ENHANCING NATIONAL CAPACITIES TO MANAGE INVASIVE ALIEN SPECIES (IAS) BY IMPLEMENTING THE NATIONAL STRATEGY ON IAS

AUMENTAR LAS CAPACIDADES NACIONALES PARA EL MANEJO DE LAS ESPECIES EXÓTICAS INVASORAS (EEI) A TRAVÉS DE LA IMPLEMENTACIÓN DE LA ESTRATEGIA NACIONAL SO RB E EEI

TERMINAL EVALUATION

FINAL REPORT

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SUMMARY

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PROJECT TITLE

"ENHANCING NATIONAL CAPACITIES TO MANAGE INVASIVE ALIEN SPECIES (IAS) BY IMPLEMENTING THE NATIONAL STRATEGY ON IAS"

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Executing agency and other associates: CONABIO – National Commission for Biodiversity Knowledge and Use (Comisión Nacional para el Conocimiento y Uso de la Biodiversidad)

Evaluation team: Silvia R. Ziller, international evaluator; Margarita García Martínez, national evaluator

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ABBREVIATIONS AND ACRONYMS

ADVC	Areas Voluntarily Devoted to Conservation
AMPAR	Mexican Association of Responsible Professionals in the Aquarium Trade
APFF	Flora and Fauna Protection Area
APR	Annual Progress Report
APRN	Area of Protection of Natural Resources
AWP	Annual Workplan
CBD	Convention on Biological Diversity
CCF	Country Cooperation Framework (UNDP)
CDR	Combined Delivery Report
CESAEM	Morelos State Committee for Aquaculture Health
CIBIOGEM	Interministerial Commission on Biosecurity and Genetically Modified Organisms
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CO	(UNDP) Country Office
COFEMER	Federal Regulatory Improvement Commission
COLPOS	Postgraduate College (Colegio de Posgraduados)
CONABIO	National Commission for the Knowledge and Use of Biodiversity
CONAFOR	National Forestry Commission
CONAGUA	National Water Commission
CONANP	National Commission of Natural Protected Areas
CONAPESCA	National Commission of Aquaculture and Fisheries
CPAP	Country Program Action Plan
CSO	Civil Society Organizations
DEPC	Directorate for the Conservation of Priority Species (CONANP)
DGAP	General Directorate for Analyses and Priorities (CONABIO)
DGGFyS	General Directorate for Forest and Soil Management (SEMARNAT)
DGIAPAF	General Directorate for Environmental Inspection in Harbors, Airports and Borders (PROFEPA)
DGIVF	General Directorate for Forest Research and Verification (PROFEPA)
DGIVVSRMEC	General Directorate for Inspection and Vigilance of Wildlife, Marine Resources and Coastal Ecosystems (PROFEPA)
DGVS	General Directorate for Wildlife (SEMARNAT)
EDRR	Early Detection and Rapid Response
FCEA	Communication and Environmental Education Fund
GECI	Island Conservation and Ecology Group (Grupo de Ecología y Conservación de Islas)
GEF	Global Environment Facility
GoM	Government of Mexico
IAS	Invasive Alien Species
IMTA	Mexican Institute of Water Technology
INAPESCA	National Institute for Fisheries and Aquaculture
INECC	National Institute for Ecology and Climate Change
INFyS	National Forest and Soils Inventory
IPPC	International Plant Protection Convention
ITAM	Self-Governing Technological Institute of Mexico

continued

M&E	Monitoring and Evaluation
METT	Management Effectiveness Tracking Tool
MOU	Memorandum of Understanding
MTR	Mid-Term Review
NIM	National Implementation Modality
NMX	Mexican Regulation
NOM	Official Mexican Standard (legal regulation)
NSIAS	National Strategy on Invasive Alien Species
PA	Protected Area(s)
PIMV	Wildlife Management Installations
PIR	Project Implementation Report
PM	Management Plan
PN	National Park
PPG	Project Preparation Phase/Grant
PROCER	Conservation of Species at Risk Program
PROCODES	Conservation Program for Sustainable Development
PROFEPA	Federal Law Office for Environmental Protection
PROREST	Program for the Protection and Restoration of Ecosystems and Species at Risk
PMU	Project Management Unit
QPR	Quarterly Progress Report
RB	Biosphere Reserve
RSPO	Roundtable on Sustainable Palm Oil – certification system
RTA	(UNDP) Regional Technical Adviser
SADER	Ministry of Agriculture and Rural Development
SCT	Ministry of Communications and Transport
SE	Ministry of Economy
SECTUR	Minstry of Tourism
SEGOB	Ministry of Interior
SEMAR	Ministry of the Navy
SEMARNAT	Ministry of Environment and Natural Resources
SENASICA	National System for Agricultural, Cattle Production and Food Sanitation, Innocuousness and Quality Control
SENER	Ministry of Energy
SEP	Ministry of Public Education
SFNA	Sub-Secretary for Environmental Incentives and Regulations
SIEI	Invasive Alien Species Information System (Spanish version)
SIREV	Comprehensive Reference System for Epidemiologic and Phytosanitary Control
SNIB	National Biodiversity Information System
TE	Terminal Evaluation
ToR	Terms of Reference
UAM	Self-Governing Metropolitan University (Xochimilco branch)
UANL	Self-Governing University at Nuevo Leon
UMA	Management Units for the Conservation of Wildlife
UNAM	Self-Governing National University of Mexico
UNDAF	United Nations Development Assistance Framework

EXECUTIVE SUMMARY

PROJECT SYNTHESIS TABLE

Project title: Enhancing national capacities to manage invasive alien species (IAS) by implementing the National Strategy on IAS			
UNDP Project number (PIMS #)	4714	PIF approval date	17/02/2012
GEF Project number	4771	GEF approval date	15/02/2014
# Project (ATLAS) # Award (ATLAS)	00089333	Signature of Project Document (PRODOC) (project start date)	16/10/2014
Country	Mexico	Project Coordinator contract date	15/02/2014
Region		Inception workshop date	16-17/06/2014
Focal area	Biodiversity	Terminal Evaluation end date	26/09/2019
GEF 5 Focal área Strategic Objective	Obj. 2: Mainstream biodiversity conservation and sustainable use in terrestrial and marine productive sectors and landscapes	Original project closing date	31/12/2018
Fiduciary fund (GEF, LDCF, SCCF, NIPF)	GEF	Proposed project extension date	31/12/2019
Executing / Implementing Agency	CONABIO / UNDP		
Other executing agencies	CONANP, GECI		
Partner institutions	SEMARNAT, SENASICA, PROFEPA, INAPESCA, CONAPESCA, CESAEM, CONAFOR, IMTA, INECC, UNAM, UAM, UANL, FCEA		
Project financing	CEO ratification (USD) 5,354,545	During the TE (USD)* 3,662,626.50	

BRIEF PROJECT DESCRIPTION

The “Enhancing national capacities to manage invasive alien species (IAS) by implementing the National Strategy on IAS” project supports the implementation of the National Invasive Alien Species Strategy (NSIAS) and its objectives and aimed to establish effective and coordinated management for IAS at the national level. The project was designed to strengthen institutional capacity and build capacity for IAS management at different levels. The project also invested in information resources for IAS, developing tools and defining priorities for decision-making, and involved critical stakeholders (especially in productive sectors) in IAS prevention and control. Complementarily, the project was designed to contribute to policies and regulations, and develop tools to reduce or eliminate damaging practices in key productive sectors (aquaculture, ornamental fish trade, forest and wildlife products, and cattle and goat ranching), considered the main pathways of introduction of IAS to Mexico and of spread to priority protected areas.

Activities in pilot sites (priority conservation areas that support relevant ecosystems at the global level) focused on avoiding the introduction and spread of IAS by establishing prevention and early detection - rapid response measures in order to avert impacts and costly eradication or control. Planning and coordination measures were developed for nine continental Protected

Areas (PA) and six insular areas for which biosecurity protocols were developed and implemented. Local communities and producers in key areas were involved in several practical activities.

The Government of Mexico and the Global Environment Facility (GEF) signed an agreement for a full size, national implementation project. Project activities were executed by CONABIO (National Commission for Biodiversity Knowledge and Use) and CONANP (National Commission for Natural Protected Areas) and implemented by the United Nations Development Program (UNDP Mexico), beginning on 16 October, 2014.

SUMMARY OF RESULTS, CONCLUSIONS AND RECOMMENDATIONS

The general objective of the Terminal Evaluation (TE) was to verify results and impacts of project implementation in terms of the GEF strategic objectives. The TE also assessed the results of project activities, adaptive management responses, risks to planned outcomes, and the likelihood of sustainability of project benefits.

The TE is based on criteria of relevance, effectiveness, efficiency, sustainability and impact. Several government agencies and civil society organizations (CSO) participated: CONABIO, CONANP, SEMARNAT, CONAFOR, PROFEPA, IMTA, INAPESCA, CONAPESCA, SENASICA, CESAEM, GECI A.C., FCEA A.C., UNAM, UAM and UANL, as well as other CSO and people who worked on practical activities in 15 protected areas; and the UNDP Country Office, with a Project Coordination Unit (PCU) established to coordinate and execute the planned activities.

The project was rated **Satisfactory** (S) because the results contribute significantly to the **overall objective of safeguarding biodiversity of global importance in vulnerable ecosystems** by building capacity to prevent, detect, eradicate and control IAS in Mexico. The project succeeded in mainstreaming IAS into the agenda of the main government institutions in charge of environmental management and sustainable use of natural resources, which includes government agencies that work with productive sectors. It also succeeded in strengthening national capacity for IAS management at the national level, including intervention sites (PA). Most people involved changed their perception about the relevance of managing invasive alien species. Aditionally, concrete benefits to global biodiversity were registered before project closure.

The **progress towards results** was evaluated based on activities and achievement of targets measured by several indicators. **Outcome 1** focused on developing a national framework for IAS and was subdivided in three objectives. Activities in Output 1.1 were almost fully completed, contributing to improve decision-making based on available information and solid references. The second Output was also very well developed and focused on strengthening the capacity of institutions in charge of biosecurity inspections, such as PROFEPA and CONAFOR, and on establishing collaboration with key productive sectors for implementing biosecurity measures. The third Output was more complex and less developed, as it focused on changes in national legislation and interinstitutional coordination. At the time of the TE, near project closure, the consequences of the change in government from elections in 2018 led to losses of former

interinstitutional coordination arrangements, which stresses the relevance of establishing institutional leadership to continue mainstreaming IAS management in coming years.

Outcome 2 was aimed at establishing an integral management framework for IAS in order to protect vulnerable ecosystems of global importance, with two Outputs. The first one produced very good results in general, although the implementation of biosecurity protocols is still underway, as it required engaging several stakeholders, government agencies and visitors to oceanic islands. Important results were also produced in the second Output, especially in the last year of project implementation, except for the application of EDRR protocols, which also requires involving multiple stakeholders, and will demand continuous efforts on the part of CONANP in order to succeed.

The project was **Relevant** because IAS are the second global cause of biodiversity loss, and the first on oceanic islands. For these reasons, IAS management should be considered an issue of national priorities in biosecurity. The project was highly relevant in the national context, responding to institutional priorities and policies. It was a pioneeer project in Mexico, changing the views of stakeholders involved in IAS management and related areas. The project was aligned with the National Strategy on Invasive Alien Species as well as with other national policies. It was also aligned with the CBD global priorities for the conservation of biodiversity and Aichi Target 9, which is focused on prevention and management of pathways.

In terms of **Effectiveness**, Outcome 1 contained more complex and high-risk activities for involving multiple institutions and being more vulnerable to changes in government policies and priorities. Therefore, Outcome 2 had more effective results. Still, about two thirds of the activities in Outcome 1 were completed and were effective in establishing a base for IAS management at the national level. Effectiveness in Outcome 2 was more visible due to practical management actions in protected areas led by CONANP and GECI.

Efficiency was affected because IAS management was a new topic in Mexico for most of the institutions involved and because consultants with experience on invasive plant management were not available in Mexico, especially in the beginning of the project. In this context, more time than expected was invested in reviewing and improving reports and products. This created administrative delays that gained efficiency especially in the last two years of the project, when the PCU designed ToR with several products in order to issue less contracts and reduce the number of administrative procedures and requests for approvals by the UNDP.

The PCU gis developing an Exit Strategy with remaining project funds to be applied on activities related to IAS, which will increase the rate of **Sustainability** of the project. There is no evidence of financial problems to consolidate the work initiated in the short term, as many activities have been incorporated in institutional routines and applied in practice by productive sectors, although some may need strengthening. Expansion and improvement will be needed to further advance project benefits. Subsidy programs to continue work in progress and facilitate replication to other areas are available from CONANP. From a socioeconomic perspective, sustainability was sought by reaching out to several types of public and stakeholders in many areas, providing capacity building workshops, educational materials and information. This heritage will spread out to reach more people and relevant areas. The institutional framework

and governance perspective has lost strength with the new goverment, as national priorities changed and IAS management was at risk of not being considered a priority. This represents a setback for IAS management, as coordination and cooperation among key institutions was well established during the project. From an environmental perspective, the benefits generated indirectly by increasing institutional capacity, and directly by managing species and sites in protected areas, are ensured especially where results have already been produced, but the complete restoration of these areas are dependent upon continued IAS management and complementary actions.

The project was able to generate **Impact** by contributing to the overall objective. Management in protected areas and oceanic islands created opportunities of increased environmental resilience and management models to be replicated to other areas. The publication of an Official List of IAS has changed the political context in Mexico for legally consolidating the existence of a problem that requires attention from multiple institutions in charge of environmental, production, and biosecurity issues at the national level. Given the number of government agencies, CSO and private sectors that participated in the project, there has been a change in the way IAS management is perceived, as it was not formerly considered in Mexico. This shall be continued and evolve in due course, with growing impact on several areas of management.

The **main recommendations** of the Terminal Evaluation, resulting from an analysis of evaluation criteria and project results, are presented below.

CONABIO	Share the information, data and products generated in the scope of the project for use in planning management actions for IAS and developing regulations on species and productive sectors using IAS. This role of CONABIO must be strengthened to ensure that the information reaches relevant government institutions and productive sectors, which requires other alternatives than sharing products on the project web page. Products, plans and models should be organized by topic, while information must be shared in effective ways so it can reach various types of public.
CONANP Central Office	Support the Invasive Alien Species Coordination for results at the national level to be registered and available, replicate methods and practices developed, promote the exchange of experiences and measure positive impacts on biodiversity. These issues should be discussed with the Regional Operations General Directorate, the Species and Conservation Priorities Directorate, and other related Directorates to establish cooperation.
CONANP Central Office	Establish a common registry focused on IAS management actions with support from the Evaluation and Monitoring Directorate, including prevention, EDRR, eradication, control and monitoring in protected areas. The records must include successful control actions as well as those that did not produce good results. Registry forms should be standardized for all PA as well as for subsidy programs to facilitate online registry. This system may start out simple, using an Excel spreadsheet, and evolve over time into a more elaborate database. It must be focused on providing data on management in protected areas in order to facilitate replication, therefore including methodological details, monitoring results and final results in terms of efficiency, as well as cost estimates, prevention measures, early detection alerts and applied rapid response measures, and the results of such interventions. The system must also include methods that did not work well for their use to be avoided. These records may be linked to the PREVIENE system in order to facilitate monitoring of the implementation of the National IAS Strategy, as well as to connect them to other databases owned by CONABIO.
SEMARNAT	Provide more support to management actions by expediting authorizations for IAS control and eradication actions, which will save time and resources as well as increase benefits to biodiversity. Establish an agreement between CONANP and the DGVS to exempt the need for permits in case of rapid response to early detection of invasive alien species.
SEMARNAT	Establish a focal point for IAS in order to pursue the interinstitutional coordination required for ongoing IAS management in Mexico, and establish a Sectoral Committee represented by SEMARNAT, CONABIO, CONANP, CONAFOR, PROFEPA, CONAGUA, IMTA and INECC, as well as institutions in complementary areas such as SENASICA, CONAPESCA, INAPESCA, SEMAR, SS and others.
SEMARNAT and CONABIO	Include the objectives and goals of the National Strategy on Invasive Alien Species in the National Biodiversity Strategy 2030 in order to ensure that they will be implemented, or develop a new workplan in the scope of the NSIAS or a new National Strategy on Invasive Alien Species.

SERMARNAT	Environmental Regulations and Incentives Subsecretary: Develop regulations for the National Invasive Alien Species List and improve the compatibility of legal regulations related to IAS in collaboration with other agencies and support from CONABIO.
CONANP	Replicate methods, protocols, materials and knowledge to other protected areas in order to continue IAS management actions in areas of relevance to the conservation of biodiversity. It would be beneficial to develop a list of priority protected areas and begin replication using funds from the subsidy programs.
CONANP Central Office, DGOR, DEPC, SEMARNAT	Hold meetings with high-rank officials in charge of biosecurity issues in the respective institutions, with support from insular protected areas and GECI, to develop workplans derived from the biosecurity protocols in which specific goals, outputs, deadlines and responsibilities are clearly defined.
PROFEPA and CONAFOR	Provide capacity building opportunities to recently arrived personnel in order to share knowledge, techniques and practices developed during the project, including procedures applied to border control and monitoring of forest pests. The objective is to ensure that information and capacity are not lost and that these agencies continue increasing their effectiveness in inspection and control in priority entry points.
SEMARNAT and/or descentralized agencies	Seek funds from the GEF or other sources to initiate a new project to further develop and consolidate IAS management and apply, in practice, all the knowledge generated through this project. Baselines, plans, techniques, models and practices are to be implemented as well as replicated to other protected areas, sites and productive sectors. With a new project it would be feasible to reestablish coordination and commitments with current leaders of institutions in charge of IAS, the environment and related areas, instated after the last change in government, as well as further consolidate IAS management in work routines.
CONABIO and UNDP	The remaining financial resources applied through the project's Exit Strategy should be specifically used in the development of activities that ensure the continuity of IAS management in Mexico and strengthen the lines of action defined within the scope of the project.

TERMINAL EVALUATION RATINGS TABLE

Criteria	Comments	Ratings
Monitoring and Evaluation: Highly Satisfactory (HS), Satisfactory (S), Moderately satisfactory (MS), Moderately unsatisfactory (MI), Insatisfactory (I), Highly unsatisfactory (AI)		
General quality of M&E	The Monitoring and Evaluation Plan was adequately developed and budgeted. Regular reports respected deadlines and were written on a reliable basis. As implementation advanced, more reports were requested, which consumed much time of the PCU that could have been used in implementation. As a result, some of the reports were repetitive and refered to actions that are out of range with the period they are supposed to cover.	S
M&E design at project start	The political context of support to the environmental sector changed significantly compared with the design fase of the project. Implementation of some of the activities that were dependent upon goverment support became a challenge, and became even more difficult after the 2018 elections. The project was well designed for including government agencies of complementary areas, CSO and academia, but some of the activities were too ambitious. The perspectives of changing national laws and establishing an EDRR system at the national level with multiple institutions were unrealistic. The main deficiency in project design was that the indicators were insufficient, not always coherent and often ambiguous. Adaptations were made and additional indicators were developed, but were still insufficient to represent the 36 project activities. No further changes in indicators were recommended in the MTR due to time constraints, but more progress in some of activities was expected by project closure. This corroborates the importance of developing SMART indicators from the start, as well as a viability assessment of planned activities.	MS
Implementation of M&E plan	The budget of the M&E plan was well designed and the indicator tables have been used for monitoring, although progress was not well represented and the indicators did not cover all the activities. The Institutional Capacity Scorecard was not filled out by all partner institutions, so the PCU attributed the scores for the MTR and the evaluation team filled it out partially for comparison at the time of the TE. The amount of internal progress reports incurred a heavy work load for the PCU while not being really helpful in following some of the project activities.	S
Implementing Agency and Executing Agency: Highly Satisfactory (HS), Satisfactory (S), Moderately satisfactory (MS), Moderately unsatisfactory (MI), Insatisfactory (I), Highly unsatisfactory (AI)		
General quality of implementing and executing agencies	The structure of the PCU was functional, although it was underestimated in the design phase of the project. One person was added to the PCU in the last two years of the project as well as two temporary positions for administrative and operational support. Most of the activities and products were completed, while a few were not developed because they would require more time or better expertise. Difficulties in finding consultants that could achieve the expected tasks, delays in reviewing reports and in administrative procedures of the UNDP, PCU and CONANP affected the project timeline of some activities, especially those dependent on implementation under specific climatic conditions in the field.	S
Implementing Agency execution	The UNDP is widely recognized as the most appropriate alternative of implementing agency. Financial management has been impeccable. This project signed a large number of contracts and processed a large number of procedures, which were improved after the MTR by combining several products in fewer contracts. Delays in the approval of ToR, contracts and payments were due to internal issues of the UNDP, delayed delivery of reports and products by consultants, and reviews of reports and products on part of the PCU to ensure they met the expected quality standards.	S
Executing Agency execution	CONABIO is widely recognized as the most appropriate alternative for executing agency to lead the project due to a high level of commitment and availability to deal with demands, management and technical capacity.	HS
Outcomes: Highly Satisfactory (HS), Satisfactory (S), Moderately satisfactory (MS), Moderately unsatisfactory (MI), Insatisfactory (I), Highly unsatisfactory (AI)		
General rating of project outcomes	Enough products were generated to provide reference for years of future work in protected areas, as well as for the replication of best practices, models and guides. The quality of the products improved over time, and some of them would benefit of editing to make them more objective and practical for use. Separating products from consultancy reports is especially relevant to facilitate replication. Both project results contributed significantly to the general objective, as the bases to improve IAS management were established by increasing IAS management capacity of different partners.	S

Criteria	Comments	Ratings
Relevance: Relevant (R) or Not Relevant (NR)	The project is highly relevant for addressing a biosecurity issue at the national level, being aligned with the main national and international frameworks on biodiversity, and for including diverse types of stakeholders directly or indirectly related to IAS management for the first time in Mexico. The reality after the project is not the same as before: the most commonly expressed perception among stakeholders was that the project succeeded in mainstreaming IAS into institutional governance, while the issue was not considered before the project.	**R**
Effectiveness	The main objectives of the project were achieved: building and strengthening institutional capacity for IAS management. A significant improvement was observed in the effectiveness of some partner institutions as a result of investment on equipment, tools, models, guides and information for IAS management, as well as from capacity building events for the implementation of practical actions. Involving productive sectors was a strategic approach that led to a change of perception by many participants who did not understand this line of action in the beginning. Despite budget cuts imposed by the government of Mexico in the current and past administrations, the most relevant cofinancing commitments were achieved.	**S**
Efficiency	Approximately 85 % of the activities in the project were or will be completed before project closure. The remaining activities will not be achieved due to issues of project design (targets were too ambitious) or lack of adaptive management. The administrative costs of the project were very low (8%), which ensured investment in activities to be developed while creating a heavy work load for the PCU. The management of invasive plants took long to improve for lack of expertise in Mexico and lack of knowledge of protected area managers, who were reluctant to authorize the use of efficient methods using chemical control, while professionals with proper expertise were not available. The project financial management was impeccable, with no findings by audits carried out yearly between 2015 and 2018.	**MS**
Sustainability: Likely (L), Moderately likely (ML), Moderately unlikely (MU), Unlikely (U)		
General likelihood of sustainability		**ML**
Institutional framework and governance	After the new government was instated in 2019, political instability affected some operations of CONABIO. This context did not allow the PCU or CONABIO to reestablish coordination with other government agencies, at least not with the high-rank officials. The project extension recommended in the MTR considered that this was highly important in order to maintain the level of interinstitutional collaboration formerly achieved. In the new context, in which technical personnel are unsure of their permanence in agencies, the Executive and Technical Committees stopped meeting and the activities that depended on them were stalled. Although the current moment is of uncertainty mostly at the higher levels, cooperation with technical areas continued and the personnel who participated in the project is committed to continuing the work. It is therefore likely that most of the activities continue being developed, especially those which have been incorporated into the routine of institutions, even if the new government does not consider IAS a priority issue.	**ML**
Financial resources	A significant reduction of the budget for the environmental sector and related areas occurred after elections of the national government in 2012 and 2018. Despite these losses, the cofinancing commitments were achieved by the most significant contributors. Representatives of partner institutions are currently aware that it will be necessary to look for funds from other sources. There has been a significant increase in funds from CONANP subsidy programs (like PROREST and PROCODES) and payment for ecosystem services assigned to IAS management. Other activities, such as inspections on border points, harbors and airports, are little dependent upon external resources, according to PROFEPA. As these processes became more efficient because of the project, they should proceed without major difficulties.	**L**
Socioeconomic	An important variety of types of public was reached by project efforts using different means of communication as well as capacity building events for IAS management in protected areas and local communities, journalists, legislators, ornamental plant lovers, and teachers and children in schools. A diversity of information materials was also produced. This heritage will be multiplied in time and extended to other people and areas. UAM reaches a public estimated at 17 thousand people per year who visit the Cedereyta Botanical Gardens by giving lectures that include IAS, as well as 100 children per year who participate in summer courses.	**ML**

Criteria	Comments	Ratings
Environmental	The most relevant, positive and measurable benefits generated by the project by the time of closure were the recovery of resident and migratory populations of marine birds, reptiles and small mammals on oceanic islands as a result of the eradication of invasive alien terrestrial vertebrates. The management of IAS in mainland protected areas improved significantly, especially in the last year of the project, when control activities made way for the natural recovery of native plants and reforestation efforts. There is still need for improvement on the part of some protected areas benefitted by the project, especially in terms of control efficiency. Island biosecurity protocols are partially implemented by GECI, but CONANP is expected to take charge, a task that became more limited for loss of personnel in 2019. Prevention measures and EDRR systems still need to be consolidated and incorporated by CONANP as a routine, but some models are in place and should become references for replication to other areas as more experience is gained.	**L**
Impact: Considerable (C), Minimal (M), Insignificant (I)		
Improvement in environmental condition	Improvements in the environmental condition of islands have been measured after the eradication of invasive alien vertebrates, as populations of marine birds, reptiles and small mammals recovered. Progress is slower in mainland protected areas due to the initial lack of experience on invasive plant management, but several sites are in recovery, e.g. mangrove areas in Marismas Nacionales RB after cattle removal. Demonstration sites of plant control were established, while active restoration is taking place with plantings of native trees. It will be possible to better measure positive results as more time passes, as long as monitoring and control efforts are maintained.	**C on islands M in continental PA**
Reduction of environmental tension	As in the former criterion, results are more evident on oceanic islands than in continental areas because control efforts in the latter were more recently carried out, and there has not been enough time for the vegetation to recover. Besides, some of the mainland protected areas still need to adopt more efficient control methods, so more benefits are expected in the mid-term.	**C on islands M in continental PA**
Progress towards change in tension and condition	Significant changes of perception were generated by this project in terms of IAS management in protected areas, as it was not formerly seen as a priority. The view on control methods also improved for most of the people involved. Therefore, more action is expected from now on, even after project closure. Additionally, the involvement of productive sectors in biosphere reserves spared natural areas from the impact of grazing as best practices were adopted. These are relevant outcomes, as they tend to influence future actions and more people, and produce further changes of vision on IAS management in Mexico.	**C**
OUTCOMES	**Comments**	**Ratings**
Outcomes: Highly Satisfactory (HS), Satisfactory (S), Moderately satisfactory (MS), Moderately unsatisfactory (MI), Insatisfactory (I), Highly unsatisfactory (AI)		
1 National IAS management framework		
1.1 Decision making tools aimed at informing cost-effective management decisions to address IAS threats in key landscapes and key sectors (aquarium trade, aquaculture, trade of wildlife and forest products).	The publication of a National IAS List is highly relevant for establishing a reference on IAS at the national level. As a consequence, more legal work will be required to define specific regulations and periodically update the list. Information tools and risk analyses are being improved and might continue to be perfected after project closure. The models developed for mapping alien flora and simulating the distribution of IAS under climate change scenarios were completed, but still need to be applied to support decision-making. The evaluations of cost-benefit and economic impacts of IAS on the economy were not completed, which kept the Executive Committee from being able to work on coordinating budgets for IAS between institutions.	**S**
1.2 Sectorial guidance and regulations in place to strengthen the control of main pathways of IAS to vulnerable areas.	SENASICA included new biosecurity measures related to IAS in the sanitary certificate issued to aquaculturists, a result that had not been planned. Certification procedures for ornamental fish production is in development and will not be completed before project closure. It was not viable to invest in new proposals of sectorial regulations, but the PCU and project partners contributed to discussions on regulations for a few species and sectors. This component included important results in capacity building for improved IAS management in government agencies and the productive sector in production of ornamental fishes.	**S**

Criteria	Comments	Ratings
1.3 Multi-sectorial institutional framework in place to implement National Strategy on Invasive Alien Species (NSIAS).	Interinstitutional coordination was significantly improved during project implementation. Involvement of productive sectors was strategic in order to establish effective communication between the environmental sector and productive sectors in aquaculture and grazing (cattle and goats). The Executive Committee did not function as expected, especially because some high-rank representatives would send technical staff to meetings who lacked the power to make decisions. Besides, in 2019 it was no longer possible to hold any meetings due to the change in government and political uncertainty. It is highly likely that the committess established for the project will not continue working on IAS after project closure, as was formerly expected. The implementation period of the National Strategy on IAS ends in 2020, and it it is not likely to be redesigned or updated due to lack of governmental support. As this implies that IAS management may not be a priority in the new government and will lack a guiding document, CONABIO has considered including the goals and activities of the NSIAS that have not been developed in the National Strategy on Biodiversity, which extends until 2030.	MS
2 Integrated IAS management to protect vulnerable globally significant ecosystems		
2.1 Strengthened prevention and control of key IAS populations in selected islands.	The results of vertebrate eradication on islands were highly satisfactory for their success in allowing populations of marine birds and other species to recover. The eradication of invasive plants in Arrecife Alacranes PN needs to be carried out, and will benefit native plant populations as well as marine birds. Insular biosecurity protocols require more time to be properly applied by CONANP, SEMAR and SCT to reach more boats and airplanes that travel to islands.	S
2.2 Enhanced IAS surveillance and control strategies reduce introduction rates from productive landscapes and contain populations below thresholds that endanger endemic species and their habitats at 9 mainland Protected Areas.	A relevant volume of information was produced by the project, including best practice guides and management plans. The guide on IAS control requires some improvement, as well as invasive plant management in some protected areas. The efficiency of control efforts improved significantly in the last year of the project and represent the most important outcome in the time of project extension. The prevention and EDRR systems will require more time to be matured and consolidated, but are in use in some protected areas. The adoption of best practices by cattle and goat ranchers and trout producers was partially achieved, and requires more support to communities, especially the ones which are more isolated, in order to help them change habits of long-term cultural traditions, as well as for replication to other areas.	S
General project rating:		S

1 INTRODUCTION

1.1 EVALUATION PURPOSE

The main purpose of the Terminal Evaluation (TE) is to assess the results of the project in terms of the GEF strategic objectives aimed at producing global benefits to biological diversity and verify whether the project objective of strengthening institutional capacity for the management of invasive alien species was achieved. Complementarily, results of activities, outcomes and impacts are evaluated, as well as adaptive management measures and factors that may have created risks for the successful implementation of the project and the sustainability of results after closure.

The Terminal Evaluation specific objectives are to:

- evaluate the relevance of the project in terms of national priorities, UNDP and GEF strategic objectives;
- assess project formulation, especially the objectives, outcomes and Logical Framework indicators, and verify whether there were deficiencies that affected project implementation or outcomes;
- assess the general performance of project implementation based on activities described in the project document (PRODOC) and recommendations in the MTR;
- evaluate effectiveness and efficiency in project implementation;
- evaluate project achievements as established by indicators in the Logical Framework and GEF tracking tools;
- critically analyze the mechanisms of project execution and management;
- analyse financial execution and fulfillment of financial commitments (cofinancing) by partner institutions;
- evaluate the sustainability of project activities considering financial, socioeconomic, political and governance, and environmental perspectives;
- highlight achievements and limitations, impacts, lessons learned, best practices and practices that can be improved, as well as outcomes;
- highlight the potential for replication of best practices and lessons learned to other projects in the country and elsewhere, and lessons learned from other GEF and UNDP projects;
- provide specific recommendations for institutions that can contribute to the continuity and replication of activities and results, as well as for their consolidation and sustainability.

1.2 SCOPE AND METHODOLOGY

The Terminal Evalution is based on criteria of relevance, effectiveness, efficiency, sustainability and impact, in accordance with the UNDP Guide for conducting Terminal Evaluations of UNDP-supported, GEF-financed projects. The TE team was formed by an international evaluator (Dr. Silvia R. Ziller, of the Horus Institute for Environmental Conservation and Development, Brazil), Team Leader, and a national evaluator (M.Sc. Margarita García Martínez). The highest ethical levels were maintained during the evaluation process, in terms of discretion towards all information received and transparency about procedures, in compliance with the principles described in 'Ethical evaluation guidelines' of the United Nations Evaluation Group (UNEG). All information provided by participants in meetings and interviews for the purpose of the TE was

declared confidential at the beginning of each meeting. The forms of agreement and acceptance of codes of conduct are available in (Annex 5.1).

The documentation of findings was based on (a) analysis of project documents and products, including the PRODOC, verification tools (list of documents avaiable in Annex 5.4) and products; (b) interviews with stakeholders and participants (Annex 5.5); and (c) visits to some of the project sites (Annex 5.5).

1.2.1 Revision of documents and inception report

The first two and a half weeks of the TE, between June 25 and July 12, 2019, were dedicated to reviewing project documents and the TE questions provided in the ToR (Annex 5.2), preparing questions for the interviews during the mission (Annex 5.3), and the inception report (Products 1, 2 and 3). The start up meeting was conducted by digital means with the UNDP, PCU and the IAS Coordinator of CONANP, Eduardo Rendón.

The list of stakeholders to be interviewed was consolidated at this time as well as the project sites to be visited and a preliminary agenda for the entire mission in Mexico, developed by the PCU and the IAS Coordination of CONANP with support from the CSO that work in protected areas as well as PA Diretcors and personnel.

1.2.2 Mission to Mexico: data collection, interviews, ans visits to project sites

The TE mission was conducted between 15 July and 07 August, 2019 (24 days) The mission agenda was well planned and executed, with visits to islands in the Pacific Islands of the Pensinsula of Baja California Biosphere Reserve (Cedros and San Benito Oeste), El Vizcaíno RB , Marismas Nacionales RB and Arrecife Alacranes (Scorpion Reef) National Park. The field visits were essential for the TE team to understand the context of the actions implemented, the level of involvement of partner institutions, CSO and communities, the latter especially in the case of best practices in use by productive sectors. The travel hours between places were useful for interaction with the PCU and the IAS Coordinator of CONANP, and helped clarify details and percpetions from interviews and fiedl visits. The time and agenda dedicated to the mission was sufficient for the TE. Exchanges by email and skype after the mission were very important for complementary information and clarifications. The list of people interviewed, the travel itinerary, and the summary of field visits are available in Annexes 5.6, 5.7 and 5.8.

Closed interviews were developed as often as posible with one person or few people at a time, as the TE team felt that people are more at ease and more open to share their perceptions, frustrations and expectations that way. The perceptions of participants in the project are important references for the TE and for future projects. The declaration of confidentiality at the beginning of each interview also contributed for more realistic feedback. The questions formerly prepared were adjusted according to the unvierse of the interviewees. As the same questions were repeatedly asked to different stakeholders, the most relevant issues of the project stood out, both in terms of achievements and of limitations.

Information was corroborated and findings were gathered from several sources during the evaluation process to ensure they were realistic, reliable, and transparent. At the end of the mission, on 06 August, 2019, the TE team presented the first findings of the TE to the UNDP,

PCU, CONABIO (DGAP and IAS Subcoordination) and to the IAS Coordinator of CONANP in Mexico City. The findings were organized considering the five criteria used in the TE and included achievements, limitations, lessons learned and potential recommendations. The feedback provided in this presentation by the participants was highly relevant for the development of the TE Draft Report. Because the feedback is extremely useful for the TE team, it would be desirable to have more of the stakeholders participate in the presentation of first findings whenever feasible.

1.2.3 Data analysis, conclusions, recommendations and lessons learned

The information gathered from interviews and field visits during the mission was organized on a daily basis, with exceptions to long travel days or late-night arrivals. The information provided by interviewees was compared to statements in project documents and products. Relevant achievements and limitations from the point of view of stakeholders became clear as the mission progressed, and recommendations as well as other issues of relevance were compiled for the TE report.

Within two weeks of the mission, the information compiled was used to develop this report, between August 8 and 21st, 2019. Evaluation of the management effectiveness tracking tools and institutional capacity scorecard were conducted at the end of the evaluation process, followed by the definition of ratings for the several criteria of the TE. The draf report of the TE was submittted to the UNDP and PCU for review on 21st August, 2019.

1.2.4 Final report in Spanish and English

The UNDP and PCU returned the TE draft report with comments to the TE team on 04 September, 2019. More comments were sent until September 23rd. The report was then adjusted and complemented, and the final versions of the TE report in Spanish and in English were submitted on 26 September, 2019.

1.3 STRUCTURE OF THE TERMINAL EVALUATION REPORT

The structure of the TE report includes information about the whole project, from formulation until closure, including all ratings. An Executive Summary is presented in the beginning of the report, including the project ratings table.

The first section of the report covers its objectives, scope, and methodology. The second part includes a brief description of results based on indicators of the logical framework and context of the project in the phase of implementation.

Project findings are presented in the third section, organized by (a) project formulation, (b) implementation, and (c) outcomes. The fourth section provides conclusions, recommendations, best practices, and lessons learned. The report annexes are included at the end: code of conduct agreement forms (5.1), TE matrix (5.2), TE interview matrix (5.3), list of documents revised (5.4), agenda of interviews and field visits (5.5), list of persons interviewed (5.6), travel itinerary (5.7), summary of field visits (5.8), management effectiveness tracking tools and institutional capacity scorecard (5.9), TE Terms of Reference (5.10), photographic record of the mission (5.11), and evaluation of progress by activity matrix (5.12).

2 PROJECT DESCRIPTION AND CONTEXT OF DEVELOPMENT

2.1 PROJECT START AND DURATION

The project was expected to start in June, 2014, with a duration of four years. Due to legal procedures, the start was delayed until 13th November, 2014. In March, 2015, the CONABIO General Directorate on Analyses and Priorities formalized project duration from 31 December, 2014, to 31 December, 2018. Finally, in November, 2017, an extension until 31 December, 2019, was requested to the UNDP, and authorized until 31 December, 2019. The extension was requested due to budget and personnel cuts imposed on several of the partner institutions, as well as the change of national government after the 2018 elections. These changes affected project implementation, so the extension was necessary and coherent with project planning and the objective of reestablishing cooperation with high-level stakeholders.

2.2 PROBLEMS THE PROJECT SOUGHT TO ADDRESS

Two main challenges that need to be overcome for Mexico to improve efficiency in IAS management were identified and grouped in two comprehensive outcomes. The first one refers to an incomplete national legal framework to support the implementation of the National Strategy on IAS, and the second one to the lack of effective strategies and tools for the management of pathways of introduction and spread of IAS in productive sectors and priority areas for the conservation of biological diversity. These issues were the basis for the development of the main project outcomes.

The project was particularly aimed at developing national capacity and strengthening key institutions, for managing IAS issues, and establishing model prevention measures and EDRR programs. Funds were also invested in eradication and control in pilot sites for replication to other areas and projects.

CONABIO and Universities already invested in actions to improve IAS management, especially in terms of developing management tools (National Strategy, IAS lists) and generating information, as well as GECI with the eradication of vertebrates on oceanic islands. For most of the partner institutions, however, this approach was totally new, and contributed to more effective management as a result of multisectoral coordination. This provided the basis for the establishment of prevention, EDRR, eradication, control and monitoring programs, as well as other management measures. Therefore, the scope of the project design was adequate given the focus on improving national capacity and implementing the National Strategy on IAS.

2.3 IMMEDIATE AND DEVELOPMENT OBJECTIVES OF THE PROJECT

The project overall objective was to protect biodiversity of global importance in vulnerable ecosystems from the impacts of invasive alien species by building capacity to prevent, detect, control and manage IAS in Mexico.

Project activities were organized in two outcomes: (1) National IAS framework, with three outputs: (1.1) Decision making tools aimed at informing cost effective management decisions to address IAS threats in key landscapes and key sectors (aquarium trade, aquaculture, wildlife and

forest products); (1.2) Sectorial guidance and regulations in place to strengthen the control of main pathways of IAS to vulnerable areas; and (1.3) Multi-sectorial institutional framework in place to implement the National Strategy on Invasive Alien Species (NSIAS). The second outcome involved: (2) Integrated IAS management to protect vulnerable globally significant ecosystems, aimed at preventing the introduction, establishment and spread of IAS in 15 protected areas, with two outputs: (2.1) Strengthened prevention and control of key IAS populations in selected islands and (2.2); and Enhanced IAS surveillance and control strategies reduce introduction rates from productive landscapes and contain populations below thresholds that endanger endemic species and their habitats in 9 mainland protected areas.

The overall objective was well formulated, including key actions in the National Strategy on IAS and establishing the need for follow up activities. The more challenging issues were a few activities at the national scale, especially to improve the political and regulatory frameworks. These were rather ambitious, as the time required to develop new legislation and gain approval is most often longer than the time of implementation of such projects, especially when involving changes in national government. It was also very ambitious to propose the development of an EDRR system at the national level in a context in which the concepts and technical basis on IAS were practically unknown by the agencies that needed to get involved.

2.4 BASELINE INDICATORS ESTABLISHED

The indicators in the Project Logical Framework were developed to measure and assess performance and impact during implementation, as well as overall changes at the national level. These indicators formed the basis of the project Monitoring and Evaluation system (M&E).

A second group of indicators, the GEF Tracking Tools (TT), were included as indicators and used by most focal areas on an annual basis. The TT helped the PCU monitor progress towards the expected global outcomes.

The Logical Framework indicators were not always coherent with the activities, and did not represent all of them. For this reason, the PCU decided to adjust the indicators and means of verification. A new indicator matrix was developed and included in the PRODOC to measure progress of the general objective, with a new group of indicators, actions and outputs, baseline data, goals and means of verification. The three groups of indicators (Logical Framework per result, per output and TT) were included in the PRODOC.

Despite this complementation, not all indicators were SMART (Specific, Measurable, Achievable, Relevant and Time-bound). Some of them were ambiguous, difficult to measure and did not adequately reflect the planned outputs. Having two matrices of indicators created some difficulty for follow up, as there is a deficiency in the logical connection between goals, outputs, indicators, means of verification and activities. Besides, some of the indicators were not verifiable.

2.5 MAIN STAKEHOLDERS

The main stakeholders included in the project from the design phase were mainly government institutions in the environmental sector. CONABIO had the role of Executing Agency with

support from the UNDP as implementation agency, while CONANP was included for its role in the management of protected areas. The engagement of a significant number of institutions was coherent with the design of the project and the aim of promoting and internalizing the application of IAS management at the national level. The participation of SEMARNAT on legal and regulatory issues was essential, while PROFEPA and CONAFOR had a complementary role for the development of prevention, EDRR, and control programs. The participation of IMTA was relevant for managing aquatic plants and biological control, and for mainstreaming information on hydrological changes that favor the spread of invasive aquatic plants.

Other sectors were included from the project formulation phase. A stakeholder analysis was conducted in order to identify key institutions and assess their roles and responsibilities in the context of the project. As a result of this analysis, SADER (formerly SAGARPA) and related institutions such as SENASICA, INAPESCA, CONAPESCA and CESAEM were prioritized for their interaction with key productive sectors. Other groups considered relevant were universities for the development of methods and production of scientific information, and CSO such as GECI, for the work on insular protected areas, and local communities for the implementation of practical management measures. This mixture contributed to a better balance between project partners and made it possible for the project to reach out to more sectors.

The prospection of roles and responsibilities was adequate for the project to ensure that the planned activities could be achieved. However, the level of engagement of a few institutions was lower than expected.

Table 1 – Key stakeholders – project partners.

Organization	**Activities in project framework**
Government	
National Commission for the Knowledge and Use of Biodiversity (CONABIO)	Project Executing Agency in charge of management and follow up. In charge of developing information systems, participatory IAS management networks and the National Platform on IAS for public - open access information. Coordinates and collaborates with other projects, including rapid risk analysis; detailed risk assessments; production of information for the official IAS list and in the development and implementation of education and awareness programs, among other project outputs.
National Commission for Natural Protected Areas (CONANP)	Participation in project design. Project co-manager agency (overview of activities in continental PA and support to programs in insular PA). Implementation of prevention, EDRR, eradication, control and monitoring and information programs, including capacity building and interaction with productive sectors.
continued	
National Forest Commission (CONAFOR) - General Directorate for Forest Management and Soils (DGGFyS) (SEMARNAT)	In charge of developing indicators on IAS for forest health and mainstreaming them into the National Forest and Soils Inventory, risk analysis for forest pests and preventative monitoring. Design and test of fire management to control forest pests and invasive alien plants. Development of soil restoration techniques and reforestation using native species.
Secretary of Environment and Natural Resources (SEMARNAT), especially the Sub-Secretary for Environmental Incentives and Regulations (SFNA)	Consolidation of the National IAS List, including an assessment of regulatory impact. Lead on new legislation and legal revision, as well as on regulations on IAS management including wildlife and forest products.

Organization	Activities in project framework
Federal Law Office for Environmental Protection (PROFEPA)	Key institution for prevention, inspection, quarantine and control of forest pests and IAS in wildlife and in movement across borders, harbors, airports and points of entry, distribution centers, production and storage of forest products. Capacity building for operational personnel on inspection and surveillance.
National Institute for Ecology and Climate Change (INECC)	Development of climate change scenarios and validation of models of actual and potential species distribution for high risk IAS in Mexico. Scientific and technological research and studies. In charge of other projects that contribute to the implementation of the National Strategy on IAS.
Mexican Institute for Water Technology (IMTA)	Surveys on aquatic invasive plants in the main water bodies in Mexico; development of information contents on invasive aquatic plants; hydrological studies. Expertise on biological control techniques for invasive aquatic plants.
Ministry of Agriculture and Rural Development (SADER – formerly SAGARPA)/ National System for Agricultural, Cattle Production and Food Sanitation, Innocuousness and Quality Control (SENASICA)	Support in disseminating the National IAS List, implementation of EDRR systems for high priority IAS at the national level. Adoption of harmonized standards and capacity building programs on IAS to key agencies. Collaborated with CONABIO and SEMARNAT on defininig information standards for IAS and inclusion of additional biosecurity measures in the SENASICA sanitary certificate for aquaculture.
National Institute for Fisheries (INAPESCA)	Lead for improving the management of ornamental fishes and of the aquaculture sector. Capacity building and technical support in the production and trade of freshwater ornamental fishes, including improved biosecurity systems for production sites (closed cycle systems). Capacity building on rapid response to early detection alerts on IAS.
National Commission for Aquaculture and Fisheries (CONAPESCA)	Design and implementation of public policies on fisheries and aquaculture, especially for management, regulations and promotion of fisheries and aquaculture. Conapesca also enforces existing legislation.
SCO	
Island Ecology and Conservation Group (GECI)	Organization in charge of the project on six islands. Development and implementation of biosecurity programs and establishment of IAS Committees on each island. Dissemination and education on IAS issues. Implementation of IAS eradication, control and monitoring activities on islands, including native species in recovery after IAS eradication.
Morelos State Water Sanitation Committee (CESAEM)	Participation in the implementation of the state pilot program for IAS management in aquaculture, including an update of the inventory on production sites, development of a species catalogue, biosecurity plans and capacity building and dissemination of IAS risks associated with aquaculture. Participation in the certification process for ornamental fishes.
Communication and Environmental Education Fund (FCEA)	Several education and dissemination activities. Implementation of a pilot program on IAS in schools, workshops on IAS for journalists; development and dissemination of materials on IAS for legislators and other employees of government agencies involved in the development of public policies.
Private sector / Local stakeholders / Stakeholder groups	
Representatives / Associations of key productive sectors	Participation in the development of codes of conduct for the industry and/or certification systems to reduce IAS introduction and spread. Selection of pilot practices to reduce the threat of IAS in production operations. Productive sector representatives collaborate in activities in continental and insular NPA.

Organization	Activities in project framework
Local communities (Islands and NPA)	Participation in IAS management. In NPA, participation in surveillance actions and EDRR (after training), and in IAS alerts inside and near NPA. Participation in IAS control and monitoring activities.
Academia	
Self-Governing Metropolitan University (UAM-X) - Xochimilco branch	Implementation of a pilot project for mapping invasive plants in the state of Querétaro to develop a mapping model for similar application throughout the country. Production of an alien plant guide for the Querétaro RB. Development of risk analysis protocol for alien plants and of risk assessments for high priority invasive plants.
Self-Governing University at Nuevo León (UANL)	Development of risk assessments for alien fishes and zebra mussels. Capacity building workshops on biosecurity measures and Incident Command System to reduce the risk of IAS introduction and spread.
Self-Governing National University of Mexico (UNAM)	In coordination with UAM, development and implementation of risk assessment for alien plants and pilot project on mapping invasive plants in the state of Querétaro.
Financial management	
United Nations Development Program (UNDP Mexico)	Project implementation agency. Provide guidance, technical support, management tools and theoretical and applied knowledge for project stakeholders. Management of project financial resources according to work plans.

2.6 EXPECTED RESULTS

The project expected outcomes were: 1) National IAS management framework, and 2) Integrated IAS management to protect vulnerable globally significant ecosystems.

In outcome 1, the main goal was to develop tools to provide information for effective decision-making on IAS threats on productive landscapes and sectors (ornamental fishes, aquaculture, forest and wildlife products), including considerations of cost. Guidance mechanisms and sectorial regulations to manage the main pathways of introduction and spread of IAS to vulnerable areas were expected, as well as a multisectoral framework to support the implementation of the National Strategy on IAS.

In outcome 2, the main goal was to improve prevention measures and control of IAS populations on priority islands and mainland protected areas, as well as develop biosecurity measures for use by key productive sectors to reduce the introduction and spread of IAS and maintain IAS populations at low levels, avoiding impacts to endemic species in nine mainland protected areas. These actitivities involved productive sectors of high potential impact on the landscape and on biological diversity, especially grazing (cattle and goats) and aquaculture.

3 FINDINGS

3.1 PROJECT DESIGN / FORMULATION

The design of the project was coherent with planned outcomes and outputs, national policies and international commitments on biodiversity conservation and IAS management. The project was developed in the GEF 5 framework and in the 2010 National Portfolio, which recognized IAS as one of eight priority issues in the focal area of biodiversity. The project was based on three strategic objectives, five strategic actions and 15 goals of the National Strategy on Invasive Alien Species (NSIAS) for 2020. The project was coherent with the expectation of making a significant difference in the application of management measures at the national level.

3.1.1 Analysis of Logical Framework (LFA) (project logic/strategy; indicators)

The project logical framework was well designed in terms of structure. The issues to be addressed were clearly stated, the partner institutions well chosen, outcomes and strategies were clear, with emphasis on expected results and impact. The monitoring and evaluation plan had an adequate budget. As mentioned before, there were deficiencies in indicators, as some of them were not effective and they were not comprehensive, which created difficulties in measuring progress for all the planned activities.

A complementary matrix of indicators was conceived based on project outputs, as well as other Excel tables to follow up on activities in detail. The complementary indicators did not all contemplate the SMART criteria, and were not sufficient to reflect all advances as indicators were missing for a number of activities, while others had more than one indicator. The deficiencies in indicators reflected lack of clarity in terms of planned outputs and lack of clear baselines, which hindered the establishment of clear goals, especially in quantitative terms.

Despite these deficiencies, the MTR did not recommend a review of the indicators due to the little time left for project implementation, just over one year (the MTR was delayed and only conducted in the fourth year of implementation). Besides, the indicators were considered sufficient to measure progress in the priorities of the National Strategy on IAS.

Despite the complexity of monitoring and evaluation, and follow up of 36 activities, the project design was coherent with the global objectives and the expectation of making a significant difference in the implementation of IAS management at the national level.

3.1.2 Assumptions and risks

The risks assumed for the project were well considered from project start. The main risks were identified and adequate mitigation measures were in place. In a few cases, the risks should have been considered higher. For example, the financial risk was considered low, but should have been considered medium or high due to the budget cuts applied by the national government to the environmental sector and related areas since 2012.

The risk that government institutions or private companies would refuse to share information was not corroborated, and remained low throughout the project.

The risk that the government would not be willing or not capable (according to the PRODOC) of approving proposals of new regulations on IAS before project closure was considered almost a fact since project start. This goal was too ambitious, as changes in national laws most often take longer than the life span of these projects. This trend was aggravated after the 2018 elections, when communication with high ranks of government agencies were suspended.

The risks related to conflicts of interest and differences in priorities of stakeholders that could prevent implementation were well addressed. Constant interaction between government institutions in the same sector and related sectors promoted a productive dialogue that led to coordinated planning and problem-solving with collaboration from all parts. The project succeeded in promoting cooperation and participation by government institutions related to IAS management and, while problems are complex and improvement is required because some measures between sectors are contradictory, a change of perception was achieved. An intersectorial Excecutive Committee was established to develop activities related to planning, prevention, EDRR, control and eradication of IAS on priority sites. Global climate change was addressed as a pervasive influence that favors IAS and aggravates the condition of threatened species and fragile or fragmented ecosystems. This risk was identified in the initial analysis and addressed in the project with the development of ecological niche models to estimate potential impacts of climate change on the spread of priority IAS. Project partners were advised to adopt an adaptive management approach by using the results of climate modeling for decision-making on priorities of the National Strategy on IAS. Advances were made to estimate the potential distribution of IAS under different climate change scenarios, which are expected to be used in adapting IAS management plans of insular and mainland protected areas. Joint activities with the CONANP GEF Resilience Project were undertaken in protected areas to mitigate the effects of climate change.

One of the major achievements of the project was to succeed in strengthening the management capacity of the government institutions PROFEPA, CONAFOR, SENASICA and INAPESCA (SADER), as well as of CSO such as CESAEM, to prevent and reduce the introduction and spread of IAS to and within Mexico, reducing the risk of species introductions due to the increase in international trade. The project also contributed to the development of sectorial regulations, and succeeded in halting the importation of some IAS of potentially high impact.

The project risk assessment was updated in the annual reports (2015, 2016, 2017, 2018 y PIRs 2017 and 2018). Risks were actively monitored every quarter for updates and verification of potential new risks. There is sufficient evidence that relevant management responses and mitigation measures were addressed to handle most of the key risks identified.

A new risk was identified during implementation as the change of national government. It had not been considered in the design phase because the project was initially expected to end in 2018. Therefore, although it had not been listed in monitoring and evaluation reports, mitigation actions were undertaken, especially the request for an extension to the project until December, 2019, the production of an executive folder with relevant information on the project to be delivered to the new government, and the intention to invite new institutional leaders and personnel to participate in the Executive and Technical Committees and in project activities.

The latest change in national government as well as the replacement of the CEO of the Secretary of the Environment and Natural Resources in the former government (2012-2018) generated negative effects on several of the institutions linked to SEMARNAT, including CONANP, CONAFOR, PROFEPA, IMTA and INECC, as well as CONABIO, especially due to budget cuts. This situation did not improve under the new government (2019-2024), but was aggravated by further cuts in personnel in the environmental and agricultural sectors, which included some personnel trained within the scope of the project. There are no expectations for improvement in funding for these agencies in the coming years, nor for stronger presence of personnel on project sites, with financial risks to all institutions involved and, consequently, to the sustainability of project achievements. This implies the lack of polítical support for the continuity of actions started in the scope of the project. To mitigate this risk, it was necessary to engage the new managers of the partner institutions. Although the main purpose of the project extension recommended in the MTR was to facilitate a transition for coordination with the new government, it was not viable to schedule a meeting of the Executive Committee due to the lack of definition of representatives and to instability about operational issues within CONABIO. The termination of the National Strategy on IAS in 2020 and unlikely renewal aggravate this risk for the lack of a political instrument aimed at the management of IAS.

3.1.3 Lessons from other relevant projects

This project included elements and examples of other GEF projects, especially:

"*Enhancing the prevention, control and management of invasive alien species in vulnerable ecosystems"* in Cuba, which ended in 2016; "*Removing barriers to invasive species management in production and protection forests in Southeast Asia*", 2009; and "*Strengthening capacity to control the introduction and spread of alien invasive species"* in Sri Lanka, 2004.

Lessons learned during the development of the National Strategy on IAS were also considered in project formulation in terms of the viability of activities with higher chance of success. This led to the definition of activities in the scope of three strategic objectives and five strategic actions in the National Strategy.

3.1.4 Planned stakeholder participation

Many institutions and different stakeholders were involved in the project from the design phase especially because of the national outcomes expected, which included establishing IAS as a relevant management issue within several government institutions, improving the level of interest on IAS by universities and CSO, and engaging key productive sectors in responsible management given their potential to spread IAS.

As a consequence, project formulation was highly participative, and institutions were invited to provide feedback for specific activities in which they would be engaged. Although it was ambitious to devise 36 activities for the project, on the whole they were well oriented to the expected outcomes and to the national needs of IAS management. The theory of change was applied to ensure the planning methodology and participation would lead to the desired social changes.

Several project partners were engaged from the beginning. It was not easy to gather all of them in meetings of the Executive and Technical Committees, and changes in personnel added difficulty to this task.

Follow up meetings were held every two weeks with the CONABIO Subcoordination on Invasive Alien Species, and every 2-3 months with the CONANP Coordination on IAS. The UNDP Office participated fully and exchanges with other UNDP and GEF projects sought to establish synergies, especially when there were natural areas in common with work in development.

Given the role of executing agency, CONABIO was the main institution involved since project start. It was coherent to allocate the PCU in the CONABIO offices. CONANP and GECI were also highly engaged in project design and formulation since the beginning.

Among the institutions considered in the design phase, only INECC was not totally involved as expected, although some cooperation was established in the last year of implementation for support to activities related to IAS and climate change. On the other hand, although the main stakeholders were well considered in the design, especially to develop legal and regulatory work and biosecurity issues in productive sectors, other institutions mentioned in the PRODOC whose engagement was important were CONAGUA, CIBIOGEM, the Ministry of Communications and Transport (SCT), the Ministry of Health, the Ministry of Public Education, and SEMAR. The latter gradually and proactively took responsibilities in carrying out some project activities. Participation of the SEMARNAT General Wildlife Directorate and the PROFEPA Inspection and Monitoring of Wildlife, Marine Resources and Coastal Ecosystems General Directorate was desirable, but not achieved. The support of these Directorates was highly relevant given their institutional roles and was therefore recommended in the MTR, but the PCU did not find a way to engage them.

The number and choice of partner institutions and their contribution to project implementation was key to fulfill the needs of improved IAS management, increased capacity at the national level, and implementation of the National Strategy on IAS, as well as to place IAS management in the agenda of several government institutions, SCO and academia, as well as allow for the dissemination of information to the general public.

3.1.5 Replication approach

The project was designed to ensure that lessons learned and best practices were organized and available for replication at different levels (local and national) and under different circumstances and ecosystems. Models were developed and consolidated in best practice manuals and tools meant to expand the impact of project results (for example, forest health indicators verified by monitoring forest pests, use of fire and risk analysis as IAS management tools, IAS mapping protocols, models for the control and eradication of IAS and EDRR systems, among others). The products generated with CONAFOR were included in the technological packages offered by the institution. The PROFEPA registry system (SIREV) was improved with project funds and will continue in use by inspectors in the coming years, contributing to make their work more efficient.

The 15 protected areas ANP selected as project sites (six islands and nine continental areas) became a reference on the management of several invasive alien species in diverse ecosystems. As other eight groups of islands were selected for IAS management actions after project closure, a replication strategy was included in the planning in order to define the type of interventions to be carried out on each island, which institutions should be involved, and what sources of funding are available. Information will be shared with institutions in charge of the islands that are not participating in the project in order to facilitate the replication of IAS management practices to other islands in Mexico in the long term, a task in charge of GECI in collaboration with CONANP and SEMAR. The CONANP Priority Species for Conservation Directorate took up the role of establishing priorities, planning actions, and defining strategies and mechanisms to promote the replication of IAS management to other protected areas after project closure. Lessons learned will be consolidated from the nine protected areas and disseminated to the national protected area system. CONANP conducted several activities and generated many products (manuals and strategies), as well as adopted best practices in nine pilot sites that are ready for replication to other protected areas. Some of the control actions for invasive plants are still being improved and require more time before best practices can be disseminated.

In the post-project phase, CONABIO will compile lessons learned from IAS control actions on islands and mainland protected areas (as well as in surrounding landscapes) and share the results obtained at the national level in order to promote replication to other sites in Mexico and in other countries.

3.1.6 UNDP comparative advantage

All institutions involved in the project, and especially CONABIO and the PCU as executing agency, acknowledge the comparative advantage of the UNDP as implementing agency. This is due to the structure of the UNDP in Mexico, the experience of UNDP staff in large-scale projects, and the international reference of the UNDP in coordinating and guiding GEF-funded projects. The structure required to process a large number of processes implies a high level of organization and capable personnel which can hardly be found in other institutions. Besides, the networks in which the UNDP participates and its role in the conduction of projects in related areas create great potential for the dissemination of products and information on the project, results and lessons learned, as well as their application in other projects the UNDP implements in the future.

3.1.7 Linkages between the project and other interventions within the sector

From the start, the project strategically sought to involve not only the environmental sector, but also the primary sector especially in the activities related to agriculture, in terms of forage production; grazing of free-range catlle and goats for their impacts on natural vegetation; and aquaculture, with emphasis on ornamental fishes. These sectors were selected for their potential of introducing and spreading IAS. This approach was not at first understood by some of the project partners working in environmental agencies. The linkage between production and biodiversity conservation was not clear to them, which made it seem that it was beyond their scope of work (especially in protected areas). As best practices were implemented and some results became available, the strategy became clear and was well accepted.

Prevention measures were implemented to improve regulations on authorizing species introductions, as well as to improve inspections and avoid IAS entry in harbors, airports and border points. Apart from cooperating with CONANP to implement prevention, EDRR, control and eradication measures in 15 protected areas with support from GECI for insular areas, the PCU succeeded in working effectively with SEMARNAT, PROFEPA and CONAFOR; with SADER through SENASICA, INAPESCA, CONAPESCA, as well as with CSO related to aquaculture (CESAEM in Morelos, linked to SENASICA, and AMPAR in Jalisco), and SEMAR, which provided relevant support for activities on oceanic islands. Other institutions involved with more specific focus were IMTA, FCEA and INECC. Although some institutions did not participate very actively, especially the ones with roles in establishing regulations, rural development policies, investment and production, among others, professionals of all partner institutions participated in capacity building events, which led to a better perception of problems caused by IAS and a change of perception at different levels of institutional management and in the field.

3.1.8 Management arrangements

Having the UNDP as implementing agency was an advantage in many aspects, as formerly mentioned.

Agreements with most of the institutions that contributed to project implementation were planned in the design phase. Cofinancing commitments were important for the implementation of activities, assignment of responsibilities, and project ownership.

The Management Committee monitored progress and provided support in decision-making on procedures, activities and coordination, among others, to ensure proper implementation and functioning. Additionally, the PCU established an Executive Committee formed by high-rank representatives of institutions related to IAS; a Technical Committee that reported to the Executive Committee; and, as an innovation, a Scientific Committee to support the technical quality of project actions and products.

The PCU was set up in the CONABIO office in Mexico City and worked closely with the CONABIO Analyses and Priorities General Directorate (DGAP) and with the UNDP. The PCU was initially formed by three people working full-time and one person working half-time, an arrangement that became unviable as implementation demanded more work for the 36 activities to be developed and to process the numerous products and contracts, procedures and payments. The PCU had support from the CONABIO IAS Subdiretory of the DGAP as well as from other areas in CONABIO and from CONANP for the review of specific products and logistical arrangements. The fourth person became a full-time employee only in the fourth year of implementation, and a fifth person was added in the last months before project closure. Although the PCU performed exceedingly well, and that administrative costs were maintained at only 8 %, this model should not be used as a positive reference due to the heavy work load imposed on the members of the PCU. After all, 36 activities were to be developed in four years on a controversial topic that was new to the majority of partners, expected to generate results at the national level, and engaged a large number of government agencies, universities and CSO.

Implementation of activities in protected areas was guided by the CONANP Priority Species for Conservation Directorate (DEPC) Coordination on IAS, and nearly always conducted by civil society organizations (CSO), some of which demonstrated much interest in IAS issues and incorporated practical actions into their work routines. The leadership provided by GECI on oceanic islands was crucial to ensure the success of eradication of invasive animals and monitoring of the recovery of marine bird populations, which is the most solid evidence of positive impacts on biodiversity of global importance generated by project actions.

3.2 PROJECT IMPLEMENTATION

3.2.1 Adaptive management

As implementation progressed, it became necessary to make adjustments in some activities, change a few priorities, adapt procedures to operate resources, optimize consultancy ToR to contemplate more products per contract and reduce the number of procedures involved, and provide capacity building to the PCU, UNDP, CONABIO and CONANP on UNDP and GEF administrative procedures to optimize the use of project funds. These adaptations were meant to increase efficiency in several processes without changing the purpose of the project or its components.

The feasibility of some activities was not well assessed during project formulation, as they required more time than available to be implemented. This especially refers to proposals for new legal regulations to be published in the scope of the national administration. This activity was considered of high risk from project start, given the difficulty of reaching agreements between interested parties, reviewing and processing publication. This risk was corroborated and the target was not achieved. The PCU contributed instead to sectorial regulations that were opened for review.

Tecnical issues that required adaptive management measures were the selection of species to be managed in protected areas selected for the project. Although some information on IAS was available, unreliable data was included in the project design phase, which later led to necessary changes in priorities in the implementation phase to adapt the activities to other species and management actions. For example, rats were at first planned to be eradicated in the Sierra de Alamos Río Cuchujaqui APFF, then the personnel realized it was not a problem in the protected area, and the activity was cancelled. In other cases, species and priority activities defined in the project preparation phase (PPG) were different from those included in the PRODOC. This occurred for Cañón del Sumidero National Park where, according to the PRODOC, work was to be conducted with fish pond owners to improve biosecurity measures and prevent the spread of fishes to natural areas. This activity was not included in the planning phase, and the PA staff later remarked the absence of aquaculture ponds in the area. According to the PRODOC, working with local cattle ranchers in the Sian Ka'an Biosphere Reserve was intended to remove cattle from the central area of the reserve to prevent impacts to native vegetation. The initial proposal in the PPG was to "diagnose and eradicate cattle from the reserve core". Later, during implementation, this activity was not considered viable because the animals were supposed to be rescued alive from remote areas of very difficult access and subject to flooding, and

eradicated from the reserve. A survey was being conducted during the TE to generate a workplan to be implemented in 2020 with funds from the CONANP subsidy programs.

The environmental sector suffered severe budget cuts on part of the national government during implementation. These might have endangered at least some of the proposed achievements established in the PRODOC. The project partners therefore faced pressure to look for alternative funding sources, which in turn contributed to delays in consultancy contracts and in the expected progress towards planned outputs. Despite the financial cuts to several partners, the greater part of cofinancing commitments were maintained, except on the part of CONABIO (see 3.2.5 for details).

Adaptive management was not timely applied in the development of references to establish cost coefficients for IAS management in Mexico and develop economic models to estimate costs of high impact IAS on the economy (Activities 1.1.11 and 1.1.12). Voluntary work by participants of a workshop led by Landcare Research from New Zealand in 2015 was expected to generate information in the form of several case studies that would provide the basis for cost-efficiency evaluations. In the following workshop, carried out in November, 2016, only one study was presented. This situation required adaptive management to ensure the achievement of at least partial results. This activity was interrupted for lack of reference and further hindered activity 1.3.6 that referred to budgetary coordination between sectors.

Activity 1.1.11 was planned for the last year of implementation so that data from management efforts would be used to generate cost coefficients. Unfortunately, management efforts in protected areas were not carried out with enough repetitions to generate the necessary data to substantiate such analyses. Therefore, it was decided that management costs were to be included in risk assessments for alien species. Additionally, a consultancy contract with an Economist was issued to systematize existing data on management actions in protected areas, which should be concluded before project closure. Additionally, the Economist is developing a feasibility study on the development of an insurance package for producers in Morelos on the environmental responsibility for ornamental fish escapes, economic costs of impacts to other species of economic value and to environmental services. This study will be completed before project closure. Still, better reference on the costs of control of invasive alien plants were not developed as planned.

A few other activities were also limited in terms of progress or were not completed. This can be partly explained by the amount of activities and volume of work managed by the PCU and by growing pressure on the PCU in the last year of project implementation, which was mainly intended to reestablish coordination after the 2018 elections with high rank officials in the government institutions involved in the project.

Adaptive management measures were implemented to reduce the volume of administrative procedures from consultancy contracts by preparing more comprehensive ToR that included more products per contract, therefore requiring less contracts and procedures for approval. The ideal solution proposed was to have multi-year contracts, and even more products per contract, but this was not viable due to internal rules of the UNDP.

A relevant adaptive management measure applied by the project was negotiating the use of remaining project resources to be applied in an Exit Strategy. Significant changes in the exchange rate between the US dollar and the Mexican Peso worked in favor of the project and generated a surplus of funds that may allow for other activities to be developed in the scope of the project after closure. The PCU and CONABIO requested approval by the UNDP and GEF to not return the funds, but apply them on actions related to the project, a fair decision as the excess of funds is not related to execution issues (see 3.2.5). The activities to be implemented were being discussed at the time of the TE.

3.2.2 Monitoring and Evaluation: design at entry and implementation *

SATISFACTORY [1]

The main part of the Monitoring and Evaluation Plan is the Logical Framework, which includes the overall objectives, two outcomes and respective indicators. In the project formulation phase, two sets of indicators were developed and meant to be complementary. These indicators were not comprehensive to cover all 36 project activities, and not all of them were coherent or SMART. A total of five tables with indicators were developed, increasing the complexity of monitoring progress: (a) Logical Framework indicators of progress; (b) indicators per output; (c) Logical Framework indicators of global impact; and (e) Management Effectiveness Tracking Tools and Institutional Capacity Scorecard. A fifth matrix with the 36 project activities was prepared to record progress per activity at a higher level of detail in the MTR (Annex 5.11). Despite the many tables and matrices, the PCU managed to keep track of the activities and indicators and update tables as needed, as well as use them to inform progress in different formats.

The high number of reports required by the UNDP and GEF for monitoring and evaluation of progress is questionable: annual PIR (January - December), annual reports (July - June), Quarterly Progress Reports (QPR), biannual reports (long and summmary versions), Results-Oriented Annual Reporting (ROAR), Implementation and Monitoring Stage Quality Assurance Reports (QAR), and Combined Delivery Reports by Activity (CDR). Although all reports were timely delivered by the PCU, the combination of the low number of members of the PCU and the high number of reports produced in a project implementing 36 activities led to lack of clarity in some reports, repeated or missing information. The number of working hours dedicated to producing these reports also debilitated the PCU, to some extent, for not being able to dedicate more time to implementation, adaptive management, monitoring or implementing solutions to issues that required more attention.

Based mainly on the Logical Framework, progress was presented to the Management Committee, Executive Commmittee, Technical Committee and Scientific Committee, as well as in meetings with project partners. Several monitoring tools were developed by the PCU to follow up on progress, such as Excel spreadsheets to register contracts or the completion and reception of consultancy products. Indicators were reviewed on a quarterly basis, as well as costs. Project governance worked well and recommendations were implemented. MTR recommendations

[1] In accordance with the UNDP Guide for Terminal Evaluations of UNDP-supported, GEF-financed projects, the M&E plan must be evaluated based on the following ratings: Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory and Highly Unsatisfactory.

were discussed and registered in the management reponse form, but not all of them were implemented.

In general, the TE considered that the PCU satisfactorily managed to follow up on all activities and use adaptive management to improve project performance and the probability of success in achieving the planned targets, with a few exceptions. These are due to a few overly ambitious targets that were not realistic in the project life span, delays caused by external factors and internal processes in approvals of ToR, contracts and consultancy reports.

3.2.3 Feedback from M&E activities used for adaptive management

The lessons learned during implementation were discussed in meetings of the PCU, the Management Committee and Scientific Committee, and in periodic meetings with the CONANP Coordination on IAS. The results and recommendations of the MTR were shared and discussed with all committees and project stakeholders. Adaptive management decisions were defined on financial and administrative issues, priority-setting, coordination and needs for adjustment in some activities.

As implementation progressed, it became evident that not all activities would achieve the expected targets. Overall, the PCU recongnized this trend and implemented adaptive management measures, as feasible, for most of the activities that required them.

The early recognition that it would be practically impossible to publish new laws for IAS or change existing legislation at the national level to include measures for IAS allowed the PCU to get involved in discussions on IAS used in production, and contribute to improving some sectorial regulations.

As errors in the diagnostics carried out in the design phase were identified, several activities that had not been well planned were modified. Some IAS that were only diagnosed during implementation were included in control programs to ensure an ecosystem rather than species-specific approach, as in the San Ignacio Oasis in El Vizcaino RB.

A workshop on invasive plant control was held in 2019 in order to discuss and ratify the use of chemical control methods in protected areas. This workshop was conducted in response to feedback from the MTR, in which several deficiencies on invasive plant control had been observed.

In other cases, progress in a few activities was recognized as unsatisfactory, and alternative actions were developed. This refers, especially, to the development of cost analyses of IAS management (activity 1.1.11) and to the proposal on financial mechanisms to support IAS (activity 1.3.5). Although the presentation of this proposal to the Congress did not prove viable, the results were presented to SEMARNAT and to the Ministry of Finance and Public Credit (SHCP). Once the study in development at the time of the TE is ready, the PCU plans to present a new proposal on financial alternatives to fund management actions to the SHCP. These partially achieved outputs were further hindered in 2019 by the impossibility of holding meetings of the Executive Committee, which was in charge of decisions and negotiations with key institutions involved in the project. This further impacted potential budgetary coordination between sectors (activity 1.3.6).

3.2.4 Partnership arrangements

Most of the arrangements with partner institutions were signed during project formulation. Four institutions signed agreements or letters of commitment during implementation and made significant contributions to the project: CONAPESCA, SEMAR, CESAEM and SENASICA.

A significant improvement in communications and coordination between the environmental sector and areas dedicated to forest production, agriculture and grazing, and aquaculture (CONAFOR, SADER, CONAPESCA and INAPESCA), occurred due to the project, as well as with the institutions in charge of species importation and sanitary inspections in harbors, airports and border points (SENASICA - SADER and PROFEPA). The definition of a coordinated agenda between these institutions for IAS management in Mexico produced highly relevant results for the country in several areas, benefitting the environmental sector, productive sectors and national biosecurity systems controlling points of entry.

The agreement with CONANP, supervised by the DEPC / IAS Coordination in the Central Office, involved personnel of 15 protected areas in several regions in Mexico. The CSO GECI took up the role of developing and applying insular biosecurity protocols, as well as EDRR, eradication and control of IAS in coordination with CONANP. SEMAR provided support to these activities and adopted biosecurity measures by reviewing the Marine ships for IAS or their vectors. This was the outcome of a change of perception about IAS in terms of the necessary precautions to be applied in the transit of ships to islands.

Some of the partner institutions engaged in tasks to develop specific products: IMTA for diagnosing aquatic invasive plants, FCEA for environmental education and dissemination of information on IAS, UAM and UNAM to develop standards for mapping invasive alien plants and develop niche modeling for IAS distribution in the context of climate change; the UANL for the development of risk analysis for alien fishes and use of DNA analyses to detect IAS in aquatic environments. Closer collaboration was expected with INECC to generate climate change scenarios and validate the current and future distribution of high-risk IAS in Mexico, which was partly limited by institutional restructuring. This activity was better developed in the last year of implementation as INECC validated the maps formerly produced by UNAM.

Ownership of IAS management was expected from SEMARNAT, as it is the lead government institution on environmental issues in the country. This is especially relevant at the time of project closure, when a new plan to continue developing IAS management in Mexico is necessary to ensure the sustainability of project achievements as well as to implement many plans and models produced and replicate them to new areas. SADER was requested to be more involved due to the work carried out with cattle and goat ranchers, on aquaculture and fisheries. Participation of the PROFEPA Inspection of Wildlife, Marine Resources and Coastal Ecosystems General Directorate and of the SEMARNAT Wildlife General Directorate were also desired, but not accomplished.

Although GECI was the only CSO in charge of one of project activities, several other CSO played essential roles in implementation. The incorporation of knowledge and practical actions for IAS in the work done by these organizations imply multiplying effects for and expansion of IAS management, with direct local benefits and ownership by people in communities the CSO work

with. This shows the relevance of CSO participation in the practical application of technical and scientific knowledge. Among the SCO that participated in the project, CIPACTLI – Forest and Wildlife Restoration Agency stands out for the work conducted in El Vizcaíno and Sian Ka'an Biosphere Reserves and for clearly doing more than the activities contemplated in consultancy contracts. Other two CSO stood out: Organización Vida Silvestre A.C., for the quality of the management plans developed for Tutuaca APFF, and Consultoría, Asesoría y Manejo Estratégico (CAME) S.C. for best practices and reconversion plans for cattle in Valle de Bravo APRN and El Vizcaíno RB. Other participating CSO were Costa Salvaje A.C. in El Vizcaíno RB; Pronatura Noroeste A.C.in Marismas Nacionales RB; Amigos del Centro Ecológico de Sonora, A.C. in Sierra de Álamos Río Cuchujaqui APFF; ISO-BIO Ambiental on improving aquaculture practices in Valle de Bravo APRN; Asociación Mexicana de Profesionales Forestales A.C. Sección Chiapas and Conservación Biológica y Desarrollo Social (CONBIODES) in Cañon del Sumidero PN and Los Tuxtlas RB; Líderes Socialmente Ambientales A.C. in Cumbres de Monterrey PN; Ibsen y Moliere, S. A. de C. V., Gente Sustentable A.C., Fomento Ecológico y Social A.C. and Consulturismo A.C. in Los Tuxtlas RB; and Econciencia A.C. and Amigos de Sian Ka'an y Desarrollo Empresarial para el Fortalecimiento Comunitario de Quintana Roo A.C., in Sian Ka'an RB, Fuego Verde S.C., SOS Tierra A.C. y Ciencia y Comunidad por la Conservación A.C. Academic institutions that had not been initially included also participated, at times due to work conducted in protected areas, such as the Universidad Autónoma de Baja California Sur, Centro de Investigaciones Biológicas del Noroeste S.C. (CIBNOR), and Colegio de la Frontera Sur and the University of Chapingo.

3.2.5 Project finance

The project financial execution was impeccable, as was also verified in the MTR. No findings were reported in the audits conducted in 2015, 2016, 2017 and 2018. The **CDR** reports are available from 2015 to 2018, are well organized, and the information is clear. There is no doubt about the excellence of the project financial management, both in terms of accountability and executive capacity to handle contracts and processes related to the project 36 activities. The GEF funds budgeted annualy were executed as shown in Table 2, below:

Table 2 – Annual budget execution.

Year	Annual budget	Budget executed	Annual execution %
2014	6,679.00	6,604.23	98.9
2015	950,000	658,983.30	69.4
2016	950,000	785,972.35	82.7
2017	950,000	916,940.15	96.5
2018	1,834,508.06	805,308.60	43.9
2019 (15 August)	2,180,736.37	488,817.87	22.4
Total		3,662,626.50	68.4

The difference between planned and executed budgets can be partially explained by significant variations in the exchange rate between the US dollar and the Mexican peso, as the dollar rate went up 50% during the time of implementation. As the contracts were all drawn in Mexican pesos and the project budget was in US dollars, a significant surplus was accumulated in favor of the project. These funds have been negotiated for application on future activities to be carried out after project closure to further develop the management of IAS (Exit Strategy). Other factors that influenced financial execution were the national context, as governmental activities were

impeded for more than six months in 2018 due to national elections, and changes in administrative procedures and restructuring of internal UNDP procedures that caused delays.

At the time of the TE, 68.4% of the total Budget of US$ 5,354,545.00 had been executed. However, there were 37 active contracts worth approximately US$ 657,994, and expenses to be made with ongoing activities. The total was expected to amount to approximately US$ 1,100,000 by project closure, with posible variations due to the exchange rate and other expenses not yet considered. The PCU will therefore have spent 82.75 % of the total amount of resources by project closure. Considering this estimate, the project should have a positive balance of just uner one million dollars by project closure to invest in the Exit Strategy under discussion.

The project Procurement Plan was continually updated as necessary. A detailed inventory and photographic record were kept of purchased goods. Per recommendation of the MTR, as the UNDP rules did not allow contracts to be multianual, they were optimized by aggregating more products, which helped reduce the number or related processes and approvals.

The most relevant **cofinancing** commitments were fulfilled. Some project partners invested more in kind cofinancing to compensate the lack of funds. This was especially the case of CONABIO, which was strongly affected by governmental budget cuts since the beginning of the project.

Six of the 13 partner institutions that committed cofinancing funds wree able to meet their goals or do so by project closure, as there were activities in development at the time of the TE. GECI and CONAFOR contributed a significant additional amount of funding to the project, GECI in cash and CONAFOR in kind. The main deficiency in funding was due to the lack of cash payment by CONABIO. The funding from the four institutions that did not meet the cofinancing commitments were not significant in the total amount (SEMARNAT, INECC, UAM-UNAM and FCEA). PROFEPA, IMTA, CESAEM and CONAFOR only commited in kind funds. In kind payments were fulfilled by CONANP, CESAEM, CONAFOR, GECI and UANL, while PROFEPA, CONABIO, SEMARNAT, IMTA, INAPESCA, INECC, UAM-UNAM and FCEA did not manage to meet the estalished cofinancing goals.

The total amount of cofinancing was deficient in approximately 1.5 million dollars in cash. This was compensated by significant additional contributions by GECI in 2019, lowering the difference to about 100 thousand dollars (funds from the WWF – Fondación Carlos Slimm Alliance, National Fish and Wildlife Foundation, Marisla Foundation and Packard Foundation). On the other hand, in kind contributions surpassed the initially planned total in more than 9.5 million dollars considering all partner institutions. This difference is mainly due to the contribution by CONAFOR, which provided more than 10 million dollars in kind. Considering all cofinancing contributions, the project has a positive balance of a little over six million dollars due to in kind contributions (Table 3).

Table 3 – Planned and real cofinancing funds contributed by partner institutions by 15 August 2019, in US dollars. Negative values are presented in red.

Cofinancing	Self-financing UNDP/GEF		Government / Institution		Associated organization		Total		Balance real/planned
Terminal Evaluation	(USD $)		(USD $)		(USD $)		(USD $)		(USD $)
(Type/ Source)	Planned (total)	Real (Aug. 2019)	Planned (total)	Real (Aug. 2019)	Planned (total)	Real (Aug. 2019)	Planned (total)	Real (Aug. 2019)	15 Aug. 2019
CONABIO									
Cash contribution	400,300.00	400,300.00	4,657,468.00	3,405,419.76			5,057,768.00	3,805,719.11	-1,252,048.89
Loans / concessions									
In kind contribution			616,153.00	685,185.94			616,153.00	685,185.94	69,032.94
Other									
Total	400,300.00	400,300.00	5,273,621.00	3,467,553.70			5,674,281.00	4,490,905.05	-1,183,376.00
CONANP									
Cash contribution	1,170,559.00	1,170,559.00	1,899,026.00	1,831,189.00			3,069,585.00	3,001,748.00	-67,837.00
Loans / concessions									
In kind contribution			800,000.00	990,000.00			800,000.00	990,000.00	190,000.00
Other									
Total	1,170,559.00	1,170,559.00	2,699,026.00	2,821,189.00			3,869,585.00	3,991,748.00	122,163.00
CONAFOR									
Cash contribution	833,334.00	833,334.00					833,334.00	833,334.00	0.00
Loans / concessions									
In kind contribution			3,908,597.00	13,964,742.22			3,908,597.00	13,964,742.22	10,056,145.22
Other									
Total	833,334.00	833,334.00	3,908,597.00	13,964,742,22			4,741,931.00	14,798,076.22	10,056,145.22
SEMARNAT									
Cash contribution	190,000.00	190,000.00	125,000.00	27,200.00			315,000.00	217,200.00	-97,800.00
Loans / concessions									
In kind contribution			47,611.00	26,000.00			47,611.00	26,000.00	-21,611.00
Other									
Total	190,000.00	190,000.00	172,611.00	53,200.00			362,611.00	243,200.00	-119,411.00

Cofinancing	Self-financing UNDP/GEF		Government / Institution		Associated organization		Total		Balance real/planned
IMTA									
Cash contribution	87,498.00	87,498.00				87,739.00	87,498.00	175,237.00	87,739.00
Loans / concessions									
In kind contribution			906,801.00	852,272.00			906,801.00	852,272.00	-54,529.00
Other									
Total	87,498.00	87,498.00	906,801.00	852,272.00			994,299.00	1,027,509.00	33,210.00
PROFEPA									
Cash contribution	744,500.00	744,500.00					744,500.00	744,500.00	0.00
Loans / concessions									
In kind contribution			3,985,740.00	3,942,751.60			3,985,740.00	3,942,751.60	-42,988.40
Other									
Total	744,500.00	744,500.00	3,985,740.00	3,942,751.60			4,730,240.00	4,687,251.60	-42,988.40
INAPESCA									
Cash contribution	133,332.00	133,332.00		526,040.00			133,332.00	659,372.00	526,040.00
Loans / concessions									
In kind contribution			833,333.00	246,000.00			833,333.00	246,000.00	-587,333.00
Other									
Total	133,332.00	133,332.00	833,333.00	772,040.00			966,665.00	905,372.00	-61,293.00
INECC									
Cash contribution	32,500.00	32,500.00	138,000.00				170,500.00	32,500.00	-138,000.00
Loans / concessions									
In kind contribution			9,000.00				9,000.00	0	-9,000.00
Other									
Total	32,500.00	32,500.00	147,000.00				179,500.00	32,500.00	-147,500.00
Civil Society Organizations									
GECI									
Cash contribution	1,100,859.00	1,100,859.00	2,917,541.00	3,087,690.00	0	1,400,000	4,018,400.00	5,588,549.00	1,570,149.00
Loans / concessions									
In kind contribution			201,000.00	241,200.00			201,000.00	241,200.00	40,200.00
Other									
Total	1,100,859.00	1,100,859.00	3,118,541.00	3,328,890.00	0	1,400,000	4,219,400.00	5,829,749.00	1,610,349.00

Cofinancing	Self-financing UNDP/GEF		Government / Institution		Associated organization		Total		Balance real/planned
FCEA									
Cash contribution			13,000.00	10,833.33	4,000.00	3,250.00	17,000.00	14,083.33	-2,916.67
Loans / concessions									
In kind contribution			62,000.00	31,416,67	12,000.00	7,583,33	74,000.00	39,000.00	-35,000.00
Other									
Total			75,000.00	42,250.00	16,000.00	10,833.33	91,000.00	53,083.33	-37,916.67
CESAEM									
Cash contribution	137,491.00	137,491.00					137,491.00	137,491.00	0.00
Loans / concessions									
In kind contribution			83,000.00	113,243.00			83,000.00	113,243.00	30,243.00
Other									
Total	137,491.00	137,491.00	83,000.00	113,243.00			220,491.00	250,734.00	30,243.00
Universities									
UNAM / UAM									
Cash contribution	45,000.00	45,000.00	23,000.00	20,000.01			68,000.00	65,000.01	-2,999.99
Loans / concessions									
In kind contribution			311,667.00	245,159.28			311,667.00	245,159.28	-66,507.72
Other									
Total	45,000.00	45,000.00	334,667.00	265,159.29			379,667.00	310,159.29	-69,507.71
UANL									
Cash contribution			3,000.00	3,700.00			3,000.00	3,700.00	700.00
Loans / concessions									
In kind contribution									
Other									
Total			3,000.00	3,700.00			3,000.00	3,700.00	700.00

3.2.6 UNDP and Implementing Partner implementation / execution (*) coordination, and operational issues

HIGHLY SATISFACTORY [2]

The comparative advantages of having the UNDP as implementing agency were explained in the former section. Besides executing its role, the UNDP worked closely with the PCU throughout the project, and conducted administrative work as required. Although delays in certain procedures like the approval of ToR, reports and payments were often mentioned in TE interviews, these were partly explained by changes in internal procedures of the UNDP with which the UNDP Mexico had to comply, as well as because some processes actually took longer than expected. Delays in the approval of consultancy reports were also due to issues of quality and content, especially in the beginning of the project. The high-quality requirements of the PCU and the UNDP in due course benefitted consultants as they improved performance as well as reporting skills. In other cases, the PCU requested several reviews of products, which dealyed approvals. The PCU should have been more careful to descentralize responsibilities to be able to meet project demands and balance the work load, especially within a team of 3-4 people dealing with 36 activities, a large number of reports and products.

Some operational problems were generated by the delays mentioned above. On several of the project sites, control actions could only be conducted in short rainy seasons, which in turn required timely approvals. If the ideal season passed, control was only feasible again in the following year, creating long implementation delays. These conditions caused stress as, in addition, contracts could not be longer than one year, and delays inflicted the risk of not being able to fulfill commitments.

The PCU managed to plan, implement and monitor the 36 activities of the project due to a great amount of dedication and commitment that included sacrificing vacation days. The support of partner institutions was essential. Although some of the activities did not produce the expected results, the PCU succeeded in developing related actions to generate at least partial results, some of which will be continued after project closure.

The general reference on the PCU provided by people in partner institutions as well as consultants involved in specific tasks is very positive in terms of attention and communication. The same applies to the CONANP IAS Coordination, which communicated directly with personnel from all the protected areas and CSO involved in conducting many activities.

CONABIO was considered the most adequate institution to take on the role of executing agency for its interministerial role, capacity and structure in producing data, leadership, availability to respond to demands, and managerial and technical capacity. CONABIO is highly positioned in the environmental sector and has a fundamental role in supporting decision-making in the areas of biodiversity, agriculture, aquaculture, fisheries and health, among others. CONABIO - DGAP contributed to the timely follow-up of the project and helped guide the work of the PCU.

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[2] De acuerdo a la guía para realizar evaluaciones finales de los proyectos respaldados por el PNUD y financiados por el GEF, el rendimiento de la coordinación y ejecución por la AI y AE debe ser evaluado con una escala de calificación de seis puntos: Altamente Satisfactorio, Satisfactorio, Moderadamente Satisfactorio, Moderadamente Insatisfactorio, Insatisfactorio y Altamente Insatisfactorio.

3.3 PROJECT OUTCOMES

3.3.1 Overall results (attainment of objectives) *

SATISFACTORY [3]

The implementation of the project was successful because the main objectives and outcomes were achieved in terms of improving national capacity and strengthening institutions for the management of IAS. The most common perceptions among interviewed stakeholders and project participants were that: (a) the project managed to include IAS in the agenda of the main institutions related to environmental issues and sustainable use of natural resources, including those in charge of productive sectors, which represented a change of scenario from project start; (b) because of the project, partner institutions were strengthened on several aspects and an important change of perception took place regarding the relevance of IAS management; and (c) there was significant improvement in capacity for IAS management at the national level. Participants in general acknowledge the relevance of the project and are grateful for the opportunity of having participated in its implementation.

The overall project objective is considered achieved because some positive results for the conservation of biodiversity of global importance were already measured during implementation, especially due to the eradication of terrestrial vertebrates on oceanic islands where populations of resident and migratory marine birds, as well as reptiles and small mammals, are recovering. Additionally, after management experiments on invasive plant control in mainland protected areas, more efficient methods based on technical and scientific references are in use, and more effective results are being achieved. Control actions are mid to long-term processes, which requires IAS management to become part of the routine in protected areas. A significant result was achieved in conveying the message that IAS control requires the use of efficient methods in order to optimize costs and maximize effectiveness in the restoration of natural areas. As more time passes, the benefits of effective IAS control will become more visible from more areas under management, and cost estimates will be available to support decision-making for the replication of management techniques as well as for new projects.

Another relevant result is that the implementation of the National Strategy on IAS would not have progressed without the GEF project. This is due to the availability of financial resources as well as because most key institutions lacked specific capacity and needed to learn about the concepts, impacts and management of IAS. Once this was done, better prepared staff in several institutions is ready to face the challenges of IAS management and further implement the National Strategy.

At a more detailed level, the achievement of targets was more limited. For practical reasons of the TE report, the most successful and most limited activities are briefly described for both

[3] In accordance with the UNDP Guide for Terminal Evaluations of UNDP-supported, GEF-financed projects, the M&E plan must be evaluated based on the following ratings: Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory and Highly Unsatisfactory.

outcomes. Greater details are presented below in the Logical Framework matrices (Tables 4 and 5), which cover progress per indicator, and in Annex 5.11, which covers progress per activity.

Outcome 1

The life span of the project was not long enough for the achievement of certain targets. The one-year extension granted to the project was very useful for some of the activities to be concluded.

To develop a **National IAS Management Framework**, Outcome 1 was subdivided in three outputs: the first one, regarding *Decision making tools aimed at informing cost-effective management decisions to address IAS threats in key landscapes and key sectors (aquarium trade, aquaculture, trade of wildlife and forest products),* achieved the best results of the three, i.e., most of the 12 activities contributed to inform decision-making to reduce the threats and impacts of IAS as well as to improve IAS management, including key productive sectors, based on solid data and references. The activities on the development of an IAS Information System (SIEI) (1.1.1), Publication and dissemination of the National IAS (1.1.5), Development and use of risk analyisis for species and pathwyays (1.1.6), Development and application of inspection tools to IAS that threaten biodiversity (1.1.7), Development and application of a model for mapping invasive alien plants (1.1.8), Mainstreaming information on IAS into the National Forest and Soils Inventory (INFyS) (1.1.9) and Development of models of IAS distribution niches related with climate change (1.1.10) were well developed and achieved significant results. Additionally, although not by direct influence of the project, considerations on IAS were included in the Environmental Cooperation Agreement between the USA, Canada and Mexico.

Some activities were limited, as only partial information was obtained and systematized on the costs of IAS management, while economic models to estimate costs of high impact IAS on the Mexican economy were not developed (activities 1.1.11 y 1.1.12); the establishment of a collaboration network to support IAS management (1.1.3) was was not achieved because such a network requires continuous interaction and management, a task that CONABIO was not able to pursue for lack of personnel and/or resources to hire a person to oversee it. The adaptive management response was to seek participation in existing networks, workshops, scientific events and international networks such as the Forest Health Network (Red de Salud Forestal), the North America Invasive Species Network (NAISN) and the Mesoamerican Invasive Species Network. Besides, CONABIO often seeks collaboration of a number of experts in several areas, which function as a support network, but is not a formal arrangement. The project was not successful in engaging the SEMARNAT and PROFEPA Departments in charge of wildlife management. Given that many of activities were completed and relevant, this was the most successful output of the three.

The second output (1.2) was aimed at having *Sectorial guidance and regulations in place to strengthen the control of the main pathways of IAS to vulnerable areas*. Five activities were designed for this output, and were satisfactorily achieved. The most relevant contribution to this output was building capacity in institutions in charge of border control, especially PROFEPA and CONAFOR (1.2.2.). Activities were developed to produce information, resources and capacity to improve IAS management and control (involving government institutions as well as the private sector and producers). Pilot demonstration sites were established as models of best production

practices in the ornamental fish trade, an activity originally planned for the state of Morelos, and later expanded to the state of Jalisco to improve production standards for ornamental fishes, and to the state of Puebla to involve trout producers. Additionally, pilot activities were established on a local scale with support from CESAEM and several CSO, while a demonstration project to build a closed cycle system for fish production is being led by INAPESCA. A significant amount of funds, time and work were invested in these activities (1.2.3 and 1.2.4, respectively), including consultancy contracts for the development of best practice manuals, identification guides, biosecurity and contingency measures, and dissemination materials produced to reach a wide range of public, including producers, vendors and consumers. Collaboration between the environmental sector and institutions in charge of production was successfully achieved, resulting in the implementation of biosecurity measures for the first time in Mexico to avoid the escape of fishes. The main limitation in this output was in developing regulations on IAS for operations by productive sectors, which turned out to be overambitious (1.2.1). A review of laws and regulations was carried out, from which new regulations were to be developd regarding species imports and use in the ornamental fish trade, aquaculture, and forest and wildlife products. The study did not, however, provide a clear path for the improvement of legal regulations, as it was limited to listing existing legislation. Additionally, the political context during project implementation was unfavorable to such endeavors. Once again, no action was undertaken in the area of wildlife management, and collaboration with the respective directorates was not established.

The eight activities of the third output, aimed at having a Multi-sectorial institutional framework in place to implement National Strategy on Invasive Alien Species (NSIAS), were less developed than the other two activities. Education and awareness campaigns on IAS were conducted and involved politicians, CSO, voluntary groups, journalists and the general public, and was the most developed activity in the output (1.3.8). This is mostly because CONABIO is a public source of information for society and is expected to promote, coordinate, support and disseminate knowledge on biological diversity, among other attributions. Other two activities contributed tangible benefits for strengthening institutional capacity to facilitate interinstitutional coordination for IAS management and to prevent the introduction and spread of IAS (1.3.2 and 1.3.3, respectively). To improve interinstitutional coordination, the project established an Executive, a Technical and a Scientific Committee. The Executive Committee did not fulfill the expectations because some of the representatives would send substitutes to meetings, impairing the ability of the Committee to make decisions. No meetings were held in 2019 due to the latest change in national government, which led to changes in high-rank positions in several institutions, and created instability within CONABIO. The Technical Committee meetings were also suspended in 2019 due to political uncertainty regarding changes in personnel in several institutions, and because it did not make sense to deliberate on recommendations that could not be taken to the Executive Committee for final decisions on implementation. Despite these issues, the project maintained a good level of coordination throughout most of the implementation period, but not to the point of establishing oficial operational guidelines for the implementation of the National Strategy on IAS.

The Scientific Committee continued to be functional and has been highly valued to support decisions on IAS management. This concept has been replicated by the UNDP to other projects for being useful and innovative. At the time of the TE, the expectation that the Committees continue working after project closure is unrealistic in the light of changes in national government, in high-rank positions of partner institutions, and operational uncertainties about CONABIO. Once these issues are solved, however, the Committees could resume their work led by CONABIO OR SEMARNAT, then escalate to higher ranks. At the technical level, more solid commitments were achieved due to changes in perception about the relevance of IAS management and its application in many areas. If one of these institutions takes up the leading role, the Executive Committee can be reconstituted and continue meeting and deliberating on relevant IAS issues.

Political uncertainty also affected activity 1.3.3., as it is equally dependent upon interinstitutional coordination, which again depends on the Executive Committee. Still, three lines of work were pursued and standard protocols were developed for: 1) communication procedures to respond to new IAS invasions and other IAS management urgencies; 2) definition of institutional responsibilities and exchange of contacts of key personnel in each partner institution; and 3) mechanisms for information exchange on current or potential joint initiatives, which was better developed at the technical level. On the other hand, five of eight activities only partially achieved the expected results. Two of these were dependent on the completion of activities 1.1.11 and 1.1.12, as well as on the engagement of the Executive Committee: (a) Development and application of financial mechanisms to support IAS management, for which a feasibility study on the development and introduction of financial instruments was conducted, and (b) Budgetary coordination between sectors to ensure coherent investments and actions to address threats cost-efficiently (1.3.5 and 1.3.6, respectively). The activity on drafting revised and harmonized existing laws/regulations related to IAS management did not evolve well, although the PCU and partner institutions contributed to a few legal regulations related to IAS, especially for productive sectors. Restrictions to the use of IAS in the production of African palm oil (*Elaeis guineensis*) were included in the regulations (NOM) and certification system (RSPO). Biosecurity measures were included in the SENASICA Sanitary Certificate for aquaculture, and INAPESCA has taken the lead in developing voluntary certification for the ornamental fish trade.

Outcome 2

Outcome 2, designed to develop **Integrated IAS management to protect globally significant vulnerable ecosystems**, was subdivided in two outputs. In general terms, this outcome produced more achievements than Outcome 1. Many challenges had to be overcome, especially in the beginning of project implementation, for output 2.2 to be successful, but a steady, positive learning curve was observed and accentuated especially in the last year of the project, yielding good practical results.

The first output (2.1), implemented by GECI, was designed to strengthen prevention and control of key IAS populations on selected islands by carrying out four activities. Three of these generated very positive results. Many education and training activities to support IAS management (2.1.2) were developed with many skills and by excellent means; information

materials on IAS and on indigenous species (mainly marine birds) were produced in the form of posters, stamps, stickers, mugs, t-shirts, caps, flyers, table games, coloring books and others, as well as workshops using musical presentations, painting, visits to regional museums and drawing exhibits, theater and radio spots. Capacity building workshops were offered to several kinds of public, from government personnel at different levels (high and medium-rank positions, technical staff, mariners) to local communities, fishing cooperatives, students and children.

Relevant results of the implementation of targeted high-priority IAS control and eradication programs (2.1.3) were generated by eradicating invasive vertebrates on islands, as the recovery of indigenous and endemic species was observed afterwards during monitoring sessions. This refers to activity 2.1.4 to Establish and maintain monitoring programs to ensure the effectiveness of biosecurity and IAS control and eradication efforts. The control of invasive plants in Arrecife Alacranes PN and of goats on Espiritu Santu Island have not been completed, but the necessary permits, tools and capacity to carry out these actions were available at the time of the TE. Methods were defined, and implementation was beginning. Goat eradication was delayed because of restrictions imposed by the protected area manager to the use of the most efficient control methods. A pilot phase of goat control using air rifles was conducted between September 4 and 13, 2019, when 75 animals were eliminated. In the last week in September, 2019, *Opuntia dilenni* (nopal cacti) will be eliminated on Isla Muertos as well as the few coconut palms on Desterrada Island, and the casuarina trees on Isla Pérez will be counted and mapped. A gradual removal plan will be designed and negotiated with SEMAR. Other control actions were still being developed at the time of the TE, with good prospects of success. The greatest challenge in this output referred to the implementation of island biosecurity protocols, an approach that had not been formerly tried. GECI led the development of six biosecurity protocols that include EDRR and other measures by conducting an inclusive and participative process. Six IAS management committees were also expected by the end of the first year of project implementation, a deadline that was unrealistic, as at the time of the TE only four committees had been established.

Island biosecurity (2.1.1) is highly relevant but also highly complex because its implementation depends on a large number of stakeholders. The difficulty in implementing the protocols lie partly on that each institution involved has to take charge of certain commitments. CONANP should be the institution leading and ensuring the application of the protocols, with support from other organizations and people who visit the islands. GECI has been leading this effort as well as disseminating information on island biosecurity in workshops, lectures and capacity building events for personnel from at least 30 organizations from Mexico and six from the USA, including CONANP, CONABIO, SEMARNAT, PROFEPA, SECTUR, SEMAR, SEGOB and SENASICA; as well as state government agencies, civil society organizations, universities and the private sector. However, more work is required for the application of the protocols to be consistent and become part of the institutional routine. At the time of the TE, the application of the protocols and inspection routines were highly dependent upon the commitment of GECI.

CONANP was responsible for the implementation of Output 2.2 to *Enhance IAS surveillance and control strategies to reduce introduction rates from productive landscapes and contain populations below thresholds that endanger endemic species and their habitats in 9 mainland*

protected areas. Good results were obtained for the seven activities designed for this output. Much information was generated for the baselines necessary for effective IAS management (2.2.1), which were used to develop specific management plans for IAS, under implementation during the TE. Although some results were produced quite late in terms of project implementation and some activities were still being developed near project closure, the amount and quality of information generated provides reference for continued monitoring with good prospects of success, as well as for replication to other protected areas. The definition of best practices to be applied by key productive sectors to reduce the spread of IAS (2.2.3.) generated unprecedented results because, even though some management plans included zoning proposals for protected areas where productive activities are allowed, CONANP had never been able to establish efficient communication nor activities to address these issues directly with producers. Through the project, CONANP personnel improved their perception of the linkages between productive activities and impacts on biodiversity, and a few successful cases of integration between producers and biodiversity conservation were put into practice involving local communities. In some cases, although the initial number of producers engaged in the project was small, they were disseminating what they considered to be good practices to others. In other cases, there is still resistance from certain communities to change traditional ways due to attachement to cultural issues, and also because the strategy of approach in a few cases requested that the community accepted too many changes at once. In cases like this, more continuous support by CONANP and experts in the field will be necessary to help people apply the knowledge they gained.

The results of activities intended to Strengthen IAS management capacities and processes for landscapes within and surrounding mainland protected areas (2.2.2), which is linked to the implementation of targeted IAS control, eradication and monitoring in selected mainland protected areas (2.2.6), were very positive in several ways, especially in the last year of project implementation. Subcommittees on IAS were established for each of the nine protected areas, but some of them were not functional at the time of the TE. Protected area managers need to take the leading role in presenting clear demands for the committees to work on. Among the nine committees, four were working well (Tutuaca, Cumbres de Monterrey, El Vizcaíno and Los Tuxtlas); two were only beginning to meet and stand a good chance of being functional (Marismas Nacionales and Sian Ka'an) and the other three were not functional (Sierra de Alamos, Valle de Bravo and Cañón del Sumidero), which requires better planning on the part of CONANP. Other activities were conducted to increase operational and technical capacity of personnel in protected areas and extend the benefit to communities that provide support to protected areas by conducting monitoring, control or eradication actions. The relevance of activity 2.2.6 lies in the facts that more IAS control actions have been carried out, especially in the last year of project implementation, and that protected area managers became more open to use chemical control methods for invasive alien plants, as they are more efficient in terms of costs, time, modes of application and results. Unfortunately, data has not been recorded in all cases to allow for an evaluation of cost-effectiveness. Because some species are very persistent, control actions need to be sustained to ensure natural or assisted restoration, as undertaken in areas negatively impacted by IAS (activity 2.2.7). CSO and consultants involved in project

acitivities improved their performance over time, and some of them were truly engaged in working beyond contractual obligations. This has added value, as cooperation with local CSO and communities is key for CONANP. The PCU and CONANP developed a directory of consultants and CSO who improved their skills and knowledge on IAS management, especially on eradication and control, and shall contribute to improving the efficiency of future projects and actions. The greatest limitations observed for this output refer to the development and implementation of EDRR protocols. Although good progress was achieved in developing the protocols, including for species that were not initially contemplated, effective implementation will require more time and go beyond the life span of the project, for which the engagement and lead role of CONANP will be essential.

Additional results

Some results that had not been planned were observed as a consequence of project implementation. These are important because they create evidence of extended project benefits.

The aim of activity 1.2.3, in **Outcome 1**, was to engage producers in the ornamental fish trade in the state of Morelos. As the work developed, collaboration was also established with Criadero Acatlán, in the state of Jalisco. Best practices, tools and information were made available to improve management and qualify production. In 2018, partly due to the influence of these activities, the Mexican Association of Responsible Professionals in the Aquarium Trade (AMPAR) was founded in Jalisco.

The work of AMPAR has led more producers to adopt biosecurity measures in production structures to avoid the escape of fishes as well as in sales and transport, introducing concepts of sustainability. Additionally, the same criteria and objectives are being applied to trout producers in the state of Puebla. An event for producers to exchange experiences was promoted in the scope of the project between producers from Puebla and ten trout producers from Valle de Bravo APRN.

Supported by INAPESCA, SENASICA and the PCU, Criadero Acatlán in Jalisco incorporated strict biosecurity measures with the aim of requesting pathogen-free certification. Producers are more aware of IAS issues and of market advantages of certification as these are expected to reflect financial gains in the future. Seventeen facilities are currently in the pilot phase to pursue certification.

Additional results were also produced in the scope of **Outcome 2**. Island biosecurity protocols were to be developed for six islands as part of Output 2.1, but GECI has produced protocols for 11 islands. In the scope of output 2.2, some cattle ranchers who were taught best practices in Marismas Nacionales RB founded an association called GANADESU S.P.R. DE R.L. (Cattle Ranching and Sustainable Development, Limited Responsibility Rural Production Society). The group adopted best practices in cattle ranching which avoid impacts on mangroves. The group was active and full of new ideas at the time of the TE mission, planning to seek organic certification for their products in the near future. They were aware of the benefits the adoption of best practices bestow on biodiversity, and willing to support other ranchers who are now interested in following their example.

After Pacific Oysters (*Crassostrea gigas*) were found in the Ojo de Liebre Lagoon in El Vizcaino RB outside authorized cultivation areas established in the PA management plan, producers were worried that potential conflicts would emerge if regulations were developed. To address this concern, the protected area managers, the PCU and the CONANP Coordination for IAS, along with the PA Subcommittee on Climate Change and Invasive Alien Species, decided to form a new Subcommittee for Sustainable Aquaculture for El Vizcaíno RB, focused on the cultivation of indigenous species and zoning of aquatic production areas.

Another reference of success comes from the work carried out by CIPACTLI, Agencia de Restauración Forestal y Vida Silvestre S.C, in charge of implementing management plans for the bullfrog (*Lithobates catesbeianus*) and red-bellied tilapia (*Tilapia zillii*) in Oasis San Ignacio. When other aquatic invasive species were detected in the same river during implementation, the common carp (*Cyprinus carpio*), the red swamp crayfish (*Procambarus clarkii*) and the swordtail fish (*Xiphophorus hellerii*) were added to the list of species to be controlled although they were not part of their contractual obligations.

Analysis of the Logical Framework[4]

The logical framework is presented below with comments and ratings according to results achieved.

Table 4 – Results matrix in the **Strategic Results Framework** (results in comparison with goals at end of project). Rating of results: HS – highly satisfactory; S – satisfactory; MS – moderately satisfactory; MI – moderately unsatisfactory; U – unsatisfactory; HU – highly unsatisfactory. Colors: green: achieved; yellow: on target to be achieved; orange: on target to be achieved after project closure; red: not on target to be achieved.

Strategic Results Framework Indicators	Baseline	Target at end of project	Level reported in 2018 and 2019	Level and review at TE and rating of results	Justification for ratings	Related activities
Outcome 1. National IAS management framework						
% of species being imported into Mexico for the first time that have a risk analyses (for potential impacts on biodiversity).	0%	100% of species are subject to risk analyses or at least rapid assessments for potential impacts on biodiversity.	Protocols developed for complete risk assessments (RA) of ants and weeds. 692 species are subject to risk assessment (MERI or complete RA) (415 at project start) and 545 factsheets are completed (157 at project start). Corrections were completed in the RA protocol for plants. RA protocols for fishes and aquatic vertebrates were adapted from CEFAS, UK - Gordon Copp. A study on pathways was developed for 795 species based on the CDB list of terms, but no protocol was developed for assessing the risk of pathways.	**S**	According to the PRODOC, risk assessment methodologies should be validated. Protocols per group (fishes, invertebrates, terrestrial vertebrates, plants, etc.) were used to develop complete assessments. MERI is in use to carry out preliminary assessments, although some corrections are still being made in the plant protocol (the protocol for fishes is completed). Capacity building events for stakeholders in partner institutions are not likely to happen before project closure. Protocols may be ready, but will not have been adopted for use by institutions.	**1.1.6**

[4] GEF rating scale: HS – Highly Satisfactory; S - Satisfactory; MS - Moderately Satisfactory; MI - Moderately Unsatisfactory; U - Unsatisfactory, and HU – Highly Unsatisfactory.

Strategic Results Framework Indicators	Baseline	Target at end of project	Level reported in 2018 and 2019	Level and review at TE and rating of results	Justification for ratings	Related activities
Effective biosecurity systems at productive sector facilities, including: nurseries, breeding ponds / farms, distribution centers, 6 UMAs and PIMVS.	Productive sector companies and associations lack knowledge, experience and capacities for applying biosecurity protocols or technologies for IAS that impact biodiversity.	10 productive sector facilities that deal in IAS with potential impacts on biodiversity applying Hazard Analysis and Critical Control Points (HACCP) systems and/or implementing improved IAS management technologies by the end of the project.	CESAEM and AMPAR work with producer associations in Morelos and in Jalisco, respectively, to introduce best practices and biosecurity measures to avoid the escape of ornamental fishes. INAPESCA and the PCU are working on a closed cycle production system for ornamental fish production in Morelos that should become a pilot model for replication throughout the sector. Collaboration with CESAEM for capacity building and information materials on the risk of fish escapes, best practices and biosecurity to producers in Morelos. A certification scheme and best practices are promoted in workshops and lectures in Acatlán. Two capacity building events were carried out in 2019 on biosecurity measures and prevention of fish escapes to ornamental fish producers in Morelos. A biosecurity plan was developed in the last year to minimize the risk of spread of IAS in the Morelos aquaculture sector. Measures are partially implemented.	**S**	Several facilities and associations of the productive sector have more information on IAS as well as capacity to apply biosecurity protocols. 11 installations have adopted biosecurity measures to avoid fish escapes. Besides, 8 producers signed letters of agreement to allow for visitation by other producers so they can see the improvements and adopt these measures. The target was not fully achieved because measures were limited to aquaculture facilities and did not include UMA (wildlife management units) or PIMV. The indicator points to the assessment of high-risk species and their pathways through aquaculture and the ornamental fish trade. Best practice manuals including biosecurity measures were made available for specific IAS. Aquaculture production units (UPA) were mapped to ensure that information would be available for biosecurity recommendations.	**1.2.2, 1.2.4**
Regulations under existing legislation to strengthen management authority over IAS that impact biodiversity (laws / regulations that might need to be revised / strengthened include): • Ley General de Vida Silvestre (General Law on Wildlife) • Sistema Nacional de Sanidad, Inocuidad y Calidad Agropecuaria y Alimentaria (SENASICA) (the National System for Agricultural, Cattle Production and Food Sanitation, Innocuousness and Quality Control - SENASICA)	Laws and regulations for wildlife, forestry and fisheries are insufficient for prevention, early detection, rapid response, and control and eradication of IAS that impact biodiversity.	Regulations for management of IAS that impact biodiversity in wildlife, forestry and fisheries are drafted by the end of the project.	The legal review developed in 2017, mentioned in the MTR, did not provide solid recommendations to be presented to government institutions. Suggestions to the General Law on Sustainable Forest Development and to the General Law on Sustainable Fisheries and Aquaculture were contributed by the project Technical Committee, but the review process has not been completed.	**MS Proposals for changes in national laws** **MS Sectorial regulations**	This indicator was rated in two parts. The first rating refers to changes in national laws and the second, to sectorial regulations. The legal review on IAS and related issues contracted with project funds was expected to identify gaps and inconsistencies and therefore guide the development of new proposals as well as the need to harmonize existing legislation. Workshops with representatives of government institutions, of the Senate and other experts were supposed to discuss and validate the proposals for changes in laws, regulations, and policies. Although these outputs were not achieved, it was a relevant victory to publish a national law that instates a National List of IAS, as it provides legal reference for IAS and will inevitably lead to further development of regulations in the future. In 2018, although not resulting directly from the project, concerns about IAS were included in the Environmental Cooperation Agreement of the Commercial Treaty between the United States, Canada and Mexico (TMEC).	**1.2.1, 1.3.1**

Strategic Results Framework Indicators	Baseline	Target at end of project	Level reported in 2018 and 2019	Level and review at TE and rating of results	Justification for ratings	Related activities
• Ley Federal de Derechos (LFD) (Federal Law of Rights) • Leyes y reglamentos sobre vida silvestre, forestal y acuícola (Laws and regulations on wildlife, forests and aquaculture) • Ley Orgánica de la Administración Pública Federal (LOAPF) (Organic Law on Federal Public Administration).			Improvements were included in the African palm oil RSPO Certification and the NMX (open for public consultation) and to the Mexican Regulations project (PROY-NMX-F-817-SCFI-2018) that establishes requirements and specifications for the value chain of sustainable palm oil. Due to these suggestions, plantations that include species on the National IAS List will not be entitled to certification. The Regulations Commission of SADER agreed to discuss certification for the sustainable production of ornamental fishes in the pet trade in 2019. SENASICA Sanitary Certification included biosecurity measures for aquaculture. A voluntary certification scheme is in development for the ornamental fish trade.		Some sectorial regulations on IAS management are in development for African palm oil (*Elaeis guineensis*) and the ornamental fish trade, but these have not yet been approved. The National IAS List and risk assessment protocols were useful to prohibit the importation of several species in the genus *Pangasius* (fishes), the alfalfa leaf-cutting bee *(Megachile rotundata)* and monk parakeet (*Myiopsitta monachus*). This indicator was designed to measure the development of a legal framework that would allow authorities to carry out inspections and quarantine measures for IAS that may impact biodiversity, a result that was unfortunately not viable to achieve.	
% of inspectors at points of entry or other inspection sites within Mexico are trained in use of the National List of Invasive Species or in protocols to prevent the introduction/spread of IAS that impact BD.	0%	> 90 %	Measures for IAS management were mainstreamed into the 32 Delegations of PROFEPA. 100% of the inspectors of the DGIAPAF and 46% of the DGIF inspectors participated in capacity building events to improve their skills on international trade and IAS. Additionally, nine DGIAPAF inspectors participated in the Capacity Building Workshop on Control and Verification of imported Christmas trees, promoted by the US Department of Agriculture in Oregon. This workshop was then replicated in Mexico for other inspectors. The PROFEPA registry system (SIREV) was improved to include real time data on the non-compliance of phytosanitary regulations on the importation of forest products.	**HS**	100% of DGIPIAF inspectors participated in capacity building events. Inspectors of wildlife and forest products working on border control and in other areas in Mexico were trained as outlined in the PRODOC. Relevant results were achieved from investing in equipment and capacity building for staff in PROFEPA and SEMARNAT (in charge of the Laboratory that reviews specimens sent by PROFEPA for taxonomic identification from border control points) for the identification of IAS in wildlife and forest products. This new equipment has allowed inspectors to increase their identification skills, so the number of specimens sent to the SEMARNAT Lab was significantly reduced, which in turn increased efficiency and lowered costs. The PROFEPA DGIVVSRMEC, in charge of biodiversity issues, did not get involved in the project, despite efforts of the PCU and recommendations in the MTR.	**1.2.2**

Strategic Results Framework Indicators	Baseline	Target at end of project	Level reported in 2018 and 2019	Level and review at TE and rating of results	Justification for ratings	Related activities
Early Detection and Rapid Response (EDRR) systems for IAS that impact biodiversity.	No EDRR systems exist in Mexico for IAS that impact biodiversity.	EDRR systems have been developed and implemented nationally for at least 2 invasive species (e.g. *Cactoblastics cactorum* and *Dreissena polymorpha*) by the end of the project.	SENASICA organized the "Epidemiological simulation for detection of cactus moth (*Cactoblastis cactorum*)" for CONAFOR, CONABIO, SEMARNAT and the PCU. The Sanitary Directory of CONAFOR provided basic training on the Incident Command System for SEMARNAT, CONANP and SENASICA with the purpose of establishing a coordinated response in case of detection of IAS in Mexico. A certified response scheme was approved for the detection of gypsy moth (*Lymantria dispar*) in Mexico. CONAFOR, with support from PROFEPA and the Chapingo University, developed an EDRR protocol for five harbors and airports. CONAFOR maintains a phytosanitary monitoring system using insect traps, adjusted with data from early detection warnings.	**S**	Activities include EDRR carried out by several institutions in the environmental sector for more than two species of forest pests. These EDRR systems have been adopted by the institutions in charge and become part of their routine; however, the species referenced in the indicator have not been contemplated. Risk assessment is in development for the zebra mussel (*D. polymorpha*), and should include EDRR, control, costs and the attribution of responsibilities. EDRR protocols were developed for echinoderms and tunicates, but have not been implemented.	**1.3.4**
Outcome 2. Integrated IAS management to protect vulnerable globally significant ecosystems						
Financing for control and prevention activities.	USD 0.8 million per year for activities related to IAS management at 6 selected island sites.	Average 25% increase of budget for IAS control and prevention in selected island sites by the end of the project.	GECI received a grant of US$ 1.4 million from the WWF - Fondación Carlos Slim Alliance, National Fish and Wildlife Foundation, Marisla Foundation and Packard Foundation in 2019 for restoration and biosecurity on oceanic islands in Mexico. Islands include Guadalupe, Cedros, San Benito Oeste, Espíritu Santo, Revillagigedo and Natividad.	**HS**	Additional cofinancing funds were obtained from national and international organizations. GECI had an initial commitment of providing US$ 1,100,859 to the project, and has provided US$ 2.2 million more, i.e., 83% additional funds. Funds received from GECI donors in 2019 will be invested in EDRR on all islands, environmental education on Guadalupe, Cedros, San Benito and Natividad, and dissemination of information on biosecurity to all islands, as well as ongoing action for the eradication of feral cats on Guadalupe and Socorro.	**2.1**
Sustained control of feral cats (Guadalupe and Socorro Islands).	Feral cat populations on two islands having severe negative impact on native species through predation.	Sustained control of feral cats (Guadalupe and Socorro Islands) by end of project.	A total of 523 cats were captured on Guadalupe Island. GECI estimates that 58% of the island is now cat-free. On Socorro Island, 635 cats have been sacrificed, while another 100 cats are estimated to remain. Progress on this indicator is estimated at 95%.	**HS**	The target set has been achieved for both islands. Eradication is about to be completed on Socorro, and estimated for Guadalupe in 2020.	**2.1.3**

Strategic Results Framework Indicators	Baseline	Target at end of project	Level reported in 2018 and 2019	Level and review at TE and rating of results	Justification for ratings	Related activities
Removal of IAS from selected island sites.	A total of 15 populations of invasive mammals (i.e. rodents, cats and ungulates) have already been removed from the selected island sites between 1998-2012.	• End of year 1: Eradication of feral cats (Espiritu Santo); mice (San Benito Oeste); and 5 species of alien vascular plants (Arrecife Alacranes) • End of year 2: Eradication of black rats and feral cats on Banco Chinchorro (Cayo Centro) • End of year 3: Eradication of feral goats on Isla Espiritu Santo • End of project: Post-eradication monitoring completed for 9 IAS (eradicated in years 1-2).	Control/eradication of invasive alien plants in Arrecife Alacranes PN and eradication of goats on Espiritu Santu Island, to be initiated in September, 2019. GECI expects to eliminate nopal cacti on Muertos Island, coconut palms on Desterrada Island, and count and develop a control plan for casuarina on Pérez Island. A pilot phase of goat control using air rifles was conducted on Espíritu Santo Island between September 4 and 13, 2019, with 75 animals eliminated. Other two control expeditions are planned for September 21 to 28 and October 1st to 7. Methodological adaptations or changes might be considered based on the results. Eradication of other alien populations on islands were completed with excellent results.	**S**	Progress on the eradication of goats on Espiritu Santo island was hindered because CONANP had not authorized the use of more efficient control methods. The use of air rifles was finally authorized for ground hunting, so eradication is expected to be achieved in 2019. Control actions started in September, 2019, with support from the protected area, authorization from the DGVS and support from SEMAR and PROFEPA. Control/eradication of plants in Arrecife Alacranes PN was initially planned for five species; a species of grass was later found to be indigenous, one species was not found, and three remain (*Casuarina equisetifolia, Cocos nucifera* and *Opuntia dillenii*). Obstacles to completion were the lack of knowledge to decide on effective control methods, resistance to chemical control and to cutting down the casuarina trees because they provide shade on Isla Perez, the latter presented by SEMAR. Gradual replacement with indigenous shrubs was recommended over five years, beginning with the casuarina trees further away from the SEMAR structures. The control methods indicated are mechanical removal of coconut palms and cacti, and cutting + treating cut stumps of casuarina. Control was started in September, 2019.	**2.1.3**
Early Detection and Rapid Response (EDDR) systems to prevent the establishment and spread of specific high priority IAS applied at selected mainland PA sites:	0 mainland PAs have systems for EDRR (baseline populations to be determined during year 1 of project).	4 mainland PAs with operating participatory EDRR systems sites by end of the project, with the following results:			Protocols and actions were developed for the protected areas as planned plus two additional PA: Sierra dos Alamos Rio Cuchujaqui APFF developed an EDRR protocol for armored catfish in the Cuchujaqui River. An EDRR protocol was developed in Marismas Nacionales RB for *Arundo donax, Cenchrus ciliaris* and *Cissus verticillata*, and a simulation was carried out involving several stakeholders. Although much progress was made on the protocols, effective implementation will take longer than expected.	**2.2.5**

Strategic Results Framework Indicators	Baseline	Target at end of project	Level reported in 2018 and 2019	Level and review at TE and rating of results	Justification for ratings	Related activities
Monk parakeet (*Myiopsitta monachus*) in Vizcaíno BR.	Outcompetes native bird species for food sources.	80% reduction in successful escapes of monk parakeet.	An EDRR protocol is in development for monk parakeet as well as a risk map for Guerrero Negro and Oasis San Ignacio. A control plan is being developed and two workshops are planned; one to convey information and the other on EDRR and control. Six birds are being monitored in Guerrero Negro using telemetry in order to verify their current distribution.	**S**	The indicator was not well conceived, as it is nearly impossible to measure. The monk parakeet has not been observed in the protected area, and birds seem to be constrained in urban areas so far. Still, monitoring is in place to avoid their spread to Oasis San Ignacio and other important sites within the PA. The EDRR protocol has not been finalized, but monitoring for early detection is in place in urban areas.	**2.2.5**
Tilapia Mozambique (*Oreochromis mossambicus*) in Tutuaca.	Outcompetes native fish species.	No increase in # of water bodies with presence of tilapia.	Management plans have been developed for Mozambique tilapia (*Oreochromis mossambicus*), including prevention and EDRR measures, rainbow trout (*Onchorhynchus mykiss*), buffel grass (*Cenchrus ciliaris*) and pink grass (*Melinis repens*).	**S**	Baseline studies concluded that the Mozambique tilapia is not a problem in the protected area and that it occurs at low density in the buffer zone. Still, prevention and EDRR measures have been defined, but have not yet been implemented.	**2.2.5**
Feral cat, feral dogs, and the armored catfish (Loriicaridae fam.) at Cañón del Sumidero.	Feral cats and dogs prey on native species and transmit diseases; armored catfish competes with native fish species and transmits diseases.	Reduced rate of spread of feral cats and dogs into PA; no increase in # of water bodies with armored catfish.	Four HACCP and an EDRR protocol for red-eared slider (*Trachemys scripta*), armored catfish (*Plecostomus* sp.), alien grasses and aquatic plants were developed for Cañon del Sumidero PN, as well as two risk assessments on the arrival of alien plants and vertebrates. Equipment to check the entry of dogs was purchased for use at the park main entrance.	**S**	Although the EDRR protocol developed in 2017 was not functional, attention to early detection has improved and included a number of local stakeholders to use HACCP for high-risk alien species. Control of feral dogs and cats continues (2014-2019), with 71 animals captured (59 dogs and 12 cats) and 1471 sterilized (911 dogs and 560 cats).	**2.2.5**
Giant cane (*Arundo donax*), love vine (*Cassytha filiformis*) and palm weevil (*Rhynchophorus palmarum*) at Sian Ka'an.	Giant cane disrupts aquatic systems; vine kills native vegetation; weevil kills palms.	No increase in area impacted by giant cane or vine; no increase in # of palms impacted by weevil.	An EDRR protocol is in development as well as an EDRR pilot system for aquatic invasive species using barcode identification and analysis of environmental DNA. A sanitary enclosure was used in Punta Herrero to prevent the spread of palm weevil (from a site where the density of palms is high and several palms are affected by the weevil) to other parts of the PA.	**S**	Although it took long for the PA to get involved in the project, good progress was made so far. The protocols still need to be consolidated and implemented.	**2.2.5**

Strategic Results Framework Indicators	Baseline	Target at end of project	Level reported in 2018 and 2019	Level and review at TE and rating of results	Justification for ratings	Related activities
Best practices for IAS management among productive sector partners at 6 mainland PA sites reduce IAS populations as follows:	*Current production sector practices result in the following IAS impacts:*	*Best practices instituted at 6 mainland PA sites by the end of project, with the following results:*				**2.2.5**
Planting of buffel grass (*Cenchrus ciliaris*) and pinkgrass (*Melinis repens*) at Tutaca and pink grass (*Melinis repens*) at Sierra de Álamos.	Exotic grasses displace native grassland species and increase the incidence and severity of fires within the PA.	No more planting of buffel grass and pink grass.	Management plans for buffel grass and pink grass and a strategic plan for cattle management are in development. An event for exchange of experiences and best practices is planned for cattle ranchers from Tutuaca, Marismas Nacionales Nayarit, Mapimi and Janos, as well as a capacity building workshop on sustainable cattle management expected to reduce the usage of invasive grasses. Cattle management enclosures were constructed in Sierra de Alamos Rio Cuchujaqui to implement rotational grazing.	**S**	An indirect consequence of the use of best practices in cattle management is that the use of invasive forage grasses will be reduced. Implementation is in process, as it takes time for people to adjust to new practices. In Sierra de Alamos, ranchers have agreed to stop seeding pink grass (*Melinis repens*) and have accepted control measures, but free-roaming cattle continue dispersing seeds. Control of pink grass stopped in 2019, which implies the loss of work formerly carried out in certain areas as the grasses are again allowed to set seed. An efficient control strategy is necessary for Sierra de Alamos to define priority areas for control as well as effective methods beyond mechanical control.	**2.2.5**
Planting of exotic tree species such as cedro blanco (*Cupressus lindleyi*), gum (*Eucalyptus camaldulensis*) and casuarina (*Casuarina equisetifolia*) in Valle de Bravo.	Exotic tree species reduce habitat for native species and change hydrological conditions.	Planting of exotic tree species ended, and replaced with native tree species.	No information is reported for this indicator apart from information materials disseminated on the impacts of these species. Best practices have been adopted by cattle ranchers and aquaculturists and a best practice plan has been developed for protected areas.	**U**	No evidence of progress on the indicator is available regarding best practices in the use of forest trees.	**2.2.5**
Extensive cattle ranching within PA boundaries at Marismas Nacionales and Sian Ka'an.	Destruction of mangrove seedlings by foraging cattle; pollution caused by livestock waste; negative impacts on re-vegetation.	Cattle ranching restricted in scope (e.g. no access to priority conservation areas such as mangroves).	Pilot tests of best practices in grazing management were conducted in **Marismas Nacionales** and a technical manual was developed. An artisanal well was constructed to provide water for a guajillo nursery (*Leucaena leucocephala*) that will produce seedlings for forage production. An agreement was signed for the use of grinding mills for green silage. A subcouncil/committee for IAS was established. An association formed by cattle ranchers was formalized (GANADESU) and is applying best management practices in grazing.	**HS - NP Marismas Nacionales Nayarit** **MU - RB Sian Ka'an**	There is a good level of engagement of local communities with the protected area. Agreements were established for the use of enclosures and best grazing practices. The recovery of mangrove plants is visible after the access of cattle was restricted in some areas.	**2.2.5**

Strategic Results Framework Indicators	Baseline	Target at end of project	Level reported in 2018 and 2019	Level and review at TE and rating of results	Justification for ratings	Related activities
			Best practices in **Sian Ka'an** were focused on aquaculture (aquaponics and production of tenguayaca fish (*Petenia splendida*). Measures towards the control of feral cows are only beginning with a survey on current distribution and abundance in an area of the PA.		Not much progress was made in Sian Ka´an. The indicator is focused on the recovery of cattle-free mangrove areas, which has not been achieved.	
Aquaculture utilizing exotic trout (*Oncorhynchus mykiss*) at Tutuaca; exotic carp and trout at Vallee de Bravo; various exotic species at Cañón del Sumidero; and Mozambique Tilapia (*Oreochromis mossambicus*) at Sian Ka'an.	Exotic fish species outcompete native fish species and produce changes in the aquatic environment.	Replacement of exotic aquaculture species with native species; enhanced biosecurity systems for remaining exotic aquaculture operations.	Tutuaca developed a management plan for rainbow trout that includes EDRR and prevention measures to avoid its introduction to the PA. Valle de Bravo assessed 10 trout production facilities and invested in operational structures of 10 UPA. Two of these have adopted best practice technologies for trout and carp production. A change in the target was made for Cañón del Sumidero PN, as improved management of fish production facilities were included in the PRODOC but are nonexistent in the area. An EDRR protocol includes the armored catfish, but has not yet been efficiently implemented. The target was achieved because a native species was promoted (tenguayaca - *Petenia splendida*) to replace invasive tilapia, with actions in place since 2017.	**MS**	Tangible progress was achieved in three protected areas. Although it was not possible to substitute alien fishes used in aquaculture by native ones as expected, mainly due to cultural issues, progress was made towards the adoption of best practices. In Tutuaca, Mozambique tilapia (*Oreochromis mossambicus*) is not in use, and a management plan with emphasis on prevention includes Asian carp (*Cyprinus carpio*). No evidence of fish invasions was available in Cañon del Sumidero PN.	**2.2.5**
Evaluation color codes:	**Achieved**	**On target to be achieved by the closing of the project**	**On target to be achieved after project closure**	**Not on target to be achieved**		

Table 5 - Matrix of progress towards the achievement of outcomes: **indicators per output**. Achievements in comparison with end of project targets. Rating of results: HS – highly satisfactory; S – satisfactory; MS – moderately satisfactory; MI – moderately unsatisfactory; U – unsatisfactory; HU – highly unsatisfactory. Colors: green: achieved; yellow: on target to be achieved; orange: on target to be achieved after project closure; red: not on target to be achieved.

Indicators and activities per output	Baseline	Target at end of project	Level and review at TE and rating of results	Justification for ratings	Related outputs
Output 1.1: Decision making tools aimed at informing cost-effective management decisions to address IAS threats in key landscapes and key sectors (aquarium trade, aquaculture, trade of wildlife and forest products)					
Management plans for invasive species that have been identified as high priority for impacts on BD.	A National List of Invasive Species (NLIS) is in draft form.	At least 15 management plans for high priority species identified in the approved NLIS developed and in operation, by the end of the Project.	**MS**	The proposal on general guidelines on IAS, including annexes per group, submitted by the CONABIO Subcoordination on IAS for inclusion in Mexican regulations (NMX), is under evaluation by SEMARNAT. This activity was planned as part of Outcome 1, but was complemented by activities in Outcome 2 due to the development of specific management plans for at least 12 IAS in protected areas, of which only six are in the National IAS list.	**1.1.5**
Agreed upon common protocols for priority species adopted by IAS management institutions.	There are no harmonized protocols among IAS management institutions for carrying out risk analyses to identify highest risk species / pathways, or collecting and exchanging information.	At least 3 institutions adopting the different protocols for risk analysis of priority species, taxonomic groups, pathways, or geographic areas.	**HS**	Standardized procedures for the detection of forest pests were developed by PROFEPA and CONAFOR. PROFEPA, CONAFOR and SENASICA have used information from risk analyses carried out by CONABIO in their work (inspection, monitoring and regulations) to prevent the introduction of IAS. The environmental sector has been approached to adopt epidemiologic monitoring protocols of SENASICA, as they can also be efficient in the environmental sector. RA protocols for wildlife species still need to be adopted by the respective institutions.	**1.1.6**
Extent of data in the Invasive Alien Species Information System (IASIS).	The IASIS includes 50,000 records (covering 381 species), 415 rapid assessments, and 157 information sheets on IAS occurrence in Mexico.	By the end of the project, a 40% increase in the contents of data base (records, species, rapid assessments, and information sheets).	**HS**	The IAS Information System (SIEI) has been updated and contains 242,876 records (of specimens and their location) for 2120 species (there were 1507 at the time of the MTR), 782 of which are species with complementary records (381 at project start), 467 are invasive alien, and 298 are invasive although native to other parts of Mexico. Information on pathways was included in the system for 468 species (210 of which are on the National List), providing relevant data for decision-making and management of pathways as stated in the Aichi Targets. RA protocols for ants and weeds were adapted from international protocols. RA has been completed for 692 species (MERI or complete RA), more than 40% increase (415 at project start). 545 species factsheets or RA factsheets were completed (157 at project start, a significant increase over the expected 40%).	**1.1.1**
Capacity to plan for IAS impacts in the fact of potential climate change.	Lack of information on possible impacts of climate change on dispersion of IAS prevents effective long-term planning and priority setting	Niche models developed on dispersion of 60 high risk IAS under climate change scenarios by end of year 2.	**HS**	INECC and the PCU held a workshop to validate invasive plant distribution maps (ecological niches) developed by UNAM in 2016. 46 of 60 species maps were reviewed; 22 species need to be modeled again considering bioclimatic variables. This target was already achieved by the time of the MTR. Complementary studies will be conducted beyond the scope of the project. The results were used for decision-making on priorities in protected area management plans in development. Data gathered from the SNIB were used to verify the proximity of IAS to PA, then prioritized according to higher levels of risk.	**1.1.10**

Indicators and activities per output	Baseline	Target at end of project	Level and review at TE and rating of results	Justification for ratings	Related outputs
	for IAS management.				
Output 1.2: Sectorial guidance and regulations in place to strengthen the control of main pathways of IAS to vulnerable areas.					
Improved management of IAS in productive sectors by state authorities in one Mexican state (pilot).	Existing IAS management framework has no incentives for productive sectors to prevent IAS escapes or to choose low risk species.	Authorities in Morelos State have developed and implemented strengthened IAS management controls for the ornamental fish, aquaculture and nursery plant sectors by the end of the Project.	**HS**	High risk species in the ornamental fish trade were assessed as well as their pathways. Best practice manuals with biosecurity measures were developed for the sector on certain species. Progress was made on mapping aquaculture production units (UPA) to collect information on adequate biosecurity recommendations. Capacity building for producers and technical personnel in aquaculture operations was carried out including training to improve productivity, IAS prevention measures, control of diseases and biosecurity measures. INAPESCA and the PCU are developing a closed cycle aquaculture system for ornamental fish production in Oaxtepec, Morelos. This demonstration unit tends to be completed after project closure by INAPESCA. CESAEM and the PCU/CONABIO are involved in all of these activities, UANL and INAPESCA in some. In collaboration with the architect Lilian Rivera Aubert, who represents Eslabón Paisajistas in the Capacity Building Commission of the Mexican System-Product Flowers and Ornamentals Comiittee (Comisión de Capacitación del Comité Mexicano Sistema-Producto Flores y Ornamentales A.C.), factsheets on 30 alien ornamental plants currently sold in Mexico were compiled. These factsheets indicate native species as alternatives and are to be used in an information campaign aimed at promoting the trade of native ornamental species and the responsible use of non-native plants.	**1.2.4**
Productive sector industry standards / codes for management of IAS that may impact biodiversity.	Productive sector associations / businesses do not have or use standards, codes of conduct or certification systems to govern their treatment of IAS that may impact biodiversity.	Standards, codes of conduct and certification systems are developed for productive sectors and under implementation by the end of the project.	**S**	The target is not specific in terms of a number of standards or codes of conduct and/or certification protocols. Additional biosecurity measures were included in the SENASICA Sanitary Certificate. Voluntary certification is being developed for the ornamental fish trade. Not much progress was made, as voluntary certification is still being discussed, and only developed for the sector of ornamental fishes. CESAEM and AMPAR are engaging more producers to adopt best practices in aquaculture. Contributions were made to African palm oil certification standards (RSPO). Outcome 2 contributed to the indicator due to the foundation of GANADESU (Ganadería y Desarrollo Sustentable, Sociedad de Producción Rural de Responsabilidad Limitada), which aims to have certified products, is applying best practices in cattle ranching, and was established with legal status.	**1.2.4**
Include IAS in biodiversity strategies at state level	Only a few states have published their Strategy yet, and none so far have included actions / programs for IAS management.	All State-level Biodiversity Strategies include the subject of IAS and have at least one objective referring to the issue	**S**	According to the baseline, only a few states had published Biodiversity Strategies, none of which included actions or programs on IAS. At least 5 State Biodiversity Strategies (SBS) mention IAS, three of which contained activities or programs (Puebla, Veracruz and Chiapas, all published in 2013 – before the project). The target at the end of project referred to 20 Strategies (PRODOC). There are currently 10 published SBS that mention IAS, of which 8 contain specific actions or programs (underlined in the text): Aguascalientes (2010), Campeche (2016), Michoacán (2007), Puebla (2013), Veracruz (2013), Chiapas (2013), Chihuahua (2015), Guanajuato (2015), Jalisco (2017) and Oaxaca (2018). The Morelos state strategy, published in 2003, did not include actions on IAS at the time, but was being updated at the time of the TE. Strategies were in development in CDMX, Quintana Roo and Yucatan; these (including Queretaro and Tabasco where biodiversity studies are underway) also included measures to manage IAS.	**1.2.5**

Indicators and activities per output	Baseline	Target at end of project	Level and review at TE and rating of results	Justification for ratings	Related outputs
Output 1.3: Multi-sectorial institutional framework in place to implement National Strategy on Invasive Alien Species (NSIAS).					
Oversight and coordination structures for implementation of the NSIAS.	The Experts Committee that created the NSIAS is still functional, but does not have any official authority related to the implementation of the NSIAS.	3 committees (High-Level; Scientific; Technical) are officially established to guide implementation of the NSIS, with operating guidelines and authority, by the end of year 1.	**MS**	The three committees were established; meetings of the Executive (High-Level) Committee were suspended in 2019 due to the change in national government. The Executive Committee was not as functional as expected because some representatives would send substitutes to meetings that could not make decisions (due to difficulties with availability or maybe for lack of perception of the relevance of IAS). The Technical Committee also stopped meeting due to uncertainty about the permanence of personnel in government institutions and because it did not make sense to produce recommendations that could not be passed onto the Executive Committee. Much effort was invested in improving interinstitutional coordination, with success at various levels, but not to the point of defining official guidelines for implementation of the NSIAS. The Scientific Committee is functional, but it is unlikely that to continue after project closure. The Management Committee was the only one in 2019 to be functional and working on arrangements for project closure.	**1.3.2**
Institutional protocols for the principle pathways for introduction and spread of IAS that impact biodiversity.	Systems to identify and control pathways for IAS introduction and spread are focused only on IAS with potential impacts on economic activities (agriculture, forest products, wildlife).	By the end of the project, 5 protocols for taxonomic groups or pathways at strategic entry points have been developed and adopted by the environmental sector (CONAFOR, CONANP, SEMARNAT).	**MS**	Two protocols are in use by government institutions: an EDRR protocol for five points of entry in harbors and airports developed by CONAFOR with support from PROFEPA and Chapingo University, and a protocol for IAS control using fire management, developed by CONAFOR. A memorandum of understanding has been proposed for government agencies to collaborate in responding to detections of aquatic invasive species, but needs to be consolidated. UAM has developed a risk assessment protocol for invasive plants (weeds), which is being tested on 30 species (15 indicated by SENASICA and 15 by CONABIO), but still needs to be validated and adopted. PROFEPA has the same protocols available and improved capacity for application. CONAFOR maintains a phytosanitary monitoring system with 168 insect traps in forest areas in 16 states. State governments involved in monitoring efforts generated 4,934 records and 20,461 data on ambrosia beetles in 2018, and 2,431 records in 2019 based on the Comprehensive Reference System for Epidemiologic Phytosanitary Monitoring.	**1.3.3**
Output 2.1. Strengthened prevention and control of key IAS populations in selected islands.					
Capacity for coordinated management and planning for IAS management.	Selected islands have no mechanisms for the coordinated management of IAS.	6 Island IAS Management Committees operating by the end of year 1.	**MS**	Four of the six subcouncils have been formalized. GECI participated in the establishment of the Advisory Council for **Revillagigedo National Park** (Q3_18) and IAS Subcouncil. An Advisory Council and Biosecurity Subcouncil were formalized for **Banco Chinchorro RB** and have been active and efficient. The **Isla Guadalupe RB** Advisory Council also functions as Subcouncil for IAS. The **Espíritu Santo Archipelago PN** IAS Subcouncil, which already existed before the project, took charge of implementing biosecurity measures for the island. Efforts to establish a Subcouncil for **Isla Cedros RBIPBC** in coordination with the PA Director were hindered by the change in national government, as the position of Director was eliminated. Early detection, control and monitoring actions are being carried out by a small group that includes CONANP personnel and the Abalone National Fishermen association on Cedros Island. The establishment of a Subcouncil is still pending for **Arrecife Alacranes National Park**. GECI presented the proposal to the Advisory Council and granted approval, but the Council has not met since to formalize the initiative. Biosecurity officials have been hired by GECI to work with CONANP in three protected areas (Banco Chinchorro, Espíritu Santo and Arrecife Alacranes).	**2.1.1**

Indicators and activities per output	Baseline	Target at end of project	Level and review at TE and rating of results	Justification for ratings	Related outputs
Number of Island Biosecurity Plans (IBPs) supervised by island IAS management committees.	Selected islands do not undertake planning to address biosecurity problems.	6 Island Biosecurity Plans (IBPs) developed and implemented by end of year 1.	**S**	Island biosecurity protocols were not only completed, but exceeded in number: protocols were developed for 11 islands instead of six. Yet, they have not been fully implemented. Government institutions and communities are more willing to cooperate but implementation is still dependent upon GECI. The loss of personnel has affected ownership by CONANP, which should be the lead agency in the process. GECI continues leading implementation, but CONANP is expected to take the lead role.	**2.1.1**
EDDR systems developed by the project applied at pilot level.	Selected islands have no mechanisms or capacities to respond to the discovery of newly introduced IAS.	Early Detection and Rapid Response (EDRR) systems operational and preventing introduction / spread of IAS on 6 islands by end of year 2.	**MS**	An EDRR component is included in island biosecurity protocols and detection has occurred on islands while biosecurity measures are improved. A meeting to propose the inclusion of island biosecurity guidelines in authorizations for carrying out work on islands was held with the Director General for Wildlife and Director for Wildlife Conservation at SEMARNAT. At the time of the TE, the outcome of this request was still uncertain, and GECI was monitoring progress. Inspections for the presence of rats and mice have been conducted on SEMAR ships that reach Guadalupe and Cedros Islands on a monthly basis, and personnel has been requested to clean their shoes before boarding. EDRR was applied on Espiritu Santo Island upon sighting of a rat (*Rattus sp.*) by the PA Manager. Traps were distributed, but only indigenous rodents of three species were captured. SEMAR personnel and residents (working in fishing or tourism cooperatives) maintain prevention and ED measures on several islands, and issue warnings in case of emergency. EDRR measures were also implemented on Banco Chinchorro upon a false alarm of rat occurrence in 2018. Biosecurity measures include the development of routine protocols that authorities agreed upon and the inclusion of biosecurity measures in Standardized Operational Procedures of the command chain in five naval bases on selected islands. The deadline for this target, set at the end of year 2 of the project, required a high level of dedication and was unrealistic, as stakeholders needed to go through capacity building on the concepts of IAS, prevention and EDRR, the EDRR protocols needed to be developed, and several institutions needed to be engaged.	**2.1.1**
Output 2.2. Enhanced IAS surveillance and control strategies reduce introduction rates and contain populations.					
Capacity for coordinated management and planning for IAS management.	0 mainland PAs have management structures to facilitate cooperation on IAS management with residents and businesses within and outside of PAs.	9 mainland PAs with participatory IAS management committees by the end of year 1.	**MS**	The target was completed after the established deadline, but all protected areas have instituted subcouncils or committees for IAS. At the time of the TE, 4 of them were working well: Tutuaca APFF, Cumbres de Monterrey PN, El Vizcaíno and Los Tuxtlas RB; two were beginning to meet and should do well: Marismas Nacionales and RB Sian Ka'an RB; 3 were not functional: Sierra de Alamos APFF, Valle de Bravo APRN and Cañón del Sumidero PN.	**2.2.2 and 2.2.4**

Indicators and activities per output	Baseline	Target at end of project	Level and review at TE and rating of results	Justification for ratings	Related outputs
IAS management plans for specific PA units.	5 PA units have IAS management plans, but none of these plans is being implemented in an integrated manner.	By end of year 2, 5 mainland PAs are implementing IAS management plans (including risk analyses, priority setting, and capacity building strategies). By end of project, remaining 4 PA sites are also implementing plans.	**S**	A baseline on IAS was developed for the majority of protected areas in the project in order to derive priorities for action and species-specific management plans. At the time of the TE, baselines, diagnostics and priorities were completed for 9 protected areas and management plans for at least 12 species in three protected areas. Additional products were IAS surveys and species lists. At the time of the TE a contract for IAS management plans for nine protected areas was in development. The areas were divided in northern (El Vizcaino RB, Tutuaca APFF, Sierra de Alamos Río Cuchujaqui APFF, Marismas Nacionales Nayarit RB and Cumbres de Monterrey PN) and southern (Valle de Bravo APRN, Los Tuxtlas RB, Cañon del Sumidero PN and Sian Ka´an RB) regions. Several activities included in management plans are being implemented in these protected areas, from best practices with productive sectors to control, restoration, capacity building and monitoring.	**2.2.1**
Capacity to identify and address IAS (and their pathways) with the most negative impacts on biodiversity.	0 mainland PA sites have lists of priority IAS for their location.	Lists of local high priority IAS (for PAs and surrounding landscapes) created for 9 sites by end of year 2. Lists being used by management agencies (e.g. CONANP, PROFEPA) to restrict use of IAS within and surrounding 9 sites by end of year 3.	**MS**	IAS lists are available for all protected areas in the project. A second phase of investment in management plans was in process at the time of the TE, which included updates in protected area factsheets, IAS lists and related impacts. The lists previously available were used internally by CONANP to guide management actions, and are also expected to be used by PROFEPA to restrict species introductions or use in protected areas.	**2.2.2 Y 2.2.3**
EDDR systems developed by the project applied at pilot level.	0 mainland PAs have systems for Early Detection and Rapid Response (EDRR) to prevent the establishment and spread of IAS.	5 mainland PAs with operating participatory EDRR systems preventing introduction / spread of IAS at PA sites by end of the project.	**MS**	4 EDRR protocols were completed for 4 mainland protected areas at the time of the TE; in 1 PA management plans include EDRR; in 2 PA EDRR actions were in process and one protocol was in development. Four HACCP were completed for **Cañón del Sumidero PN**, as well as 1 EDRR protocol for red-eared-slider (*Trachemys scripta*), armored catfish (*Plecostomus* sp.), alien forage grasses and aquatic plants. Cars are checked at the entrance to prevent the entry of dogs. EDRR and control actions are in process in **El Vizcaino RB** - Oasis San Ignacio for fishes and aquatic invertebrates that were not initially considered for control (common carp *Cyprinus carpio*, red swamp crayfish *Procambarus clarkii* and swordtail fish *Xyphophorus hellerii*) and an EDRR protocol for monk parakeet (*Myopsitta monachus*). Management plans for 4 IAS (Mozambique tilapia *Oreochromis mossambicus*, rainbow trout *Onchorhynchus mykiss*, buffel grass *Cenchrus ciliaris* and pink grass *Melinis repens*) in **Tutuaca APFF** include prevention and EDRR measures. A sanitary enclosure was constructed in **Sian Ka´na RB** in the community of Punta Herrero to prevent the spread of palm weevil (*Rhynchophorus palmarum*) and an EDRR protocol is in development. Another EDRR system is in development for aquatic invasive species using barcode identification and environmental DNA analysis. An EDRR protocol for armored catfish was developed for **Sierra de Alamos Rio Cuchujaqui APFF** with focus on the Cuchujaqui River.	**2.2.5**

Indicators and activities per output	Baseline	Target at end of project	Level and review at TE and rating of results	Justification for ratings		Related outputs
				An EDRR protocol for *Arundo donax, Cenchrus ciliaris* and *Cissus verticillata* was developed for **Marismas Nacionales RB**, and a simulation was carried out involving several stakeholders. Much progress was made in terms of the protocols, but effective implementation needs to be improved and might take longer than expected.		
Evaluation color codes:	**Achieved**	**On target to be achieved by the closing of the project**	**On target to be achieved after project closure**	**Not on target to be achieved**		

3.3.2 Relevance *

RELEVANT [5]

The project was relevant because IAS constitute the second global cause of biodiversity loss and the first on oceanic islands. IAS management is still secondary in many countries where the potential impacts to biodiversity, ecosystem services, the resilience of natural ecosystems to climate change, the economy, human and animal health, and even cultural traditions and human well being, have not been well understood. For all these reasons, IAS must be treated as a priority issue within the scope of biosecurity, as essentially addressed in the implementation of this project.

The project was relevant for having succeeded in changing the perception of personnel in the most important government institutions responsible for environmental issues as well as productive sectors related to agriculture, forestry and aquaculture, and those in charge of biosecurity at the national level. The reality before the project is not the same after the project. Even though personnel in high ranks may change, technical capacity is consolidated and being applied, favoring the environment as well as productive sectors, human and animal health, due to improvement in border control in harbors, airports and other areas and to the implementation of best practices for sustainable production.

The project was also highly relevant in the national context for responding to institutional needs and policy guidelines (see 3.3.4). It was embedded in the GEF 5 national priorities in the 2010 National Portfolio, in which IAS were identified as one of the eight priority issues in the focal area of biodiversity. This was a pioneer project in Mexico which fulfilled great expectations of environmental managers concerned about IAS. The project was also well aligned with global priorities of the CBD for the conservation of biodiversity and addressed the most recent Aichi target on prevention and management of IAS pathways.

3.3.3 Effectiveness and efficiency *

Effectiveness

SATISFACTORY [6]

The activities planned for Outcome 1 as a whole contained more challenges and risks than those in Outcome 2. Some required the engagement of multiple institutions, and some were highly vulnerable to the political context and government priorities. Therefore, the achievement of results in Outcome 2 was overall more effective, as implementation basically depended upon CONANP, GECI and consultancy contracts. Despite the challenges, about two thirds of the activities in Outcome 1 were fulfilled, and a solid basis for ongoing IAS management has been established at the national level. Effectiveness varied between actitivites when assessed in greater detail, considering differences in purpose and level of difficulty. Some activities were

[5] According to the UNDP Guide for evaluating UNDP-supported, GEF-financed projects, the project must be rated as Relevant or Not relevant.

[6] According to the UNDP Guide for evaluating UNDP-supported, GEF-financed projects, project effectiveness and efficiency must be evaluated using a six-point rating scale: Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory and Highly Unsatisfactory.

overambitious for attempting to change national laws or establish an EDRR system at the national level, and were not achieved. On the other hand, publication of the National IAS List is a highly relevant achievement and one of the most important results of this project. Other activitities in Outcome 1 were more practical and more easily implemented despite the challenge of interinstitutional coordination, such as improvement in border control by PROFEPA and CONAFOR in coordination with SEMARNAT and SENASICA, and implementing best practices on pathway management of introduction and spread of IAS with key productive sectors.

The effectivenes of Oucome 2 was more visible due to results of practical control actions carried out under the lead of CONANP and GECI. Eradication of terrestrial vertebrates on oceanic islands was highly effective, producing measurable results in the recovery of populations of marine birds, reptiles and small mammals. IAS control in mainland protected areas took longer to generate positive results for lack of technical reference and experience in IAS control at the local level. Capacity gradually increased, as well as community involvement in practical actions for mutual benefit; baselines for IAS management were generated; and awareness increased significantly on prevention and on the need to set control priorities on nascent *foci* of biological invasions. Implementation of island biosecurity protocols and EDRR systems were slowly evolving at the time of the TE, and may require more time for consolidation, beyond the scope of the project. The success of such systems requires changes in the perception and in the routine of institutions and personnel to whom this is a rather new issue, which takes time to achieve especially in the face of losses of personnel incurred by the change in national government.

Another important issue to consider is that this project was designed to execute 36 activities with a PCU formed by only three staff working full time and one half-time, who became a full-time employee in the fourth year of implementation. A fifth person was added in the last months before project closure. The PCU had support from CONABIO – Subdirectory on Invasive Species and from CONANP for some of the tasks. Still, this scenario hindered effectiveness to some point, and it became evident in due course that the activities with lower chance of achievement were gradually less followed up on, while a few were considered unrealistic from project start.

Efficiency

MODERATELY SATISFACTORY [7]

The fact that IAS were, at project start, a new issue for most people involved, somehow affected project efficiency. The majority of institutions and consultants involved in the project did not have much reference or experience to contribute to the project. In the beginning, it was even difficult to find CSO or consultants with the desired technical level, which slowed implementation because some calls for consultancies had to be posted more than once, reports and products required several reviews and adjustments, or were not always satisfactory. Declarations from participants in interviews showed that, in time, they climbed a steep learning curve, improving in terms of knowledge, experience, and quality of products. As technical quality

[7] According to the UNDP Guide for evaluating UNDP-supported, GEF-financed projects, project effectiveness and efficiency must be evaluated using a six-point rating scale: Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory and Highly Unsatisfactory.

improved, consultants became gradually better at meeting UNDP expectations on the completion of formats, reports, and products.

The lack of reference and experience in practical IAS control, especially of alien plants, reduced the rythm of implementation, lowering efficiency and effectiveness especially at the start, when much effort was invested for unsatisfactory results in some situations. In time, the fact that efficiency is key for funding of IAS control to be feasible was widely acknowledged. A capacity building workshop on invasive plant control was carried out in 2018 and led to more openness regarding the use of chemical control to improve efficiency. BIological control was also addressed, as it also needs to be more widely accepted and authorized. As experience is gained from practical management and monitoring of results, efficiency tends to increase even more.

A few of the activities did not generate the expected results despite investments of time and resources, for reasons already mentioned in other sections of this report.

Efforts were not spared in following up on the budget and saving whenever possible. Synergies with other GEF projects (Strengthening Management Effectiveness and Resilience of Protected Areas to Safeguard Biodiversity Threatened by Climate Change and Strengthening Management of the Protected Area System to Better Conserve Endangered Species and their Habitats) were sought out to optimize GEF resources and improve potential results in protected areas or other issues in common.

Administrative processes conducted by the UNDP and PCU also gained efficiency in time, especially in the last years of implementation, when contracts were drawn to include more products in order to reduce the number of administrative procedures and approvals by the UNDP.

3.3.4 Country ownership

The implementation of the National Strategy on IAS in Mexico (NSIAS), published in 2010, was highly benefitted by this project. Expected results in the Strategy were achieved at several levels, especially for three strategic objectives and five cross-sectional strategic actions. Biosecurity issues of relevance at the national level were addressed and advanced.

The project was aligned with national policies such as the National Development Plan 2013-2018; the UNDP Country Program (2014-2018), extended until 2019; the Mexican National Strategy on Biodiversity (2000), which was updated and presented at the CDB Conference of the Parties in 2016; the National Strategy for the Conservation and Sustainable Development of the Mexican Insular Territory; the Mexico Strategic Forest Program 2025; the Mexican Strategy for Plant Conservation (2012 -2030); and the updated National BIodiversity Strategy and Action Plan 2016-2030.

Overall, the project was aligned with the National Strategy on IAS, which ends in 2020. Therefore, it needs to be reviewed and complemented with a new workplan; alternatively, the objectives and activities that have not been developed could be included in the National Strategy on Biodiversity, which extends until 2030. Additionally, project achievements must be included or maintained in the routine of several government institutions, a task that should be shared by all project partners with leadership of the environmental sector.

3.3.5 Mainstreaming

The GEF 5 project cycle did not require the inclusion of gender issues (this became obligatory from GEF 6). This project did not, for that reason, contemplate specific actions on gender. Aware of the relevance of the topic, however, the PCU assessed women participation in some of the project activities. Women were approximately 40% of participants in capacity building events, and 34% of individual consultants. Women are also encouraged to participate in practical activities carried out in protected areas, and have been reported to be more efficient and more dedicated than their male counterparts in some areas.

Engagement of people from local communities was valued and created work opportunities in the project sites, especially to control invasive alien plants, monitoring of wildlife and forest pest traps, and in production. In some areas, such as Marismas Nacionales Nayarit and El Vizcaíno RB, control teams were mainly formed by women. These opportunities are important because offering work to women often results in an increase in family income, as men are generally already engaged in paid work while women have less such opportunities. The experience of people from local communities on natural resource management contributed to increase the effectiveness of mechanical control methods used, for example, in Marismas Nacionales RB.

The IAS committees/subcouncils established for the protected areas allowed several types of stakeholders at various levels and in several sectors to participate in activities and decisions. Workshops were offered to cattle and goat ranchers, ornamental fish producers and aquaculturists, and a Mayan community that wishes to breed the native fish tenguayaca (*Petenia splendida*). Comments from participants were valued and considered, and have contributed to improve some products, especially the best practice manuals for productive activities.

Technical and operational capacity of CSO for the implementation of practical actions in areas benefitted by the project improved over time. Staff learned and gained experience in IAS management and increased the quality of reports and products. Multiple work opportunities were created for people at the local level, generating positive impacts to biodiversity as management measures become part of the routine, perceptions include notions of impacts by IAS on native species and ecosystems, and more information is available on native species and their value, as well as on advantages of their use in restoration projects.

These work opportunities contributed to the objective of articullation of criteria associated to poverty reduction in programs for the sustainable management of natural resources and conservation of biodiversity, expressed in the UNDP Country Program. The efforts to qualify and improve perceptions of sustainability in productive sectors contributed to productive economic development, competitivity, and decent work, environmental sustainability, and a green economy. It also encouraged the development of resilient and environmentally sustainable strategies of low emissions, innovative approaches, participative policies and processes, contributing to increase environmental resilience against climate change. These effects are especially relevant in project intervention sites where restoration work is being conducted in natural areas following eradication or control of IAS. These priorities are presented in Effect #6 in the United Nations Development Assistance Framework (UNDAF 2014-2019): the three levels of government, the private sector, academia and civil society will have their capacity

strengthened to revert environmental degradation and use natural resources sustainably and equitatively by mainstreaming environmental sustainability, low-emission development, and a green economy in legal, planning, and decision-making processes.

The project was aligned with the **UNDP Strategic Plan**, especially with the first thematic focus on Sustainable Development. The first of nine emerging areas expressed in the indicator are effective biosecurity systems in the productive sector, including nurseries, breeding ponds or other facilities, distribution centers, UMA and properties or facilities that manage wildlife (PIMV). The project addresses the last item in risk management for resilience by avoiding impact from cattle as well as controlling an alien climber in mangrove areas in Marismas Nacionales RB. Several documents have been developed with CONAFOR as a reference to improve resilience in forest ecosystems, such as a Reforestation Manual that proposes the use of native species, also used in practice in some protected areas.

3.3.6 Sustainability *

MODERADATELY LIKELY [8]

Financial sustainability

Likely

There is no evidence of short-term financial constraints that might impact the completion of project activities. Despite some political uncertainty about CONABIO operations at the time of the TE, information tools are mostly ready and in use, especially the IAS Information System (SIEI), National IAS Platform, and risk assessment protocols, all of which should be accesible online by project closure. CONABIO will continue suppporting the development of State Strategies on Biodiversity, advocating for the inclusion of actions for IAS management. The development of specific regulations by SEMARNAT is a logical expectation after publication of the National IAS List, as well as further development of voluntary codes of conduct or protocols by productive sectors that use or may facilitate the introduction or spread of IAS.

New concepts and procedures were successfully incorporated into the routine of government institutions, improving formerly existing procedures such as border inspections in harbors, airports and other points of entry (PROFEPA) or monitoring forest pests (CONAFOR) in collaboration with SEMARNAT and SENASICA. Part of the staff of these institutions participated in capacity bulding events promoted within the scope of the project, and are now able to pass on their knowledge to new staff. Investments made through the project on equipment to improve detection on border points produced positive results and will continue in use.

Representatives of productive sectors who engaged in the project were offered opportunities to qualify production, which resulted in financial benefits. Many producers were resistant at first, but as time passed, changed their perceptions and realized that sustainable practices represent competitive advantages. This was mainly due to the work developed by CESAEM and AMPAR with associations of ornamental fish producers. It is therefore likely that voluntary

[8] In accordance with the UNDP Guide for Terminal Evaluations of UNDP-supported, GEF-financed projects, Sustainability must be evaluated based on the following four ratings: Likely, Moderately Likely, Moderately Unlikely and Unlikely.

certification for this sector continues to be developed, and that more facilities gradually adopt biosecurity measures to qualify their production. Similarly, GANADESU in Marismas Nacionales RB was asked by other cattle ranchers from the local community to teach them how to make silage, now that the advantages of improved practices are obvious. They sought guidance on best practices and were willing to start their own associations. Expansion of this model will require external funds to buy silage equipment, which might be feasible with support from the protected area management as well as with their own resources, as ranchers are willing to invest now that the potential for financial gain has been demonstrated. Other examples of best practice manuals and established models are available from Sian Ka'an RB, Los Tuxtlas RB, Valle de Bravo APRN and Tutuaca APFF. It is likely that these models will be replicated further with funds from producers or other types of external support.

Implementation of practical management in the pilot protected areas selected for the project has served as models to other PA. The perception and interest in IAS management has increased and is reflected by an increase in funding by CONANP subsidy programs (PROCODES, PROREST, PROCER) for IAS control. IAS management was the second or third theme that received more funding from CONANP in the past years, which shows that these problems are better perceived and recognized as important. As more successful results from eradication and control actions are disseminated, there will be even more interest, and efficiency in the use of funds will increase as better management methods and references are made available.

IAS management on oceanic islands was carried out impeccably by GECI in collaboration with CONANP, and will be continued with funds from GECI. The CSO managed to contribute a larger amount of cofinancing than initially planned, and hired three biosecurity officials to support CONANP in the last year before project closure. SEMAR is committed to collaborate with GECI and CONANP by carrying out inspections on their own boats that navigate to oceanic islands, as well as by providing information and lectures to mariners who work shifts on the islands. Therefore, there is no evidence of short-term risks to the sustainability of these activities.

Socioeconomic sustainability

Moderately likely

An important diversity of types of public and stakeholders was reached through the project by several means of communication, from capacity building events directed at technical staff and communities on IAS management practices in protected areas, to journalists, legislators, producers, vendors, consummers, ornamental plant lovers, and teachers and children in schools. A large variety of information and education materials was produced and distributed. Communication campaigns reached a large number of people and continue to be developed by UAM in collaboration with the Cedereyta Botanical Garden. This legacy will gradually be multiplied and extended to other relevant areas, including other protected areas that were not directly involved in the project and can provide information on IAS to visitors.

To invest in capacity building was a relevant strategy adopted in the project to improve technical capacity and strengthen IAS management at the institutional level. Possible risks to sustainability may come from: (a) loss of technical personnel who received training through the project and

play relevant roles in the institutional context; and (b) difficulty in informing the general public about this complex issue, as well as reaching a significant amount of people and types of public.

Among project participants, however, the most common perception expressed in the TE interviews was that IAS were not part of the agenda of institutions before the project, and IAS management was not a priority issue. This perception was successfully changed due to the numerous capacity building events and inclusion of key institutions and production sectors in the project, beyond the environmental sector. The aquaculture sector in the states of Morelos and Jalisco was involved because it concentrates more than 90% of the national production of ornamental fishes. The sector was working on a certification protocol to continue reaching more producers at the time of the TE. The same strategy of developing certification (RSPO) was being applied to palm oil producers. Modest results were generated with the adoption of best practices in cattle and goat ranching and fish breeding in some protected areas where demonstration models were established in the expectation that they will continue to be replicated by other producers over time.

Sustainability of legal framework and governance

Moderadately likely

Apart from the National List, the project did not succedd in producing new legislation on IAS, while the time of implementation of the National Strategy on IAS ends in 2020. Many project activities have been partially or totally completed, but IAS are a long-term problem that requires continuous management to be consolidated by the Government of Mexico as a priority and include restoration and conservation measures for natural areas impacted by biological invasions. The risk that this issue will not be considered a national priority in the current government exists, and might become a drawback that would limit advances in regulations for the National IAS List, as well as other essential measures to ensure the continuity of IAS management within key government institutions.

On the other hand, procedures that have been internalized by government institutions tend to continue in use, as mentioned above. Products developed with CONAFOR were included in the technological packages provided by this agency, and were being applied. The PROFEPA registry system (SIREV) was improved with project funds, becoming more efficient in terms of registry, reporting, consultations, inspections, and monitoring. It is in use by inspectors and will continue to be used in the coming years. Tools and information systems developed within the scope of the project will be available from the National IAS Platform developed by CONABIO. Besides, it will always be possible to resume previous alliances, such as in the case of CONABIO and SENASICA, which signed an agreement in October, 2018, on several areas, including IAS management.

Environmental sustainability

Likely

Improvements on equipment for border inspections and monitoring traps for forest pests made within the scope of the project were consolidated and have been acknowledged by institutions in charge as a positive increase in capacity. Interinstitutional coordination worked well during

project implementation, contributing to improve the flow of communications and processes between institutions. This was relevant especially in the case of border inspections, as several institutions play complementary roles in the biosecurity system.

The benefits already generated from the implementation of prevention, EDRR, eradication and control of IAS are secured in the areas where practical management was carried out, but also depend upon continued management to ensure restoration, as well as for replication to other protected areas. Still, the project succeeded in changing the perception of PA staff about the urgency and relevance of managing invasive species due to potential impacts on biodiversity, ecosystem services and environmental resilience to climate change. There is no evidence, therefore, or risks to environmental sustainability in the protected areas selected for the project. Besides, CONANP subsidy programs have been used to create job opportunities for CSO and local communities, also contributing to increase awareness on IAS.

On oceanic islands where invasive vertebrates were eradictaed and marine birds, reptiles and small mammal populations are recovering, environmental sustainability is most of all trheatened by the risk of new introductions of alien species. Financial, material and human resources are therefore being invested in the application of Island Biosecurity Protocols and in having biosecurity agents in priority sites, as well as in coordinated work between SEMAR and CONANP to increase the reach of inspections on boats going to the islands. The role, interest and dedication of GECI to maintain this work increase the likelihood of sustainability of the results already achieved, the application of funds and of measures to prevent new invasions on the islands.

3.3.7 Catalytic role [9]

Project activities are overall at the **replication level**. Producing models for replication to other areas was a concern of the project since formulation, meant to extend project benefits. The consolidation of practices in IAS management, best practices applied by productive sectors, and measures for IAS management within the scope of biosecurity at project closure were included in products developed for replication to other protected areas, outreach to others in productive sectors, and further training and use within government institutions. PROFEPA inspectors who participated in capacity building events in the scope of the project were training new personnel on border control in harbors, airports and other points of entry.

Information materials were produced for use at the national level by government agencies, CSO in the environment and sustainable production, and academia. The National IAS List affects several sectors. The National Platform on IAS will include the IAS Information System, risk assessment protocols, EDRR models, and border control inspection and detection tools that can be used nationwide or beyond Mexican borders.

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[9] Rating of Catalytic role depends on the level of replication and must be evaluated based on the following criteria: (a) scaling up - approaches developed through the project are taken up on a regional / national scale, becoming widely accepted, and perhaps legally required; (b) replication - activities, demonstrations, and/or techniques are repeated within or outside the project, nationally or internationally; (c) demonstration - steps have been taken to catalyze the public good, for instance through the development of demonstration sites, successful information dissemination and training; y (d) production of public good - the lowest level of catalytic result, including for instance development of new technologies and approaches; no significant actions were taken to build on this achievement, so the catalytic effect is left to 'market forces'.

Best practice manuals were developed for key productive sectors in cattle and goat ranching, and aquaculture (ornamental fishes and food production in protected areas) in order to provide written reference to users and facilitate their dissemination and replication to new groups. Replication of best practices in aquaculture has been promoted by CESAEM in Morelos, linked to SENASICA, and AMPAR, which was founded in Jalisco but has national scope. These associations work directly with producers. The closed cycle system for ornamental fishes will not be ready before project closure, but should be developed by INAPESCA in communitary land in Morelos. Once the demonstration site is functional, national technologies are expected to be developed to replace parts of the system imported from Israel. This would be necessary to allow the model to be replicated to other areas and adopted by producers. This system may contribute to improve the closed circulation systems in use by CESAEM, which were developed with national equipment.

Protected area management plans for IAS are a reference for replication to other areas in Mexico, an attribution of the CONANP IAS Coordination. An increase of interest on IAS management in protected areas is reported by CONANP, paralleled by a significant increase in funds assigned for IAS management from CONANP subsidy programs.

Additionally, a standardized model for mapping invasive plants was developed at a level of detail that had not been achieved before in Mexico. The final publication of this product is expected before project closure. Potential distribution models of IAS in the context of climate change are expected to support decision-making on priorities for prevention measures and priority species or areas for EDRR. The CONAFOR risk maps for forest pests are updated every three months, and maps for ambrosia beetles have been published and made available from the CONAFOR web page and to the 32 CONAFOR State Offices to support forest pest monitoring.

All plans, models and materials produced within the scope of the project for practical application will guide implementation of IAS actions for years after project closure. The commitments established through interinstitutional coordination, institutional improvements and increased capacity for IAS management at the national level will be put to the test after project closure. If they are continued, the catalytic role will reach the scaling up level, as project results will be used at regional and national scales and widely accepted. Considering that IAS management was a new issue to most of the institutions and stakeholders in the project, this implies a high degree of success in relatively short time, an outcome that could not have been achieved without this project.

3.3.8 Impact

In general terms, the project contributed to the overall objective of **safeguarding biodiversity of global importance in vulnerable ecosystems** by building capacity and strengthening key institutions for IAS management in Mexico.

The publication of an Official List of IAS was an important change in political and legal status for legally recognizing a problem that requires attention from multiple government institutions in charge of the environment, production and biosecurity at the national level. The development

of complementary regulations for the National List will be necessary in the near future, beyond the scope of this project.

Control of IAS and restoration of natural areas including plantations of native trees is in process in several of the protected areas benefitted by the project. These actions contribute to increase the resilience of ecosystems to climate change. Although they are still too recent for results to be measured, they will become more evident over time. On the other hand, eradication of invasive cats and rats on oceanic islands have already produced measurable benefits for the recovery of native populations of animals, as well as the recolonization by marine birds of areas that were previously invaded (Guadalupe and San Benito Oeste islands).

A positive impact on border control in harbors, airports and points of entry by PROFEPA inspectors, as well as from investment on equipment, resulted from a significant improvement in capacity to identify species, significantly reducing the number of specimens sent for identification to the SEMARNAT National Reference Laboratory. This saves time and resources in the inspection system and benefits the general public for optimizing the inspection of imported goods.

Table 6 – **Indicators of global impact in the Strategic Results Framework**, ratings and FE justification for ratings. Rating of results: HS – Highly Satisfactory; S – Satisfactory; MS – Moderately Satisfactory; MI – Moderately Unsatisfactory; U – Unsatisfactory; HU – Highly Unsatisfactory. Colors: green: achieved; yellow: on target to be achieved; orange: on target to be achieved after project closure; red: not on target to be achieved.

Indicator	Baseline	Target at end of project	Self-reported level in 2018 and 2019 reports and justification of TE ratings	TE Rating
Supporting framework for implementation of the National Strategy for Invasive Species (NSIS), as measured by: National (federal and state level) and international institutions (government, NGOs & Universities) involved in the implementation process of the NSIS.	# of official institutional partners involved in IAS management in Mexico: 8 governmental institutions, 3 Universities, 2 NGOs, 1 State level organization.	1 additional institutional partner becomes involved in IAS management each year of the project.	Collaboration with other 4 government institutions was achieved (SEMAR, CONAPESCA, SENASICA, CONAGUA); 3 universities (Técnica de Monterrey, Madison-Wisconsin University in the USA and UAM - Itzapalapa); and 2 CSO, CESAEM and AMPAR (productive sector).	**HS**
Supporting framework for implementation of the National Strategy for Invasive Species (NSIS), as measured by: Cost effectiveness of IAS management actions.	No consolidated information on the costs of different IAS management strategies (prevention, response, control, etc.) in Mexico, or how costs differ in varying ecological / logistical conditions.	Cost coefficients, based on IAS management activities carried out at selected project field sites, developed and guiding priority setting of NSIAS goals / activities by end of project.	In the last year of implementation, estimates of IAS control costs were included in consultancies on risk assessments of alien species. Additionally, a feasibility study to develop an insurance package for fish producers in Morelos was being developed at the time of the TE for environmental responsibility over fish escapes.	**MU**
Entry and spread of IAS into 15 islands (6 island groups) reduced through biosecurity inspections of goods/persons who arrive at the islands by air/sea.	0% of goods and persons arriving at islands are subject to biosecurity inspections.	Goods and persons arriving at islands are subject to biosecurity inspections • 100%: Guadalupe, Socorro, Banco Chinchorro • 50%: San Benito, Espíritu Santo • 25%: Arrecife Alacranes	Inspections are conducted on materials and ships of SEMAR with the use of dogs. Island Biosecurity Protocols are completed and implementation is in process, led by GECI, not by CONANP. Inspection has to be extended to other boats used for fishing or tourism. Inspections to Arrecife Alacranes PN and y Banco Chinchorro RB reach about 40% of boats.	**MS**
Populations of key IAS contained to below thresholds that endanger native species and their habitats, providing additional protection to at least: • 155 endemic species, and 168 species of flora and fauna classified	Populations of selected high impact IAS at sites (low, medium, high; estimates will be validated during year 1 of the project):	Populations of selected high impact IAS at sites (low, medium, high; estimates will be validated during year 1 of the project):		**HS**

Indicator	Baseline	Target at end of project	Self-reported level in 2018 and 2019 reports and justification of TE ratings	TE Rating
under NOM-059, at 15 islands (6 island groups) totaling 46,420 hectares. • 191 endemic species, and 983 species of flora and fauna classified under NOM-059, at 9 mainland protected areas totaling 4,240,349 hectares.	Feral cats (*Felis catus*) on Espíritu Santo Island and Banco Chinchorro BR - Medium.	0	Feral cat eradication completed on Espíritu Santo and Banco Chinchorro.	
	Feral cats (*Felis catus*) in Isla Guadalupe and Isla Socorro - Medium.	Low	Feral cat eradication on Socorro Island nearly completed (population reduced by 95%). Eradication is in process on Guadalupe Island, with 523 cats captured and 58% of the island free of feral cats.	**HS**
	Mice (*Peromyscus eremicus cedrosensi*) on San Benito Archipelago – High.	0	Eradication of mice completed in San Benito Island.	**HS**
	Feral goats (*Capra hircus*) on Isla Espiritu Santo – Medium.	0	Ground hunting using air rifles was initiated on Espíritu Santu Island in a pilot phase between September 4 and 13, 2019. In the week, 75 animals were eliminated. Two more expeditions will take place between September 21 and 28, and October 2nd and 7. The need for methodological adaptations will be assessed based on these results.	**S**
	Black rats (*Rattus rattus*) on Banco Chinchorro – High.	0	Eradication of rats completed on Banco Chinchorro.	**HS**
	In the case of the continental ANPs, the indicators, as well as its reference levels and targets, are not specific, neither measurable nor achievable (in terms of partner capacity). However, a level of evaluation and assessment is provided based on progress to date.			
	Vidrillo (iceplant) (*Mesembryanthemum crystallinum*) at El Vizcaíno Biosphere Reserve – High	Medium	Iceplant was controlled in an area of 5 hectares by community groups using mechanical control. More efficient methods have to be defined for control to be carried out over larger areas.	**MS**
	Pacific Oyster (*Crassostrea gigas*) at El Vizcaíno Biosphere Reserve - Medium	Low	The protected area manager requested that this species be replaced by red-bellied tilapia (*Tilapia zillii*) and bullfrog (*Lithobates catesbeianus*) because they pose more risk to the PA. Control actions were being carried out in Oasis San Ignacio. Although the species were changed, a baseline was developed for Pacific oyster (*Crassostrea gigas*). Cultivation systems were assessed and the species was found in Ojo de Liebre Lagoon, for which adequate management measures are to be defined.	**MS** are Red-bellied tilapia and American bullfrog **MI** Pacific Oyster

Indicator	Baseline	Target at end of project	Self-reported level in 2018 and 2019 reports and justification of TE ratings	TE Rating
	Black rats (*Rattus rattus*) at the APFF Sierra de Alamos-Río Cuchujaqui – High	Medium	There was no rat invasion in the area, therefore no actions were necessary; this was an error in project design.	**N/A**
	Salt cedar (*Tamarix ramosissima*) at the APFF Sierra de Álamos Río Cuchujaqui – High	Medium	118 salt cedar (*Tamarix ramosissima*) trees were eliminated and control activities are ongoing in several areas. Mechanical control has been efficient for this species, as most trees are small and can be dug out with roots.	**HS**
	Giant Cane (*Arundo donax*) (90 hectares) and Chinese privet (*Ligustrum lucidum*) (120 hectares) at the Cumbres de Monterrey National Park – Medium	Low	Control measures were applied in 160 ha in 2014, 27 ha in 2015 and 30 ha in 2016 for giant cane (*Arundo donax*); 54 ha in 2014, 20 ha in 2015 and 25 ha in 2016 for privet (*Ligustrum lucidum*); 10.3 ha in 2015 and 15 ha in 2016 for *Kalanchoe* x *houghtoni*; 2 ha in 2015 and 5 ha in 2016 for tree tobaco (*Nicotiana glauca*); 2 ha in 2015 and 10 ha in 2016 for golden rain tree (*Koelreuteria paniculata*). These actions were implemented with cofinancing from the CONANP PROCER subsidy program. Chemical control added efficiency to the control of golden rain tree and privet in 20 hectares (mechanical control of 7,096 plants and chemical control of 960 plants). A cost comparison was conducted to support the most efficient method (chemical control). Restoration was implemented by planting native pine trees in areas under intervention.	**HS**
	Feral dogs (*Canis lupus familiaris*) and feral cats (*Felis catus*) at the Cañón del Sumidero National Park – High	Low	17 feral dogs and 9 feral cats have been captured since 2014. According to the PA manager, the frequency of sightings and captures has diminished, which implies that there are less feral animals in the area.	**HS**
	Lionfish (*Pterois volitans*) at the Sian Ka'an Biosphere Reserve – Medium	Low	The Local Committee for Lion Fish Control was established in 2018 for the Yucatan Peninsula and Mexican Caribbean. An Action Plan has been developed, but no evidence of practical actions was identified.	**MU**
Color code for ratings:	**Achieved**	**On target to be achieved by the closing of the project**	**On target to be achieved after project closure**	**Not on target to be achieved**

Management Effectiveness Tracking Tools and Institutional Capacity Scorecard

The PCU sent the Institutional Scorecard to project partners requesting them to fill it out before the Terminal Evaluation, but there was little feedback and most partners considered their institution instead of a broader, national perspective. The Tracking Tool was presented at the partners meeting in 2019, and was accepted without significant debate. An update was requested in July, 2019, but only the CONABIO DGAP and SEI, CONANP, INAPESCA, CONAFOR and UANL responded.

The Management Effectiveness Tracking Tool increased by 1 score since the MTR in 2018, specifically on improvement in pathway management. This is a result of the assessment performed CONABIO on linking 795 IAS present in Mexico to their respective pathways of introduction and spread. The final score is therefore 16 out of 29 (against 15 at the MTR).

The Institutional Capacity Scorecard was completed by the TE team in general terms for comparison with the scores at the MTR, without a detailed assessment of each institution that should have been performed by them. The final score is lower than in the MRT (47 in TE against 51 in MRT), a result of some points being lost and others, gained. The losses refer to:

- one point for the indicator on having an institution or institutions responsible for invasive species able to strategize and plan. Considering the instability about CONABIO operations at the time of the TE and the tendency not to renew the NSIAS despite its end in 2020, leadership seems to have been impaired, at least for the moment;
- one point because at this time there is not a fully transparent oversight authority for institutions in charge of invasive species, a role performed by CONABIO in the course of project implementation;
- two points because invasive species management does not have a clear political commitment;
- one point because invasive species policy is not continually reviewed and updated and there are no plans to renew the National Strategy on IAS;
- one point because, with project closure, communication efforts with society will be limited and an open public dialogue does not clearly exist, although much information has been mainstreamed.

Gains refer to:

- one point because there are adequate skills in place for invasive species planning and management that will continue after project closure;
- one point because, as a result of the project, institutions have effective internal mechanisms for monitoring, evaluation, reporting and learning.

The level of institutional capacity was therefore reduced at the end of the project in some areas and mainly due to political changes in the national context. This indicates the need to define leadership in the environmental sector and continue working on interinstitutional coordination to continue improving IAS management in Mexico.

4 CONCLUSIONS, RECOMMENDATIONS AND LESSONS LEARNED

Conclusions, recommendations, best practices, practices that may be improved, and lessons learned that were compiled during the TE and reflect the opinion of many project participants and partners interviewed are presented in this section. The recommendations considered more relevant by the TE team are marked in bold.

4.1 OVERALL CONCLUSIONS

The project made significant contributions to three strategic objectives and five strategic actions in the National Strategy on IAS by implementing several activities and achieving related targets. It is unlikely that the implementation of the National Strategy would have progressed without this project, or if so, only with rather limited actions. It should be a priority to consolidate the work initiated, as well as to implement other actions in the National Strategy that were not addressed.

Fulfilling the mission of the National Strategy requested coordinated participation, active and reponsible cooperation by stakeholders. Although the level of cooperation achieved may have been less than expected in the project, it made a significant difference as **IAS were successfully included in the agenda of government institutions and the perception of IAS changed in several partner institutions and society, raising awareness and interest in general.**

The project overall objective was achieved because the **management capacity of key institutions in the environment, production, biosecurity and border control increased** especially at the technical level due to capacity building workshops promoted throughout the project and for the adoption of appropriate management measures.

Some evidence of positive results in the overall **objective of safeguarding biodiersity of global importance** were generated from improvements on project intervention sites. In mainland protected areas, significant progress was observed in management capacity for the control of IAS and active restoration techniques, including plantations using native trees. On oceanic islands, marine birds, reptiles and small mammals are recovering after the eradication of feral cats and rats. These results show that the investment of time and resources in IAS management is necessary and worthwhile to restore natural areas, as well as to maintain or recover environmental resilience to climate change.

Outcome 1 was overall less developed due to a few activities, but yielded very important results with strong impact at the national level that will transcend into the future. A National IAS List was published, risk assessment protocols were developed with analyses for many species in several biological groups, and a nearly ready online National IAS Platform will give Access to the National Information System on IAS and other digital tools such as Naturalista and Enciclovida. Information and references were made available for border control inspections and detection of forest pests at the national level through interinstitutional coordination. Preventative biosecurity measures were implemented by key productive sectors to avoid the introduction and spread of IAS. The ornamental fish trade sector is developing voluntary certification and applying biosecurity measures to production facilities. Many methods, practices and technologies have been detailed, systematized, and prepared for replication.

It was easier to measure progress for **Outcome 2** given that most of the activities are implemented on the ground in protected areas selected for the project. Progress has been visible, with successful results from practical actions, achievement of targets and indicators. Demonstration areas where best practices were adopted to reduce the impact of grazing on mangroves and other native vegetation were defined in some protected areas. Management skills to control invasive plants and restore natural areas significantly improved in mainland protected areas during the last year of project implementation. EDRR protocols were developed, as well as island biosecurity protocols, but require more time for consolidation and broader application. Commitments to continue the work accomplished are clear on the part of CONANP and GECI, with broader achievements to be attained even after project closure.

4.2 CORRECTIVE ACTIONS FOR THE DESIGN, IMPLEMENTATION, MONITORING AND EVALUATION OF THE PROJECT

Although the PCU succeeded in following up on progress based on indicator matrices and complementary procedures established by the UNDP, M&E would have been more effectively measured had the progress and output indicators in the Logical Framework been **SMART**.

Some activities defined in the project formulation phase were too ambitious and were not completed, especially the changes in national laws and establishment of an EDRR system at the national level. The project life span of four years could not have been enough for a new issue like IAS to be so developed and understood, especially in the political context in which the project was implemented.

The capacity of a small PCU was overestimated in the design phase of the project. Too many activities were to be developed by a small team adjusted to have five people in the final implementation phase. Although support was provided for some tasks by CONABIO and CONANP, this situation created a heavy work load for the PCU, to some extent hindering adaptive management capacity and the clarity and precision of the many reports demanded by the UNDP and GEF to monitor progress.

A balance between the work load of a project and the number of members of the PCU must be sought from the design phase, as well as a realistic feasibility assessment of the activities planned for implementation.

Financial management was very well executed, without any findings in all audit reports produced throughout the project. Differences in the use of planned and executed funds between the years are mostly due to significant changes in the exchange rate to the US dollar, which favored the project by increasing the amount of funds available in national currency. Delays in payments and procedures were mostly due to delays in the approval of reports and products, which were sometimes below acceptable quality standards, or to internal procedures of the UNDP.

Recommendations on project design/formulation

It is important to define **SMART indicators** for projects in the design phase, ensure that results are well represented, and progress can be easily measured, especially when involving many activities and multiple institutions.

It is important to provide balance between the amount of activities to be implemented in projects and the corresponding workload to decide on the number of members of the PCU and ensure it will be able to manage implementation and monitoring, as well as make realistic feasibility assessments of activities and of the number of activities to be developed.

High-risk activities such as changes in national legislation should only be included in projects when the political context is favorable to their completion, therefore avoiding to compromise potential results and performance.

Recommendations on project implementation

Make use of lessons learned in other GEF projects to improve and guide operational and administrative issues during project implementation.

Consider including more CSO as project partners. The nature of CSO activities tends to include community involvement, change social perceptions, and extend project results beyond their original scope and deadlines. Besides, it is a relevant way to stregthen CSO technical and operational capacity, and empower society.

Several project activities were delayed during implementation because not enough technical or scientific data was available, as in the case of IAS occurring in protected areas. The academia should be engaged in projects to generate supporting data for IAS management.

Seek participation of women and improve the focus on gender in IAS management actions (prevention, monitoring, control, eradication, restoration, establishment of nurseries, and others) and improve the focus on gender issues in protected areas as feasible, in order to empower women in the communities and create opportunities to increase family income.

Improve capacity of CONANP personnel and communities that participate in monitoring groups, prevention, EDRR, control or eradication activities to report not only species that may be invasive, but also species abundance. Register all data on species as available, whether alien, invasive or native, including cover, impacts, and other information considered relevant. These data may serve as a baseline for comparing environmental conditions before and after management interventions in the short, mid or long-term, as well as to corroborate the positive impacts of management actions and subsequent benefits.

Recommendations on Monitoring & Evaluation

Evaluate the feasibility of activities as planned in the design phase of projects to verify the need for adaptive management or change implementation strategies. In the case of this project, the activities expected to establish references on cost-benefit and economic models of IAS management could have been successful if the PCU had better assesssed and taken action to correct implementation problems early. The fact that the strategy to develop these assessments had failed was clear by the end of 2016 at the second workshop led by Landcare Research. As

other results depended on these assessments, a chain of activities ended up not being fully implemented.

Many of the products delivered through the project were available (at the time of the TE) only in the form of consultancy reports that include broader information on the work carried out. It is advisable to request (including in ToR) that consultancy reports are delivered separately from products to make sure the latter are ready for replication and dissemination once approved, without details that are not of interest to users.

Reports should be more critical and focused on clearly stating impacts and results of consultancies and other work, not on process; for example, some reports mention an area under management or that a meeting was held, but make no clear reference to effective results or progress towards the target.

4.3 ACTIONS TO FOLLOW UP OR REINFORCE INITITAL BENEFITS FROM THE PROJECT

CONANP, for the role of managing **Natural Protected Areas**, and **GECI**, for its history of work on oceanic islands, are key stakeholders to assert the continuity of IAS management and, especially, to replicate the work to other PA and islands, as well as ensure the experience gained and the lessons learned are available to other interested parties.

The role of civil society associations such as CESAEM and AMPAR in disseminating best practices and providing support to producres in aquaculture is essential to extend project achievements, as well as the developent of voluntary certification for the production of ornamental fishes.

CONABIO has an essential role in sharing the data, information and products generated in the scope of the project. They should be used as a reference in planning IAS management actions, as well as in legal regulations for species and sectors.

The knowledge, techniques and practices developed in the scope of the project and incorporated into border control procedures and monitoring of forest pests were highly relevant to prevent the introduction of IAS of risk to the biodiversity of forest ecosystems in Mexico.

Recommendations

CONABIO must share the information, data and products generated in the scope of the project for use in planning management actions for IAS and developing regulations on species and productive sectors using IAS. This role of CONABIO must be strengthened to ensure that the information reaches relevant government institutions and productive sectors, which requires other alternatives than sharing products on the project web page. Products, plans and models should be organized by topic, while information must be shared in effective ways so it can reach various types of public.

CONANP Central Office: Support the Invasive Alien Species Coordination for results at the national level to be registered and available, replicate methods and practices developed, promote the exchange of experiences and measure positive impacts on biodiversity. These issues should be discussed with the Regional Operations General Directorate, the Species and Conservation Priorities Directorate, and other related Directorates to establish cooperation.

CONANP Central Office: Establish a common registry focused on IAS management actions with support from the Evaluation and Monitoring Directorate, including prevention, EDRR, eradication, control and monitoring in protected areas. The records must include successful control actions as well as those that did not produce good results. Registry forms should be standardized for all PA as well as for subsidy programs to facilitate online registry. This system may start out simple, using an Excel spreadsheet, and evolve over time into a more elaborate database. It must be focused on providing data on management in protected areas in order to facilitate replication, therefore including methodological details, monitoring results and final results in terms of efficiency, as well as cost estimates, prevention measures, early detection alerts and applied rapid response measures, and the results of such interventions. The system must also include methods that did not work well for their use to be avoided. These records may be linked to the PREVIENE system in order to facilitate monitoring of the implementation of the National IAS Strategy, as well as to connect them to other databases owned by CONABIO.

SEMARNAT: Provide more support to management actions by expediting authorizations for IAS control and eradication actions, which will save time and resources as well as increase benefits to biodiversity. Establish an agreement between CONANP and the DGVS to exempt the need for permits in case of rapid response to early detection of invasive alien species.

PROFEPA and CONAFOR: Provide capacity building opportunities to recently arrived personnel in order to share knowledge, techniques and practices developed during the project, including procedures applied to border control and monitoring of forest pests. The objective is to ensure that information and capacity are not lost and that these agencies continue increasing their effectiveness in inspection and control in priority entry points.

4.4 PROPOSALS FOR FUTURE DIRECTIONS UNDERLINING MAIN OBJECTIVES

Continuity of IAS management actions at the national level as set in motion by the project, as well as the development of legal regulations for IAS, are key to consolidate these issues as priorities in environmental management and sustainable production.

Biological invasions may cause the loss of resilience of natural ecosystems and production systems, making them more vulnerable to the effects of climate change. Natural areas and especially protected areas must be considered priorities for IAS management and complementary environmental restoration efforts in order to ensure the conservation of biological diversity and ecosystem services.

Recommendations

SEMARNAT: Establish a focal point for IAS in order to pursue the interinstitutional coordination required for ongoing IAS management in Mexico, and establish a Sectoral Committee represented by SEMARNAT, CONABIO, CONANP, CONAFOR, PROFEPA, CONAGUA, IMTA and INECC, as well as institutions in complementary areas such as SENASICA, CONAPESCA, INAPESCA, SEMAR, SS and others.

SEMARNAT and CONABIO: Include the objectives and goals of the National Strategy on Invasive Alien Species in the National Biodiversity Strategy 2030 in order to ensure that they

will be implemented, or develop a new workplan in the scope of the NSIAS or a new National Strategy on Invasive Alien Species.

SEMARNAT Environmental Regulations and Incentives Subsecretary: Develop regulations for the National Invasive Alien Species List and improve the compatibility of legal regulations related to IAS in collaboration with other agencies and support from CONABIO.

CONANP: Replicate methods, protocols, materials and knowledge to other protected areas in order to continue IAS management actions in areas of relevance to the conservation of biodiversity. It would be beneficial to develop a list of priority protected areas and begin replication using funds from the subsidy programs.

CONANP Central Office, represented by its CEO or the DGOR, with support from the DEPC and SEMARNAT: Hold meetings with high-rank officials in charge of biosecurity issues in the respective institutions, with support from insular protected areas and GECI, to develop workplans derived from the biosecurity protocols in which specific goals, outputs, deadlines and responsibilities are clearly defined.

SEMARNAT and/or descentralized agencies: Seek funds from the GEF or other sources to initiate a new project to further develop and consolidate IAS management and apply, in practice, all the knowledge generated through this project. Baselines, plans, techniques, models and practices are to be implemented as well as replicated to other protected areas, sites and productive sectors. With a new project it would be feasible to reestablish coordination and commitments with current leaders of institutions in charge of IAS, the environment and related areas, instated after the last change in government, as well as further consolidate IAS management in work routines.

We recommend to CONABIO and the UNDP that the remaining financial resources to be applied through the project's Exit Strategy are specifically used in the development of activities that ensure the continuity of IAS management in Mexico and strengthen the lines of action defined within the scope of the project.

4.5 BEST AND WORST PRACTICES IN ADDRESSING ISSUES RELATED TO RELEVANCE, PERFORMANCE AND SUCCESS

Best practices

Focusing project activities on interinstitutional coordination and capacity building, inclusion of relevant government institutions at the national level to promote a change of perception and applied IAS management, and reaching out to key productive sectors related to IAS.

Consolidation of a new perception of IAS, creating sinergies with academia, CSO, state and national government institutions, communities and other participants, who contributed their knowledge, experience, work and resources.

Use of risk assessment protocols and of the National IAS List in decision-making on the introduction of alien species. In due course, the National IAS List should become a reference to

other areas and other legal regulations. The use of these instruments by several government institutions is a relevant outcome of the project.

Support from CONABIO for the development of State Strategies on Biodiversity including IAS management goals and activities.

Establishment of a Scientific Committee, an innovative approach that had not been formerly tried, and is currently being replicated by the UNDP to other GEF projects. However, the TE team could not find clear evidence of results generated by this Committee to improve project outcomes; or perhaps the PCU did not manage to implement all adaptive management recommendations.

The work carried out by CESAEM and AMPAR to engage ornamental fish producers in adopting best practices and biosegurity measures to prevent escapes.

Addressing issues that are often not considered by environmental managers for being more directly related to other sectors (grazing, aquaculture and forestry).

Carrying out pilot simulations to test the EDRR protocol in Marismas Nacionales RB, an initiative that had not been planned for this protected area.

People from local communities, service providers in tourism, IAS control groups and monitoring groups issue warnings on IAS occurrences to personnel on islands, Sierra de Alamos Rio Cuchujaqui and Cañon del Sumidero National Park.

Detection and registry of new invasive alien species that had not been observed in protected areas, and inclusion of these species in control actions. This shows a change of perception, as the former focus on certain species changed to consider the ecosystem as a whole.

Commitment of CSO beyond contractual activities (GECI A.C., Cipactli, Agencia de Restauración Forestal y Vida Silvestre S.C and CAME S.C.), using adaptive management to ensure that implementation leads to effective results even if extra work is required. The effort of recording IAS occurrences in Naturalista made by CIPACTLI.

Exchange of experiences with communities applying best practices in cattle ranching, as cattle ranchers who were skeptical of the practices were able to witness positive results and changed their views.

Optimizing activities and increasing benefits for common results due to sinergies between GEF projects (Invasive Species, Priority Species, and Resilience), with other institutions such as CONAFOR, and other projects funded by CONANP subsidy programs (PROCER, PROREST, PROCODES).

Adaptive management to increase administrative efficiency in the UNDP procurement area and within the PCU, currently being applied to new projects to provide better service.

Practices that can be improved

Establishment of IAS Subcouncils or Committees of Attention to IAS in protected areas. These groups have not succeeded in being equally functional, which seems to be greatly dependent

upon guidance from the protected area manager. Best results were observed for protected areas where demands are clearly stated and technical support is sought to solve practical issues.

The level of outreach of Island Biosecurity Protocols, including managerial levels and high and medium-rank positions in government institutions at federal and state levels which are relevant in establishing responsibilities and commitments. Lower ranks need to be reached as well, since people doing work in the field play an important role in preventing species introductions and spread.

Management of contracts and funds by the UNDP could be better aligned with times of implementation of field activities, especially when these depend on specific seasons due to climatic conditions, or other particular situations that do not allow for flexibility.

Reporting on the part of the PCU. Many of the reports are repetitive and are sometimes out of range, including information from former dates or reports. In general, progress from the previous reporting period or towards targets is not clearly stated. Information often refers to processes rather than results, for example, mention of meetings or workshops on a certain issue without reporting on decisions made or next steps, or no information on the topic is provided in the following report.

The number and type of reports in M&E. It is advisable that the UNDP and GEF verify the need of numerous reports during project implementation. If less reports were demanded of the PCU, they would tend to be more concise and objective, and less repetitive. For example, the Quarterly Progress Reports would be consolidated as the anual PIR, with more focus on progress towards achievements and expected results.

The UNDP initiative to create sinergies between GEF projects of related areas or interest by promoting exchanges of experiences.

4.6 LESSONS LEARNED

UNDP administrative procedures for approval of ToR, contracts and reports take long and are difficult to change. It is important to have realistic information on the time required by such procedures to improve planning, allow time for procedures to be completed, and be able to proceed with implementation at the necessary time. Multiannual contracts and/or contracts with combines products should be preferred as feasible to reduce the number of procedures and approvals by the UNDP.

The time required for developing and publishing legal regulations, as well as other activities at the national level, are most often beyond the life span of GEF projects. A few of the activities included in the design of the project were not realistic and not feasible.

The active maintenance of networks, committees, councils and other such groups depends on the existence of an institutional focal point to constantly maintain communication and place demands.

Investment in technical capacity resulted in the incorporation of IAS management measures into several government institutions. Still, further work is necessary to establish IAS management as a priority at higher levels.

The availability of systematized technical information (factsheets, distribution and risk maps, RA, protocols, control methods, dissemination materials), as well as adequate equipment, is key to improve prevention, EDRR and control of IAS.

Education and awareness efforts about IAS are highly relevant and should be directed to diverse types of public, including journalists, although resulting impacts are difficult to measure.

It would have been important to define prioritization criteria for eradication and control actions in order to increase the effectiveness of control for the conservation of biodiversity in the scope of the project. The indicators for control activities in the Logical Framework were defined in numbers of hectares, but were not necessarily implemented in areas where the benefits to biological diversity would be maximized.

The adoption of best practices in productive systems require mid or long-term technical support, especially within rural communities, with slow introduction of practices to allow for cultural changes, as well as the development of market strategies for products.

It would have been important to include a professional to consolidate information on costs of IAS impacts and mitigation measures in the groups of consultants hired to develop pilot activities on prevention, EDRR, eradication and/or control. Such data could have been used to generate the cost-benefit analyses expected from other activities, and for future reference and replication of efficient management methods.

Prevention, EDRR and eradication measures should be prioritized among IAS management actions based on their feasibility, and must consider not only species-specific control, but areas of relevance to biodiversity. Control efforts should give priority to nascent *foci* of biological invasions, as eradication and control are more viable, cheaper, and faster to complete, preventing spread to new areas.

The support of CSO often facilitates positive interaction with communities for IAS prevention, EDRR, eradication and/or control. The experience and local insertion of CSO must be valued and cherished for collaboration with protected area managers, as these are often unable to reach out to communities with the same level of commitment.

The applicaton of biosecurity measures may be strengthened by including requirements in permits for scientific research, recreation or other work on islands. Biosecurity recommendations developed in the scope of the project can be applied, and include requests for warnings to be issued to the protected area manager in case of sightings of possible IAS.

The TE team is often asked to provide clarifications on GEF projects and on the role of evaluators during interviews. Interviewees often think that the Evaluation Team will decide whether more funds will be provided for continued project activities, especially participants less directly involved. In order to avoid frustration, it is important that the representatives of local institutions in charge of organizing interviews explain, in advance, that the role of the evaluation team is not related to decisions on funding.

5 ANNEXES

ANNEX 5.1 EVALUATION CONSULTANTS AGREEMENT FORMS

5.1.1 International consultant

La contratista:

1. Debe presentar información completa y justa en su evaluación de fortalezas y debilidades, para que las decisiones o medidas tomadas tengan un buen fundamento.
2. Debe divulgar todos los resultados de la evaluación junto con información sobre sus limitaciones, y permitir el acceso a esta información a todos los afectados por la evaluación que posean derechos legales expresos de recibir los resultados.
3. Debe proteger el anonimato y la confidencialidad de los informantes individuales. Debe proporcionar avisos máximos, minimizar las demandas de tiempo, y respetar el derecho de las personas de no participar. El/la contratista debe respetar el derecho de las personas a suministrar información de forma confidencial y deben garantizar que la información confidencial no pueda rastrearse hasta su fuente. No se prevé que evalúen a individuos y deben equilibrar una evaluación de funciones de gestión con este principio general.
4. En ocasiones, debe revelar la evidencia de transgresiones cuando realizan las evaluaciones. Estos casos deben ser informados discretamente al organismo de investigación correspondiente. El/la contratista debe consultar con otras entidades de supervisión relevantes cuando haya dudas sobre si ciertas cuestiones deberían ser denunciadas y cómo.
5. Debe ser sensible a las creencias, maneras y costumbres, y actuar con integridad y honestidad en las relaciones con todos los interesados. De acuerdo con la Declaración Universal de los Derechos Humanos de la ONU, el/la contratista debe ser sensibles a las cuestiones de discriminación e igualdad de género, y abordar tales cuestiones. Deben evitar ofender la dignidad y autoestima de aquellas personas con las que están en contacto en el transcurso de la evaluación. Gracias a que saben que la evaluación podría afectar negativamente los intereses de algunos interesados, el/la contratista debe realizar la evaluación y comunicar el propósito y los resultados de manera que respete claramente la dignidad y el valor propio de los interesados.
6. Es responsable de su rendimiento y sus productos. Es responsable de la presentación clara, precisa y justa, de manera oral o escrita, de limitaciones, los resultados y las recomendaciones del estudio.
7. Debe reflejar procedimientos descriptivos sólidos y ser prudentes en el uso de los recursos de la evaluación.

Formulario de acuerdo de la consultora de la evaluación[10]

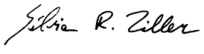
Acuerdo para acatar el Código de conducta para la evaluación en el Sistema de las Naciones Unidas

Nombre del/ la contratista: SÍLVIA RENATE ZILLER

Nombre de la organización consultiva (donde corresponda): PNUD MÉXICO

Confirmo que he recibido y entendido y que acataré el Código de Conducta para la Evaluación de las Naciones Unidas.

Firmado en Florianópolis - SC, Brasil, el 25 de junio de 2019.

Firma: 

[10] www.unevaluation.org/unegcodeofconduct

5.1.2 National consultant

La contratista:

1. Debe presentar información completa y justa en su evaluación de fortalezas y debilidades, para que las decisiones o medidas tomadas tengan un buen fundamento.
2. Debe divulgar todos los resultados de la evaluación junto con información sobre sus limitaciones, y permitir el acceso a esta información a todos los afectados por la evaluación que posean derechos legales expresos de recibir los resultados.
3. Debe proteger el anonimato y la confidencialidad de los informantes individuales. Debe proporcionar avisos máximos, minimizar las demandas de tiempo, y respetar el derecho de las personas de no participar. El/la contratista debe respetar el derecho de las personas a suministrar información de forma confidencial y deben garantizar que la información confidencial no pueda rastrearse hasta su fuente. No se prevé que evalúen a individuos y deben equilibrar una evaluación de funciones de gestión con este principio general.
4. En ocasiones, debe revelar la evidencia de transgresiones cuando realizan las evaluaciones. Estos casos deben ser informados discretamente al organismo de investigación correspondiente. El/la contratista debe consultar con otras entidades de supervisión relevantes cuando haya dudas sobre si ciertas cuestiones deberían ser denunciadas y cómo.
5. Debe ser sensible a las creencias, maneras y costumbres, y actuar con integridad y honestidad en las relaciones con todos los interesados. De acuerdo con la Declaración Universal de los Derechos Humanos de la ONU, el/la contratista debe ser sensibles a las cuestiones de discriminación e igualdad de género, y abordar tales cuestiones. Deben evitar ofender la dignidad y autoestima de aquellas personas con las que están en contacto en el transcurso de la evaluación. Gracias a que saben que la evaluación podría afectar negativamente los intereses de algunos interesados, el/la contratista debe realizar la evaluación y comunicar el propósito y los resultados de manera que respete claramente la dignidad y el valor propio de los interesados.
6. Es responsable de su rendimiento y sus productos. Es responsable de la presentación clara, precisa y justa, de manera oral o escrita, de limitaciones, los resultados y las recomendaciones del estudio.
7. Debe reflejar procedimientos descriptivos sólidos y ser prudentes en el uso de los recursos de la evaluación.

Formulario de acuerdo de la consultora de la evaluación[11]

Acuerdo para acatar el Código de conducta para la evaluación en el Sistema de las Naciones Unidas

Nombre del/ la contratista: MARGARITA GARCÍA MARTÍNEZ

Nombre de la organización consultiva (donde corresponda): PNUD MÉXICO

Confirmo que he recibido y entendido y que acataré el Código de Conducta para la Evaluación de las Naciones Unidas.

Firmado en la Ciudad de México, el 25 de junio de 2019.

Firma: 

[11] www.unevaluation.org/unegcodeofconduct

ANNEX 5.2 EVALUATION QUESTION MATRIX

Preguntas	Indicadores	Fuentes	Metodología
Relevancia			
¿De qué maneras el proyecto o su seguimiento ha cambiado la realidad en la región de intervención?	Evidencias de cambios de visión y actividades incorporadas en la rutina de las instituciones involucradas	Entrevistas; informes, PIRs; METT, observación directa	Entrevistas cerradas y revisión de documentos del proyecto
Efectividad			
¿Ha sido efectivo el proyecto para alcanzar los resultados y objetivos previstos?	Indicadores en el marco de resultados y Marco Estratégico de Resultados del documento del proyecto. Resultados alcanzados	Documentos del proyecto Equipo del proyecto e interesados relevantes Datos comunicados en los informes anuales y trimestrales del proyecto	Análisis de documentos Entrevistas con el equipo del proyecto Entrevistas con los interesados relevantes Revisión de documentos del proyecto
¿El proyecto consultó y aprovechó las habilidades, la experiencia y el conocimiento de las entidades gubernamentales competentes, las organizaciones no gubernamentales, grupos comunitarios, entidades del sector privado, gobiernos locales e instituciones académicas en el diseño, implementación y evaluación de las actividades del proyecto, con vistas a generar impactos ambientales y sociales efectivos?	Información en el diseño del proyecto	PRODOC, PIR, informe de la EMT y Matriz de Marco Estratégico de Resultados, participantes del proyecto	Revisión de documentos, entrevistas cerradas
¿En qué medida se ha gestionado adecuadamente los riesgos, suposiciones e impulsores de impacto? ¿Fueron suficientes?	Integridad de la identificación y suposiciones del riesgo durante la planificación y el diseño del proyecto Calidad de los sistemas de información existente vigente para identificar riesgos emergentes y otras cuestiones. Calidad de las estrategias de mitigación del riesgo que se desarrollaron y continuaron	Documentos del proyecto Entrevistas a interesados relevantes, observación directa	Análisis de documentos Entrevistas y observación directa en campo

Preguntas	Indicadores	Fuentes	Metodología
Eficiencia			
¿Con qué nivel de efectividad gestionó la Coordinación el proyecto?	Ejemplos de acciones de coordinación e integración con actores clave	Entrevistas con actores clave; PIRs; QPRs	Comparación de progreso en los productos del Marco Estratégico de Resultados; valoración por la escala de calificaciones GEF AI hasta AS
¿Con qué nivel de efectividad gestionó el PNUD el proyecto?	Evidencias de resolución de conflictos y problemas a lo largo del proyecto. Seguimiento a procesos administrativos	Entrevistas con actores clave, documentación (contratos, minutas de junta de proyecto, informes)	Recolección de evidencias por entrevistas y documentación (incluidos los PIRs)
¿Cuál fue el nivel de eficiencia y perspectiva de continuidad de los acuerdos de cooperación y colaboración?	Evidencia de que se mantendrán las asociaciones y los vínculos particulares Tipos y calidad de los métodos de cooperación de asociaciones utilizados	Documentos y evaluaciones del proyecto Socios del proyecto e interesados relevantes	Análisis de documentos Entrevistas cerradas
¿Qué cambios se podrían haber realizado (si hubiera alguno) en el proyecto para mejorar su eficiencia?	Indicadores en el Marco Estratégico de Resultados del documento del proyecto y actividades planificadas	Datos recolectados en toda la evaluación	Entrevistas cerradas
Sostenibilidad			
¿Qué evidencias existen de que los socios del proyecto continuarán sus actividades más allá del cierre del proyecto? ¿Qué grado de implicación local existe para las iniciativas y los resultados?	El grado en el que los homólogos locales o las instituciones u organizaciones locales han asumido las actividades y los resultados del proyecto Nivel de respaldo financiero que los participantes en el país deben proporcionar a actividades y sectores relevantes luego de la finalización del proyecto	Documentos y Evaluaciones del proyecto, personal y socios del proyecto Beneficiarios	Análisis de documentos Entrevistas
¿Existen riesgos sociales o políticos que puedan poner en peligro la sostenibilidad de los resultados del proyecto?	Evidencias de instabilidad política o financiera	Entrevistas, documentos del proyecto PIR, QPR, EMT	Entrevistas cerradas y grupos focales análisis de documentos.

Preguntas	Indicadores	Fuentes	Metodología
¿Existen aspectos financieros que puedan poner en riesgo la sostenibilidad de los resultados del proyecto? ¿Se ha instalado un mecanismo para asegurar la sostenibilidad financiera y económica una vez que termine la asistencia del GEF?	Evidencias de instabilidad política o financiera o insuficiente apropiación del proyecto de parte del gobierno	Entrevistas, documentos del proyecto PIR, QPR, EMT	Entrevistas cerradas, análisis de documentos
¿Los marcos jurídicos, las políticas y las estructuras y procesos de gobernabilidad en el que opera el proyecto plantean riesgos que puedan poner en riesgo la sostenibilidad de los beneficios del proyecto?	Evidencias de instabilidad política, socioeconómica o insuficiente apropiación del proyecto de parte del gobierno	Entrevistas, documentos del proyecto PIR, QPR, EMT	Entrevistas cerradas, análisis de documentos
¿Existen riesgos para los beneficios ambientales que fueron ocasionados o que se esperaba que ocurriesen?	Pruebas de las posibles amenazas Evaluación de las amenazas emergentes o no abordadas	Documentos y evaluaciones del proyecto Documentos del gobierno u otra información externa publicada, personal y socios del proyecto Beneficiarios	Entrevistas, visitas a las ANP Análisis de la documentación
Resultados e impactos			
¿Cuáles son los principales logros del proyecto?	Evidencias de cambios positivos de visión, actitud y resultados de marco de resultados estratégicos (MRE) y Marco Estratégico de Resultados	Entrevistas, Documentos (MRE y Marco Estratégico de Resultados; EMT, informes), Observación directa	Comparación de indicaciones de entrevistas con resultados esperados del proyecto y lecciones recolectadas, visitas a sitios de intervención
¿Cuáles han sido las principales limitaciones del proyecto?	Dificultades encontradas y cómo afectan los resultados y la sostenibilidad del proyecto	Entrevistas, documentos (MRE, Marco Estratégico de Resultados, EMT, informes) observación directa	Comparación de indicaciones de entrevistas con resultados esperados del proyecto y lecciones recolectadas, visitas a sitios de intervención
¿Ha alcanzado el proyecto su objetivo general de "Proteger la biodiversidad de importancia global en ecosistemas vulnerables a través del establecimiento de capacidades para prevenir, controlar y manejar	*Cambio en la capacidad: - Para aunar o movilizar recursos - Para desarrollar una política relacionada y planificación estratégica	Documentos del proyecto (METT, informes, PIRs, EMT), Interesados clave Datos de seguimiento	Análisis de documentos Entrevistas con socios y beneficiarios del proyecto y otros interesados

Preguntas	Indicadores	Fuentes	Metodología
especies invasoras (EI) en México?" ¿El proyecto alcanzó o contribuyó a alcanzar algún resultado imprevisto?	- Para aplicar estrategias y leyes afines a través de marcos institucionales adecuados y su mantenimiento *Cambio en la cantidad y la fortaleza de barreras como: - Conocimiento sobre la problemática e impactos de las EEI en la biodiversidad - Coordinación interinstitucional y diálogo intersectorial		
¿Existen reducciones comprobadas de introducción de EEI al territorio o reducciones de poblaciones de EEI a nivel local?	Evidencias de las mejoras del estado ecológico de los ecosistemas comparado con el inicio del proyecto, Indicadores del MRE	Revisión documental (informes, EMT, PIRs, METT, productos) Entrevistas, Observación directa	Análisis de documentos Entrevistas cerradas y a grupos focales, visitas a sitios de intervención
Monitoreo y Evaluación			
¿Se presupuestó y financió adecuadamente el Plan de M&E durante la ejecución del proyecto?	Evidencias de que el plan de M&E fue bien seguido y tuvo respuestas adecuadas, cambios de manejo adaptativo	Entrevistas; alcance de co-financiamiento; documentos (informes)	Evaluación de respuestas y cambios a hallazgos de M&E
¿Se tomaron acciones de seguimiento y / o gestión adaptativa en respuesta a los informes de seguimiento (PIRs) y EMT?	Indicaciones de necesidad de adaptación y recomendaciones	Entrevistas; respuestas y cambios a partir de la EMT	Evaluación de documentos que evidencian los cambios (PIR, management response de la EMT)
¿Los grados de autoevaluación en los PIRs fueron consistentes con los hallazgos de la Evaluación de Medio Término? Si no, ¿por qué?	Coherencia de las evaluaciones	PIR, EMT	Comparación de los PIR con los hallazgos de la EMT
¿Qué tan efectivo fue el Comité Directivo en seguir los avances del proyecto y mantener el proyecto en marcha?	Evidencias de participación y actividad del CD	Entrevistas; documentos del proyecto	Recolección de evidencias de acción del CD
¿Se produjeron informes de progreso de manera adecuada y oportuna?	Calidad de los informes de la gestión basada en los resultados (informesde progreso, seguimiento y evaluación)	Documentos y Evaluaciones del proyecto, Entrevistas al equipo del proyecto	Análisis de documento Entrevistas clave

Preguntas	Indicadores	Fuentes	Metodología
Apropiación del país			
¿El gobierno ha promulgado leyes y / o desarrollado políticas y regulaciones en línea con los objetivos del proyecto?	Lista de leyes, políticas y regulaciones creadas o modificadas	Revisión documental	Entrevistas y revisión de documentos
¿Qué cambios ha producido el proyecto en la estructura política y legal del país que pueda asegurar que habrá un manejo efectivo de las EEI en los diversos sectores y en la reducción de impactos al medio ambiente y la economía en el futuro?	Lista de leyes, políticas y regulaciones creadas o modificadas; capacitación técnica, acuerdos interinstitucionales	Productos del proyecto; matriz de marco de resultados estratégicos y Marco Estratégico de Resultados, entrevistas	Comparación de objetivos y resultados esperados con productos y sus aplicaciones, verificadas en sitios de intervención y por entrevistas
Financiamiento del proyecto			
¿Hubo diferencias significativas entre el cofinanciamiento esperado y el monto obtenido y de ser así, ¿cuáles fueron las razones de estas diferencias?	Datos de cofinanciamiento esperado y efectivo	Tabla de cofinanciamiento del proyecto; entrevistas para explicar diferencias	Comparación entre lo esperado y lo obtenido; tabla de cofinanciamiento final del proyecto
¿Fueron integrados adecuadamente los componentes del proyecto financiados externamente con los componentes financiados por el GEF?	El financiamiento externo converge a los productos del proyecto	Entrevistas; QPR, PIR	Evaluación de fuentes financieras que conllevaron a productos y resultados
¿Hubo más contribuciones de recursos obtenidas durante la ejecución del proyecto (otras fuentes externas)?	Datos de cofinanciamiento adicional obtenido a lo largo del proyecto	Tabla de cofinanciamiento del proyecto; detallamiento de fondos adicionales, Entrevistas; QPR, PIR	Documentación de cofinanciamiento más allá del planificado o esperado, entrevistas
¿Los sistemas contables y financieros vigentes fueron adecuados para la gestión del proyecto y brindaron información financiera precisa y oportuna?	Calidad de los informes financieros y de progreso. Informes proporcionados de manera puntual y adecuada Nivel de discrepancia entre los gastos financieros planificados y utilizados Fondos planificados y reales aprovechados	Documentos y Evaluaciones del proyecto Tabla de cofinanciamiento del proyecto; detallamiento de fondos adicionales, entrevistas, QPR, PIR	Análisis de documentos de cofinanciamiento, entrevistas cerradas

Preguntas	Indicadores	Fuentes	Metodología
Replicación			
¿Las acciones o resultados del proyecto han sido replicados por otras instituciones / proyectos?	Cantidad de las iniciativas repetidas	Otros documentos de la programación. Beneficiarios, personal y socios del proyecto, observación directa	Análisis de documentos, entrevistas
Transversalización			
¿Fueron tomados en cuenta los temas de género en el diseño e implementación del proyecto? De haber sido así, ¿cómo y en qué medida?	Porcentaje de hombres y mujeres involucrados y beneficiados por el proyecto	Listas de participantes en talleres, ejerciendo funciones en el proyecto e involucrados en actividades	Verificación de porcentaje en informes de talleres y actividades; visitas a sitios de intervención
¿Existe evidencia de que los resultados del proyecto han contribuido a una mejor preparación para enfrentar los desastres naturales y a aumentar la resiliencia de los sistemas naturales en la región o sitios de intervención?	Evidencias de instalación del sistema de monitoreo, de reducción de introducción de EEI al país o reducción de poblaciones de EEI en AP o sectores productivos, incremento o recuperación de fauna nativa en los sitios de intervención	Entrevistas, Observación directa, documentación de monitoreo y otros informes y productos	Revisión documental Entrevistas y visitas a los sitios de intervención
Lecciones aprendidas y recomendaciones			
¿Cuáles son las lecciones aprendidas como resultado de este proyecto?	Entrevistados conocen el proyecto lo suficiente para indicar puntos relevantes	Entrevistas; informes sobre lecciones aprendidas, EMT	Recolección de lecciones y destaque de las más importantes / replicadas
¿Cuáles fueron las mejores prácticas empleadas?	Entrevistados conocen el proyecto lo suficiente para indicar puntos relevantes	Entrevistas; informes sobre mejores prácticas, EMT	Recolección de prácticas y destaque de las más importantes / replicadas
¿Qué debería ser diferente en un próximo proyecto?	Entrevistados conocen el proyecto lo suficiente para indicar puntos relevantes	Entrevistas	Registro de opiniones indicadoras de necesidades o demandas futuras y posibles debilidades del proyecto

ANNEX 5.3 INTERVIEW QUESTION MATRIX

Las preguntas presentadas a continuación fueron elaboradas para uso en las entrevistas cerradas a actores clave o grupos focales que han participado en actividades del proyecto a fin de generar información que permita contestar las preguntas de la Evaluación Final. La metodología a ser aplicada es de entrevistas cerradas o en grupos focales, conforme explicado en el texto de este informe.

Actores clave	Preguntas / criterios	Indicadores
	Relevancia	
PNUD, CONANP, CONABIO	¿De qué maneras el proyecto o su seguimiento ha cambiado la realidad en la región de intervención?	Evidencias de cambios de visión y actividades incorporadas en la rutina de las instituciones involucradas
	Efectividad	
CONABIO, CONANP, UCP ONGs e instituciones de gobierno	¿De qué maneras se involucró a las partes interesadas y se promovió su participación en el diseño, implementación y M&E?	Las partes interesadas se declaran partícipes del proyecto desde el diseño y tienen roles en la implementación
UCP, Comité Científico, CONABIO, CONANP	¿Qué estrategias fueron implementadas para mitigar riesgos relacionados con la sostenibilidad a largo plazo del proyecto?	Integridad de la identificación y suposiciones del riesgo durante la planificación y el diseño del proyecto Calidad de los sistemas de información existentes para identificar riesgos emergentes y otras cuestiones Calidad de las estrategias de mitigación de riesgo desarrolladas
	Eficiencia	
PNUD, CONABIO, CONANP (ANP), ONGs, Instituciones de gobierno	¿De su punto de vista, el proyecto fue bien gestionado por la UCP?	Ejemplos de acciones de coordinación e integración con actores clave
UCP, CONANP, CONABIO	¿Cómo le parece el desempeño del PNUD como Agencia Implementadora?	Evidencias de resolución de conflictos y problemas a lo largo del proyecto. Seguimiento a procesos administrativos
PNUD, UCP	¿El análisis de riesgos del proyecto fue eficiente desde el inicio?	Comparación entre análisis de riesgos inicial y situaciones ocurridas a lo largo del proyecto

Actores clave	Preguntas / criterios	Indicadores
CONABIO, UCP	¿Qué vínculos entre instituciones y organizaciones fueron bien consolidados? ¿Qué métodos fueron exitosos o no? ¿Por qué?	Actividades específicas realizadas para respaldar el desarrollo de acuerdos de cooperación entre asociados Evidencia de que se mantendrán las asociaciones y los vínculos particulares Tipos y calidad de los métodos de cooperación de asociaciones
UCP, CONANP, GECI	¿Las instituciones responsables de ejecutar el proyecto colaboraron de manera efectiva?	Cantidad/calidad de análisis realizado para evaluar el potencial de la capacidad local y la capacidad de absorción
PNUD, UCP, CONABIO, CONANP, GECI	¿Qué cambios se podrían haber realizado (si hubiera alguno) en el proyecto para mejorar su eficiencia?	Indicadores en el marco de resultados y Marco Estratégico de Resultados del documento del proyecto y actividades planificadas
	Sostenibilidad	
CONABIO, CONANP, UCP, GECI, INAPESCA, CESAEM, PROFEPA, CONAFOR, CONAPESCA, SEMARNAT	¿Cómo es que los partícipes del proyecto van a continuar el manejo y la gestión de EEI a largo plazo?	Evidencias de apropiación y cambios de actitud o iniciativas en sitios de intervención e instituciones involucradas y acuerdos intra e interinstitucionales
CONANP, CESAEM, INAPESCA, PROFEPA, CONAFOR	¿Qué grado de implicación local existe para las iniciativas y los resultados?	Nivel de respaldo financiero que los participantes deben proporcionar a actividades y sectores relevantes luego de la finalización del proyecto
PNUD, CONABIO, UCP, CONANP	¿Existen riesgos sociales o políticos que puedan poner en peligro la sostenibilidad de los resultados del proyecto?	Evidencias de instabilidad política o financiera
PNUD, CONABIO, CONANP, PROFEPA, INAPESCA, CESAEM, CONAFOR	¿Existen aspectos financieros que puedan poner en riesgo la sostenibilidad de los resultados del proyecto? ¿Se ha instalado un mecanismo para asegurar la sostenibilidad financiera y económica una vez que termine la asistencia del GEF?	Evidencias de instabilidad política o financiera o insuficiente apropiación del proyecto de parte del gobierno
PNUD, CONABIO, UCP, CONANP	¿Los marcos jurídicos, las políticas y las estructuras y procesos de gobernabilidad en el que opera el proyecto pueden poner en riesgo la sostenibilidad de los beneficios del proyecto?	Evidencias de instabilidad política, socioeconómica o insuficiente apropiación del proyecto de parte del gobierno
UCP, CONABIO, CONANP	¿Existen riesgos para los beneficios ambientales que fueron generados?	Pruebas de las posibles amenazas; Evaluación de las amenazas emergentes o no abordadas

Actores clave	Preguntas / criterios	Indicadores
	Resultados e impactos	
PNUD, UCP, CONABIO, CONANP, GECI, CONAFOR, PROFEPA, INAPESCA, CESAEM, UAM	¿Cuáles son los principales logros del proyecto?	Evidencias de cambios positivos de visión, actitud y resultados en el Marco Estratégico de Resultados
PNUD, UCP, CONABIO, CONANP, GECI, CONAFOR, PROFEPA, INAPESCA, CESAEM, UAM	¿Cuáles han sido las principales limitaciones del proyecto?	Dificultades encontradas y cómo afectan la sostenibilidad del proyecto
PNUD, UCP, CONABIO, CONANP, GECI	¿Considera que el proyecto ha alcanzado su objetivo general de "Proteger la biodiversidad de importancia global en ecosistemas vulnerables a través del establecimiento de capacidades para prevenir, controlar y manejar especies invasoras (EI) en México"? ¿Fue relevante la contribución del proyecto para conservar la biodiversidad mundialmente importante del área prevista? ¿El proyecto alcanzó o contribuyó a alcanzar algún resultado imprevisto?	*Cambio en la capacidad: - Para aunar o movilizar recursos - Para desarrollar una política relacionada y planificación estratégica - Para aplicar estrategias y leyes afines a través de marcos institucionales adecuados y su mantenimiento *Cambio en la cantidad y la fortaleza de barreras como: - Conocimiento sobre la problemática e impactos de las EEI en la conservación de la biodiversidad - Coordinación interinstitucional y diálogo intersectorial - Actividades ejecutadas
UCP, CONABIO, CONANP, GECI, PROFEPA, CONAFOR	¿Existen mejoras comprobables en el estado ecológico de los sitios de intervención del proyecto que se vea reflejado en mejoras a nivel nacional o mundial? ¿Existen reducciones comprobadas de introducción de EEI al territorio o reducciones de poblaciones de EEI a nivel local?	Evidencias de las mejoras del estado ecológico de los ecosistemas comparado con el inicio del proyecto, Indicadores del Marco Estratégico de Resultados
	Monitoreo y Evaluación	
PNUD, UCP, CONABIO	¿Se presupuestó y financió adecuadamente el Plan de M&E durante la ejecución del proyecto?	Evidencias de que el plan de M&E fue bien seguido y tuvo respuestas adecuadas, cambios de manejo adaptativo

Actores clave	Preguntas / criterios	Indicadores
PNUD, UCP, CONABIO, CONANP	¿Qué acciones de seguimiento y / o gestión adaptativa fueron tomadas en respuesta a los informes de seguimiento (PIRs) y EMT?	Medidas de adaptación implementadas
PNUD, UCP, CONABIO, CONANP	¿Qué tan efectivo fue el Comité Directivo en seguir los avances del proyecto y mantener el proyecto en marcha?	Evidencias de participación y actividad del CD
	Apropiación del país	
PNUD, UCP CONABIO, CONANP, GECI	¿Qué políticas y regulaciones han sido promulgadas en línea con los objetivos del proyecto?	Lista de políticas y regulaciones creadas o modificadas
PNUD, UCP CONABIO, CONANP, GECI	¿Qué cambios ha producido el proyecto en la estructura política y legal del país para asegurar que habrá un manejo efectivo de las EEI en los diversos sectores y en la reducción de impactos al medio ambiente y la economía en el futuro?	Evidencias de modificaciones en la gestión de EEI, mejoría de capacidad técnica y acuerdos interinstitucionales
	Financiamiento del proyecto	
PNUD, UCP, CONANP, GECI, UAM y otros cofinanciadores	¿El cofinanciamiento esperado fue aportado? ¿En caso negativo, cuáles son las razones?	Valores de cofinanciamiento esperado y efectivo
PNUD, UCP, CONANP, CONABIO, GECI	¿Los valores de cofinanciamiento fueron aplicados adecuadamente a los componentes del proyecto?	El financiamiento externo converge a los productos del proyecto
PNUD, UCP	¿Hubo contribuciones más allá del esperado (otras fuentes externas)?	Datos de cofinanciamiento adicional obtenido a lo largo del proyecto
PNUD, UCP, CONABIO, CONANP, GECI	¿Se usó o necesitó gestión de adaptación para asegurar el uso eficiente de recursos? ¿Los sistemas contables y financieros vigentes fueron adecuados para la gestión del proyecto y brindaron información financiera precisa y oportuna?	Disponibilidad y calidad de los informes financieros y de progreso. Informes proporcionados de manera puntual y adecuada Nivel de discrepancia entre los gastos financieros planificados y utilizados Fondos planificados y reales aprovechados

Actores clave	Preguntas / criterios	Indicadores
	Replicación	
UCP, PNUD, CONABIO, CONANP	¿Se han repetido o aplicado nacional, regional y/o localmente las actividades y los resultados del proyecto? ¿Se repitieron o aplicaron las actividades y los resultados del proyecto en otros países? Las acciones o resultados del proyecto han sido replicados por otras instituciones / proyectos que implican fuentes externas de financiamiento?	Iniciativas replicadas en México y/o en otros países
	Transversalización	
PNUD, UCP, CONANP, GECI	¿Fueron incluidas consideraciones en relación al tema de género en la implementación del proyecto desde la EMT? ¿Cómo y de qué manera se ha medido?	Porcentaje de hombres y mujeres involucrados y beneficiados por el proyecto
PNUD, UCP, CONABIO, CONANP, GECI, PROFEPA, CONAFOR, CESAEM, INAPESCA	¿El proyecto ha contribuido a una mejor preparación para enfrentar los desastres naturales y a aumentar la resiliencia de los sistemas naturales en la región o sitios de intervención?	Evidencias de instalación del sistema de monitoreo, de reducción de introducción de EEI al país o reducción de poblaciones de EEI en AP o sectores productivos, incremento o recuperación de especies nativas en los sitios de intervención
	Lecciones aprendidas y recomendaciones	
PNUD, UCP, CONABIO, CONANP, GECI, CONAFOR, PROFEPA, INAPESCA, CESAEM, UAM	¿Cuáles son las lecciones aprendidas como resultado de este proyecto?	Entrevistados conocen el proyecto lo suficiente para indicar puntos relevantes
	¿Cuáles fueron las mejores prácticas empleadas?	Entrevistados conocen el proyecto lo suficiente para indicar puntos relevantes
	¿Qué debería ser diferente en un próximo proyecto?	Entrevistados conocen el proyecto lo suficiente para indicar puntos relevantes

ANNEX 5.4 LIST OF DOCUMENTS REVIEWED

Documento	Contenido general	Origen
UNDAF	México: Marco de Asistencia de las Naciones Unidas para el Desarrollo.	PNUD
Prioridades estratégicas del GEF	Documento programático con los criterios de elegibilidad para el área focal de Biodiversidad del GEF.	GEF
Programa de País PNUD - CPD	Plan de acciones previsto por el PNUD para México.	PNUD
Formulario de identificación del Proyecto (PIF)	Resumen del proyecto.	UCP / PNUD
Documento del Proyecto (PRODOC)	PRODOC firmado por el PNUD y el Gobierno de México.	UCP
Matriz de Marco Estratégico de Resultados	Objetivos, resultados esperados, indicadores de progreso y resultado y su evolución.	UCP
Reportes de Implementación del Proyecto (PIR)	Reporte anual: 2014 – 2019.	UCP
Plan Operativo Anual (POA)	Planes de Trabajo Anuales: 2014 - 2019.	UCP
Informes trimestrales (QPR), informes anuales internos, ROAR (Anuales Orientado a Resultados), QAR (2019), SQAR	Informes 2014 - 2019.	UCP
Informes de auditoría financiera	Anuales.	UCP
Informe Final de la Evaluación de Medio Término	Informe, recomendaciones y respuestas.	UCP
Presupuestos	Planificación 2014 - 2019.	UCP
Revisiones presupuestarias	Aprobadas por el Gobierno y PNUD que reflejan los ajustes hechos al presupuesto.	UCP
Registros de cofinanciación	Resultados de cofinanciación obtenidos por el proyecto.	UCP
Tracking tools GEF	Herramientas de seguimiento del proyecto.	UCP
Materiales de divulgación	Diversos materiales generados para la divulgación del proyecto, de sus objetivos y de las áreas protegidas elegidas como prioritarias.	UCP
Minutas de reuniones	Del Comité Directivo del proyecto y de talleres realizados.	UCP
Documentos normativos y políticas del país para EEI	Marcos desarrollados por influencia del proyecto.	UCP
Cartas de compromiso, convenios de colaboración	Documentos de acuerdos entre instituciones.	UCP
Productos del proyecto	Diversos, incluidos informes de productos, protocolos, manuales, planes de manejo de EEI, mapas, fichas de EEI, AR, SIEI, PREVIENE, Naturalista, Enciclovida, Portal Nacional, página de productos del proyecto, presentaciones.	UCP
Respuestas de la Dirección (Management responses)	Documento de respuesta a recomendaciones de la EMT.	UCP
Estrategias Estatales de Biodiversidad	Para verificar la inclusión del tema de EEI y su coherencia.	CONABIO, UCP

ANNEX 5.5 AGENDA OF INTERVIEWS AND ITINERARY OF FIELD VISITS

5.5.1 Agenda of mission interviews

Fechas: 15 de julio al 07 de agosto de 2019

HORA	TEMA	RESPONSABLE	SITIO DE ENTREVISTAS
Lunes 15 de julio, Sala Tonalli			
10:30 – 11:00	Entrevista al PNUD	Arianne Hidalgo, PNUD	Sala Tonalli, CONABIO
11:00 – 13:30	Entrevista a la UCP	• Patricia Koleff, Directora, DGAP-CONABIO • Georgia Born-Schmidt, Coordinadora, UCP-PNUD • Jordi Parpal, Subcoordinador, UCP-PNUD • Viviana Reyes, Asistente técnica, UCP-CONABIO • Rodrígo Mejía, Administración, UCP-PNUD	Sala Tonalli, CONABIO
13:30 – 15:00 Comida			
15:00 – 16:00	Entrevista a la CONANP – APFF Sierra de Álamos Río Cuchujaqui	• Ana Hilda Ramírez Contreras, Directora • Blanca Xóchitl Acosta Rey	Vía telefónica, 01 (647) 428-0875
16:00- 17:00	Entrevista a la CONANP – PN Cañón del Sumidero	• Adolfo Vital Rumebe, Director • Irma Serrano • Andrea Zamora (Oficial de campo del Proyecto GEF-Resiliencia-CONANP)	Vía telefónica, 01 (961) 604-8650
Salida al aeropuerto 17:30 horas, Vuelo 19:00 Visitas de campo: RB Islas del Pacífico de la Península de Baja California (Isla Cedros e Isla San Benito Oeste); RB El Vizcaíno – Oásis de San Ignacio, Sierra de San Francisco, Isla Natividad y RB Marismas Nacionales, Nayarit. Véase agenda de misión a campo.			
Martes 16 de julio, Ensenada, Baja California,			
10:00- 11:00	Entrevista a la SEMAR	Teniente Norma Angélica Hernández Ramírez, Capitán de Fragata, Servicios del Medio Ambiente. Coordinadora de Programas de Contaminación	Oficinas de GECI
11:00 – 12:00	Entrevista a la CONANP	• Marisol Torres Aguilar, Directora de la RB Isla Guadalupe • Donahí Borjes Flores, Asesora Técnica de Monitoreo y Vigilancia	Oficinas de GECI
12:00 – 13:00	Entrevista a GECI	• Federico Méndez, Director General de GECI • Mariam Latofsky, Directora de Desarrollo de GECI	Oficinas de GECI
13:30- 15:00 Comida y Traslado a Isla Cedros			
18:00 – 18:30	Entrevista a personal técnico de la RB Islas del Pacífico de la Península de Baja California, CONANP	• José Francisco Bareño, analista. • Isaías Benítez Castro, analista	Isla Cedros

HORA	TEMA	RESPONSABLE	SITIO DE ENTREVISTAS
Miércoles 17 de julio de 2019			
06:00 – 17:30	Traslado a Isla San Benito Oeste en embarcación menor (panga). Revisión de dispositivos de detección temprana en el campamento de pescadores, recorrido por la colonia de elefantes marinos, madrigueras artificiales de aves marinas, y el faro viejo. Regreso a I. Cedros		
17:30-19:00	Entrevista a GECI	• Mariam Latofsky, Directora de Desarrollo de GECI • Marimar Vega, Bioseguridad Insular • Yuliana Bedolla Guzmán, Programa de Aves Insulres • Javier Alejandro Góngora, Programa fauna en I. Cedros	Isla Cedros
Jueves 18 de julio de 2019			
9:00 – 11:00	Entrevista UCP (continuación)	Georgia Born-Schmidt, Coordinadora, UCP-PNUD	Isla Cedros
Traslado a Guerrero Negro, RB El Vizcaíno			
18:00 – 19:00	Entrevistas con la RB El Vizcaíno, CONANP	• Everardo Mariano Meléndez, Director del ANP • Celerino Montes, subdirector del ANP	Oficina del Director
Viernes 19 de julio de 2019, RB El Vizcaíno			
08:30 – 12:00	Presentación de resultados de proyectos en la RB El Vizcaíno	• Juan José Fuentes, CIBNOR • Rigoberto López Amador, CIBNOR/ Buenas Prácticas en Caprinocultura. • Luis Fernando Bueno Luna y Enrique Flores. Cipactli A.C. / Presentación del proyecto de control de vidrillo, rana toro y tilapia panza roja. • Héctor Reyes Bonilla, UABC / Presentación del estudio sobre ostión japonés en la Laguna Ojo de Liebre.	Sala de usos múltiples de la RB El Vizcaíno
12:00 – 16:00	Visita de campo a los predios de control de vidrillo (planicie) en el Ejido Juárez y Traslado al Oasis de San Ignacio		
17:00 – 19:00	Visita de campo a los sitios de control de tilapia y rana toro (Oasis de San Ignacio)		
19:00 – 20:00	Entrevista a CIPACTLI	• Enrique Flores García • José Manuel Martínez Rodríguez, Director • Daysi Rubí González Valle • Raúl Eduardo López Góngora, Presidente Directivo de la Asociación de Productores Forestales de Mulegé A.C.	Oficinas de Cipactli A.C.

HORA	TEMA	RESPONSABLE	SITIO DE ENTREVISTAS
Sábado 20 de julio de 2019			
08:30 - 10:00	Entrevista a la CONANP	Eduardo Rendón, Coordinador del área de EEI en oficinas centrales de la CONANP	Hotel La Huerta
10:00 – 12:00	Traslado a San Francisco de la Sierra, RB El Vizcaíno		
12:30 – 13:30	Entrevista con grupo comunitario S.P.R Los Cirios	• José Jesús Arce Zúñiga • Juan Martín Arce Arce • Ramón Humberto Arce Arce • Ramón Francisco Arce Zúñiga • Carlos Antonio Arce Zúñiga • Manuel Ramón Arce Arce • Everardo Arvizu Meza • Yadira Magdalena Ojeda López • David Gertrudis Arce Zúñiga	Hostal en San Francisco de la Sierra
13:30 – 14:30	Entrevista a CIBNOR	• Juan José Fuentes, CIBNOR • Rigoberto López Amador, CIBNOR	Hostal en San Francisco de la Sierra
14:30 – 19:00	Traslado a Bahía Tortugas		
Domingo 21 de julio de 2019			
09:00 – 10:00	Traslado a Punta Eugenia e Isla Natividad		
10:00 – 14:00	Plática sobre PBI en Isla Natividad, control de fauna feral e invasora y actividades productivas sustentables en I. Natividad. Visita a sitios impactados por Vidrillo		
15:30 – 19:00	Traslado a Punta Eugenia/Bahía Tortugas/ Guerrero Negro (pernocta)		
Lunes 22 de julio de 2019, RB Marismas Nacionales			
07:00 – 20:00	Traslado al aeropuerto, viaje Guerrero Negro – Hermosillo, Hermosillo – CDMX - Tepic		
20:00 – 21:00	Entrevista a CAME	Heriberto Ramírez Carballo, Director	Hotel San Jorge
Martes 23 de julio de 2019			
7:00 – 10:00	Traslado a Tepic – San Miguelito, Rosamorada		
10:00 – 12:00	Recorrido fluvial por zonas de control de enredadera tripa de zopilote, Ejido San Miguelito	• Víctor Hugo Vázquez Morán, Director del ANP • Oscar G. Rosas Aceves, Técnico ANP • Gente del Ejido San Miguelito	
12:00 – 13:00	Entrevista a la comunidad	• Sílvia Rodríguez Arana • Jorge Alberto Martínez Rodríguez • Ma. Angélica Robles Ceja • Luis Pérez Rivera • Isidro Rosales Acevedo	Comisariado Ejido San Miguelito
13:00 – 14:00	Traslado al Ejido Unión de Corrientes		
14:00 – 16:00	Recorrido fluvial por zonas de control de enredadera tripa de zopilote del Ejido Unión de Corrientes	• Víctor Hugo Vázquez Morán, Director del ANP • Oscar G. Rosas Aceves, Técnico ANP • Gente del Ejido Unión de Corrientes	
16:00 – 19:30	Traslado a Santiago Ixcuintla y entrevistas a RB Marismas Nacionales	• Víctor Hugo Vázquez Morán, Director del ANP • Oscar G. Rosas Aceves, Técnico	Oficinas de la RB Marismas Nacionales

HORA	TEMA	RESPONSABLE	SITIO DE ENTREVISTAS
Miércoles 24 de julio de 2019			
08:00 – 10:00	Traslado a los Corchos		
10:00 – 13:00	Proyecto GANADESU y Entrevistas al grupo	• Victor Inda, Presidente de GANADESU • Exiquio García, GANADESU • Juan Vallarta, GANADESU • Daniel García, GANADESU • Santos García, GANADESU	
13:00 – 14:00	Traslado a Boca de Camichín y entrevista a personal de CONANP	Hugo Valadez Virgen, Técnico en la RB Marismas Nacionales, CONANP	
14:00 – 14:30	Entrevista a Pronatura Noroeste A.C.	Mauricio Cortés Hernández, Director del Programa de Protección y Recuperación de Especies Amenazadas	Restaurante "Experiencias Ecoturísticas Ecomata"
16:00 – 18:00	Visita a sitios de manglar		
18:00 – 20:00	Traslado a Tepic y pernocta		
Jueves 25 de julio de 2019, CDMX			
06:00 – 12:00	Traslado Tepic - CDMX		
12:00 – 20:00	Trabajo de gabinete en la CDMX		
Viernes, 26 de julio, Sala 3° piso			
10:30-11:30	Entrevista a miembro del Comité científico	Juan Jacobo Schmitter, Investigador y académico del ECOSUR, Chetumal.	Vía teléfono celular, 983-158-6248
11:30 – 13:30	Entrevista a la CONABIO	Ana Isabel González Martínez, Subcoordinadora del Programa de EEI	Oficina de la Subcoordinación
15:00-16:00	Entrevista al representante del sector productivo de peces de ornato en Jalisco	• Jorge Galvan, Productor, AMPAR • Jeshua Martínez, Presidente de la AMPAR y encargada de la granja de producción de peces de ornato de la AMPAR	Vía telefónica, 01 331 622 2485
16:00-17:00	Entrevista PN Cumbres de Monterrey, CONANP	Sadot Edgardo Ortiz Hernández, Director	Vía telefónica, 01 818 191-0664
Sábado 27 y Domingo 28 de julio de 2019			
Trabajo de gabinete en la CDMX.			
Lunes 29 de julio de 2019, PN Arrecife Alacranes			
11:10 – 12:50	Traslado CDMX - Mérida		
13:00 – 15:30	Traslado a oficinas del PN Arrecife Alacranes, CONANP para entrevistas	• Cristobal Cáceres, Director • Luis Antonio Quijano Puerto, Oficial de Bioseguridad del PN Arrecife Alacranes	Oficina CONANP PN Arrecife Alacranes
17:00 – 18:00	Entrevista a SEMAR	Raquel Hernández Saavedra, Teniente 9ª zona naval del Ejido de Yucatán	Oficina CONANP PN Arrecife Alacranes
18:00 – 19:00	Traslado a Puerto Progreso y pernocta.		

HORA	TEMA	RESPONSABLE	SITIO DE ENTREVISTAS
Martes 30 de julio de 2019			
5:30 – 10:00	Traslado a PN Arrecife Alacranes.		
10:00 – 16:00	Recorrido por Islas Pérez y Pájaros.		
17:30 – 18:30	Diagnóstico sobre la situación de plantas invasoras en I. Pérez.		
Miércoles 31 de julio de 2019			
08:00 – 9:45	Visita a Isla Muertos.		
10:00 – 15:00	Recorrido por Isla Muertos, revisión de las plantas invasoras, regreso a Isla Pérez.		
16:30 – 17:30	Entrevista a CONANP	José Ignacio Sobrino Naal, capitán de embarcación y técnico del PNAA	Cabaña de la CONANP en I.Pérez
17:30- 18:30	Entrevista a SEMAR	Miguel Ángel Beberaje Delgado, Oficial de Marina, SEMAR	Destacamento de la SEMAR en el PNAA
Jueves 01 de agosto de 2019, CDMX			
07:00 – 13:00	Traslado a Progreso. Traslado a Mérida.		
13:00 – 17:00	Trabajo de gabinete.		
19:15 – 21: 25	Traslado Mérida – CDMX		
Viernes 2 de agosto, CDMX, Sala 3° piso			
9:00 – 10:00	Entrevista a la PROFEPA	• Lucio Arturo García, Director de Verificación Técnica Forestal • Francisco Navarrete, Director de Inspección y Vigilancia de Vida Silvestre y Fitosanitaria en Puertos Aeropuertos y Fronteras	Sala 3er piso, CONABIO
10:00 – 11:00	Entrevista a la CONAFOR	• Alejandro de Felipe Teodoro, Área de Diagnóstico, Gerente de Diagnóstico • Alejandra Gutiérrez, apoyo para el área de monitoreo y control de EEI	Conexión Bluejeans
11:00 - 11:30 Pausa			
11:30 – 12:30	Entrevista a personal del CESAEM	• Iliana Cano, encargada de Gerencia • Edgar González Cartagena, Profesional de campo	Sala 3er piso, CONABIO
12:30 – 13:30	Entrevista al INAPESCA	• Juan Carlos Lapuente, Director de Investigación en acuacultura	Sala 3er piso, CONABIO
15:00 – 16:00	Entrevista a la CONANP	Eduardo Ponce Guevara, Encargado de despacho de la DEPC, CONANP	Sala 3er piso, CONABIO
16:30 – 17:30	Entrevista a la UAM - Xochimilco	• Jordan Golubov, Académico e Investigador Estudiantes o Julieta Salomé Díaz o Sara Sifuentes de la Torre o María Cristina Ramírez Gutiérrez o Oscar Sandino Guerrero	Sala 3er piso, CONABIO
18:00 – 19:00	Entrevista a la SEMARNAT	Carlos Álvarez, Jefe de Departamento de Biodiversidad de la Subsecretaría de Fomento y Normatividad Ambiental	Sala 3er piso, CONABIO

HORA	TEMA	RESPONSABLE	SITIO DE ENTREVISTAS
Lunes 5 de agosto, Sala 3° Piso			
09:00 – 09:30	Entrevista CONABIO - SNMB	Julian Equihua, Asesor de la Dirección General de Proyectos Interinstitucionales	Sala 3er piso, CONABIO
9:45 – 10:45	Entrevista a la CONAPESCA	Giovanni Fiore, Subdirector de Ordenamiento acuícola	Vía Skype: giofio82
11:00 – 12:00	Entrevista a la CONABIO	Patricia Koleff, Directora General de Análisis y Prioridades, CONABIO	Oficina, CONABIO
Martes, 6 de agosto, Sala Xitle			
09:00-12:00	Presentación de los primeros resultados	• Arianne Hidalgo, PNUD • Patricia Koleff, CONABIO • Georgia Born-Schmidt, UCP • Jordi Parpal, UCP • Viviana Reyes, UCP-CONABIO • Rodrígo Mejía, UCP • Ana Isabel González, CONABIO • Eduardo Rendón, CONANP	Sala CONABIO
12:00-13:30	Entrevista a UCP para aclaración de dudas	• Jordi Parpal, UCP • Viviana Reyes, UCP-CONABIO • Rodrigo Mejía, UCP	Sala CONABIO
Miércoles, 7 de agosto			
Organización del Informe Borrador, sistematización de informaciones 18:00h Regreso de la Consultora internacional a Brasil			

5.5.2 Agenda of visit to insular protected areas – Cedros and San Benito Oeste islands

Participantes:
1. Sílvia Ziller: Consultora PNUD
2. Margarita García Martínez: Consultora PNUD
3. Georgia Born-Schmidt: PNUD-CONABIO
4. Eduardo Rendón Hernández: PNUD-CONANP
5. Mariam Latofski Robles: GECI
6. Yuliana Bedolla Guzmán: GECI (Cedros-San Benito)

Horario	**Lunes 15 de julio - Ensenada**
Tarde-noche	Vuelo CDMX – Tijuana. Traslado a Ensenada. Pernocta en Hotel Cortez
	Martes 16 de julio: Ensenada - Isla Cedros
08:30 – 09:30	Desayuno en El Rey Sol (a unos pasos de Hotel Cortez)
09:30 – 09:45	Traslado a oficina GECI
10:00 – 12:00	Entrevista con CONANP y SEMAR
12:00 – 13:30	Tiempo para preparativos personales
13:30 – 14:30	Comida
14:30 – 15:00	Traslado al aeropuerto El Ciprés.
16:00 – 17:30	Vuelo a Isla Cedros
17:30 – 18:00	Traslado a Hotel ZamMar
18:00 – 19:30	Plática sobre avances de restauración en islas Cedros y San Benito con Javier Góngora, Marimar Garcíadiego, Yuliana Bedolla y Mariam Latofski
19:30 – 20:30	Cena
	Miércoles 17 de julio – Archipiélago San Benito
06:00 – 09:00	Traslado a Isla San Benito Oeste en embarcación menor (panga)
09:00 – 09:30	Llegada y desayuno
09:30 – 13:00	Revisión de dispositivos de detección temprana en el campamento de pescadores, recorrido por la colonia de elefantes marinos, madrigueras artificiales de aves marinas, y el faro viejo.
13:00 – 16:00	Traslado a Isla Cedros
16:00 – 17:30	Comida
17:30 – 18:30	Entrevista con guardaparques de CONANP
	Jueves 18 de julio: Isla Cedros – Guerrero Negro
08:00 – 09:00	Desayuno en Isla Cedros
09:00 – 10:30	Entrevista con personas de la comunidad
10:30 – 13:00	Participación en actividad de Limpieza comunitaria o taller de pintura
13:00 – 13:30	Transporte a aeropuerto
13:30 – 14:00	Vuelo a Guerrero Negro

5.5.3 Agenda of visit to El Vizcaíno Biosphere Reserve

DIA	HORA	ACTIVIDAD	LUGAR
18/07/2019	14:00	Llegada al Aeropuerto de Guerrero Negro	Guerrero Negro (GN)
	14:30	Comida	
	16:00 - 18:00	Entrevista a Everardo Mariano y Celerino Montes (Director y Subdirector respectivamente)	GN
19/07/2019	7:30 – 8:30	Desayuno	
	8:30 – 9:00	Presentación general de las actividades, por Eduardo Rendón	GN
	9:00 - 9:40	Presentación del proyecto de Buenas Prácticas en Caprinocultura, por CIBNOR	GN
	9:40 - 10:20	Presentación del proyecto de control de vidrillo, rana toro y tilapia panza roja, por CIPACTLI A.C.	GN
	10:20 –11:00	Presentación del proyecto de control de cotorra argentina, por UABC	GN
	11:00 - 11:40	Presentación del estudio sobre ostión japonés en la Laguna Ojo de Liebre, por la UABCS	GN
	11:40 - 12:00	Traslado	GN - Ejido Juárez (EJ)
	12:00 - 13:30	Visita de campo a los predios de control de vidrillo (planicie)	EJ
	13:30 - 16:00	Traslado	EJ - San Ignacio (SI)
	16:00 - 17:00	Comida	SI
	17:00 - 19:00	Visita de campo a los sitios de control de tilapia y rana toro (Oasis de San Ignacio)	SI
	19:00 –20:00	Entrevista CIPACTLI A.C.	
20/07/2019	7:00 - 8:00	Desayuno	SI
	8:00 – 9:00	Entrevista Eduardo Rendón	SI
	9:00 - 10:30	Traslado	SI - San Francisco de la Sierra (SFS)
	10:30 - 14:00	Visita de campo a caprinocultores Entrevistas CIBNOR y comunidades	SFS
	14:00 - 15:00	Comida	SFS
	15:00 - 18:30	Traslado	SFS - Bahía Tortugas (BT)
21/07/2019	7:00 - 8:00	Desayuno	BT
	8:00 – 8:30	Traslado	BT - Punta Eugenia (PE)
	8:30 - 9:00	Traslado	PE - Isla Natividad (IN)
	9:00 - 9:30	Charla sobre cuervos, por CONANP	IN
	9:30 - 13:00	Visita a sitios impactado por vidrillo	IN
	13:00 –13:30	Protocolo de bioseguridad insular, por Eduardo Rendón	IN
	14:30 - 19:00	Traslado	IN – PE - GN
22/07/2019	7:00	Traslado al aeropuerto	GN

Nombre	Institución	Correo
Luis Fernando Bueno Luna	CIPACTLI	bull_luna88@hotmail.com
CELERINO MONTES	CONANP	cmontes@conanp.gob.mx
Eduardo Rendón	CONANP	erendon@conanp.gob.mx
Enrique Flores García	CIPACTLI	enrique14071986@hotmail.com
Rigoberto López Amador	CIBNOR	rlamador@cibnor.mx
Juan José Montes Sirlo	CONACYT-CIBNOR	jmontes@cibnor.mx
Georgia Born-Schmidt	PNUD	gborn@conabio.gob.mx
Hebe Reyes Bonilla	UABCS	hreyes@uabcs.mx

19 VII 2019 EL VIZCAÍNO

SEMARNAT CONANP EL VIZCAINO PNUD gef INVASORAS

EVALUACIÓN FINAL PROGRAMA DE ESPECIES EXÓTICAS

LISTA DE ASISTENCIA

19 de julio de 2019

Nombre	Organización/Institución	Contacto	Firma
José Jesus Arce Zuñiga	S P R Los cirios	6151078250	J.J.A.Z
Juan Martin Arce Arce	S.P.R. Los cirios	6151039281	Juan Martin A.A
Ramón Humberto Arce A	S.P.R. Los cirios	6151552590	
Fco Manuel Arce Arce	S.P.R. Los Cirios		
Ramon Francisco Arce Zuñiga	S.P.R. Los Cirios	6151564747	Ramon Fco Arce Z
Gertrudis Blas Arce	S.P.R Los Cirios		G.B.A. O.

SEMARNAT CONANP EL VIZCAINO PNUD gef INVASORAS

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Juan Martin Arce Arce	S.P.R. Los Cirios	6151039281	Juan Martin A.A
Ramón Humberto Arce A	S.P.R. Los cirios	6151552590	
Fco Manuel Arce Am	S.P.R. Los Cirios		
Ramon Francisco Arce Zuñiga	S.P.R. Los Cirios	6151564747	Ramon Fco Arce Z
Gertrudis Blas Arce	S.P.R Los Cirios		G.B.A.O.

Oficios San Ignacio 19-VII-19

Jesús H. Atondo Fuerte INAH
Pablo Salvatierra Arce Brigadista Rural conafor
J. Arturo Arce Arce Brigadista Rural conafor
Jesús Eloy Arce Ojeda Protección Civil
Enrique Flores García CIPACTLI
Luis Fernando Bueno Luna CIPACTLI
Ayalidh Aguilar Arballo Protección civil
Néstor Raúl Villavicencio Rojas Asoc. de Prod. Forestales de Mulegé
Cosme Leonel Valdez Aux. Protección Civil MPal.
Jesús Marcial Valdez Romero Voluntario
Fabian morales garcia Brigadista forestal conafor
Margarita García Martínez Consultora EF-GEF-EEI
Deby Roby González Valle CIPACTLI
Araceli Ramos Andaur Representante Protección Civil
Eduardo Rendón Hernández Coordinador Especies Invasoras, CONANP
Guerino Nouts CONANP
Georgia Born-Schmidt PNUD
José de J. Zaroca Galvan KUYIMA / Consejero Asesor Regional
Silvio Zeller Instituto Horus

19 VII 2019
San Ignacio - Huerta Kuyima

21-VII-19

DATA / FECHA / DATE

S L/M | T M/T | Q M/W | Q J/T | S V/F | S S/S | D D/S

Isla Natividad

NOMBRE	INSTITUCIÓN
Jesus Alonso Ramirez L.	PNNTE VIG Buzos y Pescadores
Gonzalo Garcia P.	Contro Tecnico
CELERINO MONTES	CONANP
Margarita Garcia Martinez	Consultora. EF-GEF
SILVIA ZILLER	INSTITUTO HÓRUS
Eduardo Rendon Hernandez	CONANP-OC
Georgia Born-Schmidt	PNUD-CONABIO
Ramón Martinez S.	SCPP Buzos y Pescadores

5.5.4 Agenda of visit to Marismas Nacionales Nayarit Biosphere Reserve

DIA	HORA	ACTIVIDAD	LUGAR
22/07/2019	18:45 –19:15	Vuelo Ciudad de México – Tepic	
	20:00 - 21:00	Entrevista a CAME	Tepic
	21:00 hrs	Hospedaje en el Hotel San Jorge	
	8:00 – 10:00	Traslado Tepic – San Miguelito, Rosamorada	
	10:00 –11:30	Recorrido fluvial por zonas de control de enredadera tripa de zopilote Ejido San Miguelito Entrevista a comunidad	RB Marismas Nacionales Nayarit
	11:30 –12:30	Traslado San Miguelito a Unión de Corrientes, Tuxpan	
	12:30 - 14:00	Recorrido por zonas de control de enredadera tripa de zopilote Ejido Unión de Corrientes Entrevista a comunidad	
	14:00 –14:30	Traslado Unión de Corrientes – Centro de Tuxpan	
	14:30 –16:00	Comida	
	16:00 –16:30	Traslado Tuxpan - Santiago Ixcuintla	
	16:30 - 18:30	Entrevistas CONANP Pronatura A.C.	
		Pernocta en el Hotel Casino Plaza	
24/07/2019	8:00 - 9:00	Desayuno	
	9:00 – 10:00	Traslado a Los Corchos	
	10:00 - 14:00	Proyecto GANADESU, por CONANP Entrevistas con la comunidad	RB Marismas Nacionales Nayarit
	14:00 - 14:30	Traslado a Boca de Camichin	
	14:30 - 16:00	Comida	
	16:00	Traslado a Tepic	
	20:00	Pernocta Hotel San Jorge	Tepic
25/07/2019	6:00	Traslado al aeropuerto	
	8:15	Vuelo Tepic – México	

5.5.5 Agenda of visit to insular protected areas – Arrecife Alacranes National Park

Participantes:

1. Sílvia Ziller: Evaluadora internacional
2. Margarita García Martínez: Evaluadora nacional
3. Jordi Parpal Servole: PNUD-CONABIO
4. Eduardo Rendón Hernández: PNUD-CONANP
5. Cristobal Cáceres Cantón: CONANP
6. Simei Campos Bobadilla: CONANP
7. Luis Quijano Puerto: CONANP-GECI
8. Mariam Latofski Robles: GECI
9. Federico Méndez Sánchez: GECI

Horario	**Lunes 29 de julio**
11:10 – 12:50	Vuelo CDMX – Mérida
13:00 – 14:00	Traslado a oficina de CONANP en Mérida
14:00 – 15:30	Comida
15:30 – 16:30	Entrevista CONANP PNAA
16:30 – 17:30	Entrevista SEMAR, Teniente Raquel Hernández
17:30 – 18:00	Traslado a Progreso. Pernocta en Hotel Progreso Beach
	Martes 30 de julio: Puerto Progreso – Arrecife Alacranes
5:30 hrs	Todo el personal deberá estar en el muelle para el embarque
06:00 – 10:30	Traslado a Isla Pérez.
10:30 – 11:30	Desayuno
11:30 – 13:30	Visita a Isla Pájaros.
13:30 – 17:30	Recorrido por Isla Pérez, platicar sobre la situación de las plantas invasoras.
17:30 – 18:30	Comida / Cena
	Miércoles 31 de julio: Isla Pérez - Muertos
08:00 – 09:00	Desayuno
09:00 – 09:45	Traslado a Isla Muertos
09:45 – 16:00	Recorrido por Isla Muertos, platicar sobre la situación de las plantas invasoras. (snorkel)
16:00 – 16:45	Traslado a Isla Pérez
17:00 – 18:00	Comida / Cena
	Jueves 1 de agosto: Isla Pérez - CDMX
07:00 – 11:00	Traslado a Puerto Progreso
12:00 – 12:50	Traslado a Mérida
13:00 – 17:30	Sistematización de información, traslado al aeropuerto
19:15 – 21:25	Vuelo Mérida - CDMX

ANNEX 5.6 LIST OF PERSONS INTERVIEWED

NOM RB E	INSTITUCIÓN
Lunes 15 de julio de 2019, CONABIO, CDMX	
Arianne Hidalgo, Gerente del Programa de Desarrollo Sustentable	PNUD
Georgia Born-Schmidt, Coordinadora Jordi Parpal, Subcoordinador Viviana Reyes, Asistente técnica Rodrígo Mejía, Administración	UCP
Ana Hilda Ramírez Contreras, Directora Blanca Xóchitl Acosta Rey, Ténica	APFF Sierra de Álamos Río Cuchujaqui - CONANP
Adolfo Vital Rumebe, Director Irma Serrano, Técnica Andrea Zamora (Oficial de campo del Proyecto GEF Resiliencia - CONANP)	PN Cañón del Sumidero - CONANP
Martes 16 de Julio de 2019 , Oficinas de GECI e Isla Cedros	
Teniente Norma Angélica Hernández Ramírez, Capitán de Fragata, Servicios del Medio Ambiente. Coordinadora de Programas de Contaminación	SEMAR
Marisol Torres Aguilar, Directora Donahí Borjes Flores, Asesora Técnica de Monitoreo y Vigilancia	RB Isla Guadalupe - CONANP
Federico Méndez, Director General Mariam Latofsky, Directora de Desarrollo	GECI
José Francisco Bareño, analista Isaías Benítez Castro, analista	RB Islas del Pacífico de la Península de Baja California
Miércoles 17 de julio de 2019, Isla Cedros y San Benito Oeste	
Mariam Latofsky, Directora de Desarrollo de GECI Marimar Vega, Bioseguridad Insular Yuliana Bedolla Guzmán, Programa de Aves Insulres Javier Alejandro Góngora, Programa fauna en I. Cedros	GECI
Jueves 18 de julio de 2019, Isla Cedros y Oficinas de la RB El Vizcaíno	
Georgia -Schmidt, Coordinadora proyecto GEF	UCP
Everardo Mariano Meléndez, Director Celerino Montes, Subdirector	RB El Vizcaíno - CONANP
Viernes 19 de julio de 2019, Oficinas de Cipactli	
Enrique Flores García José Manuel Martínez Rodríguez, Director Daysi Rubí González Valle Raúl Eduardo López Góngora, Presidente Directivo de la Asociación de Productores Forestales de Mulegé A.C.	Cipactli A.C.
Sábado 20 de julio de 2019, Hotel La Huerta, Hostal San Francisco de la Sierra	
Eduardo Rendón, Coordinador de EEI	Oficinas Centrales - CONANP
José Jesús Arce Zúñiga Juan Martín Arce Arce Ramón Humberto Arce Arce Ramón Francisco Arce Zúñiga Carlos Antonio Arce Zúñiga Manuel Ramón Arce Arce Everardo Arvizu Meza Yadira Magdalena Ojeda López David Gertrudis Arce Zúñiga	Grupo Comunitario S.P.R Los Cirios

NOM RB E	INSTITUCIÓN
Juan José Fuentes, MVZ Rigoberto López Amador, Ingeniero Zootecnista	CIBNOR
Martes 23 de julio, Ejido San Miguelito y Santiago Ixcuintla, Oficinas de la RB Marismas Nacionales	
Sílvia Rodríguez Arana Jorge Alberto Martínez Rodríguez Ma. Angélica Robles Ceja Luis Pérez Rivera Isidro Rosales Acevedo	Comunidad del Ejido San Miguelito
Víctor Hugo Vázquez Morán, Director Oscar G. Rosas Aceves, Técnico	RB Marismas Nacionales
Miércoles 24 de julio de 2019, Ejido Los Corchos, Nayarit	
Victor Inda, Presidente Exiquio García Juan Vallarta Daniel García Santos García	GANADESU S.P.R. de R.L.
Hugo Valadez Virgen, Técnico	RB Marismas Nacionales, CONANP
Mauricio Cortés Hernández, Director del Programa de Protección y Recuperación de Especies Amenazadas	PRONATURA NOROESTE A.C.
Viernes 26 de julio de 2019, CONABIO, CDMX	
Juan Jacobo Schmitter, Investigador y académico	ECOSUR, Chetumal
Ana Isabel González Martínez, Subcoordinadora del Programa de EEI	CONABIO
Jorge Galvan, Productor, Jeshua Martínez, Presidente	RANCHO ACATLÁN / AMPAR
Sadot Edgardo Ortiz Hernández, Director	PN Cumbres de Monterrey - CONANP
Lunes, 29 de agosto, Oficinas del PN Arrecife Alacranes, Mérida	
Cristobal Cáceres, Director Luis Antonio Quijano Puerto, Oficial de Bioseguridad	PN Arrecife Alacranes – CONANP
Raquel Hernández Saavedra, Teniente 9ª zona naval, Ejido de Yucatán	SEMAR
Miércoles 31 de julio de 2019, PN Arrecife Alacranes	
José Ignacio Sobrino Naal, capitán de embarcación y técnico	PN Arrecife Alacranes - CONANP
Miguel Ángel Beberaje Delgado, Oficial de Marina	SEMAR
Viernes 02 de agosto de 2019, CONABIO, CDMX	
Lucio Arturo García, Director de Verificación Técnica Forestal Francisco Navarrete, Director de Inspección y Vigilancia de Vida Silvestre y Fitosanitaria en Puertos Aeropuertos y Fronteras	PROFEPA
Alejandro de Felipe Teodoro, Área de Diagnóstico, Gerente de Diagnóstico Alejandra Gutiérrez, apoyo para el área de monitoreo y control de EEI	CONAFOR
Iliana Cano, encargada de Gerencia Edgar González Cartagena, Profesional de campo	CESAEM
Juan Carlos Lapuente, Director de Investigación en acuacultura	INAPESCA

NOM RB E	INSTITUCIÓN
Eduardo Ponce Guevara, Encargado de despacho	DEPC – CONANP (Oficinas centrales)
Jordan Golubov, Académico e Investigador Estudiantes Julieta Salomé Díaz Sara Sifuentes de la Torre María Cristina Ramírez Gutiérrez Oscar Sandino Guerrero	UAM - Xochimilco
Carlos Álvarez, Jefe de Departamento de Biodiversidad de la Subsecretaría de Fomento y Normatividad Ambiental	SEMARNAT
Lunes 5 de agosto de 2019, CONABIO, CDMX	
Julian Equihua, Asesor de la Dirección General de Proyectos Interinstitucionales	CONABIO
Giovanni Fiore, Subdirector de Ordenamiento acuícola	CONAPESCA
Patricia Koleff, Directora General de Análisis y Prioridades	CONABIO
Martes 06 de agosto de 2019, CONABIO, CDMX	
Jordi Parpal Viviana Reyes Rodrigo Mejía	UCP

ANNEX 5.7 TRAVEL ITINERARY

LUNES 15/07/2019	MARTES 16/07/2019	MIÉRCOLES 17/07/2019	JUEVES 18/07/2019	VIERNES 19/07/2019	SÁBADO 20/07/2019	DOMINGO 21/07/2019
Vuelo México-Tijuana Interjet 5410 19:00-20:35 Traslado a Ensenada Hospedaje en el Hotel Cortez	Reunión en las oficinas de GECI con la Directora de Isla Guadalupe y personal de SEMAR Entrevistas a personal de GECI Vuelo a cedros 16:00 hrs Avioneta privada Hospedaje en el hotel Zam-Mar	Salida al Archipiélago San Benito **Actividades en las islas** Regreso a Isla Cedros Entrevistas con comunidades Hospedaje en el hotel Zam-Mar	Entrevistas a Guardaparques de la CONANP **Actividades en isla Cedros** Vuelo a Guerrero Negro 16:00 hrs (Aprox) Avioneta privada Entrevista al Director del Vizcaíno Hospedaje en el hotel Caracoles	**Actividades en El Vizcaíno** Entrevistas a CIBNOR y a CIPACTLI A.C. Traslado al Oasis de San Ignacio Entrevista a Celerino Montes Hospedaje en el Hotel La Huerta	**Actividades en El Vizcaíno** Entrevistas a comunidades del Oasis Salida a San Francisco de la Sierra Entrevistas Traslado a Guerrero Negro Hospedaje en el hotel Caracoles	**Actividades en El Vizcaíno** Salida a Isla Natividad Entrevista a Eduardo Rendón Traslado a Guerrero Negro Hospedaje en el hotel Caracoles
Equipo de trabajo Sílvia Ziller Margarita García Eduardo Rendón Georgia Born	**Equipo de trabajo** Sílvia Ziller Margarita García Eduardo Rendón Georgia Born Mariam Latofski	**Equipo de trabajo** Sílvia Ziller Margarita García Eduardo Rendón Georgia Born Mariam Latofski Yuliana Bedolla	**Equipo de trabajo** Sílvia Ziller Margarita García Eduardo Rendón Georgia Born Mariam Latofski	**Equipo de trabajo** Sílvia Ziller Margarita García Eduardo Rendón Georgia Born Celerino Montes	**Equipo de trabajo** Sílvia Ziller Margarita García Eduardo Rendón Georgia Born Celerino Montes	**Equipo de trabajo** Sílvia Ziller Margarita García Eduardo Rendón Georgia Born Celerino Montes

LUNES 22/07/2019	MARTES 23/07/2019	MIÉRCOLES 24/07/2019	JUEVES 25/07/2019	VIERNES 26/07/2019	SÁBADO 27/07/2019	DOMINGO 28/07/2019
Vuelo Guerrero Negro - Hermosillo Aero Guerrero 8:00 – 8:10 Vuelo Hermosillo – México AEROMEXICO AM715 11:30 – 16:15 Vuelo México - Tepic AEROMAR 18:45 – 19:15 Hospedaje en el Hotel San Jorge **Equipo de trabajo** Sílvia Ziller Margarita García Eduardo Rendón Georgia Born	Traslado a Santiago Ixcuintla **Actividades en la Reserva de la Biosfera Marismas Nacionales Nayarit** Hospedaje en el Hotel Casino Plaza **Equipo de trabajo** Sílvia Ziller Margarita García Eduardo Rendón Viviana Reyes Victor Vázquez	**Actividades en la Reserva de la Biosfera Marismas Nacionales Nayarit** Entrevistas a comunidades y personal de la CONANP Traslado a Tepic Hospedaje en el Hotel San Jorge **Equipo de trabajo** Sílvia Ziller Margarita García Eduardo Rendón Viviana Reyes Victor Vázquez	Vuelo Tepic – Ciudad de México Aeromar VW141 8:10 – 11:00 **Equipo de trabajo** Sílvia Ziller Margarita García Eduardo Rendón Viviana Reyes	Entrevistas Ciudad de México	Integración de información	Integración de información

LUNES 29/07/2019	MARTES 30/07/2019	MIÉRCOLES 31/07/2019	JUEVES 01/08/2019	VIERNES 02/08/2019	SÁBADO 03/08/2019	LUNES 05/08/2019
Vuelo Ciudad de México – Mérida Interjet 2520 11:10 - 12:50 Traslado Mérida – Puerto Progreso Hospedaje en el Hotel Domani Reunión con el Director del ANP **Equipo de trabajo** Sílvia Ziller Margarita García Eduardo Rendón Federico Mendez Mariam Latofski Jordi Parpal	Salida al **Parque Nacional Arrecife Alacranes (actividades)** Entrevista a Director del ANP y al oficial de bioseguridad insular Pernocta en la isla **Equipo de trabajo** Sílvia Ziller Margarita García Eduardo Rendón Federico Mendez Mariam Latofski Jordi Parpal Cristóbal Caceres Luis Quijano	**Actividades en el Parque Nacional Arrecife Alacranes** Entrevista a Federico Mendez Pernocta en la isla **Equipo de trabajo** Sílvia Ziller Margarita García Eduardo Rendón Federico Mendez Mariam Latofski Jordi Parpal Cristóbal Caceres Luis Quijano	Salida del Parque Nacional a Puerto Progreso Traslado Puerto Progreso - Mérida Vuelo Mérida – Ciudad de México Interjet 2525 19:15 – 21:25 **Equipo de trabajo** Sílvia Ziller Margarita García Eduardo Rendón Federico Mendez Mariam Latofski Jordi Parpal	Entrevistas Ciudad de México	DOMINGO 04/08/2019 Preparación de la preentación de Primeros Hallazgos	Entrevistas CDMX **MARTES 06/08/2019** **Presentación de Primeros Hallazgos** **MIÉRCOLES 07/08/2019** **FIN DE LA MISIÓN**

ANNEX 5.8 SUMMARY OF FIELD VISITS

Día 15 de julio de 2019

Viaje de la CDMX hasta Tijuana, desplazamiento hasta Ensenada, Baja California

Día 16 de julio de 2019

Entrevistas en la oficina de GECI con la Capitán de Fragata Norma Angélica Hernández Ramírez de la SEMAR, la Directora de la Reserva de Biósfera Isla Guadalupe Marisol Torres Aguiar y la Técnica de Monitoreo y Vigilancia Donaji Borges Flores de la CONANP y con Federico Méndez y Mariam Latofski de GECI.

El mismo día el equipo se trasladó vía aérea a Isla Cedros, donde se entrevistó a los analistas de la RB Islas del Pacífico de la Península de Baja California, CONANP, José Francisco Bareño e Isaías Benítez Castro.

Día 17 de julio de 2019

Visita a la Isla San Benito, Oeste para revisión de las actividades de monitoreo de aves marinas, con el uso de dispositivos para anidación, y dispositivos para detección de la presencia de roedores como medida de bioseguridad. Participaron de la visita Yuliana Bedolla, Mariam Latofski y J.A. Soriano (fotógrafo) de GECI, Eduardo Rendón de la CONANP, Georgia Born de la UCP y el equipo de la EF Margarita García Martínez y Sílvia Ziller.

Posteriormente, ya en Isla Cedros, se realizó una entrevista a GECI en la que participaron Javier Góngora, Marimar Garcíadiego, Yuliana Bedolla y Mariam Latofski.

Día 18 de julio de 2019

Traslado vía aérea a Guerrero Negro desde Isla Cedros del equipo de la EF, junto con Eduardo Rendón de la CONANP y Georgia Born de la UCP para tener una entrevista con el Director Everardo Mariano Meléndez y el Subdirector Celerino Montes de la RB El Vizcaíno, en la oficina de la CONANP.

Día 19 de julio de 2019

Por la mañana se tuvo una reunión en la sala de usos múltiples de la oficina de CONANP en Guerrero Negro, en la que fueron presentados los resultados de diversas actividades del proyecto en el ANP. Los exponentes fueron Juan José Montes Sánchez y Rigoberto López Amador del CIBNOR; Luis Fernando Bueno Luna y Henrique Flores de CIPACTLI; y Héctor Reyes Bonilla de la Universidad Autónoma Baja California Sur, La Paz; además estuvieron presentes Celerino Montes, subdirector del ANP y equipo de la EF, junto con Eduardo Rendón de la CONANP y Georgia Born de la UCP (*Grupo visitante*).

Posterior a las presentaciones el grupo visitante se trasladó a los predios donde CIPACTLI realiza el control de vidrillo (*Mesembryanthemum cristallinum*), en el Ejido Juárez donde el equipo de la EF pudo ver y evaluar la efectividad de las acciones así como conocer el progreso.

Por la tarde la tarde el *grupo visitante* viajó al Oasis San Ignacio para verificar las actividades de CIPACTLI en el control de rana toro (*Lithobates catesbeianus*) y tilapia panza roja (*Tilapia zillii*).

Se consideró la posibilidad de construir bloqueos con piedras para aislar las cabeceras de las nacientes y asegurar que se pueda lograr una erradicación de peces y cangrejos invasores, quedando como reservorios de especies nativas, o considerar el uso de la pesca eléctrica para diversificar los métodos de control.

En el recorrido por el oasis se ubicó una población de rícino (*Ricinus communis*), que fue en gran parte removida por los participantes y miembros de CIPACTLI.

Al fin del día el equipo de la EF entrevistó a CIPACTLI (Henrique Flores García, Daisy Ruby González Valle, José Manuel Martínez) en sus oficinas. Se logró hablar brevemente con Raúl Eduardo López Gongora, Presidente del Consejo de la Asociación de Productores Forestales del municipio.

Día 20 de julio de 2019

Al inicio de la mañana se entrevistó a Eduardo Rendón Hernández de la CONANP.

Posteriormente, junto con el subdirector Celerino Montes, el *grupo visitante* Viaje del Oasis San Ignacio hasta la comunidad de San Francisco de la Sierra, para entrevistar a los consultores de CIBNOR, Juán José Montes Sanches y Rigoberto López Amador, así como a la S.P.R Los Cirios, los cuales desarrollaron actividades de mejores prácticas de caprinocultura.

Por la tarde-noche el *grupo visitante*, junto con el subdirecos se trasladó a Bahía Tortugas.

Día 21 de julio de 2019

Por la mañana el *grupo visitante* siempre acompañados por Celerino Montes, se trasladó hacia Punta Eugenia para posteriormente visitar la Isla Natividad para realizar un primer diagnóstico sobre la problemática de invasión de vidrillo (*Mesembryanthemum cristallinum*) e interacción con pescadores de abulón.

Por la tarde se se regresó a Guerrero Negro.

Día 22 de julio de 2019

Traslado vía aérea de Guerrero Negro a Hermosillo, de ahí hacia la CDMX, y por la tarde rumbo a Tepic. Georgia Born se queda en la CDMX y se une al grupo Viviana Reyes de la UCP, Eduardo Rendón sigue acompañando las visitas.

Por la noche se entrevista a CAME – Heriberto Ramírez Carballo, sobre mejores prácticas ganaderas en la RB Marismas Nacionales, Nayarit.

Día 23 de julio de 2019

Traslado de Tepic a Santiago Ixcuintla, a las oficinas de la CONANP. De ahí el *grupo visitante* junto con el Director del ANP, Victor Hugo Vasquez Morán, realizaron un recorrido fluvial por zonas de manglares con la brigada de control de la tripa de zopilote (*Cissus verticillata*) para verificar los resultados de las acciones de control y la situación de invasión en el Ejido San Miguelito y Unión de Corrientes. Entrevista a miembros de las brigadas para recoger percepciones sobre el problema y el proyecto. Posterioremente, ya en Santiago Ixcuintla, en las oficinas de la CONANP se tuvo una entrevista con el Director de la RB Marismas Nacionales Victor Hugo Vasquez Morán y con Oscar Gerardo Rosas Aceves.

Día 24 de julio de 2019

Pos la mañana el *grupo visitante* acompañado en todo momento del Director del ANP, se trasladó al Ejido Los Corchos, en donde se tuvo una reunión de presentación de mejores prácticas ganaderas con la Asociación GANADESU en la que participaron todos sus miembros (Victor Inda (Presidente), Daniel García, Santos García, Juan Vallarta y Exiquio García). Posteriormente se dio un recorrido para conocer las áreas donde están plantando árboles y arbustos nativos para producción de ensilaje y verificar la recuperación de áreas de manglar que se encuentran libres del impacto del ganado. Se visitó un invernadero con plantas del manglar. Posteriormente, en campo se realizó la entrevista a los miembros de la Asociación GANADESU y a Hugo Valadez Virgen de la CONANP.

En Boca de Camichin, se tuvo un almuerzo con la Asociación GANADESU y por separado se tuvo una entrevista con Mauricio Cortés Hernández de PRONATURA Noroeste A.C. para conocer mayores detalles en el programa de control de tripa de zopilote. Por la tarde se hizo un recorrido por zonas de manglar que presenta un buen estado de conservación donde se cultivan ostiones nativos.

Día 25 de julio de 2019

Regreso a CDMX. Sistematización de datos.

Día 26 de julio de 2019

Entrevistas en las instalaciones de la CONABIO, CDMX.

Día 27 de julio de 2019

CDMX. Sistematización de datos.

Día 28 de julio de 2019

CDMX. Sistematización de datos.

Día 29 de julio de 2019

Por la mañana, el *grupo visitante* al que se unión Jordi Parpal de la UCP, así como Mariam Latofsky y Federico Méndez de GECI se trasladaron a Mérida, a las oficinas de la CONANP.

Por la tarde el equipo de la EF entrevistó al Director del PN Arrecife Alacranes, Cristóbal Cáceres, y al oficial de bioseguridad Luís Antonio Quijano Puerto, de la CONANP/GECI, para posteriormente entrevistar a la Teniente de Fragata Raquel Hernández Saavedra de la SEMAR. Traslado a Puerto Progreso.

Día 30 de julio de 2019

Por la mañana el *grupo visitante,* se traslador vía marítima en embarcación de CONANP, al PN Arrecife Alacranes, para llegar a Isla Pérez. Posteriormente se hizo un recorrido en la Isla Pájaros para verificación de sitios de anidación de aves marinas y de la vegetación, en especial del zacate que se creía ser exótico y después fue reconocido como especie nativa. Por la tarde se realizó un recorrido por Isla Pérez para realizar un diagnóstico y opciones de control para la Casuarina (*Casuarina equisetifolia*) junto con GECI. Se considera relevante la eliminación de los árboles

porque hay nuevas plantas y se está expandiendo, pero puede ser hecha de manera gradual, iniciando por los árboles más alejados de las instalaciones de la SEMAR. Se consideró también importante plantar arbustos nativos en la Isla Pérez en sustitución de la casuarina, así como plantas de cobertura del suelo, para mejorar el nivel de conforte térmico en el área.

Día 31 de julio de 2019

Por la mañana se realizó un recorrido en Isla Muertos para evaluar la invasión por nopal (*Opuntia dillenii*), que puede ser eliminado con uso de control mecánico. Las plantas deben ser amontonadas para decomponerse, lo que requerirá de monitoreo cada seis meses o poco más, así como la repetición del control porque es probable que algunas logren rebrotar.

Por la tarde el equipo de la EF entrevistó al Capitán de la embarcación de CONANP, José Ignacio Sobrino Naal y posteriormente se entrevistó al 1er Oficial de Marina, Miguel Ángel Delgado, de la SEMAR, responsable por el Destacamiento presente en la isla Pérez.

Verificación de las cajas de detección de roedores con GECI.

Día 01 de agosto de 2019

Regreso de Isla Pérez a Puerto Progreso, traslado a Mérida y regreso a la Ciudad de México.

Fin de la misión a campo en ANP.

ANNEX 5.9 MANAGEMENT EFFECTIVENESS TRACKING TOOLS AND INSTITUTIONAL CAPACITY SCORECARD

ANNEX 5.10 TE TERMS OF REFERENCE

ANNEX 5.11 PHOTOGRAPHIC RECORD OF THE MISSION

ANNEX 5.12 EVALUATION OF PROGRESS PER ACTIVITY MATRIX

ANNEX 5.13 EVALUATION AUDIT TRAIL