

Mediterranews®

TERRA PENINSULAR'S TRIANNUAL MAGAZINE

Vol. 5 • No. 19 • July 2020 • Ensenada, Baja California, México

Gender: Cross-Cutting Theme in Environmental and Climate Change Projects

Good practices of the Resilience Project

ARTICLE

Evolution of Natural
Protected Areas in
Mexico

PERSPECTIVE

A Sea of Lessons

TERRA NEWS

Conservation of the
Long-Billed Curlew in the
Mexicali Valley

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Terra
Peninsular.

About us

We are a Mexican nonprofit organization committed to the conservation and protection of the wildlife and natural ecosystems of Baja California.

Mission

Conserve and protect the natural ecosystems and wildlife of the Baja California peninsula.



Vision

The natural resources of the Baja California peninsula are protected and managed for sustainable uses that are compatible with ecological processes.

Where we work



We have presence in northwestern Mexico in the states of Baja California, Baja California Sur, Sonora, Sinaloa and Nayarit.

What we do

We protect natural ecosystems that are home to endangered wildlife through legal protection, adaptive management and continuous work with communities.



Our strategy

Our conservation strategy has three main axes:



Land Protection

identifies priority conservation sites and applies the best protection tools to ensure that our conservations efforts are permanente.



Adaptive Management

ensures that the ecological processes stay healthy through biological and landscape monitoring, infrastructure and restoration activities, surveillance and visitor's assistance.



Community Engagement

seeks to achieve an active, conscious and autonomous participation of the local community in conservation activities.

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Photo: Michael Ready

Editorial

Dear community of readers,

I hope you are healthy and safe. These have been very difficult times, and this issue of the Mediterranews magazine is published in the context of a quarantine. I would like to start my message by sending all of you our best wishes.

Those of you who are subscribed to our mailing list have received our communications informing the recent actions that we have carried out. I would like to tell you that we have had the opportunity to help and provide a supportive link, but also we have received a lot of help ourselves. Today more than ever, we are aware of our fragility and the need of taking action.

Thanks to the support of great partners, we distributed emergency food packages and pieces of personal protective equipment to help the vulnerable communities with whom we work together. I would like to thank Driscoll's, Programa de Bienestar Social, Centro Mexicano Para la Filantropía and Oasis After School Program, who have been key partners in these complex times.

Although no member of the Terra Peninsular team has presented symptoms of COVID-19, we have also been vulnerable and without the support of our donor friends who, even in this uncertain condition have made an additional effort to

support our work, our reality would be much more complex. Thank you very much for all your donations, today more than ever it's a breath of fresh air.

Today, we are happy to contribute with this issue of the Mediterranews magazine that I'm sure will be a friendly and comforting reading option. Let's be optimistic, let's stay safe. I'm sure that sooner than we think, we'll meet again and enjoy together the natural beauty of the Baja California peninsula.

Our hearts and thoughts go out to everyone who unfortunately has had to deal with COVID-19 anywhere in the world.

Stay safe!

César Guerrero
Executive Director of Terra Peninsular

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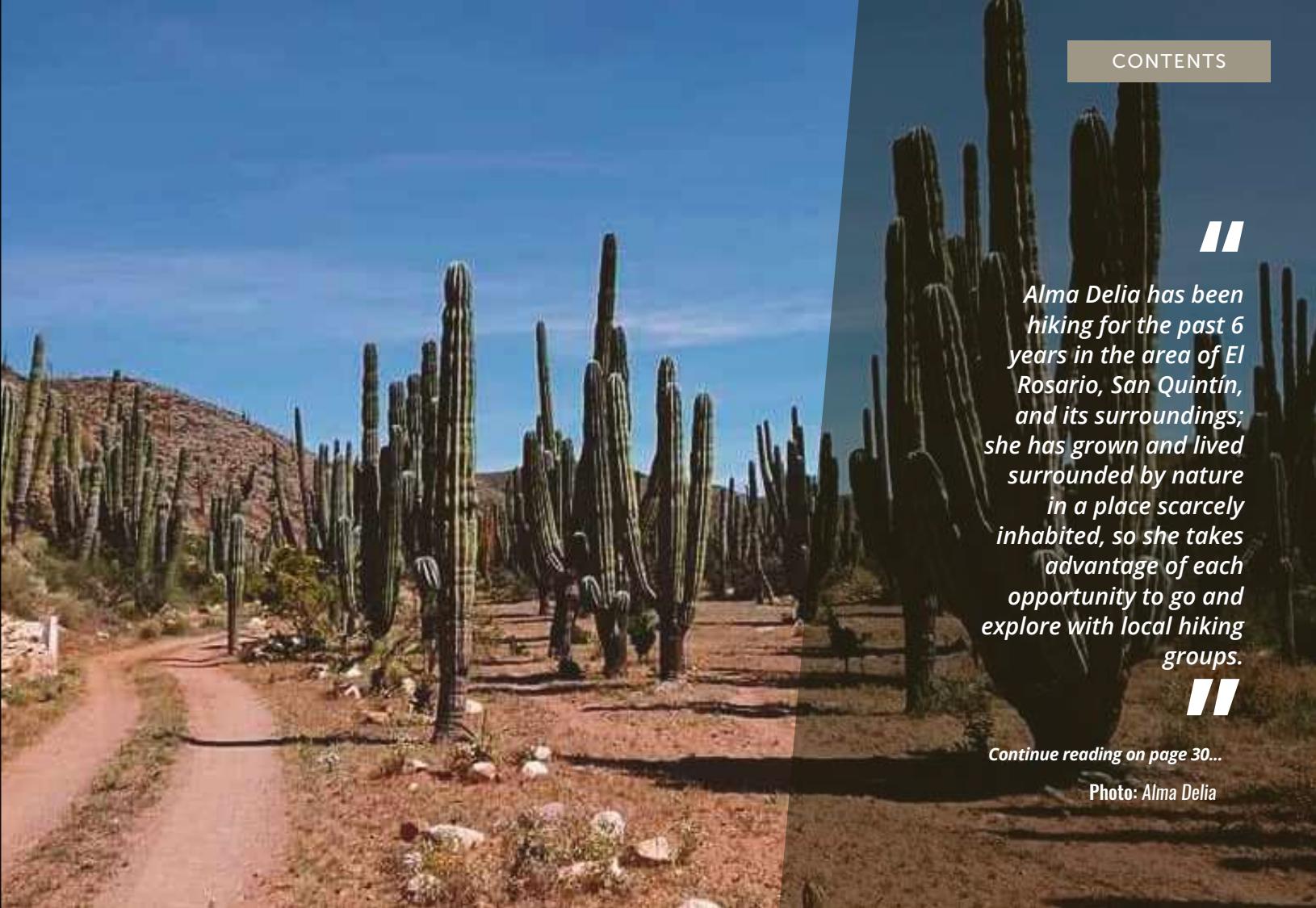


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Alma Delia has been hiking for the past 6 years in the area of El Rosario, San Quintín, and its surroundings; she has grown and lived surrounded by nature in a place scarcely inhabited, so she takes advantage of each opportunity to go and explore with local hiking groups.

Continue reading on page 30...

Photo: Alma Delia



Mediterranews is magazine published three times a year by Terra Peninsular, a Mexican nonprofit organization committed to the conservation and protection of the wildlife and natural ecosystems of Baja California.

The articles represent their author's opinions, and do not necessarily reflect the opinions of Terra Peninsular.

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Mediterranews

Género:
tema transversal
en proyectos ambientales
y de cambio climático



ON THE COVER
Mariana Aguas



Conservation of the Long-Billed Curlew in the Mexicali Valley

By Erica Gaeta **Illustrations by**
Diana L. Sánchez and photos
by Erica Gaeta

The long-billed curlew (*Numenius americanus*) is a migratory shorebird that depends on various habitats such as grasslands, agricultural and coastal areas. It is a species of importance for conservation due to the decrease in population in areas of its distribution. In the non-reproductive season, which is 75% of its annual cycle, it can be found in the southern United States and Mexico.

In December 2009, Eduardo Soto of Mexico's National Commission of Protected Natural Areas (CONANP, *Comisión Nacional de Áreas Naturales Protegidas*) recorded a sighting in the Mexicali valley of approximately 1,500 long-billed curlews feeding in an asparagus field.

Additionally, in 2013 the Intermountain Bird Observatory (IBO) led by Dr. Jay Carlisle, with the support of various organizations and agen-

cies, began using satellite transmitters to learn more about the population that nests in the intermountain west of the United States.

The satellite transmitters weigh 9.5 grams and are attached like a backpack on the backs of long-billed curlews. This technology can be used to obtain information on migratory routes, identify important sites, and visualize the connectivity of nesting, stopping, and winter habitats. Using this technology, Dr. Carlisle observed several tagged individuals migrating and wintering in Mexico, with a small concentration in the arid border region of the Mexicali valley.

During 2018 and 2019, Terra Peninsular, along with Dr. Eduardo Palacios (CICESE), Dr. Jay Carlisle (IBO), and Pronatura Noroeste created a binational collaboration with the support of Sonoran Joint Venture. As a biologist, my responsibility was to implement an investigation to learn more about the long-billed curlew that winters in the Mexicali valley.

Project objectives

1. Obtain information on the long-billed curlew population from the Mexicali valley.
2. Investigate what types of field crops are used and the conditions that favor them.
3. Learn more about the long-billed curlew's threats.
4. Learn about farmers' perception of birds in field crops.

▼ Curlews feeding in an alfalfa field. By Erica Gaeta



www.terrapeninsular.org/mediterranews/en/



▲ Looking for long-billed curlews in Mexicali valley's field crops. Illustration by Diana L. Sánchez.

▼ Curlews feeding in an alfalfa field. By Erica Gaeta

Our fieldwork began in January 2019. A typical field day involved waking up before dawn in San Luis Río Colorado (Sonora, Mexico) and then, meeting my field mates Juan Butrón, José Juan Butrón, Juan Ángel Butrón, Juan Carlos Medina, and Benito Rocha.

Next, we divided into two teams and toured the cultivation areas throughout the valley in search of long-billed curlews. Between January and March 2019, we recorded 81 sightings of the long-billed curlew, and we visited 180 field crops in the Mexicali valley.



▼ Long-billed curlew (*Numenius americanus*). By Erica Gaeta





What did we learn?

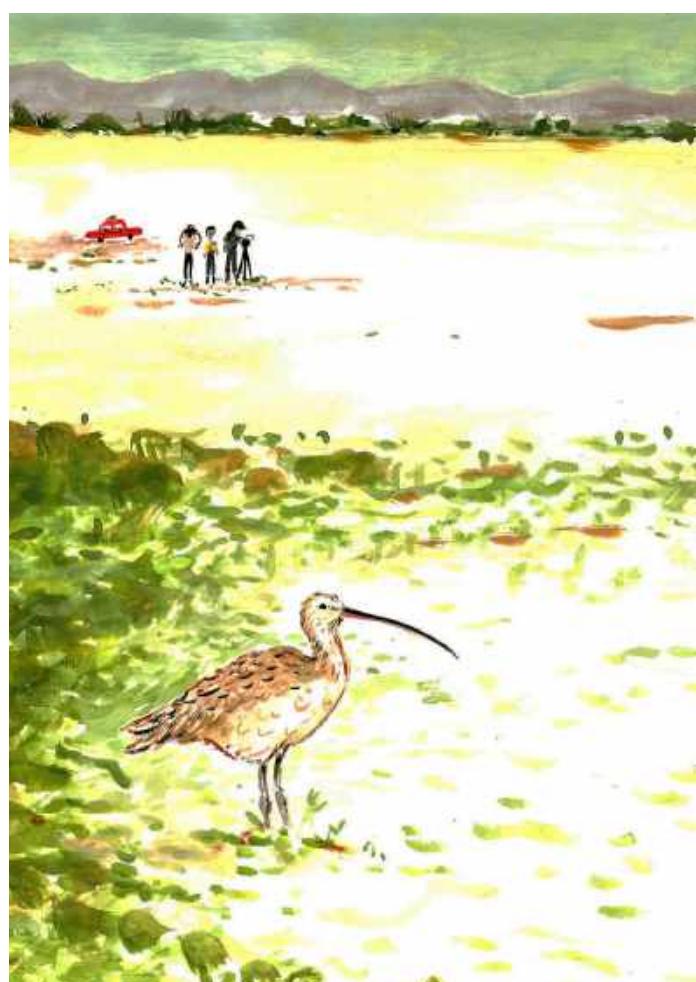
- 1) The number of individuals we detected between January and March was 3,919, and the maximum in one day was 777.
- 2) The fields crops where we most frequently observed curlews were alfalfa, wheat, asparagus, forage grass (stated in order of frequency). They were observed using 0-45 centimeters soil cultures. 62% of the observations were in field crops with standing water when many insects leave the ground to escape from the water, and the birds seize the opportunity to feed.
- 3) Threats detected: Potential threats were both natural and anthropogenic. The most frequent natural predators were peregrine falcons and coyotes. The anthropogenic threats were the use of lethal techniques (firearms) and non-lethal techniques (fireworks, pressure cannons, and people as guards scaring away the birds) to scare away the birds in the field crops. Another potential threat is pesticide and other chemicals that could affect birds.

In March 2019, the qualitative instrument Opinion, Attitudes, and Knowledge of the Long-Billed Curlew Survey was designed and analyzed by Claudia Guzmán, Community Engagement Coordinator at Terra Peninsular.

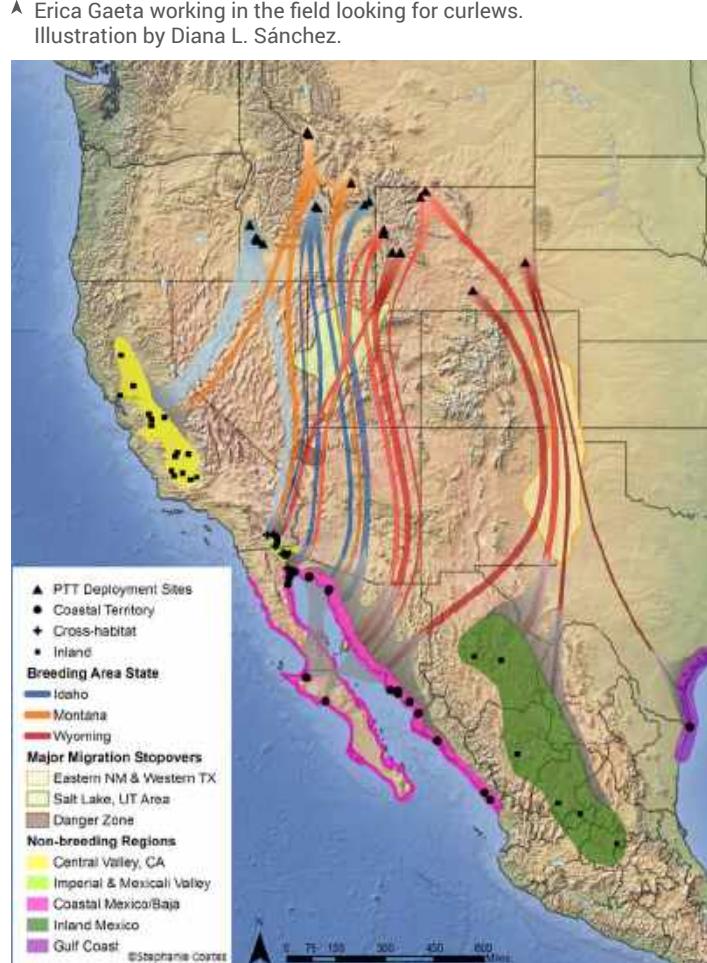
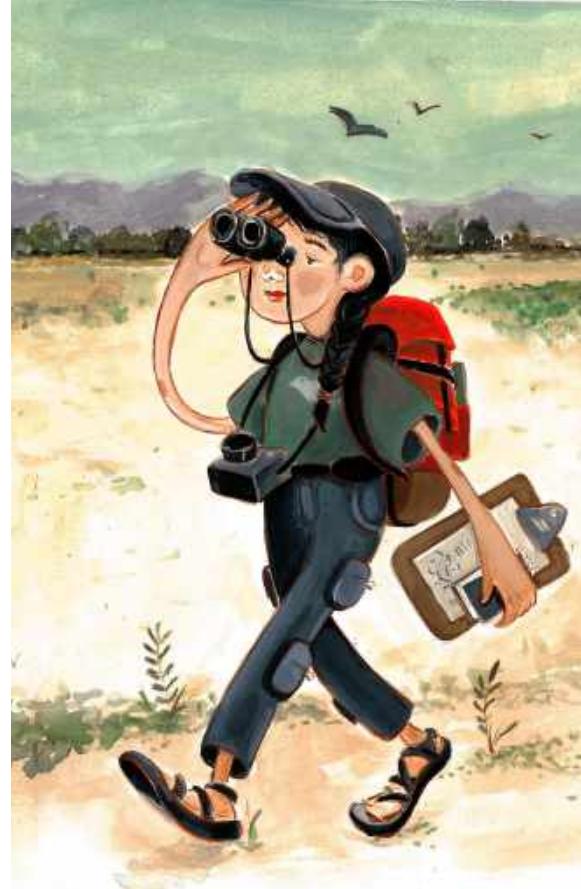
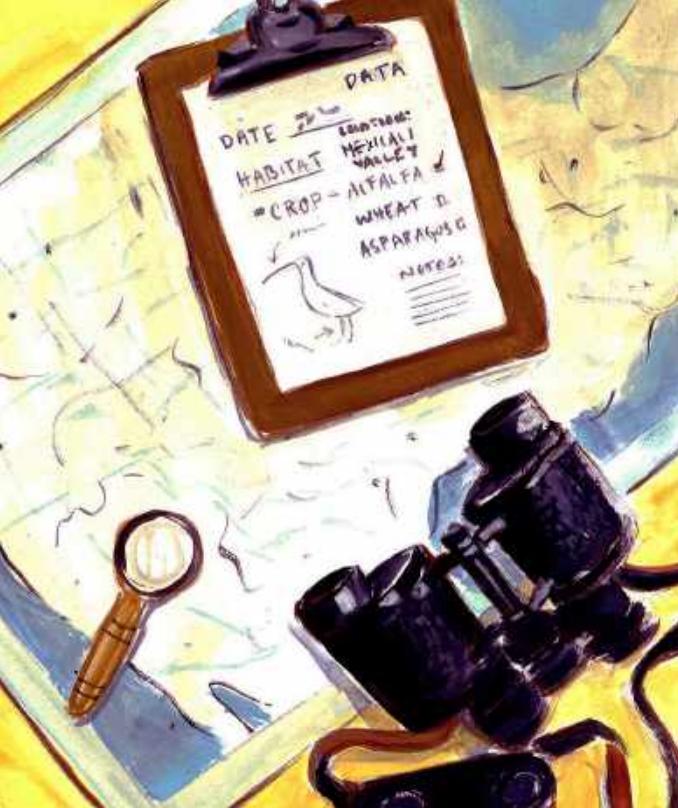
The survey was designed to find out farmers' opinions, attitudes, and knowledge about the long-billed curlew. In November 2019, in four days, I completed nine surveys containing demographic data, agricultural activities in the area, knowledge of wildlife, attitudes, and opinions, and information on the use of fertilizers and pesticides.



▲ Description of long-billed curlew with datasheet and map.
Illustration by Diana L. Sánchez.



▲ Observing curlews and collecting behavioral data.
Illustration by Diana L. Sánchez.



▲ Map of individuals with transmitters captured by IBO and their movements from the breeding area to the wintering place.
Map by Stephanie Coates.



▲ Erica preparing the field equipment.
Illustration by Diana L. Sánchez.

This first approach with key actors resulted in useful information that could define the following steps and include the active participation of farmers in the Mexicali valley. Information was obtained in crop modules and hectares, types of field crops, and season, as well as relevant information on the use of fertilizers and pesticides, which could lead to a second stage of the project to determine the impact of these on birds.

To expand our knowledge, we could approach more farmers to make proposals for good environmental practices together with them. Farmers who participated in the surveys and whom we approached during the fieldwork demonstrated a positive attitude about receiving information to work in conjunction with conservation.



▲ Field team: Juan Carlos Medina, Erica Gaeta, Juan Ángel Butrón, Juan Butrón, José Juan Butrón, Benito Rocha (from left to right).

◆ **ERICA GAETA** has a degree in Wildlife Biology from Humboldt State University. She is a collaborator of Terra Peninsular in this project. eg68@humboldt.edu



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Natural Protected Areas in Baja California

By Verónica Meza y Antonieta Valenzuela
Map by Mariana Espinosa **Photos by** Michael Ready
y Laura Tamayo **Design by** Laura Tamayo

National Parks

- Sierra de San Pedro Mártir.
- Constitución de 1857, located in Sierra de Juárez.
- Zona Marina del Archipiélago de San Lorenzo.

Flora and Fauna Protection Areas

- Valle de los Cirios.
- Islas del Golfo de California.

Biosphere Reserves

- Zona Marina Bahía de los Ángeles, Canales de Ballenas y de Salsipuedes.
- Isla Guadalupe.
- Islas del Pacífico de la Península de Baja California.
- Alto Golfo de California y Delta del Río Colorado.

Areas Voluntarily Destined for Conservation

- Valle Tranquilo Nature Reserve, in El Rosario. Owner: Terra Peninsular.
- Punta Mazo Nature Reserve, in San Quintín. Owner: Terra Peninsular.
- Monte Ceniza Nature Reserve, in San Quintín. Owner: Terra Peninsular.
- Los Montes de San Pedro I, II y III, en la Sierra de San Pedro Mártir. Owner: Los Montes family.
- Costa Salvaje WildLands I, II, III y IV. Owner: Costa Salvaje.

In Baja California we can find terrestrial and marine natural areas with high biological richness and environmental value, these areas have different protection categories.

Currently there are over 500 natural protected areas in Mexico that represent over 90 million hectares. This is part of the efforts of the federal government through the Commission of Natural Protected Areas, also known as Conanp.

Baja California has 19 natural protected areas: 3 national parks, 2 flora and fauna protection areas, 4 biosphere reserves and 10 areas voluntarily destined for conservation.



CATEGORY	Natural protected area	*Total area (hectares)
National Park	Sierra de San Pedro Mártir	72,910.68
	Constitución de 1857	5,009.48
	Zona Marina del Archipiélago de San Lorenzo	58,442.80
Flora and Fauna Protection Area	Valle de los Cirios	2,521,987.61
	Isla de Guadalupe	374,553.63
Biosphere Reserve	Isla de Guadalupe	476,971.20
	Isla de Guadalupe	1,161,222.98
	Zona Marina Bahía de los Ángeles, Canales de Ballenas y Salsipuedes	387,473.68
	Alto Golfo de California y Delta del Río Colorado	934,756.25

U.S.A

Baja California



PACIFIC OCEAN

Gulf of California

MÉXICO



CATEGORY

Area Voluntarily
Destined for
Conservation

Natural protected area

*Total area (hectares)

Los Montes de San Pedro I	2,554.54
Los Montes de San Pedro II	1,212.32
Los Montes de San Pedro III	735.69
Reserva Natural Monte Ceniza	803.40
Reserva Natural Punta Mazo	832.46
Reserva Natural Valle Tranquilo	3,691.2
Costa Salvaje WildLands I	3,469.05
Costa Salvaje WildLands II	3,846.84
Costa Salvaje WildLands III	6,029.60
Costa Salvaje WildLands IV	4,187.36



*The total surface contemplates
terrestrial and marine parts.



▼ ADVC Kolijke. Photo by Roberto de la Maza.

Evolution of Natural Protected Areas in Mexico

By Roberto de la Maza Hernández

Mexico's national policy of Natural Protected Areas (NPAs) began in 1917 when President Venustiano Carranza declared Desierto de los Leones as a national park [1]. During the six-year term of President Adolfo López Mateos (1958-1964), a Forest Law [2] was issued, which for the first time, included national parks in Mexican legislation.

During Miguel de la Madrid's term (1982-1988), the Forest Law [3] was updated to include new types of NPAs, including biosphere reserves, to ensure the conservation of ecosystems through differentiated types of management. In 1988, the General Law of Ecological Balance and Environmental Protection (LGEEPA, Ley General del Equilibrio Ecológico y la Protección al Ambiente) [4] was issued. It incorporated the regulation of the federal NPAs and their types, including local jurisdiction's protected areas.



▲ ADVC Kolijke. Photo by Roberto de la Maza.



▲ ADVC Jaguaroundi. Photo by Roberto de la Maza.

In 1996, the General Law [5] was reformed, including the recognition of land conservation initiatives, through their voluntary certification. This mechanism is essential because the declaration of NPAs was facing opposition from affected landowners, local authorities, and other federal government authorities [6]. Hence, it was necessary to create instruments that allow indigenous peoples, social, public or private organizations, and other interested parties to participate in the protection of biodiversity.

Based on this provision, in 2002, Petróleos Mexicanos certified the first area in Mexico, the Jaguaroundi Ecological Park, in Coatzacoalcos, Veracruz, with 960 hectares (2,372 acres) [7]. From this moment on, different types of owners began certifying their properties voluntarily, and by 2007 there were already 160,000 hectares (395,368 acres) dedicated to voluntary conservation actions.



▼ ADVC Cerro Chango. Photo by Roberto de la Maza.

However, since they were not considered NPAs, they lacked the necessary legal support, which was detrimental to the incentives that their owners could receive, as well as the attention paid by the authorities. In this way, this instrument was surpassed by its social demand [8].

For this reason, in 2008, the category of Areas Voluntarily Destined for Conservation (ADVC, Áreas Destinadas Voluntariamente a la Conservación) [9] was incorporated into the General Law, thus recognizing certified properties as federal NPAs. In addition to obtaining more considerable attention from different sectors, these areas also contribute to international commitments, such as goal 11 of the Aichi Targets.

▼ ADVC Kolijke. Photo by Roberto de la Maza.



In conclusion, it is possible to appreciate the evolution of natural protected areas in Mexico, from the adoption of the most restrictive instrument, national parks [10], to the diversification and flexibility of the management categories, which led to the recognition of voluntary initiatives for the conservation of properties, through ADVC.

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▼ ADVC Cerro Chango. Photo by Roberto de la Maza.



▲ ADVC Kolijke. Photo by Roberto de la Maza.

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- [2] Publicada en el *Diario Oficial de la Federación* el 16 de enero de 1960.
- [3] Publicada en el *Diario Oficial de la Federación* el 23 de abril de 1986.
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- [5] Publicado en el *Diario Oficial de la Federación* el 13 de diciembre de 1996
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- [9] Decreto por el que se reforman y adicionan diversas disposiciones de la Ley General del Equilibrio Ecológico y la Protección al Ambiente, publicado en el *Diario Oficial de la Federación* el 16 de mayo de 2008.
- [10] El segundo párrafo del artículo 50 de la Ley General del Equilibrio Ecológico y la Protección al Ambiente establece que en los Parques Nacionales “sólo podrá permitirse la realización de actividades relacionadas con la protección de sus recursos naturales, el incremento de su flora y fauna y en general, con la preservación de los ecosistemas y de sus elementos, así como con la investigación, recreación, turismo y educación ecológicos”.

▼ ADVC Punta Mazo. Photo by Alejandro Arias.





Photo by Foro para el
Desarrollo Sustentable. ▲

Gender: Cross-Cutting Theme in Environmental and Climate Change Projects

Good practices of the Resilience Project

By Brenda Suárez

The analysis of the special relationship between women and the environment emerged in the 1970s with the ecofeminist movement. At first, it was a criticism of the exacerbated exploitation model of nature associated with the male sex domination, compared to another characterized by love, care, protection, and defense of life, considered feminine.

"As man proceeds toward his announced goal of the conquest of nature, he has written a depressing record of destruction, directed not only against the earth he inhabits but against the life that shares it with him".

-Rachel Carson, *La Primavera Silenciosa*

This debate has evolved, and more critical theoretical positions have emerged, which call into question whether to attribute male and female traits to the way of interacting with the environment reproduces gender stereotypes. The truth is that the role of women regarding the environmental crisis and its effects cannot be ignored.



▲ Photo by Mariana Espinosa.



▲ Photo by Pronatura México.

The first step is to recognize that, due to the socially assigned roles, the relationship between men and women with the environment is different, as well as their participation in decision-making about solutions to environmental issues. Due to the qualities attributed to them, men operate more in the public space and occupy positions of power, while historically, women have had fewer opportunities to do so.

Building a sustainable society and a sustainable world is not possible without going hand-in-hand with justice and fairness. In this sense, it is essential to consider the gender perspective to address the environmental crisis in general, and the impacts of climate change, in particular. Stereotypes and gender roles are present in the differential vulnerability of men and women. The exclusion of women in social development implies that they have acquired less capacity to deal with the adverse impacts of climate change, and the effects are also different. For example, in rural contexts, women are often responsible for carrying water; changes in rainfall patterns will have an impact on the increase in workload



▲ Photo by Costa Salvaje A.C.



due to the need to search for increasingly distant water sources. The consequences of the rise in vector-borne diseases are due to increased temperature, which means more effort for women that traditionally have dedicated themselves to caring for sick people and adults.

It is worth mentioning that inequality in access to land ownership and, therefore, to credits and other financial resources, are factors that decrease women's resilience after disasters associated with extreme weather phenomena.



▲ Photo by Costa Salvaje A.C.



▲ Photo by Mariana Espinosa.



▲ Photo by Costa Salvaje A.C.



▲ Photo by Costa Salvaje A.C.



▲ Photo by Felipe León.



▲ Photo by Costa Salvaje A.C.

However, it is not enough to pay attention to gender differences to define relevant adaptation measures. It is still necessary to promote concrete actions to encourage female participation and empowerment; in other words, include them in the same way to mitigation actions.

Recognizing women as active subjects to face the environmental and climatic crisis goes beyond doubling the capacity of impact by adding fifty percent of the population's involvement. Women's participation is a recognition that "contributes to an increasing community appreciation and social empowerment" (Maier E, 2003). Therefore, working for equity and reducing the gender gap does not mean that there is always the same number of women and men involved, but both voices are listened to and valued, and both have decision-making power.

The Resilience Project has promoted adaptation measures with an ecosystem-based adaptation approach with the support of civil society organizations in 17 natural protected areas in Mexico where it has an impact. In this work, the gender approach

represents a cross-cutting theme. Particular emphasis has been placed on these local partners to carry out gender-responsive actions. Based on recognizing the work division by sex, and gender inequality, these actions should contribute to men's and women's well-being, to the equitable participation in decision-making, and to improve livelihoods through the conservation and restoration of the ecosystems on which they depend.



▲ Photo by Mariana Aguas.



Some good practices worth noting are:

- In **El Vizcaíno Biosphere Reserve (Costa Salvaje)**, in the Delgadito community, women have been essential in the activities of afforestation of red mangroves. Their participation was achieved by strengthening the leadership of women who showed interest.
- In **Selva el Ocote Biosphere Reserve (Foro para el Desarrollo Sustentable)**, women's participation has been promoted by modifying the invitation strategies and adjusting them to their schedules, and by having a gender specialist who reviewed the descriptive letters of workshops. Additionally, they also dedicated essential efforts to strengthen the technical capacities of women for the management of native plants' nursery, which, in addition to benefiting the ecosystem, represents the generation of economic resources to support their families.
- In **Monarch Butterfly Biosphere Reserve (Pronatura México)**, open hours were offered for women to the workshops, as well as activities for them to attend with their children.

- In **Sierra de San Pedro Mártir National Park (Terra Peninsular)**, an observation process was carried out with a gender guide to identify the degree of participation of women in the different activities to provide relevant information to address this situation in this and future projects.



▲ Photo by Mariana Espinosa.

◆ **BRENDA SUÁREZ** has a Master's degree in Environmental Sciences and Sustainability Studies. Currently, she works as a specialist in capacity development in the Resilience Project, which is executed by Mexico's National Commission of Natural Protected Areas (CONANP), implemented by the United Nations Development Programme (UNDP) and financed by the Global Environment Facility (GEF).

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▲ Photo by Pronatura México.



▲ Photo by Felipe León.



A SEA OF LESSONS

By Mirna Borrego Lazalde

"Now I see the secret of making the best person: it is to grow in the open air and to eat and sleep with the earth".

-Walt Whitman

It is 4:00 a.m. somewhere off the coast of Bahía Concepción, in Mulegé, Baja California Sur. As I open my eyes I can see that the moon is still lighting the camping site. It is already 5:00 a.m., and I join the expedition's formation along my peers for the most important moment of the day, to make the decision of sailing or not.

Open Sea

In 2018, Terra Peninsular started an alliance with NOLS México that has left us many lessons. The first person who joined the expedition was César Guerrero, our Executive Director, and in 2019, it was the turn of my colleague Claudia Guzmán. Counting on me, I was postulated to participate in the 2020 Sea Kayak Leadership course, this was a chance to grow professionally and personally.

From February 5 to 18, 2020, I undertook this journey that changed my life. I joined the crew along with 14 expedition members and 3 instructors. We all shared a lot of things in common, such as being explorers, sea lovers and motivated to learn outdoors, and without any expectation of the journey ahead.



▲ Photo by María del Pilar Jacobo Enciso.





▲ Photo by Paulina Díaz Murillo.

NOLS Home

NOLS is a non-profit outdoor education school focused on leadership and education through expeditions in remote areas since 1965. This school not only seeks to strengthen outdoors skills, but also, to encourage the conservation and protection of natural areas, as well as ethics, consumption habits and low-impact behavior. A prestigious institution, house of great teachers, masters, and nowadays, a family to me.

The headquarters are located in different countries, and the only one in Mexico is located in El Coyote, Mulegé, Baja California Sur, a place surrounded by sea and desert.

Upon arrival to the station, we were introduced to the NOLS México team. We had a beautiful and warm greeting, and at that moment we only thought of the 12 days of odyssey ahead of us. Our instructors could read our minds, our insecurities and enthusiasm, it was very pleasant to see a really diverse group, mostly formed by women breaking and leaving old stereotypes behind.

Plan ahead and prepare

Something that represents NOLS is the ability to plan their expeditions ahead, their system is proved and updated, everything has its place and use, the old stuff is repaired and the new one is taken care of, and what is not optimal anymore, it is reused.

Without wasting any time, we walked across the campus, which is distributed in accordance to the expedition needs; their teaching methodology is based on experience and efficiency.

We formed groups of 4 and we prepared with all the necessary items to sail the next morning: food rations, water, fishing equipment, snorkels, fins, wetsuits, canopies, camping stove, personal equipment and even a library. I confess that the level of organization left me speechless, I could only wonder, how are we going to carry everything on the kayaks?



Photo by Iliana
del Pilar González
Meléndez.



Photo by Leopoldo
San Miguel.

The decision making triangle

Before going out to the sea, our instructors taught us how to make decisions based on leadership, and one of these methods is the risk evaluation triangle, an invitation to connect with nature and its signs. In order to make the decision to sail we had to learn how to read the sea signs and ask us: What are the waves telling us? Will it let us sail? Where is the wind coming from? What are the dangers? How far can we go? How does my body feel? Do we trust each other? Do we trust in ourselves?



▲ Photo by Iliana del Pilar González Meléndez.

The great teacher

When they told us we had to be expedition leaders for one day, I felt nervous. That day came and I just asked the sea to guide us with its wisdom, and that our decisions would keep all of us safe. We knew our instructors would not put us in danger, but they would let us learn that we cannot control the conditions and the forces of nature, we would learn that the human being is a guest on Earth, and the best lesson is the one that takes you out of your comfort zone.

As I was entering the Sea of Cortés my eyes stopped seeing the shore, and I knew that I had overcame my fears.



92 kilometers

We traveled for 12 days and sailed 92 kilometers, we shared 13 sunrises and 14 sunsets, and we found a big lesson in each landing. We learned to value and take care of the resources we counted with, to pack with the necessary and how to do it, and to build a storm proof camping site!

We tied the clove hitch, fisherman and trucker's hitch. We had for dinner what we caught (I will never forget the day we fished with hooks), we slept with wind, rain and cold under the stars; we learned how to keep us warm and how to take safe steps in the dark, we studied the celestial sphere and identified Orion and Aldebaran; we had classes on the sand, rocks and cliffs.



▲ Photo by Leopoldo
San Miguel.

Tolerance to adversity and uncertainty

Every night we planned the next day: destiny, details, contingency plans, and risk evaluation. Most of the days, we went to bed all enthusiastic of having a plan ahead of us, and we would wake up hit by the wind and the waves warning us to go back. Sometimes we spent several days in a same place, evaluating the conditions and opportunities to sail. It was all about accepting and tolerating what nature had to offer us everyday, and adapt to the conditions we found in the environment.

Photo by Leopoldo
San Miguel. ▼





Photo by Paulina
Díaz Murillo. ▶



Good trip!

The last day was amazing, we sailed for 6 hours to reach our destination, Punta San Nicolás. We saw the moon and the sun find each other in the same sky; we sailed followed by dolphins and sea lions, we sang and enjoyed the fatigue in our arms. When we arrived to the coast, we still had a long way back home, but it was as if we had arrived to the top of a mountain and hugged each other in eternal gratitude.

I'm a different person, more conscious of my weaknesses and strengths, more present, more committed and much more grateful, in other words, in symbiosis with my surroundings, in debt with the sea.

Thanks to Terra Peninsular for trusting me and making this opportunity possible, I know that the experience will enhance my performance and enrich my role as outdoors instructor; now I reaffirm my commitment with the community. To my expedition peers, to my instructors for guiding us on the journey; to all NOLS México members, for their hospitality and example, to my loved ones that reminded me that I was capable of facing this challenge, and above all, to the fishing communities that welcomed us in their homes. •

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▲ Photo by Iliana del Pilar González Meléndez.



▲ Photo by Iliana del Pilar González Meléndez.



▲ La Turquesa

Local Hiking

By Verónica Meza, in collaboration
with Alma Delia Espinoza
Photos by Alma Delia Espinoza

“Hiking has changed my life”, Alma Delia told me a couple of days when we spoke on the phone during the COVID-19 quarantine. She misses hiking, but she is not discouraged, and wishes to go back as soon as possible.

Alma Delia has been hiking for the past 6 years in the area of El Rosario, San Quintín, and its surroundings; she has grown and lived surrounded by nature in a place scarcely inhabited, so she takes advantage of each opportunity to go and explore with local hiking groups.



However, she told me that there are not too many people involved yet, she thinks that is because hiking is not yet a known activity.

She began her adventure with the San Quintin's hiking group, Dr. Fausto Ruiz invited her to participate as a guide in a hiking to La Bocana of El Rosario stream, a little wetland that flows into El Rosario coast, which has beautiful landscapes that Alma Delia knows really well.

The emotion of that first experience motivated her and gave her a new meaning to travel and identify the places she had on her memory with a different perspective, and for being in the company of new friends, that are motivated to enjoy nature as well as her. Without hesitating, she became a hiker, despite of having to travel 60 kilometers each week to join the group.



▲ La Mesa de EL Rosario

It is not easy, but Alma Delia would be happy to start a hiking group in her town. "When you are passionate about nature, your imagination awakes, you find forms in plants: a cowboy, a monkey or anything else. You learn from medicinal plants of all the region, you learn from animals and it is very rewarding," she says.



Each hike is a personal triumph

Alma Delia talks about her adventures, and I try to imagine those moments in my head as she tells her story. “I remember how I felt, the clean air entering my lungs in the first hiking trips; I felt peaceful and calm, I liked that sensation. It is incredible.”



▲ Punta Baja

Through time and all the experiences, her hiking peers became her friends and family. After going through some experiences where she had to stop going hiking; she recognizes that even though it is not easy to approach a hiking group, it has changed her habits and daily routine. Hiking is one of her favorite therapies.

Her experiences, each one told with a unique emotion, have given her memorable experiences: she has visited San Martin Island, Mission Santa María de Cataviña and the Salt Factory in Guerrero Negro, where they also enjoyed whale watching.

The group has traveled through all the volcanoes of San Quintin, and they know each corner of the region, including Punta Mazo and Monte Ceniza nature reserves.



Walking and learning about medicinal plants

Alma Delia tells me that sometimes one of her granddaughters goes with her, she remarks the importance to teach children to respect nature and identify the names of some plants, just like in ancient times.



In the hiking group, they are told to respect nature. "We tell the new ones that we all have to take care of nature, that we cannot cut branches, and that we cannot disturb animals. Even snakes, if you do not bother them they will not harm you. We have to teach that!", she says.

We concluded with the safety measure you have to follow during outdoor activities: walking in groups with the basic equipment such as sticks, whistles, solar protection, water and energy bars. By the way, Alma Delia has a recipe for energy bars that she promised to share with us.

We said goodbye and promised to go hiking. Once the phone call was over, I was left inspired to continue protecting and conserving more natural areas for the animal and plant species, as well as for human health.

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Currently at Terra Peninsular we are working with **Rainforest Trust** in the Valle Tranquilo Nature Reserve and its surroundings to protect the habitat of the San Quintin kangaroo rat, and change the perception and appreciation of locals from El Rosario and San Quintín regarding nature.





Airboats and Their Use in Conservation Actions

By Vitza Cabrera, Ricardo Domínguez
and Sean Meade
Photos by Sean Meade

At the beginning of the 1900's the airboat was invented, although it is unclear where and how it all started, it is true that the first ones were completely different from the modern ones. A collection of trial-and-error lead to the actual configuration: a flat bottom, the pilot situated in an elevated position, the engine on the back, and the propellor protected by a cage.

Some records suggest that the first uses of this kind of boats was in a military context, but in the 1930s and 1940s they started getting popular in Florida, USA, by people living around the Everglades. Here, people saw a great advantage as they allow navigation through shallow waters, letting them to have access to places they couldn't arrived before or that required lots of effort to get in.





But what is an airboat?

An airboat is also known as fan boat o swamp boat. The main characteristic is that it is smooth and flat at the bottom. The range of the length is about 3 to 14 meters, and 2 to 5 meters wide, it can weigh between 300 to 10,000 kilograms. The average airboat is 4.8 meters long, 2.4 meters wide, and propelled by two or three propellers that are powered by an automotive or aircraft engine at the stern, allowing them to reach speeds up to 80 km/hr. In order to use it in a safety way, certain security equipment is required like lifejacket, safety earplugs, and helmet, just to mention. All of the safety regulation depends of the country.



In the field, airboats are known for being noisy and creating strong winds behind them, but because of their flat bottom, they generate less disturbance at the bottom of a lake and at the water surface, making them a good option for obtaining measurements in shallow waters (Yutaka et al., 2011). Nowadays, they are very popular in the USA, especially in Florida and Alaska because they can traverse remote wetlands areas that are not accessible by foot or by conventional boats. In fact, they are capable of navigating in mudflats, mud banks, gravel bars, and scrubs.

Due to this characteristics, the use of the airboat is relevant for conservation topics. For example, in 2011 some researchers used a kind of airboat to mapping water quality in shallow water in Hokkaido, Japan. They measured parameters such as temperature, pH, dissolved oxygen, conductivity, turbidity and chlorophyll.



The airboat is considered an excellent tool for many kinds of surveys, one of them is the marsh and bird surveys, because they can arrive at remote zones and increase the study area (Liu et al., 2009; Davis, 2012). In Alaska, the US Forest Service uses airboats on the Copper River Delta (a Western Hemisphere Shorebird Reserve Network site) for crew transport, shorebird and bald eagle surveys, and for some aquatic plant surveys. Airboats allow access to the extensive mudflats and tidal sloughs located there. There are seasonal restrictions on airboat use on the Copper River Delta, with airboats prohibited on vegetated uplands from May 1 to August 31 to protect nesting habitat and vegetation during this period.

In the case of birds, there is not a standard reaction to its presence. Several factors contribute to the way birds react. The level of habituated to the presence of humans and other boats as well as the season or if birds are mating, nesting or eating are factors that will affect their reaction.

Several studies have been done to establish the flushing distance of birds, but it has been concluded that there is no rule that could allow us to establish a specific distance. Nevertheless, it is important to monitor the way wildlife reacts and to establish a conservation management plan in which buffer zones are implemented, as well as seasonal use in case it is necessary and appropriated (Roadger and Schwikert, 2003).



As we can see, as any vessel or boat that is used in a pristine zone, it is imperative to establish a management plan that will allow controlling and minimizing the impact that it can have on the ecosystem. Respect places that wildlife uses and establish rules, zones and seasons to navigate in the water as well. In 2018, Terra Peninsular received an airboat as a donation from the US Forest Service International Programs and the US Fish and Wildlife Service. This boat will allow us to do our job efficiently and, in less time enabling us to move around the bay, its wetlands and channels with the main goal to monitor water quality, seagrass density and wildlife associated to them, and bird surveys, as well as to organize water clean ups that will keep the bay clean and healthy .

At the beginning of 2020, three staff members were trained by a member of the US Forest Service in how to use the airboat safely and maintained it perfect conditions. Trained staff members will also be responsible of establishing a management plan that will assure a minor impact in the bay, the wildlife and its users.●

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“ The nice thing about teamwork is that you always have others on your side ”

MARGARET CARTY

