CEDO

Intercultural Center
for the Study of Deserts and Oceans

ANNUAL REPORT 2022





Debbie Colodner

President/ CEDO Inc.

As even a quick glance at this report will reveal, this has been a remarkable year for CEDO. Programs and services that were shuttered by the pandemic have been fully restored, and new programs have emerged. CEDO has taken a larger role on the world stage, offering insights and partnership for conservation around the planet, and especially in Mexico, Latin America and the borderlands.

As President of the Board of CEDO Intercultural, Inc, the non-profit based in Tucson, AZ, I often struggle to concisely answer the question, “What is CEDO?” How do I represent the breadth and depth of our activities in a few catchy phrases? I’ve decided that what’s more important is to help people understand CEDO’s approach. CEDO works with communities in the Northern Gulf of California and Sonoran Desert to find nature-based solutions to the challenges they are facing. By starting with community, rather than starting with particular solutions, CEDO’s activities are impactful and sustainable for both people and their habitat.

CEDO’s work evolves in conversation with communities. In the last year, we mobilized and engaged nearly 1000 volunteers in clean-up and monitoring efforts, helped fishers advance their business and sustainability goals, helped strengthen networks among fishing communities in the Northern Gulf, and trained community members in skills as diverse as SCUBA safety, entrepreneurship, protected species, and monitoring of coastal fishing. Participants in our School of the Sea included diverse sectors, such as fishers, women entrepreneurs, divers and tourist police.

Additionally, CEDO engages in and supports the work of researchers who are working to answer critical questions about the impacts of climate change on fisheries, carbon storage by coastal wetlands, the sustainability of fish populations, and the future supply and management of drinking water. CEDO has also taken the lead in pulling together conservation organizations in the tri-national Sonoran Desert borderlands to document and further protect our dwindling freshwater habitats and fish populations.

CEDO also works for systems and policy change at local, regional, national and international levels. We organized regional fisheries and aquaculture conferences, advised the Mexican government on ocean policy, and participated in international conferences and working groups (United Nations and International Union for the Conservation of Nature). And CEDO sponsored events for the community to celebrate its collective work to protect the environment on which we all depend.

All of this is only possible with the support of grants from private foundations, government agencies and individual donors. CEDO does not have the benefit of an endowment or line item in a government budget. You are the lifeblood of CEDO. What is CEDO to you? Please continue to tell your CEDO story, and help support the impactful work of this inspiring





INTRODUCTION

The Intercultural Center for the Study of Deserts and Oceans (CEDO Intercultural) represents a remarkable collaboration between non-profit organizations from both Mexico (Puerto Peñasco, Sonora) and the United States (Tucson, Arizona). Rooted in a shared vision, mission, and strategic initiatives, these organizations combine their resources and expertise to deliver solutions that honor and promote the intricate interplay of culture, socioeconomic factors, and biology between the two nations.

For more than four decades, CEDO has steadfastly pursued its mission to:

Foster thriving communities and resilient ecosystems in the Northern Gulf of California and other ecoregions by integrating people, knowledge, and solutions.

And has been guided by a vision of:

Thriving coastal communities, sustainable livelihoods and healthy ecosystems. CEDO Intercultural positions itself as a dedicated environmental organization, distinguished by its strong commitment to sustainable fisheries, conservation and protection of species and ecosystems, research and education, and community well-being. Renowned for our holistic approach, we advocate nature-focused strategies that safeguard the distinctive natural systems that characterize this region.

Our work deftly responds to fundamental societal challenges that are integral to economic progress and underscores the deep interconnectedness between human well-being and ecosystem health.

Operating within the US-Mexico border area, particularly in Arizona, Sonora, Baja California, and the northern Gulf of California, CEDO plays a vital role in these fragile ecosystems. Our reliance on nature for livelihoods, food and water security, health, and resilience in the face of natural challenges underscores the urgency of our efforts and a mission made more critical by current global challenges, including population growth, environmental degradation, loss of habitats and species, overexploitation of resources and threats from climate change.

Spanning deserts, coastlines and oceans, our nature provides the solutions to humanity's most pressing dilemmas. By consciously harnessing natural resources, particularly through artisanal fisheries and aquaculture, we forge a symbiotic relationship between society, encompassing education, tourism and development, and the natural world. We pay tribute to the wisdom and sustainable practices of artisanal fishers and aquaculturists, whose contributions strengthen food security, social cohesion, local economies, poverty alleviation and the achievement of the United Nations Sustainable Development Goals.
During 2022, CEDO worked intensively using a nature-based solutions approach. This report summarizes the work done.

Nélida Barajas Acosta

CEO of CEDO Inc.



NATURE



SEA, COASTS AND ISLANDS

- Twenty-nine (29) whale watching trips in collaboration with 8 tourist service providers where we saw 62 whales, as well as other organisms including dolphins, orcas and pilot whales.

- San Jorge Island: Four (4) Sea lion (*Zalophus californianus*) monitoring sessions with an average sighting of 622 females and 105 males and disentanglement of 13 organisms.

- 34.32 km (21.32 m) of beaches and seabed in Puerto Peñasco and in the San Francisquito wetland cleaned with 813 volunteers who collected 7 tons of waste.

- Participation in the Clean Beaches Committee: 3 beaches in Puerto Peñasco maintain their certification as Level II Clean Beaches under NMX-AA-120-SCFI-2016 and the Blue Flag Award for updating and monitoring an Action Plan for Flora and Fauna Protection.

- Four (4) Least Tern (*Sternulla antillarum*) monitoring sessions during nesting season from April to June - 52 organisms sighted.



EPICONTINENTAL WETLANDS

Follow-up and monitoring of the native fish of the Sonoyta River ex-situ conservation refuge network for the Sonoyta pupfish (*Cyprinodon eremus*) and Longfin dace (*Agosia chrysogaster*). We counted 103 organisms at the COBACH-Sonoyta refuge, 160 at the El Pinacate and Gran Desierto de Altar Biosphere Reserve, 422 at CETMAR #14 in Puerto Peñasco, and 95 pupfish and 78 longfin daces at CEDO Intercultural.

DESERTS

Spring monitoring of osprey (Pandion haliaetus) in Las Conchas in collaboration with CIAD. 17 nests were counted, eleven of which were active and hatchlings were found in five of them.

WILDLIFE ASSISTANCE

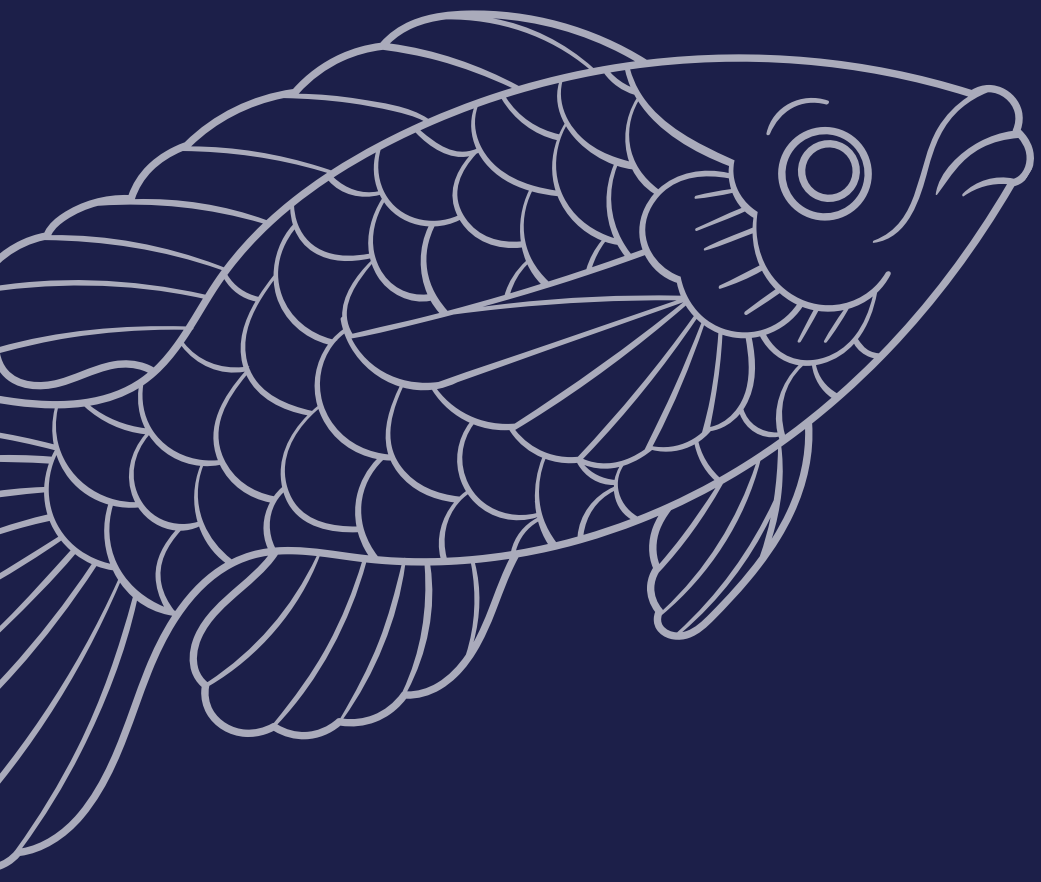
We provided assistance to various injured wildlife specimens with some degree of medical or motor injuries, including a black-necked grebe (*Podiceps nigricollis*), an osprey (*Pandion haialetus*), an American peregrine falcon (*Falco peregrinum anatus*), a western grebe (*Aechmophorus occidentalis*), a brown pelican (*Pelecanus occidentalis*), a gray fox (*Urocyon cinereoargenteus*), a sea lion (*Zalophus californianus*), a white heron (*Egretta tula*), a blue-footed booby (*Sula nebouxii*), and two brown turtles (*Chelonia mydas agassizii*). We also disposed of the remains of a common dolphin (*Delphinus delphis*) that washed up dead on the beach in Puerto Peñasco.







FISHERIES & AQUACULTURE



- The third year of the work plan for the Blue Crab (*Callinectes bellicosus*) Fisheries Improvement Project (FIP) is implemented and obtained a "recent progress" rating.

- For the second year, the work plan for the White Clam (*Dosinia ponderosa*) Fishery Improvement Project (FIP) is implemented and obtained a "Good progress" rating.

- Challenges include reactivating the White Clam Fishery Management Committee, ensure the continuity of the fishery's monitoring, establish the collaboration for the population evaluation, develop inputs for the Fishery Management Plan and for the White Clam Data Sheet for the National Fisheries Charter.

- Two species are evaluated to be incorporated into new FIPs. Surveys and diagnoses were carried out in accordance with the Smart Fish Value Rescue Model (VRM). This project is part of the Ocean Innovation Challenge 2022. (Three survey reports in finfish fisheries, Chionista clam, and Japanese oyster, as well as evaluation of the Value Rescue Index in the cooperatives SCPP Anzuelos SCL., SCPP Desierto de Cortés SCL., SCPP Ribereña Torres SCL., SCPPyA Almejeros Unidos del Golfo SCL., SCPPyA La Cinita SCL. and a Diagnostic report from SCPPE Bahía San Jorge SCL.)

- Two business plans and two technical and economic feasibility studies were developed for projects to build and equip processing and value-added plants for four community groups that produce crab, clam, and finfish.





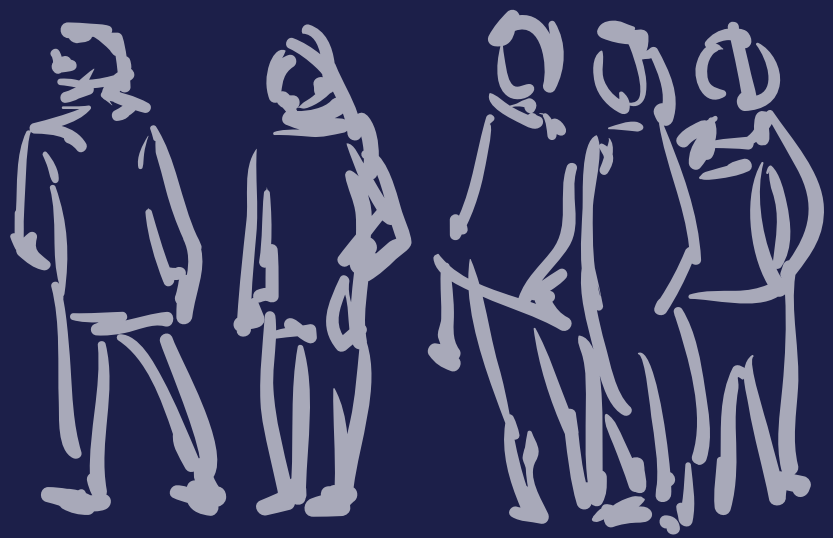




FISHERIES MANAGEMENT

The experience in the fishing management process of the Peñasco-Lobos Corridor in Golfo Santa Clara and San Felipe is shared to identify opportunities to implement space-time management in the marine-coastal region. Specific opportunities for collaboration were identified.

SOCIETY





RESILIENT COMMUNITIES

- We implemented Community Agendas for San Felipe, Baja California and Golfo de Santa Clara, Sonora, containing priority actions for integral development and community well-being. Out of these agendas we managed 20 activities for both communities. Some of the commitments fulfilled in 2022 include having two focal points, two spaces set up as community centers, dissemination of the COVID protocol, certification of skills in good fishing practices and monitoring, certification of commercial divers, and promoting FIPs.
- The use of COVID community protocols was disseminated in four communities and their use was implemented in two communities with crab and clam FIP producers.
- The Northwest Upper Gulf Water Network was formed with 3 municipal councils and 8 communities.
- Interviews were conducted in 5 communities to learn about the needs and challenges they face in terms of infrastructure and drinking water management.
- 10 meetings were held with authorities from SAGARHPA Sonora, General Fisheries Directorate, Undersecretariat of Fisheries, CONANP, San Felipe, B.C. City Council, and the Puerto Peñasco and Caborca City Councils in Sonora, as well as with the presidents of the Upper Gulf Fishing Federations to Promote the Reactivation of the Economic Development Committee of the Upper Gulf of California.
- Two meetings were held with local representatives and the communities of Desemboque de Caborca and Puerto Peñasco to address the challenges faced by the commercial divers' sector.
- 22 women developed their business plans to boost the social economy in their communities.
- 8 women from the Ejido Rodolfo Campodónico were trained to develop a crab meat picking project, this will add to the results of the crab FIP promoted by CEDO for the Ejido cooperative.
- 22 students from CETMAR in San Felipe were involved in a beach cleanup.
- 19 young people were supported to register in the "Youth Building the Future" Government program and we helped them to figure out the process and the platform in Puerto Peñasco (7), San Felipe (4) and Golfo de Santa Clara (8).
- Interviews were conducted in 5 communities funded by the Boilard Memorial Fund to learn about the needs and challenges they face in terms of infrastructure and drinking water management.

SCHOOL OF THE SEA / CAPACITY BUILDING

- 37 certifications (12 men and 25 women) in the EC0578 competency standard: Good Practices in the Management of Fishery Products on board Small Vessels.
- 57 certifications (9 men and 48 women) in the EC0820 competence standard: Monitoring of Coastal Fishing Activity.
- 22 women trained and certified in business entrepreneurship at the end of the 25-week "Emprende" Business Workshop offered by Proempleo A.C.
- 38 women and 1 man strengthened their soft skills in leadership and effective communication.
- 9 fishermen have the PADI (Professional Association of Diving Instructors) certification in open water scuba diving and were trained in the guidelines of NOM-014-STPS-2000 "Occupational exposure to abnormal environmental pressures - Safety and hygiene conditions".
- 14 Tourist Police from Puerto Peñasco (8 men and 6 women) trained in issues of natural history, biodiversity and protected species in the region.
- 20 fishermen from Puerto Peñasco trained in the Ike Jime traditional Japanese slaughter technique of hook-caught fish.
- 4 women trained in digital platforms and connectivity to support the Forum at the Oyster Technology Show.
- 20 people and authorities from the communities of the northern Gulf of California were certified to implement the curriculum "Water and Education: General Guide for Educators of the Americas and the Caribbean"—International Hydrological Program of UNESCO/WETAGUA Project: WET water workshops.





COLLABORATIONS WITH RESEARCHERS IN NATIONAL AND INTERNATIONAL INSTITUTIONS

Studies

- Study: Determining the vulnerability and impacts of climate change in the socio-ecological marine system of the Mexican Pacific, part of the CONACyT Basic Science project directed by Dr. Gabriela Cruz-Piñón (Autonomous University of Baja California Sur).
- Study: Analysis of variations in the capture of commercial fishing species under climate change in the Gulf of California and the Mexican Pacific, for the project funded by Microsoft's AI for Earth program.
- Collaboration with South Pole to assess the potential of estuaries of the northern Gulf of California: Bahía Adair, Estero Morúa, Bahía San Jorge and San Francisquito, and Los Tanques and the Puerto Lobos mangrove in voluntary blue carbon market mechanisms.
- Participation in the PhD committee of Natalie Salas Mejia, CIBNOR-Guaymas, who is carrying out a project on the structure of the fish population in Estero de La Cruz, Sonora.
- Co-direction of the doctoral thesis of José Manuel Dorantes Hernández of El Colegio de la Frontera Sur, Campeche, on the establishment of fishing refuges in Campeche.
- Advice to Dr. Adrián Arvizu Ruiz for his post-doctorate project "Indicators of regional overfishing of the pink-mouthed murex (Phyllonotus erythrostomus) and implementation of practices aimed at food sovereignty and sustainable use of the resource in the coastal community of Bahía de Kino, Sonora". Under the direction of Dr. Ramón Héctor Barraza Guardado, UNISON
- CIBNOR Master's Degree: Supported Andrea Escamilla Trejo in her thesis Foundations for Spatial Planning of the Coastal Zone of the Guaymas and Empalme Municipalities in Sonora, Mexico: Ecosystem-Based Approach, under the direction of Dr. Alfredo Arreola.
- Participation in the PhD committee of Natalie Salas Mejia, CIBNOR-Guaymas, who is carrying out a project on the structure of the fish population in Estero de La Cruz, Sonora. Co-direction of the doctoral thesis of José Manuel Dorantes Hernández of El Colegio de la Frontera Sur, Campeche, on the establishment of fishing refuges in Campeche. Advice to Dr. Adrián Arvizu Ruiz for his post-doctorate project "Indicators of regional overfishing of the pink-mouthed murex (Phyllonotus erythrostomus) and implementation of practices aimed at food sovereignty and sustainable use of the resource in the coastal community of Bahía de Kino, Sonora". Under the direction of Dr. Ramón Héctor Barraza Guardado, UNISON CIBNOR Master's Degree: supported Andrea Escamilla Trejo in her thesis Foundations for Spatial Planning of the Coastal Zone of the Guaymas and Empalme Municipalities in Sonora, Mexico: Ecosystem-Based Approach, under the direction of Dr. Alfredo Arreola. Studies

- Accepted Sofia Mariana Yax González Gómez for Social Service in the Sustainable Management of the Coastal Zone major of the National School of Higher Studies, Merida Unit.
- Sara Miguel Ruiz completed her academic internship at CEDO to finish her degree in International Studies with a major in International Cooperation. Autonomous University of Madrid in Spain
- CEDO is registered in the register of institutions and organizations eligible for Social Service at the National Autonomous University of Mexico (UNAM).
- CEDO registered the Conservation, Biodiversity and Citizen Science Program in the Guidelines and Operating Regulations of the University Social Service.
- Agreement signed with the Autonomous University of Sonora.
- Agreement signed with the Municipal Foundation Council of San Felipe, B.C.
- Establishment of the Northwest Upper Gulf Water Network with participation of 3 municipal councils and 8 communities.

Collaborations for Wildlife

- PROFEPA Participatory Environmental Surveillance Committee in Puerto Peñasco, Sonora.
- Marine Mammal Stranding Care Program for the coasts of the State of Sonora.
- Assistance and integration in the technical-scientific, operational, and communication groups.
- Coordination of the Endangered Freshwater Fish of the Rio Sonoyta Working Group
- Members of the network of marine mammal strandings in the state of Sonora

Collaboration with Natural Protected Areas

- Titular member of the Advisory Councils of the APFF Islands of the Gulf of California, Isla San Jorge sub-council and Upper Gulf of California and Colorado River Delta Biosphere Reserve Presidency of the Advisory Council of the El Pinacate and Gran Desierto de Altar Biosphere Reserve.
- Members of the Advisory Council of the State Commission for Natural Protected Areas

Publications

- Morzaria-Luna, H., M. Urquidi, G. Cruz-Piñón, J.M. Dorantes Hernández, P.A. Valdivia Jiménez, Á. Sánchez Cruz, I. Martínez. In review. Historical use of coastal wetlands by small-scale fisheries in the Northern Gulf of California. Human Ecology. Preprint at bioRxiv
- Turk-Boyer, P.J., P. Valdivia Jiménez, E.I. Polanco Mizquez, H. Morzaria-Luna, A. Sánchez Cruz and N. Barajas Acosta. 2022. Gender principle 3: Validating and utilizing different capacities and knowledge of women and men. Participatory coastal-marine spatial planning in the Puerto Peñasco-Puerto Lobos biological and fisheries corridor, Sonora, Mexico. Gender Mainstreaming in Coastal and Marine Ecosystems Management Principles, Case Studies and Lessons Learned. Amani A. & A. Hanson (Eds.). United Nations Environment Programme. 24-39 pp.
- Valdivia-Jiménez P. A., Turk-Boyer P.J., Barajas-Acosta N., Flanagan C., Colodner D. and Sánchez-Cruz A.Y. 2023. Embracing Nature, Meaningful Experiences for Teaching and Learning Endeavors: Lessons from the Northern Gulf of California. In: Činčera, J., Johnson, B., Goldman, D., Alkaher, I., Medek, M. (eds.) Outdoor Environmental Education in the Contemporary World. International Explorations in Outdoor and Environmental Education, vol 12. Springer, Cham. https://doi.org/10.1007/978-3-031-29257-6_1. 243-266 pp.







- Dissemination article on the Women Councilors moving for NPAs https://causanatura.org/wiki-cn/mujeres-consejeras-en-movimiento
- Intercultural Center for the Study of Deserts and Oceans. 2022. "Basic community protocol for work environments free of COVID-19 for the artisanal fishing and aquaculture sector". Polanco-Mizquez, E.I., Barajas-Acosta, N., Castillo-Rosas, A., Ochoa-Gómez., M.C., (Eds.) CEDO Intercultural, Puerto Peñasco, Sonora, México
- H. Morzaria-Luna, C.H. Ainsworth, R.L. Scott. 2022. Impacts of deep-water spills on mesopelagic communities and implications for the greater pelagic food web. Marine Ecology Progress Series. 681: 37–51. https://doi.org/10.3354/meps13900
- Cruz-Piñón, F. López-Fuerte, H. Morzaria-Luna. 2022. Book: Ecology and Conservation in the seas of Mexico. Book chapter "State of the art of research on mangroves in Baja California Sur" Calderón-Aguilera, L.E., H. Reyes-Bonilla, H. Morzaria-Luna, J.C. Perusquía-Ardón, M. Olán-González, & M.F. Méndez-Martínez. 2022. Trophic architecture as a predictor of ecosystem resilience and resistance in the eastern Pacific. Progress in Oceanography. https://doi.org/10.1016/j.pocean.2022.102922
- Morzaria-Luna, H. & J.B. Zedler. 2022. Salt marsh restoration surprise: A subordinate species accumulates and shares nitrogen while outcompeting salt marsh dominants. Frontiers in Ecology and Evolution, Conservation and Restoration Ecology. Volume 10 - 2022 | https://doi.org/10.3389/fevo.2022.851055
- Sumbitted. Spatial-Temporal Patterns and Changes in the Structure of the Fish Community in a Semi-Arid Subtropical Coastal Lagoon Subject to Ecological Conservation. Environmental Biology of Fishes

Videos

- Protejamos al lobo marino, centinela del Golfo de California
- Protect the California Sea Lion, a Keystone Species in the Gulf of California
- Resumen - FRPAAS 2022
- Juntos, cambiemos el rumbo de la pesca. Foro de Pesca y Acuacultura 2022
- Spot Festival Pesca y Acuacultura 2022. Puerto Peñasco, Sonora
- Music for the Sea | Promo
- Liberación de lobo marino (Zalophus californianus) en Bahía San Jorge. H. Caborca, Son

MULTILATERAL TOPICS





UNITED NATIONS BIODIVERSITY CONFERENCE (COP 15)

Abelardo Castillo from CEDO was selected among representatives of various civil society organizations in Mexico as part of the Official Mexican Delegation to the Conference of the Parties of the UN Biodiversity Conference. The United Nations Biodiversity Conference (COP15) concluded in Montreal, Canada on December 19, 2022 with a landmark agreement for a new set of goals to guide global action through 2030 to halt and reverse nature loss (Kunming-Montreal Global Framework for Biological Diversity) The GBF consists of four overarching global goals to protect nature, including among them, halting human-induced extinction of threatened species and reducing the rate of extinction of all species tenfold by 2050.

PRIORITIES FOR A LEGISLATIVE AGENDA FOR SUSTAINABLE OCEANS

In June 2022, the Mexican Congress, with the support of the International Conservation Caucus Foundation (ICCF), established the Caucus for the Mexican Oceans (COM) in the Gulf of California. The COM functions as a multiparty and plural space focused on building multisectoral dialogues and processes related to the preservation and sustainable use of the oceans, seas, and marine resources to strengthen the legislative framework for the benefit of people, nature, and the economy. CEDO participated as technical advisor on the issues discussed at the COM and contributed to the design of the document "Priorities for a legislative agenda on sustainable oceans," which was part of the GEF Project called "Facilitating Dialogue and Strengthening Transborder Cooperation with Legislators to Improve Marine Governance".



STOCKHOLM +50 - WHAT DO WOMEN SAY?

CEDO was present at the forum What do women say? organized by the Ministry of Foreign Affairs, through the Undersecretariat for Multilateral Affairs and Human Rights, which has promoted a Feminist Foreign Policy (PEF) and works in collaboration with the United Nations Development Program in Mexico (UNDP). The objective of the Forum was to compile the opinions and visions of Mexican women, which were presented as the official position of Mexico at the Stockholm +50 multilateral forums with an agenda focused on environmental conservation and at the World Urban Forum by promoting urban planning, mobility and sustainable development

EVENTS





SONORAN DESERT NATIVE FRESHWATER FISH WORKING GROUP. TRINATIONAL SYMPOSIUM OF THE SONORAN DESERT

Presentation on "The current state of knowledge and work with native species of freshwater fish from the Sonoyta River and other basins of the Sonoran Desert." Participants: Working Group on native fish from the Sonoyta River in the framework of the Trinational Sonoran Desert Symposium, Universidad de Sonora, Arizona Game and Fish Department, Native Fish Advocate, Arizona-Sonora Desert Museum, Fish and Wildlife Service, El Pinacate and Gran Desierto de Altar Biosphere Reserve, CONANP, SNRE, University of Arizona, Universidad de Morelos, NPS/ Organ Pipe Cactus National Monument located in the traditional homelands of the O'odham people, FWS/Cabeza Prieta National Wildlife Refuge, Southwest Border Resource Protection Program, Fish and Wildlife Service National Wildlife Refuge System.



REGIONAL ARTISANAL FISHERIES AND AQUACULTURE FESTIVAL SONORA 2022

The Regional Artisanal Fisheries and Aquaculture Festival Sonora 2022 was designed with the goal of bringing together sectors and actors in the field of artisanal fisheries and aquaculture to focus attention and recognize fishers and fish farmers for their work in contributing to the healthy food supply and economy of the Gulf of California.

The Festival was one of the most important post-pandemic fisheries events of 2022 which featured the guiding topics of sustainability, well-being and education. Each of these topics was addressed transversally in 43 activities: eight plenary sessions, 16 expert panels, three workshops, four work meetings, one business network, four gastronomy master classes, a Memorandum of Understanding between CEDO and COMEPESCA, a Sister Cities agreement between Somerton, AZ and Puerto Peñasco, Sonora and the commitment of Baja California to host the Festival in 2023.

The festival brought together more than 350 participants, 93 panelists, three fishing cooperative federations, 15 fishing-aquaculture cooperatives, 18 civil organizations, four academic institutions, 19 businesses, and three Original Nations. Issues identified as urgently needing attention included climate change, marine debris, participatory governance, integrated fisheries management, and strengthening legal frameworks and fishing regulations.

The event brought together the three levels of government—at the federal level the Foreign Ministry and the Mexican consulates in Yuma, Phoenix and Tucson, the state governments of Sonora and Baja California, and coastal municipalities in both states; universities, civil society organizations and cooperatives, permit holders and fishing and aquaculture traders.

The event framed the strategic alliance between COMEPESCA and CEDO and addressed the concepts of Fishing with a Future and Culinary Conservation, and closed with the recognition of the "Power of the Consumer" and the importance of the final consumer in recognizing the traceability and visibility of artisanal fisheries that implement best practices mechanisms towards sustainability.

At the Festival

- We celebrated the men and women of the sea and recognized their activity for supplying healthy and affordable food, contributing to economic growth and community well-being, protecting our ecosystems and using them sustainably.
- We presented cutting-edge information on fisheries and aquaculture issues, sustainability, inter-institutional collaborations, education, gastronomy, and youth.
- We facilitated a horizontal dialogue between sectors, actors and stakeholders in fisheries and aquaculture.
- We strengthened the interrelationship between science and politics and decision-making and participatory governance of marine resources.
- We connected actors and sectors that established partnerships to generate commitments and work agreements that contribute to improving social, economic and environmental conditions around the entire value chain of artisanal fisheries and aquaculture in the region.

In terms of media coverage, we reached 25 print media, 6 radio stations, 4 television channels, 4 print and digital magazines. On social networks, we reached 449,437 views on Facebook, 22,893 Twitter impressions, and 507 accounts on Instagram. It should be noted that during the three days of the event, we transmitted live through the Facebook platform and the event maintained hybrid coverage at the binational level.



TOHONO O'ODHAM GATHERING

CEDO took part in the Tohono O'odham Gathering. In the Tohono O'odham words, this was "a gathering of people to honor each other and our Mother Earth with respect and to share our knowledge. Respect, Preserve, Protect and Educate about the importance of our Earth, Oceans, Animals and all of Creation and to learn, practice and preserve our culture and traditions for generations to come. Our language and culture is ingrained in all of us, together we will learn it, practice it and preserve it."

MUSIC FOR THE SEA

Music for the Sea took place on September 31, October 1 and 2, 2022, and was attended by 887 guests.

The event brought together more than 50 musicians including Orkesta Mendoza, Quetzal Guerrero, Brian López, Sergio Mendoza, Caleb Michel, Saúl Millán, Tatiana Crespo, Salvador Durán, Agua de Coco, Mariachi Nuevo Azteca and the Ésplifs. All these artists are exceptional representatives of our border culture whose music reflects the diversity of the Sonora, Baja California and Arizona borderlands.

During three days, the guests enjoyed not only the music but other activities including meditation sessions that demonstrate the human-nature interconnections, natural history talks, guided tours with guides and naturalists to San Jorge Island to see sea lions, do some bird-watching, and tour natural landscapes of desert, coast and sea. They also experienced traditional cooking and new culinary creations with products from the region, and shared conversations during breakfasts with live music and during afternoons and nights of concerts by the sea with emerging artists all in benefit of environmental conservation and stewardship.







COMMUNICATIONS



IMAGE DESIGN FOR SOCIAL NETWORKS AND DISSEMINATION OF CAMPAIGNS:

- Classy: A Call to Action for Wetlands.
- Arizona Gives Day: Connect the Products of the Small-scale Fisheries in the Sea of Cortez with What is Served on your Table
- Mid-year campaign:
- Our oceans, Our future, Our responsibility
- Women Entrepreneurs
- Giving Tuesday: Protect the California Sea Lion, a Keystone Species in the Gulf of California
- Music for the Sea

SOCIAL NETWORKS

- Designed and published materials on social networks.
- Currently our Facebook pages have the attached data in the document "Annual Report 2022 - Main Networks". Such communications and posts redirect traffic to our website www.cedo.org, to our donation pages, microsites, and to our Blog.

CEDO Intercultural Facebook



CEDO Intercultural Mx Facebook



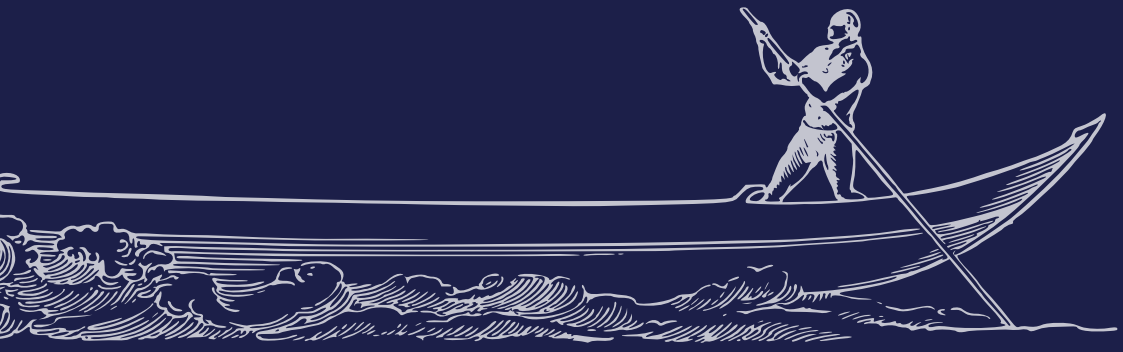
CEDO Intercultural Instagram



To meet the objectives of reinforcing, maintaining and increasing communications with our audience and followers, as well as disseminating actions to fulfill our goals, in 2022 we published our digital newsletter *At the Edge of the Sea of Cortez* with the following topics:

- Groundwater, making the invisible visible.
- Learning about osprey nests in a fishing community on the coast of Sonora.
- 2022 O'odham Gathering at Schuk Toak.
- Donald A. Thomson, a remembrance.
- Regional Artisanal Fisheries and Aquaculture Festival Sonora 2022.
- Music for the Sea Concert.

DIRECT SUPPORT TO PRODUCERS



- 100,000 oyster seeds to the Punta Roja Oyster Farming Cooperative.
- $450,000 MXN (PROCODES) to support the Clam FIP community group represented by Ernesto Gastelum with the design of a technical and economic feasibility study to build and equip a plant for clam collection, handling and processing.
- $265,000 MXN (PROCODES) to support the community group of the SCPP Ribereña Torres SCL with advice for requesting funds and acquiring equipment for Ike Jime slaughter, and for handling and processing finfish.
- $250,000 MXN (PROCODES) to support the community group of the SCPP Los Anzuelos SCL with advice for requesting funds and acquire equipment for Ike Jime slaughter, and for handling and processing finfish.
- Support for 30 people in 4 communities to participate in the virtual forum "Oyster Technology Show".
- 12 fishermen from the Caborca communities received scholarships to attend the three days of FRPAAS (Festival).
- More than 600 fishermen were supported to get an affordable price to register for a survival course at sea and obtain their medical health certificate issued by the health jurisdiction #2 of Caborca needed to obtain their Coastal Fishing Control Card (Card).
- 2 Community Wellbeing Committees were installed in the communities of 15 de Septiembre and Ejido Rodolfo Campodónico in collaboration with the municipality of Caborca and through the Social Development Directorate. Each committee has the following commissions: Women, Sports and Youth, Services and Public Works, Culture, Public Safety, Drinking Water, and Health.
- 7 young divers were registered on the "Youth Building the Future" platform to learn about job opportunities.

SERVICES OFFERED



- Contract with the Institute of Aquaculture of the State of Sonora (IAES), to train and certify Smooth Venus clam (Chione fluctifraga) farmers in Ensenada and San Felipe, B.C. in the competency standard EC0820.

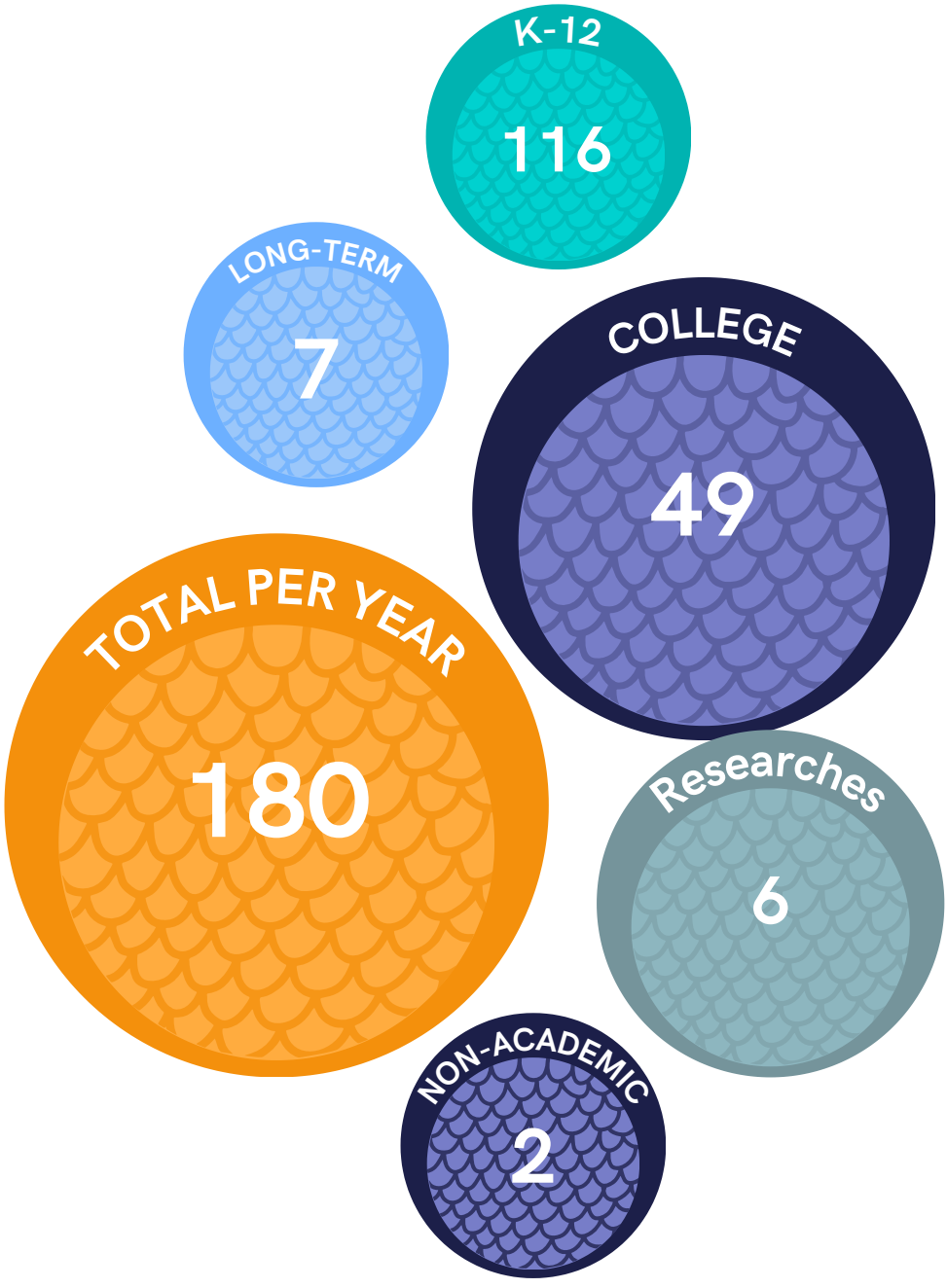
- Contract to monitor wildlife and produce specific studies of runoff, erosion risk and dunes for the Puerto Peñasco Photovoltaic Project.

- NaturArte— today known as CEDOXperiences.



FIELD STATION RESIDENTS

Year: 2022



ACADEMIC SERVICES PER YEAR

Year: 2022



ACADEMIC SERVICES PARTICIPANTS

Year: 2022









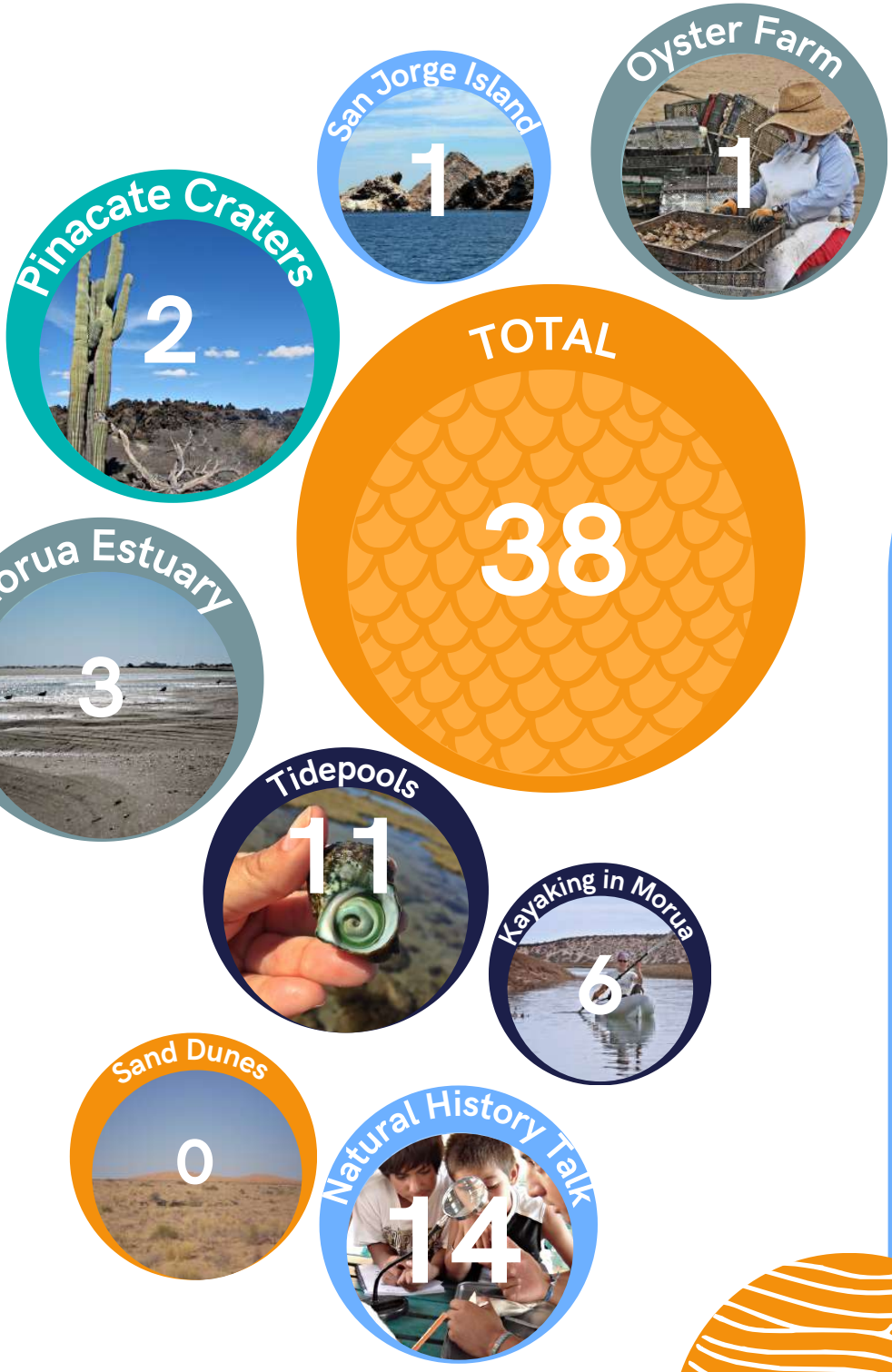






TOURIST SERVICES
"NATURARTE/CEDO XPERIENCES"

Year: 2022

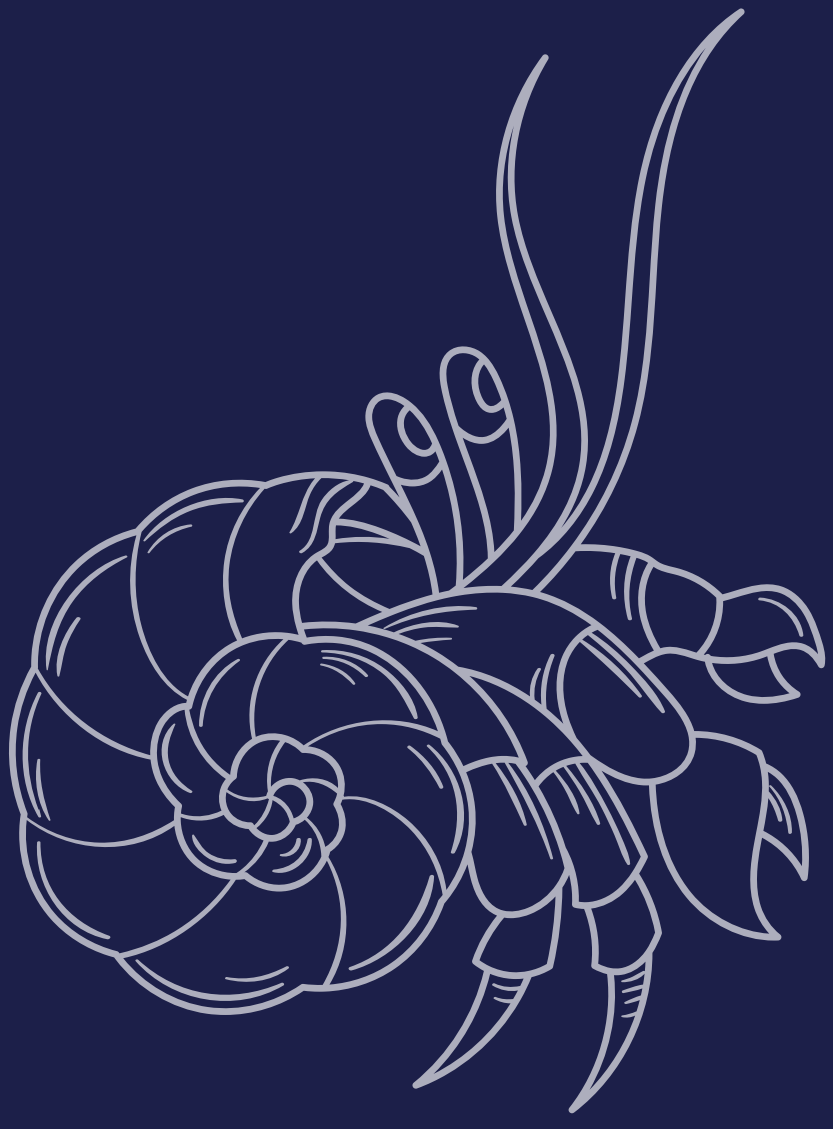


TOURIST SERVICES "NATURARTE/CEDO XPERIENCES" PARTICIPANTS

Year: 2022



FINANCES



Intercultural Center for the Study of Deserts and Oceans (CEDO)

Statements of Financial Position

December 31, 2022 and 2021

(Unaudited; intended for internal management purposes only)

	2022	2021
Assets		
Chase Checking	$ 103.105	$ 94.830
Chase Savings	53.321	55.102
PayPal	730	9.186
Petty cash	300	302
Accounts receivable	9.330	-
(A) Total assets	$ 166.786	$ 159.420
Liabilities & Net Assets		
Accrued payroll	$ 2.242	$ 5.715
Accounts payable	-	857
Accrued paid leave	-	-
Payroll taxes	451	1.641
Other liabiliites	1.000	1.589
Pending audit expense-MXCN Entities	4.000	4.000
(B) Total liabilities	7.693	13.802
Net assets with no donor restrictions	47.867	242
Net assets with donor restrictions	111.226	111.103
(A-B=C) Total net assets	159.093	145.618

CONTPAQ i

Environment and Community CEDO, A.C.

Statement of Financial Position

As of 31/Dec/2022 and 31/Dec/2021

Currency: Mexican Peso

(Unaudited; for internal management purposes only)

	As of	and
ASSETS		
Short-term assets		
Cash and cash equivalents	1,729,799.26	1,999,870.16
Recoverable taxes	269,697.26	95,195.40
Various debtors	134,608.79	108,093.37
Short-term assets for Reclassify in IFRS	361,456.18	703.06
TOTAL CURRENT ASSETS	**2,495,561.49**	**2,203,861.99**
Long-term assets		
Property, furniture, and equipment "net"	103,434.76	108,663.82
TOTAL LONG-TERN ASSETSs	**103,434.76**	**108,663.82**
Total fixed assets	**2,598,996.25**	**2,312,525.81**
LIABILITIES AND EQUITY		
Current Liabilities		
Suppliers	0.00	2,214.83
Various Creditors	0.12	7,343.74
Provisions	26,067.72	0.00
Taxes Payable	96,237.77	38,602.29
Other Short-Term Liabilities to Reclassify under NIF	1,000.00	0.00
Total Current Liabilities	**123,305.61**	**48,160.86**
Long-term Liabilities		
Long-term Accounts and Documents Payable	292.82	0.00
Total Long-term Liabilities	**292.82**	**0.00**
TOTAL LIABILITIES	**123,598.43**	**48,160.86**
EQUITY		
Share Capital	**259,600.00**	**259,600.00**
Comprehensive Income	211,032.87	8,736.43
Accumulated Earnings	2,004,764.95	1,996,028.52
Profit or Loss for the Year	0.00	0.00
TOTAL EQUITY	**2,475,397.82**	**2,264,364.95**

InterCultural Center for Desert and Ocean Studies A.C

Statement of Financial Position

As of 31/Dec/2022 and 31/Dec/2021

Currency: Mexican Peso

(Not audited; for internal management purposes only)

	As of 31/Dec/2022	and 31/Dec/2021
ASSETS		
Current assets		
Cash and cash equivalents	273,940.06	327,793.01
Miscellaneous debtors	64,538.09	102,224.55
Inventories	219,947.50	326,993.36
Short-term assets for reclassification in accordance with NIF	49,531.16	2,000.00
Total short-term assets	**607,956.81**	**759,010.92**
Long-term assets		
Properties, plants, and equipment	23,318,890.62	23,852,053.54
Long-term assets to be reclassified according to IFRS	33,898.85	35,484.19
Total long-term assets	**23,352,789.47**	**23,887,537.73**
TOTAL ASSETS	**23,960,746.28**	**24,646,548.65**
LIABILITIES AND EQUITY		
Short-term liability		
Various creditors	10,173.46	0.00
Taxes payable	8,025.84	24,020.28
Total short-term liabilities	**18,199.30**	**24,020.28**
Long-term liabilities		
Total long-term liabilities	0.00	0.00
TOTAL LIABILITIES	**18,199.30**	**24,020.28**
EQUITY		
Share Capital	**26,810,820.30**	**26,810,820.30**
Comprehensive Income	-2,071,884.75	-1,391,903.36
Accumulated Earnings (Losses)	-796,388.57	-796,388.57
Net Income (Loss)	0.00	0.00
Total Equity	**23,942,546.98**	**24,622,528.37**
TOTAL LIABILITIES AND EQUITY	**23,960,746.28**	**24,646,548.65**

InterCultural Center for Desert and Ocean Studies A.C		
Statement of Financial Position		
As of 31/Dec/2022 and 31/Dec/2021		
Currency: Mexican Peso		
(Not audited; for internal management purposes only)		
	As of 31/Dec/2022	**and 31/Dec/2021**
ASSETS		
Current assets		
Cash and cash equivalents	273,940.06	327,793.01
Miscellaneous debtors	64,538.09	102,224.55
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INFRASTRUCTURE

CEDO owns and operates an environmental resource center in Puerto Peñasco, Sonora, on the edge of the Sea of Cortez. CEDO's campus includes administrative and program offices, a laboratory, library, dormitories, conference room, and an environmental house as a visitor center, with exhibits and a gift store.

Edificio Agustin Cortés Camino a las conchas sn Las Conchas, cp. 83550 Puerto Peñasco Sonora +52 638 382 0113 / 5	5049 E. Broadway Blvd. Suite 153 Tucson, AZ, 85711 + 1 520 320 5473
info@cedo.org	

Vehicles

MARCA	FORD	FORD	MITSUBISHI	FORD	TOYOTA	NISSAN	TRAILER	Vessel Polaris
MODELO	EXPLORER	MERCURY MARINER	L200	ESCAPE	MATRIX	FRONTIER	HECHIZO	
YEAR	2007	2008	2010	2005	2003	2007	2000	
Status	working	damaged	damaged	working	limited	limited	limited	working

A PRIMARY OBJECTIVE IS TO UPGRADE OUR AGING VEHICLE FLEET TO ASSURE SAFE FIELD OPERATIONS AND TO EXTEND THE REACH OF FIELD PROGRAMMING.

OUR IMPACT IN NUMBERS



CEDO's work is carried out thanks to the financing provided by the three entities that make up CEDO. Our finances demonstrate a healthy fiscal year that complies with the regulations applicable to each one.



The direct impact by program is reflected in the following:
Impact

At CEDO we are working hard to reach 1214 beneficiaries by 2022, in various activities as detailed below.

Beneficiaries









GOVERNANCE

We are proud of the people who dedicate their time to directing and implementing programs, and keeping CEDO running on a day-to-day basis.

BOARD OF DIRECTORS

CEDO INTERCULTURAL CENTER FOR THE STUDY OF DESERT AND OCEANS



Debra Colodner (Debbie) ***President***



Robert Varady (Bob) ***Vice president***



James Harkin (Jim) ***Treasurer***



Marjorie Cunningham ***Secretary***



Burgess Raby ***Member***

Donna Whitman

Hiram Pena Bonilla

Ginger Beauchamp

Kim Freidah

Kay Hoenig

Richard McCourt

Annette Felix

Ben Wilder

Christine Flanagan

Ellen McMahon

Gina Murphy-Darling

Jeff Hartman

Julie Xelowski-Brooker

Kevin Bonine

Margaret Wilder

Ron Barber

Sarah Mesnick



Lorenzo Cuadras Rojo **Presidente**



Herme D. Velázquez López **Vice presidente**



Luis Molina Coronado **Tesorero**



Daniel Luna Peinado **Secretario**



Fernando Anaya **Comisión de desarrollo**

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Eddie Juárez

Marta Román

Melody Herrera

Rafael González-Franco de la Peza

Rosy Z. de Rendón

Shandra Keesecher

Susana Mazón

Miguel Ángel Cisneros

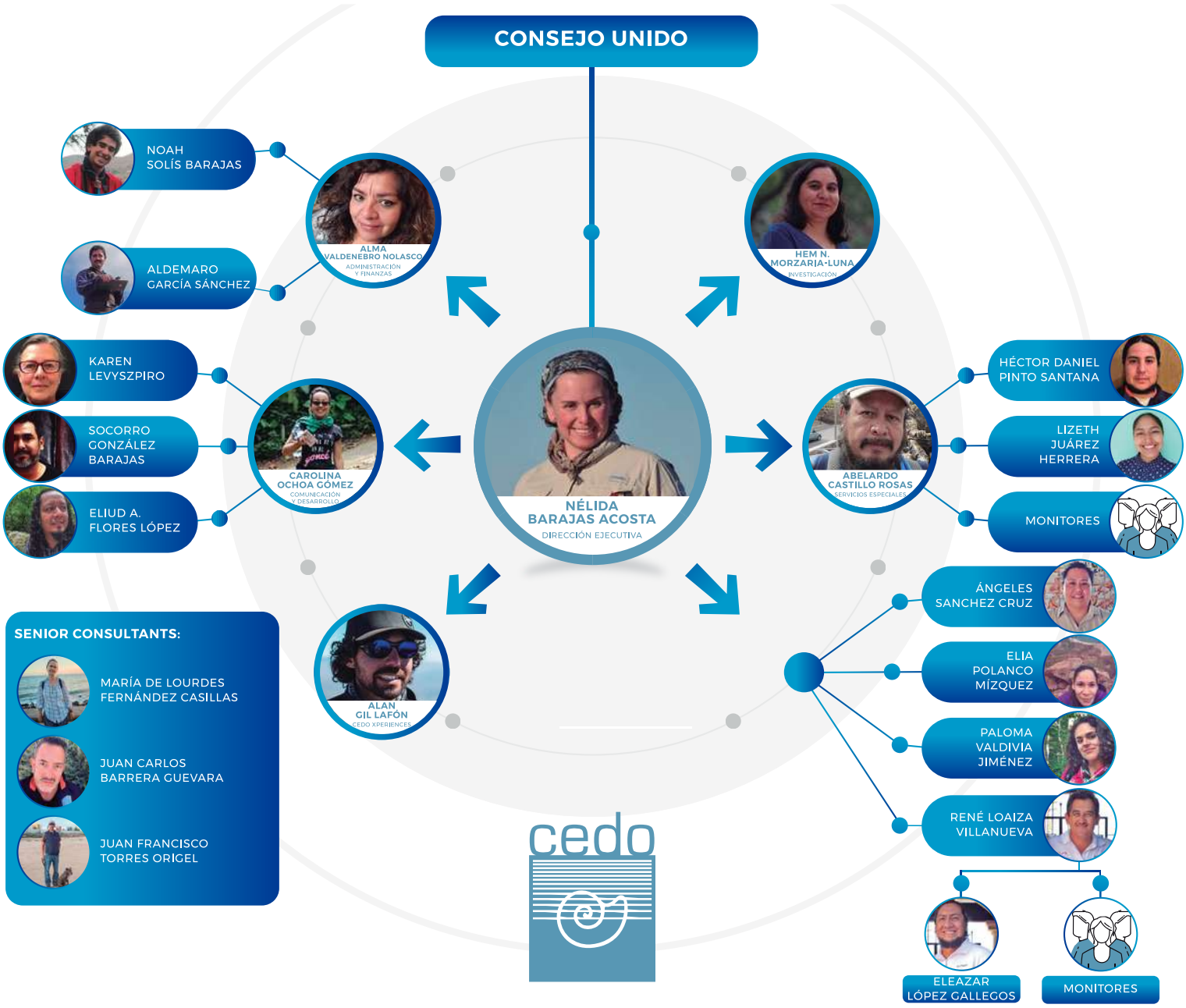
Luis Fueyo MacDonald **Asesor Científico**

José Ernesto Bermejo **Asesor Legal**



TEAM

Abelardo Castillo Rosas
Aldemaro García Sánchez
Alexia A. Juárez García
Alma Gpe. Valdenebro Nolasco
Angeles Yazmín Sánchez Cruz
Elia Inés Polanco Mizquez
Eliud Alberto Flores López
Eleazar López Gallegos
Ernesto Alonso Gastelum Gonzalez
Francisco Javier Duran Reyes (Pavo)
Hem Nalini Morzaria-Luna
Humberto González Veliz
Juan Carlos Barrera Guevara
Juan Francisco Torres Origel
Héctor Daniel Pinto Santana
Karen Levyszpiro
Naylin Dariana Gil López
Nélida Barajas Acosta
Manuel de Jesús Muñoz Espinoza (Noly)
María de Lourdes Fernandez Casillas
Marina A. Guillen Montes de Oca
Paloma Alejandra Valdivia Jiménez
René David Loaiza Villanueva
Rocío López Gastelum
Socorro González Barajas
Zaida Caballero

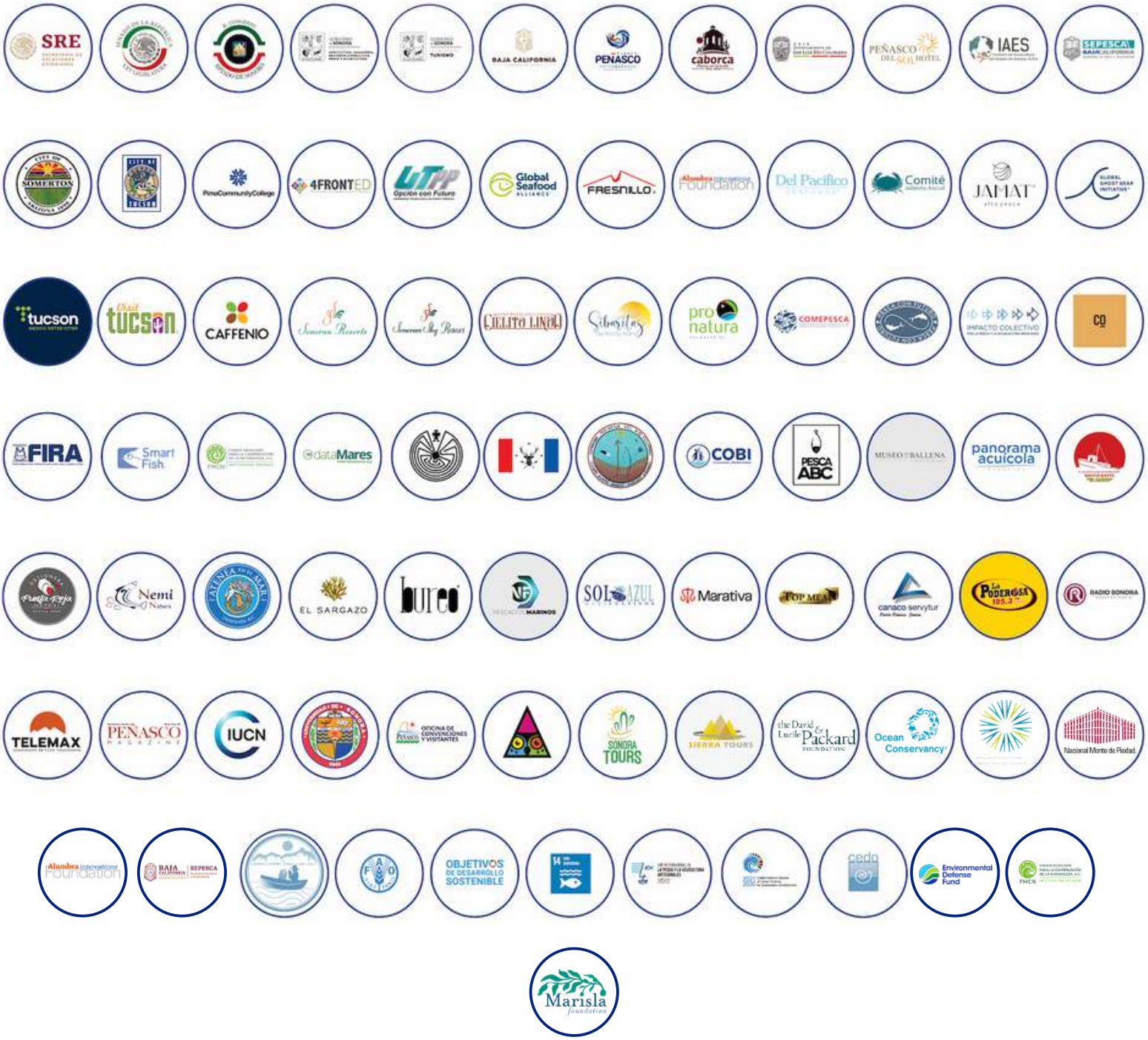

CONSEJO UNIDO
NOAH SOLÍS BARAJAS
ALDEMARO GARCÍA SÁNCHEZ
ALMA VALDENEBRO NOLASCO
ADMINISTRACIÓN Y FINANZAS
HEM N. MORZARIA-LUNA
INVESTIGACIÓN
KAREN LEVYSZPIRO
SOCORRO GONZÁLEZ BARAJAS
ELIUD A. FLORES LÓPEZ
CAROLINA OCHOA GÓMEZ
COMUNICACIÓN Y DESARROLLO
NÉLIDA BARAJAS ACOSTA
DIRECCIÓN EJECUTIVA
ABELARDO CASTILLO ROSAS
SERVICIOS ESPECIALES
HÉCTOR DANIEL PINTO SANTANA
LIZETH JUÁREZ HERRERA
MONITORES
ALAN GIL LAFÓN
CEDO XPERIENCES
ÁNGELES SANCHEZ CRUZ
ELIA POLANCO MÍZQUEZ
PALOMA VALDIVIA JIMÉNEZ
RENÉ LOAIZA VILLANUEVA
ELEAZAR LÓPEZ GALLEGOS
MONITORES
SENIOR CONSULTANTS:
MARÍA DE LOURDES FERNÁNDEZ CASILLAS
JUAN CARLOS BARRERA GUEVARA
JUAN FRANCISCO TORRES ORÍGEL
cedo

And the volunteers who with dedication, time and commitment made our work grow.

During 2022 we had 30 volunteers, mainly in our special events, the Festival Regional de la Pesca y la Acuacultura Artesanal, Sonora, 2033, and the great concert of Música por el Mar.

We especially want to thank Russ and Naomi Black, Charlie Levy and the musicians of Orkesta Mendoza, Quetzal Guerrero, Salvador Duran, Sergio Mendoza, Brian Lopez, Mariachi Nuevo Azteca de Tucson, Los Èsplifs (DJ set), Brian Lopez, Tati Crespo, Golden Boots, and Agua De Coco.

ALLIANCES


SRE
BAJA CALIFORNIA
PENASCO
caborca
PEÑASCO DEL SOL HOTEL
IAES
SEPESCA
Somerton
PimaCommunityCollege
4FRONTED
UTTP
Opción con Futuro
Global Seafood Alliance
FRESNILLO
Alumbra Innovations Foundation
Del Pacifico
Comité
JAMAT
tucson
Visit tucson
CAFFENIO
Sonoran Resorts
Sonoran Sky Rescue
CIELITO LINDO
Silvestres
pro natura
COMEPESCA
IMPACTO COLECTIVO
CQ
FIRA
Smart Fish
dataMares
COBI
PESCA ABC
MUSEO DE LA BALLENA
panorama acuicola
Nemi Natura
EL SARGAZO
buree
SOL AZUL
Marativa
POP MEAT
canaco servytur
La Poderosa 105.3
RADIO SONORA
TELEMAX
PEÑASCO MAGAZINE
IUCN
OFICINA DE CONVENCIONES Y VISITANTES
SONORA TOURS
SIERRA TOURS
the David & Lucile Packard FOUNDATION
Ocean Conservancy
Nacional Monte de Piedad
Alumbra Innovations Foundation
BAJA CALIFORNIA SEPESCA
FAO
OBJETIVOS DE DESARROLLO SOSTENIBLE
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Environmental Defense Fund
FMCN
Marisla foundation



The Intercultural Center for Desert and Ocean Studies (CEDO Intercultural) represents a remarkable collaboration between environmental non-profit organizations from both Mexico (Puerto Peñasco, Sonora) and the United States (Tucson, Arizona). Rooted in a shared vision, mission and strategic initiatives, these organizations combine their resources and expertise to provide solutions that honor and promote the intricate interplay of culture, socioeconomic factors and biology between the two nations.

For more than four decades, CEDO has steadfastly pursued its mission of Fostering thriving communities and resilient ecosystems in the Northern Gulf of California and other ecoregions by integrating people, knowledge and solutions.
And it has been guided by a vision of Thriving Coastal Communities, Sustainable Livelihoods, and Healthy Ecosystems.


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