

UNLIKE THE SWEET FRUIT OF THE SAME NAME
THIS NEWSLETTER COMES TWICE A YEAR
(APRIL AND OCTOBER)
HAVING INFORMATION OF THE FOUR SEEDS
THAT SPREAD OUR WORK FOR THE CONSERVATION
OF SUDCALIFORNIA'S NATURE.

PRESENTATION

In this first newsletter of the year we want to share with you our Annual Report 2016 where we show the results of our work last year and the list of partners that make it possible.

ANNUAL REPORT 2016

Also in this newsletter, we share some of our most recent activities and our upcoming events so you can join us. We hope they are of interest to you.

Do not forget to follow us on our social networks updated daily:



UPCOMING EVENTS



We will carry out the second stage of our communication campaign on #waterinLaPaz now with the theme focused on the Human Right to Water and Sanitation (DHAS) and how we live it in our city.

Wait for it in May 2017

www.elaguaenlapaz.mx

Paseo Balandra

Domingo 02 Julio 2017

KAYAK

Playa Pichilingue

7 AM - Registro

Distancia 7 kms

BICI Principiantes

Playa Pichilingue

7:30 AM - Registro

Distancia 7 kms

CORREDORES

Playa Pichilingue

7:30 AM - Registro

Distancia 7 kms

PADDLE

Playa Pichilingue

7 AM - Registro

Distancia 7 kms

BICI Avanzados

Frente a Hotel Marina

7 AM - Registro

Distancia 26 kms



Like all June for 7 years we invite you to run, pedal or paddle to Balandra to celebrate Environment Day in a healthy way, as well as appropriating the favorite public and recreational space of the La Paz people: our Balandra beach.



Measuring the effectiveness of environmental technologies



LAND CONSERVATION

Our project of transfer of environmental technologies allows to reduce the consumption of firewood and it also decreases the amount of smoke inside the homes. This represents a benefit to the health of users and also a decrease in greenhouse gases. These technologies consist of solar cookers and wood burning stoves.

In order to ensure that we meet our objectives, we periodically prepare fuelwood consumption studies to verify that the transfer of technology effectively meets the planned goals.

During 2014 and 2015, we did this study in the regions of La Soledad, Las Animas and Los Comondú, and we found that the fuelwood consumption has actually decreased by 32% compared to the traditional burner. In total, up to December 2016, 685 families in the rural areas of La Giganta and Guadalupe Sierras use either savings stoves or solar cookers. This results in the mitigation of up to 1,000 tons of CO₂ per year.

You can also consume less gas in your home. With the purchase of the solar pot, for sale in Niparajá, you can cook using only the heat of the sun. In addition, with your purchase you support more homes in the Sierras access these technologies.



Ecotechnologies in Sierras La Giganta and Guadalupe, BCS

Results of the underwater monitoring of the National Park Marine Zone Archipelago of Espiritu Santo



MARINE CONSERVATION

The marine part that surrounds the Archipelago of Espiritu Santo was declared as Marine National Park (PNZMAES) on May 10, 2007. The importance of this Park lies in its natural richness, scenic beauty and ideal place for low impact tourism; as well as being a feeding and sheltering site for several species representative of the marine biodiversity of the Gulf of California.

Since 2005, prior to the creation of PNZMAES, Niparajá, the Autonomous University of Baja California Sur (UABCS), the National Commission of Natural Protected Areas (CONANP) and local fishermen, jointly conduct underwater monitoring of fish and invertebrates in the National Park. Monitoring is an important tool to know what happens to biodiversity, communities, ecosystems and environmental changes in natural protected areas, as they allow the detection of changes in indicators over time and make decisions based on the current information.

Underwater monitoring for more than a decade in PNZMAES consists of 5-day field trips to the island to systematically collect information on the number, size and presence of fish and invertebrate species in 15 representative sites of the island. These are located in both core areas (where any type of fishing is prohibited), as well as in restricted use subzones and exploitation zones within PNZMAES. At each site selected, using scuba diving equipment, surveys of fishes and invertebrates within 30 meters long by two meters wide are carried out, as well as observation cylinders of 15 meters to record the fish of the water column and those that are associated at the bottom, and a wandering transect of 20 minutes to record the presence and sizes of commercial fish species.

The general trend observed for fish of commercial importance indicates a noticeable increase in the average size of all populations from the beginning of the monitoring in 2005 to 2012; however, from this point the size begins to decrease, or even seems to remain stable in most species. They have only shown a tendency to increase their size with the years at least 6 species from 2005 to 2016; for example the pebblefish *Ephinephelus labriformis* whose size has increased by an average of 8.41cm from the first to the last census. However more studies are needed to better understand these trends.

Comparisons of traditional ecological indices of both fish and invertebrates from 2005 to 2015 were also made, in which two decreases can be observed in the index values, one in 2009 and the other in 2013, of the ups and downs a general negative trend is observed. Which indicates that there are fewer fish of each species or that there are less species in the sites that are monitored.

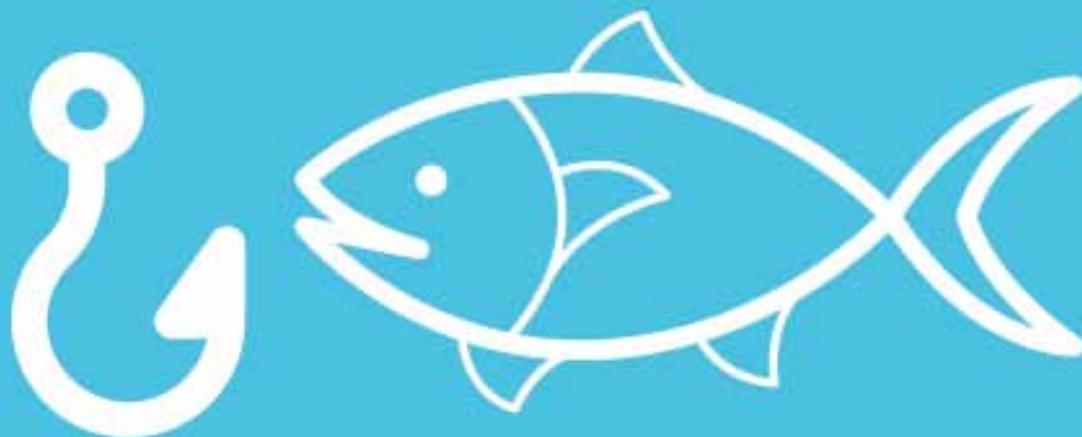
It should be emphasized that this is a unique project as it achieves the integration of academy, fishermen, government personnel and civil society organizations into a work and monitoring team, which generates a learning dynamic that is enriching for all. This is achieved by sharing experiences and learning both from empirical knowledge and the experience of some and the scientific names and research methods of others.

We expect to continue monitoring the health and status of fish and invertebrate populations in the PNZMAES in the following years and to be able to work together with stakeholders to translate observed trends in fish and invertebrate populations into management actions in the park.



Diver monitors performing census of straight transect

Presentation forum of results at 5 years of the fishing refugia network



SUSTAINABLE FISHERIES

During February 23rd and 24th, the Presentation forum of Results of the Fishing Refugia Zones, located in the San Cosme Corridor to Punta Coyote in BCS, was held.

About 150 people, including fishermen, representatives of fishing federations, authorities of INAPESCA and CONAPESCA, academics related to the fishing sector, members of the communities of the Corridor and organizations of the civil society,

gathered in the Center of Development of Capacities within the facilities of the Delegation of SAGARPA in the city of La Paz.

During the opening, the authorities underlined the importance of continuing the efforts being made with this fishing management tool, as well as maintaining and continuing to strengthen the shelter zones network.

This Forum was a space for informing, mainly to authorities and fishermen, about the results that have been obtained almost five years after the establishment of the Network of Fishing Refugia Zones in the Corridor. This information is of great importance, since it is intended to serve as a basis for the evaluation and re-design recommendations of the network.

During the two days of the Forum's work, the results of fishing, submarine and socio-economic censuses, fishery assessments, management and investment in these refugia were presented. The results point to several positive changes not only at the fisheries level, with fisheries that remain stable, but also at the social level with area residents committed to this tool.

In the Forum, there was a panel of fishermen to know their impressions, experiences and recommendations in relation to these Refugia Zones. Gaspar Romero from Agua Verde commented that what follows for the Refugia Zones is that they should also protect breeding areas, strengthen surveillance and eliminate industrial fishing in the Corridor. He added that for him fishing is his family heritage, so the Refugia Zones are like future savings. "It is very valuable and very important for the well-being of our families."

Felipe Cuevas from El Pardito said that one of the reasons that the fishermen in his community came together and created a Refugia Zone was to have the support of the authorities in conservation activities; but the most important thing is surveillance, without sufficient and efficient surveillance in the zones the project does not work. "We are in the best position to support the authorities in this matter, to collaborate together."

After the Panel, José Flores of the Federation of Fisheries Cooperatives Center Area of BCS presented the participation and investment that the Federation has made during the 5 years of the Refugia Zones. He commented "how we were the first, the pioneers, we are practically generating the model." He added that CONAPESCA has been instrumental in carrying out this project. During his participation he added: "The importance of the fishing technicians in the collection of information and the management of INAPESCA so that it is recognized by the authorities has been transcendental ..." "And more than anything, the pride of being a project example at national level."

For the closing, the biologist José de Jesús Dosal of CONAPESCA confirmed the opinion of the participants of the Forum: "We are all convinced of the goodness of the Refugia Zones, referring to a national level. As a fishing management tool, Refugia Zones in Baja California Sur set the legal precedent for NOM-049." He concluded by thanking those present for their enthusiasm and for being part of the country's process for sustainable fishing.

The following months of March and April, authorities and communities of the Corridor, will continue with the evaluation of the network at five years of its establishment, decreed in November 2012, and will discuss new proposals with the objective of submitting a redesign of the eleven Refugia Zones along the Corridor and thus strengthen and give continuity to this initiative.



Fishing refugia zones: at 5 years after its creation

Water Week in La Paz: From Problems to Solutions



WATER AND CITY

In March, as part of the commemoration of World Water Day, we spent a week learning and reflecting about water and our relationship with water. Dozens of people from all sectors participated actively in a series of conferences that allowed us to learn more about water and, above all, to inform us about what we can do to improve the management of this precious resource.

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With questions like: What is water?, Dr. Emidgio Z. Flores explained the chemical qualities of water and how this influences the molecular structures that gives its different forms: steam, water and ice. Water is a hybrid resource that captures and embodies processes that are both natural, material, discursive, economic and social. What is understood as a hydrosocial cycle.

The documentary *The thirst of the world* shows figures that deserve attention. Currently 800 million people in the world do not drink potable water. 2.5 million people do not have a bathroom. Poor or contaminated water kills more than 4,000 children per day. Almost 25% of humanity still lacks water service and sanitation. One billion people defecate in the open air. 85% of wastewater is not treated and returned to nature, how to manage the resource equitably? It was the final reflection of this documentary.

The Human Right to Water and Sanitation (DHAS) was recognized as such since 2010 by the United Nations Organization, and was integrated into the Mexican Constitution in 2012. This means that every Mexican, by the mere fact of existing, already counts with this right. Our responsibility lies in participating in the administration of the resource. Presentation of the M. In C. Juan Carlos Graciano explained to us how the water situation in Los Cabos violates the DHAS.

During the last three decades there was a considerable loss of original vegetation cover (18.4%) due to housing construction, roads and clearing in the area of Cabo del Este. This tourist real estate occupation of the coastal territory exposes a reality: "ant" desalination of marine water. Dr. Víctor Sevilla explains the importance of predicting the risk involved in the disposal of brine without any regulation or control by the authorities in this area.

We also recall, with the presentation of Dr. Arturo Cruz Falcón, the result of the water quality monitoring carried out by CIBNOR and Niparajá in 2013, which identified the high arsenic content in the wells that distribute water to Chametla and El Centenario. We are also talking about the activities that, together with the Citizen's Observatory for Water and Sanitation in La Paz, are being carried out in the area in order to ascertain the quality of the water and the progress of the saltwater intrusion in these wells.

Representatives of the State Government, members of the State Water Commission of B.C.S explained that BCS, because of its natural characteristics, lives a critical situation in water issues. It is necessary to repair water leaks in the distribution networks and to consume wisely the resource so that the results of rainwater recharge works are tangible. Facing climate change is everybody's task, as its consequences are already happening living with the severe droughts and intense seasons of hurricanes.

Dr. Arturo González Baheza and Dr. Elizabeth Olmos explained the methodology that was used to determine which aquifers are most vulnerable to drought in BCS and the preventive and mitigation measures that were implemented. We also understood: What is green infrastructure? And what do you need to do it? Green infrastructure means capturing rainwater and infiltrating it directly or storing it for later distribution, or what is known as harvesting rainwater.

"It's a reality, we extract more water than it recharges naturally." M. Marco C. Monroy commented. On exploitation, saline intrusion and pollution are some of the problems facing our watershed. But what is the real problem in cities? Water or soil? With the architect Arturo Beltrán of UCPT we reflected on the lack of planning in the implementation of rainwater drainage, which corresponds to urban hydrology. There are several types of models to study the hydrological cycle of a basin, with the objective of designing a hydraulic infrastructure that responds to the predictions of the future behavior of our basin.

"The city is waterproofing the possibility of recharging the aquifer," said Ing. Vicente Aguilar Osuna, of Acora, AC. But not all is lost. We are working on a series of projects to counteract the water problem in our basin, such as the Vegetable Palette developed by Dr. Alfonso Medel with the support of Niparajá with the idea of reducing water expenditure in irrigation, using species that do not need so much water or endure more spaced periods for irrigation.

For its part, the CONAGUA delegation in BCS built a new treatment plant in our city, which has the capacity to clean up 100% of the wastewater generated day by day. This will allow greater availability of water for reuse in agriculture and green areas.

We believe that water is a vehicle to get countries out of poverty, but its administration must be by the community, all be part of it, as users and citizens collaborate with the management of the resource within the 3 levels of government .

To conclude we talked about the effort that is currently making our largest home study in the state. The UABCS is the first university in the country to replicate the UNAM's comprehensive water management model of Pumagua, which consists of measuring how much water comes from the municipal system, how much is used daily and whether there are leaks through a computerized measurement system in real time, in addition to beginning the process of rehabilitation of the treatment plant.

We share the video of the master lecture given by Dr. Liliana Andrea Peñuela Arévalo of the National Autonomous University of Mexico:



Lecture: "Role of groundwater flow systems for adequate environmental management in Mexico"

Niparajá is a civil association from Baja California Sur dedicated to conserve the natural heritage and promote sustainable development in the region.