PROYECTO DE AVES PLAYERAS MIGRATORIAS
Conectando comunidades de América

MIGRATORY SHOREBIRD PROJECT
Connecting communities of the Americas

Migratory Shorebird Project
Annual Progress Report 2023-2024




Compiled by
Matthew Reiter, Blake Barbaree, and Mark Dettling - Point Blue Conservation Science
Eduardo Palacios - CICESE and Grupo de Aves del Noroeste
Diana Eusse and Dina Estupiñan- Asociación Calidris
Salvadora Morales - Manomet and WHSRN Executive Office
David Bradley - Birds Canada

Photos: Up left: Salinera La Grande, Fundaeco Guatemala; Up right: Daniel Imbernon, Mataquito, Chile, down left Arrozales de Sebaco, Quetzalli Nicaragua; down right Salinera Honduras, Aves Honduras.

TABLE OF CONTENTS

General Developments

The Migratory Shorebird Project is a collaborative partnership-driven international research, monitoring, and conservation 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 shorebirds and their habitats. After 13 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 MSP network has more than 140 organizations including NGOs, Governments and Environmental authorities, local communities, producers, colleges and universities. The project is growing every year, involving more partners and partnerships, sites, and research projects.

- Completed the 13th year of MSP surveys in Canada, the USA, Mexico, Panama, Colombia, Ecuador, and Peru, the 10th year in El Salvador, Honduras, Nicaragua and Costa Rica, the 8th year in Chile and the 5th year in Guatemala.
- Data collected by more than 750 volunteers, researchers, and local communities, at >360 sites (>2500 survey units). In 2023-2024, five new sites were incorporated into MSP.
- Published the new recreational disturbance tool kit as a resource for efforts to reduce the impacts of recreational disturbance on shorebirds in the Pacific Americas Flyway: Herramientas-para-aves-playeras-2024-web.pdf
- Met with the local stakeholders at four sites with high levels of recreational disturbance to develop and implement strategies to reduce threats. We had a communication workshop with these stakeholders about better practices to use communications for behavioral changes.
- MSP trend analyses were used as part of updating shorebird species status for the IUCN Redlist, the COSEWIC assessments in Canada, and state wildlife action plan (SWAP) updates in Pacific Flyway states of the Western United States.
- MSP was part of 18 presentations at the Western Hemisphere Shorebird Group (WHSG) meeting in New Brunswick, Canada.
- Updated the MSP data management system to fully integrate into the Avian Knowledge Network-AKN, the main data entry homepage is now https://avianknowledge.net
- MSP partners updated a Policy on the uses of the MSP data and signed new Data Sharing Agreements.
- MSP members gathered at the Copper River International Migratory Bird Initiative (CRIMBI) meeting in Panama and at the WHSG meeting to discuss

priority MSP activities for the coming two years and metrics for tracking project success.

- Point Blue Conservation Science launched the MSP+ Science to Action grants program to support activities that are aligned with the goals and objectives of MSP and the Pacific Americas Shorebird Conservation Initiative. We provided $225,000 in grants and travel awards to MSP partners.
- Completed an ecosystem services assessment for shorebird habitats and coastal wetlands based on a survey of 46 stakeholders from Mexico to Chile. The asessment compiled 56 ecosystem services (Food, Tourism, Coastal protection and Support) provided by 37 resources, like plants, eggs, water, wood, including 11 coastal habitats and 9 taxonomic wildlife groups. Birds and shorebirds are also part of this group of resources. See the Report in the MSP Webpage News.
- Developed WHSRN "State of" reports for five sites using MSP data on shorebird population trends, habitat change, and recreational disturbance risk.
- Conducted sea-level rise exposure and adaptive capacity assessments for 25 MSP / WHSRN sites to understand which habitats will be affected under different scenarios, the risk to the local communities and to identify opportunities for adaptation actions to maintain shorebird habitat. We shared these results with three national partners and the WHSRN Executive Office team to understand if there are adaptive capacity opportunities in the sites.
- In March 2024, Playa El Agallito y Playa El Retén in Panama joined the Western Hemisphere Shorebird Reserve Network (WHSRN), the fifth site to join the network in Central America and the second in Panama.
- Five partners were or are part of the Shorebird National Plans and are using MSP data to inform or implement those plans, like in Ecuador Aves & Conservación is including more protected areas to the MSP network, ROC-Chile uses MSP data to designate WHSRN sites and Asociacion Calidris - Colombia was working with local communities to understand how shorebirds knowledge support the management in common territories.

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 2023-2024 season marked 24 years of the BC Coastal Waterbird Survey.
This season involved 139 surveyors (and their hundreds of assistants), who conducted 1,108 surveys at 190 sites across BC.
25,621 species records in total were submitted through the NatureCounts data portal.
General survey results from past years are available on our website here.
Survey protocols were reviewed and updated versions were posted to the program webpage.

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.

Our annual Newsletter, the British Columbia Coast BirdWatch, was distributed to volunteers and is available online.

We continued working on our NatureCounts data portal to improve data entry tools (website and phone app), but also enhance access to information, data sharing and data management. Data were requested through our Explore and download tool, and approved for use by students, environmental consultants, ECCC and NGOs.

Workshops & Presentations

We delivered the following workshops, public presentations or training sessions this past year:

- May 11, 2023: Migratory Bird Day talk
- October 30-31, 2023: Burrard Inlet-Howe Sound KBA Bird Count (boat-based)
- October 26-28, 2023: Presentation for the 100th Anniversary of the Victoria Harbour Migratory Bird Sanctuary
- November 26-27, 2023: Fraser Estuary KBA Bird Count

- January 4, 2024: Coastal training workshop (North Vancouver and Maplewood Flats, Squamish Nation)
- April 16, 2024: Shorebirds presentation (Vancouver)
- May 3, 2024: Coastal training workshop (UBC)
- June 8, 2024: Coastal training workshop (Ucluelet)
- June 9, 2024: Coastal training workshop (Nanaimo)
- June 9, 2024: Coastal training workshop (Comox)
- June 10, 2024: Coastal training workshop (Campbell River, Homalco Nation)
- October 28-November 1, 2024: Motus station demo (Society of Ecological Restoration North American Conference)

Science

We collaborated with the Canadian Wildlife Service (CWS) to publish an analysis to examine whether habitat-based conservation actions implemented along the BC coast have affected site occupancy of over-wintering bird species. 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. This paper was published in the journal Global Change Biology in 2024 and can be accessed here.

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.

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, including human disturbances and landscape-scale habitat changes. We gave a presentation during the celebration of the 100th Anniversary of the Victoria Harbour Migratory Bird Sanctuary in October 2023, and will keep working on an in-depth analysis using a Bayesian modeling framework.

Outreach / Education / Awareness

We created the following outreach materials:

Video explaining why the Fraser Estuary is one of our conservation priorities

How can people help the Fraser River Estuary

We contributed data to Pacific Birds Habitat Joint Venture report “Conservation of Migratory Bird Habitat in the Fraser River Delta: A Guide for Local Governments” focusing on the actions local governments can make to conserve habitats with the Fraser River Delta.

We continue to advocate for the protection of Robert’s Bank from development, a key stop-over site for Western Sandpipers and *Pacifica* Dunlin. As part of our engagement, we launched a pilot-project in April 2024 with the help of volunteer surveyors: our independent walking surveys in the Roberts Bank area. The goal was to obtain baseline data about shorebird abundance, habitat use and feeding behavior at Roberts Bank. We want to continue this count in future years with the help of volunteers and the Tsawwassen Nation and, eventually, make it a sort of "before-after-control-impact" study. We hope to showcase how important this area is for shorebirds and, potentially, the short and long-term impacts the Roberts Bank Terminal 2 project will have.

Roberts Bank Shorebird Surveys – eBird Report

Graph showing the 2024 results: evolution of flock sizes and proportions of Western Sandpiper versus Dunlin over the 10 survey days

Long-billed Curlew status in Canada was uplisted in May 2024 from "Special Concern" to "Threatened" as a direct result of the COSEWIC Report we wrote in 2022-2023. This new designation for Long-billed Curlew will have implications for conservation planning and the future Recovery Strategy for the species; it may also determine the allocation of funding towards this species.

United States

See our website at www.migratoryshorebirdproject.org/pfss for more details on the US portion of the project, the Pacific Flyway Shorebird Survey. We moved onto the MSP website 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
- 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 projects and surveys across 13 countries.
- Surveys of 26 coastal estuaries and 11 areas of interior shorebird habitats covering the major wintering sites throughout California, Oregon and Washington, 15 Nov 2023 – 15 Dec 2023.
- Data collected by >200 partner biologists and volunteers including >35 federal and state agencies, universities, and NGOs.
- Counted over 300,000 shorebirds which was an increase compared to the last two years.
- No new survey areas were added in 2023.
- The survey at Humboldt Bay used new smaller sampling units nested within the primary sampling units to better track changes in the distribution and habitat use of shorebirds within the estuary. The design is now more aligned with other large estuaries in the MSP network.
- MSP survey framework (protocols, routes, database) used to monitor wetland-dependent shorebirds in the Central Valley of California, as part of a continuing study evaluating impacts of drought supported by California Department of Fish and Wildlife.
- The new Intermountain Shorebird Surveys, which began in August 2022, continued in 2023. The interior survey network covering 10 western states in the US) includes one key site in the MSP network – the Salton Sea.
- Data management and support continued through the California Avian Data Center (CADC) for the entire MSP network. Moving forward, we will refer to the database the Avian Knowledge Network or AKN. CADC has always been part of AKN, and because it was being used outside of California, it was decided to drop the name CADC. This is a change in name only and it will not affect the data or functionality of the database. **The main data entry homepage is now https://avianknowledge.net/.**

Workshops & Presentations

- Coordinated three meetings of the MSP steering committee and updated the Steering Committee structure
- Presented results of surveys in the San Francisco Bay at the State of the San Francisco Estuary Conference in Oakland, CA.
- Convened >50 shorebird conservation scientists from across the Western Hemisphere begin development of a strategy for better understanding the key factors driving the declines in shorebird populations. One workshop was in February 2024 in San Francisco, California and a second was in Sackville, New Brunswick.
- Attended the Western Hemisphere Shorebird Group conference in Sackville, NB, Canada, in August 2024.
    - Organized a meeting for the MSP partners with around 30 participants.

  - Presented the preliminary results of trend analyses for 21 species using MSP data.
  - 20 partners presented MSP data.

Science

- Co-authored paper impact of disturbance on shorebirds (Heredia et al. *In-press*).
- Co-authored published paper that used MSP data at sites in Latin America to characterize the impact of conservation investments at key sites in the region (Donlan et al. 2023).
- Drafted manuscript assessing changes in the distribution and abundance of migratory shorebirds from Mexico to Chile between the 1980s and 2000s.
- Drafted manuscript of trend analyses of 21 species in the Pacific Americas flyway using MSP data.

Outreach / Education / Awareness

- Integrated new data into online data summary applications (www.migratoryshorebirdproject.org/datamap)

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 2024 we completed the annual non-breeding midwinter shorebird surveys at 27 sites across northwest Mexico. These sites included 287 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 Non breeding Surveys: During January 2024 we coordinated with the Snowy Plover midwinter window survey along the Pacific coast of United States to conduct Non breeding Snowy Plovers surveys in five sites in northwest Mexico (Estero de Punta Banda, Bahía San Quintin, Laguna Atotonilco, Marismas Nacionales and Bahía Ceuta).

Science

- Along with partners we submitted a manuscript to *Biodiversity and Conservation*, on the Population genetic structure of the American Oystercatcher (*Haematopus palliatus frazari*) in northwest Mexico.
- Application of shorebird data:
  Mentored graduate students on data analysis and interpretation for use in conservation and management. Sheccid Chagoya, M.Sc. graduate student at CICESE, is focusing on Winter ecology of Snowy Plovers in Bahia San Quintin. Abril Heredia published a paper in *Waterbirds*, on human disturbance and nonbreeding shorebirds in Bahía Todos Santos, B.C. Daniela Michelle Valdez Gámez is working on her PhD at UABCS and just finished her first 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 published a paper titled: Colonial and Non-colonial birds Breeding on Dredge-spoil Islands in a Tropical Wetland in México, in *Waterbirds*. http://dx.doi.org/10.1675/063.041.0403
- We entered all 2024 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 2024 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 2024 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.

Outreach / Education / Awareness

- We participated in the annual meeting of the Western Hemisphere Shorebird Group (WHSG) in Sackville, NB, Canada. Six talks were presented by partners and students using data collected in Mexico sites through the MSP.

    1. Winter population trend of Wilson's plover in northwest Mexico. Daniela V*aldez, UABCS*
    2. Seasonal patterns of habitat and reproduction of the Snowy Plover, in Bahía Ceuta, Sinaloa, México. *Salvador Gómez, UNAM (he just graduated)*
    3. Cross-sectoral collaboration for the Recovery of a Threatened Beach Nesting Shorebird in Mexico. *Jonathan Vargas, Programa de Soluciones Costeras de la Universidad de Cornell*
    4. Herramientas para la gestión de las perturbaciones humanas hacia las aves playeras en América Latina. *Abril Heredia, Terra Peninsular*
    5. Case Studies: Application of methodologies associated with human dimensions in shorebird conservation. *Olivia Saiz, Calidris, Colombia*
    6. Ten-year trends in shorebird populations along the Pacific Americas Flyway. *Matthew Reiter. Point Blue Conservation Science.*
    7. The role of CRIMBI in conservation of migratory birds and their habitats in northwest Mexico. 2024. CRIMBI Meeting in Chitre, Panamá. March
    8. Con éxito culmina el 13avo monitoreo invernal de aves migratorias en México. 2024. News, WHSRN Bulletin
    9. Evaluación de especies amenazadas. Técnicas de campo y escritorio. Quinto Birdfest Texcoco. 2024. Día Mundial de las Aves Migratorias. Universidad Autónoma Chapingo. September
    10. Impacto del Disturbio Humano en las Aves Playeras en el Noroeste de México. 2023. 5to Festival de Aves Migratorias y Humedales. Reserva Nacional de Paracas, Perú, November.
    11. Shorebird and Waterfowl Conservation in the Pacific Flyway. 2023. Pacific Flyway Council Meeting. Winter Park, CO. August
    12. Sitios Focales de Disturbio en la Ruta Migratoria del Pacífico. 2024. Human disturbance toolkit webinar. July
    13. Monitoreo de aves acuáticas en el Canal Santo Domingo, Bahía Magdalena. 2023. Programa de Investigación de Mamíferos Marinos de la UABCS. General Public

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

Participants and Volunteers by country

GUATEMALA
Byanca Bosareyes, Myrnamaría Galindo Lemus, Gabriel Valle (FUNDAECO), Varinia Sagastume, Alfredo Valle, Maria de los Angeles Schoenbeck, James Gorriz. Voluntario, Rudy Botzoc, Pamela Jerez.

EL SALVADOR
Ana Victoria Galán (SalvaNatura) Ricardo Portillo (Consultor), Leticia Andino, Iselda Vega, Mónica Pacas, Raúl Molina, Gracia Castillo, Diego Valladares, Fernando Delgado (MUNAT), Luis Pineda, Elías Guerra, Dennis Cortez (MARN), Denis Cortéz, Raúl Borbpon, Roberto Pérez (funzel), Gerson Rodrigez, Salvador Liberato (Alcaldia Municipal de San Dionisio), Margoth Sánchez, Rodolfo Walsh, Agustín Osorio, René Flores, Juan Pérez, Yonathan Álvarez, Alonso Membreño, Serafín Benavidez, Carlos Mauricio Mejia, Fernando Misael (Agentes Policia Nacional Civil)

HONDURAS
John van Dort, Isaí López, Liliana Matute, Mario Reyes, Roselvy Juárez (Aves Honduras)

NICARAGUA
Erika Reyes, Michael Gutiérrez, Yoleydi Mejía (Quetzalli Nicaragua), Salvadora Morales, (Manomet/WHSRN), Nayelli Vargas y Elias Santerlis (UNAN-León), Jesús López y Carlos Pereira, CAMANICA, Jairo Mayorga, Aquamar, Justo Vargas, Arrocera San Benito Industrial S.A, Ulises Roque, Salinsa, Ivan Carrasco-Camaronera Acuícola Real, Jaime Orozco- Voluntario Comunidad de Las Peñitas, Haydee López (Alcaldía de Puerto Morazán), Josefa Barboza, Iliana Gutiérrez, Eduardo Acevedo, Stiven Acevedo, Stiven Calero, Annett Rudolph (Voluntarios).

COSTA RICA
Luis Sandoval, Unión de Ornitólogos

PANAMÁ
Rosabel Miro, Yenifer Díaz, Esther Carty, Karl Kaufmann, Oscar López (Sociedad Audubon Panamá), Carol Gantes, Christian Torres, Victorio Alcázar, Yaneilys

Ospino,José Corella, Naomi Navarro, Edwin Tovio, Carla Calamari, Zair Gálvez, Matthew Gammill, Marcel Moreno, Andrey Millán, Bethany Chang, Omar Riba, Yanín Arcia, Yasmín Cerrud, María Del Carmen Henríquez, Yeinis Peralta, Ann Gordón, Evelyn Matos, Milagros González (voluntarios). Juan Barría, Damián Quintero, René Saavedra, Ernesto Chin, Jorge García, Jeremías García (Policía Ecológica), Limbar Rodríguez, Manuel Gaitán (SENAN).

Summary

Accomplishments

- 90 sites surveyed by 187 volunteers in 2023-2024.
- Data collected at 235 sampling units across five countries.
- Data collected by >30 partners from federal and state agencies, universities, and NGOs.
- Counted 275,169 shorebirds and >30 species.
- Joined with other initiatives: International Shorebird Survey (ISS), Central American Waterbird Census, Coastal Solutions Fellows program (Guatemala).
- Compared to the previous year, the abundance doubled, mainly in Panama.
- Panama has been the country where the highest abundance of shorebirds has been documented throughout the implementation of the MSP.
- Training in shorebird identification for 14 volunteers in Honduras, 4 volunteers in El Salvador.
- In March 2024, Playa El Agallito y Playa El Retén joined the Western Hemisphere Shorebird Reserve Network (WHSRN), the fifth site to join the network in Central America.

Next year challenges

- Low availability of funds to pay salaries and field expenses.
- 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

- 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.
- In Nicaragua and Honduras, due to market dynamics, 70% of shrimp production has ceased. This has brought to the table the need to have a restoration plan for temporary or permanent unproductive sites, since they directly affect the resting sites of many of the shorebirds associated with the sampling units.

Field Surveys

- The 2023-2024 season marked 13 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 87 volunteers, who collectively did surveys at 235 survey units.
- Guatemala surveyed at 10 sites and 59 sampling units. El Salvador in 30 sites and 34 sampling units. Honduras surveyed 17 sites and 21 sampling units. Nicaragua in 17 sites and 32 sampling units. Costa Rica surveyed in 7 sites and 36 sampling units and Panamá in seven sites and 32 sampling units.
- All data has 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.
- In August 2023, John van Dort presented the results of the first 10 years of the Central American Waterbird Census at the II Central American Waterbird Congress in Gramado, Rio Grande do Sul, Brazil. The censuses of this program include data collected at the regional level with funds for the execution of the MSP project.
- Partners from Guatemala, El Salvador, Nicaragua and Panama participated in the annual meeting of the Western Hemisphere Shorebird Group (WHSG) in Sackville, NB, Canada.
- Five talks were presented by partners using data collected in sites through the MSP.

Science

- In November 2023 with the support of Manomet, results of the first 10 years of the Central American Waterbird Census were published (van Dort et al. 2023), which

includes analyses of population trends in the Central American region for several shorebird species surveyed MSP activities.

Outreach / Education / Awareness

- The Guatemala partner participated in the Mesoamerican Bird Festival, organized by Vivamos Mejor, BirdZone Atitlán and Audubon, held March 13-16, 2024 in Panajachel, Sololá. The results of the counts were presented. More than 50 people participated in this event with participation from 9 countries such as Colombia, Mexico, Peru, Belize, United States, Honduras, El Salvador, Costa Rica and Guatemala.
- Panama participated in the Meeting of Experience and Exchange of Information between researchers of Marine-Coastal Wetlands, carried out by the Secretaría Nacional de Ciencia, Tecnología e Innovación (SENACYT).
- In Panama, support was provided for the undergraduate thesis about disturbance in migratory and resident shorebirds, which has already been submitted.
- Panama is working on the National Shorebird Conservation Plan.

South America: Colombia, Ecuador, Peru & Chile

Personnel involved

COLOMBIA:
Dina Luz Estupiñan (Asociación Calidris), Marcela Cabanzo (Fundación Guandal), Gisela Chávez (WCS Colombia).

Organizaciones involucradas en el conteo de este año:
Parque Nacional Natural Sanquianga, Consejo Comunitario Esfuerzo Pescador, participantes de las comunidades: Pichimá, Charambirá y Churimal. Consejo Comunitario ACADESAN.

ECUADOR:
Responsables: Ana Agreda, Coordinador y Danixa Del Pezo, Asistente Técnico, **Monitoreadores contratados:** Gustavo Tigrero, Jenny Rosero, Rigoberto Villón y Pascual Torres, **Monitoreadores voluntarios:** Carlos Cruz y Jose Ayong (Guardaparques

de REVISICOF); Oscar Vascones, Humberto B. y Wimpper Escalante (Guardaparques de REVISMEM); Evelyn Barona (Guardaparque REMCH), **Motoristas y monitoreadores contratados en el Canal de Jambelí:** David Calle, Byron Lucin, Manuel Borbor y Florencio Flores (locales).

PERÚ:
Fernando Angulo, Jhonson Klever Vizcarra Romero, Hipólita Paniagua, Tania Vanessa Poma Coyla, Jose André Quispe Torres, Alejandro Vásquez Vidaurre, Danni A. Vásquez Menor, Mirella Lozano Salazar, Daniela Yarlequé, Elio Iván Núñez Cortez, Raúl Pérez Purizaca, Antonio Garcia Bravo, Jorge Juan José Novoa Cova, Teresa Avalo Vílchez.

Organizaciones involucradas en el conteo de este año.
Santuario Nacional Los Manglares de Tumbes, en especial a Rosa García, Servicio Nacional Forestal (SERFOR), Gilbert Christian Riveros & Jhonson K. Vizcarra para las evaluaciones de Ite. En Los Pantanos de Villa, a la Autoridad Municipal de Los Pantanos de Villa – PROHVILLA, Viviana Panizo y al Servicio Nacional de áreas protegidas (SERNANP). Voluntarios de la Universidad Federico Villareal (Lima), Universidad Nacional de Piura y la Universidad Nacional Pedro Ruiz Gallo (Lambayeque).

CHILE:
Ronny Peredo, Giannira Álvarez, Franco Villalobos, Matías Garrido, César Piñones, Víctor Sarabia, Gabriela Contreras, Sharon Montecino, Benjamín Gallardo, Daniel Imbernón, Gyorgo Capetanopulos, Patricio Guerrero, Jesús Díaz, Daniela Díaz, Felipe Godoy, Nicolás Cisterna, Carlos Silva, Ivonne Gallardo, Nicole Arcaya, Andrés Ramírez, Carlos Vásquez, Angélica Almonacid.

Organizaciones involucradas en el conteo de este año:
Coastal Solutions Fellows Program, ROC.

Field Surveys

COLOMBIA

- The counts were conducted in 8 sites (81 sampling units) in 2 departments, totaling 9,281 shorebirds individuals.
- At the 8 sites, we sampled shorebirds in different habitats: intertidal mudflats, sandy beaches, and shrimp ponds.
- The project has expanded in recent years by incorporating other organizations and more sites.
- The most abundant species were *Calidris mauri*: 1,192; *Actitis macularius*: 1,136 individuals; *Numenius phaeopus*: 1,046 individuals; and *Charadrius semipalmatus*: 924 individuals. The group Calidris pusilla/mauri accounted for 2,224 individuals and Calidris mauri/pusilla/minutilla for 500 individuals.
- At the PNN Sanquianga mudflats, we have noticed some changes in their extent. Some mudflats have grown, and officials have mentioned that some have

changed from being muddy to more sandy. At a site in the Ensenada de Tumaco, the abundance of shorebirds decreased, and a strong presence of solid waste was noted.

- At a shrimp farming site, production has increased, reducing the ponds used by shorebirds and preventing the recording of some shorebird species with breeding evidence in previous years, such as *Charadrius vociferus*.
- At some sites, more human disturbance events have been recorded, caused by the increase in motor vehicles and the movement of fishermen and people using the Bajito beach, as well as unrestrained pets in the Bajito.

ECUADOR

- The counts were conducted in 4 provinces and 6 sites. This year, one site could not be counted due to the workload of staff at one of the protected areas.
- The counts included all waterbirds and were conducted from January 15, 2023.
- 16 people participated in these counts, including staff from protected areas, volunteers, and researchers.
- The sites include salt ponds, mangrove areas, and 3 protected areas: Ecuasal salt ponds at Mar Bravo and Pacoa-Santa Elena, south of the Gulf of Guayaquil in the Jambelí-Guayas Channel, the Isla Corazón and Fragata Wildlife Refuge (REVISICOF) in Manabí, the Manglares El Morro-Guayas Wildlife Reserve, and the Manglares Churute Ecological Reserve in Guayas.
- The Manglares Churute Ecological Reserve is a newly incorporated site in 2024.
- A total of 73,346 shorebirds were counted, with 59,508 recorded in the Jambelí Channel; 5,575 in Pacoa; 3,679 in Mar Bravo; 3,767 in Caráquez; 329 in Churute; and 488 in El Morro.
- The monitors from Ecuador's National Protected Area System have been involved since the MSP capacity-building project for park rangers funded by MSP+ in 2022.
- The Jambelí Channel was the site with the highest number of shorebirds, with 59,508 individuals of 12 species. Among the most abundant species were the Whimbrel and individuals grouped as Unid. Western or Semipalmated Sandpiper, which were extrapolated.
- The newly designated site, Guayas, Manglares Churute Ecological Reserve (REMCH), consists of five sampling units. This site is characterized by intertidal mudflats, sandy beaches, and mangrove forests, forming part of Ecuador's National Protected Area System.
- The Manglares Cayapas–Mataje Ecological Reserve (REMACAM) was selected for the coastal census but it was difficult to coordinate the MSP monitoring.
- In recent years, maintenance of the salt ponds has caused habitat changes for the birds.
- Aves y Conservación is responsible for the conservation management of the Ecuasal Pacoa and Mar Bravo artificial salt ponds and has implemented pet

sterilization campaigns to mitigate the pressure of invasive species, especially at Mar Bravo. Additionally, the site is owned by a private company, which has a control and surveillance program.
- Natural disturbance events are low, with only the presence of a Peregrine Falcon observed 250 meters away from the shorebirds, although no disturbances were recorded.

PERU

- The counts were conducted at 8 sites from January 27 to February 3, 2024.
- 14 people participated, including observers, volunteers, and protected area staff.
- A total of 2,658 shorebirds were recorded, from 26 species, with the most abundant being *Calidris minutilla, Calidris pusilla, and Himantopus mexicanus*.
- Records since 2016 indicate that *Haematopus palliatus* is becoming more common and frequent at the sites. Data analysis tools used in MSP show that the abundance of this species seems to be increasing.
- Disturbances were mostly recorded but did not scare the shorebirds. The most common disturbance agents were livestock, people walking, engaging in artisanal fishing, feral dogs, farmers moving between lagoons, vehicles on the beach, and shore fishermen's trucks. Only at Los Pantanos de Villa was a disturbance observed where 10 *Haematopus palliatus* were disturbed at least three times by people on horseback.
- Regarding natural disturbances, a Peregrine Falcon was observed at Puerto Pizarro, with a *Haematopus palliatus*.

CHILE

- In Chile, MSP has helped maintain a group of census collaborators who, in addition to participating in the counts, also contribute to conservation actions at the sites, which are typically funded through various other sources.
- Reproductive evidence of American Oystercatcher was observed at 6 of the 9 sites (Lluta, Coquimbo, Huentelauquén, Maipo, Mataquito, and Rocuant-Andalién).
- In Chile, 105 polygons were censused at a total of 9 sites, none of which were new compared to the previous season. The counts took place between January 20 and February 15.
- A total of 7,585 shorebirds were recorded from 24 species, along with 22,607 waterbirds (56 species).
- Eight of the nine sites maintained their general conditions compared to the previous year. The Maipo River mouth site was the only one that showed significant habitat changes, as the natural widening of the river mouth reduced the size of the sandbar and dunes.
- As in previous years, the main disturbance reported at Chamiza, Maipo, and Mantagua was the presence of unsupervised dogs. At Coquimbo, a popular sandy beach frequented by locals and vacationers, disturbances included motorcycles,

trucks, people, and dogs in shorebird habitats. A slightly different situation was recorded at Calbuco, where disturbances included dogs, sheep, and people.
- In addition, there were reports from locals of hunting birds for fun and cooking Black-necked Swans (Cygnus melancoryphus), a species that, until about a decade ago, was considered endangered in the area.
- No natural predation events were observed at any site, although raptors were recorded at some.

Science

COLOMBIA

To understand whether the abundance of shorebirds varies across different migratory seasons, we are compiling data collected from various censuses, including the Migratory Shorebird Project (MSP), the Neotropical and Central American Waterfowl Censuses (CNAA and CWC), and the International Shorebird Survey (ISS). To date, we have analyzed data from 2021 to 2023 on species richness and abundance during the non-breeding season (from MSP data), as well as pre- and post-breeding periods from ISS counts. These analyses are expected to be completed in 2025, with the support of partners in Guatemala, El Salvador, Nicaragua, Colombia, and Ecuador. This information from various studies broadens our understanding of migratory connectivity and highlights the importance of each site along the migratory route. This information is crucial to guide conservation efforts at the local, regional, and hemispheric scale.

ECUADOR

Currently, we are in the process of drafting a scientific paper on the population trend of aquatic, marine, and shorebirds in the Ecuasal Mar Bravo and Pacoa salt ponds, with data spanning from 2012 to 2021.

PERÚ

MSP censuses were conducted simultaneously with the Coastal Shorebird Census, which included more sites, but only counted shorebirds.

CHILE

- In 2023 and early 2024, we developed an MSP+ project aimed at integrating shorebird monitoring into conservation management at the national and local levels in Chile. The project's general objective has been to create a National Shorebird Monitoring Program in Chile that better integrates existing monitoring schemes in the country (including MSP, CNAA, and others), yielding comparable results over time and across sites, expanding site coverage and participant involvement, and improving data accessibility to influence local and national conservation decisions.

- In this context, we have also gathered information on needs and gaps by surveying key stakeholders from 100% of the sites included in MSP in Chile and more than 60% of sites defined as important for shorebirds in the ECAPRPA or in the Action Plan for Shorebird Conservation in Chile. Additionally, we are developing analytical tools to estimate the relative abundance of shorebirds at the MSP-monitored sites and other standardized protocols.

Conservation Actions

COLOMBIA

- As part of MSP, in a collective effort between the PNN Sanquianga and the Asociacion Calidris, we have been running a monitoring program since 2012 on the state of the mudflats, using the abundance and distribution of shorebirds as indicators.
- The results obtained over these 11 years will be incorporated into the update of the PNN Sanquianga Management Plan, mainly focusing on the distribution of shorebirds, changes in the mudflat area, and local and hemispheric patterns of abundance and distribution.
- In addition to this monitoring program, this year we used the compiled information and MSP data at PNN Sanquianga to inform the development of scientific or nature tourism in the area. We proposed a species list and associated data to be considered for the ecotourism offer, locations with scenic beauty, and recommendations for birdwatching that take into account ecosystem integrity, local communities, and their traditional knowledge.

ECUADOR

Protected areas such as the Manglares Churute Ecological Reserve, Manglares El Morro Wildlife Refuge, and Isla Corazón and Fragata Wildlife Refuge carry out monitoring at their sampling units, and the collected data fall under their jurisdiction.

CHILE

- All the people involved are partners or active collaborators of ROC (www.redobservadores.cl); some have used the data to develop fact sheets and designate new shorebird sites through WHSRN.
- In Chile, MSP data have been used to designate a new WHSRN site in the past year: the Coquimbo Bay. They were also used to create the WHSRN site application file for the Mataquito-Huenchullamí site.
- In May 2023, we also launched the Action Plan for Shorebird Conservation in Chile, together with Chile's Ministry of the Environment and Manomet.

Outreach / Education / Awareness

COLOMBIA

PUBLICATIONS

https://www.facebook.com/share/v/1JXBrCnWQA/
https://www.facebook.com/AsoCalidris?locale=es_LA
https://www.facebook.com/share/p/18GP6iezou/
https://www.facebook.com/share/p/19oEYezq1p/

ECUADOR

The coastal census was conducted in January 2024, and prior to that, workshops were held on field methodology and the purpose of the census. A presentation on the results and methodology used in MSP at our sampling sites was held for a group of 70 people via Zoom.

https://avesconservacion.org/censo-costero-de-aves-playeras-un-esfuerzo-conjunto-para-conocer-sus-poblaciones/#:~:text=conocer%20sus%20poblaciones-,Censo%20costero%20de%20aves%20playeras%2C%20un%20esfuerzo%20conjunto%20para%20conocer,abarc%C3%B3%20seis%20naciones%20en%20Sudam%C3%A9rica.

On the other hand, the program coordinator, Blga. Ana Agreda, participated in the first meeting of the Wilson's Phalarope working group and presented the monthly data from the Bird Research and Monitoring and Conservation program, which included data from the MSP from 2012 to 2021. Additionally, team-based work was carried out to identify conservation strategies in areas such as research, monitoring, and management of key sites.
https://www.facebook.com/story.php?story_fbid=793731072790889&id=100064620102425&mibextid=oFDknk

CHILE

- In April 2023, we signed a co-management agreement with the management and neighborhood board of the Serena Golf condominium for a section of dunes important for shorebirds, which is owned by their real estate company.
- We participated in the development of a bill to scale up the regulations that prohibit the entry of vehicles onto beaches and dunes in Chile. During 2023, we took part in several discussion sessions in the Chilean Congress, and the bill is currently in the final stages of approval.
- In 2023 and early 2024, we developed a new website about shorebirds in Chile (www.avesplayeras.cl), which integrates information about the sites and data collected through the MSP. The website is about to be launched.

- During May and June 2023, a member of the ROC and an MSP census taker participated in a capacity-building program as part of the "Connecting the Dots" project by New Jersey Audubon Society, training in shorebird capture, banding, and sampling techniques at Delaware Bay, alongside volunteers from the United States, Mexico, Nicaragua, Brazil, and Argentina.
- We held several talks and activities related to shorebirds throughout 2023.
- We trained over 80 volunteer census takers for the Coastal Shorebird Census in January 2024.
- We implemented an environmental monitor program at the Coquimbo Bay and Mataquito River mouth sites during January and February 2024.
- We developed the Coihuín-Chamiza Bird Festival in September 2023 and the Maipo Bird Festival in February 2024, reaching over 5,000 people through more than twenty free in-person activities held in various communes across Chile.
- In February 2024, we also installed shorebird signage at the beach and wetland at the mouth of the Lluta River.
- Finally, a member of the ROC and coordinator of the MSP in Chile participated in the Shorebird Science Summit convened by Point Blue Conservation Science in San Francisco, California, USA, in February 2024.

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