in the Spanish version.
94. The MEP did not include the results matrix. This is particularly noticeable considering that the matrix was adjusted at the start of the Project for very specific reasons, and that this adjustment modified some of the measurement parameters that would potentially affect the way results were interpreted.
95. The MEP did not include feasibility analyses of the proposed indicators; protocols for data collection, measurement and interpretation; redundancy analyses between indicators; contingency scenarios to respond to changes in environmental conditions and/or Project implementation premises; and specific protocols for information flow and decision-making processes resulting from data interpretation. Lacking these guidelines, the MEP failed to translate the Project's basic M&E into an operational system. As a result, this evaluation considers that the MEP did not contribute to an effective Project implementation.

## **5.2 Monitoring and Evaluation Plan implementation**

96. Given the shortcomings found in the MEP and M&E system, this evaluation considers that it was ultimately never used as a M&E tool. It is possible that three elements of the MEP (the structure of the reports to be submitted, a recommendation for the hiring of four technical consultants, and a recommendation to collect data in some of the protected areas) were applied, although this could not be confirmed. However, these aspects were only suggestions for Project implementation activities and did not correspond to M&E criteria.
97. Regarding the general collection of information, the evaluation found that SGMC and IDB kept adequate records of field activities and managed to provide the METT deployments with the needed information. MCPAs maintained adequate databases to guide and support Project interventions. This evaluation considers that problems identified during implementation and the lack of success in achieving outcomes and outputs were not due to a lack of information from the MCPAs, SGMC or the IDB.
98. The evaluation did not find any evidence that data produced by the M&E system or the MEP supported the Project's various decision-making processes, beyond the realization during implementation that the Project was not achieving its expected results.



### **5.3 Budgeting and funding for monitoring and evaluation activities**

99. The evaluation found that budgeting and funding for M&E was sufficient to cover the requirements of an adequate M&E system and plan.

### **5.4 M&E rating**

100. According to GEF guidelines, the overall rating for M&E is based solely on the quality of the implementation of the MEP. The ratings on quality at entry of M&E design and sufficiency of funding during planning and implementation are explanatory variables. Rating is done using the following categories: HS (highly satisfactory), S (satisfactory), MS (moderately satisfactory), MU (moderately unsatisfactory), U (unsatisfactory) and HU (highly unsatisfactory). HS is the highest rating.
101. Although M&E funding and budgeting were adequate, the MEP design was improperly done and did not fulfill Project requirements nor basic criteria for monitoring and evaluation of environmental and protected area initiatives. Still, MCPAs and Project staff both at SGM and IDB did carry out M&E actions under their own guidelines, separate from the Project's official MEP. Unfortunately, the Project's MEP was not implemented. As a result, this evaluation rates M&E as U (Unsatisfactory).

## **6. Monitoring of Long-term Changes**

102. Project output 1.3 did include the development and implementation of a long-term monitoring system to follow up on changes to the performance of the MCPA network. This was a key element of the Project, as it was the only way to measure long-term impact of Project interventions and to confirm that the Project objective had been met in a sustainable way.
103. Unfortunately, this output was not achieved. The reasons were mostly related to Project implementation and management and not to original design or budget shortcomings. Table 4 contains further details.

## **7. Assessment of Processes Affecting Attainment of Project Results**

### **7.1 Preparation and readiness**

104. Section 2.2.2 and Tables 1 and 2 describe this evaluation's findings on the Project's design, vertical logic between Project objective, outcomes and outputs, and the feasibility of each one within the timeframe and budget allocated. Overall, the evaluation considered that the Project was, with certain exceptions, properly designed and that it considered all existing background information. Partner roles and fiduciary responsibilities were clearly laid out. However, the willingness of various government agencies to implement interinstitutional coordination mechanisms was perhaps overestimated. Problems during implementation were mostly the result of shifting government policies in public contracting regulations that would not have been possible to anticipate during Project preparation.
105. Staffing levels and job descriptions were adequate. Although an unusual rate of staff turnover did hamper Project implementation, this was not related to any performance failure of Project staff or shortcomings in Project design or institutional readiness.

106. The Project's original risk assessment was an exception to successful project design.
107. The Project's risk assessment considered six risks: (i) social, (ii) environmental, (iii) fiduciary, (iv) the possibility of an unexpected occurrence of an El Niño Southern Oscillation (ENSO) event, (v) the financial sustainability of the MCPA network, and (vi) the socioecological sustainability of the implementation of the PAT-EC.
108. The Project did not include a risk matrix with a detailed probability analysis for these risks nor specific mitigation mechanisms for each one of them. This evaluation attempted to structure the identified risks and infer the mitigation proposals that had been considered by the original Project design team. Table 7 presents this information, as well as an ex-post analysis of whether these risks materialized and, if so, were properly handled.

**Table 7. Ex-post risk assessment based on an interpretation of sections II. B, C and D of the Project document**

Risk according to the Project document	Risk level	Mitigation measures	Ex-post assessment
Social: the Project mentioned the reluctance of "some" artisanal fishers to accept the establishment of new MCPAs due to the fear of restriction of access to resources. A similar reluctance was implied for "local communities". The assessment also noted a resistance of the fishing sector to restrictions on shark captures.	Low	The reluctance of the fishing sector was to be mitigated by offering them an exclusive rights model (included in the fisheries management plans). In addition, local communities would be benefitted by new economic opportunities generated by the Project's marine tourism activities. Regarding shark fishing, mitigation measures included continued monitoring of shark landings, a communication strategy, and a series of pilot demonstration activities.	The Project's description of the local context did not result in an explicit statement of specific risks. This evaluation assumes that the resilience of both the fisheries sector and local communities implied several risks to Project outcomes and outputs, but such definition was not found. Reading into the proposed mitigation measures, it is understood that risks were (i) the impossibility of approving new MCPAs or expanding existing ones, (ii) difficulties in carrying out control, surveillance, monitoring and evaluation programs (thereby preventing an improvement of METT scores), and (iii) the possibility of confrontations between MCPA managers and the fishing sector/local communities. Since relationships between fishing/extractive communities and MCPAs are traditionally conflictive, the overall risk level should have been considered High.
Environmental: the Project assumed "a low level of environmental risks". However, there is no mention or description of the environmental risks whose levels are low.	Low	The environmental mitigation measures described are limited to repeating Project outcomes (i.e., increased ecosystem representativeness and MCPA connectivity, and improved management effectiveness), and also include improvement of fisheries management.	This evaluation considers that, in practical terms, the Project was not going to generate any environmental risks, since its objective was precisely the conservation of MCPAs. This is evidenced by the absence of Project interventions related to potential environmental impact assessments (e.g., ecological footprint derived from constructions, chemical impacts from eradication of invasive species, etc.).

Risk according to the Project document	Risk level	Mitigation measures	Ex-post assessment
Fiduciary: The Project did not identify which fiduciary risks had been identified to be considered moderate.	Moderate	Mitigation measures were limited to the description of fiduciary implementation mechanisms, but did not respond to any particular risk that would have been specifically stated.	Since the risk level was considered Moderate, the evaluation assumes that certain risks were indeed identified but not mentioned in the Project document. Again, reading into the mitigation measures, this evaluation assumes these risks had to do with doubts regarding the fiduciary management capacity of SGMG, as well as to the suitability of the channels to be used for the flow of funds and financial reporting.
Climate (appearance of an El Niño event): the Project anticipated the emergence of an El Niño event and defined the associated risk from a logistic point of view, in the sense that such an event would limit "access to rural areas adjacent to Project areas".	Unrated	The only mitigation measure described was rather generic, stating that meteorological and oceanographic reports would be monitored and the Project's implementation adapted accordingly.	The Project correctly identified the occurrence of an El Niño event as a risk factor. However, limited access to Project sites should have been considered the least of concerns. The Project focused on the effective management of MCPAs and the study of their biodiversity, both from a conservation and artisanal fisheries points of view. The Project also included analyses of marine and coastal ecological communities, their structure and composition, the dynamics of ecosystems and biological communities, migration patterns of indicator species and oceanic circulation patterns. All these aspects are dramatically affected during an ENSO event, so that any data obtained during this period would have been considered atypical. The real risk in this case should have been that climatic and oceanographic conditions made it impossible to obtain valid information to make Project management decisions and/or mitigate actual ENSO impacts on the MCPAs.
Financial sustainability of the MCPA network: The Project noted that there was a concern regarding "the fiscal situation of the government". However, the specific concern and potential impacts of this fiscal situation were not defined.	Unrated	The proposed mitigation measure was to gradually expand the MCPA network to improve institutional capacities and promote the establishment of the intended financial sustainability mechanism.	Although the Project is not explicit, this evaluation inferred from the proposed mitigation measures that the designers had concerns about the ex-post financial sustainability of the MCPAs. They correctly assumed that the best way to be prepared was to gradually move forward as funds and management capacity became available. In retrospect, it would have been appropriate to specifically state the risk that the required financial sustainability would not be achieved, which by then was already highly probable given the historical chronic lack of resources for Ecuador's protected areas.

Risk according to the Project document	Risk level	Mitigation measures	Ex-post assessment
Socioecological sustainability of the PAT-EC: the Project did not identify the problems and associated risks.	Unrated	The proposed mitigation measure was to give a greater role to artisanal fishermen in reducing bycatch; sustainable use of incidental bycatch would then contribute to sustainability.	Although the wording of this section was somewhat cryptic, the evaluation assumed that the risk identified was an adverse ex-post financial situation that would prevent the long-term sustainability in reduction of shark landings, whether purposeful or incidental. If this was the case, what the designers might have tried to say was that there was a risk for the Project to create a perverse incentive (by providing financial and technical support to the artisanal fisheries sector that was exclusively dependent on the Project) that would be avoided through local ownership of the fisheries management plans and by implementing alternative economic activities. However, the evaluation failed to reach a sound conclusion on this point. In this case, since component 2 was not carried out, the evaluation exercise was mainly academic.

109. This evaluation considers that the Project's risk analysis was inadequate and insufficient. The risks identified were neither detailed nor complete and consisted essentially in brief descriptions of the local context without elaborating on its consequences on the probability of achieving the goals of the Project. As there was no concrete definition of the risks, the mitigation measures lacked the depth required to be effective. Consequently, the measures proposed did not mitigate any of the six scenarios that took place.

110. Still, the evaluation considers that Project preparation and readiness were adequate and, under more favorable circumstances, would have contributed to the Project's success.

## 7.2 Country ownership/ drivenness

111. The evaluation found that country ownership and drivenness was adequate for the Project's requirements. Section 2.1 provides details about initial and EOP Project alignment with national and sectoral development priorities and plans. Relevant country officials actively participated during Project design and implementation and were key to solve many of the arising problems. The government kept most of its financial counterpart commitment despite the country's worsening economic conditions.

112. The evaluation found some issues with government intervention that hampered adequate Project progress and ultimately contributed to the lack of success in achieving most of the outcomes and outputs. Tables 3 and 4 provide details on individual issues. Overall, problems arose regarding national-level regulations concerning public contracting and fiduciary management, which had a cascading effect on Project procurement processes and kept delaying the implementation of key activities. Unfortunately, despite the Project's IDB and SGM staff best efforts, many of these issues were difficult or impossible to resolve in a timely manner.

113. While these issues were not the only implementation problem, the evaluation considers that they did significantly contribute to the Project's lack of success.

### **7.3 Stakeholder involvement**

114. According to the Project document, relevant stakeholders (both in technical and socio-economic aspects, e.g., local communities in the Project's area of influence) were consulted during the Project's design phase. Activities related to community outreach and participation (component 2, fisheries management and marine tourism plans, and the education and communication campaign) were not carried out, and the evaluation found no additional evidence that there had been an active and systematic participation of non-public actors in any other Project intervention.
115. However, SGMC did carry out its usual communication and outreach activities as part of its regular work programs. Although these were not attributable to the Project, they generated an indirect benefit on Project implementation.
116. The evaluation also found that the Project did not incorporate the gender dimension, which is usually considered in development projects in predominantly rural areas where the promotion of equality and the rights of women is needed.
117. It should be noted that omission does not reflect the causes of lack of stakeholder involvement. The evaluation acknowledges that, not being able to fulfill all outcomes and outputs of the Project, the Project staff had to delay any further public outreach until more progress could be demonstrated. Unfortunately, until EOP this did not happen.

### **7.4 Financial planning**

118. The evaluation found that the Project experienced several initial difficulties in budget implementation, largely because of SGMC's limited spending capacity. These difficulties resulted from the fiduciary and administrative complications noted in Tables 3 and 4 and section 7.2 (above). Additional difficulties were due to frequent changes made by the GoE to technical and financial cooperation regimes, which affected the public, private and multilateral sectors equally. However, IDB and SGMC mostly managed to resolve these difficulties by the third year of implementation and during the two years of Project extension. Unfortunately, due to the initial delays and despite all efforts, it was not possible to fulfill the expected budget target.
119. Regardless of the above, the evaluation found no deficiencies in financial planning and general fiduciary management. IDB and SGMC performed as expected while reporting expenditures, and unavoidable discrepancies were properly identified and dealt with in a timely manner.
120. IDB and SGMC had some differences in the financial reporting mechanisms, as the Bank's and the country's reporting standards were not fully compatible. However, the issue was identified and resolved.
121. Regarding co-financing, the country's contribution did materialize as expected. Section 7.6 below provides additional details on the other two lines of co-/associated financing that were included in the original Project design.

### **7.5 GEF Agency supervision and backstopping**

122. The evaluation found that IDB adequately fulfilled its responsibilities within the constraints of Ecuador's political and economic context. The Bank provided permanent support, both at office level and during field missions, and solutions applied to the Project's

design shortcomings and implementation problems were dynamic and effective. Possibly, the Bank's local Project team would have benefited from having more technical capacity regarding protected areas, biodiversity and biological monitoring. In hindsight, it may have been more beneficial for the parties to formally restructure the Project once it became clear that objectives and outcomes were unlikely to be achieved.

123. Overall, the evaluation was satisfied with Bank performance.

## **7.6 Co-financing and project outcomes and sustainability**

124. The Project included two main co-financing sources: (i) USD 13 million in associated co-financing from USAID's Sustainable Coasts and Forests Project (SCF) (USAID 2016), and (ii) USD 3.15 million from IDB's Coastal Artisanal Fisheries Support Project (PROPESCAR), financed with a separate IDB loan (IDB 2017a). By EOP in August of 2016, the Project had spent, according to the latest confirmed values, a total of USD 2,351,332.73 (28.33%) of the Project's total budget of USD 8.3 million.
125. Regarding SCF, this evaluation was unable to identify the actual amounts that were provided directly or indirectly to the Project. USAID's final 2016 report shows that SCF intervened, among other places, in four Project MCPAs and their associated watersheds (the SCF project targeted forests, watershed and wetlands rather than MCPAs). The intervention was mainly focused on improving the conservation of these basins through forestry and agricultural management, the provision of alternative economic activities for some of the communities in the area, and the improvement of management capacity of the few targeted protected areas.
126. The evaluation considered that SCF contributed to Project objectives by improving MCPA management capacities and via two small specific conservation interventions inside Manglares Churute and El Salado mangrove reserves. No information was found on the financial amounts associated with these contributions. However, since support of protected areas represented only a small part of SCF, the evaluation assumes that the overall contribution to the Project was not significant. On the other hand, MCPA management was part of Project component 1, which was adequately funded by IDB/GEF and local MAE counterpart financing. The evaluation considers that SCF's contribution (or lack thereof) was generally not relevant for the success or failure in achieving component 1 outcomes and outputs.
127. Regarding PROPESCAR, funding was withdrawn in March of 2013 due to a decision by the Government of Ecuador to cancel the entire associated IDB loan (BID 2013a, BID 2013b). By that time, PROPESCAR was close to EOP, but only 28.6% of the budget had been spent. Project component 2 was to be financed entirely by PROPESCAR, so that the loss of funding automatically meant that this component would not be carried out unless new resources were found. Given that by 2013 the Project was itself close to its original EOP date and that the GoE had decided to carry out PAT-EC activities through the Undersecretariat of Fisheries with government funds, no further efforts were undertaken to fill this financing gap.
128. In conclusion, this evaluation considers that the uncertainty regarding the financial contribution by SCF is not relevant for determining the reasons behind success or failure of component 1. On the other hand, the loss of the PROPESCAR counterpart funding, by stopping the implementation of component 2, did directly prevent the full achievement of the Project objective, some outcomes and several outputs.

## 7.7 Delays and project outcomes and sustainability

129. The Project experienced various operational and financial delays that hindered the implementation of several activities. As mentioned previously, both SGMC and IDB could resolve most fiduciary issues and achieve a satisfactory fiduciary implementation towards EOP.
130. However, delays did affect the long-term sustainability of those outcomes and outputs that were ultimately achieved. Two examples illustrate this: (i) technical consultancies (e.g. on benthic mapping, biodiversity diagnoses, etc.), needed at Project start to provide baseline data, were only carried out towards EOP, so that they no longer contributed to the baseline and did not support current or future conservation management decisions and actions; and (ii) due to delays in fiduciary government approvals, the Project failed to acquire approximately USD 0.5 million worth of goods and services, which meant that actions that depended on these acquisitions were not carried out and associated outcomes and outputs were not achieved.

## 8. Lessons and recommendations

131. As in other similar projects reviewed by this evaluator, the Project had merits and shortcomings in design and implementation. No field-based environmental project is ever free of problems that affect, to greater or lesser extent, the achievement of its objectives, outcomes and outputs. These problems can usually be addressed more efficiently and timely if all parties do their due diligence when judging risks and developing adequate mitigation measures. The Project lacked a proper risk assessment and contingency measures that would have provided redundant approaches to achieve objectives, outcomes and outputs (i.e. a redundant implementation model). The evaluation considers that the main lesson in this case is that it must always be assumed that (i) a complex field-based environmental project will not turn out as planned, and (ii) solutions to unexpected problems cannot be designed along the way and deployed without a sound risk analysis and contingency plans in place.
132. A key criterion for any project is a working M&E system that identifies inevitable problems and supports the deployment of the required contingency measures. Strong work teams at executing and implementing agency levels will sooner or later identify these problems and try to solve them. The Project showed that, when M&E is deficient, identifying and solving these problems complicate and may even affect the achievement of project objectives. Secondly, an incomplete M&E system (or one that has not been corrected in time) affects the contributions of the results framework towards the objectives. Essentially, the lesson is that, especially in the case of GEF-funded environmental projects (which by their very nature are prone to unexpected contextual changes), M&E systems must be solidly built to (i) identify and resolve contingencies in a timely and effective manner, and (ii) determine the actual progress in achievement, without further complicated interpretations, of outcomes and outputs.

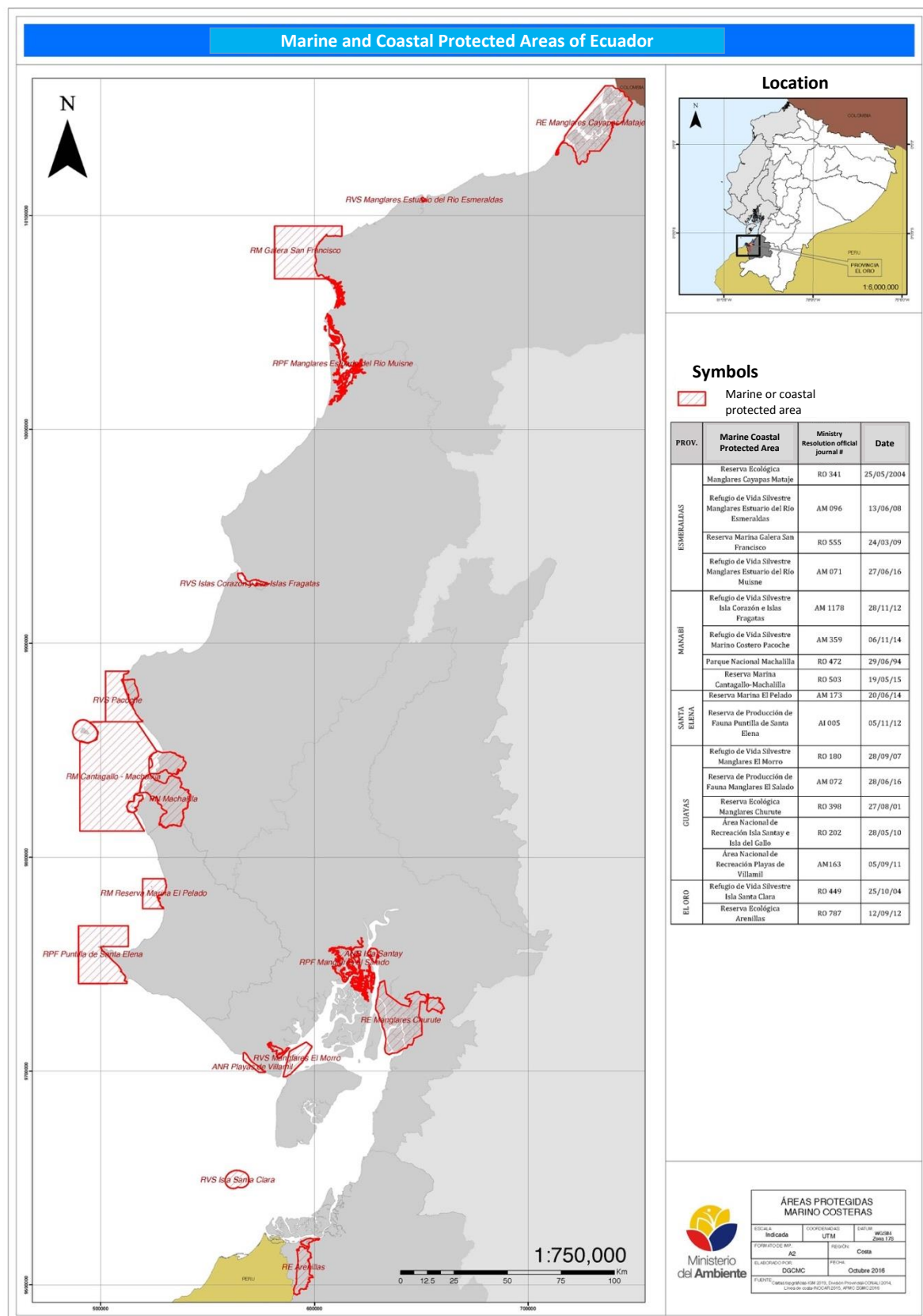
## 9. Annexes

### **Annex 1. General information on the evaluation**

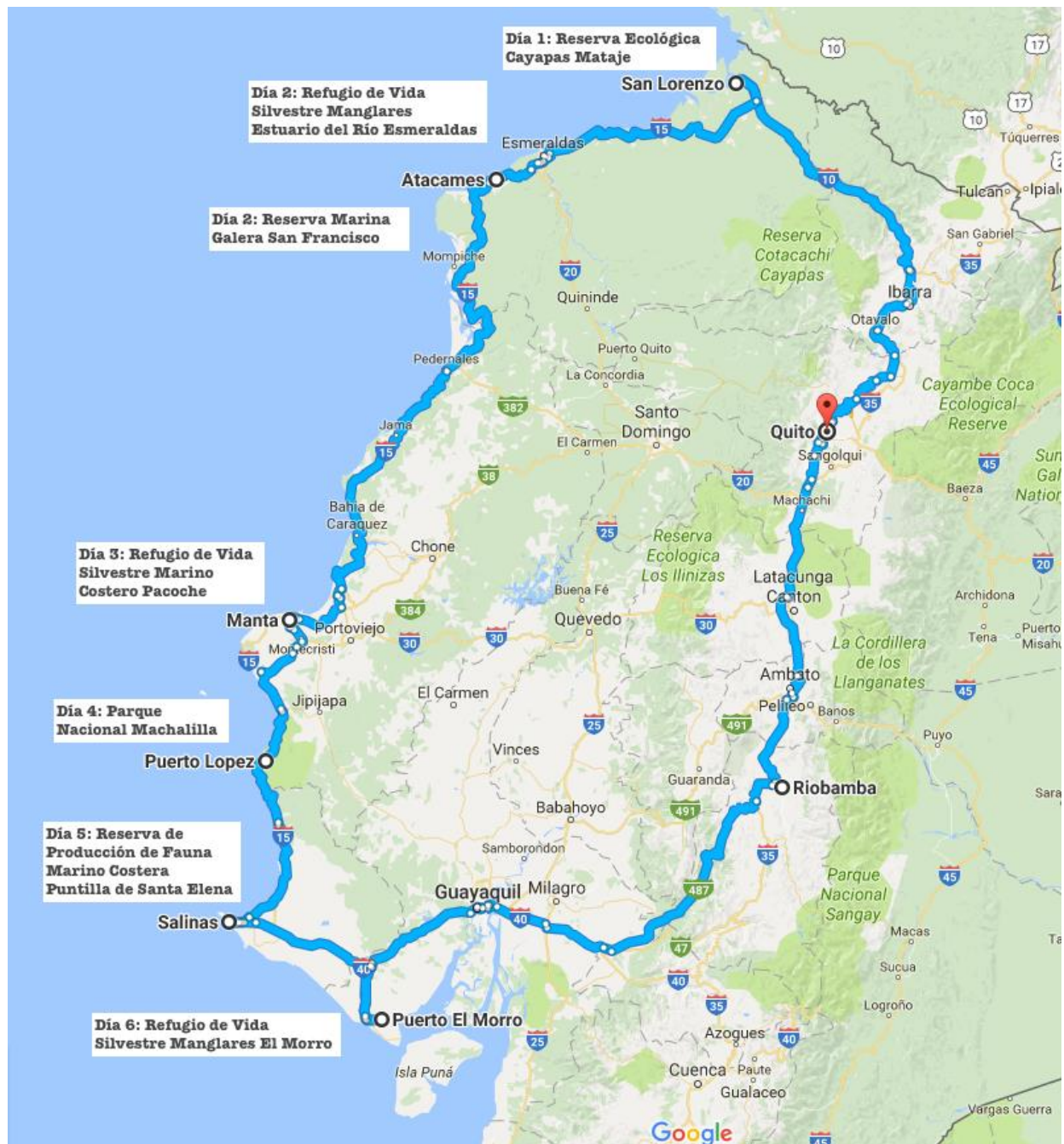
133. The evaluation was carried out between October of 2016 and May of 2017. SGMG staff was interviewed and consulted on various occasions, including during a mission to its headquarters in the city of Guayaquil in December of 2016. All other interviews and interactions were carried out by phone or other electronic media (mostly instant messaging). Former staff (including administrators and technicians) was invited to these meetings and queried on various aspects related to the evaluation.
134. IDB staff (both current and former Project staff) was permanently involved in the evaluation and provided valuable background information and input.
135. A field mission to seven sample sites was carried out between January 30 and February 4 of 2017. The mission was intended to (i) verify the information contained in progress reports submitted by MAE, and (ii) validate the results of the third METT deployment, implemented in mid-2016. Figure 1 shows the Project's MCPA sites with their official boundaries. Figure 2 shows the route of the field mission and the MCPAs visited.
136. The seven sites included five management categories and were representative of MCPAs of different sizes, dates of creation and geographic and ecological settings. The main common feature was that they were all either fully marine or coastal-marine sites. This selection was agreed upon by IDB and MAE to ensure that the evaluation reflected variabilities in management capacities and policies, mostly derived from differences between management categories.
137. This selection also provided an opportunity to observe the performance of the Project in sites that were closer to provincial capitals and, consequently, potentially received more government support (for example, the Manglares Estuario del Río Esmeraldas Wildlife Refuge), as well as those in more remote places with potentially more operational and logistical difficulties (for example, Manglares El Morro Wildlife Refuge).
138. In all MCPAs, the evaluation held plenary meetings with area staff. In each case:
- a. the mission explained the reasons for the visit and the destination of the information being collected, indicating that it was for the Project's terminal evaluation as required by IDB and GEF.
  - b. emphasis was placed on the results of the METT deployments. Participants were asked to provide their opinion on the results and on the actual METT process. If information was not available and/or staff didn't remember having participated in METT, attendees were asked to compare the reported METT results with their own perception, based on their current reality.
  - c. a detailed and participatory situational assessment was made, considering the area's management programs and detailing the improvements, threats, difficulties and needs, and projections for the year 2017 and following.
  - d. participants were asked to be honest about their responses (as the evaluation guaranteed discretion), taking advantage of the evaluator's extensive experience and practical history in MCPA management, both in the private and public sector.



139. Despite all visited MCPAs had their particular characteristics, the responses and conclusions from the meetings were strikingly similar.
140. The evaluation found that the MCPAs were organized in a functional and interconnected administrative system. This coincided with the information gathered during the talks with SGMC, which showed a working (albeit not yet formally approved) network.
141. The main threat, consistently mentioned by management in all areas, was the critical financial situation and the absence of visible solutions in the short and medium term. All areas agreed that the lack of operational resources would cause serious problems during 2017, especially regarding control and surveillance and the implementation of urgent conservation actions.
142. Some MCPAs were aware of the Project, others were not. This appeared to be the result of the previously identified frequent staff rotations, which had caused the departure of long-standing personnel that had participated in the Project. Likewise, not all areas were aware of specific activities carried out by the Project, such as some of the technical consultancies.
143. Regarding METT, few areas reported having participated in the 2015 and 2016 processes. Only in three cases were the area managers aware of these exercises and had the original forms at hand. However, in all MCPAs visited, the evaluation was able to make a historical review and compare the results of the 2016 METT (Jorge Paguay Ortiz 2016) with the current reality of each area. In general, the conclusion by the evaluation and staff in each MCPA was that METT reflected, with slight variations, (i) improvements in staff capacity, (ii) improved legal and administrative support for the network, and (iii) a declining availability of resources and funding mechanisms for MCPA operations.

**Figure 1. Project MCPA sites with their official boundaries**

**Figure 2. Route of the evaluation's field mission and MCPAs visited**



**Annex 2. Management Plans approved during the Project's Implementation Period**

<b>PROVINCE</b>	<b>PROTECTED AREA</b>	<b>OFFICIAL MANAGEMENT PLAN APPROVAL DOCUMENT</b>	<b>FINANCING</b>
Guayas	Área Nacional de Recreación Playas de Villamil	Ministerial Resolution 234 de 08-08-2014	IDB/GEF MCBC/MAE
	Área Nacional de Recreación Isla Santay e Isla del Gallo	Ministerial Resolution 081 de 31-05-2011	Coastal Resources Management Program
Santa Elena	Reserva de Producción Faunística Puntilla de Santa Elena	Ministerial Resolution 016 de 16-02-2012	- Conservation International - Fundación Ecuatoriana para el Estudio de Mamíferos Marinos - The Nature Conservancy
	Reserva Marina El Pelado	Ministerial Resolution 362 de 12-11-2014	SGMC - MAE
El Oro	Refugio de Vida Silvestre Isla Santa Clara	Ministerial Resolution 082 de 31-05-2011	SGMC - MAE
	Reserva Ecológica Arenillas	Ministerial Resolution 058 de 31-03-2015	IDB/GEF MCBC/MAE
Manabí	Refugio de Vida Silvestre Isla Corazón y Fragatas	Ministerial Resolution 346 de 23-10-2014	IDB/GEF MCBC/MAE
Esmeraldas	Reserva Marina Galera San Francisco	Ministerial Resolution 239 de 12-08-2014	Instituto NAZCA
	Refugio de Vida Silvestre Estuario Río Esmeraldas	Ministerial Resolution 050 de 10-03-2015	IDB/GEF MCBC/MAE
	Reserva Ecológica Manglares Cayapas Mataje	Ministerial Resolution 057 de 23-03-2015	IDB/GEF MCBC/MAE

Source: SGMC

## 10. Literature

- BID. 2010a. Conservación de la Biodiversidad Marina y Costera de Ecuador (EC-X1004), Propuesta de Financiamiento No Reembolsable. Quito, Ecuador. 39 Pág. Documento No. EC-X1004.
- BID. 2013a. Memorando: Préstamo 2113/OC-EC y 2114/BL-EC. Proyecto de Apoyo a la Pesca Artesanal Costera (EC-L1059). Solicitud de Cancelación Parcial de recursos del financiamiento. Quito, Ecuador. 3 Pág. Documento No. CAN/CEC/491/2013.
- BID. 2013b. Memorando CAN/CEC/491/2013. Préstamo 2113/OC-EC y 2114/BL-EC. Proyecto de Apoyo a la Pesca Artesanal Costera (EC-L1059). Solicitud de Cancelación Parcial de recursos del financiamiento. 12 de marzo de 2013.
- BID. 2016. Ecuador, RND/CEC. Convenio de financiamiento no reembolsable de inversiones del Fondo para el Medio Ambiente Mundial - Conservación de la Biodiversidad Marina y Costera de Ecuador (GRT/FM-12084-EC) Evaluación Final. Contractual de Productos y Servicios Externos (PEC) para Michael Bliemsrieder. Quito, Ecuador. 1 de noviembre de 2016. 12 Pág.
- BioElite. 2016. Contrato CFC-001-2015. Inventarios Cuantitativos Submareales e Intermareales de Biodiversidad Marina en Seis Áreas Marino Costeras Protegidas y Cuatro Zonas de Posible Expansión. Producto 5: Análisis Comparativo de Biodiversidad, Abundancia y Distribución de las Especies Registradas en Seis Áreas Marinas Costeras Protegidas y Cuatro de Posible Expansión. Febrero de 2016. 213 Pág.
- Bryan Johns. American University – U.N.-Mandated University for Peace. 2012. PES and REDD+: The Case of Costa Rica. 71 Pág.
- Christian Canales, Manuel Peralta, Viviana Jurado. MAGAP/INP. 2013. Evaluación de la Población de Pinchagua (*Opisthonema* spp.) en el Ecuador y Perspectivas de Explotación. 51 Pág.
- EcoBiotec del Ecuador. 2015. Contrato CFC-004-2015. Diseño de la Red de Áreas Marinas y Costeras Protegidas y su Plan Estratégico. Informe Final. Diseño del Módulo Institucional, Propuesta de Instrumento Legal y Plan Estratégico. Quito. Agosto de 2015. 291 Pág.
- Ecuador. 2016. Decreto Ejecutivo No. 998. Disolución del Fondo Ambiental Nacional. 10 de abril de 2016. En: <http://www.eltelegrafo.com.ec/images/cms/Sociedad/2016/Abril/15-04-16/DISOLUCIONFONDOAMBIENTAL.pdf>.
- Fernando Aguilar, Walter Mendiérrez, William Revelo. INP. 2013. Distribución y Abundancia de la Concha Spondylus (*Spondylus calcifer* y *S. princeps*) en las Provincias de Esmeraldas, Manabí, Santa Elena y El Oro
- GEF. 2005. GEF/R.4/9/Rev.1. Meeting on the Fourth Replenishment of the GEF Trust Fund. October 5-7, 2005. Rome, Italy. Revised Programming Document GEF-4. 94 Pág. En:

- <https://www.thegef.org/sites/default/files/council-meeting-documents/R.4.9.Rev.1.Programming.Paper.Final.4.pdf>.
- GEF Evaluation Office. 2008. Guidelines for GEF Agencies in Conducting Terminal Evaluations. 32 Pag.
- GEF Evaluation Office. 2011. The GEF Monitoring and Evaluation Policy 2010. Washington, DC, USA. 42 Pag. ISBN/ISSN: ISBN-13: 978-1-933992-33-4.
- GEF. 2014. GEF/R.6/20/Rev.04. March 31, 2014. Sixth Replenishment of the GEF Trust Fund. GEF-6 Programming Directions. 208 Pág. *En:* [https://www.thegef.org/sites/default/files/council-meeting-documents/GEF\\_R.6-Rev.04%2C\\_Programming\\_Directions%2C\\_March\\_31%2C\\_2014\\_4.pdf](https://www.thegef.org/sites/default/files/council-meeting-documents/GEF_R.6-Rev.04%2C_Programming_Directions%2C_March_31%2C_2014_4.pdf).
- IDB. 2010. Marine and Coastal Biodiversity Conservation in Ecuador (EC-X1004), Grant Proposal. 36 Pag. Document No. EC-X1004.
- IDB. 2012. Ecuador IDB Country Strategy 2012-2017. Septiembre de 2012. 39 Pág. *En:* <http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=37893787>.
- IDB. 2015b. Environment and Biodiversity Sector Framework Document. Noviembre de 2015. 56 Pág. *En:* <http://idbdocs.iadb.org/wsdocs/getdocument.aspx?docnum=39945674>.
- IDB. 2016. PMR EC-X1004 First Period Jan-Jun 2016.
- IDB. 2017a. EC-L1058: Support for a Coastal Artisanal Fishing Project. 2017. *En:* <http://www.iadb.org/en/projects/project-description-title,1303.html?id=ec-11059>.
- IDB. 2017b. Biodiversity and Ecosystems Services Program. *En:* <http://www.iadb.org/en/topics/environment/biodiversity-platform/biodiversity-platform/idb-biodiversity-ecosystem-services-latin-america,7721.html>.
- Instituto Nazca de Investigaciones Marinas, EcoCiencia, Ministerio del Ambiente, et al. 2007. Prioridades para la conservación de la biodiversidad en el Ecuador continental. Quito. 88 Pág. *En:* <http://simce.ambiente.gob.ec/sites/default/files/documentos/anny/Prioridades para la Conservaci%C3%B3n de Biodiversidad en el Ecuador continental.pdf>
- IUCN World Commission on Protected Areas IUCN-WCPA. 2008. Establishing Marine Protected Area Networks—Making It Happen. Washington, D.C. 118 Pág. ISBN/ISSN: 978-2-8317-1090-7. *En:* [https://cmsdata.iucn.org/downloads/mpanetworksmakingithappen\\_en.pdf](https://cmsdata.iucn.org/downloads/mpanetworksmakingithappen_en.pdf).
- Jorge Higinio Maldonado. 2009. Valoración Económica Red de Áreas Marinas Protegidas Ecuador. Septiembre de 2009. 39 Pág.
- Jorge Paguay Ortiz. 2016. Evaluación de la Efectividad de Manejo de AMCP's del Ecuador Continental. Informe de aplicación de herramienta Tracking Tool GEF/2, Proyecto de Conservación de la Biodiversidad Marina y Costera del Ecuador. Quito. Junio de 2016. 42 Pág.



- MAE. 2015. Estrategia de Sostenibilidad Financiera del Sistema Nacional de Áreas Protegidas (SNAP) del Ecuador. Enero de 2015. 157 Pág. En: <http://suia.ambiente.gob.ec/documents/10179/346525/Estrategia+de+Sostenibilidad+Financiera+del+SNAP.pdf/f1ef1719-5c4e-46a0-8ef5-49eb1c60a119>.
- MAE. 2016. Informe de Cierre PCBMC corregido. Quito. 27 de diciembre de 2016. 33 Pág.
- MAE/Consortio GEOPLADES – ELITTORAL. 2016a. Consultoría Mapeo Béntico y de Ecosistemas Marinos en seis áreas marinas y costeras y cuatro zonas de posible expansión, CFC-005-2015, Quinto Producto, Informe Final, Tomo 10. Cartografía Bentónica y de Ecosistemas de la Zona de Posible Expansión Jama. Quito. Mayo de 2016. 245 Pág.
- MAE/Consortio GEOPLADES – ELITTORAL. 2016b. Consultoría Mapeo Béntico y de Ecosistemas Marinos en seis áreas marinas y costeras y cuatro zonas de posible expansión, CFC-005-2015, Quinto Producto, Informe Final, Tomo 8. Cartografía Bentónica y de Ecosistemas de la Zona de Posible Expansión Bajo Copé. Quito. Mayo de 2016. 201 Pág.
- MAE/PNUD. 2017a. Proyecto de Sostenibilidad Financiera del Sistema Nacional de Áreas Protegidas del Ecuador (SNAP) y sus subsistemas privados y comunitarios asociados. Online. Consultado el 15 de febrero de 2017. En: [http://www.ec.undp.org/content/ecuador/es/home/operations/projects/environment\\_and\\_energy/proyecto-de-sostenibilidad-financiera-del-sistema-nacional-de-ar.html](http://www.ec.undp.org/content/ecuador/es/home/operations/projects/environment_and_energy/proyecto-de-sostenibilidad-financiera-del-sistema-nacional-de-ar.html)
- MAE/PNUD. 2017b. Proyecto de Sostenibilidad Financiera (PSF) de Áreas Protegidas del SNAP. Áreas Protegidas Piloto. Online. Consultado el 15 de febrero de 2017. En: <https://psfecuador.com/areas-protegidas-piloto/>.
- Maike Hohberg. 2014. Reviewing Payments for Environmental Services in Costa Rica. Marzo de 2014.
- Natalia González, Viviana Jurado. INP. 2013. Informe Técnico sobre las Características Biológico-Pesqueras de la Pinchagua (*Opisthonema* spp.) en Aguas Ecuatorianas. 18 Pág.
- Patricio Mena, ed. EcoCiencia/Abya Yala. 2008. Páramo, Órgano de Difusión del Grupo de Trabajo en Páramos del Ecuador (GTP), No. 24, Servicios ambientales. Julio de 2008. ISBN/ISSN: 9978-22-477-7.
- Secretaría del Convenio sobre la Diversidad Biológica. 2017. Plan Estratégico para la Diversidad Biológica 2011-2020 y las Metas de Aichi. En: <https://www.cbd.int/doc/strategic-plan/2011-2020/Aichi-Targets-ES.pdf>.
- Stefano Pagiola (2008). Payments for environmental services in Costa Rica. *Ecological Economics*, Elsevier. **65**: 712-724.
- USAID. 2016. Final Report: USAID Sustainable Forests and Coasts, Contract No. EPP-I-00-06-00013-00 TO #377. 85 Pag.
- WildAid. 2015a. Contrato CFC 003-2015. Sistema de Monitoreo Marítimo de Embarcaciones para el Control y Vigilancia en Áreas Marino Costeras Protegidas. Producto 1: Diseño del

Sistema de Monitoreo Marítimo de Embarcaciones para el Control y Vigilancia en Áreas Marino – Costeras Protegidas del Ecuador. Abril de 2015. 97 Pág.

WildAid. 2015b. Contrato CFC 003-2015. Sistema de Monitoreo Marítimo de Embarcaciones para el Control y Vigilancia en Áreas Marino Costeras Protegidas. Producto 2: Plan Nacional de Control y Vigilancia en Áreas Marino – Costeras Protegidas del Ecuador. Abril de 2015. 131 Pág.