



# MIGRAMAR ACTIVITY REPORT

September 2018- September 2019



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**ANNUAL ACTIVITY REPORT**  
**2018-2019**

# About

MigraMar was founded in 2006 as a network of scientists dedicated to research and conservation of migratory marine species in the Eastern Pacific. Its goal is to implement effective plans for management and conservation that are in keeping with the nature of these creatures.

The network is made up of researchers belonging to universities, government agencies and non-profit organizations in different parts of the American continent.

Provides scientific information regarding migratory patterns of species, evaluates and forecasts the state of populations, in order to increase knowledge about these and understand the role they play in the ecosystem.



## MISSION

To research and provide the necessary technical advice for the conservation of the migratory marine species in the Eastern Pacific.



## VISION

To provide migratory marine species of the Eastern Pacific with a threat-free environment to guarantee the health of their populations over time.

## GOVERNANCE

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MigraMar has 5 individuals in its Board of Directors body: James Ketchum (President), Alex Hearn (Vice President), Todd Steiner (Secretary), George Shillinger (Treasurer) and Kerstin Forsberg. Board meets every month remotely. Monthly financial statements are reviewed in each meeting, membership, budget, fundraising and projects are discussed in each meeting.

MigraMar has a governance and nominations committee composed by Rosario Alvarez, Kerstin Forsberg, George Shillinger and Hector Guzmán. The goal of the committee is to include high profile individuals not currently part of the network as members. The Board has agreed to profoundly discuss during the annual assembly, the best composition of the Board going forward.

## MEMBERSHIP

MigraMar has 20 individual members and two organizational members.

## ORGANIZATIONAL MEMBERS





Randall Arauz  
CREMA



Sandra Bessudo  
Fundación  
Malpelo y Otros  
Ecosistemas  
Marinos



Eduardo Espinoza  
Parque Nacional  
Galápagos



Kerstin Forsberg  
Planeta Oceano



Héctor Guzmán  
Smithsonian  
Tropical Research  
Institution



Alex Hearn  
Universidad de San  
Francisco de Quito



Mauricio Hoyos  
Pelagios Kakunjá



Peter Klimley  
UC Davis



Cesar Peñaherrera  
Migramar



Rodrigo Hucke  
Universidad Austral  
de Chile



James Ketchum  
Pelagios Kakunjá



Todd Steiner  
Turtle Island  
Restoration  
Network



Robert Rubin  
Pacific Manta  
Research



Patricia Zarate  
IFOP



Frida Lara  
Pelagios Kakunjá



George Shillinger  
Upwell Turtles



Yannis  
Papastamatiou  
Florida University



Felipe Vallejo  
Equilibrio Azul



German Soler  
Fundación Malpelo  
y Otros  
Ecosistemas  
Marinos



Ilena Zanella  
Misión Tiburón

## ADMINISTRATION

MigraMar over went an important staff transition on September 2018. A new Executive Director was hired. There was a smooth transition process between former ED and appointed ED. Former ED serves as legal representative in Costa Rica until an office of representation is opened in Mexico. External firms support accounting services, support is provided by ECIF, an accounting firm in Costa Rica who is in charge of filing all legal and tax requirements. All legal and tax obligations in the USA and Costa Rica have been fulfilled.

MigraMar has a 501©(3) status. We are eligible for grants submissions for US-based foundations and agencies. MigraMar is registered to fundraise in New York under registration number 46-47-73. MigraMar is partially registered in DC but has not yet registered to fundraise there. We are also registered to fundraise in CA.

A new power of attorney for Rosario Alvarez as Executive Director and James Ketchum as president of the Board (both residing in Mexico) is currently being apostilled in California. After the apostille, the Mexican lawyers will be able to obtain the registration as an office or representation for MigraMar in Mexico. MigraMar will maintain its US and Costa Rican representation.

Two bank accounts are active in the USA (Wells Fargo) and three bank accounts are active in Costa Rica (BAC Credomatic). Three accounts (two in Costa Rica and one in the USA) are dedicated to the Helmsley Grant that ends in December 2019.

Bank accounts in Costa Rica will remain open until a new account in Mexico is on hand. Main bank accounts in USA will be maintained. MigraMar will maintain external support for accounting, office back up and legal services at a much lower cost in Mexico than in Costa Rica.

# Research & Publications

## UC DAVIS

Work from MigraMar members was featured in the UC Davis magazine. This research contributed to the expansion of the Revillagigedo marine protected area of Mexico.

## ILENA ZANELLA

Ilena Zanella, MigraMar member, published a scientific article in August 2019 regarding the importance of Golfo Dulce where she found that this area in Costa Rica is a critical habitat for juvenile hammerhead sharks. Results include the conclusion that at Golfo Dulce there is: (1) high residency of juvenile *S. lewini* for at least a month, (2) juvenile presence for up to a year, (3) continued use during multiple years, and (4) connection between this juvenile habitat and offshore adult habitat.

## UPWELL

George Shillinger, member of MigraMar in conjunction with researchers from Upwell and UMCES completed a research on a dynamic model for monitoring leatherback turtles, in the hope of reducing the by catch of this ecologically important species.



## GOBI

George Shillinger published an article with GOBI magazine about the work of MigraMar and how we inform conservation decisions in the Eastern Pacific.

## MIGRAVIAS CAMPAIGN

Was featured this past August in the blog ON THE TIDE of Marine Conservation Institute. The article mentions that in the Eastern Tropical Pacific, sharks connect incredible hotspots of wildlife and the protected areas that safeguard it, forming a vital network that supports the region's renowned biodiversity. They conclude that the Coco-Galápagos MigraVia will ensure that sharks remain protected even as they migrate between refuges.

### ARTICLE

<https://doi.org/10.1088/s41584-019-1444-4>

## **Global spatial risk assessment of sharks under the footprint of fisheries**

In this important article co-authored by various MigraMar members, (Sandra Bessudo, Eduardo Espinoza, Hector Guzmán, Alex Hearn, Mauricio Hoyos, James Ketchum, Peter Klimley, Yannis Papastamatiou, Cesar Peñaherrera-Palma, George Shillinger, German Soler, Patricia Zárate) and other scientists were able to show, using a big-data approach

that 24% of the mean monthly space used by sharks falls under the footprint of pelagic long line fisheries. MigraMar scientists concluded that pelagic sharks have limited spatial refuge from current levels of fishing effort in marine areas beyond national jurisdictions (the high seas). Results demonstrate an urgent need for conservation and management measures at high-seas hotspots of shark space use.

## MISSION BLUE EXPEDITION



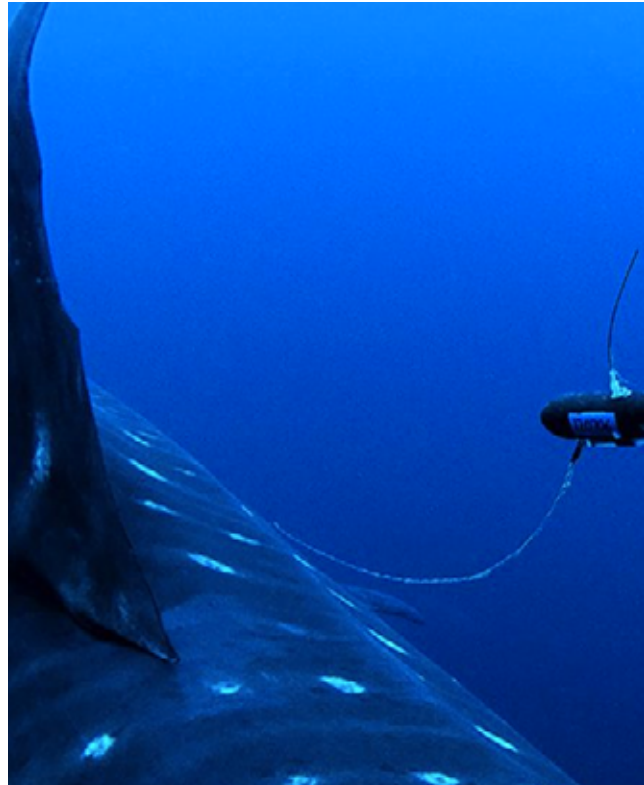
An expedition was held in August around Malpelo Island in Colombia with the participation of various MigraMar members (Mauricio Hoyos, Sandra Bessudo, Cesar Peña-Herrera) MigraMar provided technical and field work assistance during this field trip to tag sharks in during the first two weeks of August 2019. This field trip was organized by Fundación Malpelo in collaboration with Mission Blue to produce science and media content for a campaign in favor of the protection of the Malpelo-Yurupari protected areas. A Documentary will be air in October 2019.

# Projects

MigraMar acts as fiscal sponsor for some MigraMar member projects and coordinates others as main operator. Here after we present a summary of some of the Migramar member projects.

## MIGRABASE

The MigraBase project is led by Alex Hearn. We are currently entering data of tags in the receivers. Tiger sharks in Galapagos are finalized, we have several tests for mapping and other tools. We still have to work out the feature in the platform for sharing with other researchers. the MigraBase will continue to serve as repository of actual information. We are working to transfer data to the OTN database (Ocean Tracking Network).



## SHARKCOUNT

More and more users are committed to Shark Count, project led by **Alex Hearn**. MigraMar partners Galapagos Sharksy in San Cristobal and Scuba Iguana in Santa Cruz have been leading the citizen science effort to understand and help protect marine mega fauna in the Galapagos Marine Reserve.



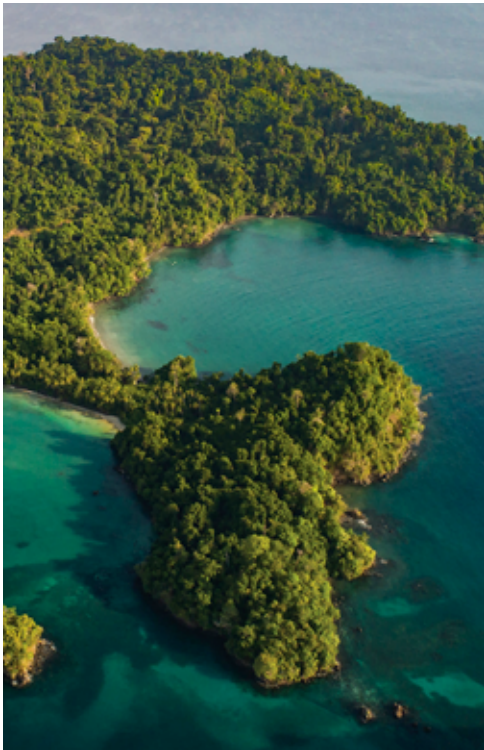
## MIGRAVIAS

### MEXICAN PACIFIC

MigraMar's Mexican Pacific Project, led by **James Ketchum, Cesar Penaherrera and Frida Lara**, successfully closed a first year of funding and received second year funding from Marisla Foundation. Project maintains its goal of creating a series of conservation agreements along three potential swimways. MigraMar is undertaking preliminary research in order to determine the connectivity between conservation areas within Mexico (Gulf of California-Revillagigedo); Mexico-USA (Revillagigedo-Rocas Alijos-Guadalupe-Channel Islands); Mexico-France (Revillagigedo-Clipperton); and Chile-United Kingdom (Juan Fernández-Rapa Nui-Pitcairn Islands). Current efforts are focused on gathering information that will be used to delimit and justify the swimway Gulf of California-Revillagigedo and subsequently will focus on creating swimways that require bilateral treaties (Mexico-USA, Mexico-France).

## COCO - GALAPAGOS

An initial scientific analysis of the MigraVia Coco-Galapagos has been finalized. MigraMar and several of its members have pursued additional funding for a second scientific expedition on the MigraVia where valuable information that is vital to understand the effect of the MigraVia upon the fishing industry, and forecast potential spill over effects. This expedition, led by Randall Arauz and Alex Hearn, will take place from May 10-30 2020.



## MALPELO - COIBA

A 70,822 km<sup>2</sup> protected area has been declared. Our next goal is to harmonize all the management plans. Biological Justification for the MigraVia is currently being finalized, this scientific document will support the future decisions regarding this MigraVia. A first scientific expedition, led by Randall Arauz, Hector Guzmán and Sandra Bessudo, on this MigraVia will take place on April 22nd through May 5th 2020.



This 3-year project, led by Eduardo Espinoza, aims to implement conservation strategies in key nursery sites for hammerhead sharks in four countries of the Eastern Pacific. This first

year, the project's identified nurseries sites in Ecuador, both in Galapagos and in the mainland. One of the most important aspects of the project is the involvement of the communities in the conservation of hammerhead sharks, having more fishermen releasing live individuals during the fishing operations without the accompaniment of project personnel.



# ABUNDANCE OF ELASMOBRANCH IN COIBA



MigraMar held an internal request of proposals to support the different research activities of the members. Two proposals were received and were evaluated by external reviewers. A unanimous decision to support the following project was reached: Assessment of Elasmobranch Species and Their Relative Abundance in the Coiba National Park, Panama.

MigraMar member Hector Guzman leads researchers of this project. The project expands from September 2019 to June 2020. In collaboration with the Smithsonian Tropical Research Institute (STRI), this research proposes to use BRUVS to conduct elasmobranch surveys in the Coiba National Park in Panama to complete the following objectives (1) Identify elasmobranch species and life stages present in the CNP; and (2) Estimate relative abundance, as well as spatial and temporal distribution of the present elasmobranch species utilizing the CNP.

## STANDARDIZE BRUV PROCEDURES

During July 2019, we carried out a field trip aimed to standardize protocols for carrying out the project on baited remote underwater stereo video (BRUVS) across the Eastern Pacific Ocean. This field trip, led by Cesar Peñaherrera, was carried out in the coast of Manabí province, Ecuador, in collaboration with the CICIMAR/IPN and Pelagios Kakunjá (México). A workshop with participants from the Eastern Pacific and Australia will be held in November.

## GALAPAGOS WHALE SHARK PROJECT

The Galapagos Whale Shark Project (GWSP), led by Alex Hearn aims to improve scientific understanding of the whale shark and enhance marine conservation management within the Galapagos Archipelago. Researchers have successfully tagged and monitored over 60 whale sharks providing key information on shark movements and biology. Satellite tracking has monitored shark migration routes from Galapagos to the coast of mainland South America. Tracks generated by this project were utilised by the Galapagos National Park Directorate as part of the process of re-zoning the Galapagos Park and Marine Reserve and designation of Darwin and Wolf islands as a shark sanctuary in 2016. Data collected has boosted the global identification database and indicates around 700 whale sharks pass through Galapagos each year.





## CONNECTING SCHOOLS

Led by Kerstin Forsberg, Eduardo Espinoza and Ilena Zanella, “Connecting Schools” is a program where students from different countries share their knowledge and experiences regarding ocean, marine animals, (like sharks and manta rays) and environmental problems that they see in their living places. During this period, they have connected schools between Ecuador, Costa Rica and Peru.



## FISHERMEN CAMPAIGN

In Peru, **Planeta Oceano** started a citizen science campaign. Its main objective is to monitor marine megafauna transit with the participation of the fishing community. The campaign invites fishermen to report the places where they saw animals like whale sharks, giant mantarays and humpback whales, so they can avoid incidents and maintain their nets.



# Communications

Our main objective is to turn MigraMar into a reference regional source of scientific knowledge and have open available scientific research information for members and general public. We have strengthened our social network interactions in order to link the work of the members.

We are updating our website with new information, a new user system and an online donation system. The proposal for the new site map includes a regional digital library, a map with Pacific oceanographic and migration information, and a user system. We aim to have better information sharing between members of MigraMar. The objective is to place MigraMar as a primary source of knowledge.



# Alliances

PARTNERSHIPS AND ALLIANCES IS A BIG  
STRENGTH OF MIGRAMAR



**A MoU was signed  
with PACIFICO during the annual assembly  
of Forever Costa Rica.**

Migramar knows that working together everything is possible, that's why we pursue alliances and partnership with various stakeholders.

## MARINE STEWARDSHIP COUNCIL

MigraMar has continued to collaborate with other 57 entities in a bid to stop shark finning from being “tolerated” within marine stewardship council (MSC) certified fisheries.

## CMAR

Migramar has strengthened its relation with CMAR. We held a meeting with the new pro-tempore secretary, Ricardo Meneses and the costa rican vice minister, Haydée Rodríguez.

Our conversations concluded on the willingness of CMAR to have a closer exchange with MigraMar and becoming a strong technical support reference for CMAR on topics such as fisheries, marine protected areas management, and others. MigraMar will sign a memorandum of understanding with CMAR, we are aiming for February 2020.

## IUCN

Migramar submitted a request to IUCN network to become an active member, iucn procedures expect that a member has at least 3 years of been legally established. They have all of our paperwork and we will enter the membership process on 2020.

## FOREVER COSTA RICA

The MoU was signed between Rosario Alvarez and Silvia Charpentier (President of the Board Forever Costa Rica). The MoU was designed with the support of an external consultant (Paquita Bath) and crafted with input from MigraMar Board members, **Todd Steiner, James Ketchum and Alex Hearn**, PACIFICO Board chair Zdenka Piskulich and Coordinator, Carlos Chacón.

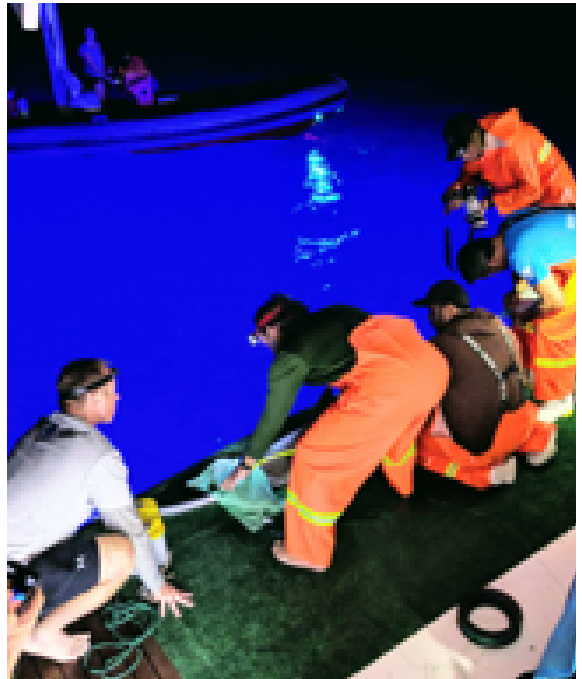
## OCEAN TRACKING NETWORK

MigraMar has a strong collaboration with OTN (Ocean Tracking Network). This implies a collaborative effort to host and manage MigraMar Database. All current information on migratory pelagic species will remain in the MigraBase and all new registers will be uploaded in OTNs database; we will work to migrate as much past information possible. OTN will financially support some of our projects including trans boundary movements of smooth hammerhead shark in Peru and Ecuador, Tiger shark habitat identification and establishment of protected nurseries for hammerhead sharks in Colombia.



## YACHT AID GLOBAL

MigraMar established an alliance with Yacht Aid Global that supports with vessels, staff and equipment to conduct research expeditions. In May 5 through 10 an expedition financially covered by YAG took place in the Gulf of California, **James Ketchum and Frida Lara** participated. The expedition yielded important data and information to advance the Mexican Pacific MigraVias project.



# Visibility

## WORLD OCEAN SUMMIT

Organized by The Economist Group in Abu Dhabi, UAE. The World Ocean Summit received more than 900 representatives of government, business, academia and civil society from over 60 countries assembled to discuss a variety of topics including blue economy, blue bonds, green gas emissions from the shipping industry, aquaculture and its development in Africa and Asia and the polarizing topic of deep sea mining.

Last session included commitments from various institutions, governments and corporations advocating for a strong carbon and polymer tax.

Important connections with potential allies and/ donor were made during the course of the summit, like with The University of Western Australia, the European Investment Bank, Sustainable Ocean Alliance, deep-sea conservation coalition, and others.



## THE ECONOMIST FILM

Together with PACIFICO and The Economist Films, Migramar participated in an expedition to produce a documentary highlighting the importance of marine protected corridors, connecting MPAs (MigraVias); and the effect of climate change on MPAs.

During the first evening of the summit a documentary film featuring MigraMar's work was presented to all participants [https://m.youtube.com/watch?v=d2WB\\_2xEqCw](https://m.youtube.com/watch?v=d2WB_2xEqCw)

## EARTH X

MigraMar participated in the environmental expo EarthX in Mexico City with a stand and a conference regarding marine conservation. The stand received more than 200 visits.

The conference where MigraMar highlighted the MigraVias project in the Mexican Pacific was attended by at least 100 conservationist who received the initiative with enthusiasm.

<https://www.earthxmexico.org/>



## IUCN

MigraMar participated in the plenary session of IUCN commission of species conservation during the IUCN Forum in Mexico City; the MigraVias project was presented to more than 100 IUCN members at the event.

<http://www.foromexicanouicn.org/>



## LATIN AMERICAN CONGRESS OF SHARKS, RAYS AND CHIMERAS

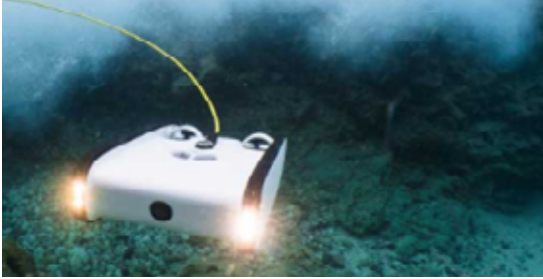
Frida Lara, Elpis Joan, Randall Arauz and James Ketchum, participated in the Latin American Congress at Merida Mexico, presenting MigraMar to students of various nationalities.



## SANDRA BESSUDO

Sandra Bessudo presented on the Monaco Blue Initiative, the importance of the Island of Malpelo and the need of additional protection with a *MigraVia* connecting it to Coiba.





## NAT GEO

[Our expeditions were featured in the open explorer blog in NAT GEO.](#) Where we participated in a contest for specialized equipment.

MigraMar applied to the SEE Initiative to reinforce our underwater work across the Eastern Pacific Region. Won the contest and we were awarded an Underwater Remotely Operated Vehicle (ROV). The Trident ROV.



## ALEX HEARN

Alex Hearn was present at the IV Annual Symposium on Conservation and Research in Galapagos during the commemoration of the 60th anniversary of the creation of the Park, where they shared advances in applied research for the conservation and sustainable development of Galapagos.



## BIODIVERSIDAD EN HD

Cesar Peñaherrera and Alex Hearn presented results of "Shark Count" an Alex Hearn project in this event in Ecuador.



## FRIDA LARA

MigraMar member, presented our network during the 5th World Congress on Fish Telemetry in Norway on June 2019. Participants from all over the world were interested in the work our scientific network is doing.



## SPECIES ON THE MOVE

Alex Hearn presented our network and the MigraVia initiative during the symposium “Species On The Move” in July in South Africa. George Shillinger also a Migramar member was present. They discussed our research network whose mission is to generate the science and technical advice necessary for the effective conservation of marine migratory species in the Eastern Pacific. They presented that through the use of acoustic and satellite telemetry, our studies have identified a potential migratory route, linking both reserves, along the Cocos Ridge that function as a geomagnetic road map for species as they migrate, while at the same time providing stepping-stones of areas of high productivity along the way.



Recognized our MigraMar member, Kerstin Forsberg and her organization Planeta Oceano on the category “Future Conservationist Award” for her project with hammerhead sharks. They acoustically tag hammerhead sharks in northern Peru for a better understanding of their spatial ecology.



## TIERRA BEAT

MigraMar was a featured guest for Mexico City’s celebration of earth day. The director, Rosario Alvarez, presented the work of the network in a session shared with Heinrich-Böll Foundation.

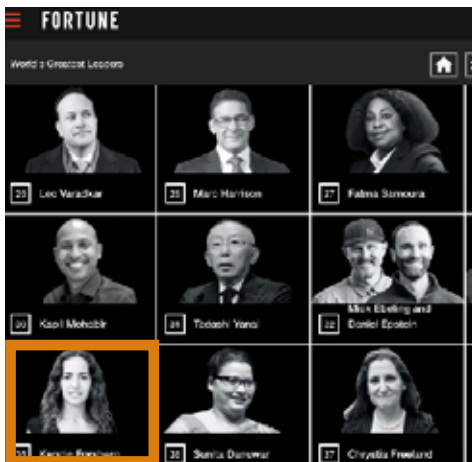
## MEMBERS

Several of our members have been recognized by a variety of institutions.



### ILANA ZANELLA

Ilana Zanella was recognized with the Whitley Award for her work with hammerhead sharks.



### KERSTIN FORESBERG

Was recognized as one of the 50 world's leaders by Fortune, for her dedicated work in environmental education to local communities on the conservation of giant mantas.



#### RANDALL ARAUZ

Randall Arauz from CREMA earned recognition as one of the 2019 Sea Heroes, an international award by Seiko.



#### SANDRA BESSUDO

Was recognized worldwide as one of the 27 women leading the charge to protect our environment. Sandra shared this recognition side by side to Sylvia Earle, Greta Thunberg and others.





# Financials

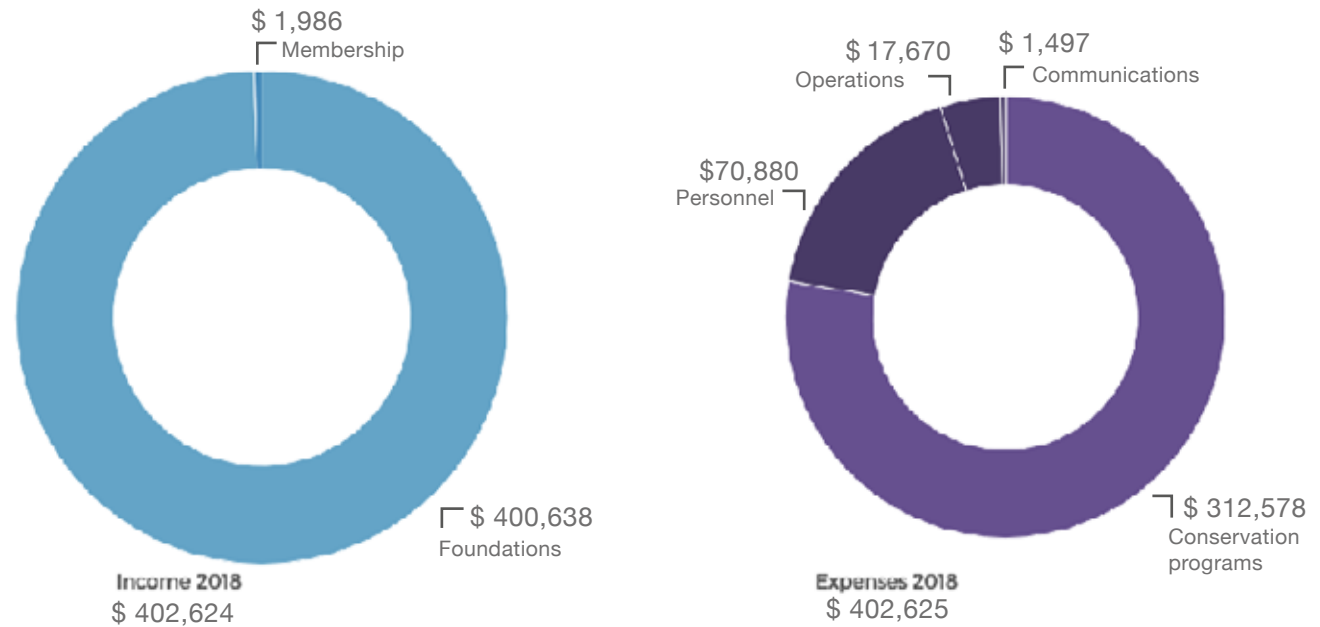
## FUNDRAISING

A total of \$510,484 USD has been raised from 10 different donors. MigraMar has also secured in-kind donations for \$50,000 for boat time and equipment for one expedition that took place in May 2019 in the Gulf of California. Randall Arauz, also secured additional funding for two expeditions in Coco-Galápagos and Malpelo-Coiba for the first semester of 2020 for approximately \$60,000 USD.

A fundraising event is to be held in February 2020 in Florida in partnership with Finns Attached and Sharkwater.

A total of 16 grants have been submitted to various individuals, foundations and NGOs.

## 2018 January- December Income Statement



## BOARD MEMBERS

James Ketchum • President

Alex Hearn • Vicepresident

Todd Steiner • Secretary

George Shillinger • Treasurer

Kerstin Forsberg • Member

## STAFF

Rosario Alvarez • Executive Director

Cesar Peñaherrera • Science Coordinator

Cassandra Garduño • Communication Coordinator

## ALLIES



## SPONSORS



Iris &  
Michael  
Smith



Ocean  
Blue Tree



Science for the conservation  
of marine migratory species  
in the Eastern Pacific



📍 USA Mexico Costa Rica Panama Colombia Ecuador Peru Chile

f /migramar    @migramarnet    🐦 MigraMar    |    [migramar.org](http://migramar.org)    ✉ [info@migramar.org](mailto:info@migramar.org)

USA: MigraMar, 9255 Sir Francis Drake Boulevard, Olema, CA 94950

MÉXICO: MigraMar, Apdo. Postal 19-166, Ciudad de México 03900