PV NATURE

PROJECT IDEA NOTE

Biocultural conservation and restoration in the Infiernillo Channel in Comcaac Indigenous Territory- protecting and restoring mangroves, seagrass beds and fisheries in the Gulf of California Sonora, Mexico

Version 1.3
04.08.2025

Developed by:

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Borderlands Restoration Network

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Borderlands Restoration Network (BRN) is a US non-profit organisation located along the Arizona-Sonora Border. BRN partners with local communities to build restorative economies by building healthy ecosystems, restoring habitat for plants and wildlife and reconnecting our border communities to the land through shared learning. Our committed staff engages in regional, bi-national watershed restoration, native plant materials cultivation for habitat restoration, and in multi-cultural education and outreach to train the next generation of land stewards. With over a $2 million USD budget, BRN has a ten year track record of funding from private donations, grants, contracts/ earned income thanks to our committed board, competent and effective finance, and development and program staff who work together to assure funding for all of our programs.

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Overview

Project Title:	Comcaac (Seri) Biocultural Restoration and Conservation of mangroves seagrass and fisheries and sustainable livelihoods in the Infiernillo Channel in the Gulf of California Sonora, Mexico ("Comcaac Biocultural Project")
Location:	México, Hermosillo, Sonora. Sitio Ramsar Canal del Infiernillo. Gulf of California Region.
Project Description:	This project promotes biocultural diversity, climate change mitigation and fosters sustainable livelihoods in the Infiernillo Channel in Comcaac Indigenous Territory through conservation and restoration of mangroves and seagrasses and improved fisheries management. This community-led initiative will conserve and restore 850 hectares (ha) of three species of mangroves, *Avicennia germinans, Laguncularia racemosa and Rhizophora mangle* and 7,000 ha of seagrass beds primarily *Zostera marina* var *a tam* that provides critical habitat for five endangered sea turtles, *Eretmochelys imbricata, Caretta caretta*, *Dermochelys coriaceai, Lepidochelys olivacea* and *Chelonia mydas agassizi*; a migratory waterfowl, the Brandt goose (*Branta bernicla*), the endangered shorebird, western snowy plover (*Charadrius nivosus nivosus*) and commercially important blue crab (*Callinectes bellicosus*) and penshell species (*Atrina maura* and *Atrina tuberculosa*) a declining high value scallop. Community leaders of the project are expert elders and young conservation leaders of the tribe that remember their history, stories, and traditional ecological knowledge derived from their roughly 2,000 year heritage in the region. The Channel hosts the largest concentration of marine grasses and mangroves in the Eastern Pacific, and 81 endemic invertebrate species. Unregulated fishing and tourism; habitat degradation; and poverty threaten the cultural-ecological integrity of this coastal ecosystem.
Project Area:	The Infiernillo Channel area is approximately 30,000 hectares between Tiburon Island and the Sonora coast in northwestern Mexico. The project area consists of 30,000 ha, which includes 850 ha of mangrove and 7,000 hectares of eelgrass *Zostera marina* habitat. However, this project will only cover the mangrove and seagrass area (7,850 ha) initially. Over the next 5 years, we will expand the mangrove habitat by 100 ha. Fisheries conservation efforts will protect an additional 3,344.9 ha of fishing grounds that include 2,623 ha of pen scallop beds (Community Ejido data 2010).
Project Coordinator:	Borderlands Restoration Network, 320-B School Street Patagonia, PO Box 121 85624 Arizona USA https://www.borderlandsrestoration.org/

	● Dr. Laura Monti lmonti@borderlandsrestoration.org 520-6782381
Project Participants:	● Erika Barnett Diaz, Comcaac community leader on mangrove conservation, restoration and community environmental education ● Gabriela Suarez M.S Doctoral candidate. Technical, scientific and mapping consultant. Mangrove conservation and restoration team of 20 Indigenous participants including women, young conservation leaders and students. ● Community fishers and collectors. ● Comcaac Tribal authorities: ● Tribal Traditional Governor Jesus Felíx Segovia, oversees external projects. ● Alberto Mellado Lic. in fisheries management.President of the tribal Ejido- (Mexican land tenure unit). ● Romelia Barnett Regidora External Affairs Government Liaison The project will include approximately 350 households living in two villages, Punta Chueca and Desemboque.

Project Intervention(s):	1. Mangrove zones conservation / restoration. Young conservation leaders will propagate and plant at least 100 ha of three species of mangroves over a 5-year period (restoration). 2. Biocultural Diversity Conservation. Community engagement in protection of species and habitats of cultural and ecological importance: birds, pen shells and sea turtles within mangroves and seagrass beds. (conservation). 3. Seagrass beds and intertidal pen shell habitat conservation and recovery. Map and monitor seagrass bed area dynamics and intertidal scallop zones; monitor water quality and report results to the community and government authorities; pen shell recovery and conservation activities. 4. Sustainable fisheries management in the Infiernillo Channel zone. Assess the current state of Comcaac fisheries, documenting trends related to recent significant acquisition of 80 fishing boats and the influx of illegal fishers, including catch quotas/effort, compliance around traditional fishing zones. Strengthen sustainable fisheries through education, development of fishery protocols and vigilance patrols. 5. Capacity building for sustainable nature-based economy and livelihoods. Facilitate workshops and internships on: development of financial literacy and community protocols for culture-based eco-tourism, hunting, sport fishing, payments for ecosystem services/ biodiversity credits.
Expected Benefits	Through the sale of Plan Vivo Biodiversity Certificates (PVBCs), the following biodiversity and socioeconomic benefits are anticipated: 1. A biocultural conservation and restoration program for climate change mitigation and ongoing stewardship of mangrove and eelgrass ecosystems and biodiversity. The program will support ongoing community-led management and action resulting in restored and protected mangrove nursery grounds for sea life and marine species that also benefit tribal fisheries and livelihoods, sustained or increased carbon sequestration and other activities to mitigate the effects of climate change. 2. A health and education fund that includes: ● Access to modern medicine and herbalist healthcare for Comcaac families. ● A nature-based jobs training hub and scholarship fund for the development and management of sustainable livelihood options in the Comcaac Indigenous Territory directed towards young people, women, elder traditional knowledge keepers

	and other vulnerable groups. Scholarships will be provided for youth to increase their capacity for leadership, stewardship and management of their territory. ● Support for apprenticeships with community elders and field activities for intergenerational transmission of Indigenous language and history and worldview, traditional ecological knowledge, songs, stories and practices regarding biodiversity and sustainable use of the coastal and marine ecosystems. 3. An increase in nature-based livelihoods with financial knowledge and skills around a restorative, nature-based economy can set the stage for conservation and thriving culture and economic prosperity for generations to come. The Project will be planned and implemented by trained and experienced tribal members. This ensures best practices will be implemented that are in harmony with the tribal culture and that avoid any potential environmental impacts, or that compromise potential climate mitigation benefits.
Methodology Design:	We are seeking conservation of the flora and fauna of the area (Canal del Infiernillo and adjacent areas) and for restoration and enhancement of the mangrove zones where the mangroves are deteriorating.
PIN Version:	1.3
Date Approved:	20/08/2025

1 General Information

1.4 Project Rationale

The Comcaac or Seri territory spans an area of approximately 211,000 hectares (ha) (520,000 acres) of land located on both continental land as well as Tiburon Island within the Gulf of California (GOC), Mexico. The Comcaac primarily inhabit the villages of Punta Chueca and Desemboque, each located in a different municipality. Following the fishing cycles, the location of individuals and their families can vary between all fishing camps located along a 100 kilometer (km) (62 mile) coastline. The closest coastal towns are Libertad to the north and Bahia de Kino to the south. Both have commercial and artisanal fisheries. To the south lie large expanses of commercial aquaculture with severely degraded mangrove ecosystems, in contrast to those in Comcaac territory.

For more than 2,000 years, the Indigenous Comcaac people have been stewards of this region, using their extensive ecological traditional knowledge to maintain their culture, habitat, fisheries, plant foods, medicines, and livelihoods. They speak *Cmique iitom* an endemic language unrelated to any of the other Native communities in the region. Their sophisticated traditional ecological knowledge of the region is unparalleled (Felger & Moser, 1985). A comparison of *Zostera marina* meadows in the GOC conducted in 2016 found that eelgrass has survived to a greater extent in Comcaac territory (9,725 ha) by three orders of magnitude than other wetlands in the Gulf such as in Bahia de

Concepcion (BCP) on the Baja California coast (3 ha). The striking difference between these wetlands is the lack of environmental protection for BCP and the protection of the Canal by the Comcaac Indigenous community (Lopez-Calderon *et al.,* 2016).

The Project area of the *Infiernillo Channel* (IC) covers approximately 30,000 ha (~235 acres) between the Mexican mainland and Isla Tiburon, the largest island in the mid-GOC. The climate in the zone is categorized as dry arid desert, with an evaporation rate that exceeds the annual summer rain of 10.2 millimeter (mm) and winter rain < 36 mm (García, 2004). Since it is protected by mountains on both sides and the shallow depth of the marine waters and lagoons it is an optimal site as a refuge for fauna during adverse climate conditions such as extreme heat, lack of fresh water, hurricanes and tropical storms. Within it, there are 850 ha of mangroves, located in nine estuaries and 7,000 ha of the eelgrass *Zostera marina* var *atam.* These ecosystems play a unique ecological role as a nursery grounds and natural marine sanctuary on the entire Sonoran coast of Mexico and within the territory of the Indigenous Comcaac (Seri) people.

The IC plays a key role as a reservoir of biodiversity for the entire GOC. This ecotone between desert and deep seas is characterised by extensive seagrass beds, protected mangrove estuaries, seasonally flowing watercourses, freshwater upwellings rich in nutrients in the shallows, and small patches of rocky reefs. The seagrass beds located at their southernmost limits are the largest concentration of annual marine grasses in the Eastern Pacific and form 96% of all left in the entire Gulf (Backman, 1991). The hypersaline mangrove lagoons with *Avicennia germinans, Laguncularia racemosa and Rhizophora mangle* are located at the northern limits of their distribution in the Western Hemisphere and act as nurseries for shellfish and finfish. Their economic return to regional fisheries is valued at more than $30,000 USD/ha in fishermen's income per year (Aburto-Oropeza *et al*., 2008).

Extensive clam and oyster beds along the coastline are an important source of food. The site is also habitat of 81 endemic invertebrate species to the GOC and several threatened species, such as mangroves, totoaba (*Totoaba macdonaldi*), marine turtles (*Eretmochelys imbricata, Caretta caretta*, *Dermochelys coriaceai, Lepidochelys olivacea* and *Chelonia mydas agassizi)* and Brent Goose (*Branta bernicla*; Ramsar, 2009; Prescott College A.C,. 2022). A dramatic decline in eelgrass populations in this arid region has occurred over the last half-century, particularly on the Baja California and Sinaloa coasts of the Gulf.

The CI is also habitat to the most abundant beds of the two most commercially important penshell species in northwest Mexico: *Atrina tuberculosa* and *Pinna rugosa*, and Blue Crab (*Callinectes bellicosus*) that have been overfished within the IC and in neighboring fishing areas. These species play an important role in Comcaac commercial fisheries in the CI (Basurto, 2008; Torre Cosio J., 2002). In the last two decades, the crab and scallop fisheries within these areas are estimated to have declined by 80% with daily catch dropping from around 100 kilogram (kg) / boat to 20-50 kg / boat. This is primarily due to overfishing, including sport fishing, a lack of regulation enforcement, contamination from crab traps, trash, and other pollutants. Particularly damaging are the discarded crab traps that create a circle of denuded seabed within the seagrass meadow habitat, according to our community consultation (Mellado, pers. comm,2024; Prescott College A.C., 2022). Areas of mangroves are dying and receding due to sea level rise or ocean warming, according to community leaders. Our recent water quality studies in the area are within the normal range. In the larger fishing camps and estuaries

there are deforested areas of black and white mangroves (Barnett Diaz pers. comm,2024). Sea level rise, coastal erosion, changes in the precipitation regime and temperature increases in the IC will not only influence coastal ecosystem function and carbon storage capacity but will aggravate these threats to the Comcaac fishing community.

The Comcaac Biocultural Project as a PV Nature project could reverse these trends and provide protective measures to restore the relatively well-conserved area while generating sustainable livelihoods.

1.1.1 Conservation Projects Justification*

The project area lies within the globally important marine and terrestrial environment Key Biodiversity Area (KBA) site ID 10226, which encompasses Isla Tiburón, the Canal del Infiernillo, and Estero Santa Cruz—a region that stands out for its ecological value, cultural significance, and natural beauty. This area serves as a critical refuge for a multitude of species, some of which are found nowhere else on Earth, making its conservation a matter of both regional and global importance.

Factsheet: https: //www.keybiodiversityareas.org/site/factsheet/10226

Site Name: Isla Tiburon - Canal del Infiernillo - Estero Santa Cruz

Site ID: 10226

Site Status: Confirmed

Year of last assessment: 2018

Global KBA Criteria: A1e (Effectively the entire population size of a CR/EN species)

System: marine, terrestrial

Largest Ecosystem: Marine

Elevation (m): 0 to 1219

Area of KBA (km^2): 2228.991152

Protected area coverage (%): 68.53

KBA classification: Global

Legacy site: Yes

Rationale for qualifying as KBA: This site qualifies as a Key Biodiversity Area of international significance that meets the thresholds for at least one criterion described in the Global Standard for the Identification of KBAs. Alliance for Zero Extinction (2018): site confirmed as an AZE site during the AZE project (2015-2018). Taxonomy, nomenclature and Red List category follow the IUCN 2016 Red List.

Delineation rationale: 2020-08-25 (BL Secretariat): the 2005 AZE sites of Isla San Esteban and Isla Turner lie within this IBA.

IUCN Habitat: Forest (1%), Marine Neritic (41%), Shrubland (58%)

As evidenced above, the project area is a confirmed KBA site (last assessed in 2018). https://www.keybiodiversityareas.org/site/factsheet/10226

Important Plant Area Criteria:

Criteria B Botanical Richness (iii) Site contains an exceptional number of socially, economically or culturally valuable species

The Channel has by far the largest concentrations of seagrasses in the Eastern Pacific Ramsar Sites Information Service, 2009. https://rsis.ramsar.org/ris/1891, and in the GOC and the endemic annual variety of eelgrass *Zostera marina* var *atam*. A comparison of *Zostera marina* meadows in the GOC conducted in 2016 found that eelgrass has survived to a greater extent in Comcaac territory (9,725 ha) by three orders of magnitude than other wetlands in the Gulf such as in Bahia de Concepcion (BCP) on the Baja California coast (3 ha). The striking difference between these wetlands is the lack of environmental protection for BCP and the protection of the Canal by the Comcaac Indigenous community (Lopez-Calderon *et al.,* 2016).

The eelgrass seed is an important food source for humans as well as sea turtles. The plant features prominently in the Comcaac origin stories. Many commercially important fish and invertebrates depend on the seagrass and mangrove habitats. Mangrove zones are located at their northernmost limits. Red mangrove (*Rhizophora mangle*), black mangrove (*Avicennia germinans*), and white mangrove (*Laguncularia racemosa*) provide habitat and nursery sites for several species listed by the IUCN Red List of Threatened Species and many cultural, economic and ecologically important species.

Criteria A Threatened Species (ii,iii) Site contains one or more regionally threatened species Site contains one or more range restricted endemic species that are potentially threatened

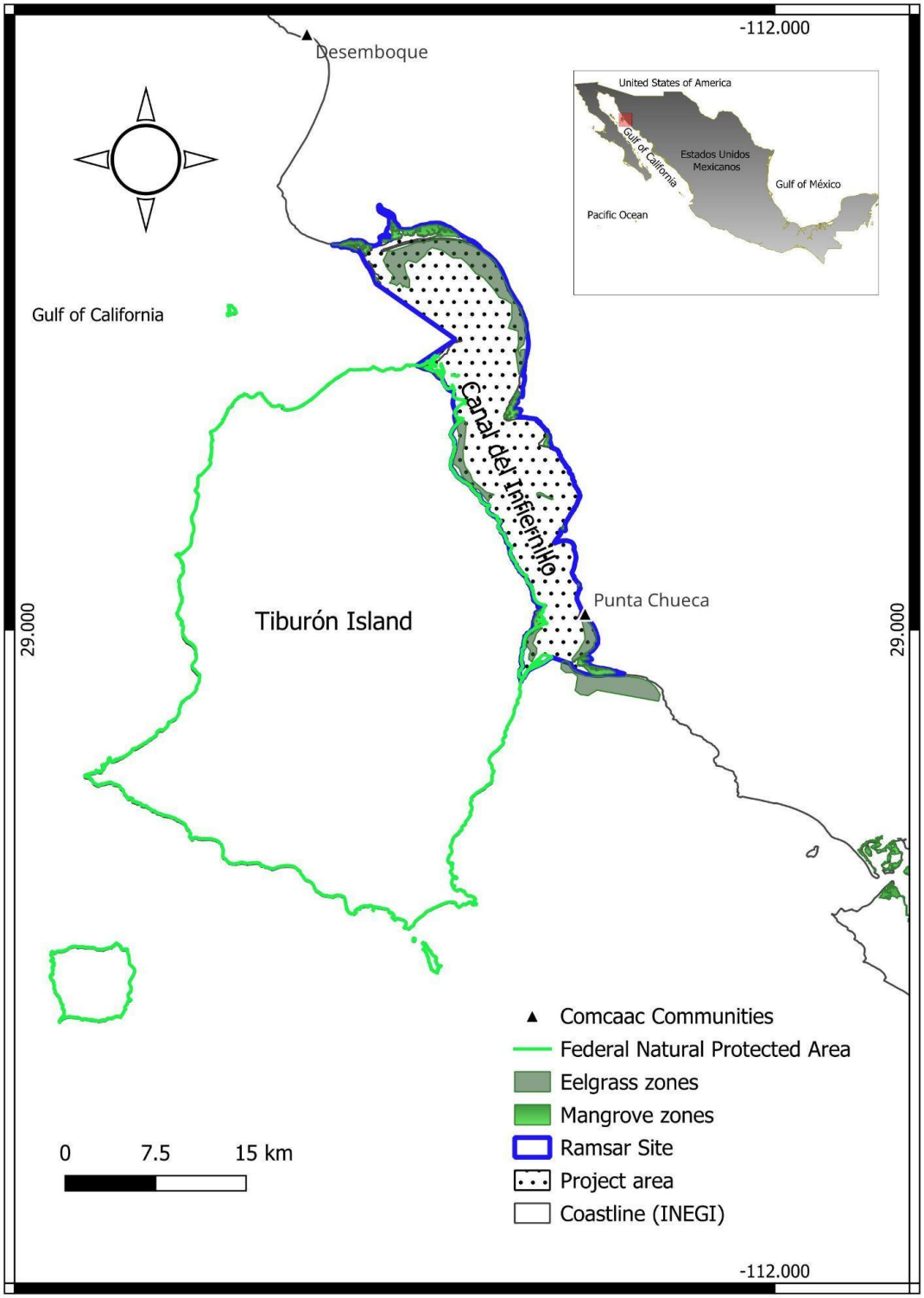
The endemic desert ironwood (*Olneya tesota*) occurs in the vegetation zones along the Channel. It is a biocultural keystone species that modifies the structure and function of Sonoran Desert ecosystems. Due to overexploitation, it is protected under Mexican law (NOM-059-SEMARNAT-2010) and is listed as Near Threatened under IUCN Red List criteria A2d. Its shade protects over 200 species across taxonomic groups from the extreme heat and cold that characterize the CI coastal desert. The ironwood is also a species of social, economic ally, and cultural importance in Comcaac culture (Felger and Moser, 1985; Suzan, 1997; Burquez *et al.,* 1999).

1.2 Project Interventions

Intervention Type	**Project Intervention**	**Expected Benefits**
Restoration	1. Mangrove zones conservation / restoration Propagation of mangrove seedlings in nursery facilities and transplanting of 1 year old seedlings to 25-30 ha annually, targeting degraded and threatened areas and reinforcing healthy fringe areas.	- Restoring of critical habitats for plants, wildlife, migratory, and nesting birds. - Climate change mitigation through carbon sequestration, and promotion of ecosystem services of mangroves. - Youth engagement in conservation jobs for long term protection of mangrove ecosystems.
Protection	2. Biocultural Diversity Conservation - Community engagement through monitoring indicator species of cultural and ecological importance: birds, pen shells and sea turtles. In addition to species monitoring fieldwork, we will facilitate participatory research, workshops, experiential learning, training and knowledge exchanges between elders, young people, and conservation scientists.	- Biocultural conservation of endangered species and greater understanding of the biodiversity associated with the mangrove zones. - Increased intergenerational transmission of Indigenous language and history, traditional ecological knowledge, songs, stories, and practices regarding biodiversity and sustainable use of the coastal and marine ecosystems and worldview.
Protection	3. Seagrass beds and intertidal pen shell habitat conservation and recovery. Map and monitor seagrass bed area dynamics and intertidal scallop zones; Detection of environmental changes through measures of water quality, column height, temperature, and light.	- Conservation, community engagement in the protection of seagrass, a critical habitat for endangered, migratory, and commercial species. To address potential water contamination from the local water desalination plant or from human waste monitoring results and trends will be reported to the

	Monitor pen shell recovery and conservation activities (penshell reseeding; crab trap removal program; increased wildlife patrolling).	community and to municipal authorities. - Improvement to ecological conditions which increases biodiversity and resilience
Improved Management	4. Sustainable fisheries in the IC zone. Assess the current state of Comcaac fisheries, documenting trends related to the recent significant acquisition of 80 fishing boats and the influx of illegal fishers, including catch quotas / effort and compliance around traditional fishing zones. Strengthen sustainable fisheries through education, development of community protocols around fishery best practices community protocols- including practices and procedures in relation to their traditional knowledge, territory; increase regular vigilance patrols.	- Baseline fisheries trend information informs community protocols and decision making towards more sustainable fisheries. - Improved production, avoidance of destructive fishing practices leading to long term sustainable fisheries. - Protection into the future of ecosystem fishery nursery grounds that support local and regional fisheries economies based on community protocols.
Protection	5.Capacity building for sustainable nature-based economy and livelihoods. Develop Biocultural Community Protocols (BCPs) applied to: a) culture based fisheries, and initial assessments for ecotourism, sport fishing and other community determined priorities. b) economic development /financial literacy including payments for ecosystem services / biodiversity credits.	Nature based community livelihoods driven by BCPs BCP's articulate community stewardship, asserting rights and affirming responsibilities for sustainable livelihoods. Actions identified driven by community determined values, priorities and procedures with sustainable management. (Shrumm 2012; naturaljustice.org)

1.4 Project Boundaries and Area



Project area Ramsar site_Canal del Infiernillo

Manglar_INEGI_Canal del Infiernillo

Satellite seagrass_Canal del Infiernillo

Table 3 Project Boundaries

Location:	México, Sonora.
Geographic Coordinates:	29° 20.765'N and 112° 24.829'0; 29° 20.411'N and 112° 13.598'0; 28° 56.801'N and 112° 13.011'0; 28° 57.751'N and 112° 7.676'0.
Project Region(s):	The project area covers part of the ecoregions: Gulf of California (Golfo de California) ha 160, 00000 ha; and the Sonoran Desert (Desierto de Sonora) 260,000,00 ha.
Project Area(s):	7,850 ha
Protected Areas:	The project area is adjacent to Tiburon Island a natural protected area designated by the Mexican government agency Comision Nacional de Áreas Protegidas (CONANP) that forms part of the Alto Golfo de California and Delta del Río Colorado Biosphere Reserve, recognized as a UNESCO World Heritage site. The project area includes the Ramsar Site 1891: *Canal del Infiernillo y esteros del territorio Comcaac (Xepe Coosot*).

1.4 Land and Management Rights

Hant Comcaac, or the Comcaac tribal territory, is located on the GOC and is comprised by a portion of the central coast of Sonora, Tiburon Island (largest island in Mexico), and a large marine extension of sea and coast where the Comcaac tribal members are the legal owners of the mainland and the island, and also have exclusive fishing rights on the marine portion due to two presidential decrees. Mainland legal ownership was granted by presidential decree published on November 28, 1970 and Tiburon island also by a second presidential decree published by the Mexican Government on February 11, 1975. After a large and complicated social struggle to restore the property to the tribe, nowadays the Comcaac Indigenous nation is the legal owner of over 90,000 ha on the mainland and 120,000 ha on Tiburon Island.

The tribal territory now consists of a total of 210,000 ha for half a century, and also for millennia.

The mainland coast and Infiernillo Channel are the most important areas under tribal controlled access, enforced and protected by tribal members and authorities.

2 Stakeholder Engagement

2.1 Stakeholder Identification

Local and Primary Stakeholders

The Comcaac Indigenous Nation, also known as Seri people from Sonora, Mexico, is comprised of about 1,200 community members residing in two villages and various fishing camps in the project area. Diverse groups within the Comcaac community will be affected by the project, including the following below.

Ejidatarios are Comcaac tribal members who have legal rights and ownership over the mainland coastal areas where mangrove, seagrass and estuaries are located. Comuneros include Comcaac tribal members with legal rights and ownership over Tiburon Island, where mangroves, seagrass and some estuaries are also located.

Comcaac fishing cooperatives have exclusive rights to tribal fishing grounds. As such, they rely on healthy mangrove and seagrass habitats for commercial species such as fish, scallops, and crabs. They are key players in fisheries regulations and governance.

Comcaac women play leadership roles in conservation and restoration initiatives. They are important influencers within the community. They have an intimate understanding of the tides, seasonality of the biodiversity in the project area. As artisans they gather a wide diversity of shells and other coastal natural resources throughout the year for craft making and to sell to tourists. Some own and manage fishing operations, and others are fishers themselves.

The Elder Comcaac are those who preserve and transmit intergenerational millenary native language, knowledge, history and cultural values related to the Comcaac universe and territory. They are a central influence on the biocultural learning of young Comcaac native students participating in the project goals and activities.

The younger generation of the Comcaac community are an important sector that will benefit from this project. Their participation in stewardship of their territory is central to the goals of the project by fostering conservation awareness and strengthening values, skills for governance and management into the future. As leaders and participants in conserving, protecting, and restoring the nature and biodiversity in their territory they gain a sense of belonging, acquiring traditional knowledge and cultural values. They will benefit from capacity-building processes that will be critical for environmental conservation of the territory where mangroves, seagrasses and all the diversity of life occurs.

Outside fishers (commercial and sport fishing) from Kino Bay, an adjacent local community, fish illegally in Seri marine territory using either their own boats or by becoming a member of Comcaac crews. Their relationship with the tribe has been both contentious and amicable over the years. As primary and secondary stakeholders, they have a direct interest and will be influenced by the project.

Secondary Stakeholders

National Commission of Protected Natural Areas (CONANP) Dirección Regional Noroeste y Alto Golfo de California. Institution of the Mexican government responsible for the conservation and management of the country's Protected Natural Areas (ANP). Tiburon Island is a protected area in the project area. CONANP is the federal agency that oversees the Ramsar designation status of the project area. Their collaboration with the Comcaac Nation includes conservation jobs and training in multiple areas related to Tiburon Island

Comisión Nacional de Pesca (CONAPESCA, Sonora). This government institution is responsible for promoting and developing coordination mechanisms with different entities to implement policies, programs, and regulations that lead to and facilitate the competitive and sustainable development of the country's fishing industry.

SEMARNAT Ministry of Environment and Natural Resources (SEMARNAT). The Government Institution of Mexico is responsible for the protection and conservation of the environment and natural resources.

Comunidad y Biodiversidad A.C. is a regional organisation that works with local communities, including the Comcaac Nation in capacity-building for protecting fisheries and other protected marine areas.

Prescott College Kino Bay Center for Cultural and Ecological Studies A.C.A BC is a binational organisation that fosters community engagement in the protection of the coastal resources. They facilitate biocultural conservation programs with Comcaac youth and collaborate with Borderlands Restoration Network on sea turtle conservation, bird monitoring and other activities in the project area.

Grupo Tortuguero de las Californias conduct sea turtle monitoring and complete data analysis in the project area.

Instituto Tecnologico de Sonora (ITSON), the University of Sonora has expertise in blue carbon sequestration, water quality and collaborates with Borderlands Restoration Network.

2.2 Project Coordination and Management

Borderlands Restoration Network (BRN), a US-based non-profit organization, will be responsible for the project. Located in Patagonia, Arizona, in the Arizona-Sonora United States (US)-Mexico border region, BRN works to rebuild healthy ecosystems by restoring watersheds and habitat and wildlife corridors while strengthening restorative economies with communities on both sides of the border. BRN manages contracts for restoration and conservation with government, tribal and non-profit organisations, private businesses, and individuals. BRN also collaborates with a wide network of individuals and institutions in Mexico and the US. Laura Monti, Ph.D. has over 20 years working with the Comcaac community, with credentials in cultural ecology and public health. She is a Senior Fellow with BRN and a Research Associate with the University of Arizona.

The Indigenous Comcaac Nation (CN) will partner with BRN to manage and coordinate this project with the community. Tribal community ecologists have over 25 years' experience in protecting a wide variety of species, combining traditional knowledge with western science and modern technology to protect their land and marine territory. Several of these members now hold administrative positions within the tribe, managing natural resources and coordinating relationships with external actors. Tribal ecologists have the ability to conduct long-term monitoring projects and have collaborated with government, tribal and non-profit organisations, private businesses and individuals.

Our in-country collaborators for project implementation include: Instituto Tecnologico de Obregon (ITSON) carbon sequestration analysis, water quality assessment); Prescott College Center for Cultural and Ecological Studies AC (leadership capacity development; Ramsar site data collection and species monitoring (birds and sea turtles); Comunidad y Biodiversidad A.C. (CoBi) fisheries management; analysis; leadership capacity development); Grupo Tortuguero de las Californias (sea turtle monitoring, data analysis).

Table 4 Responsibility for Project Coordination and Management Functions

Project Coordination and Management Function	**Responsible Party/Parties**
Stakeholder engagement during project development and implementation	BRN and CN
Ensuring conformance with the Plan Vivo Biodiversity Standard (PV Nature) and compliance with applicable policies, laws and regulations	BRN and CN
Developing technical specifications, land management plans and project agreements with project participants	BRN and CN
Ensuring that the PDD is updated with any changes to the project	BRN
Registration and recording of land management plans, project agreements, and sales agreements	BRN and CN
Managing project finances and dispersal of income to project participants as described by the benefit sharing mechanism	BRN and CN
Managing Plan Vivo Biodiversity Certificates in the Plan Vivo Registry	BRN
Preparing annual reports and coordinating validation and verification events	BRN
Securing certificate sales and other means of funding the project	BRN and CN
Assisting Project Participants to secure any legal or regulatory permissions required to carry out the project	BRN and CN
Providing technical assistance and capacity building required for project participants to implement project interventions	BRN, CoBi, ITSON, and Prescott College
Monitoring progress indicators, socioeconomic indicators and climate indicators and providing ongoing support to project participants	BRN, CN, ITSON
Measurement, reporting and verification of biodiversity benefits	BRN and CN

2.3 Project Participants

The project participants (Type I) are the CN also known as Seri Indigenous People from Sonora, Mexico, comprising about 1,200 community members residing in two villages Punta Chueca and Desemboque to the north, and in various fishing camps between that are within the project area. In addition to fishing, community members primarily engage in seasonal commercial hunting, craft making and sales, managing small food stores, eco-tourism and sportfishing. As well as government-supported employment in public works, schools, clinics and community dining centers, and seasonal small grants for cultural, economic and conservation projects.

2.4 Participatory Design

Participatory design based on the principle of active participation recognizes the crucial importance of Indigenous Peoples, traditional societies, and local communities to actively participate in all phases of the project and related activities from inception to completion, as well as in the ongoing application of research results. Multiple Indigenous experts will lead the different aspects of the project. Indigenous knowledge keepers and conservation leaders will design a biodiversity monitoring strategy. Indigenous conservation leaders will consult on designing the project's logic.

Participatory processes will expand upon those underway since 2020 as part of our coastal ecosystem protection projects and Ramsar site designation update processes. Small and large group discussions have been conducted with stakeholder groups of different sectors of the community, such as older adult men and women, youth, fishers, collectors (herbalists and craft artisans), and other users of the mangrove and seagrass ecosystems (Prescott A.C., UA 2023).

We will recruit representation and participation from among more vulnerable groups. Women and youth will be engaged to develop more ideas for relevant economic needs and interventions for the more disadvantaged groups. Women will be consulted regularly on how best to address their local needs and priorities. We will engage women fishers and day labourers, herbalists, tour guides and craft makers in individual and group discussions to assess their needs and priorities. Comcaac youth will be recruited and employed to implement the activities related to the interventions of this project. During training and apprenticeship opportunities, we will track capacity and the increase in skills amongst the group. We will track the benefits and impacts to these groups through participation and financial records and using skills assessment tools. Through community discussions, we will explore how the groups perceive and interact with natural resources associated with mangrove and seagrass habitats. An advisory group will be requested to review the planning, implementation and results before publication or dissemination to ensure the accuracy of information and adherence to the standards of the Tribe and the project.

Using participatory mapping processes, we will identify priority areas and which areas are used as fishing grounds, and who is using resources from which mangrove areas. Other areas to discuss include how different groups may be affected both negatively and positively by the project. Participatory processes will be used to conduct socio-economic and well-being assessments.

2.5 FPIC Process

Educated Free, Prior, Informed, Consent (FPIC) processes are set in motion during the planning phase of a project, before any activity is undertaken, at individual and collective levels, as determined by community governance structures by the Tribal Governor and President of the Ejido and the leadership of Council of Elders. Indigenous leaders are requested to take key roles to guide the project and activities. FPIC is recognized as an ongoing process that is based on relationships and

maintained throughout all phases of a project. Formal reports are provided annually, with frequent check-ins with local authorities, leaders, and participants for adaptive feedback.

We recognize that FPIC requires an educational process that employs bilingual and intercultural education methods and tools, as appropriate, to ensure understanding by all parties involved. Establishing FPIC also presumes that all directly affected community members will be provided complete information in an understandable form regarding the purpose and nature of the proposed project, study or activities, the probable results and implications, including all reasonably foreseeable benefits and risks of harm (be they tangible or intangible) to the affected communities. We create dialogue spaces to enable Indigenous leaders and participants to exercise their right to make decisions to accept, reject or change any program, project, study, or activities that directly affect them.

2 Project Design

2.1 Biodiversity Baseline

Mangrove zones - 850 hectares of mangroves, located in nine estuaries. Currently, most of the mangrove zones and the estuaries in the area are in a relatively healthy state of conservation compared to other areas outside Comcaac territory, where aquaculture has been developed. The mangrove ecosystems provide structure and protection for nesting birds, nursery grounds for fish, and carbon sequestration. However, many of the estuaries are increasingly impacted primarily by fishing camps, wood cutting and lost fishing gear followed by tourism activities, including sport fishing and by trash debris carried in by the tide. In addition, some areas of mangrove are eroding or disappearing due to coastal erosion, hurricanes, and storms. The continuing increase of these human activities within mangrove zones will diminish the size of mangrove estuaries as the seedling recruitment rate decreases. In a baseline scenario without the intervention, we would expect that the estuaries and mangrove habitat zones will continue to degrade and decline due to the rapid growth of unregulated fishing camps and ecotourism, contamination and climate change. The continued degradation of mangroves would affect nesting, resting and migratory bird species, fish and invertebrates and would diminish carbon sequestration.

Marine ecosystems - The IC is known for its 7,000 hectares of eelgrass (*Zostera marina*), and its marine richness. The fishing resources include nine endemic species, among which is the endangered *Totoaba macdonaldi.* Even though the Comcaac have exclusive fishing rights, intense fishing pressure by fishers ousted from other communities has caused a drastic population decline of commercial marine resources, and sport fish. There are extensive beds of pen shell scallop, Gulf native oysters, clams, and blue-eating crabs. Comcaac oral history describes abundant healthy scallops and blue crabs through the 1970s. In 2010, the fishing grounds covered 3,344.9 ha, and the scallop beds covered 2,623 ha of this total. In the last two decades, the crab and scallop fisheries within these areas are estimated to have declined by 80%, with daily catch dropping from around 100 kg/boat to 20-50 kg/boat. This is primarily due to overfishing and habitat degradation. Without intervention, these trends will likely accelerate. In the absence of the project interventions, the marine resources will be under continuous pressure and exploitation and further decline of populations of penshell species (*Atrina* spp. and *Pinna rugosa*), blue crab and the pink-mouthed murex (*Phyllonotus erythrostomus*).

Unregulated sport fishing competition events are organised by Comcaac and outside tourist companies two to three times a year, where 100 fishers catch about 10 fish each over a 24 hour period.

The most popular species taken from the channel is totoaba (*Totoaba macdonaldi)*, a very large member of the drum family *Sciaenidae* that is endemic to the GOC in Mexico. The number of these sponsored sport fishing competitions is expected to increase resulting in dozens of events annually. Without fishing regulations, enforcement, and monitoring, there will continue to be over-extraction by sport fishers who pay extremely low fees for a high-value fish. Without regulation, fish populations especially the Totoaba will continue to decline. Clandestine fishing will continue without oversight and enforcement, pushing the ecosystem to be overfished. Without updated fishing policies, regulations and governance, unregulated overfishing will cause fisheries to collapse.

Seagrass beds – Eelgrass (7,000 ha) provide habitat and nursery grounds that support complex trophic networks for fish and are well known for their role as nursery grounds and reproductive zones for fish and other invertebrates (i.e. molluscs), particularly habitat for the commercially important blue crab. Several marine species, such as threatened sea turtles (*Caretta caretta*, *Chelonia mydas*, *Dermochelys coriacea*, *Eretmochelys imbricata, Lepidochelys olivacea*) are found in the channel as well as migratory birds such as Brant goose (*Branta bernicla nigricans*). Although these eelgrass beds are one of the largest and well-protected in the GOC, they are negatively impacted by discarded crab traps that kill the plants and by scuba dive fishing practices, which uproot the plant. The seed is regarded as a nutritious grain by the Comcaac due to the high levels of protein and other nutrients comparable to those of wheat. Although eelgrass is an important survival food throughout the year, it is now collected, prepared seasonally and consumed in relatively small quantities during cultural and health promotion activities. Comcaac collectors harvest seeds from grasses that have detached washed ashore. However, novel food prospectors have shown interest in commercialising eelgrass seeds worldwide as a “grain of the sea”. In the absence of interventions, policies, regulation, and enforcement, these fragile ecosystems and habitats could likely become commercially exploited, degraded or disappear.

2.2 Socio Economic Baseline

The CN comprises about 1,200 community members residing in two villages and various fishing camps in the project area. Most Comcaac families live on less than $10 USD/day or $300 USD/ month derived from fishing, selling traditional arts and crafts, and tourism and government jobs in teaching and healthcare. Tribal community income from hunting is distributed among community families and supports healthcare, food and nutrition programs for students and elders, and scholarships for students. Current sources of tribal income are not enough to support all the needs of the tribe. Young people increasingly have limited employment opportunities. Under a baseline scenario of no interventions, these trends would worsen.

Ejidatarios are Comcaac tribal members who have legal rights and ownership over the mainland coastal areas where the mangrove, seagrass and estuaries are located. Comuneros include Comcaac tribal members with legal rights and ownership over Tiburon Island, where mangroves, seagrass and some estuaries are also located. Ongoing poverty creates conditions for the exploitation of these groups’ land and coastal areas by outside entities.

Comcaac women are exemplary in their leadership in conservation initiatives and restoration activities and community leadership. While a few younger women hold full-time government-paid jobs, most of these leaders work seasonally on a project-by-project basis with grant funding or as volunteers. Throughout the year, they complement these jobs with other activities such as craft-making, fishing and family care. A large number of women rely on income from the sale of crafts or as tour guides and on seasonal tourism for their livelihoods. Without PVBCs, this cycle of intermittent biodiversity conservation work and poverty would continue the status quo, leaving this

sector vulnerable to exploitation, hunger and illness. The project's intention is to provide regular employment in conservation-related jobs to prevent gaps in conservation work while significantly improving the well-being of women and their families.

The Elder Comcaac are honoured members of the community who are employed as singers and storytellers during various cultural events throughout the year to preserve and transmit intergenerational millennial native language, knowledge, history, and cultural values. They also receive a government subsidy, resulting in a monthly income of around $100 USD/month. The rising prices interfere with their ability to meet their basic needs.

The youth of the Comcaac are just beginning to have access to high school and higher education. However, there are limited job opportunities in the community. Without interventions that build capacity and create jobs, many youths will leave the community, resulting in a loss of valuable talent, knowledge, and stewardship of Comcaac territory into the future, and threatens their ancestral connection to their territory, language, and culture.

Outside fishers (commercial and sport fishing) from Bahia de Kino, an adjacent local community, fish illegally in Comcaac marine territory using either their boats or by becoming a member of a Comcaac crew. Without intervention, we expect that they will continue to expand their fishing, resulting in the collapse of Comcaac fisheries.

2.3 Environmental Baseline

The relatively intact mangrove areas include the recent efforts of the Blue Carbon Team which added 30 ha of transplanted mangroves in the enhanced fringe zones of four of the nine estuaries. These ecosystems play a unique ecological role as nursery grounds for key commercial species, help to maintain good water quality, avoid soil loss and erosion, and provide a diverse habitat for native pollinators such as bats, birds, and insects during the flowering periods of the three mangrove species present in the channel. Our analysis of soil carbon stocks of mangrove estuaries in the region showed 111 ± 32 MgC ha^{-1} with a total of 103,785 MgC stored, considering a surface of 935 ha of mangroves.

Trash pollution is increasing due to a rapid growth in unregulated tourism and illegal fishing camps. These human-influenced conditions are likely to increase without interventions. Areas of the mangrove estuaries are diminishing due to coastal erosion related to hurricanes, storms, and extreme tides that characterise the region. These conditions will continue given the rapid increase of tourism and climate extremes. Twenty-six percent of the eelgrass beds overlap with the swimming crab (*Callinectes bellicosus*) fishing zones. Major impacts on this fishery are caused by "ghost" fishing traps, which continue to capture crabs and animals and modify the substrate as they are moved around by currents and accumulate on the sea bottom.

The seagrass beds are maintained by the daily influx of nutrient-rich and cold Pacific seawater. Seasonal changes in wind direction and water temperature provide optimal conditions for the seasonal abundance of the unique annual variety of *Zostera marina* var. *ataam*. These environmental conditions also create a highly dynamic pattern of carbon sequestration of this seagrass. Soil carbon stocks of eelgrass beds are 43 ± 8 MgC ha^{-1}, considering 6,000 ha. The C storage capacity is 25,800 MgC.

2.4 Project Logic

Table 2 Initial Project Logic

	Description	**Assumptions/Risks**
Outcomes – The intended overall project aim is to promote biocultural diversity, climate change mitigation and sustainable livelihoods in the Infiernillo Channel in Comcaac Indigenous Territory through conservation and restoration of mangroves and seagrass habitats, and improved fisheries management.		
Biodiversity Benefits	Conservation of the mangrove and seagrass habitat and the related flora and fauna in the Infiernillo Channel. Protection of seagrass beds provides critical habitat for at risk native species including endangered sea turtles and totoaba. Sustained or increased species richness and diversity.	Mangrove restoration and enhancement activities and seagrass protection will preserve critical habitat integrity and maintain or increase the biocultural diversity of the region.
Socioeconomic Benefit	Sustainable nature and culture-based livelihoods / jobs into the future of the Comcaac territory and community. Conservation of mangrove nursery grounds and seagrass habitat protects local and regional fisheries. Protection of sea turtles fosters youth and fisher engagement in conservation and jobs. Protection of macro-invertebrate and fish species supports sustainable fisheries. Foster the next generation of leadership for biocultural conservation and restoration work. Increased community knowledge and capacity for stewardship of biodiversity and well-managed fisheries.	Investments in biodiversity and critical habitat, coupled with well-managed fisheries, will yield long-term economic and cultural benefits. Youth with mastery of biocultural knowledge and skills will strengthen community cultural pride and identity linked to the protection of territory into the future. An accurate understanding of fishery trends will support wise decision-making and governance. Avoidance of destructive fishing practices and overfishing leads to long-term sustainable fisheries.

Environmental Benefit	Ecosystem services provided by intact and restored coastal mangroves, mudflats and seagrasses will include carbon sequestration, erosion prevention, water quality regulation, barriers against tidal surges, nutrient recycling, and habitats for diverse species of biological and economic importance.	Mangrove restoration and enhancement will help prevent erosion buffering and supporting existing mangrove forests and other vegetation cover as well as ongoing natural recruitment and establishment of mangroves in the zones exposed to human use. Conservation of seagrass habitat supports critical marine ecosystem services in the region.
Outputs		
Output 1 - Biodiversity	1. Enhance / restore 100 ha of estuary habitat. Cultivate, transplant and monitor three species of mangroves: *Avicennia germinans, Laguncularia racemosa and Rhizophora mangle*. Monitor indicator species for baseline documentation and to guide protection of biodiversity and specific species populations. Indicator species include: - Birds*: Bernicla nigricans Charadrius nivosus nivosus* , Egretta rufescens - Vegetation Mangroves (three species), Eelgrass beds (*Zostera marina* var *atam*) - Herpetofauna*:* Nesting Olive ridley turtles - Motile Macro-invertebrates: Pen Shells (*Atrina tuberculosa* and *Pinna rugosa;* Blue crab *Callinectes bellicosus*	Increasing temperatures, sea level rise and coastal erosion may outpace mangrove restoration efforts. Strategic placement of transplants of mangrove cultivars will occur around vulnerable areas. Habitat degradation from overfishing and discarded fishing equipment will be mitigated through education, species monitoring, clean up and implementation of community protocols. Lack of community awareness of and protection against degradation of biodiversity will be mitigated by youth and fisher involvement in fieldwork for monitoring and implementing strategies for biodiversity protection and fisheries improvement.

Output 2 **Socio-Economic**	1. Increased youth biocultural capacity for conservation and restoration jobs through workshops, internships, and field studies with mentors: elders and scientists through scholarships. 2. Strengthened community leadership in fisheries protection and governance activities. 3. A baseline assessment of current fisheries documenting trends related to recent significant acquisition of fishing boats, and the influx of illegal fishers includes catch quotas/effort, compliance around traditional fishing zones and income trends. 4. Community engagement in the development of biocultural fishery protocols and governance for sustainable fisheries. 5. Community engagement in the development of biocultural ecotourism protocols. 6. Community financial literacy in payments for ecosystem services/ biodiversity credits.	Poverty increases community vulnerability to exploitation by industrial aquaculture and large tourism operations. This threat will be addressed through, generating long term local job options. Potential lack of participation and outmigration of youth mitigated by paid internships, defined objectives and completion checklists and other incentives Potential resistance and lack of compliance are mitigated by encouraging inclusive community participation and shared benefits of economic opportunities in a sustainable nature-based economy. Outsider overfishing can be discouraged by community patrols. Potential lack of participation or compliance in sustainable fisheries will be mitigated through education and implementation of biocultural protocols, state fishing regulations and community patrols. Potential misinformation will be mitigated by using in-person meetings and existing community social media platforms to share information around culture-based management strategies, fishing catches, economic / income trends. State fisheries authorities will be included in all phases of the project.

Output 3 - Environmental	Protection of mangroves and seagrass beds. Monitoring and mapping the dynamics of mangrove, seagrass and pen shell beds. Detection of environmental changes through measures of water quality, column height, temperature, and light.	The threat of erosion caused by sea level rise will be mitigated by strategically located mangrove transplants towards the inland fringe of the mangroves. To address potential water contamination from the local water desalination plant from human waste monitoring results and trends will be reported to the community and to municipal authorities.

3.4 Proposed Biodiversity Monitoring

Table 5 Prospective Biodiversity Monitoring

Selected Biodiversity Monitoring Tool	**Target Groups(s) the Biodiversity Monitoring Tool will target**	**Reason why this tool has been selected**	**Monitoring activities. Detail project specific considerations for monitoring this target group.**
Required Target Groups			
Mangroves Phase 1			
Acoustic monitoring	Birds	Fits data collecting requirements for subtropical arid conditions.	Several groups of migratory birds occur here, therefore the monitoring will need to occur in winter.
High Resolution Imagery (smartphone or camera)	Herbaceous and woody plants <2m in height	Fits data collecting requirements for subtropics	Species identification, abundance counts % cover. Validation samples: quadrats during low tide season to access

			mangrove areas.
Additional Recommended Target Groups			
Camera Trapping	Mammals (terrestrial): Medium-sized mammals	Efficient method to ensure continuous sampling and to work in difficult to access areas and help to monitor populations.	The project area is renowned for mammals species that are essential for a healthy ecosystem and associated with the estuaries. Camera traps will also set in transition areas between habitats (mangrove and desert).
Acoustic monitoring	Bats	Fits data collecting requirements for subtropics	The Sonoran region supports a high number of bat species.
Seagrass Phase 2			
Drones / remote sensing	Herpetofauna: Sea Turtles	Data collection is part of Mexico (SEMARNAT) sea turtle conservation program the Gulf of California. Annual permits for monitoring plans are approved by SEMARNAT. The same techniques used by groups dedicated to sea turtle conservation in Mexico to aggregate data and analyse regional population trends.	Nighttime nest monitoring and excavation for ex-situ incubation and hatchling release; water monitoring by boat, capture, tagging and release follow approved protocols. ESRI is used for data collection.

2.5 Additionality[1]

Table 6 Initial Barrier Analysis

[1] See Baseline Scenario and Additionality Assessment Tool

Project Intervention	**Main Barriers**	**Activities to Overcome Barriers**
1. Mangrove zones conservation and restoration: Propagation of mangrove seedlings in nursery facilities and transplant 1 year old seedlings to 25-30 ha annually, targeting degraded and threatened areas and reinforcing healthy fringe areas.	Wood cutting for campfires and shelter, and trash build up in fishing camps and tourist areas. Climate extremes: more frequent, intense hurricanes and storms erode protective coastal peninsulas and cause soil erosion within mangrove stands. Extreme heat and occasional freezing can cause die-offs.	Allocation of funds from PVBCs will enable the project to expand mangrove restoration into other areas, adding approximately 30-50 ha annually to buffer coastal ecosystems and mitigate climate change effects. The community mangrove restoration team will coordinate with the tribal vigilance authorities to conduct regular campsite monitoring, clean up and environmental education with fishers and tour guides. The project team will engage in strategic site prospecting, identifying sites along the protected inland fringes with access to water courses. Cultivation and transplanting of three species of mangroves with different architecture and phenology add resilience, increasing the likelihood of restoration success. Cultivating the plants for one year increases the establishment success rate. Transplant dates are selected using local knowledge of current weather patterns after the hot summer season, prior to the cold season and where there is a shift in winds, currents and tide extremes. Three teams of eight community members and volunteers travel by boat and truck to effectively accomplish the task of planting and

		tagging the plants and taking GPS coordinates for annual monitoring.
2. Biocultural Diversity and Conservation: community engagement and education in the protection of species and habitat protection of cultural and ecological importance: birds, coastal vegetation, as well as ironwood, pen shells and sea turtles.	Diminishing knowledge and experience in species and habitat protection. Limited opportunities for critical learning experiences around options for the protection of coastal ecosystems processes and sustainable nature-based livelihoods.	Support youth engagement in the long-term protection of mangrove ecosystems. Funds will be allocated for youth internships with elders and other experts in biocultural diversity to monitor and protect species and habitats of cultural and ecological importance. Youth will be supported to participate in experiential field learning and research, in skill-building workshops and fisheries research.
3. Seagrass beds and intertidal pen shell habitat conservation and restoration: map and monitor seagrass bed area dynamics (marine phase) and intertidal scallop zones (fisheries intervention); monitor water quality and report results to the community and government authorities; pen shell recovery and conservation activities (penshell reseeding; crab trap removal. program; increased wildlife patrolling); monitor carbon sequestration of mangrove / eelgrass systems every 5 years.	Lack of baseline and ongoing knowledge of the dynamic boundaries of eelgrass and scallop zones and populations. Lack of regular water quality monitoring with effective communication between the community and authorities. Lack of regular monitoring of scallop bed health and the effects of restoration activities (fisheries intervention).	Allocation of funds to document the perimeters of the seagrass beds (marine phase) and the size of the penshell populations to conduct water quality assessments and document soil carbon levels. Facilitate stakeholder / community engagement in consultation and planning processes to implement monitoring and regular restoration activities such as reseeding scallop zones, crab trap removal and trash clean up.
4. Sustainable fisheries management in the IC zone: assess the current state of Comcaac fisheries, documenting trends related to	Lack of baseline knowledge on the impact of increased fishing effort, the degree and impact of clandestine fishing, and the level of adherence to formal	Allocate funds for a Comcaac led fisheries assessment with technical assistance to assess the relevant factors of sustainable Comcaac fisheries, resulting in an annual report

recent significant acquisition of 80 fishing boats and the influx of illegal fishers, including catch quotas/effort, compliance around traditional fishing zones. Strengthen sustainable fisheries through education, facilitate community development of fishery protocols and best practices, and increase regular vigilance patrols.	regulations and traditional fishing zones. Lack of information on the trends and impacts of sport fishing. Lack of collaboration among Comcaac fishing cooperatives and other stakeholders. Lack of enforcement of fishing regulations.	on the state of Comcaac fisheries and a fishery assessment tool for ongoing use by community researchers. Facilitate stakeholder consultation and training workshops to identify and develop incentives for collaboration, community fisheries protocols and best practices. Increase regular fishery vigilance and enforcement.
5. Capacity building for sustainable nature-based economy and livelihoods: facilitate workshops and internships on financial literacy and the application of community protocols for sustainable nature-based livelihoods including culture based eco-tourism, hunting, sport fishing, payments for ecosystem services / biodiversity credits.	Lack of knowledge and skills to achieve community governed nature-based enterprises. Lack of community coordinated regulations to manage the rapid increase of outside influences on Comcaac livelihoods. Outmigration of youth due to lack of employment opportunities.	Facilitate consultation workshops and internships that apply best practices, protocols policies for tribal management and benefit of nature based enterprises including payments for environmental services

Major threats to biodiversity	**Main Barriers**	**Activities to mitigate threat**
Degradation of mangrove and coastal habitat by: Wood cutting for campfires and shelter, trash build up in fishing camps and tourist areas in mangrove zones. Mangrove depletion from sand and soil erosion of protective coastal peninsulas and within mangroves stands. Extreme temperature and weather events that can cause mangrove die offs.	Lack of community protocols; collective understanding, and action to implement effective procedures to reduce and manage trash and reduce wood cutting. Lack of consistent implementation of erosion control measures and mangrove restoration at scale.	Engage community leaders in development of community protocols for trash reduction and management; and the use alternatives for wood for cooking and campfires. Coordinate with the tribal vigilance authorities to conduct regular campsite monitoring, clean up and environmental education with fishers and tour guides.
Diminishing collective knowledge on the conservation of unique species and coastal ecosystems in the IC.	Fishers and youth have limited opportunities to learn about critical habitats, ecosystems and biocultural diversity, and the long cultural ties to the wide diversity of species in the area.	Support youth internships with elders and other experts in biocultural diversity to monitor and protect species and habitats of cultural and ecological importance. Youth will be involved in participatory research with fishers and skill-building workshops.
Overfishing, resulting in species reductions and possible eelgrass habitat degradation.	Lack of collective knowledge of and action on the current state of the Comcaac fisheries in the CI and the impacts of a significant increase in fishing on the species populations and seagrass and estuary habitats. Lack of collaboration among Comcaac fishing cooperatives and other stakeholders towards sustainable fisheries. Lack of community patrols for overfishing deterrence and	Conduct a fisheries assessment to determine the factors of a sustainable Comcaac fishery, resulting in an annual report on the state of Comcaac fisheries and a fisheries assessment tool for ongoing use by community researchers. Document the perimeters of the seagrass beds (marine phase) and the size of the penshell populations and conduct regular water quality assessments.

	enforcement of fishing regulations.	Implement monitoring, and regular restoration activities- reseeding scallop zones, crab trap removal and trash clean up. Facilitated stakeholder consultation and training workshops to develop incentives for collaboration, community fisheries protocols and best practices. Increase regular fishery vigilance and enforcement.
Breakdown of community / cultural systems of biodiversity protection and fisheries management.	Lack of community-governed nature-based enterprises and biodiversity protection. Lack of community coordinated regulations to manage the rapid increase of outside influences on Comcaac livelihoods. Outmigration of youth due to a lack of employment opportunities.	Facilitate consultation workshops and internships that apply best practices, protocols and policies for tribal benefit of nature-based enterprises, including PVBCs and payments for ecosystem services.

2.6 Exclusion List

The project does not include any of the activities mentioned in Annex 3.

2.7 Environmental and Social Screening

See Annex 4.

2.8 Stacking and Double Counting

To our knowledge, there are currently no other payments for ecosystem services projects, programs, or initiatives to reduce greenhouse gas emissions in the region that overlap with the proposed project regions.

The activities of the proposed biodiversity project will help maintain the ecosystems in the area that serve as carbon sinks, soil retention, and water purifiers. They will also bring benefits to the native fauna and flora. In the case of fauna, the project activities protect habitat and refuge for several species, some of which are threatened and endangered at national and international levels, and act

as umbrella species for the region. Future certification for carbon payments would be considered if feasible.

2.9 Relevant Legislation and Policies

Table 9 National Level Legislation, Policies and Instruments

	Yes/No/Unsure	Details
Does the country receive or plan to receive results-based biodiversity or climate finance through bilateral or multilateral programs?	Unsure	This type of information is owned by the Federal government and sometimes is not available or is not available to the public. Recent studies and consultations published outline processes and gaps of multilateral climate financing. These processes could be underway or accelerated by the new administration. https://alianzapacifico.net/wp-content/uploads/MRV_of_Climate_Finance_in_Mexico.pdf In updating its Nationally Determined Contributions (NDC) in 2022, Mexico reaffirmed the priority of nature-based climate solutions and considered, as a line of action, "strengthening instruments and implementing actions for biodiversity conservation and restoration in coastal, marine and freshwater ecosystems, as well as promoting the increase and permanence of carbon reservoirs, with emphasis on blue carbon https://www.internationalconservation.org/publications/policy_brief_blue_carbon.pdf Comision Nacional Forestal has programs for payments for terrestrial ecosystem services.
Are there any other relevant regulations, policies or instruments?	Yes	The Infiernillo Channel has Ramsar Site designation. Mexico's National Biodiversity Strategy includes the National Development Plan that concretely addresses the issue of biodiversity; the Mexican Strategy for Plant Conservation and the General Law on Sustainable Fisheries and Aquaculture. Mexico has ratified the Convention on Biological Diversity (CBD) commitments.

3 Governance and Administration

3.1 Project Governance

BRN-CN Leadership Committee (Project Coordinators)

Project oversight and evaluation with representation from BRN Director and Board of Directors, and Comcaac authorities described below:

- Community Advisory Committee of Community leaders, Project participants and Project partners involved in the Project planning, implementation and evaluation;

- Major decisions will be made through participatory planning and consensus decision-making and participatory evaluation processes referred to in Section 2; and

- Participant Selections will be based on qualifications, interviews, and recommendations with a preference for lower income women, youth and elders.

At the Comcaac territory, Tribal governance relies upon different levels of tribal institutions hierarchy: Tribal Governor (Gobernador tradicional Comcaac; Traditional Governor

Common Land President (presidente del comisariado ejidal); For environmental conservation matters, the two main authorities responsible for the enforcement, management and sustainable development of the whole tribal territory are Tribal Governor and president of Bienes Comunales and the Ejido President (common land president) on the mainland, that are elected each for a three-year period.

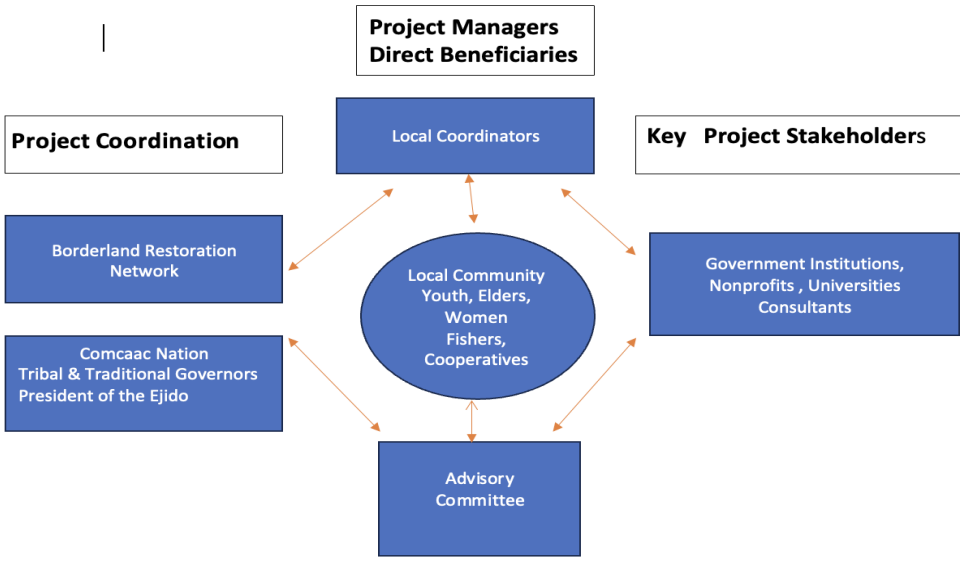


Figure 1. Schematized summary of the governance structure of the Comcaac Biocultural Project.

3.2 Legal and Regulatory Compliance and Financial Plan

The project will operate in full compliance with all national and international policies, laws and regulations. In the Comcaac territory, the Tribal Governor and Common Land President are the

authorities with overall responsibility for land, aquatic management, and resource use within the project region. The Project Coordinator will be working directly with the Tribal Governor and other authorities as described in Section 2.

See Annex 5 for project information letters.

Financial Plan

BRN is a bi-national non-profit with a more than 2 million budget and has a ten year track record of funding from private donations, grants, and contracts / earned income. This is due to our committed board, competent and effective finance, and development and program staff who work together to assure funding for all our programs. The Indigenous Comcaac Program has a track record of grant support for work around coastal ecosystems. In addition, we are seeking support specifically for developing this project from donors interested in long-term investment strategies for coastal ecosystems protection and climate change mitigation with Indigenous communities in the US-Mexico borderlands region.

The above funding sources are complemented by funding for conservation jobs from collaborating government and academic institutions, and organisations in the region, such as National Commission for Protected Areas; Comision Nacional de Ciencias y Tecnología (CONACyT); and Instituto Nacional de Pueblos Indígenas. The community team members for this project generally have multiple seasonal income-producing strategies that would complement the support for this project. Activities include conservation contract work, government projects, fishing, crafts sales, and tourism to sustain themselves. This provides them the flexibility and adaptability they need to cope with uncertainty and poverty.

Sixty percent of the benefits would support community programs in conservation, health and education. Funds would be complemented by tribal funds, support from the Mexican government and private donations. Forty percent of the funds would support the project implementation, BRN administration and management team.

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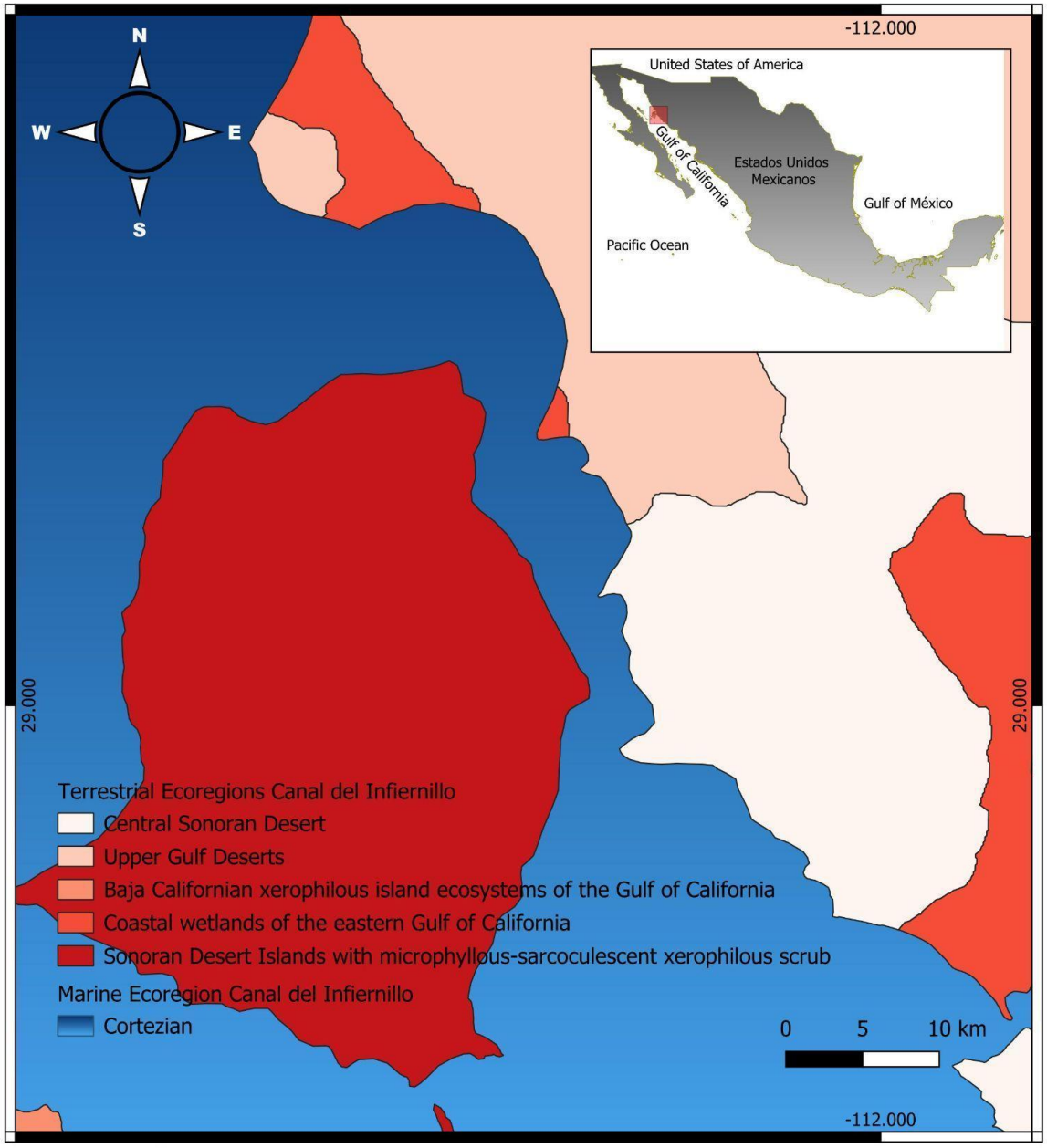
4 Annexes

Annex 1 – Project Boundaries and Habitat Types



Terrestrial Ecoregion Sonoran Desert

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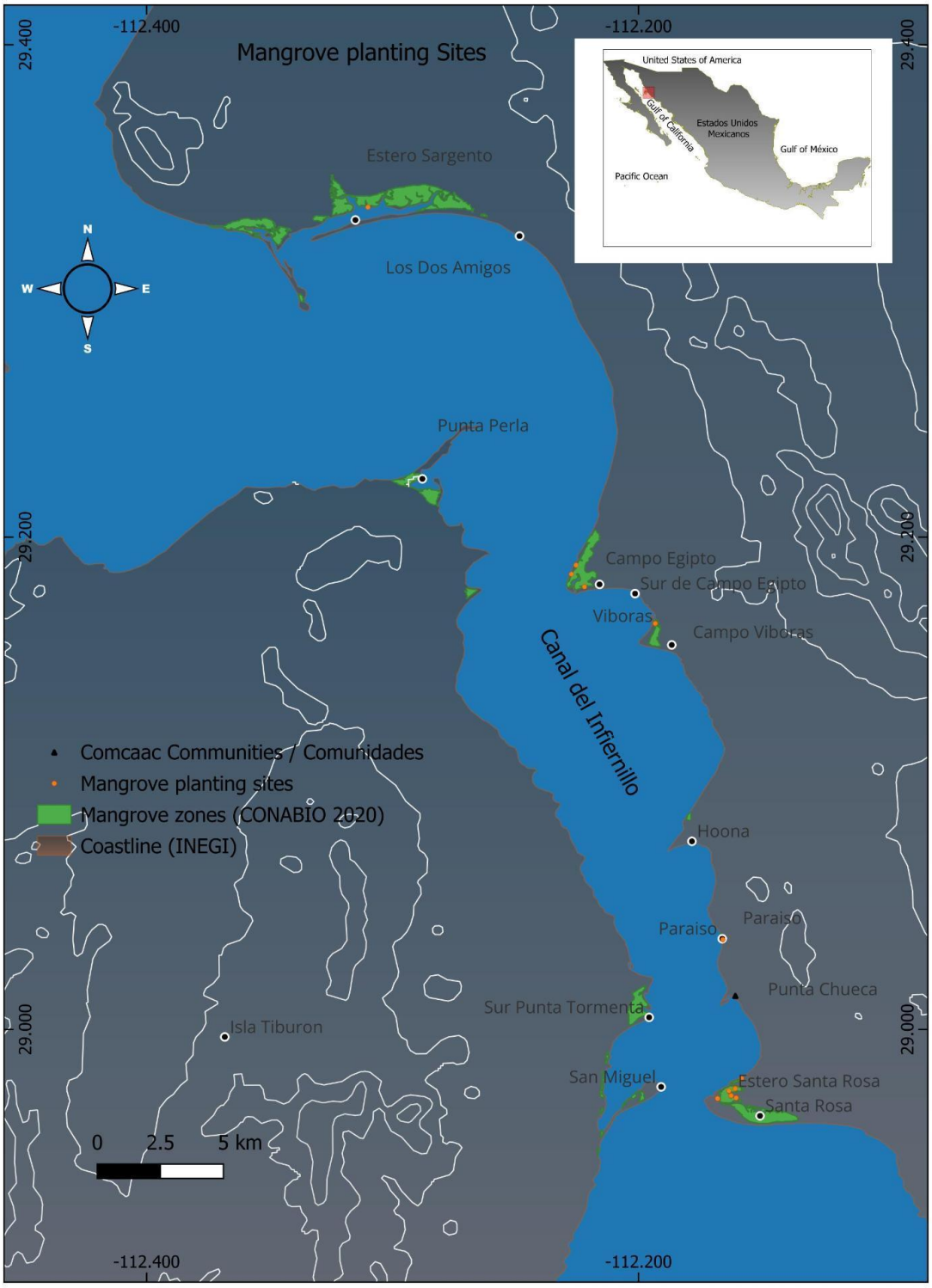
Ecoregion_Canal del Infiernillo

Mangrove Planting Sites in the Infiernillo Channel



Annex 2 – Registration Certificate

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INTERNAL REVENUE SERVICE
P. O. BOX 2508
CINCINNATI, OH 45201

DEPARTMENT OF THE TREASURY

Date: JAN 05 2015

BORDERLANDS HABITAT NETWORK
15 EMILY LN
PATAGONIA, AZ 85624-0000

Employer Identification Number:
47-2581032
DLN:
26053756001644
Contact Person:
CUSTOMER SERVICE ID# 31954
Contact Telephone Number:
(877) 829-5500
Accounting Period Ending:
December 31
Public Charity Status:
170(b)(1)(A)(vi)
Form 990/990-EZ/990-N Required:
Yes
Effective Date of Exemption:
December 10, 2014
Contribution Deductibility:
Yes
Addendum Applies:
No

Dear Applicant:

We're pleased to tell you we determined you're exempt from federal income tax under Internal Revenue Code (IRC) Section 501(c)(3). Donors can deduct contributions they make to you under IRC Section 170. You're also qualified to receive tax deductible bequests, devises, transfers or gifts under Section 2055, 2106, or 2522. This letter could help resolve questions on your exempt status. Please keep it for your records.

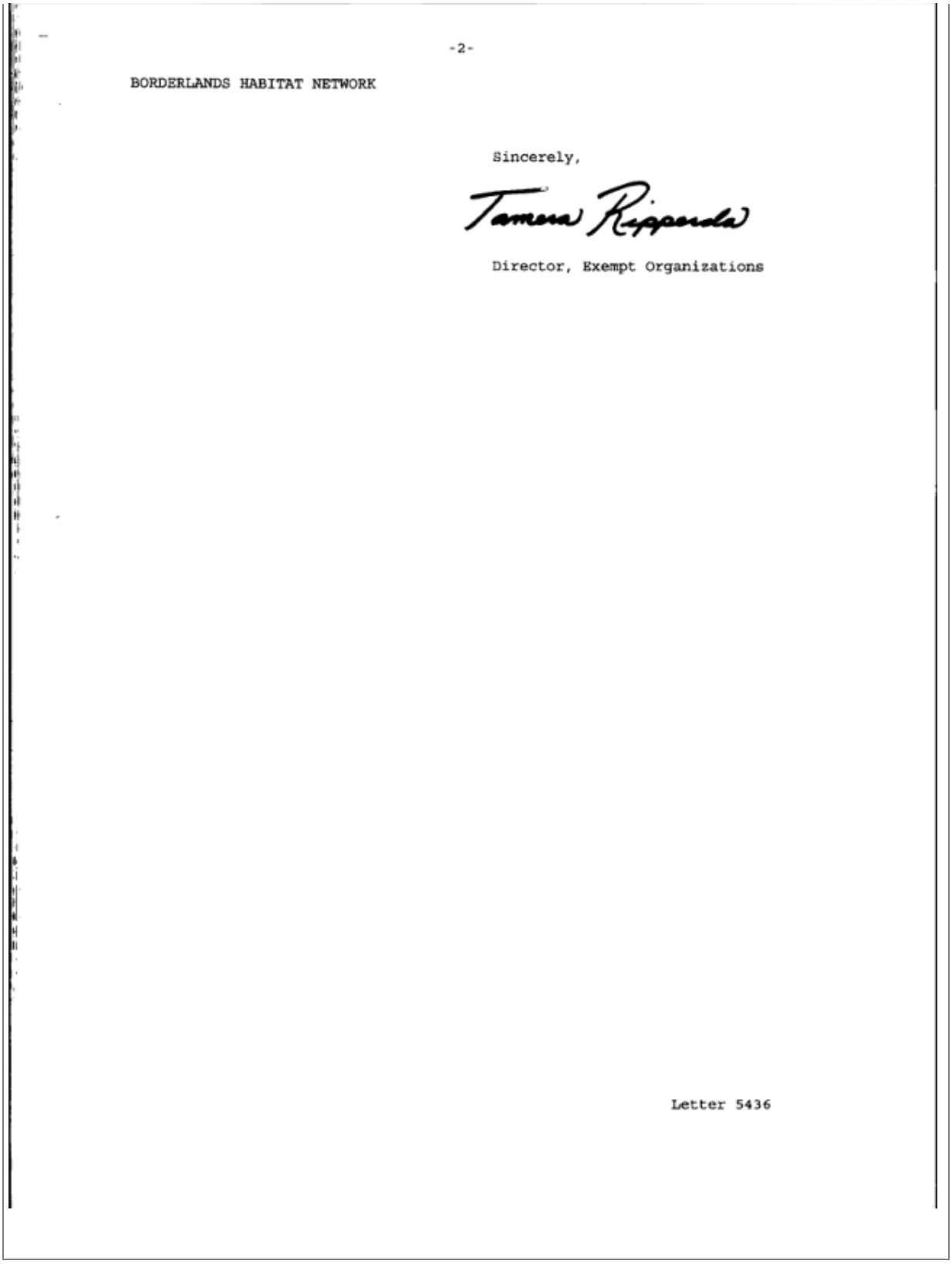
Organizations exempt under IRC Section 501(c)(3) are further classified as either public charities or private foundations. We determined you're a public charity under the IRC Section listed at the top of this letter.

If we indicated at the top of this letter that you're required to file Form 990/990-EZ/990-N, our records show you're required to file an annual information return (Form 990 or Form 990-EZ) or electronic notice (Form 990-N, the e-Postcard). If you don't file a required return or notice for three consecutive years, your exempt status will be automatically revoked.

If we indicated at the top of this letter that an addendum applies, the enclosed addendum is an integral part of this letter.

For important information about your responsibilities as a tax-exempt organization, go to www.irs.gov/charities. Enter "4221-PC" in the search bar to view Publication 4221-PC, Compliance Guide for 501(c)(3) Public Charities, which describes your recordkeeping, reporting, and disclosure requirements.

Letter 5436



-2-

BORDERLANDS HABITAT NETWORK

Sincerely,

Tamera Ripperda

Director, Exempt Organizations

Letter 5436

Annex 4 – Exclusion List

Activities	**Included in Project ('Yes' or 'No')**

Any project activities leading to or requiring the destruction [1] of critical habitat [2] or any forestry project which does not implement a plan for improvement and/or sustainable management.	No
Any activity which could be associated with the significant impairment of areas particularly worthy of protection of cultural heritage (without adequate compensation in accordance with international standards).	No
Trade in animals, plants or any natural products not complying with the provisions of the CITES/Washington convention [3].	No
Illegal, harvesting or trading in any wildlife resources.	No
Destructive fishing methods or drift net fishing with a net more than 2.5 km in length, explosives and/or poison.	No
Large-scale commercial logging operations for use in primary tropical moist forest.	No
Production or trade in wood or other forestry products other than from sustainably managed forests [4].	No
Exploitation of diamond mines and marketing of diamonds where the host country has not adhered to the Kimberley Process, and exploitation of other conflict minerals [5]	No
Activities involving harmful or exploitative forms of forced labour, [6] harmful child labour [7], modern slavery and human trafficking [8].	No
Projects that include involuntary physical displacement and/or forced eviction.	No
Production or activities that encroach on lands owned, or claimed or occupied by Indigenous Peoples, without full documented Free, Prior and Informed Consent (FPIC) of such peoples [9].	No
Harmful and unsafe production, use, sale or trade of pharmaceuticals, pesticides/herbicides, ozone layer depleting substances [10], and other toxic [11] or dangerous materials such as asbestos or products containing PCB's [12], wildlife or products regulated under CITES, including all products that are banned or are being progressively phased out internationally	No

Production or trade of arms, ammunition, weaponry, controversial weapons, or components thereof (e.g., nuclear weapons and radioactive ammunition, biological and chemical weapons of mass destruction, cluster bombs, anti -personnel mines, enriched uranium).	No
Procurement and use of firearms.	No
Provision of finances to military institutions involved in conservation or security activities.	No
Production or trade of strong alcohol intended for human consumption or other alcoholic beverages (excluding beer and wine).	No
Production or trade of tobacco and other drugs	No
Gambling, gaming establishments, casinos or any equivalent enterprises and undertaking [13].	No
Any trade related to pornography, prostitution or sexual exploitation of any form.	No
Production or trade in radioactive material. This does not apply to the procurement of medical equipment, quality control equipment or other application for which the radioactive source is insignificant and/or adequately shielded	No
Production or trade in unbound asbestos. This does not apply to the purchase or use of cement linings with bound asbestos and an asbestos content of less than 20%.	No
Production, trade, storage, or transport of significant volumes of hazardous chemicals, or commercial scale usage of hazardous chemicals. Hazardous chemicals include gasoline, kerosene, and other petroleum products.	No
Transboundary trade in wastes, except for those accepted by the Basel Convention and its underlying regulations [14].	No
Any activity leading to an irreversible modification or significant displacement of an element of culturally critical heritage [15].	No
Production and distribution, or investment in, media that are racist, antidemocratic or that advocate discrimination against a part of the population.	No

Projects involving the planting or introduction of invasive species	No
Projects that increase the dependency of primary participants and other stakeholders on fossil fuels.	No

Notes:

[1] Destruction means (1) the elimination or severe reduction in the integrity of a habitat/area caused by a major and long-term/prolonged change in land-use or water resources or (2) the modification of a habitat such that this habitat's ability to fulfil its function/ role is lost.

[2] The term critical habitat encompasses natural and modified habitats that deserve particular attention. This term includes (1) spaces with high biodiversity value as defined in the IUCN's classification criteria, including, in particular, habitats required for the survival of endangered species as defined by the IUCN's red list of threatened species or by any national legislation; (2) spaces with a particular importance for endemic species or whose geographical range is limited; (3) critical sites for the survival of migratory species; (4) spaces welcoming a significant number of individuals from congregatory species; (5) spaces presenting unique assemblages of species or containing species which are associated according to key evolution processes or which fulfil key ecosystem services; (6) and territories with socially, economically or culturally significant biodiversity for local communities. Primary forests or high conservation value forests must also be considered as critical habitats.

[3] https://cites.org/eng/disc/text.php

[4] Sustainably managed forests are forests managed in a way that balances ecological, economic and socio-cultural needs.

[5] Conflict minerals, including tin, tungsten, tantalum and gold, can be used to finance armed groups, fuel forced labour and other human rights abuses, and support corruption and money laundering. See the EU Regulation on conflict minerals: https://policy.trade.ec.europa.eu/development-and-sustainability/conflict-minerals-regulation/regulation-explained_en

[6] Forced labour means all work or service, not voluntarily performed, that is extracted from an individual under threat of force or penalty.

[7] Harmful child labour means the employment of children that is economically exploitive, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health, or physical, mental, spiritual, moral, or social development. Employees must be at least 14 years of age, as defined in the ILO's Declaration on the Fundamental Principles and Rights at Work (C138 – Minimum Age Convention, Article 2), unless local laws require compulsory school attendance or a minimum working age. In such circumstances, the highest age requirement must be used.

[8] Modern slavery is comprised two key components: forced labour and forced marriage. These refer to situations of exploitation that a person cannot leave or refuse due to threats, violence, deception or coercion. (https://www.ilo.org/wcmsp5/groups/public/---ed_norm/---ipec/documents/publication/wcms_854733.pdf)

[9] https://www.fao.org/indigenous-peoples/our-pillars/fpic/en/

[10] Any chemical component which reacts with, and destroys, the stratospheric ozone layer leading to the formation of holes in this layer. The Montreal Protocol lists Ozone Depleting Substances (ODS), their reduction targets and deadlines for phasing them out.

[11] Including substances included under the Rotterdam Convention, Stockholm Convention and WHO "Pharmaceuticals: Restrictions in Use and Availability".

[12] PCBs (polychlorinated biphenyls) are a group of highly toxic chemical products that may be found in oil-filled electrical transformers, capacitors and switchgear dating from 1950 to 1985.

[13] Any direct financing of these projects or activities involving them (for example, a hotel including a casino). Urban improvement plans which could subsequently incorporate such projects are not affected.

[14] Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their disposal (1989).

[15] "Critical cultural heritage" is considered as any heritage element recognised internationally or nationally as being of historical, social and/or cultural interest.

Annex 4 – Environmental and Social Screening

Complete the table below by answering each risk question. Where relevant include details of any activities that will be carried out to better understand or mitigate potential risks.

Guidance on use

Background

The questionnaire includes questions aligned with the Plan Vivo Biodiversity Standard (PV Nature) Environmental and Social Safeguards (Section 3.9, v1.0) and other Safeguard Provisions that are embedded in PV Nature (namely Stakeholder Engagement, Stakeholder Consultation, Free Prior and Informed Consent, Grievance Mechanism).

The questionnaire also draws from the Plan Vivo Environmental and Social Policy Framework (ESPF).

The questionnaire is structured around the IUCN ESMS Questionnaire, which itself is designed to be aligned with the IUCN ESMS (2016), and the World Bank Environmental and Social Framework (2017), including World Bank Standards 1-10.

The number of questions has been limited in this version of the questionnaire to ensure that it is practical and user-friendly.

The purpose of the questionnaire is to establish: 1) the project risk rating; 2) the significance of risks and impacts; 3) alignment with safeguard provisions; 4) the need for further E&S assessment during project design; 5) the likely safeguard plans that should be developed.

Due to the early stage in project design, the questionnaire is not designed to assess alignment with PV Nature requirements, but rather prompt projects as to what will be expected regarding those requirements that relate to E&S safeguards.

Any social and environmental risks must inform the design of the *Project*.

Requirement

As per PV Nature v1.0 every project must conduct a screening of environmental and social risks and impacts at the PIN stage of project design. The questionnaire and screening report are to be submitted alongside the PIN to the Plan Vivo Foundation.

Process for use of the E&S questionnaire

The Project Coordinator is to fill in the "Project coordinator response" section of the questionnaire. This is the column shaded light grey.

Once completed by the Project Coordinator, the Plan Vivo Foundation Project Officer and E&S reviewer is to fill in the "E&S reviewer comments" section of the questionnaire. This includes filling in the "E&S reviewer conclusions".

The screening report is then completed at the end by the Plan Vivo Foundation E&S reviewer, and the results are shared and discussed with the Project Coordinator.

Establishing significance of risks and impacts

Table 1 illustrates how risk significance can be established based on an estimate of likelihood of something happening, and the impact should it occur. This likelihood-magnitude matrix can be used by the Project Officer and the E&S reviewer to estimate the risk and impact significance of the E&S risk areas indicated in the E&S questionnaire **Section B**, below. Note that while the questionnaire focuses on key topics and issues that are common to natural resource management projects, the project coordinator should include other known E&S risks and impacts associated with the planned project.

Likelihood represents the possibility that a given risk event is expected to occur. The likelihood should be established using the following five ratings:

Very unlikely to occur (1)

Not expected to occur (2)

Likely – could occur (3)

Known to occur - almost certain (4)

Common occurrence (5)

Impact (or consequence) refers to the extent to which a risk event might negatively affect environmental or social receptors – see below criteria distinguishing five levels of impacts:

Severe (5)	Adverse impacts on people and/or environment of **very high magnitude**, including **very large scale** and/or spatial extent (large geographic area, large number of people, transboundary impacts), cumulative, **long-term (permanent and irreversible**); **receptors** are considered **highly sensitive**; examples are severe adverse impacts on areas with high biodiversity value; severe adverse impacts to lands, resources and territories of indigenous peoples; significant levels of displacement or resettlement with long-term consequences on peoples' livelihood; impacts give rise to severe and cumulative social conflicts with long-term consequences.
Major (4)	Adverse impacts on people and/or environment of **high magnitude**, including **large scale** and/or spatial extent (large geographic area, large number of people, transboundary impacts), of certain duration **but still reversible** if sufficient effort is provided for mitigation; receptors are considered sensitive; examples are adverse impacts on areas with high biodiversity value; adverse impacts to lands, resources and territories of indigenous peoples; significant levels of displacement or resettlement with temporary consequences on peoples' livelihood; impacts give rise to social conflicts which are expected to be of limited duration.
Medium (3)	Adverse impacts of **medium magnitude**, **limited in scale** (small area and low number of people affected), **limited in duration** (temporary), impacts are relatively predictable and can be avoided, managed and/or mitigated with known solutions and straight forward measures.
Minor (2)	Adverse impacts of **minor magnitude, very small scale** (e.g. very small affected area, very low number of people affected) and only short duration, may be easily avoided, managed, mitigated.

Negligible (1)	Negligible or no adverse impacts on communities, individuals, and/or on the environment.

Table 1: Rating significance of a risk area (Source: IUCN ESMS questionnaire, 2020)

		Likelihood of occurrence				
		Very unlikely to occur (1)	*Not expected to occur (2)*	*Likely – could occur (3)*	*Known to occur - almost certain (4)*	*Common occurrence (5)*
Magnitude	*Severe (5)*	Moderate	Substantial	High	High	High
	Major (4)	Low	Moderate	Substantial	Substantial	High
	Medium (3)	Low	Moderate	Moderate	Moderate	Substantial
	Minor (2)	Low	Low	Moderate	Moderate	Moderate
	Negligible (1)	Low	Low	Low	Low	Low

Establishing project risk category

The project risk category will be determined based on an understanding of the types of potential E&S risks and impacts associated with the project, and the availability of appropriate and known mitigation measures. Most Plan Vivo projects are thought to be of either low or moderate risk. If high risk projects are identified, the E&S impact assessment would look to understand the alternative project designs available to reduce the potential risks and impacts.

Table 2: Rating significance of a risk area (Source: IUCN ESMS questionnaire, 2020)

Risk Category	**Definition**
Low	Insignificant or low potential environmental and social risks and impacts have been identified. No additional management measures are required; no Environmental and Social Management Plan (ESMP) section of the PDD required.
Moderate	Moderate and/or substantial potential adverse risks and impacts have been identified, in one or more risk areas. These risks and impacts can be mitigated through known mitigation measures, such as a Stakeholder Engagement Plan, livelihood restoration plan, or through the project's ESMP.

High	High risks and impacts that are potentially diverse and irreversible, and for which standard solutions are not sufficient to manage, and for which specialist safeguard plans and expertise is required.

Alignment with safeguard provisions

Section C of the questionnaire refers to PV Nature safeguard provisions which are integrated into the Standard. These include:

Stakeholder engagement and consultation

Free, Prior and Informed Consent

Grievance Redress Mechanism

The project coordinator will answer the questions related to these provisions, and clarify the project's intentions to meet these Standard requirements during the project design phase.

Environmental and Social Assessment

The E&S questionnaire should determine what E&S assessment is required during the project design phase (PDD development). For low and moderate risk projects, a tailored E&S assessment is required. For high-risk projects, an Environmental and Social Impact Assessment (ESIA) is required. The project coordinator should consider in responses what further assessment of risks and impacts is required, and the E&S reviewer will comment on this and include a summary in the Screening Report section.

Safeguard Plans

The E&S questionnaire should determine which Safeguard Plans are required by the project. For low risk projects, it is unlikely that an ESMP will be required. For moderate risk projects, and ESMP will be required. Projects will, according to the Standard, also require a mandatory Stakeholder Engagement Plan and a Grievance Redress Mechanism.

Some projects might require specialist plans, such as an Indigenous Peoples Plan (IPP) or a Livelihood Restoration Plan.

SECTION A: PROJECT INFORMATION	
Project title:	Biocultural conservation and restoration in the Infiernillo Channel in Comcaac Indigenous Territory- protecting and restoring mangroves, seagrass beds and fisheries in the Gulf of California Sonora, Mexico
Project coordinator:	**Laura S Monti, Borderlands Restoration Network**
Country:	**México**
Geography/ landscape:	**Canal del Infiernillo in the Golfo de California**
Project summary:	This project promotes biocultural diversity, climate change mitigation and fosters sustainable livelihoods in the Infiernillo Channel in Comcaac Indigenous Territory through conservation and restoration of mangroves and seagrasses, and improved fisheries management. The Infiernillo Channel area is approximately 30,000 hectares between Tiburon Island and the Sonora coast in northwestern Mexico. The core project area consists of 850 hectares of mangrove and 7,000 hectares of eelgrass (*Zostera marina*) habitat. Expansion: Over 5 years, we will expand the mangrove habitat by 100 ha. Fisheries conservation efforts will protect an additional 3,344.9 ha of fishing grounds that include 2,623 ha of pen scallop beds.

	Activities and expected outcomes include: 1. Mangrove zones conservation / restoration. Young conservation leaders will propagate and plant at least 100 ha of three species of mangroves over a 5-year period (restoration). 2. Biocultural Diversity Conservation. Community engagement in protection of species and habitats of cultural and ecological importance: birds, pen shells and sea turtles within mangroves and seagrass beds. (conservation). 3. Seagrass beds and intertidal pen shell habitat conservation and recovery. Map and monitor seagrass bed area dynamics and intertidal scallop zones; monitor water quality and report results to the community and government authorities; pen shell recovery and conservation activities.(restoration, improved management). 4. Sustainable fisheries management in the Infiernillo Channel zone. Assess the current state of Comcaac fisheries, documenting trends related to recent significant acquisition of 80 fishing boats and the influx of illegal fishers, including catch quotas/effort, compliance around traditional fishing zones. Strengthen sustainable fisheries through education, development of fishery protocols and vigilance patrols. (improved management) 5. Capacity building for sustainable nature-based economy and livelihoods. Facilitate workshops and internships on: development of financial literacy and community protocols for culture-based eco-tourism, hunting, sport fishing, payments for ecosystem services/ biodiversity credits. The main Project partner is the Comcaac Nation.
Name and role of project coordinator staff member filling this questionnaire:	Dr. Laura Monti Comcaac Projects Manager, Borderlands Restoration Network.

Confirm that the Plan Vivo Exclusion List is appended to this E&S questionnaire:	*Yes*		
SECTION B: POTENTIAL E&S RISKS AND IMPACTS			
Topic	**Question**	**Project coordinator response**	**E&S reviewer comments**
E&S Risks and Impacts			
Vulnerable Groups	Are there vulnerable or disadvantaged groups or individuals, including people with disabilities (consider also landless groups, lower income groups less able to cope with livelihood shocks/ stresses) in the project area, and are their livelihood conditions well understood by the project?	Our programs include lower income groups including single women, unemployed youth. It is well understood by the project that women of all ages including single mothers and elderly women and men are less able to cope with livelihood stresses and shocks.	*Great that you have highlighted the lower income and at risk groups. Please ensure at PDD stage outlining how the project will fairly and accessibly engage with these vulnerable groups.*
	Is there a risk that project activities disproportionately affect vulnerable groups, due to their vulnerability status?	Project activities include vulnerable and low income groups, women, elderly, youth and fishers. Activities are designed to generate capacity and employment, and to value the	*Ok – the project is mitigating risks through active inclusion of vulnerable groups, and plans for increasing capacity and employment opportunities.*

		traditional cultural practices of elders of the community.	*Please ensure this is detailed in the PDD.*
	Is there a risk that the project discriminates against vulnerable groups, for example regarding access to project services or benefits and decision-making?	The community project leaders, who are often women, are well aware of the needs of the vulnerable and are fully engaged in project planning and decision making and implementation processes and will adapt these processes if unintentional harm results.	*Ok – more information on the participatory approach, as described here, to be detailed in the PDD.*
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification: 2 – project does well to identify risks around vulnerable groups, sufficient management plans to reduce this risk, to be in place at PDD stage is required* *Estimated magnitude of risks (1-5) & justification: 2 – due to the inclusivity of groups to activities, the magnitude of this risk is lower however, management provisions need to be put in place and should an impact occur, it could have a fairly significant impacts on a limited number of people* *Risk significance: Low*			
Gender equality	Is there a risk of adverse gender impacts due to the project/ project activities, including for example discrimination or creation/exacerbation or perpetuation of gender-related inequalities?	Women are key to the leadership of the project. In the area of fishing, women play key roles in family fishing operations, male dominated, we assure that the women fishers,	*Ok – women are included in both the leadership and decision-making processes.*

		processors and sellers are included in decision making and benefits.	
	Is there a risk that project activities will result in adverse impacts on the situation of women or girls, including their rights and livelihoods? Consider for example where access restrictions disproportionately affect women and girls due to their roles and positions in accessing environmental goods and services?	*Not expected to occur (1).* Low. Women are strong leaders of conservation groups and are also role models for younger women and girls. One of the goals of this project is to restore the overfished penshell bed that has been traditionally harvested by single and elderly women.	*Ok – activities are designed to improve livelihoods of women and girls.*
	Is there a risk that project activities could cause or contribute to gender- based violence, including risks of sexual exploitation, sexual abuse or sexual harassment (SEAH)? Consider partner and collaborating partner organizations and policies they have in place. Please describe.	Equity, inclusion and nonviolence are policies explicitly embedded in our programs and those of our collaborators. The coordinating organisation provides hands on oversight to assure quality programs that include social justice ethics.	*Ok – thank you for highlighting that processes are already in place. These codes of conduct and governance procedures should be described at PDD stage.*

E&S reviewer conclusions

Estimated likelihood of risks (1-5) & justification: 2 - As there is active involvement of women in the leadership and decision making, and activities are designed to improve their livelihoods, this risk is not expected to occur.

Estimated magnitude of risks (1-5) & justification: 2 – The estimated magnitude is minor. If the risk were to occur, it would impact a large number of people, but due to the management in place the magnitude of the risk is limited should it occur.

Risk significance: Low			
Human Rights	Is there a risk that the project prevents peoples from fulfilling their economic or social rights, such as the right to life, the right to self-determination, cultural survival, health, work, water and adequate standard of living?	This project includes education and advocacy around these rights throughout the activities.	*Ok*
	Is there a risk that the project prevents peoples from enjoying their procedural rights, for example through exclusion of individuals or groups from participating in decisions affecting them?	Every effort will be made to include all sectors in decision making: including home visits, individual and focus group meetings.	*Ok – this sounds great. Please ensure this is detailed and described in the PDD.*
	Are you aware of any severe human rights violations linked to project partners in the last 5 years?	No, very unlikely to occur.	*Ok*
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification: 1 – due to nature of the project and the active involvement of all groups in the participatory design, this risk is unlikely to occur.* *Estimated magnitude of risks (1-5) & justification: 4 – whilst unlikely, should this risk occur, it would have significant impact on the substantial number of people.* *Risk significance: Low*			
Community, Health, Safety & Security	Is there a risk of exacerbating existing social and stakeholder conflicts through the implementation of project activities? Consider for example existing conflicts	Potential conflicts over access to fisheries are generally diffused by the Comcaac fishers, tribal and community guards or by the marine	*Ok – please include detail of the co-developed fisheries management plan in the PDD.*

	over land or natural resources, between communities and the state.	police. Outside fishers work as day labourers as needed for fair wages. Development of a community-supported fisheries management plan is needed.	
	Does the project provide support (technical, material, financial) to law enforcement activities? Consider support to government agencies and to Community Rangers or members conducting monitoring and patrolling. If so, is there a risk that these activities will harm communities or personnel involved in monitoring and patrolling?	The project would indirectly support improved vigilance and enforcement activities with training and action around developing options to reduce and or avoid conflicts, and by encouraging stewardship of family / clan traditional fishing grounds and by subsidising affordable fish to the community, especially women and others in need.	*Ok*
	Are there any other activities that could adversely affect community health and safety? Consider for example exacerbating human-wildlife conflict, affecting provisioning ecosystem services, and transmission of diseases.	Not expected to occur.	*Ok*

E&S reviewer conclusions

Estimated likelihood of risks (1-5) & justification: 3 – as noted, conflict does occur but is usually managed between fishers, guards and police. As a sustainable fisheries management plan is an expected outcome of the activities, the risk of exasperating this conflict is mitigated but should be carefully managed through co design with fishers.

Estimated magnitude of risks (1-5) & justification: 2 – if this were to occur, it would have a larger impact on fishers livelihoods and social conflict amongst marine user groups. However, the groups affected are generally small, the risk is known, and can be managed/mitigated through a proposed fisheries management plan. *Risk significance: Moderate*			
Labour and working conditions	Is there a risk that the project, including project partners, would lead to working conditions for project workers that are not aligned with national labour laws or the International Labor Organization's (ILO) Declaration on the Fundamental Principles and Rights at Work (discriminatory working conditions, lack of equal opportunity, lack of clear employment terms, failure to prevent harassment or exploitation, failure to ensure freedom of association etc.)?	The project has policies and protocols to assure worker rights, security, safety and equal opportunity.	*Ok – please provide these details in the PDD.*
	Is there an occupational health and safety risk to project workers while completing project activities?	Heat stress and dehydration are inherent risks in coastal desert region. Seasonal mangrove transplanting occurs at the end of summer increasingly hot climate. Activity planning takes into account the climate extremes. Risks are mitigated by safety protocols and proper preparation, radios, and appropriate first aid supplies. Low-risk scuba by expert divers (penshell monitoring) occurs in relatively shallow waters (12 feet).	*Ok – this is a fair risk given the nature of the project, location and activities. Great that this is mitigated through adequate prep and those undertaking more specialised interventions (e.g. penshell monitoring) have the required expertise*

	Is there a risk that the project support or be linked to forced labour, harmful child labour, or any other damaging forms of labour?	Very unlikely to occur.	*Ok.*
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification: 3 – given the climate in the project area, the risk of heat stress could occur. However, this is well mitigated with appropriate preparations.* *Estimated magnitude of risks (1-5) & justification: 2 – As above, mitigation measures are in place. As such, the expected impact is minor as it may be avoided, managed and mitigated.* *Risk significance: Moderate*			
Resource efficiency, pollution, wastes, chemicals and GHG emissions	Is there a risk that project activities might lead to releasing pollutants to the environment, cause significant amounts of waste or hazardous waste or materials?	Project interventions include reducing human contamination by cleaning up waste-abandoned crab traps and other waste from the sea bottom and educating the public. The project field teams are trained to " leave no trace" and to educate others to do so as well. Project travel activities are stacked to simultaneously achieve multiple objectives in one trip to reduce GHG emissions from use of fossil fuels for vehicles and boats used in field work.	*Ok*

		Solar panels installed to cool the ice houses for fishers help offset project's use of fossil fuels for transportation.	
	Is there a risk that the project will lead to significant consumption of energy, water or other resources, or lead to significant increases of greenhouse gases?	Emissions from boats and vehicles are as low as possible with fuel efficient 4 stroke boat engines and gas efficient vehicles. Project activities are designed to accomplish multiple objectives to reduce fossil fuel consumption of travel. Education and awareness on this topic will be emphasized with fishers and others will be emphasized.	*Ok*

E&S reviewer conclusions

Estimated likelihood of risks (1-5) & justification: 2 – Mitigation measures are in place to making this risk unlikely to occur.

Estimated magnitude of risks (1-5) & justification: 3 – Should this risk occur, it could have a significant impact on a smaller number of people.

Risk significance: Moderate

Access restrictions and livelihoods	Will the project include activities that could restrict peoples' access to land or natural resources where they have recognised rights (customary, and legal)? Consider projects that introduce new access restrictions (e.g. creation of a community forest), reinforce existing access restrictions (e.g. improve management effectiveness and patrolling of a community forest), or alter the way that land and natural resource access restrictions are decided (e.g. through introducing formal management such as co-management).	This project takes place in federally recognized communally owned Indigenous lands/ waters with exclusive rights to access the natural resources in their territory. The project works with Comcaac traditional governing authorities and families taking an incremental participatory approach to regulating outsider access, to improving management effectiveness and patrolling and ultimately increasing Comcaac sovereignty and benefits from their fisheries while protecting the biodiversity.	*Ok – given that the outcome is to improve fisheries and biodiversity, and this is designed with the Comcaac peoples as the rights holders, this risk is low.*
	Is there a risk that the access restrictions introduced /reinforced/altered by the project will negatively affect peoples' livelihoods?	The strategy assumption is that access restrictions will lead to restored fishing grounds, more fish/scallops and increased income to the Comcaac. Comcaac fishers are aware of the need to allow populations to recover. They rotate to other fisheries when off season	*Ok - please outline the mitigation measures and strategies that will put in place to prevent any conflict or tension with outside fishers in the PDD.*

		fishing regulations are imposed for certain species or areas. Outside fishers from the nearby Town, Bahia de Kino, generally receive a higher price per kilo from intermediaries than do the Comcaac. In addition, their expenses are less because of their proximity to the outside market, access to vehicles, boat maintenance, supplies etc. Outside fishers have the opportunity to work as crew members on Comcaac boats. Others may enter into a partnership trade agreement with a Comcaac family to transport the fish to market. Sometimes Comcaac authorities will split the catch with the outside fishers as they request that they leave. These types of accommodations have reduced age old tensions and conflicts with fishers from the surrounding communities. There is widespread recognition that the National Fisheries Commission regulates illegal fishing and boat registration.	

		Violators are fined or lose their license or boat. It is also known among fishers that the Comcaac are authorized to remove fishers from their territory, and that they are trained to do so amicably. Violators generally comply when requested to leave, switching to close by fishing areas outside Comcaac territory. Violations mainly occur due to lack of resources to patrol their waters. Frequent meetings with fisher groups and individuals will reinforce these measures	
	Have strategies to avoid, minimise and compensate for these negative impacts been identified and planned?	During the project development phase, these topics will be examined further with the Comcaac fishers and with outside fishers to refine strategies. Given the disadvantages of the Comcaac fishers face, it is doubtful that they would agree to compensate outside boats while removing them from their territory, however other incentives could be explored. Currently our strategy will be to lean towards fisheries conservation	*Ok – as above*

		education, allying outside conservation organizations already working with local fishers.	
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification: 2 – the project does well to identify the risks surrounding restricting outside fishers from the Comcaac fishing area and has provided sufficient plans in place to detail this further in the PDD.* *Estimated magnitude of risks (1-5) & justification: 2 – should this risk occur; it would have a moderate impact on a relatively small number of people.* *Risk significance: Low*			
Cultural heritage	Is the Project Area officially designated or proposed as a cultural site, including international and national designations?	Yes. UNESCO World Heritage site and RAMSAR designated wetlands of international significance.	*Ok*
	Does the project site potentially include important physical cultural resources, including burial sites and monuments, or natural features or resources of cultural significance (e.g. sacred sites and species, ceremonial areas) and is there risk that the project will negatively impact this cultural heritage?	Culturally important resources and sites are rare in the project area. These sites are generally not shared with outsiders. Unregulated ecotourism could inadvertently harm culturally significant resources and sites, rather than the project doing the harm.	*Ok, please outline how this will be mitigated in the PDD.*
	Is there a risk that the project will negatively impact intangible cultural heritage? Consider for example	*Very unlikely to occur (1)* Project support for Intergenerational transmission of traditional	*Ok*

	cultural practices, social and cultural norms in relation to land and natural resources.	knowledge and cultural practices helps to prevent negative impacts	
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification: 2 – cultural sites are rare and could be impacted by ecotourism. However, as the project aims to regulate negative impacts of tourism, this risk is not expected to occur.* *Estimated magnitude of risks (1-5) & justification: 2 – if this risk were to occur, it would affect only a very small area / sites due to the scarcity in the project area.* *Risk significance: Low*			
Indigenous Peoples	Are there Indigenous Peoples living within the Project Area, using the land or natural resources within the project area, or with claims to land or territory within the Project Area?	Yes. This area belongs to the Comcaac tribe who are leaders in the project.	*Ok – please provide detailed descriptions of the Comcaac tribe, their rights, customs, and governance mechanisms in the relevant sections of the PDD.*
	Is there a risk that the project negatively affects Indigenous Peoples through economic displacement, negatively affects their rights (including right to FPIC), their self- determination, or any other social or cultural impacts?	The project is designed to increase sovereignty through economic benefits-conservation jobs to protect critical habitat and species and to foster sustainable fisheries within Comcaac territory. Cultural knowledge bearers will help guide the project. Community leaders and tribal authorities are involved in the	*Ok – a description of the FPIC process should be detailed in the PDD.*

		inception, planning implementation and regular evaluation of the project. Information sharing will occur with the consent and participation of authorities and leaders.	
	Is there a risk that there is inadequate consultation of Indigenous Peoples, and/or that the project does not seek the FPIC of Indigenous Peoples, for example leading to lack of benefits or inappropriate activities?	Regular consultation and benefit sharing strategies are inherent to this project.	*Ok – this risk is low due to the design of the project and the participatory and FPIC processes. Please include a detailed description of this in the PDD.*
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification: 2 – the project is on Indigenous territory, however, due to the project design and active involvement of the Comcaac as leaders in the project, this risk is not expected to occur.* *Estimated magnitude of risks (1-5) & justification: 3 – this risk can be avoided, mitigated and managed through the FPIC and participatory processes, however if it were to occur the magnitude would be medium.* *Risk significance: Moderate*			
Biodiversity and sustainable use of natural resources	Is there a risk that project activities will cause adverse impacts on biodiversity (both in areas of high biodiversity value, and outside of these areas) or the functioning of ecosystems? Consider issues such as use of pesticides, construction, fencing, disturbance etc.	The disturbance related to the project activities are minimal.	*Ok*

	Is there a risk that the project will introduce non-native species or invasive species?	The risk of introducing invasive species is minimal. The projected activities focus on native species recovery and restoration. The field teams are already trained to avoid inadvertent introduction of native species and are involved in invasive species removal from Tiburon Island. Project workshops will reinforce these concepts.	*Ok*
	Is there a risk that the project will lead to the unsustainable use of natural resources? Consider for example projects promoting value chains and natural resource-based livelihoods.	Minimal risk because sustainable collection protocols are followed for mangrove seed and propagule collection for propagation. The project is designed to reduce overexploitation of the fisheries through participatory research, education and monitoring Workshops will include content to reinforce sustainable harvest practices for eelgrass seed. Tools and strategies protect from overexploitation.	*Ok*
	Is there a risk that the project will lead to the exploitation of any wildlife? Consider the animal or plant groups being	The project is designed to protect recovering wildlife and to protect it from overexploitation. Members of	*Ok*

	monitored under the PV Nature Methodology and how this will impact other groups.	the project team monitor their territory for illegal hunting and sale of endangered sea turtles.	
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification: 2 – The project activities and use of exclusively native plants for the seagrass and mangrove restoration interventions, means that this risk is very unlikely to occur* *Estimated magnitude of risks (1-5) & justification: 2 – should this risk occur; it would have a minimal impact on a relatively small number of people.* *Risk significance: Low*			
Land tenure conflicts	Has the land tenure and use rights in the project area been assessed and understood?	Yes	*Ok*
	Is there a risk that project activities will exacerbate any existing land tenure conflicts, or lead to land tenure or use right conflicts?	*Not expected to occur (2)* The mainland coast and Infiernillo Channel-where the project occurs-are the most important areas under tribal controlled access, enforced and protected by tribal members and authorities and by Mexican law. The Comcaac tribal members are the legal owners of the mainland and the island, and also have exclusive fishing rights on the marine portion due to two presidential decrees. Mainland legal	*Ok, it is clear that the Comcaac nation has rights to the area and are the legal owners. Please document this further in the PDD.*

		ownership was granted by presidential decree published on November 28, 1970 and Tiburon island also by a second presidential decree published by the Mexican Government on February 11, 1975. After a long social struggle to restore the property to the tribe, nowadays the Comcaac Indigenous nation is the legal owner of over 90,000 ha on the mainland and 120,000 ha on Tiburon Island. The tribal territory now consists of a total of 210,000 ha for half a century, and also for millennia.	
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification: 2 – The identification of the tenure rights granted to the Comcaac nation by the government means that this risk of land tenure conflict is unlikely to occur* *Estimated magnitude of risks (1-5) & justification: 2 – If any changes to the tenure rights occurred (e.g. change in government), this could have a significant impact on a number of people.* *Risk significance: LOW*			
Risk of not accounting	Have trends in climate variability in the project areas been assessed and understood?	Studies around the impacts of climate variability in the Gulf of California describe warming trends	*Ok – good to know that the climate trends in the area have*

for climate change		and sea level rise, increased ocean acidification with altered upwelling patterns leading to shifts in species distribution, impacts on fisheries of changes in abundance and distribution of key marine life. fish, marine mammals and seabirds.	*been well understood. Please include detail of this in the PDD.*
	Has the climate vulnerability of communities and particular social groups been assessed and understood?	Yes In 2014-15, a comprehensive study of the Comcaac communities with particular attention to gender and vulnerable groups was conducted by the regional Comision Nacional de Areas Protegidas- Islas del Golfo.	*Ok – good to know that this has also been understood for the communities. Please include details in the PDD.*
	Is there a risk that climate variability and changes might influence the effectiveness of project activities (e.g. undermine project-supported livelihood activities) or increase community exposure to climate variation and hazards? Consider floods, droughts, wildfires, landslides, cyclones, etc.	Low Risk. The location of this project is relatively protected from the effects of storms and hurricanes. The strategy of the mangrove enhancement project is to anticipate, plan, and plant to mitigate sea level rise. The trend towards more tropical conditions in the region is favourable to mangroves. Colder winter temperatures may affect the	*Ok – climate mitigation and adaptation have been built into the project design, and other possible impacts well understood.*

		phenology of the seagrasses, this has been documented anecdotally. Both of these factors will likely impact species migration patterns, making this conserved area chain of estuaries in the central Gulf coast an increasingly important stopover point throughout the year.	
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification: 2 – given the project context and design, this risk is unlikely to occur and appropriate understanding of climatic trends are in place.* *Estimated magnitude of risks (1-5) & justification: 2 – if this risk were to occur, it would affect a small area (more limited to the seagrass sites).* *Risk significance: Low*			
Other – eg. cumulative impacts	Is there a risk that the project will contribute cumulatively to existing environmental or social risks or impacts, for example through introducing new access restrictions in a landscape with existing restrictions and limited land availability?	Project design will consider timing of fishery recovery activities for fisheries to coincide with off season fishing time periods when fishers shift to other income options. Patrol authorities are well trained and respected. Comcaac Fishers include outside fishers in their crews. Existing inequalities will be mitigated by the inclusion of	*Ok – please outline these detailed plans in the PDD.*

		women, youth, older adults and inclusion of diverse clans.	
	Are there any other environmental and social risks worthy of note that are not covered by the topics and questions above?	No.	*Ok*
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification: 2 – given the project design will factor environmental risks around timing of activities, this risk is considered low.* *Estimated magnitude of risks (1-5) & justification: 2 – should this risk occur; it would have a minimal impact.* *Risk significance: Low*			
SECTION C: SAFEGUARD PROVISIONS			
Stakeholder engagement: requirements 2.1.1-2.1.3	Has a stakeholder analysis been conducted that has identified all stakeholders that could influence or be affected by the project, or is this still to be completed? Please describe.	Yes, a comprehensive consultation was done in 2022 with different sectors of the community to identify priority areas of concern, opportunities and challenges. A survey is underway to document stakeholders perceptions of the importance of biodiversity and culture related of the project area. The community groups identified fisheries, tourism, conservation and participatory research, fisheries and	*Ok – great that a comprehensive consultation has been carried out and that more work is underway with stakeholders. Please include detail of this in the PDD.*

		culture/ traditional medicine as priority areas of concern.	
	Are the local community and indigenous peoples statutory or customary rights to land or resources within the project area already clear and documented, or is further assessment required? Please describe.	The statutory or customary rights to land or resources within the project area are clear and documented	*Ok*
	Are local governance structures and decision-making processes described and understood (including details of the involvement of women and marginalized or vulnerable groups), or is further assessment required? Please describe.	Yes. This project has been designed by local authorities and community leaders many of whom are women, youth and elders representing vulnerable groups.	*Ok*
	Are past or ongoing disputes over land or resources in the project area known and documented, or is there need for further assessment? Please describe.	The statutory or customary rights to land or resources within the project area are clear and documented. There is a need to update the current fisheries take as described in this project.	*Ok – good to know that the land tenure and rights are well documented.*
Stakeholder consultation: requirements 2.5.1 and 2.5.2	Does the project have a Stakeholder Engagement Plan with clear measures to engage Vulnerable Groups, or is this plan still to be developed? Please describe.	A complete stakeholder engagement plan for this project has yet to be developed. Within the community, regularly plan and update community engagement processes and activities, including: consultation with authorities and	*Ok – this is fine at PIN stage as we do not expect comprehensive stakeholder engagement plan until PDD. Good to know that there is active and regular community engagement, close working partnerships with*

		leaders, promotional events, participatory conservation and research projects with youth and traditional knowledge holders, focus group and individual interviews/ conversations. We work closely with external stakeholders, NBOs, Academic and government institutions, and would further develop an engagement plan with them.	*external stakeholders, and that plans for a stakeholder engagement plan are in place. Please include details of this in the PDD.*
	Has the Project Coordinator informed all stakeholders of the project, through providing relevant project information in an accessible format, or does this still need to be completed? Please describe.	Yes, with the exception of the fisheries element, which will be a new initiative. Most elements of this project have been underway since 2021.	*Ok – it is understandable that newer elements (e.g. the fisheries) need a bit of time to plan before informing all stakeholders.*
Free, Prior and Informed Consent: requirements 2.6.1-2.6.4	Has the project analysed and understood national and international requirements for Free Prior and Informed Consent (FPIC)? Please describe.	Yes, we follow UNDRIP guidelines and processes for FPIC and benefit sharing as well as research guidelines developed by the International Society for Ethnobiology.	*Ok – great that appropriate guidelines are being followed.*
	Has the project identified potential FPIC rightsholders and potential representatives in local communities and among	All members of the Comcaac community are 'rights holders' We consult and work with	*Ok*

	indigenous peoples, or is this still to be completed? Please describe.	representatives of different sectors and authorities on an ongoing basis.	
	Has the project worked with rightsholders and representatives of local communities and indigenous peoples to understand the local decision-making process and timeline (ensuring involvement of women and vulnerable groups), or is this still to be completed? Please describe.	Indigenous community project coordinators lead the project in understanding the local decision-making process and timeline (ensuring involvement of women and vulnerable groups).	*Ok – great that there are indigenous community coordinators in place to facilitate this work. Please include detail of the decision making process in the PDD.*
	Has the project sought consent from communities to 'consider the proposed Project', and if so, where is this in principle consent documented? Please describe.	Yes, written communications are provided to the authorities for authorization of portions of this project (mangrove and seagrass conservation, blue carbon sequestration and water quality strides) was initiated in 2021 with renewal every 3 years. Annual community meetings of stakeholders are held. An updated project consent/authorization for this project will be obtained during the project development phase. Comcaac authority collaboration is documented in the organization letter included in this PIN	*Ok – please include evidence of this process and project agreements showing consent has been granted as part of the PDD.*

Grievance Redress Mechanism: requirements 3.16.1	Does the project already have a Grievance Redress Mechanism (GRM), or is this still to be established? Please describe.	No- this would be established during consultation with community leaders and adapted to Comcaac oral traditions during the project development phase	*Ok – this is fine for PIN stage, please include detail of the grievance process in the PDD.*
	For projects with a GRM, is this accessible to project affected people? Please describe.		*N/a*

E&S reviewer conclusions for safeguard provisions

Are the project Safeguard Provisions adequately addressed, or to be adequately addressed during the project design phase?

In most instances, the safeguarding provisions have been adequately addressed. Where not already completed, there are plans in place to ensure this is done by PDD.

What additional actions need to be conducted during the project design phase?

For the project design phase, please be sure to include detail of the stakeholder analysis, stakeholder engagement plan, Comcaac decision making process, project agreements showing consent to be involved in the project and evidence of the participatory processes, and the grievance redress mechanism. Please also ensure that all secondary stakeholders are adequately informed of any newer elements of the project (e.g. the fisheries interventions), and local stakeholders involved in the design process.Any other comments

The project has strong foundations working with the Comcaac peoples. There are clear plans in place to include everything listed above in the project design phase through close consultation with the community groups and active leadership of the Comcaac. No additional comments needed.

SECTION D: SCREENING REPORT (NOT TO BE COMPLETED BY PROJECT: FOR USE OF PV E&S REVIEWER)

Name of E&S reviewer	***Evie Ward***

<table>
<tr><td>Date of E&S screening:</td><td>08/05/2025</td></tr>
<tr><td>Project risk rating:</td><td>To be assigned once all sections are completed.</td></tr>
<tr><td>Principle risks and impacts</td><td><Include summary of key project risks & impacts>
<table>
<tr><th>E&S topic/ risk area</th><th>Likelihood (1-5)</th><th>Magnitude (1-5)</th><th>Significance (low, moderate, severe, high)</th></tr>
<tr><td>Vulnerable Groups</td><td>2</td><td>2</td><td>Low</td></tr>
<tr><td>Gender equality</td><td>2</td><td>2</td><td>Low</td></tr>
<tr><td>Human Rights</td><td>1</td><td>4</td><td>Low</td></tr>
<tr><td>Community, Health, Safety & Security</td><td>3</td><td>2</td><td>Moderate</td></tr>
<tr><td>Labour and working conditions</td><td>3</td><td>2</td><td>Moderate</td></tr>
<tr><td>Resource efficiency, pollution, wastes,</td><td>2</td><td>3</td><td>Moderate</td></tr>
</table></td></tr>
</table>

chemicals and GHG emissions			
Access restrictions and livelihoods	2	2	Low
Cultural heritage	2	2	Low
Indigenous Peoples	2	3	Moderate
Biodiversity and sustainable use of natural resources	2	2	Low
Land tenure conflicts	2	2	Low
Risk of not accounting for climate change	2	2	Low
Other – eg. cumulative impacts	2	2	Low

E&S assessment required	*Project should complete the PDD, including the sections 'Environmental and Social Assessment' and 'Environmental and Social Risk Management Plan'. Management provisions should be consulted with the community and built into the project design over the next phase of certification. Focus should be given particularly to the community, health, safety and security, the involvement and upholding of rights of the Comcaac people, potential for risk through labour and working conditions, and pollution in the project area.* *Please pay particular attention to the risks we have identified as MODERATE above in your PDD, and mitigation measures surrounding these risks.*
Likely safeguard plans required	*ESA, ESA report, ESMP. Sections 3.9.3, 3.9.4 and Annex 10 of the PDD*

Annex 5 – Notification of Relevant Authorities

Provide a copy of any correspondence addressed to the authorities with overall responsibility for land management and greenhouse gas emissions assessment within the project region informing them of the project.

BORDERLANDS RESTORATION NETWORK

REBUILD. RESTORE. RECONNECT.

Borderlands Restoration Network
320 B School Street PO Box 121 Patagonia, Arizona 85624

ING. ALBERTO MELLADO MORENO
PRESIDENTE DEL COMISARIADO EJIDAL
EJIDO EL DESEMBOQUE Y ANEXO PUNTA CHUECA

Ejido El Desemboque
y su anexo Punta Chueca
DFYFS-CR-EX-0412-SON

PRESENTE

Por este medio es de nuestro gusto saludarle y compartir con usted lo siguiente: BRN Ha venido colaborando en diversos proyectos como Salud Comcaac, rescate de valores culturales monitoreo y conservación de los ecosistemas de mangles y pastos marinos en el territorio Comcaac, modos de vida saludable y sostenibles, educación financiera y economías comunitarias, entre otros temas, con una estrecha y positiva colaboración con jóvenes, mujeres, mayores y la comunidad Comcaac en genera de manera transversal y con resultados muy positivos incluso en épocas complicadas como la pandemia de Covid-19.

Queremos compartirle que actualmente nos encontramos, diseñando y preparando una propuesta de proyecto titulada:
Biocultural conservation and restoration in the Infiernillo Channel in Comcáac Indigenous Territory -protecting and restoring mangroves, seagrass beds and sea turtle populations in the Infiernillo Channel in the Gulf of California Sonora, Mexico
Con el objetivo de obtener pagos para conservación y protección del territorio para mantener

- Conservación y restauración mejoramiento de manglares
- Conservación de pastos marinos y zonas de callo de bajamar
- Fortalecer la pesquería Comcaac y su gobernanza con indicadores confiables
- Promover el cuidado de las especies de importancia ecológica y cultural en canal de infiernillo por medio de la revitalización de procesos culturales y practicas tradicionales
- Facilitación de modos de vida sostenible, por medio de incrementar capacidades para empleos y conservación

Por lo anterior es importante para el proyecto su visto bueno, pero además su colaboración y participación como autoridad local. Además, poder estar en comunicación directa en todas las etapas del proyecto relativo a bonos por biodiversidad y conservación del territorio.

Sin más por el momento reciba un cordial saludo.
Laura Monti PhD
Borderlands Restoration Network 520-6782381
lmonti@borderlandsrestoration.org

Recibí 28/10/24

EJIDO EL DESEMBOQUE Y SU ANEXO PUNTA CHUECA 2024-2027
DFYFS-CR-EX-0412-SON
NACIÓN COMCAAC

BORDERLANDS RESTORATION NETWORK
REBUILD. RESTORE. RECONNECT.

Borderlands Restoration Network
320 B School Street PO Box 121 Patagonia, Arizona 85624

ROMELIA BARNETT DIAZ
REGIDORA ÉTNICA
PUNTA CHUECA
H. AYUNTAMIENTO DE HERMOSILLO

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- Fortalecer la pesquería Comcaac y su gobernanza con indicadores confiables
- Promover el cuidado de las especies de importancia ecológica y cultural en canal de infiernillo por medio de la revitalización de procesos culturales y practicas tradicionales
- Facilitación de modos de vida sostenible, por medio de incrementar capacidades para empleos y conservación

Por lo anterior es importante para el proyecto su visto bueno, pero además su colaboración y participación como autoridad local. Además, poder estar en comunicación directa en todas las etapas del proyecto relativo a bonos por biodiversidad y conservación del territorio.

Sin más por el momento reciba un cordial saludo.
Laura Monti PhD
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BORDERLANDS RESTORATION NETWORK

REBUILD. RESTORE. RECONNECT.

Borderlands Restoration Network
320 B School Street PO Box 121 Patagonia, Arizona 85624

C. JESÚS FÉLIX SEGOVIA
PRESIDENTE DE BIENES COMUNALES ISLA DEL TIBURÓN
GOBERNADOR TRADICIONAL DE LA NACIÓN COMCAAC

PRESENTE

Por este medio es de nuestro gusto saludarle y compartir con usted lo siguiente: BRN Ha venido colaborando en diversos proyectos como Salud Comcaac, rescate de valores culturales monitoreo y conservación de los ecosistemas de mangles y pastos marinos en el territorio Comcaac, modos de vida saludable y sostenibles, educación financiera y economías comunitarias, entre otros temas, con una estrecha y positiva colaboración con jóvenes, mujeres, mayores y la comunidad Comcaac en genera de manera transversal y con resultados muy positivos incluso en épocas complicadas como la pandemia de Covid-19.

Queremos compartirle que actualmente nos encontramos, diseñando y preparando una propuesta de proyecto titulada:
Biocultural conservation and restoration in the Infiernillo Channel in Comcáac Indigenous Territory -protecting and restoring mangroves, seagrass beds and sea turtle populations in the Infiernillo Channel in the Gulf of California Sonora, Mexico
Con el objetivo de obtener pagos para conservación y protección del territorio para mantener

- Conservación y restauración mejoramiento de manglares
- Conservación de pastos marinos y zonas de callo de bajamar
- Fortalecer la pesquería Comcaac y su gobernanza con indicadores confiables
- Promover el cuidado de las especies de importancia ecológica y cultural en canal de infiernillo por medio de la revitalización de procesos culturales y practicas tradicionales
- Facilitación de modos de vida sostenible, por medio de incrementar capacidades para empleos y conservación

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Laura S Monti

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Appendix 1 – Criteria for Key Biodiversity Areas

A. Threatened biodiversity		
A1 Threatened species		Assessment parameters
A1a	≥0.5% of global population size and ≥5 reproductive units (RU) of a CR/EN species	(i) no. of mature individuals (ii) area of occupancy (iii) extent of suitable habitat (iv) range (v) no. of localities (vi) distinct genetic diversity
A1b	≥1.0% of global population size and ≥10 RU of a VU species	
A1c	≥0.1% of global population size and ≥5 RU of a species listed as CR/EN due only to past/current decline [= Red List A1, A2, A4 only]	
A1d	≥0.2% of global population size and ≥10 RU of a species listed as VU due only to past/current decline [= Red List A1, A2, A4 only]	
A1e	Effectively the entire population size of a CR/EN species	
A2 Threatened ecosystem types		
A2a	≥5% of global extent of a CR or EN ecosystem type	
A2b	≥10% of global extent of a VU ecosystem type	
B. Geographically restricted biodiversity		
B1. Individual geographically restricted species	≥10% of global population size and ≥10 RU of any species	(i) no. of mature individuals (ii) area of occupancy (iii) extent of suitable habitat (iv) range (v) no. of localities (vi) distinct genetic diversity
B2. Co-occurring geographically restricted species	≥1% of global population size of each of a number of restricted range species in a taxonomic group: ≥2 species or 0.02% of the total number of species in the taxonomic group, whichever is larger	
B3. Geographically restricted assemblages		
B3a	≥0.5% of global population size of each of a number of ecoregion-restricted species in a taxonomic group: ≥5 species or 10% of the species restricted to ecoregion, whichever is larger	(i) no. of mature individuals (ii) area of occupancy (iii) extent of suitable habitat (iv) range (v) no. of localities
B3b	≥5 RU of ≥5 bioregion-restricted species or ≥5 RU of 30% of the bioregion-restricted species known from the country, whichever is larger	
B3c	Site is part of the globally most important 5% of occupied habitat for ≥5 species in the taxonomic group	(i) relative density of mature individuals (ii) relative abundance of mature individuals
B4. Geographically restricted ecosystem types		
	≥20% of the global extent of an ecosystem type	
C. Ecological integrity		
	Site is one of ≤2 per ecoregion with wholly intact ecological communities	composition and abundance of species and interactions
D. Biological processes		
D1. Demographic aggregations		
D1a	≥1% of global population size of a species, over a season, and during ≥1 key stage in life cycle	no. of mature individuals
D1b	Site is among largest 10 aggregations of the species	no. of mature individuals
D2. Ecological refugia	≥10% of global population during periods of environmental stress	no. of mature individuals
D3. Recruitment sources	Produces propagules, larvae or juveniles maintaining ≥10% of global population size	no. of mature individuals
E. Irreplaceability through quantitative analysis		

Appendix 2 – Criteria for Important Plant Areas

Sub-criterion	Threshold
(A) Threatened species	
A(i) Site contains one or more **globally threatened** species	Site known, thought or inferred to contain **≥1%** of the global population AND/OR **≥5%** of the national population OR the **5 "best sites"** for that species nationally, whichever is most appropriate
A(ii) Site contains one or more **regionally threatened** species	Site known, thought or inferred to contain **≥5%** of the national population, OR the **5 "best sites"** for that species nationally, whichever is most appropriate
A(iii) Site contains one or more **highly restricted endemic** species that are potentially threatened	Site known, thought or inferred to contain **≥1%** of the global population AND/OR **≥5%** of the national population, OR the **5 "best sites"** for that species nationally, whichever is most appropriate
A(iv) Site contains one or more **range restricted endemic** species that are potentially threatened	Site known, thought or inferred to contain **≥1%** of the global population AND/OR **≥5%** of the national population, OR the **5 "best sites"** for that species nationally, whichever is most appropriate
(B) Botanical richness	
B(i) Site contains a **high number of species** within **defined habitat or vegetation types**	For each habitat or vegetation type: up to 10% of the national resource can be selected within the whole national IPA network OR the **5 "best sites"** nationally, whichever is the most appropriate
B(ii) Site contains an **exceptional number of species of high conservation importance**	Site known to contain **≥3%** of the selected national list of species of conservation importance OR the **15 richest sites** nationally, whichever is most appropriate
B(iii) Site contains an **exceptional number of socially, economically or culturally valuable species**	Site known to contain **≥3%** of the selected national list of socially, economically or culturally valuable species OR the **15 richest sites** nationally, whichever is most appropriate
(C) Threatened habitat	
C(i) Site contains **globally threatened or restricted** habitat/vegetation type	Site known, thought or inferred to contain **≥5%** of the national resource (area) of the threatened habitat type OR site is among the best quality examples required to collectively prioritise **20–60%** of the national resource OR the **5 "best sites"** for that habitat nationally, whichever is the most appropriate
C(ii) Site contains **regionally threatened or restricted** habitat/vegetation type	Site known, thought or inferred to contain **≥5%** of the national resource (area) of the threatened habitat type OR site is among the best quality examples required to collectively prioritise **20–60%** of the national resource OR the **5 "best sites"** for that habitat nationally, whichever is the most appropriate
C(iii) Site contains **nationally threatened or restricted** habitat/vegetation type, AND/OR habitats that have **severely declined in extent** nationally	Site known, thought or inferred to contain **≥10%** of the national resource (area) of the threatened habitat type OR site is among the best quality examples required to collectively prioritise up to **20%** of the national resource OR the **5 "best sites"** for that habitat nationally, whichever is most appropriate