

**PROYECTO DE  
AVES PLAYERAS  
MIGRATORIAS**

Conectando comunidades  
de América

**MIGRATORY  
SHOREBIRD  
PROJECT**

Connecting communities  
of the Americas



## **Migratory Shorebird Project Annual Progress Report 2022-2023**



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Photos: Mexico survey team, Baja California (E. Palacios; top-left); Survey units in Costa Rica (top-right; L. Sandoval); Surveys in Guatemala (V. Sagastume; bottom-left); Marbled Godwits in Panama (R. Miro; bottom-right).

The Migratory Shorebird Project is a collaborative partnership-driven international research and monitoring program with the objectives to identify shorebird population status and trends, assess threats potentially impacting populations, apply data to inform conservation actions, and build capacity for long-lasting conservation of shorebird and their habitat. After nearly 10 years of collaborative effort the Migratory Shorebird Project is now active in all 13 countries with shorelines on the Pacific Coast of the Americas. The project is growing every year, involving more partners and partnerships, sites, and research projects. For this reason, during this year we evaluated the progress of the objectives, and we are strategically planning the next 10 years.

## **General Developments**

- Finalized a new 10-year strategy for the Migratory Shorebird Project in collaboration with all partners.
- Finalized first formal communication strategy for the Migratory Shorebird Project.
- Completed 13th year of surveys at most sites (November 2022 – February 2023) in North America, 9th year in Central America, and the 11th year in South America.
- Data collected by >564 volunteers, researchers, and local communities at >200 sites (>2000 survey units).
- Two new papers were published with analyses using MSP data – Munoz-Salas et al. 2023; Donlan et al. 2023)
- Contributed the new recreational disturbance tool kit for the Pacific Americas Flyway.
- MSP data supported the designation at least 7 new Western Hemisphere Shorebird Reserve Network sites, since 2021.
- Developed models to understand (1) changes in shorebirds habitats during the last 20 years, (2) trends for 21 species across the Pacific Americas Flyway, (3) distribution and habitat use of shorebirds in Guatemala, and (4) temporal trends in shorebirds in Ecuasal salt works in Ecuador.
- Supported students and fellows: 5 master's degree students, 1 undergraduate student and 5 Coastal Solution Fellows are using MSP data to complete their research or support decision-making.
- Coordinated a symposium focused on the MSP at the Western Hemisphere Shorebird Group Meeting helped virtually in September 2022: *10 years of stories connecting communities through research and conservation with the Migratory Shorebird Project*. Eleven presentations of the science of MSP were delivered by partners representing 9 countries.

El Proyecto de Aves Playeras Migratorias es un programa internacional colaborativo de investigación y monitoreo impulsado por una red de trabajo, cuyo objetivo es identificar el estado y las tendencias de las poblaciones de aves playeras, evaluar las amenazas que potencialmente afectan a las poblaciones, aplicar datos para informar las acciones de conservación y crear capacidad para la conservación duradera de las aves playeras y su hábitat. Después de casi 12 años de esfuerzo colaborativo, el Proyecto de Aves Playeras Migratorias ahora está activo en los 13 países con costas en el océano Pacífico de las Américas. El proyecto crece cada año, involucrando a más socios y asociaciones, sitios y proyectos de investigación. Por eso, durante este año evaluamos el avance de los objetivos y estamos planificando estratégicamente los próximos 10 años.

## **Desarrollos generales**

- Finalizamos una nueva estrategia de 10 años para el Proyecto de Aves Playeras Migratorias en colaboración con todos los socios.
- Elaboramos la primera estrategia de comunicación formal para el Proyecto de Aves Playeras Migratorias.
- Completamos el 13avo año de conteos en la mayoría de los sitios (noviembre de 2022 – febrero de 2023) de América del Norte, el noveno año en Centroamérica y el undécimo año en América del Sur.
- Datos recopilados por >564 voluntarios, investigadores y comunidades locales en >200 sitios (>2000 unidades de encuesta).
- Se publicaron dos nuevos artículos con análisis utilizando datos de MSP ([Munoz-Salas et al. 2023](#), [Donlan et al. 2023](#))
- Algunos de los socios hacen parte de la comunidad de prácticas para entender los impactos de las perturbaciones recreativas en el corredor migratorio del Pacífico de las Américas.
- Los datos del MSP respaldaron la designación de al menos 7 nuevos sitios de la Red de Reservas para Aves Playeras del Hemisferio Occidental-WHSRH desde 2021.
- Desarrollamos modelos para comprender (1) los cambios en los hábitats de las aves playeras durante los últimos 20 años, (2) las tendencias de 21 especies en la ruta migratoria del Pacífico de las Américas, (3) la distribución y el uso del hábitat de las aves playeras en Guatemala y (4) las tendencias temporales en Aves playeras en las salinas de Ecuasal en Ecuador.
- Estudiantes y becarios apoyados: 5 estudiantes de maestría, 1 estudiante de pregrado y 5 becarios del Programa Soluciones Costeras están utilizando datos de MSP para completar su investigación o respaldar la toma de decisiones.
- Coordinamos un simposio en la Reunión en línea del Grupo de Aves Playeras del Hemisferio Occidental en septiembre de 2022: *10 años de historias conectando comunidades a través de la investigación y la conservación con el Proyecto de Aves Playeras Migratorias*. Socios que representan a 9 países realizaron once presentaciones sobre la ciencia de la MSP.

# Canada

## Personnel involved (organization/institution)

- David Bradley, Director, British Columbia
- Rémi Torrenta, Projects Coordinator, British Columbia
- Catherine Jardine, Data Analyst, National Data Center

## Field Surveys

- The 2022-2023 season marked 23 years of the BC Coastal Waterbird Survey.
- This season involved 163 surveyors (and their assistants), who collectively did more than 1,263 surveys at 210 sites.
- General survey results are available on our website [here](#).
- Survey protocols were reviewed and updated versions were posted to the [program webpage](#).
- A trend analysis was updated for all birds between 1999-2019 and was published in 2021 [Avian Ecology and Conservation](#).
- Contributed data to Environment and Climate Change Canada (ECCC) to update “The birds of the Fraser River delta: populations, ecology and international significance report.”
- The annual newsletter was distributed to volunteers and is available online [here](#).
- Shared all data with ECCC. Also shared data with environmental consultants and NGOs.
- Incorporated data entry portal into [NatureCounts](#) to enhance data sharing and management. Data were requested and approved for use by students, environmental consultants, ECCC and NGOs.

## Workshops & Presentations

- We delivered the following workshops, public presentations, or training sessions this year:
  - March 21, 2022: Training workshop (with UVic Birding Club, Victoria)
  - Sept 8, 2022: Western Hemisphere Shorebird Meeting presentation (virtual)
  - Sept 13, 2022: Natural History Night (with Victoria Natural History Society, virtual)
  - Sept 16, 2022: Training workshop (White Rock)
  - Oct 28, 2022: Training workshop (Iona Beach)
  - Oct 29, 2022: Burrard Inlet-Indian Arm-Howe Sound KBA count (boat-based)
  - Oct 31, 2022: Training workshop (Victoria, Esquimalt Lagoon)
  - Nov 1, 2022: Training workshop (Nanaimo)
  - Nov 19, 2022: Fraser Estuary KBA eBird count
  - March 18, 2023: Training workshop (UVic, Esquimalt Lagoon)
  - March 24, 2023: Training workshop (UBC)
  - Aug 9, 2023: AOS-SCO presentation (London ON)

## **Science**

- We are collaborating with the Canadian Wildlife Service (CWS) to conduct an analysis to determine whether habitat-based conservation actions implemented along the BC coast have affected site occupancy of over-wintering bird species. Preliminary analysis shows that in response to habitat conservation actions, 13 species exhibited improved site colonization rates and an additional 10 species had reduced site extinction rates. Shorebird species exhibiting greater colonization rates included Sanderling and Greater Yellowlegs. Declining extinction rates were largely observed in non-target shorebird species, such as Black Turnstone and Dunlin. These results suggest that conservation sites with ECCC investment are potentially acting as a refuge and/or a buffer against declining occupancy rates within the larger meta-population.
- Birds Canada continues to research the movements of Dunlin in the Fraser River Delta and along the Pacific Flyway to better understand how they use different parts of the Delta and understand the connections among those sites. See article on the study [here](#).

## **Outreach / Education / Awareness**

- We continue to advocate for the protection of Robert's Bank from development, a key stop-over site for Western Sandpipers and *Pacifica* Dunlin.
- In collaboration with Environment and Climate Change Canada (Pacific Birds Habitat Joint Venture), we have expanded the Coastal Waterbird Survey to focus on priority sites and conducted surveys to compare Joint Venture (JV) and non-JV properties. The objective is to determine whether JV's habitat conservation actions implemented along the BC coast have affected occupancy of overwintering waterbird species.
- We have been evaluating the success of site/habitat protection and other conservation actions in Migratory Bird Sanctuaries, by assessing coastal waterbird trends and interpreting those trends with various possible drivers (report to be released in October)
- We presented at the 2023 AOS-SCO conference: "How decades of coastal waterbird and beached bird surveys help inform conservation initiatives in British Columbia".

# **United States**

Also see our relocated website at [www.migratoryshorebirdproject.org/pfss](http://www.migratoryshorebirdproject.org/pfss) for more detail on the US portion of the project, the Pacific Flyway Shorebird Survey. We hope that this change makes it easier for us to update and to make the connection to the MSP clearer.

## **Personnel involved (organization/institution)**

- Matt Reiter (Point Blue Conservation Science); MSP Steering Committee Chair
- Catherine Hickey (Point Blue Conservation Science); Conservation Director

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- Blake Barbaree (Point Blue Conservation Science); Pacific Flyway Shorebird Survey Project Manager
- Mark Dettling (Point Blue Conservation Science); Pacific Flyway Shorebird Survey Coordinator
- More key leaders and partners:  
<https://migratoryshorebirdproject.org/pfss/volunteer-for-pfss/>  
<https://migratoryshorebirdproject.org/partners/>

## **Field Surveys**

- Led overall coordination of project and surveys across 13 countries.
- Surveys of 26 coastal estuaries and 11 areas of interior shorebird habitats covered the major wintering sites throughout California, Oregon and Washington, 15 Nov 2022 – 15 Dec 2022.
- Data collected by >200 partner biologists and volunteers including >35 federal and state agencies, universities, and NGOs.
- Counted approximately 242,000 shorebirds which was similar to 2021.
- No new survey areas were added in 2022.
- MSP survey framework (protocols, routes, database) used to monitor wetland-dependent shorebirds in the Central Valley of California, as part of a new study evaluating impacts of drought supported by California Department of Fish and Wildlife.
- The new Intermountain Shorebird Surveys began in August 2022. The interior survey network includes one key site in the MSP network – the Salton Sea.
- Data management and support using the California Avian Data Center for entire MSP network.
- Revised survey unit boundaries drafted for a portion of the survey area at Humboldt Bay, CA.
- Survey framework at Salton Sea incorporated into the Monitoring and Implementation Plan developed for the greater Salton Sea ecosystem.

## **Workshops & Presentations**

- Coordinated three meetings of the Project steering committee.

## **Science**

- Co-authored paper on trends in three species of shorebirds ([Munoz-Salas et al. 2023](#)).
- Co-author on paper that used MSP data at sites in Latin America to characterize the impact of conservation investments at key sites in the region.
- Drafted manuscript assessing changes in the distribution and abundance of migratory shorebirds from Mexico to Chile between the 1980s and 2000s.
- Completed trend analyses of 21 species in the Pacific Americas flyway using MSP data.

## **Outreach / Education / Awareness**

- Conducted training on survey protocols for California Department of Fish and Wildlife staff that are conducting surveys in the Central Valley.

- Created a new subpage on [www.migratoryshorebirdproject.org](http://www.migratoryshorebirdproject.org) for the Pacific Flyway Shorebird Survey.
- Integrated new data into online data summary applications ([www.migratoryshorebirdproject.org/datamap](http://www.migratoryshorebirdproject.org/datamap); [www.migratoryshorebirdproject.org/exploredata](http://www.migratoryshorebirdproject.org/exploredata)).

## México

### Personnel involved (organization/institution)

- Eduardo Palacios (CICESE, and Terra Peninsular); Project Coordinator
- Guillermo Fernández (UNAM); Sinaloa Partner
- Fernando Gavito (Terra Peninsular, A.C.); Executive Director
- Lucía Alfaro Rodríguez (Terra Peninsular, A.C.); Data entry technician
- Abril Copalli Heredia Morales (Terra Peninsular, A.C.); Research assistant

### Field Surveys

- Nonbreeding Shorebirds Monitoring: During January-February of 2023 we completed the annual non-breeding midwinter shorebird surveys at 22 sites across northwest Mexico. These sites included 250 sampling units that are surveyed by about 50 volunteers in northwest Mexico.
- Monitoring of American Oystercatcher, Snowy Plover, and Wilson Plover in Sonora: The Tóbari Bay is one of the most important breeding sites for the American Oystercatcher in Northwest Mexico, reaching up to 94 breeding pairs. The three shorebird species use artificial dredge-spoil islands.
- Snowy Plover Nonbreeding Surveys: During January 2023 we coordinated with the Snowy Plover midwinter window survey along the Pacific coast of United States to conduct nonbreeding Snowy Plover surveys in five sites in northwest Mexico (Estero de Punta Banda, Bahía San Quintin, Laguna Atotonilco, Marismas Nacionales and Bahía Ceuta).

### Symposium

- We organized a symposium during the annual meeting of the Western Hemisphere Shorebird Group (WHSG) in Puerto Madryn, Argentina, titled: *10 years of stories connecting communities through research and conservation with the Migratory Shorebird Project*. Five talks were presented online by partners and students using data collected in Mexico sites through the MSP.
- MSP presentation at the CRIMBI meeting in San Diego, CA in November 2022

### Science

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- Snowy Plover workshop in Ensenada, Baja California: Along with our partners we organized a workshop in Ensenada, B.C. to train participants in deploying GPS receptors on Snowy Plover.
- Application of shorebird data: Mentored graduate students on data analysis and interpretation for use in conservation and management. Tania Bravo, from University of Guadalajara did an internship at CICESE, focusing on the relationship between aquaculture of oysters and shorebirds. Tania used shorebird data from Bahía Magdalena collected by the MSP. Abril Heredia submitted a manuscript on human disturbance and nonbreeding shorebirds in Bahía Todos Santos, B.C. Daniela Michelle Valdez Gámez is working on a manuscript on the wintering ecology of Wilson's Plover in the Ensenada de La Paz, by using MSP data. Jonathan Vargas, a fellow of the Coastal Solutions Fellows is still working on his project on reducing human disturbance on the western Snowy Plovers in Baja California. We also advised one student from Panamá (Christian Torres) and another student from Ecuador (Vanessa Margarita González de la Cruz), both working on their thesis focusing on impact of human disturbance on shorebird abundance.
- We also published a paper on shorebird population status and trends in the journal *Global Conservation and Ecology*: Winter population trends and environmental drivers for three species of temperate shorebirds  
<https://doi.org/10.1016/j.gecco.2023.e02557>
- We submitted a paper titled: Colonial and Non-colonial birds Breeding on Dredge-spoil Islands in a Tropical Wetland in México, that is now accepted in *Waterbirds*.
- We entered all 2023 mid-winter shorebird survey data into the project's online data entry portal hosted by CADC (California Avian Data Center), which is a node of the Avian Knowledge Network. Data includes the number of shorebirds, waterbirds and waterfowl, measures of human disturbance and raptors, and assessment of habitat condition.
- Protection of Habitat – Estero de Punta Banda: To protect the nests of Snowy Plovers and California Least Tern in early April 2023 we installed a temporary fence on three nesting beaches of Estero de Punta Banda, northwest Baja California. This action also includes monitoring of the two species breeding season. The fence remained installed until August.
- Protection of Habitat - Guerrero Negro: To protect the nesting ground for the Snowy Plover, California Least Tern, and American Oystercatcher in 2023 we installed a temporary fence in Guerrero Negro, Baja California Sur. The protected area is about 40 ha. Our partners for this activity include CONANP, Exportadora de Sal, Pro Esteros, CICESE, and Laura Ibarra, a fellow of the Coastal Solutions Program.



# Central America: Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica y Panamá

## ***Personnel involved (organization/institution).***

Observers, researchers, technical support involved in counts and other activities.

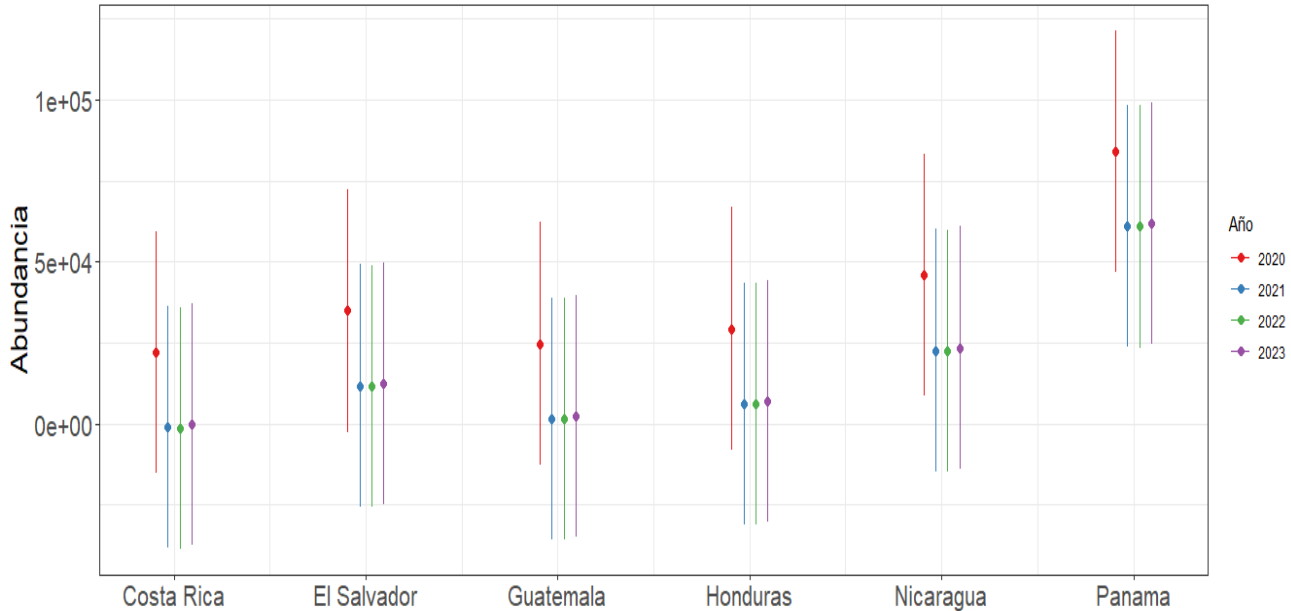
- Salvadora Morales, Manomet/WHSRN, Central America project leader
- Varinia Sagastume y Byanca Bosareyes, Guatemala Coordinator
- Vicky Galán, SalvaNatura, El Salvador Coordinator
- John van Dort, Asociación Hondureña de Ornitología-ASHO, Honduras Coordinator
- Erika Reyes, y Michael Gutiérrez, Quetzalli, Nicaragua Coordinator
- Luis Sandoval, Unión de Ornitólogos Costa Rica Coordinator
- Ester Carty y Rosabel Miro, Sociedad Audubon Panama), Panamá Coordinator

## **Summary:**

### **Accomplishments**

- 83 sites surveyed by 84 volunteers in 2022-2023.
- Data collected at 207 sampling units across five countries.
- Data collected by >30 partners from federal and state agencies, universities, and NGOs.
- Counted 107,501 shorebirds and >30 species.
- Joined with other initiatives: International Shorebird Survey (ISS), Central American Waterbird Census, Coastal Solutions Fellows program (Guatemala).
- A quick scan of the data indicates that in 2020 all countries had higher abundance than in the survey years since. The country with a significant difference was Panama.

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- Panama has been the country where the highest abundance of shorebirds has been documented throughout the implementation of the MSP. The decrease in abundance at the monitored sites is quite noticeable. Possible reasons include an increase in the number of people on the beach and an increase in sand in some of the sampling units.
- In Nicaragua, habitat and problems in the application of tide hours caused surveyors to be late to some of the sampling units, which may have influenced the data slightly compared to last year.

### Next year challenges

- Low availability of funds to pay salaries and field expenses.
- Partners from El Salvador need equipment (telescope and binoculars) to use during the counts with the volunteers.
- The number of MSP volunteers has remained the same over the years. We need a strategy to increase them and raise more funds. The challenge may be greater in Honduras and Costa Rica.
- One of the most important steps for the growth of the program is to support partners in growing their own capacities; particularly a focus on data analysis and scientific writing.

### Opportunities

- MSP has demonstrated the importance of the Pacific Coast of Central America for shorebirds. This is an opportunity to continue monitoring efforts and increase efforts to more areas. After 10 years of monitoring, further analysis by species is needed and to move on to conservation and management actions in MSP focal areas.

## ***Field Surveys***

- The 2021-2022 season marked 11 years of the MSP. This is the time when we need to take a step forward, we have the baseline of ten years of data in each country of Central America.
- This season involved 84 volunteers, who collectively did surveys at 195 survey units.
- Guatemala surveyed at 10 sites and 50 sampling units. El Salvador in 30 sites and 34 sampling units. Honduras surveyed in 16 sites and 18 sampling units. Nicaragua in 17 sites and 32 sampling units. Costa Rica surveyed in 7 sites and 36 sampling units and Panamá in three sites and 25 sampling units.
- All data have been included in the CADC database.

## ***Workshops & Presentations***

- In each country, a series of presentations were given to team coordinators and volunteers on the methodology and protocols to be used for data collection.

## ***Science***

- In Costa Rica they are collaborating with a student from Mexico to start to analysis data.
- In Nicaragua, Quetzalli in collaboration with Point Blue started a pilot project to work on conservation actions in roosting sites.
- Surveys of shorebird composition, abundance and habitat use in salt marshes/shrimp traps and surrounding intertidal zones in Guatemala. 2020-2022. Coordinator: Varinia Sagastume.
- In 2023 the project "Management and Conservation of Non-reproductive Habitat for Shorebirds in Salt Ponds from Sipacate, Guatemala" will begin. This project was a product of the data obtained from MSP counts in the last few years and is with new MSP+ funds.

## ***Outreach / Education / Awareness***

Several members of MSP Project have been participating international activities.

Panam: The 'Ocean Decade, A Healthy and Resilient Ocean', with the topic "Biofilms: Abundance and distribution in relation to autumn and spring migration of *Calidris mauri* and *Calidris pusilla* in the intertidal zone of Panama Bay", together with Dr. Richard Johnston.

The 9th Meeting of the Western Hemisphere Shorebird Group, with the theme "10 years of Migratory Shorebird Monitoring in Panama Bay, Panama".

Citizen science event (Global Big Day)

# South America: Colombia, Ecuador, Peru & Chile

## ***Personnel involved***

- **COLOMBIA:**  
Marcela Cabanzo González- Fundación Guandal – San Andrés de Tumaco Birding; Dina Luz Estupiñan, Fernando Castillo, Natasha Valencia, Richard Johnston-Asociación Calidris, CC Esfuerzo Pescador, WCS Colombia. People from the Charambirá and Pichimá afro descendant communities in the San Juan River Delta (from the General Community Council of San Juan ACADESAN), the Community Councils of Pizarro, Sivirú and Usaragá of the DMRI Encanto de los Manglares del Baudó supported the surveys in Choco and Valle del Cauca-Colombia. In Nariño (Colombia) the surveys were supported by the Esfuerzo Pescador Afro descendant Community Council and Las Lilianas Ecologde.
- **ECUADOR:**  
Danixa Del Pezo y Ana Agreda (Aves y Conservación). Conservation Programa f Priority Sites for Migratory Waterbirds in Ecuador (CSIPAAME). **Researchers:** Gustavo Tigrero (student of Biology), Blgo. Mar. Wilfrido Lucero and Pascual Torres. **Volunteers:** Lcdo. Carlos Cruz y Leonardo Cagua (REVISICOF staff); Blgo. Oscar Vascones, Humberto Bonilla Lindao and Wimpper Escalante (REVISEMEM staff); Javier Vivero, Ever Rincones, Albertino Caicedo and Florencio Nazareno (REMACAM staff). **Local birdwatchers Canal de Jambelí:** David Calle, Byron Lucin and Arturo Lindao (crabbers and fishermen).
- **PERU:**  
Fernando Angulo, Rosa García (Santuario Nacional Los Manglares de Tumbes); Ite was supported by Gilbert Christian Riveros and Jhonson K. Vizcarra (Servicio Nacional Forestal -SERFOR) and Brian Ramos Vizcarra and two volunteers of the Environment Section of Southern Copper Corporation. Piura and Tumbes were supported by Igor Lazo, David Belmonte and José Luis Lescano. Lima: Romina Lavarello, Miguel Moran, Alberto Lavarello and Jaime Talavera. Puerto Eten: Adam Castillo and Miguel Alvan Alejandro Vásquez.
- **CHILE:**  
Ivo Tejeda, Franco Villalobos, Pablo Gutiérrez, Sharon Montecino, Gabriela Contreras (Red de Observadores de Aves y Vida Silvestre de Chile (ROC)); César Piñones, Nelson Contardo, Ariel Cabrera, Daniel Imbernón, Gyorgo Capetanopulos, Patricio Ortiz, Ronny Peredo, Giannira Álvarez, Franco Villalobos, Matías Garrido, César Piñones, Víctor Sarabia, Pablo Gutiérrez, Gabriela Contreras, Pablo Malhue, Benjamín Gallardo, Daniel Imbernón, Gyorgo

Capetanopulos, Jesús Díaz, Patricio Ortiz, Eduardo Quintanilla, Bernardita Muñoz, Daniela Díaz.

## ***Field Surveys***

### **Summary for all countries**

- Four countries conducted surveys between January 15 and February 15. 37 sites and 195 samplings units were visited. Habitats included: estuaries, mud flats, salt farms, shrimp farms.
- 58,844 individual shorebirds were recorded.
- Data compiled by 8 NGOs, with the support of 3 producers, 7 protected area staff, 6 local communities and 2 local communities' associations, 2 governmental agencies, 2 universities and 67 birdwatchers, researchers and volunteers.
- All the data was uploaded to the CADC platform, the availability status was updated, some repeated units were corrected, and data and polygons were updated.
- Data of human disturbance was recorded in the 4 countries of South America.
- Several sites had changes in the habitats, due to a decrease in water levels (El Palmar-Peru), change in the cover type (Mataquito-Chile), or changes in the sites 'management (Maragrícola-Colombia). Other reported habitat changes were related to coastal erosion or sedimentation.
- In Colombia and Ecuador sites were increased due to expeditions and new partnerships.
- NEW SITES IN ECUADOR AND COLOMBIA: In Colombia, Fundacion Guandal made expeditions in Tumaco region to look for new sites to develop MSP, but also to find evidence of reproduction of shorebirds and migratory movements. See this Post: <https://calidris.org.co/2023/05/15/la-bandada-de-la-costa-pacifica-colombiana/>
- In Ecuador, two new National System Protected Areas were included. The staff of those areas were part of the training process in 2022, funded by the Migratory Shorebird Project and Point Blue: Reserva Ecológica Manglares Cayapas – Mataje in Esmeraldas and Reserva de Vida Silvestre Manglares El Morro in Guayas. Surveys at both sites were funded by the Ministry of the Environment, Water and Ecological Transition to strengthen the National Protected Areas.

## **Science**

### **COLOMBIA:**

Dina Estupiñan completed her undergraduate thesis - DISTRIBUTION AND ABUNDANCE OF SHOREBIRD IN THE INTERTIDAL MUDDY FLATS OF THE SANQUIANGA NATIONAL NATURAL PARK.

**Dina Luz Estupiñan**, *Universidad del Valle, Cali, Colombia.* [dina.estupinan@correounivalle.edu.co/](mailto:dina.estupinan@correounivalle.edu.co)  
[dina.estupinan@calidris.org.co](mailto:dina.estupinan@calidris.org.co).

**ECUADOR:**

A publication on shorebird population trends is being prepared by Ana Agreda and Danixa del Pezo.

**CHILE:**

During 2021 and until 2023, ROC used the MSP data in a baseline to build the “Action Plan for the Conservation of Shorebirds in Chile”, which is supported by the WHSRN/Manomet executive office and the Ministry of the Environment.

In 2022 and 2023, ROC used the data that has been collected within the framework of the MSP in Coquimbo and Mataquito to incorporate them as background information in the application files of WHSRN site declaration for both sites. Both are still in the process of admission.

From 2021 to 2023, ROC continued to develop a banding program for American Oystercatcher at the mouth of the Maipo River, within the framework of which held training sessions for members who also participate in the MSP and workshops aimed at other specific audiences.

Human Disturbance: An increase in human disturbance has been recorded in specific sites such as El Bajito-Colombia, where the abundance of birds decreased significantly. At the sites in Chile, human disturbances were reported in many of the sampling units. In two of the sites, human disturbances were reported in 100% of units. Disturbance agents include vehicles, dogs, and natural agents.

***Workshops & Presentations***

Many of the partners attended the 9th Meeting of the Western Hemisphere Shorebird Group and participated in the symposium: **10 years of stories connecting communities through research and conservation with the Migratory Shorebird Project**. 11 partners showed results and main achievements.

**COLOMBIA:**

Fundacion Guandal, WCS Colombia and other stakeholders participated workshops, meetings and activities to update the Conservation Plan for Shorebirds Birds in Colombia, led by Asociacion Calidris. The Plan is in the final phase, and the launch is planning for the second quarter of 2024.

In August of 2022 the VII Colombia Ornithology Congress, the Asociacion Calidris showed the results of the 10 years of MSP in the Sanquianga National Park and Bocana de Iscuande.

**CHILE:**

In September 2022, the ROC participated in the 9th Meeting of the Shorebird Group of the

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Western Hemisphere (9th WHSG) organizing a symposium titled “Civil Society in the conservation of shorebirds and coastal wetlands in Latin America”.

In December 2022, Sharon Montecino, from the ROC, presented at the XIII Chilean Congress of Ornithology “Advances for the conservation of shorebirds in the mouth of the Maipo River”, highlighting, among other issues, the development of monitoring such as the MSP. In the same congress, César Piñones, from the ROC, presented a paper entitled "Dynamic of the relationship with the inhabitants and birds of Las Salinas de Huentelauquén", in which he recognized the importance of the MSP in collecting information about the site. Also, Inti Lefort presented a related work, entitled “Marine-coastal analysis of priority areas of conservation for shorebirds and seabirds in Chile. In addition, there were another 21 presentations by different ROC members at the same event.

### **Outreach / Education / Awareness**

Partners made posts on social networks social media, mainly Facebook and Instagram, that inform about MSP surveys, results of the MSP Project and other activities related with shorebirds in the important places.

#### **COLOMBIA:**

In Tumaco, Fundacion Guandal the III Community Shorebird and Whale Festival, on August 25, 26 and 27, 2023. It had academic conferences, artistic presentations, cultural exhibitions, days of observing shorebirds and whales and a practical theoretical workshop on shorebirds with boys and girls from a community in the rural area.

Asociacion Calidris are building an alliance with the Pacific-Regional Protected Areas System to promote bio cultural aspects to the Protected Areas declaration. For this, three workshops with people from the 21 afro descendant communities were conducted during June, July and August (2023). In addition, Association Calidris is gathering resources and tools to promote shorebirds to managed lands. These resources will be published in a toolkit for land managers.

#### **PERU:**

Training has been carried out for park rangers and students, who have accompanied the censuses in the field.

#### **CHILE:**

During the periods of greatest tourist flow in the austral summer (January and February) of 2023, ROC coordinated, together with local partners, two programs of sentinels and environmental monitors: one in the Bay of Coquimbo and another at the mouth of the Mataquito River. The monitors were in charge of conducting guided tours of the beach and wetland for tourists and visitors, and disseminating information on shorebirds and good practices to protect the coastal ecosystem.

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In 2023, the ROC delivered, the theoretical and practical sessions “Training program to strengthen the control of vehicular traffic in wetlands coastlines, beaches and dunes.” The Program was coordinated in collaboration with the Ministry of the Environment and was aimed at personnel of the Chilean Navy (Maritime Governments, DIRINMAR and Port Captaincies). One of the training sessions was developed for the Coquimbo Bay MSP site.

During March 2022, the 2nd version of the “Festival of the Wetlands of Chamiza” was held at the La Chamiza Rural School. During it, the importance of this site for shorebirds was highlighted and the perspective and local relevance of the Mapuche worldview was incorporated. This initiative has been developed under a framework of international initiatives articulated by the NGO Manomet and WHSRN in collaboration with the Fundacion Conservacion Marina and ROC.

In September 2022, training was carried out for wetland and marine volunteers of Coihuí, which contribute with the MSP surveys methodology and to monitor the reproduction of the Pilpilén común (American oystercatcher, *Haematopus palliatus*). The objective was reinforcing knowledge related to the importance of shorebirds and their coastal ecosystems. This activity was framed under a Coastal Solutions Program project.

### **MSP PARTNERS**

See <https://data.pointblue.org/apps/pfss/index.php?page=partners> and <http://migratoryshorebirdproject.org/partners/> for a full list of project partners.

### **MSP FUNDING**

The David and Lucile Packard Foundation

United States Forest Service International Programs

United States Fish and Wildlife Service

The March Conservation Fund

The Knobloch Family Foundation