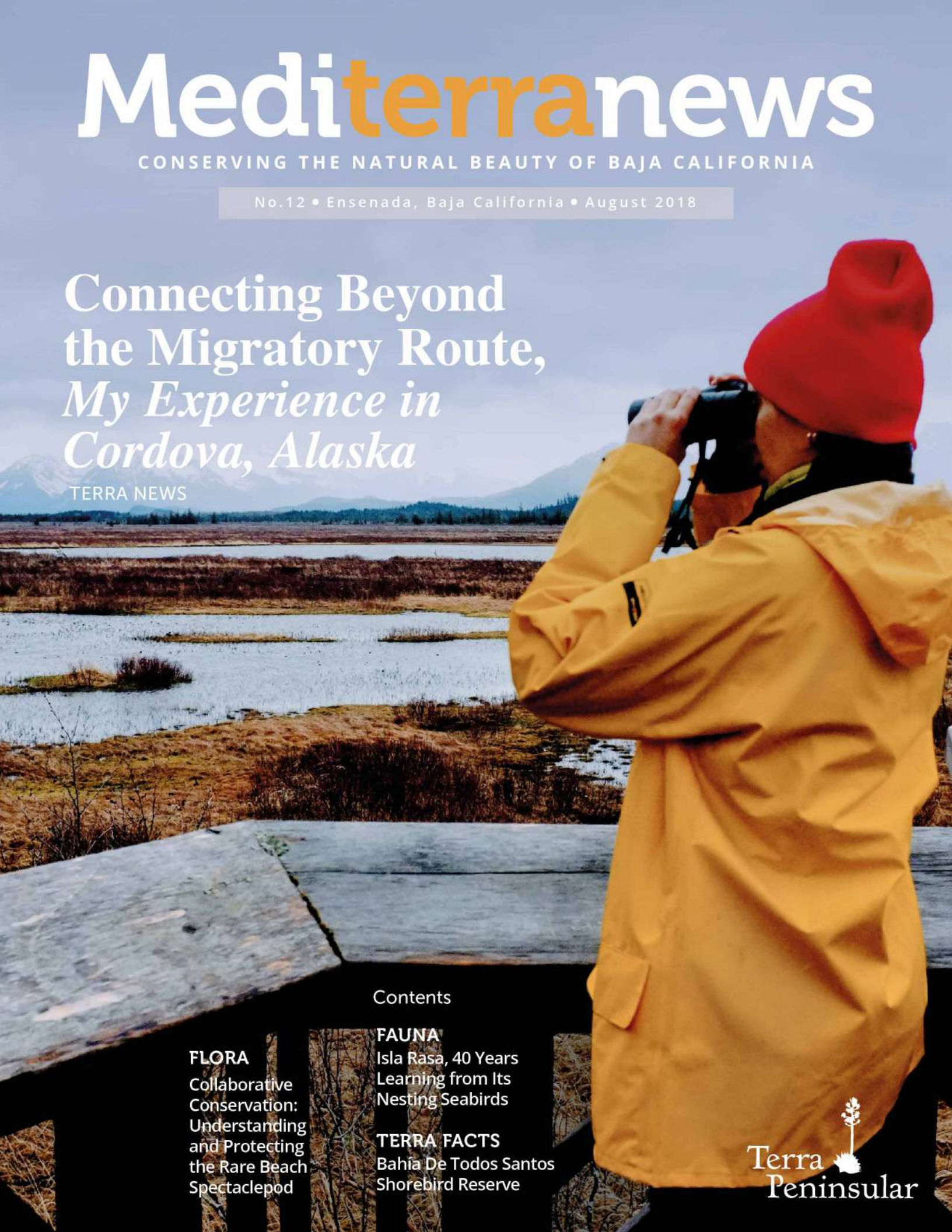
Mediterranews

CONSERVING THE NATURAL BEAUTY OF BAJA CALIFORNIA

No.12 • Ensenada, Baja California • August 2018

Connecting Beyond the Migratory Route, *My Experience in Cordova, Alaska*

TERRA NEWS



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Terra Peninsular

Terra Peninsular

Baja California's landscapes are a worldwide natural heritage

Its protection concerns us all.

Who are we?

We are a Mexican non-profit commitment to the conservation and protection of the natural ecosystems and wildlife of the peninsula of Baja California.

Terra Peninsular was established on April 20, 2001.

Where do we work?

We work in northwestern Mexico:

a) Baja California
b) Baja California Sur
c) Sonora
d) Sinaloa

Some of our accomplishments:

4 certified nature reserves in Baja California

2 designated sites for shorebirds of the Western Hemisphere Shorebird Reserve Network (WHSRN)

Protection of wetlands and the coastal area of San Quintín

More than 76 awareness and community engagement events

Please take action today!

Visit **www.terrapeninsular.org/en/** to learn how you can make your tax-deductible contribution.

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ICF
International Community Foundation

www.terrapeninsular.org/en/

Follow us on social media!

César Guerrero

Message from the

Executive Director

We are midway through 2018 and we have had many activities both in Ensenada and San Quintin, this represents many efforts and the truth is that we are very happy with the results we have obtained in the different projects and initiatives.

Some of these projects are: the rediscovery of the San Quintín kangaroo rat, the campaign "La playa es de todos", the installation of protective fences on the beaches, the internship of students from UDLAP, UNAM and UABC during summer, to name a few.

These efforts have been achieved thanks to the support of many people, and this has undoubtedly helped us to realize that we are not alone and, that every time more and more people and organizations are joining this magnificent work to protect Baja California's landscapes.

Terra Peninsular was established more than 17 years ago and today, more than ever, I am confident that our actions have little by little left a positive mark on Baja California, our actions are aimed to achieving the protection of unique natural areas. And this we will achieve through the participation of the community.

I invite you to join this project and to stay informed about our activities and achievements through the pages of the Mediterranews magazine, our social media, website and blog.

Let's continue working for the conservation
of Baja California!

César Guerrero
Executive Director of Terra Peninsular

Mediterranews
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Terra Peninsular

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Download the previous issues here

www.terrapeninsular.org/mediterranews

This is a campaign launched by Terra Peninsular to protect shorebirds that breed on the beaches of Ensenada between April and August.

The snowy plover is an endangered shorebird that nests on the sandy beaches of Ensenada.

The snowy plovers face many threats: ATVs that run over nests and chickens, trash and homeless dogs.

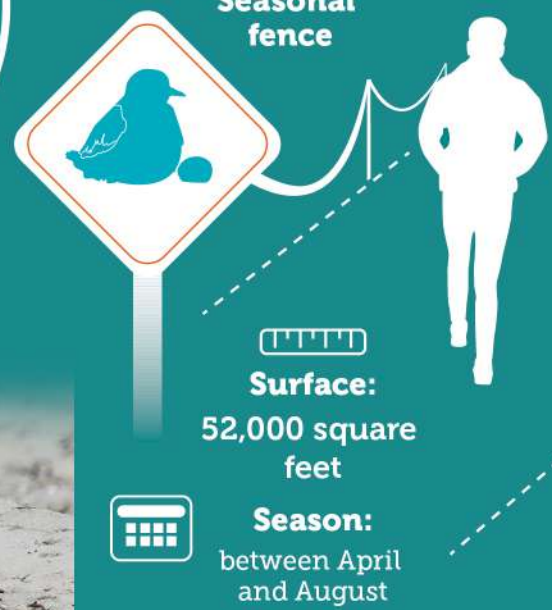
Did you know that Bahía de Todos Santos is the 99th shorebird reserve in the American continent?

CAMPAIGN ACTIVITIES

1. **Install a seasonal fence on the beach.**
2. **Rescue and rehabilitate homeless dogs on the beach.**
3. **Organize environmental education events.**
4. **Ban vehicles on the beach.**
5. **Organize beach cleanups.**

The Beach Belongs to Everyone!

#ShareTheBeach
#LaPlayaEsDeTodos



RESULTS SO FAR

6 snowy plovers were born inside the seasonal fence.

Snowy plover *(Charandrius nivosus)*

HOW TO HELP?

change.org

Sign the petition to ban vehicles on the beach of Ensenada in Mexico!

www.laplayaesdetodos.com

Please don't litter and help keep the beach clean

Leash your dog and walk away from the birds

Walk outside of the seasonal fence

Don't drive ATVs and cars on the beach

Learning About Birds and Nature *in Point Reyes*

By *Claudia Guzmán and Antonieta Valenzuela / Terra Peninsular*

Terra Peninsular organizes bird festivals since 2017 in Bahía de Todos Santos, and since 2015 in San Quintín Bay to promote the protection of birds and their habitats. Besides contributing to conservation, we can mention some benefits of festivals: they contribute to community development, strengthen identity and sense of belonging, contribute to the growth of ecotourism in the city and are a platform for artists, workshops, companies and organizations.

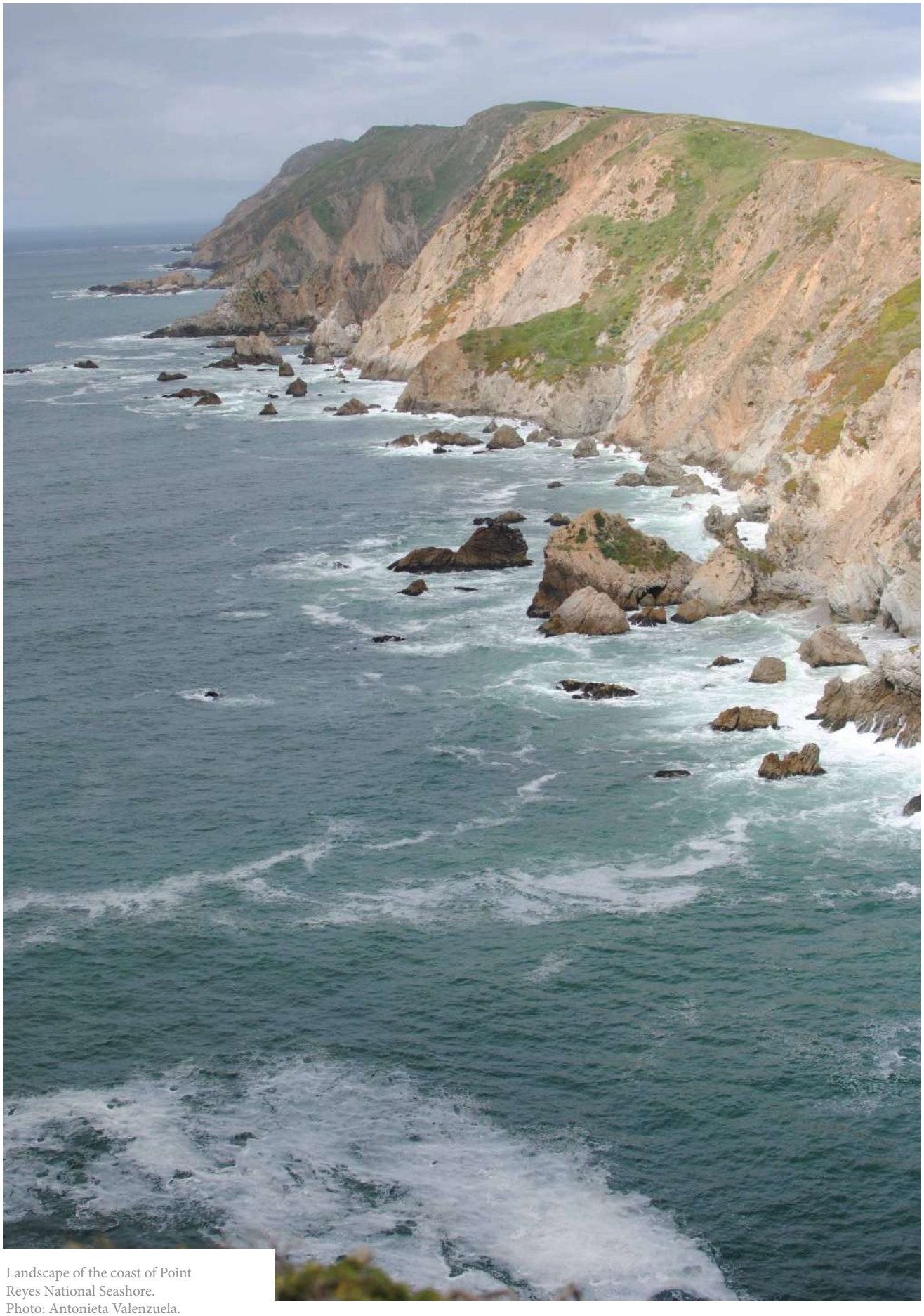
People who have had the opportunity of attending any of these festivals have been able to experience a very diverse range of academic, artistic and recreational activities. Our intention is to continue growing and improving the experiences of each of the attendees. Therefore, in order to strengthen the local bird festivals, an experience exchange program was created, supported by the Commission for Environmental Cooperation (CEC) with the objective of visiting shorebird sites along the Pacific Flyway, where conservation and outreach activities are carried out. And so, we chose the 9th. Point Reyes Birding and Nature Festival at Point Reyes Station, California.

Point Reyes National Seashore is the backdrop of the festival, where the Pacific Flyway and other sites offer an ideal place for birdwatching and wildlife. In fact, the area was recognized as the number 1 birdwatching spot in 2017, where more than 54% of all bird species in North America have been recorded. In addition, the festival won in 2016 the Mindful Birding Award for adopting ethical guidelines for birdwatching.

For the festival we were able to choose among 51 activities in three days, each with limited space and a different cost and out of those, we chose five that we found more interesting and that we thought could be useful to get ideas for the festivals. In addition, most of the activities were conducted outdoors, on trails and natural sites of Point Reyes National Seashore.

The first activity was on Friday morning and consisted of a walk of more than 6 hours with Dan Singer, birdwatcher and eBird regional editor in California. On this trek we met the coast of Point Reyes National Seashore and we appreciated the variety of species that can be seen there, like hares, deer and coyotes, as well as new birds for us, such as the Swainson's hawk (*Buteo swainsoni*), yellow head warbler (*Setophaga occidentalis*) and the California scrub jay (*Aphelocoma californica*). That afternoon we went to the venue of the event at the Dance Palace Cultural Center, where local food and beers were offered. That night the keynote speaker was Keith Hansen, a local artist and bird illustrator who has collaborated on different books.

On Saturday we went to a birdwatching class for beginners with Rich Cimino and Janet Bodle. We liked this class a lot because we learned about the basic principles of observation and how to use this practice as a way to be present and enjoy the natural environment; this gave us a different perspective birdwatching that we can promote in our festivals. In the afternoon we also went to a talk about the Farallones Islands and the projects that take place there, these islands are certified as a marine sanctuary in the United States and is home to sea birds, sharks, seals and whales.



Landscape of the coast of Point Reyes National Seashore.
Photo: Antonieta Valenzuela.

Claudia Guzmán and Antonieta Valenzuela participated in the exchange of experiences promoted by the CEC. Photo: Terra Peninsular.

Californian scrub jay (*Aphelocoma californica*). Photo: Antonieta Valenzuela.

The last day we participated in a tour of the national park to learn about local plants accompanied by the botanist Susan Cochrane-Levitsky. In this tour we walked through different paths that are traveled by locals and visitors, we learned about the species that can be found in the area and its characteristics.

This exchange of experiences helped us to inspire and expand the concept of our festivals, as well as to think about including more activities in nature that highlight the ecological value of the area, in our case in Bahía de Todos Santos in Ensenada and San Quintín.

The results and new ideas that we acquired in this exchange will be applied in the next festivals in order to encourage participation and improve the experience of the attendees! We invite you to live the experience in our 4th. San Quintín Bay Bird Festival: **http://terrapeninsular.org/festival-aves-san-quintin/**

Yellow-headed warbler (*Setophaga occidentalis*). Photo: Antonieta Valenzuela.

One of the things that I liked the most about this festival was to see how the conservation of nature and the daily life of the inhabitants of Point Reyes are united, I was really surprised by the congruence that exists between the discourse and the practice.

For example, streets have signs to moderate *speed and share the road*, and I saw how people respected this, creating an atmosphere that respects the environment and others. Local stores do not use plastic bags and instead you can take your purchases in reused cardboard boxes, and all the sites we visited were clean.

The people who attend the festival are local and this makes me think that they have a capacity for amazement for their natural environment that is renewed year after year. Shops and bookstores promote local artists who are inspired by the nature of the site. Nature is appreciated and cared by all.

-Claudia Guzmán

The last day was a walk along the trails of Chimney Rock. Photo: Antonieta Valenzuela.

Photo: Antonieta Valenzuela.

The first activity was a birdwatching tour with Dan Singer along the coast of Point Reyes. Photo: Antonieta Valenzuela.

Point Reyes National Seashore is a protected area in the United States. Photo: Antonieta Valenzuela.

The botany class was directed by Susan Cochrane-Levitsky. Photo: Antonieta Valenzuela.

Elegant tern nesting colonies (*Thalasseus elegans*) and lead gull (*Larus heermanni*) on Rasa Island during a good nesting season. Photo: Enriqueta Velarde.

Isla Rasa, *40 Years Learning* from Its Nesting Seabirds

By *Enriqueta Velarde / Seabird Ecology of the Institute of Marine Sciences and Fisheries, University of Veracruz*

Isla Rasa is a nesting area of approximately 260,000 Heermann's gulls (*Larus heermanni*) and 300,000 elegant terns (*Thalasseus elegans*) that converge in this small point of our geography at the beginning of spring, both species come, respectively, from the Pacific coast of North and South America. These beautiful birds and 17, 000 royal terns (*T. maximus*) arrive at the tiny island of 0.2 square miles, and show us details of the inner ocean that would be impossible to know without their help. The island was declared a protected area in 1964 (Official Mexican Gazette 1964) and since 1979 is part of the Gulf of California Islands' Flora and Fauna Protection Area.

After four decades of studies and 36,000 gull chicks banded, we know that they mature at four years old, live close to 30, and nest between April and June. They lay one to three eggs and, in good years, one or two chicks survive. Juveniles have a low survival rate and adults have a high rate, even in years with poor food availability because then, instead of nesting, they wait for years of abundance. Its long life, late sexual maturation and production of few offsprings are selected strategies during its evolution, adapting to a fluctuating environment and difficult obtention of food (Velarde and Ezcurra 2018).

Our diet studies of these birds reveal that they consume Pacific sardine (*Sardinops sagax*) and, when it is scarce, anchovy (*Engraulis mordax*) and other small fish (between 10 and 20 centimeters) from the pelagic marine zone (open sea) (Velarde et al. 2015a). These small fish eat large amounts of plankton (tiny algae or marine invertebrates) and their huge shoals constitute a biological mass (biomass) of millions of tons. The production of plankton depends on the sun, cold winds

and currents, with a lot of oxygen dissolved by the strong movements of the sea that, in addition, carry nutrients from the bottom to the surface. When these waters warm up more than normal (positive thermal anomaly), productivity decreases and an effect is registered throughout the trophic or food web (relationships that link the organisms depending on who eats whom), and the reproduction of all the species involved declines (Vieyra et al. 2009).

The diet of these birds tells us precisely the abundance and availability of the small fish (Velarde et al. 2004, 2013, 2015a). In this millennium the frequency of these anomalies has increased from one every seven years, to five every eight years, causing the reproductive failure of many species such as the Heermann's gull (Velarde et al. 2018), and changes in the nesting distribution of others, such as the elegant tern, which nests increasingly to the north (Velarde et al. 2015b).

For millions of years, long before man appeared on the planet, pelagic fish have fed large fish, giant squid, dolphins, whales, sea wolves and seabirds. The survival of some is closely linked to that of the others. We found that the populations of predators grew after the population growth of their prey.

For example, the population of the Heermann's gull expanded around 10,000 and 45,000 years ago (Ruiz et al. 2017), after the population expansions of sardine and anchoveta, approximately 176,000 and 92,000 years ago, respectively. The permanence of these minnows is particularly important for the functioning of marine food webs, generated and in dynamic equilibrium, hundreds of thousands of years ago.

Man fishes these minnows with industrial ships with capacity of approximately 300 tons, reducing the population substantially, which exacerbates the periodic collapses of its populations linked to anomalous phenomena. In the Gulf of California, the Pacific sardine has been overfished with major collapses in 1992, 1998, 2004 and 2010 (**http://sardinagolfodecalifornia.org**). From this last crisis, the fishery has not yet recovered. We have seen that oceanographic anomalies, together with the fishing effort and sardine capture by the fleet, constitute factors that negatively affect the reproductive success and size of the seabird colonies of Isla Rasa (Velarde et al. 2015b).

With the knowledge accumulated for decades about the ecology of seabirds, this flat surface of volcanic rock that emerged from the sea just 10,000 years ago has been reaffirmed as an example of the close interactions that exist between the atmosphere, the ocean and the species that inhabit the Earth, and the importance of understanding the WHOLE so that we can continue as a species, in this unique planet, that we share with the other life forms that evolution has generated.

ABOUT THE AUTHOR

Enriqueta Velarde is a senior researcher at the Institute of Marine Sciences and Fisheries of the University of Veracruz. She studies reproductive ecology, diet, population dynamics, genetics and distribution of seabirds to apply the information to their management and conservation.

Referencias

· D.O.F. (1964). Decreto por el cual se declara Isla Rasa Zona de Protección de Aves Migratorias y de la Fauna Silvestre. Diario Oficial de la Federación CCLXIV(24):3–4. http://sardinagolfodecalifornia.org/wp-content/uploads/2013/08/CAPTURAS-ESFUERZO-DE-PESCA-Y-FLOTA-EN-LA-PESQUER%EF%BF%BDA-DE-PEL%EF%BF%BDGICOS-MENORES-DEL-GOLFO-DE-CALIFORNIA_INFORME-TECNICO-PELAGICOS-TOTAL-2013-CERT1.pdf

· Ruiz, E.A., E. Velarde y A. Aguilar. 2017. Demographic history of the Heermann´s Gull (*Larus heermanni*) from late Quaternary to present: Effects of past climate change in the Gulf of California. The Auk: Ornithological Advances 134: 308–316. DOI: 10.1642/AUK-16-57.1.

· Velarde, E. y E. Ezcurra. 2018. Are seabirds´ life history traits maladaptive under present oceanographic variability? The case of Heermann´s Gull *Larus heermanni* (Charadriiformes: Laridae). The Condor: Ornithological Applications 120: 388-401. DOI: 10.1 650/CONDOR-17-5.1.

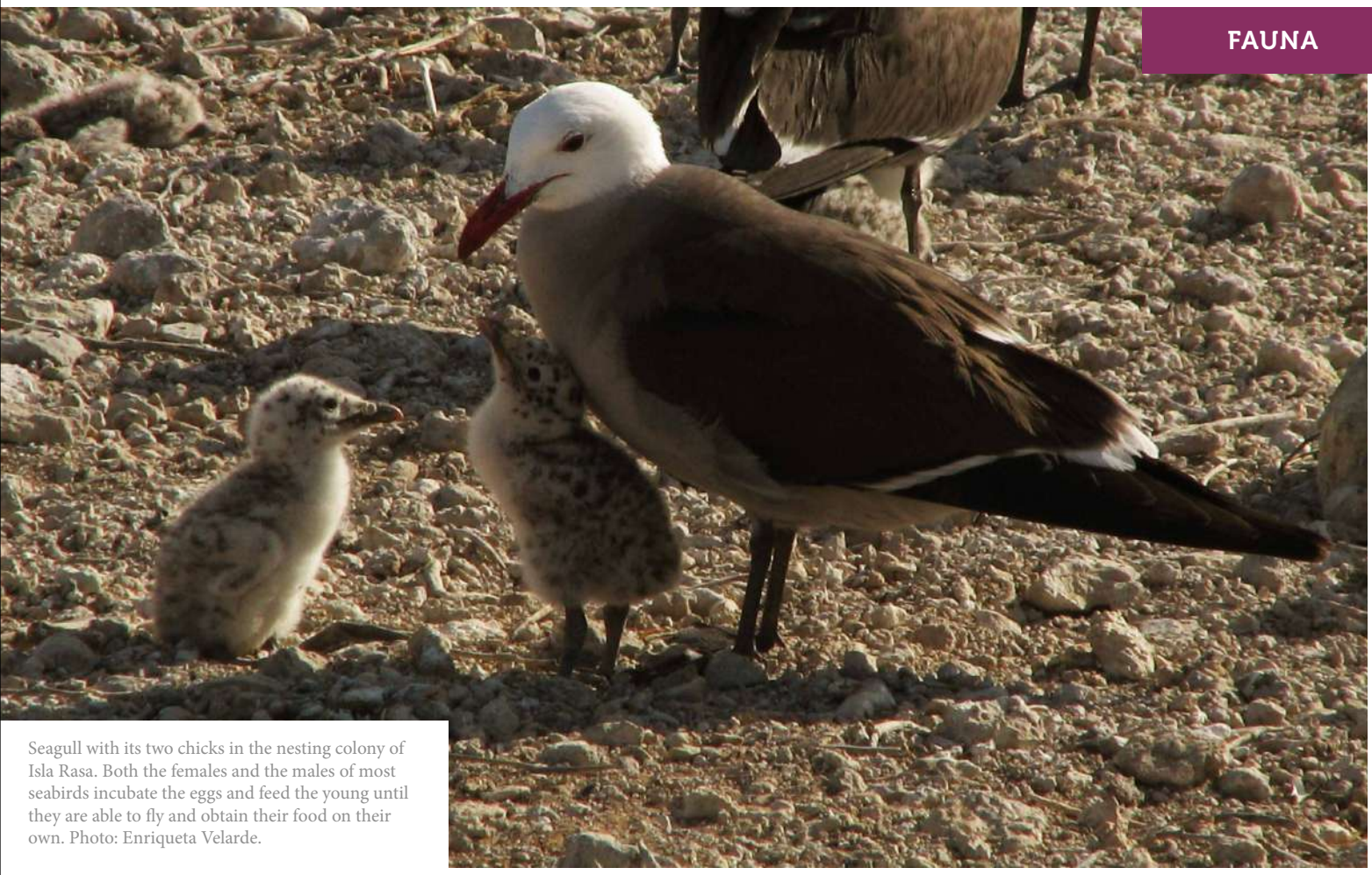
Velarde, E., E. Ezcurra, and D. W. Anderson. 2013. Seabird diets provide early warning of sardine fishery declines in the Gulf of California. Scientific Reports 3:1332, DOI: 10.1038/srep01332.

· Velarde, E., E. Ezcurra y D.W. Anderson. 2015a. Seabird diet predicts following-season commercial catch of Gulf of California Pacific Sardine and Northern Anchovy. Journal of Marine Systems 146: 82-88. doi: 10.1016/j.jmarsys.2014.08.014.

· Velarde, E., E. Ezcurra, M.A. Cisneros-Mata y M.F. Lavín. 2004. Seabird ecology, El Niño anomalies, and prediction of sardine fisheries in the Gulf of California. Ecological Applications 14(2):607-615.

· Velarde, E., E. Ezcurra, M.H. Horn y R.T. Patton. 2015b. Warm oceanographic anomalies and fishing pressure drive seabirds nesting north. Science Advances. DOI: 10.1126/sciadv.1400210.

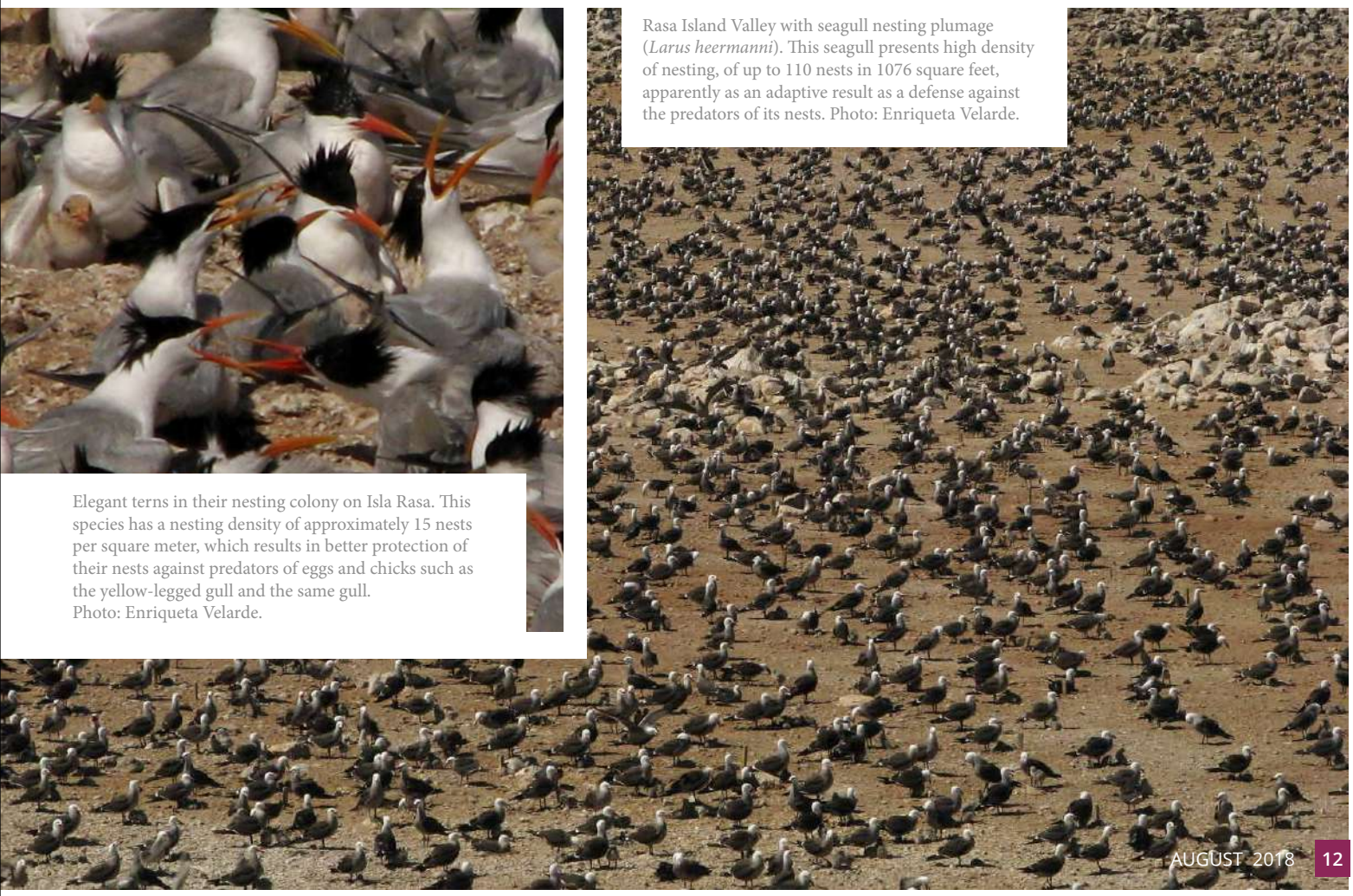
· Vieyra, L., E. Velarde y E. Ezcurra. 2009. Effects of parental age and availability of small pelagic fish on the reproductive success of Heermann's Gulls in the Gulf of California. Ecology 90(4): 1084-1094.



Seagull with its two chicks in the nesting colony of Isla Rasa. Both the females and the males of most seabirds incubate the eggs and feed the young until they are able to fly and obtain their food on their own. Photo: Enriqueta Velarde.

Elegant terns in their nesting colony on Isla Rasa. This species has a nesting density of approximately 15 nests per square meter, which results in better protection of their nests against predators of eggs and chicks such as the yellow-legged gull and the same gull.
Photo: Enriqueta Velarde.

Rasa Island Valley with seagull nesting plumage (*Larus heermanni*). This seagull presents high density of nesting, of up to 110 nests in 1076 square feet, apparently as an adaptive result as a defense against the predators of its nests. Photo: Enriqueta Velarde.



Connecting Beyond the Migratory Route, My Experience in *Cordova, Alaska*

By *Mirna Borrego / Educational and Community Outreach Officer of Terra Peninsular*

Photo: Mirna Borrego.

Courtesy photo

This trip begins at the end of a festival and a farewell to shorebirds. On Saturday March 10, 2018, we organized the 2nd. Bahía de Todos Santos Bird Festival in Ensenada, Baja California, Mexico. A couple of days later and after a successful festival, I took a plane to Cordova, Alaska, following the Pacific Flyway.

On Wednesday, March 28, 2018, I arrived at the community of Cordova, located in the most northwesternmost national forest of the United States. The goal of this trip was to participate in the 28th. edition of the Copper River Delta Shorebird Festival, this as part of a program between Terra Peninsular and the US Forest Service to exchange experiences.

Thanks to the Copper River International Migratory Bird Initiative (CRIMBI), I had the opportunity to experience the organization of the festival, learn about the conservation actions that take place in the Chugach National Forest, live with the community and find new ideas to connect us through the migratory route and live the migration of birds in a unique way.

Just imagine taking a plane 2,380 miles away heading north and landing in such a vast community hard to describe, so I would like to propose an exercise:

I invite you to close your eyes for a minute and imagine yourself in a very remote and cold place, and surrounded by huge snowy mountains sheltered by millions of pines, lakes, tundra, bears, moose, hundreds of species of birds to observe. A place that will trigger your capacity for wonder, and if you walk between the streets of the small Cordova with a population of 2,200 inhabitants located in the middle of the forest, you will find everything you need to face the long months of rain and low temperatures; and this warmth does not come only from clothes and shelter, the warmth in Cordova comes from its inhabitants.

I arrived about a month before the festival and during all that time I got involved in different activities, so that I could get closer to the people and make myself known in the community. It is easy to feel welcome when the work environment in the office is so warm. As a great family, my work team was magnificent, led by Erin Cooper of the US Forest Service, who promoted this exchange of experiences.

So my first step was to be a volunteer, a perfect opportunity to meet people and learn about restoration strategies that I didn't know. The initiative was promoted by the **Copper River Watershed Project** to invite the community to take part in the work of collecting 3,000 willow shoots and then using them to restore the salmon habitat. Salmon represents a cultural aspect for the community. They count on their return

Photo: Mirna Borrego.

every year, it is a very important source of food and it represents an economic income of equal magnitude attracting tourism and hundreds of fishermen from different countries each season. In addition to making new friends, I learned that **planting a tree saves a salmon!**

During all these days, I could not stop thinking about the many things that we can implement in the sites that **Terra Peninsular** protects in San Quintin, one of the things that impressed me the most was the design of the trails. During my stay, I tried to walk as many trails as possible, and walking allowed me to appreciate nature in a different way and ask about trail planning and recreation work in Cordova. Ecotourism promotes conservation, has low environmental impact, and involves an active socio-economic benefit for the community.

As part of the pre-festival activities, together with Hillary Chávez, a program intern from **Environment for the Americas**, I participated in educational workshops in the elementary school, these activities are part of the educational program of the **Prince William Sound Science Center**, a non-profit research and education institution, they work hand in hand with the US Forest Service.

The objective of these activities was to teach and inspire kids about shorebirds, the ecological value represented by Copper River Delta and to create fun and colorful macroinvertebrates and other pieces that were part of a temporary exhibition during the bird festival.

No one runs away from the festival, here the whole community contributes in some way. One week before the festival, and to support the Cordova's Chamber of Commerce, we painted shorebirds on windows at local businesses, like the bank, stores and the US Forest Service office. Birds everywhere!

Hilary Chávez, who was in charge of monitoring shorebirds, reported that in a single observation site, the numbers of shorebirds reached a maximum of approximately 11,000 individuals.

The festival begins! Finally it was time to celebrate the avian aurora

Photo: Mirna Borrego.

Photo: Mirna Borrego.

This year, and without counting local residents, 220 attendees registered at the festival. Photo: Mirna Borrego.

Patches of the Copper River Delta Shorebird Festival. Photo: Mirna Borrego.

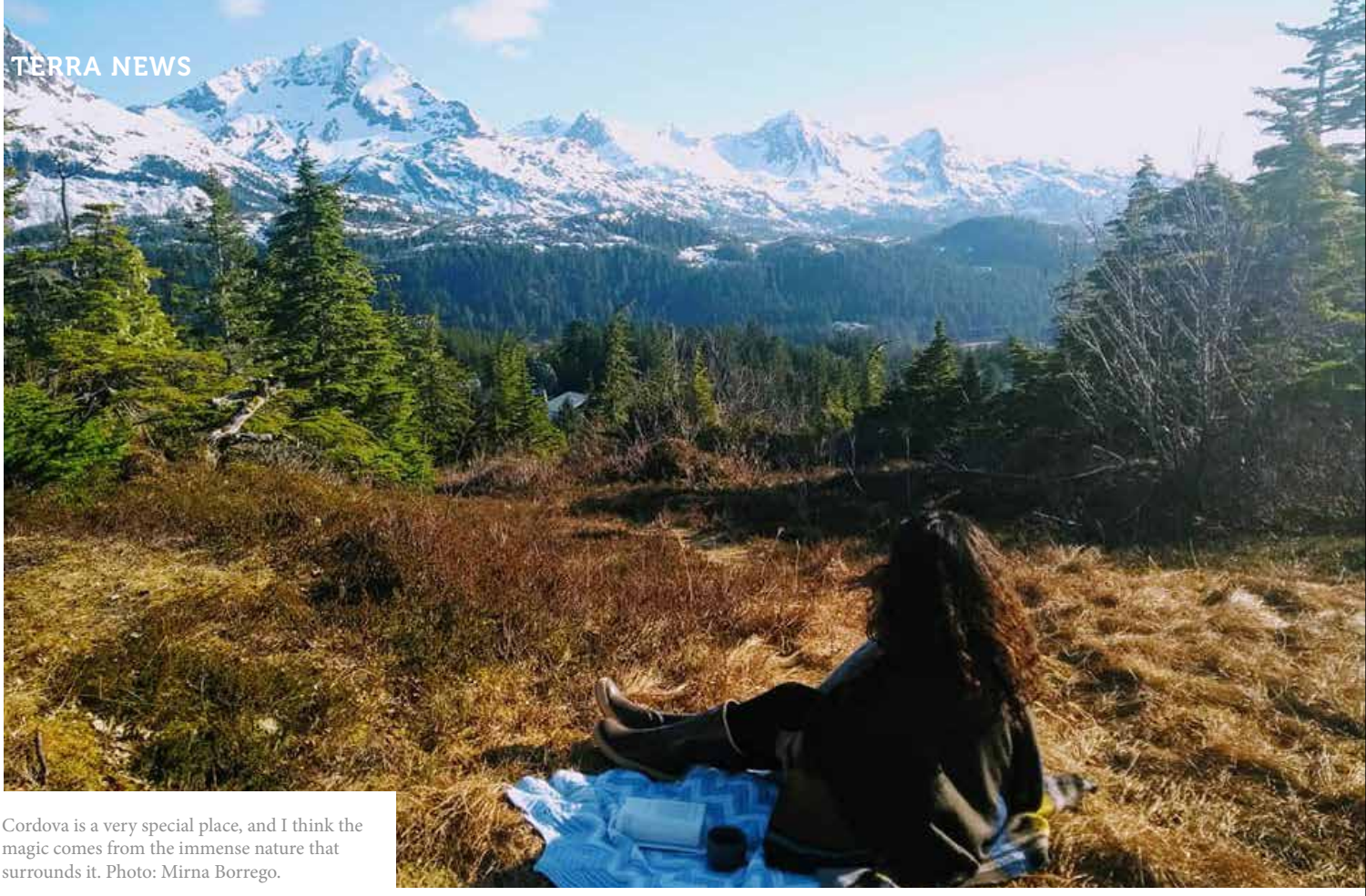
This year, and without counting local residents, 220 attendees registered at the festival. Professional birdwatchers, fans, families from all over Alaska and the United States visited Cordova to witness this migratory spectacle. I volunteered to participate in the registration table, delivering programs and informing visitors about the activities, location, schedules and some recommendations, it was strange not to be the one asking a thousand questions, but I felt like a fish in water.

At the register table we handed programs, discount coupons from local businesses, as well as the list of bird species to observe and participate in the Birding Challenge Awards.

One of the strategies that I liked the most about the festival was the Birder's Bucks: for every $20 that the visitors spent in some local commerce, they were given a coupon with which they participated in a raffle, competing for a pair of professional binoculars. At the end of the festival, the count of Birder's Bucks would show the economic income that the merchants obtain thanks to the festival and this year the festival had a very important economic impact.

During the registration I met with James Chu, leader of the International Programs of the US Forest Service; Diana Eusse, Coordinator of the Migratory Shorebird Project of the Pacific in the Calidris association and Yennifer Díaz, project director in Panama Audubon Society, all members of the CRIMBI program. We spent incredible days at the festival, birdwatching, participating in the activities, talking about future ideas and the success of these exchanges of experiences. It was very pleasant to have the presence of other Latin American partners.

The festival was a success! I learned how to involve the community much more, I met incredible people, travelers, fans and I understood that a festival is not only about gathering a surprising number of people, it is about connecting, motivating and projecting us as an international community with the common goal to conserve and enjoy our natural resources. The festival and the migration of birds have ended, just in time. I can openly say that this exchange offered me more things than I expected, I learned more than I had had imagined and I returned home with my head full of ideas and motivation to make the next festival, a great festival!



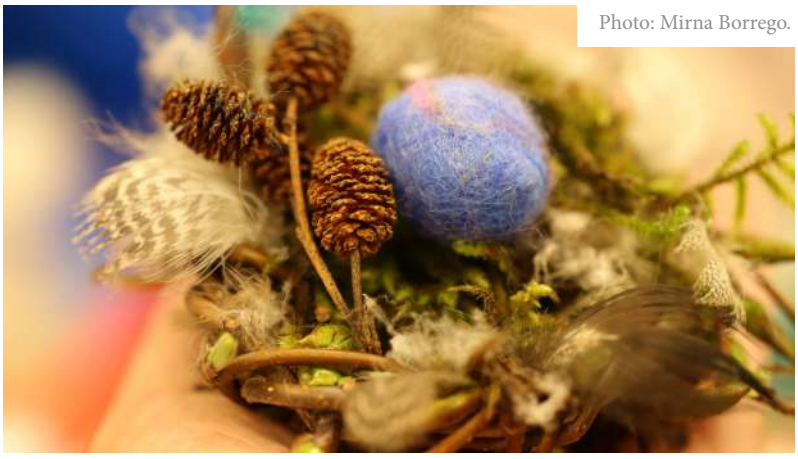
Cordova is a very special place, and I think the magic comes from the immense nature that surrounds it. Photo: Mirna Borrego.

I am committed to my community, to see and live this experience in Cordova is not only personal growth but also organizational growth for my community. I want to thank the CRIMBI program extensively for promoting these international connections; my colleagues in the US Forest Service for their hospitality and all their training, I returned home more prepared and with a different perspective of teamwork; I thank the Cordova Chamber of Commerce for letting me be part of the Copper River Delta Shorebird Festival committee and share the experience as coordinators of the festival; to the community of Cordova for being an example to be followed by others; and especially to my organization, Terra Peninsular, for allowing me to be its representative in this adventure.

Cordova is a very special place, and I think the magic comes from the immense nature that surrounds it. To feel so small in the middle of this vast wilderness you begin to understand that it is increasingly difficult to find such places in the world and I think we all want to experience it. I think that people in Cordova know how lucky they are and that is why they protect it, because people take care of what they love.

Courtesy photo.

Photo: Mirna Borrego.



BLOG
Read my adventures in the blog "Following the Flyway":
https://followingtheflyway.wordpress.com/

2018 Waterkeeper Alliance Conference

By Ricardo Domínguez and Monserratt Martínez / Terra Peninsular

The president of Waterkeeper Alliance is Robert F. Kennedy Jr. Photo: Ricardo Domínguez.

Waterkeeper Alliance seeks to protect water bodies throughout the world, and since September 2016 Terra Peninsular officially joined that alliance through the San Quintín Bay program.

From June 6 to 10, 2018, Monserratt Martínez, Foundation Liaison Officer, and Ricardo Domínguez, San Quintín Bay Waterkeeper Projects Associate, attended the Waterkeeper Alliance Conference, which was held in Buffalo, New York.

Throughout the week, workshops and round tables were held in order to increase the technical knowledge of the participants, as well as dynamics to strengthen the interrelations between the members of different organizations that fight for the same common good in different parts of the world. The great diversity was noted as Waterkeeper members from 29 different countries attended the convention.

From Thursday to Saturday, attendees participated in the workshops: “Water quality monitoring”, “Beach cleaning”, “Use of remote sensors for water quality monitoring”, “Safety strategies and irrigation reduction”, “Collection of water funds”,”Narrative and citizen science”,”Microplastic contamination: the spill we are all part of”, among others.

In addition, regional meetings were held in order to find solutions to specific problems that are faced every day. Also, on Friday, June 8, all participants were invited to visit Niagara Falls, an impressive group of waterfalls. Undoubtedly, the falls are the perfect example that the great effort made to conserve water bodies is worthwhile.

Waterkeeper Alliance Conference. Photo: Waterkeeper Alliance.

Monserratt Martínez, Foundation Liaison Officer, and Ricardo Domínguez, San Quintín Bay Waterkeeper Projects Associate.

This Terra Story was published on Terra Peninsular’s blog. You can read the online version in **www.terrapeninsular.org/en/** Subscribe and receive our Terra Stories and new information via email.

http://terrapeninsular.org/en/2018-waterkeeper-alliance-conference/

Bahía de Todos Santos Shorebird Reserve

By *Laura Tamayo and Antonieta Valenzuela / Terra Peninsular A.C.*

Location: Bahía de Todos Santos in Ensenada, Baja California
Sitie: #99 of the Western Hemisphere Shorebird Reserve Network (WHSRN)
Date of designation: September 5, 2017
Surface: 5,169 acres

Terra Peninsular, the Commission for Environmental Cooperation (CCA) and CICESE worked together to designate Bahía de Todos Santos as a site of the Western Hemisphere Shorebird Reserve Network (WHSRN), that is, a shorebird reserve.

What is WHSRN?

The Western Hemisphere Shorebird Reserve Network (WHSRN) **is an international cooperation strategy to conserve and protect the habitat of shorebirds in the American continent.** This strategy seeks to involve local communities, authorities, civil and academic organizations in the care of shorebird habitat in the Western Hemisphere. www.whsrn.org


Shorebirds in the Bahía de Todos Santo

WHSRN sites in Mexico

In Mexico there are 18 WHSRN sites, of which 7 are located in the peninsula of Baja California:

- Alto Golfo and Delta del Río Colorado Biosphere Reserve, Baja California and Sonora
- San Quintín Bay, Baja California
- Bahía de Todos Santos Ensenada,
- Baja California
- Magdalena Bay, Baja California Sur
  San Ignacio, Baja California Sur
- Ensenada of La Paz, Baja California Sur
- Laguna Ojo de Liebre, Guerrero Negro, Baja California Sur

The goal is to protect migratory birds that breed and winter in the bay.

RHRAP · CEC · CCA · Terra Peninsular

Importance of Bahía de Todos Santos

Along the reserve, there are sites that are essential for migratory birds, mainly the coastal area between Playa Hermosa and the Estero de Punta Banda.

The bay receives more than 4% of the snowy plover population (Charadrius nivosus), an endangered shorebird in Mexico and the United States.

In the Pacific Flyway, Bahía de Todos Santos in Ensenada, Baja California, is an essential place for birds to rest and recharge their batteries. Many of these sites are important for their survival.

Representative birds of the reserve

- Snowy plover *(Charadrius nivosus)*
- Red knot *(Calidris canutus roselaari)*
- Willet *(Tringa semipalmata inornatus)*
- Sanderling *(Calidris alba)*
- Marbled godwit *(Limosa fedoa)*

Actions performed

- Installation of 6 signs in different points of the reserve with information about the site and the representative birds.
- Continuous monitoring of migratory shorebirds.
- Installation of a temporary fence to protect nests of the snowy plover of 21,527 square feet of extension and around 328 feet long.
- Launching the #LaPlayaEsDeTodos campaign

When in Conservation, do as the Baja Californians do

By *Frida Estela Rodríguez / Universidad de las Américas Puebla (UDLAP)*

Photo: Alejandro Arias del Razo.

Baja California is mainly known for their fine fruit yields. While some people cherish their vineyards, others have tasted berries straight from the field. From my point of view, as a future biologist, this state is the Mexican ambassador of unique Californian species. Furthermore, our land's west shoulder is a bosom for the charming chirps of the Pacific Flyway.

I was lucky to explore these aspects in a five-day sojourn as part of the Conservation Biology Class 2018; where not only did we have a great time, but we acquired great knowledge. We were kindly funded by the JiJi Foundation and leaded by one of the most successful non-profit organizations in Mexico: Terra Peninsular. Both of them helped us achieve our main goal, which consisted of learning about effective environmental management.

The view from the volcano in the Monte Ceniza Nature Reserve. Photo: Frida E. Rodríguez Escobar.

I can assure we could not have done so in a better place than Baja California, and the reasons I will explain in the following lines.

First of all, conservationists in this entity know it is essential to coordinate themselves with both research centers and governmental institutions. The former, to access precise data for project planning; and the latter, to guarantee their execution. The success of the California Condor Reintroduction Program, for instance, is attributable to this effective communication. The comeback of these majestic scavengers to Mexican territory was possible thanks to the work between Mexican scientists, members of the San Diego Wild Animal Park, other zoos in the US and the Mexican Commission of Natural Protected Areas (CONANP). The first three, reared condor nestlings using hand puppets resembling adult condors. The CONANP, facilitated the action in the Sierra de San Pedro Mártir National Park in 2002.

Another case of pertinent interdisciplinary and international relations is when Terra Peninsular, the Center for Scientific Research and Higher Education in Ensenada (CICESE) and the Commission for Environmental Cooperation (CEC) collaborated to nominate Bahía de Todos Santos in Ensenada as a Western Hemisphere Shorebird Reserve Network (WHSRN) site. This designation could potentially set priorities regarding conservation actions; hence, helping migratory wildlife. In other states, some conservationists rely on empirical or common knowledge only, reducing their chances of working with accurate and complete

Invasive plant (*Carpobrotus sp.*) removal in the Punta Mazo Nature Reserve. Photo: Frida E. Rodríguez Escobar.

information. What is more, governmental organisms are typically excluded under the popular belief that ecological matter is necessarily out of the political interests.

Secondly, we learned that information should be available for everyone. Every now and then, as specialists of a certain topic, we tend to marginalize other people. Nevertheless, we need to be conscious that many places of ecological importance have also economic or touristic significance. Entrepreneurs and visitors should be aware of why those places are important to living things, to understand why they should follow certain rules and to infer how to behave.

Terra Peninsular, for example, offers public-friendly brochures and a website with brief information about biodiversity. Also, they make recommendations for visitors that include avoiding direct contact with the fauna and carrying out low impact recreational activities in the area. In the Monte Ceniza and Punta Mazo nature reserves, the use of motorcycles has been limited to protect native plants and visitors have been encouraged to surf or kayak instead. There are informative plaques along the Estero de Punta Banda that suggest hikers to do birdwatching and photography, while providing them with valuable information about birds.

Finally, Baja Californians taught us how collective awareness and stewardship should be heartened. Organizations bet on the involvement of the communities: this way, inhabitants close to the protected areas either offer services to scientists and volunteers, or do conservation work themselves. I was impressed by the joy with which families cooked for us in the visitors centers of San Quintín Bay and San Pedro Mártir, knowing we would help preserve their natural legacy. In addition, I was mesmerized by how children vigorously removed invasive species from the sand dunes of Punta Mazo. They were simultaneously reciting specialized information about the effects of alterations on endemic species, such as the legless lizard and Anthony's liveforever.

To conclude, this experience was absolutely enriching for my career and it enhanced my perspective about conservation actions in Mexico. As our state is fairly far from Baja California, I did not know many of the threatened local species and their respective management programs. Undoubtedly, Baja California sets an example for the rest of the country, and their conservation effectiveness speaks for itself.

Collaborative Conservation: Understanding and Protecting the Rare Beach Spectaclepod

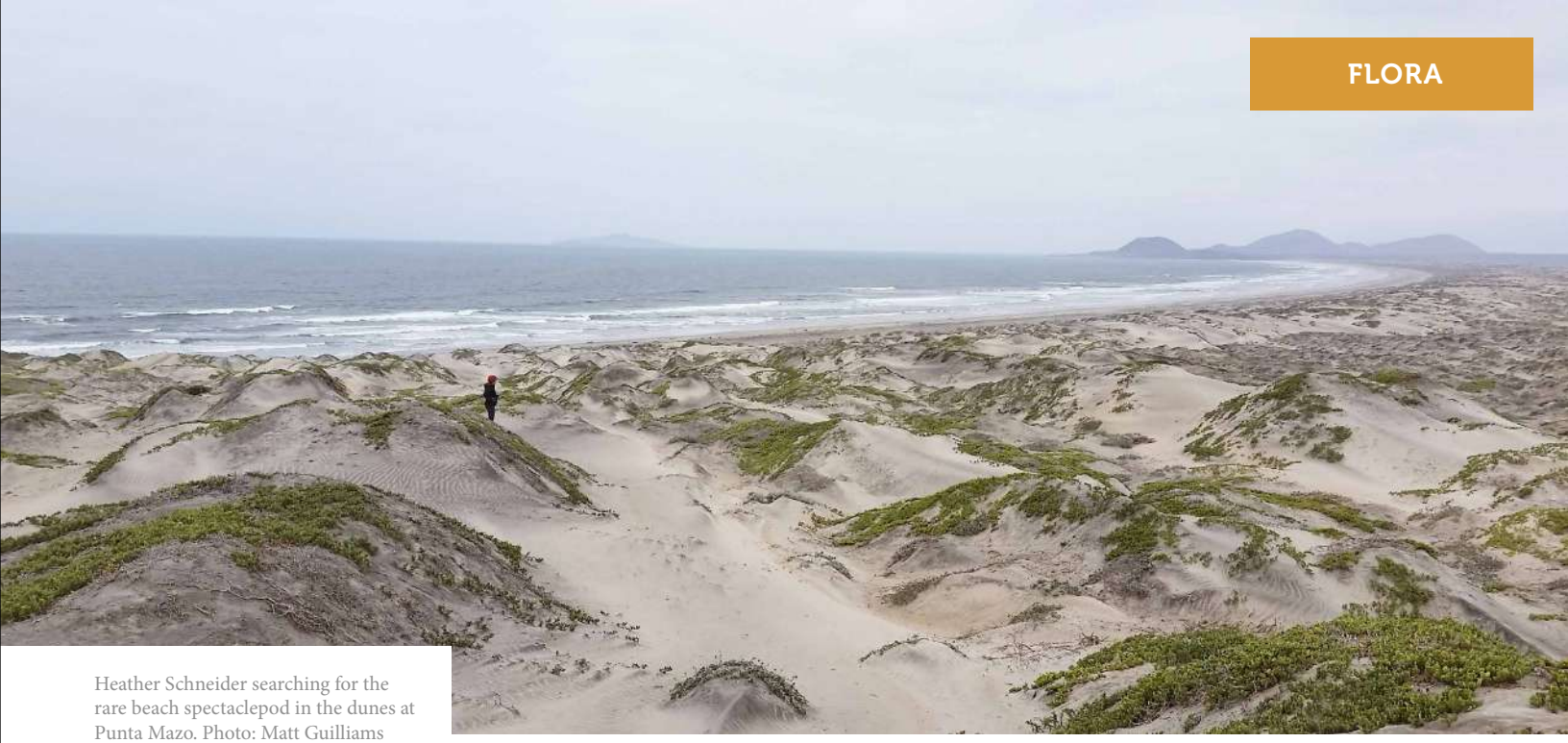
By Heather Schneider and Matt Guilliams
/Santa Barbara Botanic Garden

Beach spectaclepod has flowers with white petals and a sweet smell. Photo: Heather Schneider

Situated high atop coastal dunes on the southern end of the Punta Mazo Nature Reserve grows a diminutive plant with a curious common name: the beach spectaclepod. Known to botanists as Dithyrea maritima, this member of the mustard family (*Brassicaceae*) gets its colloquial name from the unusual shape of its fruits, which bear a striking resemblance to old-fashioned spectacles or glasses.

These fruits are not the only things that make beach spectaclepod unique. The species is incredibly rare, found only on coastal dunes from San Luis Obispo County, USA, to northwestern Baja California, Mexico. As a dune specialist, this perennial species takes advantage of the loose, shifting substra-

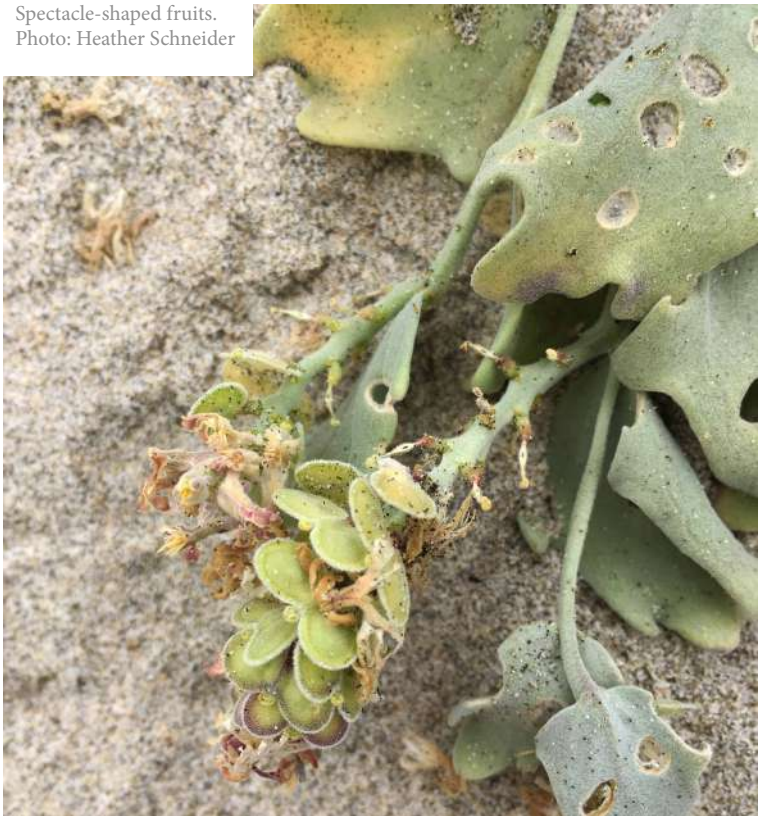
One important way to document botanical diversity is by collecting herbarium specimens. Here, we prepare to collect a specimen of beach spectaclepod. Photo: Heather Schneider



Heather Schneider searching for the rare beach spectaclepod in the dunes at Punta Mazo. Photo: Matt Guilliams

tes where it grows to spread vegetatively and form colonies. By sending out slender, laterally-growing stems under the sand, individuals can reach new areas and then emerge from the sand to grow the above-ground part of the plant. This type of spreading by underground stems may lead to vegetative reproduction, or the formation of "new" individuals without reproduction by seed, if underground stems are severed. This is a handy strategy when growing in highly unstable environments where adaptability is key!

Spectacle-shaped fruits. Photo: Heather Schneider



Getting to the root of the problem

While the colonial life may work well for the beach spectaclepod, it makes it difficult for botanists and conservation land managers to assess the number of individuals in a population. If botanists count the above-ground stems, it is impossible to know if these stems represent distinct individuals or the same plant spreading by underground stems. This is where genetic techniques can be employed. The Santa Barbara Botanic Garden is partnering with the United States Navy, the California Department of Fish and Wildlife, and local partners such as Terra Peninsular on a population genomics project focusing on beach spectaclepod. Our goal is to use state of the art molecular techniques to scan the genomes of beach spectaclepod plants from throughout their range to assess genetic diversity within and between populations, look for unique genetic variation, and most importantly, to develop estimates for the degree of colonality in target regions. Armed with this information, land managers can make informed decisions regarding how to best allocate time and other resources to conserve this rare species. We are excited to have partnered with Terra Peninsular to include samples from the Punta Mazo Nature Reserve in the genetic analysis.

Left to right: Matt Guilliams, Cesar Garcia Valderrama, Enrique Alfaro, Heather Schneider, Sarah Termondt, Adrie Hernandez. Photo: Jim Riley

An insurance policy against extinction

Protecting and recovering rare plants is a complex undertaking. In addition to the genomics project, we also conducted preliminary surveys of Punta Mazo to get an idea of the extent of the beach spectaclepod population. We counted over 45 patches of beach spectaclepod across more than 100 meters of dunes. The survey provided a snapshot of the status of this beach spectaclepod population, but what if we could backup wild plant populations somewhere else—providing a sort of insurance policy against catastrophe in the wild?

One of the most immediate but long-lasting conservation actions we can undertake is the collection of seeds for long-term storage. For many, the idea of a seed bank conjures visions of a massive vault buried deep inside a frozen mountain, but the reality is much more straightforward for most wild plants. A conservation seed bank is simply a collection of viable seeds saved for the future. The conservation seed bank at the Santa Barbara Botanic Garden comprises close to 600 collections, representing over 140 kinds of plants, stored at -18°C. The seeds of many wild plant species can live for many decades under cold storage and conservation seed banking provides not only a genetic backup of wild populations, but also a resource for future restoration and research.

Future conservation of beach spectaclepod at Punta Mazo Nature Reserve

The aforementioned work represents a starting point for understanding and protecting beach spectaclepod in both Mexico and the USA and there is still much to be done. We hope to continue our collaborations and to eventually conduct detailed surveys and map the beach spectaclepod population at Punta Mazo Nature Reserve. Given the abundant fruit production exhibited by the Punta Mazo population, we hope to procure conservation seed collections for long-term storage in the seed bank at the Santa Barbara Botanic Garden and to learn how to grow plants from both cuttings and seeds. The robust population of beach spectaclepod at Punta Mazo will surely play a critical role in understanding the dynamics of this rare plant, which will inform its conservation throughout its geographic range.

ABOUT THE AUTHORS

Heather Schneider, PhD

Heather is the Rare Plant Biologist at the Santa Barbara Botanic Garden, where she runs a comprehensive rare plant conservation program that includes managing the conservation seed bank. She has a PhD from the University of California, Riverside in plant ecology and has over a dozen years of botanical experience in California and the western USA. Her scientific interests include plant ecology, invasive plants, seeds and seed banking, conservation and evolutionary biology. She is dedicated to the protection of wild places and the plants that inhabit them.

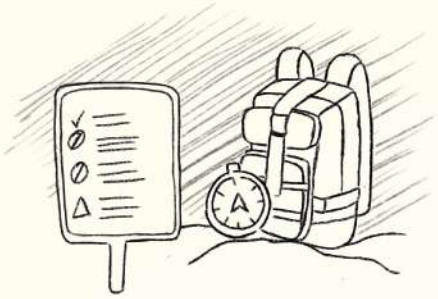
Matt Guilliams, PhD

Matt is the Tucker Plant Systematist and Curator of the Clifton Smith Herbarium at the Santa Barbara Botanic Garden. He has been a student of California's diverse flora since 1998. He earned his Ph.D. in Integrative Biology in the Baldwin Lab and Jepson Herbarium at the University of California, Berkeley. His research focuses on California floristics, the evolutionary history of the California flora, conservation genomics, and systematics of Boraginaceae, Montiaceae, Ribes, and Dudleya.

The 7 principles of Leave No Trace

By Laura Tamayo and Antonieta Valenzuela

Leave No Trace is an educational program that aims to promote recreation activities in a responsible way, also to promote the protection of nature and wildlife.



1 Plan ahead and prepare

Inform yourself in advance about the place you plan to visit and have the necessary equipment for the activity, such as hiking, camping, making bonfires, etc.

2 Travel and camp on durable surfaces

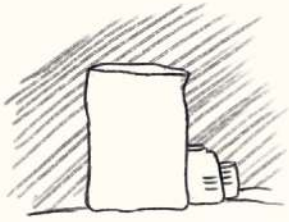
Camp at designated sites and use the main trails to help minimize the damage to vegetation and keep you safe on durable surfaces.

3 Dispose of waste properly

Bring your own bags or sacks to take the residues with you and don't burn the trash.

4 Leave what you find

Allow other visitors to enjoy the environment and the natural resources, it's important to leave the place that you visited just as you found it, also don't take any shells, rocks or archaeological or historic artifacts with you.

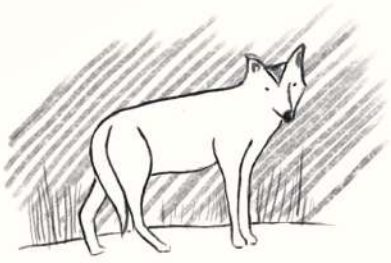


5 Minimize campfire impacts (be careful with fire)

Build a campfire only in permitted areas and make sure to put out the fire fully.

6 Respect wildlife

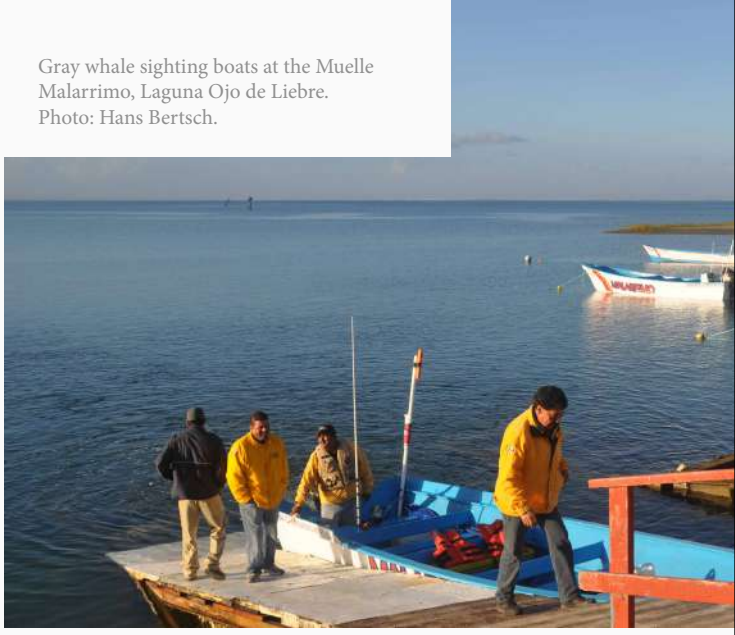
As a visitor you can protect wildlife and respect the natural environment, keep your distance and don't feed the animals, and also don't remove any plants from their habitats.



7 Be considerate of other visitors

Be considerate with other visitors that also want to enjoy nature.

The Leave No Trace Center for Outdoor Ethics, is a non-profit organization established in 1994 dedicated to the responsible enjoyment and active stewardship of the outdoors worldwide. More information: **https://lnt.org/**



Gray whale sighting boats at the Muelle Malarrimo, Laguna Ojo de Liebre. Photo: Hans Bertsch.

Gray Whales: Mother and Daughter

By *Hans Bertsch*
Photos by *Hans Bertsch*

The sighting and breeding of the gray whale in the Baja California lagoons is a wonderful show. The whales allow us to see them and they share their family with us.

Image that you are in a boat (or panga in Spanish), at sea level, boating through the blue-green waters, and suddenly, you can see the foam exploding on the waves. The local boatman controls the panga, slowly, and when the engine is turned off, everyone waits. What will the whale do? Is she alone or with her new creature?

The female whale comes up to breathe, casting an eye on us foreigners. With luck, she approaches the panga with her baby, allowing us to touch them. For just a few minutes, hand to nose, eye to eye, she allows us to feel the energy of a different and precious life. Afterwards, human visitors continue the search, spending time in the hope of another encounter.

This time, on January 16, we arrived at Laguna Ojo de Liebre early in the season. The boatmen told us that probably the whales were not going to approach the boat, and that we could not caress them either. We left the dock, went through the canals to the deeper lagoon waters, towards the entrance of the Pacific Ocean. We saw a whale nearby, but left, leaving the imprint of its fins on the surface. We simply looked and looked, waiting for an encounter with them.

In a few minutes we saw another whale with her baby! They were less than three hundred feet away. You could see that the mother was pushing her baby, but something seemed strange. We saw them, thinking something bad happened. Was the baby sick or dead? She was lying on her mother's forehead, limp, motionless, like a wet towel, pulled by the water with a cane.

With happy surprise, we suddenly knew the truth. The mom was pushing her baby, helping her breathe air for the first time, and cleaning her from the remnants of labor, so she could open her eyes. The truth, we did not know if the baby was male or female, but the love between the two creatures was obvious. Remembering the love that my granddaughter Ivette has for these animals, I decided that the baby whale was a girl.

At this moment we were looking at the first moments of a newborn whale. The mother was teaching her baby the tricks of swimming and breathing, and sharing the environment with her. After a short time, the baby passed by her mother's side. They swam, circling in the sea. We saw the exhalations of the two, the heart-shaped foam of the mother and the baby.

Park ranger boat with government environmental protection officers. Photo: Hans Bertsch.

"Here I am resting and looking at the view from my mother's back." Photo: Hans Bertsch.

Government environmental protection officials arrived in their boat to register the new birth.

The whales were still swimming, sometimes approaching our boat almost six feet away, or swimming away within a distance of a football field. It was a game of joy, this was a training of the newborn baby, and they were precious and important moments for the survival of this new life. We saw the flabby skin of the baby, full of wrinkles, that after a few days of nursing from the nutritious milk of her mother, would form a smooth surface, stretched by the quick increase in weight and fat.

The baby began to swim in front of the mother, as an exploration guide under the care of her mother. Suddenly the baby climbed on top of her mother's back. Taking a break? Then she slid down again with a splash!

For almost two hours we shared a moment of education; both spoke with voices that we could not hear; they played and swam in a view that we could see.

The mother said - I imagined - "Now, baby. We have things to do and explore. Let's go. Later I'll teach you about the humans, so you know the killings they did in past centuries, but now they protect us."

They're gone. We stopped for a few minutes without saying anything. "Now, yes," said Captain Samuel, "We can return to the dock."

Thus we achieved a new appreciation for life, thanks to an example of care and love, and thanks to them, mother and daughter, gray whales.

The gray whale mother pushing her newborn baby. Photo: Hans Bertsch.

ACKNOWLEDGEMENTS

I would like to thank Luis E. Aguilar Rosas, for his valuable help in writing this article.

The opinions expressed in this section are personal and do not necessarily represent the opinion or position of Terra Peninsular.

Calendar of events

August

12
International Air Quality Day

Septiembre

SEPTEMBER 4, 2013:
Rancho La Concepción Nature Reserve was certified by the Mexican government. **http://terrapeninsular.org/en/rancho-la-concepcion-nature-reserve/**

SEPTEMBER 5, 2017:
Bahía de Todos Santos in Ensenada was designated as a shorebird reserve **http://terrapeninsular.org/en/todos-santos-bay-western-hemispheric-shorebird-reserve-network-whsrn-site/**

6
World Shorebirds Day

SEPTEMBER 6 AND 7:
Beginners eBird workshop in Ensenada

SEPTEMBER 11, 2008:
San Quintín Bay was designated as a shorebird reserve

SEPTEMBER 14, 2016:
protection of the Monte Ceniza wetland in San Quintín.

16
Independence Day of Mexico

International Day for the Preservation of the Ozone Layer

18
World Beaches Day

22
World Car Free Day

22 Y 23
and 23 International Coastal Cleanup in Baja California 2018

27
Environmental Awareness Day

29
World Maritime Day

30
International Translation Day

October

3
World Habitat Day

4
World Animal Day

12
Columbus Day

October

18
World Day for Wildlife Protection

OCTOBER 20, 2014:
Punta Mazo Nature Reserve was certified by the Mexican government **http://terrapeninsular.org/en/punta-mazo-nature-reserve/**

OCTOBER 24, 2013:
Valle Tranquilo Nature Reserve was certified by the Mexican government **http://terrapeninsular.org/en/valle-tranquilo-nature-reserve/**

OCTOBER 24, 2017:
protection of the Punta Azufre coastal area in San Quintín.

See the full calendar of events here: **http://terrapeninsular.org/en/events-calendar/**

Glossary

Genome: a genome is the complete set of genetic information in an organism. It provides all of the information required by an organism to function.

Nesting area: area where some bird species breed and nest.

Panga: a fishing boat.

Rare species: species that occur in small numbers, in a small region or small number of locations. Such species can be prone to become at risk of decline from human impacts or natural events.

Substrate: the surface or material on or from which an organism lives, grows, or obtains its nourishment.

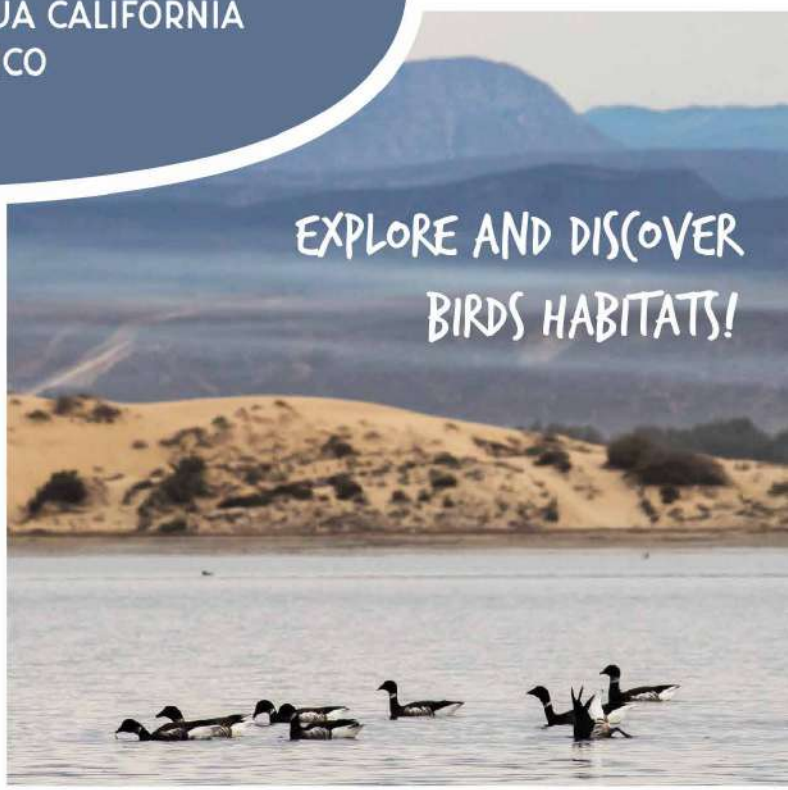
Rare Species & Ecosystems in Carolinian Canada (n.d.). Retrieved from https://caroliniancanada.ca/legacy/SpeciesHabitats_RareEcoSys.htm

SAVE THE DATE!

4TH. SAN QUINTÍN BAY BIRD FESTIVAL

DECEMBER 6. 7 AND 8. 2018

SAN QUINTÍN. BAJA CALIFORNIA
MÉXICO



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WORLD WITHOUT FRIENDS