Mediterranews

CONSERVING THE NATURAL BEAUTY OF BAJA CALIFORNIA

No.7 • Ensenada, Baja California • June 2017

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Bats in the *Baja California peninsula*

Terra Peninsular

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Message from the

Executive Director

César Guerrero

The newsletter Mediterranews was created in April 2016 in order to become a reference publication on conservation subjects in Baja California, as well as to provide a space for researchers to publish about their projects.

To date, we have published seven issues of this bimonthly magazine and we are more than happy with the results and for having faithful readers, who enjoy relevant and interesting content in every issue of Mediterranews, on its digital or printed version.

As a way to reaffirm our commitment to the environment, I am proud to announce that from now on you will find the Spanish version of this newsletter printed on 100% recycled paper and vegetable based inks. In addition, these copies will be distributed in different sites of Ensenada and San Quintín, in Baja California.

We continue working so this newsletter migrates to other cities in Mexico because we want to spread our environmental work and promote conservation awareness to a larger audience.

Likewise, with the pages of Mediterranews we want to show the world our actions to protect the unique landscapes of our beloved Baja California, so that they remain preserved for the enjoyment of present and future generations.

César Guerrero
Executive Director of Terra Peninsular

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The Pallid Bat (*Antrozous pallidus*) widely occurs along the Baja California peninsula. Photo: Alan Harper.

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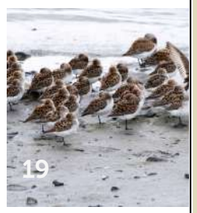

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The minimalist design suggests the physiognomy of each bird. Photo: Miguel Santamaría.

The masks are made of fiberglass under Fabriano paper. Photo: Miguel Santamaría.

Art and Conservation

The making of the Bahía de Todos Santos Bird Festival wings and masks

By *Louise Aceves, Miguel Santamaría and Antonieta Valenzuela.*

As an idea to give visibility to migratory shorebirds during the Bahía de Todos Santos Bird Festival, wings and masks of five representative species of the bay were made.

This event was organized by Terra Peninsular and it took place on March 11, 2017 in the city of Ensenada, Baja California. Throughout that day, five volunteers portrayed each of the shorebirds.

The event attendees had the opportunity to approach the volunteers dressed up as shorebirds to get to know the species, since the masks and wings were used to raise awareness about the conservation of migratory birds and their importance.

The chosen shorebirds were: Marbled Godwit (*Limosa fedoa*), Willet (*Tringa semipalmata*), Sanderling (*Calidris alba*), Snowy Plover (*Charadrius nivosus*) and Red Knot (*Calidris canutus roselaari*).

All these species can be found during the fall and winter on different spots of the city, such as Playa Hermosa, Estero de Punta Banda and Maneadero.

The wings and masks will be used in upcoming bird festivals, and they are currently exhibited at the offices of Terra Peninsular in Ensenada.

WINGS

The wings were created in two phases. First, they were handmade with poplin fabric by Karla González (alias Sierra González), who designed the shape using bird anatomic references and a standard size so that anyone could use them.

After that, the feathered patterns of each of the birds were painted with acrylic paints on the fabric. This part was made by Louise Aceves, who studied Plastic Arts at the University of Baja California (UABC).

"I've always thought that it is easier learning through play, I think that anyone can get involved or get interested in a topic through a game. Maybe someone gets curious about the bird costumes and the names of the species, and that is a first step to begin learning", said Louise about the role of the costumes to raise awareness.

MASKS

Miguel Santamaría, Plastic Arts student from the UABC, designed and created the bird masks. The material used for all the masks was fiberglass under Fabriano paper.

The fiberglass was a reinforcement to extend the durability of the paper, so the masks can resist different accidents caused by liquids and other materials.

The feathered pattern was painted with fabric acrylics. Photo: Louise Aceves.

Before painting the masks, Miguel applied a body filler to fill in the holes left in the paper unions, this also worked as an extra reinforcement for the paper-made structure made of paper. Finally, the masks were painted with acrylic paints and metallic details were added so the masks can be attached to the face with a short rope.

Volunteers dressed up as shorebirds for the Bahía de Todos Santos Bird Festival. Photo: Antonieta Valenzuela.

Miguel opted for a minimalist design to fulfil the visual expectations with an aspect that suggested the physiognomy of each bird. 3D models were used for the masks, which were modified accordingly to the measures of an average face. He used two computer programs and once the parts of the masks were printed, they could be put together easily.

"I think it is very important to stimulate and support this kind of projects that seek to leave a mark and raise awareness, in such a way, as a society we can break all the habits that generate a negative impact on the natural environment, that in the end affects us all as well", said Miguel about being part of the project.

Shorebirds: Sanderling, Marbled Godwit, Snowy Plover, Red Knot and Willet. Photo: Antonieta Valenzuela.

Shorebird *festival in Alaska*

An exchange of experiences to learn and replicate festivals in Ensenada

By *Jorge Andrade and Antonieta Valenzuela*

As an initiative of the Commission for Environmental Cooperation (CEC), site representatives from the Pacific Flyway were chosen to attend a shorebird festival in Cordova, Alaska: the *Copper River Delta Shorebird Festival*.

Terra Peninsular has conservation projects together with the CEC, including the nomination project to designate Ensenada Bay as part of the Western Hemisphere Shorebird Reserve Network (WHSRN).

The importance of Ensenada lies in the fact that is located along the Pacific Flyway, a migratory route used by birds, and also, the bay is a stopover site for thousands of shorebirds that feed and rest there during migration.

Western Sandpipers (*Calidris mauri*). Photo: Jorge Andrade.

Some of the site representatives invited to the festival: Heather Kapust, Jorge Andrade, Cheri Lloyd y Antonieta Valenzuela.

As the only representatives from Mexico, two staff members of Terra Peninsular were invited to participate in the festival in Alaska. The objectives were to meet representatives from other communities link to shorebirds sites, discuss about cooperation and conservation actions, as well as participating in the activities and get ideas to replicate in other sites in the American continent, including Ensenada and San Quintín.

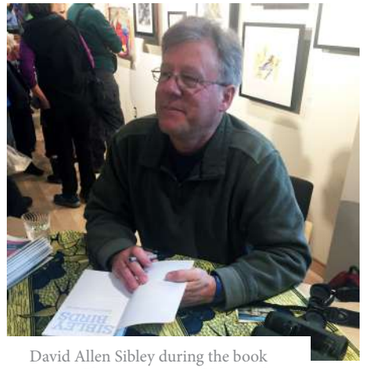
Near Cordova is the Copper River, a place designated in 1990 as a WHSRN site due to its importance to more than a million migratory shorebirds. This designation was an important event for the festival, and since then it has international prestige. Since 27 years ago, the event gathers birdwatchers, biologists, locals and people from Alaska, the United States and other countries.

The festival lasted 4 days and a variety of activities where offered, such as airboat and birdwatching tours, a fundraising dinner, a series of presentations on birds, keynote speakers, as well as handicraft workshops and bird banding, among others.

Also, the special guest this year was David Allen Sibley, outstanding ornithologist, author and illustrator of *The Sibley Guide to Birds*, who offered a book signing and a presentation titled "The Psychology of Birdwatching".

A birdwatching tour was included in the activities of the festival. Photo: Antonieta Valenzuela.

Maya, the Western Sandpiper, met Jim Chu, Jorge Andrade, Antonieta Valenzuela, Heather Kapust y Christie Barchenger. Photo: Erin Cooper.



David Allen Sibley during the book signing. Photo: Antonieta Valenzuela.

Jim Chu, of the USDA Forest Service, with staff representatives of Terra Peninsular: Antonieta Valenzuela and Jorge Andrade.

The site representatives from the Pacific Flyway went on an airboat tour at the Eyak River.

FESTIVAL INFORMATION

www.copperriverdeltashorebirdfestival.com

www.facebook.com/CopperRiverDeltaShorebirdFestival/

QUALITATIVE RESEARCH PROJECT

In order to enrich the experience, a series of semi structured interviews were conducted with key actors involved in the organization and history of the festival. Other qualitative research tools were also performed.

A report will be written with the information obtained, and this document will be shared with the interviewed people, site representatives and the Commission for Environmental Cooperation (CEC). This project will be concluded in an estimated period of three months.

Also, a bird festival manual will be created based on the report, which will serve as the basis for upcoming festivals in Ensenada and San Quintín, in Baja California, and thus, raise awareness about shorebirds and their importance for the environment.

Permanent or seasonal collection?

Mollusks consumption during the prehistory of Baja California

By *Enah Fonseca Ibarra*

The rests of marine resources can be found at hunting, collecting and fishing camps. How to determine when these resources were consumed? One of the strategies to answer that question is using isotopic techniques.

Fig. 4 Ancient residents of Baja California fishing. Author: Luis Gabriel Razo.

The study of oxygen isotope composition of mollusk shells is a tool used in archeology to estimate paleotemperature and to identify the season of capture, through an analysis of the terminal growth band of prehistoric mollusks. It is based on the idea that the oxygen isotope composition depends mainly on temperature and the isotope composition of seawater and not from other processes, such as nutrition or organismal metabolism (Wefer y Berger, 1991). Concerning development of empiric relations between isotope composition of water (δ18Ow) and biogenic carbonates grown at different temperatures, Epstein et al., (1953) proposed an equation to estimate the temperature.

The use of isotopic techniques, plus the analysis of ecological variables of archaeofauna materials found at archaeological sites has resulted into an efficient duality for paleoenvironment reconstruction, as well as the study of nutrition habits, capture strategies and settling patterns of the human groups that inhabited the coasts along the peninsula of Baja California (Téllez et al., 2008; Celis, 2011, 2015; Robles, 2013). With the intention to continue this research, isotope values of *Mytilus californianus* were compared, these shells were collected in the archeological camps located in the area of Bajamar-Jatay in the northwestern coast of the Pacific Ocean (Fig. 1).

Fig. 1 Location of the area of study known as Bajamar-Jatay, that is located in the northwestern coast of Baja California. The marked archeological sites indicate the origin of the analyzed *Mytilus californianus* shells. Author: Enah Fonseca Ibarra.

The carbonate sample was made from thin layers 1000 µm thick. Considering that a g monthly growth date of 1mm has been registered in the area of study (Salas y Oliva, 1983; Chi y García, 1983; Cancino, 1985; Ortega, 2015; Escamilla, 2015), three perforations of each shell were performed. The first sample (a) was taken between the terminal growth band and the first 1000 µm towards the umbo; the second (b) between 1000 and 2000 µm, and the third (c) between 2000 and 3000 µm (Fig. 2).

The processing of the carbonate samples was performed at the Center for Scientific Research and Higher Education of Ensenada (CICESE) and the carbonate samples were analyzed at the Environmental Isotope Laboratory from the University of Arizona.

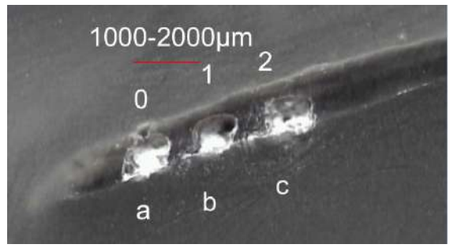


Fig. 2 Example of a thin section of a mussel shell. The three samples were taken from the terminal growth band towards the umbo. The first sample (a) was taken between the terminal growth band and the first 1000 µm tow ards the umbo; the second (b) between 1000 and 2000 µm, and the third (c) between 2000 and 3000 µm. Author: Enah Fonseca Ibarra.

The range of δ18O values was from 0.6 to 1.3% with an average of 0.2‰. This corresponds to a temperature range from 11.8 to 19.7 °C, which comprises a wider interval than the one registered in modern times, that is ~6 °C (Iridl.ldeo.columbia.edu, 2016); the 22% of the retro calculated values are found under the minimal annual temperatures (15 °C).

According to the season of capture, except for a case observed in the mid Holocene (8000 – 3000 years B.P.), in the rest of the settlements from the mid and late Holocene (3000 years B.P.) the consumption of mollusks seems to have been carried

Fig. 5 Ancient residents of Baja California harvested mollusks. Author: Luis Gabriel Razo.

out throughout the year. Especially the harvesting observed during the months of fall and winter, and then summer and spring, but in small numbers during the transition from summer to fall (Fig. 3).

What are the implications of these results in order to understand the ancient societies that occupied the northwestern coast of Baja California? About 3,000 years ago, major environmental and cultural changes were registered. With events like El Niño on the late Holocene (Barron et al., 2003), human groups had to learn to take advantage of the increasing land resources when marine productivity decreased (Davis, 2010) (Fig. 4).

In addition to climate change, the archeological evidence indicates a period of social transformations. The coast was occupied by young *joyanos* who witnessed the arrival of a new cultural group with different traditions: the *yumanos*.

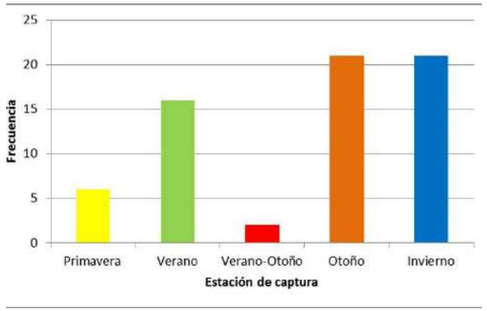


Fig. 3 Season of capture of the analyzed mussel shells.

Despite the *yumanos* are related to a pattern of seasonal mobility and a diet based on the consumption of land resources, according to analysis of capture temporality through isotopic techniques, the coast of Bajamar-Jatay was continuously exploited, even after the arrival of these groups.

About the author

Enah Montserrat Fonseca Ibarra is an archeologist who studied at the National School of Anthropology and History in Mexico (INAH). Since 2010, she has worked at the National Institute of Anthropology and History Center in Baja California where she develops the project "Study of camps in the coast line and intermontainous valleys in Baja California", aimed at research and protection of archeological sites located in Ensenada. Since then, she has focused in the study of hunting, collecting and fishing camps, the implementation of Geographical Information Systems in archeology and the promotion of the archeological heritage of Baja California.

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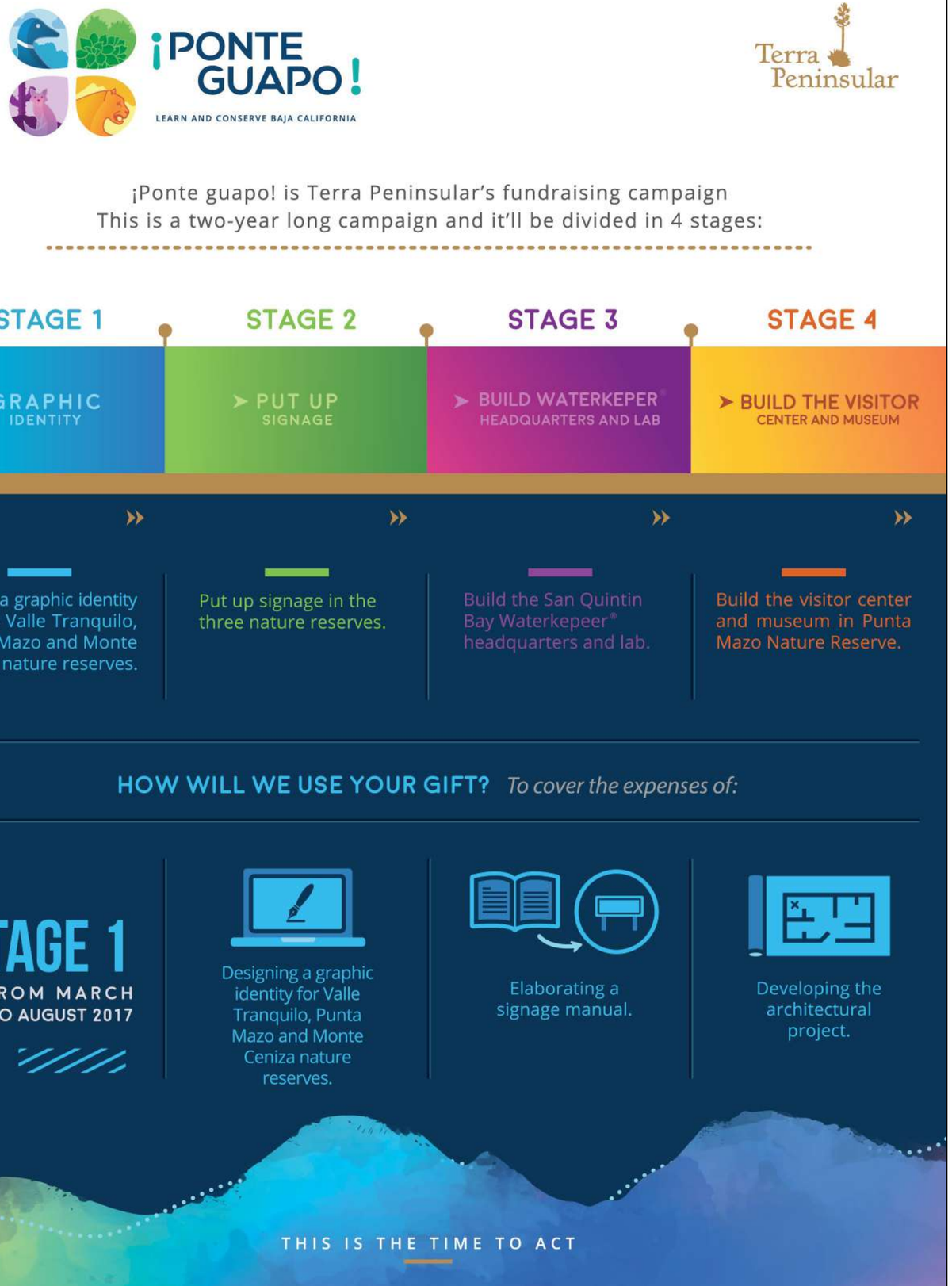
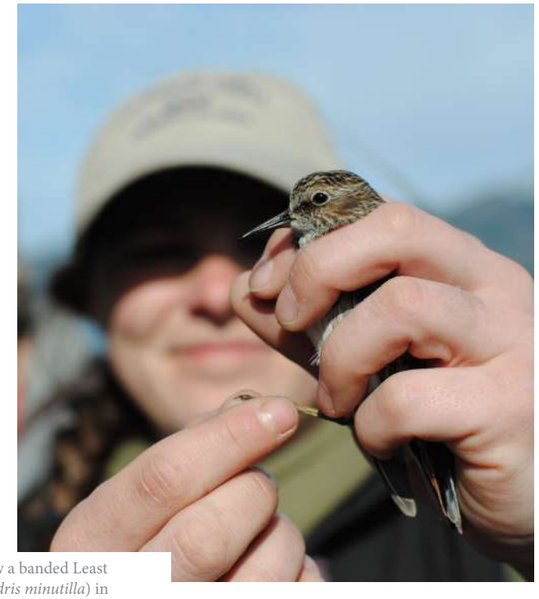




The photos show a banded Least Sandpiper (*Calidris minutilla*) in Hartney Bay, Cordova, Alaska.

Bird banding in Alaska

Photos by Antonieta Valenzuela and Jorge Andrade

During the *Copper River Delta Shorebird Festival* in Cordova, Alaska, daily shuttles to Hartney Bay were offered to visitors. There, scientists of the Prince William Sound Science Center were banding birds as part of a research project.

Some visitors volunteered to extract birds from the mist nets, which are used to capture birds without hurting them. After that, the scientists identified, weighted and took blood samples of the birds. Some of them already had bands, and other were banded.

Bats *in the* Baja California peninsula

These flying mammals are important to the ecosystem and agriculture

By *Laura A. Nájera Cortázar*

Bats are one of the most successful groups among mammals, for they can be found in five continents (except Antarctic) and in most types of habitats worldwide.

They are the only flying mammals, which makes them special, and range in all kinds of sizes from the Bumblebee Bat (*Craseonycteris thonglongyai*) weighing 0.7 oz and with a wingspan of 1 in, to the Golden-crowned Flying Fox (*Acerodon jubatus*) with a body weight of 2.6 lbs and a wingspan of 66.9 in.

Contrary to the popular belief, nocturnal bats are not blind. In addition to vision, they possess a navigation system called echolocation. Bats emit sound waves that bounce off objects enabling them to forage and feed, this also provides them with greater maneuverability and efficiency.

The Peninsular Myotis (*Myotis peninsularis*) is an endemic bat from the Cabo region.
Place: Santa Anita, Los Cabos, B.C.S.
Photo: Laura A. Nájera.

The Pallid Bat (*Antrozous pallidus*) widely occurs along the Baja California peninsula. Place: Oasis San Fernando, Ensenada, B.C. Photo: Alan Harper.

There are approximately 1,300 bat species worldwide. They feed on different things, but most of the species are fruit bats or insectivores (they feed on insects). Some others are nectar-feeding bats (flower nectar); and others are carnivorous (they feed on arthropods, fish, and small reptiles). The least common bats are hematophagous (blood), only three endemic species of the American continent feed on blood, and their preys are mostly cattle and birds –not humans!

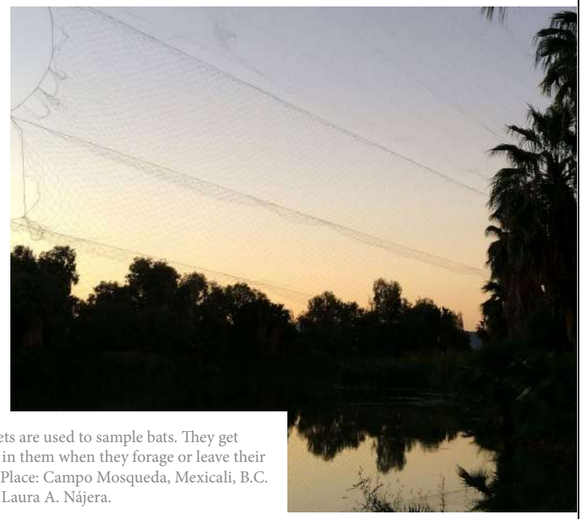
The diversity of bat guilds is as great as their importance to the ecosystem and agriculture. They serve as seed-dispersers, pollinators, and as agents of biological control, which is crucial for harvests. Without bats, harvests would be vulnerable to plagues –and more mosquitoes!

In Mexico we have around 140 species of bats, and at least 69 of them are partially or totally distributed in northwest Mexico. The 807-mile long Baja California peninsula (the second largest in the world) is almost entirely isolated from the continent, and connected only on the northern part. Due to its latitudinal gradient, it possesses a wide variety of vegetation and weather. These characteristics, along with a complex geological history, have made of the peninsula a source of endemic plants and animals.

At least 25 bat species (mostly insectivores) inhabit the entire peninsula or parts of it. One of the most common, the Brazilian free-tailed Bat (*Tadarida brasiliensis*), is known for forming large group colonies of millions, and eat up to 250 tons of insects a night.

The Pallid Bat (*Antrozous pallidus*) occurs in most of the Baja California peninsula. It has big ears and enjoys eating scorpions and crickets for dinner. According to a study by the researcher Winifred Frick and collaborators, it was discovered that the pallid bat feeds occasionally at the flowers of Mexican giant cactus (*Pachycereus pringlei*). This makes it a very efficient pollinator, at times and in some places even better than the Lesser Long-nosed Bat (*Leptonycteris yerbabuenae*), a completely nectar-feeding species that is famous for being the main pollinator of several agave species in Mexico –that's right... tequila!

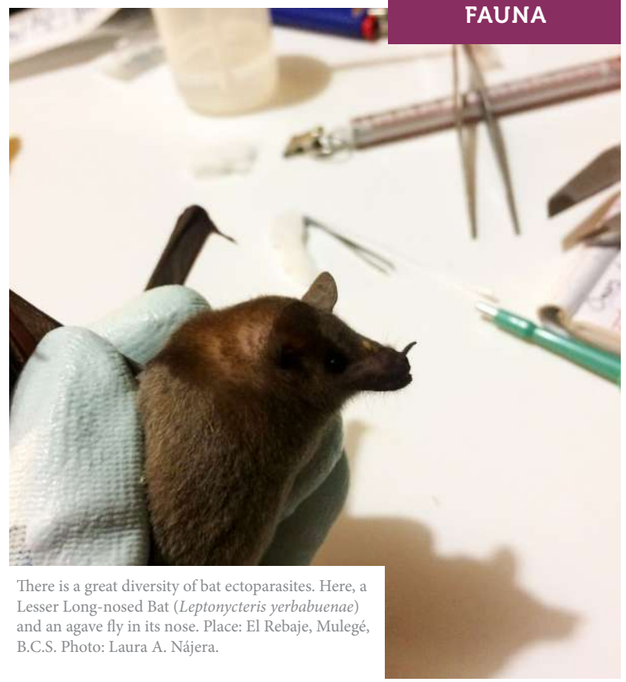
Another interesting individual is the Fishing Bat (*Myotis vivesi*), an endemic species of the coasts and islands of northwestern Mexico that uses its enormous claws and uropatagium (the membrane that stretches between the lower limbs and tail or parts of it) to feed on fish and crustaceans. Currently it is enlisted in the IUCN (International Union for Conservation of Nature) as an endangered species. The fishing bat has a high genetic diversity in the Mexican islands, but it is susceptible to introduced species predators (i.e. cats and rats).



Mist nets are used to sample bats. They get caught in them when they forage or leave their caves. Place: Campo Mosqueda, Mexicali, B.C. Photo: Laura A. Nájera.

A small group of Pallid Bats (*Antrozous pallidus*) hanging. Photo: Alan Harper

Laura Najera observing the morphological characteristics of a Long-legged Myotis (*Myotis volans*). Place: Campo Mosqueda, Mexicali, B.C. Photo: Eduardo F. Aguilera.



There is a great diversity of bat ectoparasites. Here, a Lesser Long-nosed Bat (*Leptonycteris yerbabuenae*) and an agave fly in its nose. Place: El Rebaje, Mulegé, B.C.S. Photo: Laura A. Nájera.

Research on bats in the Baja California peninsula goes back to a few decades ago, from the findings and descriptions of the species that occur here, to complex biogeographic and genetic analysis. Several researchers and naturalists are working towards the conservation of bats by generating useful information for the protection and promotion of the importance of these mammals to the ecosystem.

I began my research on this group in 2011, as a master's degree project, in which I studied the taxonomic status of an endemic bat of the Cabo region: the Peninsular Myotis (*Myotis peninsularis*). Currently, I am working on my PhD project on a group of myotis that co-occur along the peninsula, focusing on the genetic limits between species and if their distribution corresponds to the genetic subdivision I find between them. Furthermore, I am collecting information to learn about the diversity and distribution of their pathogens.

About the author

Laura A. Nájera Cortázar is a biologist graduated from the University of Guadalajara and holds a Master's Degree from the Northwestern Center of Biological Research (CIBNOR). Currently she is pursuing her PhD studies at the University of Leeds in England. She has participated in fauna monitoring, along with the University of Guadalajara, working with mammals, reptiles, and birds. She has collaborated with Terra Peninsular and researchers from the United States in the search of bats along the Baja California peninsula.

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Over-summering birds *in San Quintín Bay*

By *Jonathan Vargas and Estefanía Muñoz*

Some individuals spend the summer in their wintering sites instead of migrating long distances.

Surely one of the most amazing natural phenomena is bird migration. This event allows us to witness the migration of thousands of animals that travel long distances to find better conditions to survive and breed.

Migration represents a great challenge and many species die in the attempt, since a lot of energy is spent. Nevertheless, the survival instinct is greater than any adversity, and breeding is one of the main drivers for migratory birds.

Although not all birds migrate, the majority of birds fly to their breeding grounds in the north or their wintering grounds in the south. Also, not all individuals need to migrate long distances and some of them spend the summer in their wintering grounds. These individuals are known as over-summering birds.

For some years it has been known that over-summering behavior occurs generally in the first year of life of migratory shorebirds. The farther away the breeding grounds are located, the more likely it is that birds will over summer.

It has been documented that over-summering birds can spend from 19 to 31 months on the grounds where they spend the winter, before migrating to their breeding grounds for the first time to find a mate. But generally, second-year individuals become old enough to breed and migrate north for the first time.

Even though this behavior is common among shorebirds, it is also found on one of the most representative birds in San Quintín Bay, the Black Brant (*Branta bernicla nigricans*).

Also known as the Pacific Black Brant, this species travels each year from the breeding grounds in the north to the wetlands in northwestern Mexico, and San Quintín Bay is an important location for the Black Brant, since it hosts between 30 and 50% of the worldwide population, that is, around 30,000 brants each year during winter migration.

Black Brants wintering in the bay. Photo: Alan Harper.

Long-billed Curlews (*Numenius americanus*) near the oyster farms in San Quintín Bay. Photo: Jonathan Vargas.

Around this time, some over-summering birds can be found in the bay, like the Black Brant and the Lesser Scaup (*Aythya affinis*), both species are migratory and they are generally observed during the winter migration.

The same way, the Black-necked Grebe (*Podiceps nigricollis*) is a species seen in large numbers during winter, nevertheless, during summer it is possible to find a few, this is due to the over-summering individuals.

Even on the coast, small groups of other species such as the Surf Scoter (*Melanitta perspicillata*) and the Western Grebe (*Aechmophorus occidentalis*) can be seen feeding near the waves. Surely these over-summering bird will soon migrate to breed.

All of this reflects the importance of San Quintín Bay for migratory birds, not only in the winter but also during summer. This location is so important, that breeding birds can be found during summer, species like the Snowy Plover (*Charadrius nivosus*), the Black Skimmer (*Rynchops niger*) and the Least Tern (*Sternula antillarum*). These three species are considered a priority for conservation and breed on sandy beaches and marshals during summer.

Because of this, at Terra Peninsular we are committed to conserve and protect the natural ecosystems and wildlife of the peninsula of Baja California, so we can continue enjoying such admirable events as bird migration.

Surf Scoters (*Melanitta perspicillata*) at La Chorera beach, in San Quintín. Photo: Jonathan Vargas.

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Monte Ceniza Natural Reserve

NATURAL PROTECTED AREA SINCE APRIL 24, 2017

By *Verónica Meza and Antonieta Valenzuela*
Photos by *Jorge Andrade, Antonieta Valenzuela and Verónica Meza*

The Monte Ceniza Nature Reserve is located in San Quintín Bay, Baja California, and it has an **extension of 1,984 acres.** Terra Peninsular is the organization responsible for protecting and managing this reserve. The reserve **was certified as a Natural Protected Area** in the category of Area Voluntarily Destined for Conservation on April 24, 2017 by the Commission of Natural Protected Areas in Mexico.

Monte Ceniza **is part of the 13 volcanoes in the volcanic valley of San Quintín**, and it was formed around 165,000 years ago.

Fauna

The Monte Ceniza Nature Reserve is home to an important number of birds, mammals and reptiles species. Among the common species, you can find:

- Baja California Whiptail (*Aspidoscelis labialis*).
- Baja California Rattlesnake (*Crotalus enyo*).
- Black Brant (*Branta bernicla nigricans*).
- Brown Pelican (*Pelecanus occidentalis*).
- Golden Eagle (*Aquila chrysaetos*).
- Least Tern (*Sterna elegans*).
- Coyote (*Canis latrans*).

Some of these species are catalogued as endangered or threatened in the Mexican norm NOM-059-SEMARNAT-2010.

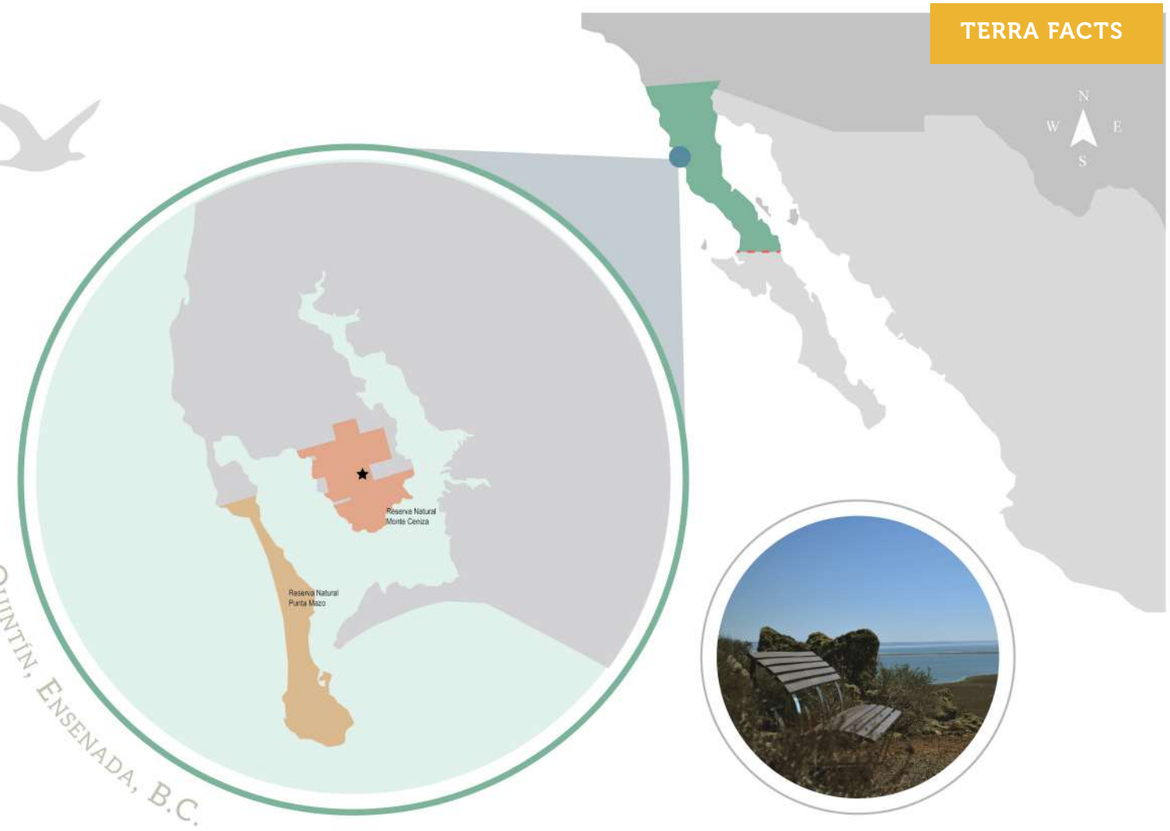
Flora

The vegetation is characterized by the presence of maritime succulent scrub, halophytic vegetation and marshes. Some of the endemic species are:

- *Dudleya anthonyi.*
- *Dudleya cultrata.*
- *Echinocereus maritimus.*
- *Ferocactus fordii.*
- *Hazardia berberidis.*

Juancito
(*Ammoespermophilus leucurus*)

Dudleya anthonyi



THE RESERVE HAS AN EXTENSION OF 1,984 ACRES

Mirador Monte Ceniza

Chapala is a local community that helped to build Mirador Monte Ceniza during the Temporarily Employment Program in 2016.

Mirador Monte Ceniza is a viewpoint station located at the center of the nature reserve. A short trail guides to an area where a wood-plastic composite bench was installed and from there, the visitors can rest and appreciate San Quintín Bay.

Things to do:

Hiking

Scientific research and monitoring

Photography

Camping

For more information, please send us an email to reservas@terrapeninsular.org

Environmental dates

June

5 World Environment Day.

8 World Oceans Day.

17 World Day to Combat Desertification.

26 International Day for the Conservation of Tropical Forests.

Julio

3 International Plastic Bag Free Day.

7 Day of Soil Conservation.

11 Forest Firefighters Day (Mexico).

13 Arbor Day (Mexico).

26 International Day for the Conservation of the Mangrove Ecosystem.

BAJA BREWS CERVECERO
ESCAFANDRA CERVECERIA
Terra Peninsular

Guidelines for visitors in the PROTECTED AREAS IN BAJA CALIFORNIA

The nature reserves are areas protected because of its importance for conservation, these areas are also home to endemic plants and animals.

Terra Peninsular protects 4 natures reserves in Baja California:

- VALLE TRANQUILO NATURE RESERVE — EL ROSARIO
- PUNTA MAZO NATURE RESERVE — SAN QUINTÍN BAY
- RANCHO LA CONCEPCIÓN NATURE RESERVE — SIERRA SAN PEDRO MÁRTIR
- MONTE CENIZA NATURE RESERVE — SAN QUINTÍN BAY

Guidelines

Pick up your trash.
Carry your trash with you in plastic bags.

Follow the indications given by the park rangers.

Respect the signs.

Transit only on marked roads.

Do not remove plants.

Avoid making campfires and if you do so please take the necessary precautions.

No smoking allowed.

No hunting.

Enjoy these recreational activities

Birdwatching

Hiking

Photography

Surf

Kayak

Observe and register

Register photos of plants and animals using the app iNaturalist. This information will be useful to learn about the biodiversity of the country and to support research projects.

iNaturalist.org

Glossary of terms

A

Area Voluntarily Destined for Conservation:
Conservation tool to protect natural areas in Mexico. The certification is obtained with the Secretariat of Environment and Natural Resources and the National Commission for Natural Protected Areas, both Mexican institutions that seek to protect the environment.

C

Commission for Environmental Cooperation (CEC):
Intergovernmental organization that facilitates collaboration and public participation to foster conservation, protection and enhancement of the North American environment for the benefit of present and future generations, in the context of increasing economic, trade, and social links among Canada, Mexico, and the United States.

E

Echolocation:
Echolocation is the use of sound waves and echoes to determine where objects are in space.

Endemic species:
Refers to flora or fauna that is exclusive of a region or territory.

N

iNaturalist:
Online social network of people sharing biodiversity photographs and information to help each other learn about nature and contribute to scientific knowledge. www.inaturalist.org

National Commission for Natural Protected Areas (Mexico):
Federal organization in México that aims to conserve the most representative ecosystems and biodiversity, through the Natural Protected Areas certification and other conservation methods.

Natural Protected Area:
Certified natural areas in Mexico where the original environment has not been significantly altered by human activities or that needs to be preserved.

NOM-059-SEMARNAT-2010:
Refers to the Mexican official norm that identifies flora and fauna species and populations at risk. Through an evaluation to assess the risk of extinction, the species are classified by different categories and integrated into a list.

T

Temporary Employment Program:
This program belongs to the Secretariat of Environment and Natural Resources in Mexico and it seeks to financially support the population to protect its socioeconomic and environmental well-being.

W

Western Hemisphere Shorebird Reserve Network (WHSRN):
International cooperation strategy that protects shorebird habitats in the American continent.

Wood-plastic composite:
High resistance material created to substitute natural wood and made of recycled polyethylene.

ICF
International Community Foundation

Meaningful Giving.
Inspired Change

Visit our friends of the International Community Foundation at www.icfdn.org , and learn how you can help us protect the natural beauty of Baja California.

Or visit our webpage www.terrapeninsular.org/en/ and click on **Donate now!** to find out more about how to make your tax-deductible contribution!

Terra Peninsular

NOBODY CAN CHANGE THE WORLD WITHOUT FRIENDS

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PROFEPA
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CONANP
COMISIÓN NACIONAL DE ÁREAS NATURALES PROTEGIDAS

Copper River Watershed Migratory Bird Initiative

SPA
BAJACALIFORNIA
SECRETARÍA DE PROTECCIÓN AL AMBIENTE

FASOL
Fondo Acción Solidaria, A.C.

NATIONAL PARK SERVICE

EHL

U.S. FISH & WILDLIFE SERVICE

FONDO MEXICANO PARA LA CONSERVACIÓN DE LA NATURALEZA, A.C.
institución privada
FMCN 20 años

ICF

FONNOR
Fondo Noroeste

JiJi FOUNDATION

SEMARNAT
SECRETARÍA DE MEDIO AMBIENTE Y RECURSOS NATURALES

WATERKEEPER® ALLIANCE MEMBER

U.S. Fish & Wildlife Service
WILDLIFE WITHOUT BORDERS

North American Wetlands Conservation Act
NAWCA

SONORAN JOINT VENTURE
Binational Bird Conservation

The Nature Conservancy
Protecting nature. Preserving life.

Ensenada
XXII Ayuntamiento

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POR MI RAZA HABLARÁ EL ESPÍRITU