



**Verified Carbon
Standard**

AZTLAN BLUE CARBON MANGROVE CONSERVATION PROJECT - CONSERVING THE MARISMAS NACIONALES OF NAYARIT



BLUEMX



ecosecurities

Document Prepared by ecosecurities

Project Title	Aztlan Blue Carbon Mangrove Conservation Project – Conserving the Marismas Nacionales of Nayarit
Version	2.0
Date of Issue	31-March-2022 (<i>Revised 04-October-2022</i>)
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1 PROJECT DETAILS

1.1 Summary Description of the Project

Mexico is one of the five countries with the largest extension of mangroves in the world with 775,555 ha (Valderrama-Landeros et al. 2017)¹. The state of Nayarit, with a significant share of coastline (~300 kms) on the Pacific Ocean, stands out for its biological and cultural richness and for having unique and important ecosystems for the country. The project activity is a REDD+ grouped project that will generate GHG emissions reductions by avoiding the unplanned deforestation of wetlands in the state of Nayarit.

The grouped project area currently comprises 175,880 ha of land area. Nine initial project activity instances are presented in this document version, estimated to reduce approximately 323,590 tCO_{2e} average per year.

Among the major drivers of deforestation throughout Marismas Nacionales region in Nayarit, BlueMX has identified the hydrological modifications, sedimentation changes in the mangrove, modification of the water quality in the lagoons, shrimp farming, livestock and agriculture, and the loss of resilience due to the effect of storms and hurricanes. The strategic blue carbon conservation activities include:

- Rehabilitation of tidal canals.
- Community-based monitoring and surveillance for early warning of threats to mangroves and biodiversity, and for identifying symptoms of degradation.
- Multiscale monitoring, at the landscape (vegetation index) and local levels.
- Promotion of sustainable productive activities, i.e., ecotourism, beekeeping and silvopasture.
- Fostering communal (Ejidos) and local communities-based land use planning.

BlueMX initiated collaborating, engaging with local stakeholders, communities, ejidos and private landowners. The project activities started on April 23, 2019, with the creation of a committee for the conservation and restoration of ecosystems and the development of hydrological rehabilitation activities conducted under a participatory and inclusive approach. BlueMX will include more land areas for conservation as this grouped project advances.

The Project area is not covered by any jurisdictional REDD+ program.

BlueMX is advancing the design of the project complying with the Climate, Community and Biodiversity (CCB) Standards criteria and requirements. The CCB PD will be presented for the corresponding certification.

¹ Valderrama-Landeros, L. H. et al. (2017). *Manglares de México. Actualización y exploración de los datos del sistema de monitoreo 1970/1980-2015*. Ciudad de México, México: Comisión Nacional para el Conocimiento y Uso de la Biodiversidad (CONABIO).

1.2 Sectoral Scope and Project Type

Sectoral Scope 14: Agriculture, Forestry, Land use (AFOLU).

Project Category: Reduction Emission from Deforestation and Degradation (REDD) and Conservation of Intact Wetlands (CIW).

Type of Activity: Avoiding Unplanned Deforestation and/or Degradation (AUDD) and Unplanned Wetland Degradation (AUWD).

The Project is a grouped project.

1.3 Project Eligibility

The Project is a REDD+ activity that aims to reduce emissions from unplanned deforestation and forest degradation in mangroves.

As mangroves are classified as wetlands, the Project also needs to comply with requirements made specifically for Conservation of Intact Wetlands (CIW) modality, Unplanned Wetland Degradation (AUWD) sub-type, which “reduces GHG emissions by avoiding unplanned degradation of wetlands, or by avoiding further degradation in partially degraded wetlands”.

Additionally, the REDD+ Methodology Framework (VM0007) version 1.6 specifies further requirements for REDD+ in general, AUDD projects and CIW projects, including AUWD. The table below summarizes VCS Standard version 4.3 and VM0007 version 1.6 requirements and how the Project addresses them:

Document	Requirements	Project Eligibility Compliance
VCS Standard, version 4.3	Where projects are located within a jurisdiction covered by a jurisdictional REDD+ program, project proponents shall follow the requirements in this document and the requirements related to nested projects set out in the VCS Program document Jurisdictional and Nested REDD+ Requirements	The Project is not located within a Jurisdictional REDD+ program.
VCS Standard, version 4.3	Activities that convert native ecosystems to generate GHG credits are not eligible under the VCS Program. Evidence shall be provided in the project description that any ARR, ALM, WRC or ACoGS project areas were	The Project does not convert native ecosystems to generate GHG credits.

Document	Requirements	Project Eligibility Compliance
	not cleared of native ecosystems to create GHG credits (e.g., evidence indicating that clearing occurred due to natural disasters such as hurricanes or floods). Such proof is not required where such clearing or conversion took place at least 10 years prior to the proposed project start date.	
VCS Standard, version 4.3	Activities that drain native ecosystems or degrade hydrological functions to generate GHG credits are not eligible under the VCS Program. Evidence shall be provided in the project description that any AFOLU project area was not drained or converted to create GHG credits. Such proof is not required where such draining or conversion took place prior to 1 January 2008. The onus is upon the project proponent to demonstrate this, failing which the project shall not be eligible.	The Project area was not drained or converted to create GHG credits.
VCS Standard, version 4.3	For all AUDD, APDD (where the agent is unknown), AUC and AUWD project types, the project proponent shall, for the duration of the project, reassess the baseline every six years and have this validated at the same time as the subsequent verification.	The Project will reassess the baseline every six (6) years and have this validated at the same time as the subsequent verification.
VCS Standard, version 4.3	Where ARR, ALM, IFM or REDD project activities occur on wetlands, the project shall adhere to both the respective project category requirements and the WRC requirements, unless the expected emissions from the soil organic carbon pool or change in the soil organic carbon pool in the project	The Project adheres to both REDD and WRC requirements.

Document	Requirements	Project Eligibility Compliance
	scenario is deemed below de minimis or can be conservatively excluded as set out in the VCS Program document VCS Methodology Requirements, in which case the project shall not be subject to the WRC requirements.	
VCS Standard, version 4.3	Projects shall prepare a non-permanence risk report in accordance with the VCS Program document AFOLU Non-Permanence Risk Tool at both validation and verification.	The Project will prepare a non-permanence risk report in accordance with the VCS Program document AFOLU Non-Permanence Risk Tool at both validation and verification.
VCS Standard, version 4.3	WRC projects shall demonstrate that the permanence of their soil carbon stock will be maintained. The maximum quantity of GHG emission reductions that may be sought by the project is limited to the difference between project and baseline scenario after a 100-year time frame, as further described in the VCS Program document VCS Methodology Requirements.	The Project will demonstrate that the permanence of its soil carbon stock will be maintained. The maximum quantity of GHG emission reductions will be limited to the difference between project and baseline scenario after a 100-year time frame.
VCS Standard, version 4.3	Eligible REDD activities are those that reduce net GHG emissions by reducing deforestation and/or degradation of forests. Deforestation is the direct, human-induced conversion of forest land to non-forest land. Degradation is the persistent reduction of canopy cover and/or carbon stocks in a forest due to human activities such as animal grazing, fuelwood extraction, timber removal or other such activities, but which does not result in the conversion of forest to non-forest land (which would be classified as deforestation), and qualifies as forests remaining as forests, such	The Project reduces net GHG emissions by reducing deforestation and/or degradation of forests, hence it is a REDD project.

Document	Requirements	Project Eligibility Compliance
	as set out under the IPCC 2003 Good Practice Guidance.	
VCS Standard, version 4.3	The project area shall meet an internationally accepted definition of forest, such as those based on UNFCCC host- country thresholds or FAO definitions.	The Project area complies with internationally accepted definition of forest by the Mexican government ² .
VCS Standard, version 4.3	The project shall qualify as forest for a minimum of 10 years before the project start date. The definition of forest may include mature forests, secondary forests, and degraded forests. Under the VCS Program, secondary forests are considered to be forests that have been cleared and have recovered naturally and that are at least 10-years-old and meet the lower bound of the forest threshold parameters at the start of the project. Forested wetlands, such as floodplain forests, peatland forests and mangrove forests, are also eligible provided they meet the forest definition requirements mentioned above.	The Project qualifies as a wetland forest for at least 10 years before the Project start date.
VCS Standard, version 4.3	Activities covered under the REDD project category are those that are designed to stop planned (designated and sanctioned) deforestation or unplanned (unsanctioned) deforestation and/or degradation. Avoided planned degradation is classified as IFM	The Project is designed to stop unplanned deforestation and or/degradation.

² Gobierno de México – CONAFOR (2016) *Estrategia Nacional para REDD+ (ENAREDD+)*.
<https://unredd.net/documents/un-redd-partner-countries-181/national-redd-strategies-1025/15755-redd-national-strategy-mexico.html>

Document	Requirements	Project Eligibility Compliance
VCS Standard, version 4.3	Activities that stop unsanctioned deforestation and/or illegal degradation (such as removal of fuelwood or timber extracted by non-concessionaires) on lands that are legally sanctioned for timber production are eligible as REDD activities. However, activities that reduce or stop logging only, followed by protection, on forest lands legally designated or sanctioned for forestry activities are included within IFM.	The Project area is not designated for forestry activities.
VCS Standard, version 4.3	Projects that include both avoided unplanned deforestation and/or degradation as well as stopping sanctioned logging activities, shall follow the REDD guidelines for the unplanned deforestation and/or degradation and the IFM guidelines for the sanctioned logging activities.	The Projects does not include stopping sanctioned logging activities.
VCS Standard, version 4.3	REDD+ projects are eligible under two categories of activity type: Avoiding Planned Deforestation and/or Degradation (APDD); or Avoiding Unplanned Deforestation and/or Degradation (AUDD).	The Project is a AUDD REDD+ project. As it is developed in wetlands, it can also be classified as AUWD.

1.4 Project Design

- ☐ The project includes a single location or installation only
- ☐ The project includes multiple locations or project activity instances, but is not being developed as a grouped project
- ☒ The project is a grouped project

1.4.1 Eligibility Criteria

Project activity instances should comply with the broader criteria set in section 1.3. Additionally, as project activity instances are included, they should also demonstrate eligibility according to the requirements set in the table below.

Project Activity Instance Inclusion Requirements	Project Activity Instance Compliance
It must be located in the state of Nayarit.	All project activity instances are located in the state of Nayarit.
It may be located in an ejido, in a state-owned or in a private land.	All project activity instances added until this PD version are ejidos.
It must have the approval of the landowner, in case of private land, the responsible state organization, in case of state-owned lands, and the ejido's commissariat, in case of ejidos.	All project activity instances have been approved by their respective ejido's commissariat.

1.5 Project Proponent

Organization name	BlueMX Mangrove A.C.
Contact person	Jose Luis Garcia Falmer
Title	Director
Address	Calle 9A No. 768, Gran Santa Fe, C.P. 97314, Mérida, Yucatán, México
Telephone	+52 984 745 5556
Email	jlgarcia@bluemo.org

1.6 Other Entities Involved in the Project

1.7 Ownership

BlueMX has secured or is securing agreements with landowners who are participating or want to participate in the project. The landowners have provided or will provide proof of legal title to the land where it has been confirmed and verified with the National Official Public Registry of where the land is located. The agreements set the foundations for the collaborative scheme with the landowners and secure the transfer of carbon credits rights for BlueMX. The agreements outline the roles and responsibilities of all parties involved related to the project implementation and monitoring activities.

A professional legal analysis has confirmed that the landowners have the exclusive rights to all environmental services provided by their land, comprising any ecosystem payments that cover the cost of improving natural resources management and conservation activities in their land in exchange for the carbon finance benefits, including communal landowners known as Ejidos,

Ejidos are a type of communal land in Mexico in which the traditional communities that inhabit the area have the collective property and usufruct rights of the land given by the Mexican State, as indicated in Article 9 of Mexico's Agrarian Law³.

The grouped project area currently encompasses a total of 175,880 ha in the state of Nayarit. More project activity instances will be added to this grouped project in later PD versions. Within the grouped project area there are currently nine project activity instances, which are mainly ejidos.

BlueMX Mangrove A.C. has been collaborating and engaging with each ejidos' authority, called Ejido's Commissariat, in order to establish partnerships and obtain their free, prior, and informed consent (FPIC) to develop the project activities. The Ejido's Commissariat is responsible for the execution of the deal publicly agreed at the ejido's assembly, as well as the governance, representation, and administrative management of all ejido activities (Article 32, Mexico's Agrarian Law).

The project proponent signed agreements with each ejido and private landowners. The agreements confirm the landowner's or ejido's endorsement to develop the project activities, recognise the required ownership transfer of the carbon credits to BlueMX Mangrove A.C., and confirms the landowners' collaboration as key partners of the blue carbon conservation project.

1.8 Project Start Date

The project start date is 23/04/2019.

The project proponent has been granted by Verra an exemption from Section 3.7.6 of the VCS Standard, v4.1 for its grouped REDD+ projects in Mexico. The project proponent presented the Draft PD v.1.0 for listing by 31 March 2022.

1.9 Project Crediting Period

Start date: 23/04/2019

End date: 22/04/2059

Total project duration: 40 years

Crediting period type: Fixed

³ Ley Agraria. Diario Oficial de la Federación. Ciudad de México, México. Texto Vigente: Marzo 8, 2022.
<https://www.diputados.gob.mx/LeyesBiblio/pdf/LAgra.pdf>

1.10 Project Scale and Estimated GHG Emission Reductions or Removals

The estimated annual GHG emission reductions/removals of the project are:

☐ <20,000 tCO₂e/year

☐ 20,000 – 100,000 tCO₂e/year

☒ 100,001 – 1,000,000 tCO₂e/year

☐ >1,000,000 tCO₂e/year

Project Scale	
Project	
Large project	x

Year	Estimated GHG emission reductions or removals (tCO ₂ e)
2019	62,962
2020	136,976
2021	148,029
2022	159,082
2023	197,890
2024	181,187
2025	192,240
2026	203,293
2027	214,346
2028	263,516
2029	233,552

Year	Estimated GHG emission reductions or removals (tCO ₂ e)
2030	241,705
2031	249,859
2032	258,012
2033	313,014
2034	274,319
2035	282,473
2036	290,626
2037	298,780
2038	361,425
2039	315,086
2040	323,240
2041	331,393
2042	339,547
2043	409,837
2044	355,854
2045	364,007
2046	372,161
2047	380,314
2048	458,248
2049	396,621
2050	404,775

Year	Estimated GHG emission reductions or removals (tCO ₂ e)
2051	412,928
2052	421,081
2053	506,659
2054	437,388
2055	445,542
2056	453,695
2057	461,849
2058	555,070
2059	235,001
Total estimated ERs	12,943,583
Total number of crediting years	40
Average annual ERs	323,590

1.11 Description of the Project Activity

Coastal ecosystems, such as mangroves, seagrasses and salt marshes provide multiple valuable benefits to coastal communities. These benefits include essential ecosystem services such as the provision of coastline protection from storms, erosion or sea level rise, water quality regulation, nursery grounds for fish (Crooks et al. 2011)⁴, biodiversity conservation, rich cultural heritage and landscape beauty for recreation and ecotourism. Mexico is one of the 5 countries with the largest extension of mangroves in the world with 775,555 ha (Valderrama-Landeros et al. 2017)⁵.

⁴ Crooks, S. et al. (2011). Mitigating Climate Change through Restoration and Management of Coastal Wetlands and Near-shore Marine Ecosystems. *Environmental Department Paper*. 121.

⁵ Valderrama-Landeros, L. H. et al. (2017). *Manglares de México. Actualización y exploración de los datos del sistema de monitoreo 1970/1980-2015*. Mexico City, Mexico: National Commission on Biodiversity (CONABIO).

Moreover, these ecosystems, are particularly relevant for their capacity to store and sequester vast amounts of carbon in sediments and biomass (Kumagai et al., 2020)⁶, usually referred to as “blue carbon”. Hence, mangroves, seagrasses and salt marshes are known as “blue carbon ecosystems” and play a prominent role in the mitigation and adaption to climate change. Despite all benefits and services provided, coastal blue carbon ecosystems are some of the most threatened ecosystems on Earth (Murray et al., 2011)⁷.

The state of Nayarit is located in the west of Mexico and its territory is part of the Sierra Madre Occidental and the coast of the Pacific Ocean. Nayarit stands out for its biological and cultural richness and for having unique and important ecosystems for the country. Marismas Nacionales is the most important wetland in the state. It comprises a large network of brackish coastal lagoons, mangrove forests, swamps, deltas, and marshes that represent between 15 to 20 percent of the total mangrove ecosystems in the country. Complex socioecological dynamics and schemes for management of natural resources prevail in this region⁸.

BlueMX is a local non-profit civil association directing their efforts to promoting conservation, restoration, and reforestation of mangroves and to engaging civil society in the prevention and control of water, air and soil contamination, the protection of the environment and the preservation and restoration of the ecological balance.

BlueMX recognises the relevance of contributing to enhancing Marismas Nacionales ecosystems dynamics due to the clear identification of social, economic, and environmental indicators that represent sustainability challenges. These result in a significant deterioration of the environmental quality of the bioregion. The main indicator of this deterioration is the reduction of the mangrove area.

Mangrove areas in Nayarit state are significantly impacted by deforestation. The most important drivers of deforestation recognised throughout the region are the hydrological modifications generated by the Cuautla Channel and land use changes altering the sedimentation and water quality in the mangroves’ areas.

Besides, in the local context, urban, industrial, touristic, agricultural and aquacultural developments have considerably reduce mangrove areas, while at a larger scale, municipal waste, industrial pollutants, pesticides and farming fertilizers and changes in hydrological conditions have impacted the structure and composition of mangrove communities⁹.

⁶ Kumagai, J. A. et al. (2020). Prioritizing mangrove conservation across Mexico to facilitate 2020 NDC ambition. *Ambio*. Available from: doi:10.1007/s13280-020-01334-8

⁷ Murray, B.C. et al. (2011). State of the Science on Coastal Blue Carbon: A Summary for Policy Makers. *Nicholas Institute for Environmental Policy Solutions Report NIR 11-06*, pp. 1–43.

⁸ CONANP. (2013). Programa de Manejo Reserva de la Biosfera Marismas Nacionales Nayarit. Comisión Nacional de Áreas Naturales Protegidas- Secretaría de Medio Ambiente y Recursos Naturales, México.

⁹ Espinoza-Tenorio, A. et al. (2019). *People and Blue Carbon: Conservation and Settlements in the Mangrove Forests of Mexico*. *Human Ecology*. doi:10.1007/s10745-019-00123-6

Among the major drivers of deforestation, particularly within the grouped project area, BlueMX has identified hydrological modifications, sedimentation changes in the mangrove, modification of the water quality in the lagoons, shrimp farming, livestock and agriculture, and the loss of ecosystems' resilience due to the effect of storms and hurricanes.

Acknowledging the complexity and challenges prevailing, the overall mission of BlueMX's project is to enhance the mangroves' ecosystems services, the carbon storage and sequestration capacity, preventing mangroves' degradation, protecting biodiversity, and enhancing local resilience while contributing to the global climate action, under a collaborative approach with, particularly, local communities.

The project activity is a REDD+ grouped project that will generate GHG emissions reductions by avoiding the unplanned deforestation of wetlands in the state of Nayarit.

The strategic conservation activities are:

- Rehabilitation of tidal canals
- Community-based monitoring and surveillance as early warning of threats to mangroves and biodiversity, and for identifying symptoms of degradation.
- Multiscale monitoring, at the landscape (vegetation index) and local levels.
- Promotion of sustainable productive activities, i.a. ecotourism, beekeeping, silvopasture, sustainable cattle ranching and fishing
- Fostering communal (Ejidos) and local communities-based land use planning

The project was designed based on six (6) principles. These principles are:

1. Stakeholder engagement,
2. Enhanced carbon and water storage,
3. Long-term forest conservation co-existing with productive and sustainable land uses,
4. Rightful distribution of the funding across organisational scales,
5. Restoration of a biodiverse forest, and
6. Seedlings healthy and growing.

Engaging landowners, ejidatarios (communal landowners) and local communities as key partners of the REDD+ blue carbon project has been crucial to advance the conservation of these unique ecosystems while protecting biodiversity and securing social benefits. The project activities are based on a participatory approach recognising the relevance of the local communities' role in the conservation of these ecosystems.

The foundations of the project activities are directing efforts and resources to:

- Strengthening local governance,
- Building capacity for implementing conservation activities and awareness of the relevance of enhancing mangroves' ecosystem services,
- Promoting gender equity,
- Co-managing High Conservation Value (HCV) areas through community-based monitoring and surveillance, and
- Fostering sustainable livelihoods for the integral well-being of the communities and the blue carbon ecosystems.

The grouped project currently comprises 175,880 ha of land area. Nine initial project activity instances are presented in this document version, totalling an eligible area for blue carbon conservation of 34,129 ha. The grouped project presented in this document version is estimated to reduce approximately an average of 323,590 tCO_{2e} per year.

BlueMX initiated collaborating, engaging with communities in ejidos and private lands, and the project started on April 23, 2019, conducting project activities under a participatory and inclusive approach. In the future, more project activity instances, in state-owned, private or ejidos' lands, will be added to this grouped project.

Biodiversity conservation activities are also implemented in order to preserve beneficial ecological interactions in the project area. These activities include i.a.:

- Monitoring of birds.
- Monitoring of reptiles.
- Monitoring of mammals, specially through camera traps.

BlueMX is conducting comprehensive outreach efforts throughout the grouped project area and providing the necessary materials and equipment to empower communities for jointly conducting the conservation activities. The governance structure of the project is co-designed during community workshops integrating cultural, social and gender equity safeguards and in strict respect and transparency to landownership and access to natural resources of the rightful owners of the land.

BlueMX is advancing the design of the project complying with the Climate, Community and Biodiversity (CCB) Standards criteria and requirements. CCB PD will be presented for the corresponding certification.

BlueMX has also secured the restoration of significant areas of mangrove forest ecosystems near conservation project areas where BlueMX is conducting restoration activities. These restoration project and activities have been listed with Verra separately.

The Project area is not covered by any jurisdictional REDD+ program.

1.12 Project Location

The Project is a grouped project located in Mexico.

The grouped project comprises 175,880 ha in the Mexican State of Nayarit. There are currently nine project activity instances, totalling 34,129 ha of eligible areas. Table 1 below indicates the nine project activity instances and their respective extension of eligible areas for blue carbon conservation activities.

Table 1: Initial project activity instances and their respective eligible areas.

Project activity instance	ID	Eligible area (ha)
El Pimientillo	1	1,426
Francisco Villa	2	2,163
Palma Grande	3	4,849
Comunidad Agraria Paso Hondo antes Tecuala y Olitas el Viejo	4	13,106
Pericos	5	179
San Cayetano El Roblito	6	122
San Miguel	7	1,202
Santa Cruz y Anexos	8	10,209
Valle de la Urraca	9	873
Total		34,129

In the future, more project activity instances will be added to this grouped project.

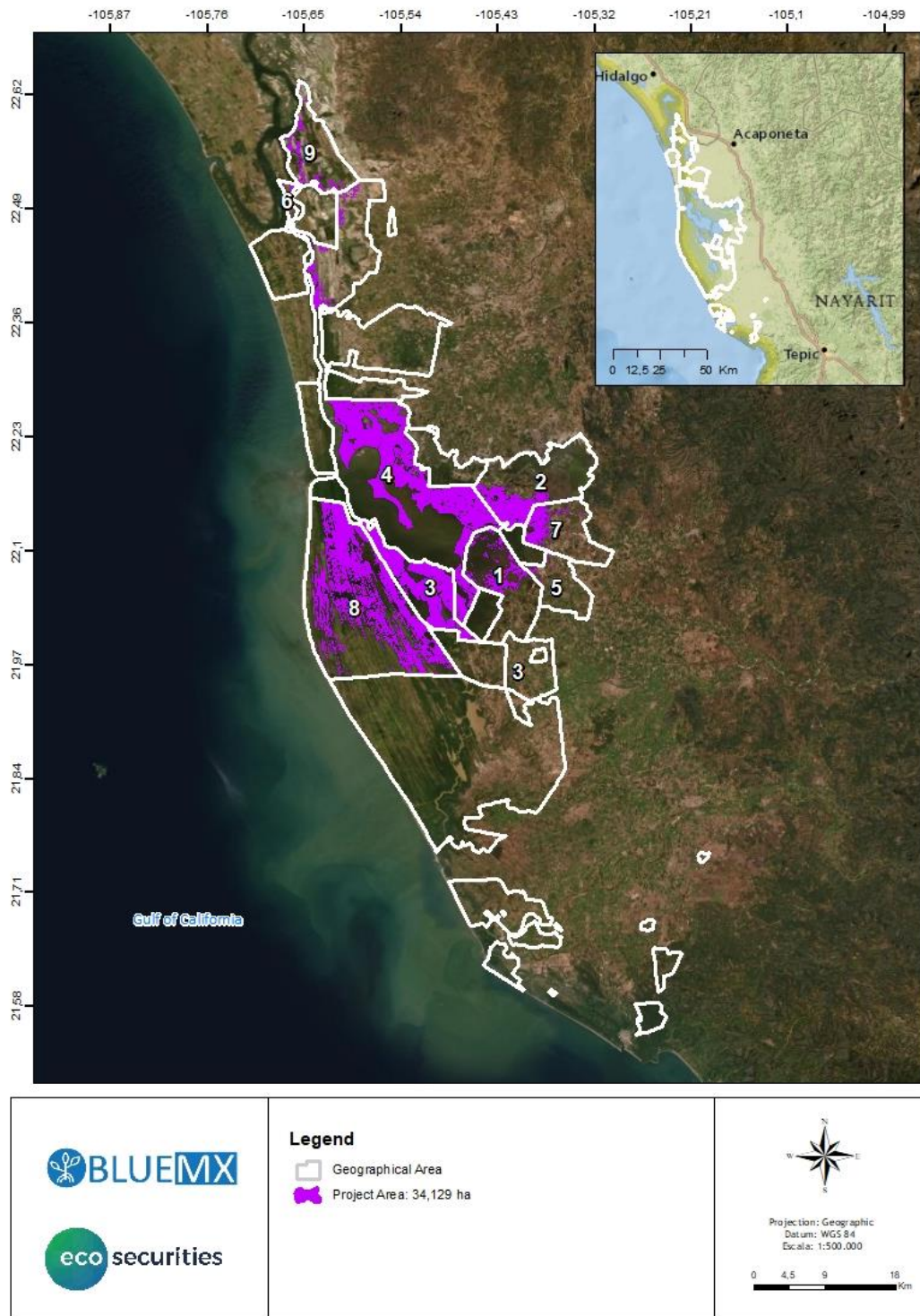


Figure 1: Project area of the grouped project and the initial project activity instances.

The corresponding KML file is submitted with this document.

1.13 Conditions Prior to Project Initiation

Ecosystem type:

The habitats present in the areas are tropical savanna, mangrove swamps, palm grove, medium sub-evergreen forest, induced grassland that arises spontaneously when the original vegetation is eliminated (i.e., mangrove forest). Additionally, halophilic vegetation is present in the coastal dune which is dominated by creeping plants (Vázquez-Morán et al 2021)¹⁰.

The Project area is mainly located in mangrove ecosystems, a type of wetland forest.

Has the land been cleared of native ecosystems within 10 years of the project start date?

☐ Yes ☒ No

Current and historical land-use: The project is located in the Marismas Nacionales-San Blas mangroves which occupy an area of 2,000 square kilometres (770 sq mi) in coastal Nayarit and Sinaloa states (note all project instances are located in Nayarit). The Marismas Nacionales is an interconnected complex of lagoons and wetlands on the alluvial plain formed by the Acaponeta, San Pedro Mezquital, and Grande de Santiago rivers. Beach ridges separate the wetlands from the sea. The central Agua Brava Lagoon and northern Teacapán Lagoon are the principal lagoons. The San Blas mangroves are the southernmost in the complex, located south of the Grande de Santiago River mouth.

Red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), white mangrove (*Laguncularia racemosa*), and button mangrove (*Conocarpus erectus*) are found in the ecoregion. Black mangrove is predominant near Teacapán in the northern part of the ecoregion, and white mangrove is predominant near Agua Brava in the southern part of the ecoregion. Trees that grow in association with the mangroves include ciruelillo (*Phyllanthus elsiae*), zapotón (*Pachira aquatica*), and anona (*Annona glabra*).

The mangroves are home to over 250 species of birds and serve as an important winter habitat for migratory birds. The biosphere also supports and is habitat to the jaguar (*Panthera onca*) and the river crocodile (*Crocodylus acutus*), one of its emblematic species; the jaguarundi, ocelot, as well as four species of sea turtles: white, leatherback, hawksbill, and olive ridley¹¹.

Mangroves have been removed and degraded largely as a result of shrimp farming activities and conversion to pasture lands. The intensive shrimp farming frequently degrades the ecosystem over a short period of years after which the activities move to a new area leaving behind a dry

¹⁰ Vázquez-Morán, V.H., D. Valera-Aguilar, G. Delgadillo-Quezada, H. Valadez-Virgen y O.G. Rosas-Aceves. (2021). Reserva de la Biosfera Marismas Nacionales Nayarit. Apéndice 4. Listado de especies presentes en la Reserva de la Biosfera Marismas Nacionales Nayarit. En: *La biodiversidad en Nayarit. Estudio de Estado. Vol. I.* CONABIO, México, pp. 259-264.

¹¹ CONANP. (2013). *Programa de Manejo Reserva de la Biosfera Marismas Nacionales Nayarit*. Comisión Nacional de Áreas Naturales Protegidas- Secretaría de Medio Ambiente y Recursos Naturales, México, page. 32.

and degraded area that will need sedimentological and hydrological restoration prior to reforestation activities. Planned tourism development is also a threat to the area. Of the 170,000 hectares of wetlands in the Marismas Nacionales, around 135,000 hectares suffer from tidal alteration, between 5,000 and 10,000 have disappeared under the sea and more than 5,000 show the effect of hydrosedimentary imbalance of their rivers. These general symptoms synthesize, along with a dozen other minor ones, the accumulated and synergistic environmental deterioration of at least four to six recent decades of interaction of various factors^{12, 13}.

The project is providing social impact initiatives to community members living within and surrounding project areas, including many economically depressed areas. These initiatives include supporting social entrepreneurship such as sustainable ranching and fishing programs, apiculture, and eco-tourism.

1.14 Compliance with Laws, Statutes and Other Regulatory Frameworks

Mexico's robust legal framework provides tools and structures relevant for REDD+ and for meeting the challenges of climate change. The project complies with relevant local, regional, and national laws, statutes, and regulatory structures comprising this framework.

Land and its tenure rights for private and communal ownership (Ejidos) constitute a key component of the country's relevant legal framework for REDD+ projects. Particularly, forests' carbon ownership, including mangroves, is deeply linked to these land rights.

BlueMX has diligently respected the land and local communities' rights according to the relevant laws and policy instruments and their significance to the project including:

- The Political Constitution of the United States of Mexico (Mexican Constitution) represents the supreme guideline referring to subjects concerning social, economic, and cultural development in the country. Article 27 recognizes the legal status of communities providing landowners (communal or ejidos and private) full legal rights and land ownership. Local communities' rights, including those to regulate the use of their land and natural resources, such as water and forests, are also established for, particularly, improving their livelihoods and quality of life. In addition, this article acknowledges the need to preserve and restore environmental balance, support rural economic activities as well as avoiding the destruction of natural resources. This

¹² Valderrama-Landeros L., Blanco y Correa, M., Flores-Verdugo, F., Álvarez-Sánchez, L.F., Flores-de-Santiago, F. (2020). Spatiotemporal shoreline dynamics of Marismas Nacionales, Pacific coast of Mexico, based on a remote sensing and GIS mapping approach, *Environmental Monitoring and Assessment*. (2020) 192:123, <https://doi.org/10.1007/s10661-020-8094-8>

¹³ Manuel Blanco y Correa (Ed.), Francisco Flores Verdugo, Mario Arturo Ortiz Pérez, Guadalupe de la Lanza Espino, Jorge López Portillo, Ignacio Valdéz Hernández, Claudia Agraz Hernández, Steven Czitrom, Evelia Rivera Arriaga, Asunción Orozco, Gloria Alicia Jiménez Ramón, Daniel Benítez Pardo, Julio Gómez Gurrola, Alfonso Ángel González Díaz, Miriam Soria Barreto, George Otis Kruse, Edwin Alberto Jacobo Sapién, Gabriela López Cano, Héctor Blanco Fuentes y Ricardo Blanco Fuentes. (2011). *Diagnóstico Funcional de Marismas Nacionales*. Informe final de los convenios de coordinación entre la Universidad Autónoma de Nayarit y la Comisión Nacional Forestal con el patrocinio del Gobierno del Reino Unido, Tepic, Nayarit. 190 páginas, 84 mapas + 1 DVD

represents the governing axis of environmental policy in Mexico. Besides, Article 2 establishes the recognition and guarantee for indigenous community rights to conservation, improve their ecosystem and preserve the integrity of the lands, as well as access to the use and enjoyment of natural resources in the lands they inhabit with respect to clarity in ownership of the land. The Mexican Government must integrate landowners' proposals and suggestions to determine the use of their resources according to these two articles and provide adequate spaces for local communities' participation in any policy that might affect their rights¹⁴.

- The Agrarian Law, which regulates the distribution, organization, exploitation, and use of all agricultural matters, provides ejidos with full landownership over the land provided to them by the Mexican State or acquired by any other legal means (Article 9). The Internal Rules of the Ejido establishes the main agreements under which any Ejido must perform activities and organize its economic and social life, including the rules to use the communal land. The activities normed by the Internal Rules are to comply with applicable Mexican Laws (Article 10). The Ejidal Assembly is the highest decision-making structure of the ejido (Article 22), and it should approve the Internal Rules, any activity to use their communal land, as well as the ways in which benefits have to be distributed in an equitable manner amongst its members (Article 11). The Internal Rules of the Ejido norm the use, exploitation, access, and conservation of its communal land (Article 74)¹⁵.

Forest landowners have the established right to be the direct beneficiaries of the economic revenues generated by the sustainable management of their forests. Article 9 of the Agrarian Law provides for the granting of legal status to communities and allows them to have the assets and all land that has been given to them or that has been acquired through any other means.

- Further, regulations have been developed that directly support the REDD+ strategy, such as the recognition of carbon capture as an environmental service under the General Law of Sustainable Forest Development¹⁶. This law particularly emphasizes the constitutional rights of landowners under Article 27 of the Mexican Constitution with regards to the sustainable and integral management of forest, its conservation, protection, restoration, and sustainable management of forest ecosystems (including mangroves). For forest resources owned by indigenous people and communities this law refers to Article 2 of the Mexican Constitution to observe their rights for participating in all development plans at national and subnational level, including those related to forestry resources (Article 1). This provides a secure legal framework regarding property rights and respects the system of governance of the territories and community forests.

¹⁴ *Constitución Política de los Estados Unidos Mexicanos. Diario Oficial de la Federación. Ciudad de México, México. Texto Vigente: Mayo 28, 2021.* <https://www.diputados.gob.mx/LeyesBiblio/pdf/CPEUM.pdf>

¹⁵ *Ley Agraria. Diario Oficial de la Federación. Ciudad de México, México. Texto Vigente: Marzo 8, 2022.* <https://www.diputados.gob.mx/LeyesBiblio/pdf/LAgra.pdf>

¹⁶ *Ley General de Desarrollo Forestal Sustentable. Diario Oficial de la Federación. Ciudad de México, México. Texto Vigente: Abril 28, 2022.* <https://www.diputados.gob.mx/LeyesBiblio/pdf/LGDFS.pdf>

- Moreover, the General Law of Sustainable Forest Development reiterates the need to respect all rights granted by International Treaties and the Mexican Constitution to indigenous people with regards to the use of forest resources (Article 2, XIII); and establishes as two of its many objectives to: 1) guarantee societal participation, including indigenous people and local communities on the implementation, assessment and follow up of the forestry policy; and 2) promote the sustainable management of forest to maintain and increase carbon sinks, reduce emissions from forest degradation and deforestation, and reduce the vulnerability and strengthen the resilience and adaptation of forests to climate change (Article 3, XXXIV & XXXIX).
- Although the General Law of Sustainable Forest Development declares as a public utility the conservation, protection, restoration of forest ecosystems and its elements (Article 4), it also states that the property of forest resources within Mexico are owned by Ejidos, communities, indigenous people and communities, individuals, as well the Mexican State and subnational states and municipalities who are rightful owners of the land where such resources are located (Article 5).
- Additionally, under the General Law of Sustainable Forest Development, Chapter IV, Of the Forest's Environmental Services, Article 131 states: *"The owners and legitimate/legal holders of forest lands that, as a result of good management, conserve and/or improve environmental services, will receive the economic benefits derived from their lands."*

Contemplating the abovementioned, the law establishes that carbon rights are clearly controlled by the legal owners of the land, ejidos, private landowners and government entities for federal and state lands. Additional climate laws, regulations and policies considered in the project include:

- The General Climate Change Law¹⁷ (LGCC for its acronym in Spanish) was passed in June 2012 and came into effect in October of that year. The LGCC gives certainty and continuity to climate policy in Mexico and sets the country on a path to a low carbon economy as it establishes the basis for the creation of institutions, legal frameworks, and financing this transition. A 2018 decree to the LGCC brought Mexico's domestic emission reduction targets in line with the Paris Agreement on climate change. On the subject of climate change mitigation, the LGCC states that the National Forestry Commission in Mexico (CONAFOR for its acronym in Spanish) must promote strategies, policies, measures, and activities to eventually reach at 0% carbon loss in original ecosystems, for their incorporation in forestry policy planning instruments considering sustainable development and communal forest management.
- The National Climate Change Strategy¹⁸ (ENCC for its acronym in Spanish) planning tool establishes articulated, organised, and all-encompassing climate related policies with the aim of having a close coordination between the different sectors and entities. One of the principal

¹⁷ Ley General de Cambio Climático. Diario Oficial de la Federación. Ciudad de México, México. Texto Vigente: Mayo 11, 2022. <https://www.diputados.gob.mx/LeyesBiblio/pdf/LGCC.pdf>

¹⁸ Secretaría de Medio Ambiente y Recursos Naturales (SEMARNAT). Estrategia Nacional de Cambio Climático. Visión 10-20-40. Ciudad de México, México. (2013) <https://www.gob.mx/cms/uploads/attachment/file/41978/Estrategia-Nacional-Cambio-Climatico-2013.pdf>

measures for climate change mitigation established in the ENNC is to *Promote better agricultural and forestry practices in order to increase and preserve natural carbon catch basins* (M4). In order to implement this strategic axis, it proposes the following as a course of action: *Design and operate plans, programs and policies aimed at reducing deforestation and the degradation of forests and jungles, framed in a REDD Strategy, which must include sustainable rural development and landscape approach, in relation to social and environmental safeguards* (M4.5).

- The Special Climate Change Program 2014 - 2018¹⁹ (PECC for its acronym in Spanish) establishes the objective of conservation, restoration, and sustainable management of ecosystems, guaranteeing environmental services climate change mitigation. This objective seeks to strengthen the communities' ecosystem management; address their immediate pressures, as well as taking advantage of forest, agricultural and other land uses in order to reduce carbon emissions and enhance their respective capture. The PECC establishes in its strategy 2.4: *Develop tools that promote sustainability and reduce emissions coming from agricultural, forestry and fishing activities and reduce ecosystem's vulnerability to guarantee the development of a competitive economy by strengthening conservation, management and sustainable use of ecosystems that provide the environmental services needed to address climate change and carbon capture;*

Furthermore, Mexico has also committed to reduce the country's greenhouse gas emissions as part of the Paris agreements and to enhance conservation of blue carbon ecosystems as part of international agreements, such as the Ramsar Convention.

Reflecting the country's commitments and challenges in environmental and forestry matters, mitigation, and adaptation to climate change, to maintain and increase the provision of environmental services to society and reduce carbon emissions generated by deforestation and forest degradation, the National Strategy for the Reduction of Emissions from Deforestation and Forest Degradation (ENAREDD+ for its acronym in Spanish) was created.

- ENAREDD+, focuses its objective on promoting a model based on the integrated management of the territory with a landscape approach, adaptation based on ecosystems and communities. The purpose of ENAREDD+ is to have greater and better impacts on the various ecosystems, actors and people who live in the forest areas of the country. The strategy considers the differences and inequalities between men and women, as well as the differentiated impacts of climate change.

With regards to the procedures to guarantee the respect and implementation of safeguards and human rights within the scope of sustainable forest management, all policies and legal instruments proposed or endorsed by the Mexican Government shall comply with the following criteria: 1) Free, Prior and Informed Consent (FPIC); 2) equitable distribution of benefits, 3) certainty and respect to

¹⁹ Instituto Nacional de Ecología y Cambio Climático. (2015) *Programa Especial de Cambio Climático 2014-2018*. Ciudad de México, México. <https://www.gob.mx/inecc/documentos/programa-especial-de-cambio-climatico-2014-2018-pecc>

landownership and legitimate possession and access to natural resources from the rightful owners of the land; 4) inclusion and territorial, cultural, social and gender equity; 5) plurality and social participation; 6) transparency, access to information and accountability. BlueMX's project is complying with FPIC and REDD+ criteria and safeguards accordingly.

BlueMX complies with the applicable Legal Framework, Regulations and Climate Policies and Strategies in Mexico for the development of the blue carbon conservation project.

Considering Mexico's approach for REDD+, institutional arrangements for collaborating in the joint promotion of forest-related policies and rural development play a vital role. In light of the foregoing, initiatives undertaken by BlueMX Mangrove A.C. include strengthening institutional coordination, aligning to management plans, and fostering a collaborative approach.

Therefore, in addition to complying with the relevant legal framework, regulations, and policies, the project proponent has diligently worked to inform and collaborate with federal and state environmental agencies including the National Forestry Commission (CONAFOR, for its acronym in Spanish), the National Commission of Natural Protected Areas (CONANP, for its acronym in Spanish), and the Forest Commission of Nayarit (COFONAY, for its acronym in Spanish) as well as the local municipalities where project areas are located, and the Governor's Office of Nayarit.

CONAFOR - National Forestry Commission

A meeting was conducted with the heads of the General Coordination of Conservation and Restoration, the Management of Reforestation and Restoration of Hydrographic Basins, and the Management of Forest Environmental Services and Conservation of Biodiversity at CONAFOR's central offices. The purposes of the meeting were to inform, discuss and explore potential synergies around BlueMX's project conservation and restoration objectives in Mexico's coastal wetlands and mangrove ecosystems and supported by carbon finance via the Voluntary Carbon Market.

Moreover, CONAFOR has officially acknowledged the notification letter where BlueMX presents their conservation project activities to be certified as blue carbon projects for the generation of verified carbon units (VCUs) under the Verified Carbon Standard (VCS) managed by VERRA to continue contributing to finance conservation and social impact initiatives in Nayarit.

CONANP – National Commission of Protected Natural Areas

A meeting was conducted with CONANP to introduce BlueMX's conservation and restoration objectives in blue carbon ecosystems within or around Marismas Nacionales in Nayarit. The collaborative, participatory and inclusive approach with communities for integrating the development of social impact initiatives was also presented during the meeting. A discussion around carbon finance took place, recognising this as an alternative source of funding for the conservation initiatives.

CONANP officially acknowledged the notification letter submitted by introducing the project, its objectives and key activities aligned to the official Management Programme of the Marismas Nacionales Natural Protected Area (ANP for its acronym in Spanish).

Local Municipalities – Acaponeta, Rosamorada, Santiago Ixcuintla, Tecuala and Tuxpan

BlueMX project areas are located within five local municipalities, Acaponeta, Rosamorada, Santiago Ixcuintla, Tecuala and Tuxpan. BlueMX has been collaborating with all five municipalities in various manners and working with them to explore alternatives of concurrent funding for developing social impact initiatives. These include provision of access to drinking water for the communities, repairing roadways and working together to implement sustainable solutions as road constructions have blocked water passages, threatening the health of mangrove ecosystems.

Nayarit State Government

BlueMX has also met with the Governor's Office and its Sustainability Department to present and discuss the project, the benefits to the communities, and potential initiatives on a concurrent funding basis. BlueMX proposed collaboration has been well received by the Governor's Office and BlueMX is now directing efforts to cooperate on a project to open up a blocked waterway of approximately 15 KM long that will bring fresh water to four ejido communities and to the Marismas Nacionales' ecosystems.

1.15 Participation under Other GHG Programs

1.15.1 Projects Registered (or seeking registration) under Other GHG Program(s)

The Project is not registered or seeking registration under any other GHG Program.

1.15.2 Projects Rejected by Other GHG Programs.

The Project has not been rejected by any other GHG Program.

1.16 Other Forms of Credit

1.16.1 Emissions Trading Programs and Other Binding Limits

Does the project reduce GHG emissions from activities that are included in an emissions trading program or any other mechanism that includes GHG allowance trading?

☐ Yes

☒ No

1.16.2 Other Forms of Environmental Credit

Has the project sought or received another form of GHG-related credit, including renewable energy certificates?

☐ Yes

☒ No

1.17 Sustainable Development Contributions

[To be completed in future PDD revisions]

1.18 Additional Information Relevant to the Project

1.18.1 Leakage Management

[To be completed in future PDD revisions].

1.18.2 Commercially Sensitive Information

[To be completed in future PDD revisions].

1.18.3 Further Information

[To be completed in future PDD revisions].

2 SAFEGUARDS

[To be completed in future PDD revisions].

3 APPLICATION OF METHODOLOGY

3.1 Title and Reference of Methodology

The title and the reference of the applied methodology is presented below.

Type	Title	Reference
VCS Methodology	VM0007 REDD+ Methodology Framework (REDD+ MF)	Version 1.6, 08 September 2020, Sectoral Scope 14

The methodology above indicates the tools and modules that are mandatory and optional for the Project's category (AUWD in tidal wetlands). According to the methodology, the title and the reference of the tools and modules applied in this Project are presented below.

Type	Title	Reference
Tool	Tool for the demonstration and assessment of additionality in VCS agriculture, forestry, and other land use (AFOLU) project activities	Version 3.0, 1 February 2012, Sectoral Scope 14

Type	Title	Reference
Tool	AFOLU Non-Permanence Risk Tool (T-BAR)	Version 4.0, 19 September 2019
Module	VMD0007 Estimation of baseline carbon stock changes and greenhouse gas emissions from unplanned deforestation and unplanned wetland degradation (BL-UP)	Version 3.3, 08 September 2020, Sectoral Scope 14
Module	VMD0010 Estimation of emissions from activity shifting for avoiding unplanned deforestation and avoiding unplanned wetland degradation (LK-ASU), v1.2	Version 1.2, 08 September 2020, Sectoral Scope 14
Module	VMD0013 Estimation of greenhouse gas emissions from biomass and peat burning (E-BPB)	Version 1.2, 08 September 2020, Sectoral Scope 14
Module	VMD0015 Methods for monitoring of greenhouse gas emissions and removals (M-REDD)	Version 2.2, 08 September 2020, Sectoral Scope 14
Module	VMD0016 Methods for stratification of the project area (X-STR)	Version 1.2, 08 September 2020, Sectoral Scope 14
Module	VMD0017 Estimation of uncertainty for REDD project activities (X-UNC)	Version 2.2, 08 September 2020, Sectoral Scope 14
Module	VMD0044 Estimation of emissions from ecological leakage (LK-ECO)	Version 1.1, 08 September 2020, Sectoral Scope 14
Module	VMD0050 Estimation of Baseline Carbon Stock Changes and Greenhouse Gas Emissions in Tidal Wetland Restoration and Conservation Project Activities (BL-TW)	Version 1.0, 08 September 2020, Sectoral Scope 14
Module	VMD0051 Methods for Monitoring of Carbon Stock Changes and Greenhouse Gas Emissions and Removals in Tidal Wetland Restoration and Conservation Project Activities (M-TW)	Version 1.0, 08 September 2020, Sectoral Scope 14
Module	VMD0052 Demonstration of additionality of tidal wetland restoration and conservation project activities (ADD-AM)	Version 1.0, 08 September 2020, Sectoral Scope 14

3.2 Applicability of Methodology

The VM0007 REDD Methodology Framework applicability condition differs according to the REDD+ project type.

For all REDD+ projects

REDD activities are applicable under the following conditions:

Applicability condition	Project compliance
Land in the project area has qualified as forest (following the definition used by VCS) for at least the 10 years prior to the project start date. Mangrove forests are excluded from any tree height requirement in a forest definition, as they consist of (close to) 100% mangrove species, which often do not reach the same height as other tree species and occupy contiguous areas and their functioning as a forest is independent of tree height.	The land in the Project area has qualified as a forest for at least 10 years.
If land within the project area is peatland or tidal wetlands and emissions from the SOC pool are deemed significant, the relevant WRC modules (see Table 3) must be applied alongside other relevant modules.	The land within the Project is classified as tidal wetland and the relevant WRC modules are applied.
Baseline deforestation and forest degradation in the project area fall within one or more of the following categories: Unplanned deforestation (VCS category AUDD); Planned deforestation/degradation (VCS category APD); Degradation through extraction of wood for fuel (fuelwood and charcoal production) (VCS category AUDD)	The Project is classified as Unplanned deforestation (VCS category AUDD)
Leakage avoidance activities must not include Agricultural lands that are flooded to increase production (e.g., rice paddy); Intensifying livestock production through use of feed-lots and/or manure lagoons	The Project does not include this type of leakage avoidance activities

For Avoiding Unplanned Deforestation (AUD)

AUD activities are applicable under the following conditions:

Applicability condition	Project compliance
Baseline agents of deforestation must: (i) clear the land for tree harvesting, settlements, crop production (agriculturalist) or ranching or aquaculture, where such clearing for crop production or ranching or aquaculture does not amount to large scale industrial agriculture or aquaculture activities; (ii) have no documented and	The Project's baseline agents of deforestation: (i) clear the land for tree harvesting, settlements, crop production, ranching or aquaculture, being that these

Applicability condition	Project compliance
uncontested legal right to deforest the land for these purposes; and (iii) be either residents in the reference region for deforestation or immigrants. Under any other condition this methodology must not be used.	activities are not large-scale industrial ones. (ii) have no documented and uncontested legal right to deforest the land for these purposes. (iii) residents in the reference region for deforestation or immigrants.
If, in the baseline scenario of avoiding unplanned deforestation project activities, post deforestation land use constitutes reforestation, this methodology may not be used	In the baseline scenario, post deforestation land does not constitute restoration use.

For all Wetlands Restoration and Conservation (WRC)

WRC activities are not applicable under the following conditions:

Applicability condition	Project compliance
Project activities lower the water table, unless the project converts open water to tidal wetlands, or improves the hydrological connection to impounded waters.	The Project activity will be above the water table
Changes in hydrology do not result in the accumulation or maintenance of SOC stock, noting that a) this pertains to projects that intend to sequester carbon through sedimentation and/or vegetation development and b) this does not pertain to projects that increase salinity to reduce CH ₄ emissions. Projects that aim to decrease CH ₄ emissions through increased salinity must account for any changes in SOC stocks.	There will be no changes in hydrology
Hydrological connectivity of the project area with adjacent areas leads to a significant increase in GHG emissions outside the project area.	The Project will not lead to the increase of GHG emissions outside its area.
Project activities include the burning of organic soil.	The Project will not burn organic soil
Nitrogen fertilizer(s), such as chemical fertilizer or manure, are applied in the project area during the project crediting period.	The Project will not apply nitrogen fertilizer during the crediting period.

For all Conservation of Intact Wetland (CIW)

CIW activities are applicable under the following conditions:

Applicability condition	Project compliance
Project activities conserving tidal wetlands may include: (i) Protecting at-risk wetlands (e.g., establishing conservation easements, establishing community supported management agreements, establishing protective government regulations, and preventing disruption of water and/ or sediment supply to wetland areas)	The project is mainly focused in protecting at-risk wetlands (i), but other activities may also be implemented.

Applicability condition	Project compliance
(ii) Improving water management on drained wetlands (iii) Maintaining or improving water quality for seagrass meadows (iv) Recharging sediment to avoid drowning of coastal wetlands (v) Creating accommodation space for wetlands migrating with sea-level rise	

For Avoiding Unplanned Wetland Degradation (AUWD)

AUWD activities are applicable under the following conditions:

Applicability condition	Project compliance
Baseline agents of wetland degradation (i) cause an alteration in the hydrology of the project area (involving drainage, interrupted sediment supply, or both) and/or a loss of soil organic carbon; (ii) have no documented and uncontested legal right to degrade the wetland; and (iii) are either residents in the reference region for wetland degradation or immigrants. Under any other condition, this methodology must not be used.	The Project's baseline agents of deforestation: (i) clear the land for tree harvesting, settlements, crop production, ranching or aquaculture, being that these activities are not large-scale industrial ones. (ii) have no documented and uncontested legal right to deforest the land for these purposes. (iii) residents in the reference region for deforestation or immigrants.

3.3 Project Boundary

The geographic grouped project boundary includes 175,880 ha. Currently, there are nine project activity instances in this PD version, totalling 34,129 ha, as described in 1.12. In the future, more project activity instances will be added to this grouped project.

Sources of GHG emissions included or excluded from the limits of the REDD project.

Source	Gas	Included?	Justification/Explanation
Baseline	Biomass burning	CO ₂	Included
		CH ₄	Excluded
		N ₂ O	Excluded
		CO ₂	Excluded
			The project does not consider biomass burning under the baseline scenario. However, if emissions existed, decreases in carbon stocks due to burning would be counted as a change in carbon stocks due to unplanned deforestation. Omitted to be conservative Omitted to be conservative

Source		Gas	Included?	Justification/Explanation
	Burning of fossil fuels	CH ₄	Excluded	According to the methodology, the potential emissions are negligible.
		N ₂ O	Excluded	
	Use of fertilizers	CO ₂	Excluded	According to the methodology, the potential emissions are negligible.
		CH ₄	Excluded	
		N ₂ O	Excluded	Omitted to be conservative
Project scenario	Biomass burning	CO ₂	Included	The project does not consider biomass burning under the baseline scenario. However, if emissions existed, decreases in carbon stocks due to burning would be counted as a change in carbon stocks due to unplanned deforestation.
		CH ₄	Excluded	No fires at the project site
		N ₂ O	Excluded	
	Burning of fossil fuels	CO ₂	Excluded	The project did not consider the burning of fossil fuels under the baseline scenario.
		CH ₄	Excluded	According to the methodology, the potential emissions are negligible.
		N ₂ O	Excluded	
	Use of fertilizers	CO ₂	Excluded	
		CH ₄	Excluded	
		N ₂ O	Excluded	The project did not consider the use of fertilizers under the baseline scenario or as a mechanism to prevent leakage, so it was not considered under the project scenario.

Sources of GHG emissions included or excluded from project boundaries for WRC activities.

Source		Gas	Included?	Justification/Explanation
Baseline	Oxidation by drainage	CO ₂	Excluded	Not applicable. There are no soils classified as peatlands in the project area and reference region
		CH ₄	Excluded	

Source		Gas	Included?	Justification/Explanation
	of peatland	N ₂ O	Excluded	
	Emissions from the mineral soil of the coastal wetland	CO ₂	Included	Considered under selected carbon stocks
		CH ₄	Excluded	Its contribution to the sum of GHG emissions in the project scenario was less than 5%.
		N ₂ O	Excluded	Its contribution to the sum of GHG emissions in the project scenario was less than 5%.
	Burning of peat or biomass	CO ₂	Excluded	The project does not consider burning soil or biomass under the baseline scenario.
		CH ₄	Excluded	
		N ₂ O	Excluded	
	Burning of fossil fuels	CO ₂	Excluded	Omitted to be conservative
		CH ₄	Excluded	
		N ₂ O	Excluded	
Project scenario	Oxidation by drainage of peatland	CO ₂	Excluded	Not applicable. There are no soils classified as peatlands in the project area and reference region No fires at the project site
		CH ₄	Excluded	
		N ₂ O	Excluded	
	Emissions from the mineral soil of the coastal wetland	CO ₂	Included	Considered under selected carbon stocks
		CH ₄	Excluded	Its contribution to the sum of GHG emissions in the project scenario was less than 5%.
		N ₂ O	Excluded	Its contribution to the sum of GHG emissions in the project scenario was less than 5%.
	Burning of peat or biomass	CO ₂	Excluded	The project did not consider burning of soil or biomass under the baseline scenario, so it was not considered under the project scenario either.
		CH ₄	Excluded	
		N ₂ O	Excluded	
		CO ₂	Excluded	According to the methodology, potential emissions are negligible in CIW activities.

Source		Gas	Included?	Justification/Explanation
	Burning of fossil fuels	CH ₄	Excluded	
		N ₂ O	Excluded	

The time limits are expressed in the crediting period.

Deforestation rates were calculated based on a 10-year time frame.

The project activities instances will be implemented over the grouped project area, 175,880 ha, as described in 1.12.

3.4 Baseline Scenario

The baseline scenario establishes the likely trajectory of land use and land use change within the project area over the next 10-40 years if no project were implemented in the region.

The principal drivers of observed deforestation in mangrove areas within Nayarit are primarily the hydrological modifications, sedimentation changes in the mangrove, modification of the water quality in the lagoons, shrimp farming, livestock and agriculture, and the loss of resilience due to the effect of storms and hurricanes.

To identify the baseline scenario for REDD+ projects focused on conserving existing mangrove forests, project-specific deforestation rates were established within appropriate reference regions, obtained through preliminary studies made by the project developer. The baseline scenario for a REDD+ project represents a continuation of the historical deforestation or degradation within the reference area and applies those rates to a corresponding project area. The baseline scenario for REDD+ project areas was sourced from data demonstrating the conversion of native mangrove areas to non-forest areas using maps from the National Commission for the Knowledge and Use of Biodiversity (CONABIO for its acronym in Spanish)²⁰. Baseline emissions were calculated with the estimated baseline deforestation rates and emissions factors.

The baseline scenario is justified using the Module VMD0007: “Estimation of baseline carbon stock changes and greenhouse gas emissions from unplanned deforestation and unplanned wetland degradation (BL-UP)”

²⁰ CONABIO (2022) Sistema Nacional de Información sobre Biodiversidad. *Portal de Geoinformación 2022*. <http://www.conabio.gob.mx/informacion/gis/>

The methodology is divided into four parts:

Part 1 Definition of Boundaries

Part 2 Estimation of Annual Areas of Unplanned Deforestation

Part 3 Location and Quantification of Threat of Unplanned Deforestation

Part 4 Estimation of Carbon Stock Changes and Greenhouse Gas Emissions

Each one of this part will be assessed as the PDD is developed into its final version.

3.5 Additionality

The VMD0052 Demonstration of additionality of WRC projects (ADD-AM) module was used to demonstrate additionality of project activity. According to this module, for a project to be additional it must meet the criteria set by the module's applicability conditions.

Below, the procedures indicated by the module to be used to assess the Project's additionality:

Step 1: Regulatory surplus

"The project proponent must demonstrate regulatory surplus in accordance with the rules and requirements regarding regulatory surplus set out in the latest version of the VCS Standard."

Step 2: Positive list

"The applicability conditions of this module represent the positive list. The project must demonstrate that it meets all the applicability conditions, and in so doing, it is deemed as complying with the positive list."

The positive list was established using the activity penetration option (Option A in the VCS Standard). **Projects which meet the applicability conditions are deemed additional.**

Justification for the activity method is provided in Appendix A."

Applicability conditions

"This module is applicable to tidal wetland restoration and conservation project activities as defined below."

Project activities conserving tidal wetlands may include:

- Protecting at-risk wetlands (e.g., establishing conservation easements, establishing community supported management agreements, establishing protective government regulations, and preventing disruption of water and/ or sediment supply to wetland areas).
- Improving water management on drained wetlands.
- Maintaining or improving water quality for seagrass meadows.
- Recharging sediment to avoid drowning of coastal wetlands.
- Creating accommodation space for wetlands migrating with sea-level rise.”

Additionality analysis:

The Project conservation activities include:

- Protecting at-risk wetlands (e.g., establishing conservation easements, establishing community supported management agreements, establishing protective government regulations, and preventing disruption of water and/ or sediment supply to wetland areas).
- Improving water management on drained wetlands.
- Maintaining or improving water quality for seagrass meadows.
- Recharging sediment to avoid drowning of coastal wetlands.
- Creating accommodation space for wetlands migrating with sea-level rise.”

Therefore, by the module VMD0052, the Project is deemed additional.

Furthermore, along with assessing the Project’s additionality with VMD0052, this analysis will also apply VT0001, the Tool for demonstration and assessment of additionality in VCS agriculture, forestry, and other land use (AFOLU) project activities, in order to investigate the Project’s additionality.

The complete procedures, assessments and results will be presented in the final PD version.

3.6 Methodology Deviations

[To be completed in future PDD revisions]

4 QUANTIFICATION OF GHG EMISSION REDUCTIONS AND REMOVALS

4.1 Baseline Emissions

[To be completed in future PDD revisions].

4.2 Project Emissions

[To be completed in future PDD revisions].

4.3 Leakage

[To be completed in future PDD revisions].

4.4 Net GHG Emission Reductions and Removals

[To be completed in future PDD revisions].

Year	Estimated baseline emissions or removals (tCO ₂ e)	Estimated project emissions or removals (tCO ₂ e)	Estimated leakage emissions (tCO ₂ e)	Estimated net GHG emission reductions or removals (tCO ₂ e)
Year A				
Year B				
Year C				
Year...				
Total				

5 MONITORING

5.1 Data and Parameters Available at Validation

[To be completed in future PDD revisions].

Data / Parameter	
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Data unit	Indicate the unit of measure
Description	Provide a brief description of the data/parameter
Source of data	<i>Indicate the source(s) of data</i>
Value applied	<i>Provide the value applied</i>
Justification of choice of data or description of measurement methods and procedures applied	<i>Justify the choice of data source, providing references where applicable. Where values are based on measurement, include a description of the measurement methods and procedures applied (e.g., what standards or protocols have been followed), indicate the responsible person/entity that undertook the measurement, the date of the measurement and the measurement results. More detailed information may be provided in an appendix.</i>
Purpose of Data	<i>Indicate one of the following:</i> <i>Determination of baseline scenario (AFOLU projects only)</i> <i>Calculation of baseline emissions</i> <i>Calculation of project emissions</i> <i>Calculation of leakage</i>
Comments	<i>Provide any additional comments</i>

5.2 Data and Parameters Monitored

[To be completed in future PDD revisions].

Data / Parameter	
Data unit	<i>Indicate the unit of measure</i>
Description	<i>Provide a brief description of the data/parameter</i>
Source of data	<i>Indicate the source(s) of data</i>
Description of measurement methods and procedures to be applied	<i>Specify the measurement methods and procedures, any standards or protocols to be followed, and the person/entity responsible for the measurement. Include any relevant information regarding the accuracy of the measurements (e.g., accuracy associated with meter equipment or laboratory tests).</i>
Frequency of monitoring/recording	<i>Specify measurement and recording frequency</i>

Value applied	<i>Provide an estimated value for the data/parameter</i>
Monitoring equipment	<i>Identify equipment used to monitor the data/parameter including type, accuracy class, and serial number of equipment, as appropriate.</i>
QA/QC procedures to be applied	<i>Describe the quality assurance and quality control (QA/QC) procedures to be applied, including the calibration procedures where applicable.</i>
Purpose of data	<i>Indicate one of the following:</i> <i>Calculation of baseline emissions</i> <i>Calculation of project emissions</i> <i>Calculation of leakage</i>
Calculation method	<i>Where relevant, provide the calculation method, including any equations, used to establish the data/parameter.</i>
Comments	<i>Provide any additional comments</i>

5.3 Monitoring Plan

[To be completed in future PDD revisions].