

Annex 9. Progress towards targets

Result	Indicator	Target at End of ProjectOP	Baseline	EOP assessment (self-reported)	Terminal evaluation
	Populations of <i>Eudocimus ruber</i> and <i>Ucides cordatus</i>	Same as baseline	Not determined	Target accomplished. No data on <i>E. ruber</i> , or [added 2017] <i>Cardisoma guanhumi</i> . Data on average <i>U. cordatus</i> density for 2009. <i>"All the actions implemented during the project have promoted the conservation and sustainable use of mangrove natural resources. So the impacts of these activities indeed improve this indicator"</i>	Project only established monitoring mechanism (National Strategy for Participatory Monitoring of Biodiversity) by 2017 and <i>E. ruber</i> bad indicator of mangrove stand status. Project did not change indicator nor assess or research conservation status of other species cited in ProDoc. No apparent change in conservation status of any mangrove associated species has been found by the terminal evaluation
Objective	Vegetation cover of mangroves in project intervention Ucs	Same as baseline	568,000 hectares	<i>"Accomplished and exceeded [by] the creation and enlargement of CU in Pará State in 2014: the project is supporting the completion of studies underway for the creation of new RESEX, thus expanding mangrove protected area"</i>	PRODOC baseline does not match more recent assessments, although the TE estimate, the baseline and Magris and Barreto (2010) agree on the baseline value being somewhere around 4,000 km ² . The project has supported the declaration of three additional RESEX in mangrove areas, adding 585 km ² of mangrove vegetation. There is no indication of any significant reduction of mangrove cover in any of the project PAs.

% of mangrove ecosystems in mangrove UCs under management categories or other legal instruments that allow sustainable use (SU) and or limit any use and targets strict conservation (SC)

Dominance of sustainable use protected areas

Increase proportion of strict conservation units across all mangrove units

"The indicator is not completely adequate, in so far as ICMBio has limited governance on the change of category of PA. It must be mentioned that all mangroves areas are in some way exploited by users, especially local communities"

The specific targets for SU and SC proportions in each mangrove unit responded to the goal of increasing ecological representativeness of a mangrove SNUC "sub-system". However, ecological differences in terms of biodiversity not well documented enough to compensate for the high costs of expanding the system in the densely populated Southern states

% Management effectiveness (METT) of pilot mangrove PAs

70% of sample PAs good or excellent score

Only 28% of sampled PAs good or excellent METT score

70% accomplished, An initial analysis shows that: comparisons with previous METT scores (2005 and 2012) and METT 2016 show some increase in the effectiveness of target protected areas. If we consolidate the scoring per cluster (2012 vs 2016)

Only 12 PAs had METT scores valid for 2012 and 2016, while 2006 values (baseline) were not comparable. 5 out 14 (35%) PAs have achieved a score beyond 50% or "good". Score increases are driven mostly by the "planning" and "processes" dimensions of METT, which is consistent with the work of the project with the PA management boards, whereas inputs, outputs and outcomes remain mostly unchanged

<p>% of other pilot PAs testing 1 or more of financing strategies developed in the project</p>	<p>50%</p>	<p>0%</p> <p>50%. The indicator will be exceeded. All PAs with mangrove areas are eligible for the Blue Fund, which is a financial solution proposed by the Project and adopted by the government specifically for Brazil. The Blue Fund initiative was developed by the Project as a financial mechanism for coastal-marine conservation units. "Fundo Azul" aims to raise funds in the order of US\$ 140 million from national and international organizations by 2022.</p>	<p>The project funded the conduct of technical studies and a course for 25 ICMBIO officials on environmental economics and application for financing mangrove PAs. The technical reports exposed a funding gap of at least US\$ 4 million a year for federal mangrove PA. ICMBIO and FUNBIO, implementing partner of the GEF-5 project Coastal and Marine Protected Areas, decided to develop a sinking fund for marine protected areas based on the designs explored by this project's technical reports. The fund's objective would be to expand the protection to marine and coastal area to achieve the policy objective of 10% of the national marine area under protection</p>
<p>80% of all sub-national agencies with jurisdiction in the project clusters agreed to and signed to the Mangrove Plan</p>	<p>80%</p>	<p>0%</p> <p>Ongoing. Strategic Plan for Mangrove areas. This Plan aims to promote the conservation and sustainable use of this ecosystem. For this purpose, the project has been consolidating many partnerships with different organizations and institutions in the private, public and non governmental areas</p>	<p>Action plan for mangrove habitats approved in 2015 applicable only to federal PA hence not adopted by state-level or municipal agencies. Some actions of the plan have been executed by the project</p>

Outcome 1	<p>% of mangrove states with a set of norms and guidelines agreed with and coordinated between federal, state and municipal agencies (OEMAS) on the management of mangroves.</p>	<p>All OEMAs (BA, CE, MA, PA, PB, PI, PR, SP) involved, have a core group of staff-members trained in procedures of licensing and enforcement for mangrove conservation</p>	80%	0%	<ol style="list-style-type: none"> 1. Normative Instruction 09/07/2013 dealing with the crab transportation 2. Fishery management agreements in "Salgado Paraense" 3. the PAN-mangrove 4. Management Plan of the APA CIP 5. Guidelines shrimp culture 6. Environmental regularization Mamanguape 	<p>The project has indeed developed proposals for legal instruments and decision support processes. Two of the instruments, the normative instruction and the PAN have been officially approved and are applicable over 12 of 15 mangrove states. However, there is no confirmation of adoption of said instruments by the OEMAS</p>
	<p>Existence of a core group of trained staff members (of IBAMA/ICMBIO, OEMAs and/or municipal agencies) capable of implementing and using those norms and regulations</p>	<p>30% of States have core group of trained staff in key aspects of mangrove management</p>			<p>Accomplished and exceeded. In Piaui, Ceara, Maranhão, Pará, Sao Paulo, Parana, Paraiba, CU managers and other ICMBio servants, OEMAs and municipal staff, and employees of local civil society organizations, participated in training on issues directly related to mangrove conservation</p>	<p>Trainings conducted by the project involved mostly ICMBIO officials. While undoubtedly capacities for mangrove conservation have been created at central ICMBIO level and federal-managed PA, there is no evidence of the existence of a "core group of staff members trained" at each OEMA involved.</p>

<p># regulations tailored to mangroves in at least: PA management categories, management plans guidelines, financing mechanisms, integrating water planning to mangroves, fisheries management plans for mangrove PA</p>	<p>1 regulation for each PA management category, 4 PA management plans, one resolution presented to CNRH linking classification of water bodies upstream from mangroves to needs of these ecosystems and one resolution outlining rules and procedures for ecosystem-based, integrated fisheries resources management</p>	<p>1) UC management categories: Seven Management Agreements for RESEX category and two Management Plans for APA and ARIE categories 2) Management plans guidelines: Management Plan of the APA CIP and the Mamanguape APA and ARIE have been approved 3) Financing mechanisms: Blue Fund initiative was developed by the Project as a financial mechanism for coastal-marine conservation units 4) Integrating water planning with mangroves: the project mapped all Legal Reserves (RL) and Permanent Protected Areas (APP), identifying water bodies in private areas [in Mamanguape]. These areas are part of the discussion with the private sector and SUDEMA, in order to register and update RL and APP areas officially registered in rural properties (through the government tool CAR), thus entrusting effective protection status to those water sources in the estuarine area. 5) Collaboration agreement with UERJ to develop guidelines for the economic evaluation of environmental impact of shrimp production</p>	<p>The products, with the exception of the management plan for the APA and ARIE Mamanguape have already been reported for other indicators. The products reported do not completely match the indicator's targets, but yet, the project has produced agreements in several categories of PA, although they still need to be implemented. The management plans supported by the project are critical for the success of the PA, and may constitute guidelines for similar areas. However, they lack information about budget and expenditures. Attempts supported by the project have been made in terms of achieving some sort of binding regulation and monitoring for mangrove watersheds in the case of Mamanguape, but this has not been completed nor any proposal elevated to any national body.</p>
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	Composition/source of financing in the project intervention areas that will develop new financing strategies	Tested mechanisms increase PA funding 30% in the two pilot intervention areas (Bahia and SP) Mangrove Plan agreed and legally formalized as part of Wetlands and contributes to target of national PA Plan	Funding comes from Federal and State budgets with an average funding gap of 50% in mangrove PAs No plan . Activities for conserving mangroves are ad hoc and un-coordinated with on-going plans and programmes	Blue Fund	The idea of the Blue Fund was originated by technical reports commissioned by the project. However, this fund has the objective of achieving 10% protection of the national marine area, rather than strengthening protection of mangroves
	Existence of a national mangroves plan in Brazil's Wetland Plan			National action plan for mangroves	Redundant indicator. Mangrove plan reported above.
Outcome 2	# hectares under integrated fisheries resource plan	70,000 ha under ecosystem-based, integrated fisheries resource plan.	0 ha under fisheries resource plan that limit practices and catches.	300.000 hectares under integrated fishery management plan in Para	260,700 hectares of RESEX in Pará under yet to be approved fishery management together with additional 27,000 ha and 14,900 ha under crab fishery and finfish fishery agreements in the RESEX Delta do Parnaíba and APA Barra do Rio Mamanguape for a total of 302,600 hectares. The fishery management plans include gear regulations but no allowable catch as catch and effort are not known.

# no-take areas in the 3 pilot Ucs	0 no-take areas agreed	3 no-take zones agreed	no-take zones in 7 RESEX in Pará state have been defined within the Management Agreements	Over 29 no-take zones defined for two adjacent RESEX in Pará: Chocoaré-Mato Grosso and Maracanã. No information on size of the no-take zones. Temporary no-take zones (0.5-1 year) are defined for the RESEX Delta do Parnaíba
Degree of exploitation of the uçá crab resources in Piauí, Maranhão and Ceará	25% decrease in mortality and harvesting at levels established in resource plan	60% mortality in [captured] uçá crabs	Mortality decreased to less than 5% and capture decreased by 20%. The model was replicated in 4 states (Para, Maranhão, Piauí, Ceará). However, it is expected that it could be replicated in all of the 55 Federal Protected Areas with mangroves	EMBRAPA designed cages have reduced mortality by 25% at destination. There is no actual data on crab fishery as total catch and effort are not known.
Development and marketing of new Mangrove products	100 potential local small entrepreneurs trained in the preparation of a business plan	Most local communities and populations lack the capacity to produce and market potential new products from mangrove areas	100 families in the pilot areas on sustainable exploitation of natural resources (especially in the northern states where the focus is on fishery resources and crab specifically). Additionally, the Crab Management Plan in Delta do Parnaíba (three states, two PAs)	Trainings on business plans did not take place. Fishery agreements and crab fishery regulations could potentially increase income for registered fisherfolk, as long as they can exclude outsiders. However, enforcement levels are still low and there is a fundamental lack of catch, effort and household income data.
# of PA management councils reaching agreement on harvesting levels and enforcement	25	5	12 Protected areas in Para, 2 Protected Areas in Delta do Parnaíba, total 55 PAs in all the Brazilian coast	It is unknown where the baseline figure comes from. Other than scattered data for some Pará RESEX compiled by mostly German academic researchers, there are no data on catch and effort

Outcome 3	# of water management instruments agreed upon by the Mamanguape waterbasin committee that take into account the water quantity and quality for mangroves Degree [to which] mangrove conservation is incorporated in [the] zoning of the APA Reentrâncias Maranhenses [later changed to APA CIP)	6	0	2 agreements were signed for the implementation of a cost-effective and permanent water quality monitoring protocol, elaborated in 2015	The latest monitoring of water quality dates back to 2012 conducted by the Paraíba State Environmental Administration. The monitoring scheme designed with project support yet to be implemented
Zoning restriction on main sectors reflected in UC plan	PA management plan reflects zoning and limits of all main economic activities	Initial zoning for agro-ecological activities, shrimp farming, and indicators starting for deforestation but reflected in PA-planning and management.	The APA CIP Management Plan has been approved and gazetted, reflecting zoning and limits of all main economic activities (aprox. 250.000 ha). A specific zone has been created (Mangrove Conservation Zone); innovative legal restrictions have been proposed on amateur fishery (which is a fast-growing activity linked to local tourism) and on the ban of Invasive alien species (IAS) in aquaculture in all APA territory.	As standard for management plans for protected areas in Brazil, the management plan of the APA CIP divides the PA in the following zones: overlaps (with other PAs), recovery, sustainable use (terrestrial), sustainable use (rivers and estuary), sustainable use (marine) and cetacean conservation zone, restricted use zone and mangrove conservation zone. Activities permitted in the mangrove conservation zone include artisanal fishery and aquaculture, and bird watching	

	<p>- # municipalities agreed on APA zoning</p>	<p>6 municipalities (200,000 ha.) in the APA have agreed on the zoning</p>	<p>1 municipality in the APA has a development plan that considers mangrove needs zoning</p>	<p>Six municipalities of the state of São Paulo have part of their territories inside the APA CIP limits. They participated in the elaboration and agreed with the Plan.</p>	<p>Management plan only acknowledges consultations with 5 of the six municipalities, excluding the municipality of Miracatu (7.45% of its territory within the PA 20,606 people in 2010)</p>
	<p>- % of the key actors in APA have signed a formal document of adherence to zoning regulations</p>	<p>50% of the key actors in the APA sign formal document of adherence to zoning regulations</p>	<p>0% of the key actors in APA have signed a formal document of adherence to zoning regulations</p>	<p>The APA also embraces 19 CU of different categories (Strict Conservation and Sustainable Use) and jurisdictions (State and municipal levels), that participated in the plan's elaboration</p>	<p>12 out of 35 relevant organizations participated in the development of the management plan. The plan examined lacks signatures or formal memorandum of understanding or agreement for its execution</p>
<p>Outcome 4</p>	<p>Awareness among private and public stakeholders on the management of mangrove UCs and the ecosystem services they provide</p>	<p>Increased by at least 30% compared to baseline survey</p>	<p>Not determined</p>	<p>During this reporting period, the mangrove ecosystem was very present in different media so it can be inferred that the social awareness and sensitization related with this ecosystem have increased</p>	<p>Baseline was never determined. Interest in mangroves seems to be increasing by number of media articles but this does not seem to be related to the project.</p>

<p>Frequency and quality of monitoring of mangrove land cover</p>	<p>Programs coordinated and linked to national system</p>	<p>Uncoordinated individual state M&E programs</p>	<p>The national strategy and operational protocols for participatory monitoring of biodiversity were developed by the project and are being tested in three Conservation Units</p>	<p>A participatory monitoring protocol has been developed and tested in four RESEX. The monitoring protocol is rated as a very significant and positive development by the monitoring division of ICMBIO. Local actors at PA level acknowledge the usefulness of the protocols, but are worried about the support needed and costs in terms of time and resources. Actual data have yet to start flowing.</p>
<p>Number of instances in which adaptive management takes place taking into account M&E results</p>	<p>6</p>	<p>0</p>	<p>There are more than six instances in which M&E reports determined adaptations in the management of the project</p>	<p>This indicator refers to project implementation processes, not results. Work plans execution has been oriented at monitoring results</p>