



Migratory Shorebird Project Annual Progress Report July 2019 – July 2020



Compiled by

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Photos: Migratory Shorebird Project partners and Coastal Solutions Fellows at Elkhorn Slough in California (top-left); Migratory Shorebird Project volunteers doing an MSP survey at Chamiza in southern Chile (top-right); Migratory Shorebird Project protocol training participants and trainers in Guatemala (bottom)

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 9 years of collaborative effort the Migratory Shorebird Project is now active in all 13 countries with shorelines on the Pacific Coast of the Americas. With yet another year of successful surveys, trainings, data analysis, and outreach the MSP is both building capacity and increasing the knowledge base needed for coordinated conservation of shorebirds and their habitats across the Pacific Americas Flyway. It is only through the extensive network of partners that a project of this scale is even possible but it is essential to conserve the wide-ranging migratory shorebirds that we care about.

General Developments

- Completed ninth year of surveys at most sites (November 2019 – February 2020) in North America, sixth year in Central America, and the seventh year in South America.
- Launched the updated Migratory Shorebird Project webpage – www.migratoryshorebirdproject.org.
- MSP framework manuscript accepted for publication in Avian Conservation and Ecology.
- Completed survey protocol trainings and conducted first ever MSP surveys in Guatemala in collaboration with Fundación para el Ecodesarrollo y la Conservación (FUNDAECO) and the Wildlife Conservation Society (WCS).
- Migratory Shorebird Project data used in seven presentations delivered at the Western Hemisphere Shorebird Group meeting in Panama City, Panama – October 2019.
- Continued participation on the steering committee for the Pacific Americas Shorebird Conservation Strategy and on the advisory board for the Coastal Solutions Fellows program (<http://www.solucionescosteras.org/>).
- Compiled and analyzed MSP disturbance data from 10 countries throughout the Pacific Flyway from Chile to Mexico, to provide an overview of the most frequent types of human disturbance, as well as the incidence and spatial distribution of human disturbance on a broad-scale.
- Celebrated the success of MSP in Central America with an informative and inspirational article by Salvadora Morales in the monthly Newsletter of the Western Hemisphere Reserve Network. *Migratory Shorebird Project: A support Tool for Conservation Decision-making.* <https://whsrn.org/migratory-shorebird-project-a-support-tool-for-conservation-decision-making/>



Roosting Marbled Godwits (Limosa fedoa)



Canada

Personnel involved (organization/institution)

- David Bradley (Birds Canada); Program Director
- Graham Sorenson (Birds Canada); Projects Coordinator
- Catherine Jardine (Birds Canada); Data Analyst

Field Surveys

- 231 units surveyed by 170 volunteers and 300 assistants in 2019-2020. Twenty-seven new volunteers were recruited and nine volunteers added additional sites.
- A 20-year trend analysis including all shorebirds counted from 1999-2019 was performed and has been submitted for publication in *Avian Conservation and Ecology*.
- 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 at www.birdscanada.org/wp-content/uploads/2020/02/2019_Coastal_Newsletter.pdf.
- Shared all data with Environment and Climate Change Canada. Also shared data with many environmental consultants and NGOs.
- Incorporated data entry portal into [Nature Counts](#) to enhance data sharing and management. Data were requested and approved for use by students, environmental consultants, Environment and Climate Change Canada, and NGOs.

Workshops & Presentations

- Public presentation and training session performed in Cowichan (Oct 2019).
- Presentation at the Salish Sea Ecosystem Conference in Vancouver in April 2020 was cancelled due to the Covid-19 pandemic. An online conference presentation was delivered instead among other Citizen Science and Nearshore presentations at a Puget Sound Ecosystem Monitoring Program event ([full recording here](#)).
- Presentation to Rocky Point Bird Observatory on survey results and methods/recruitment (Aug 2020).

Science

- Two Motus Wildlife Tracking System stations set up near Vancouver at Iona Island and Robert’s Bank with the Canadian Wildlife Service to track *Pacifica* Dunlin and Western Sandpiper during spring migration in 2019. In 2020-2021, a further 4 stations are being set up in the Fraser Estuary at Sturgeon Bank and around Boundary Bay.
- Up to 40 *Pacifica* Dunlin will be tagged with VHF transmitters between October-December 2020 for detection with the Motus network of receivers in the Fraser Estuary to assess habitat use and migration chronology.

United States

Also see www.pointblue.org/pfss for more detail on the US portion of the project; the Pacific Flyway Shorebird Survey.

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 Project Manager
- Mark Dettling (Point Blue Conservation Science); Pacific Flyway Shorebird Survey Coordinator
- More key leaders and partners:
<http://data.prbo.org/apps/pfss/index.php?page=volunteer>
<http://data.prbo.org/apps/pfss/index.php?page=partners>

Field Surveys (United States)

- Completed surveys of 23 coastal estuaries and 66 routes of interior wetland and agricultural habitat throughout California, Oregon, and Washington, 15 Nov 2019 – 20 Jan 2020. See the full summary here: https://data.pointblue.org/apps/pfss/uploads/PFSS_Update_2019-20.pdf
- Data collected by >35 partners from federal and state agencies, universities and NGOs, including surveys by >200 biologist and volunteer citizen scientists.
- Counted approximately 340,000 shorebirds. Relative shorebird abundance corrected for area surveyed was lower in 2019 for a 5th consecutive year after a peak in 2014.
- New survey units added in Dungeness Bay, Washington, to allow better coverage of the Bay. Access to survey units in Nov-Dec has been limited because of tides in Dungeness Bay NWR.
- Created new partnership with University of California Santa Barbara and included new survey units to monitor Deveraux Slough which is adjacent to the University campus.
- Conducted 2nd year of a partial shoreline survey from the ground at Salton Sea, continuing our partnership with USFWS, Audubon California, California Department of Fish and Wildlife, and Oasis Bird Observatory. Further evaluation of the effort is needed to identify a sustainable strategy moving forward.
- Continued partnership with Audubon California and Humboldt State University to establish a long term shorebird monitoring effort in Humboldt Bay, California.
- Helped coordinate surveys across 13 countries.
- Led data management and support using the California Avian Data Center for the entire MSP network.

Workshops & Presentations

- Transitioned MSP webpage to new platform and updated user interface for both English and Spanish versions.
- Participated in partners meeting for the Pacific Flyway Non-game Technical Committee with representatives from nine US states, Mexico, and several partner organizations.
- Coordinated three meetings of the Project steering committee.
- Conducted an MSP data analysis workshop for 17 project partners in Panama City, Panama in October 2019.

Science

- MSP framework manuscript accepted for publication in Avian Conservation and Ecology with an expected publication in fall of 2020. Title: “A monitoring framework for assessing threats to nonbreeding shorebirds on the Pacific Coast of the Americas”
- Submitted manuscript to PLOS ONE evaluating the effects of drought on shorebird abundance and distribution throughout interior and coastal California from 2011-2016.
- Completed assessment of exposure of Western Hemisphere Shorebird Reserve Network (WHSRN) sites to sea-level rise as well as 30-year changes in the extent of intertidal mudflats. Overall our assessment suggested variable levels of exposure to sea-level rise across WHSRN sites and generally an increase in the extent of intertidal mudflats. Only in the US and Canada did mudflats appear to decline over the last 30 years.
- Brought together MSP partners that were attending the WHSG meeting in Panama to (1) Review current state of MSP, (2) Assess opportunity for MSP as climate-smart conservation science network, (3) Understand recent approaches for considering ecosystem services/multiple benefits across the MSP network, (4) Learn about stakeholder surveys and contribute ideas for broadening impact of MSP data, (5) Provide feedback on the needed communication tools and who and what we want to communicate, and (6) Be together! A total of 27 people attended representing 18 organizations and agencies. We received a lot of valuable feedback during the meeting on how we can leverage the MSP network beyond shorebirds to be a climate-smart conservation network.

Outreach / Education / Awareness

- Media story of PFSS from Chinook Observer in Washington—
https://www.chinookobserver.com/life/birding-citizen-scientists-survey-shorebirds-of-the-pacific-flyway/article_489c183a-113f-11ea-a915-fba0b2e447e9.html
- Partnered with Fresno and Altacal Audubon chapters to apply for small grant funds for coordination of surveys in the Central Valley of California.
- Integrated new data into online data summary applications
(www.migratoryshorebirdproject.org/datamap; www.migratoryshorebirdproject.org/exploredata).

México

Personnel involved (organization/institution)

- Eduardo Palacios (CICESE, and GANO); Project Coordinator
- Guillermo Fernández (UNAM, GANO); Sonora and Sinaloa Partner
- Cesar Guerrero Ávila (Terra Peninsular, A.C.); Executive Director
- Lucía Alfaro Rodríguez (Terra Peninsular, A.C.); Data entry technician

Field Surveys

- Completed the annual non-breeding midwinter shorebird surveys at 21 sites across northwest Mexico. These sites included 250 sampling units that are surveyed by about 50 volunteers in northwest Mexico.
- Coordinated with the Snowy Plover midwinter window survey along the Pacific coast of United States during January 2020 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).
- Completed winter surveys of roosting aggregations of American Oystercatchers in January 2020 during high tides at 15 priority sites across northwest Mexico.

- Monitored Western Snowy Plovers from April through June of 2020 in Estero de Punta Banda, Baja California; Laguna Atotonilco, Jalisco; and Bahía Ceuta, Sinaloa.

Science

- Application of MSP data: Mentored five graduate students on data analysis and interpretation for use in conservation and management. Isis Peña, from UABCS did an internship analyzing MSP waterfowl data. Daniela Valdez and Jennifer Hernandez, are working on her M.Sc. thesis at UABCS by using MSP shorebird data from Ensenada de La Paz. Estefanía Muñoz is using MSP data for her M.Sc. thesis at CICESE on the abundance and distribution patterns of three large shorebirds in California and northwest Mexico in relation to weather. Also Jonathan Vargas, a fellow of the Coastal Solutions Fellows program continues focusing his project on reducing human disturbance on the western Snowy Plovers in Baja California.
- A first draft of a publication on the impact of human disturbance on migratory shorebirds of the Ensenada de La Paz, Baja California Sur is ready to be submitted to the Journal of Field Ornithology.
- Disturbance data: We compiled and analyzed disturbance data from 10 countries throughout the Pacific Flyway from Chile to Mexico, to provide an overview of the most frequent types of human disturbance, as well as the incidence and spatial distribution of human disturbance on a broad-scale. The citation of the report is: *Palacios, E. and M. Reiter. 2020. Landscape assessment of shorebird disturbance hotspots for Mexico to Chile, 2016 – 2019. Unpubl. Summary Report to Point Blue Conservation Science. La Paz, Baja California Sur. 17 pp.*
- Graduate students from Mexico presented six talks based on MSP activities at the Western Hemisphere Shorebird Group (WHSG) meeting in Panama in October 2019.

Outreach / Education / Awareness

- To celebrate the Migratory Bird Day, we gave a talk on watching birds at home and importance of waterbirds of Bahía Todos Santos (Ensenada).
<https://www.facebook.com/TerraPeninsular/videos/256594598874539/>
- A story on Snowy Plovers in times of COVID-19 <http://terrapeninsular.org/chorlos-nevados-en-tiempos-del-covid-19/?fbclid=IwAR3z7Jqoo3AbV7q7FoYXnS1NdKlOtZWAbU9i5kUyf4h8CMCVf5J4tBAAYM>
- We carried out a live broadcast on Facebook about the Snowy Plover conservation project in Bahía Todos Santos in collaboration with the Secretary of Sustainable Economy and Tourism of the State of Baja California, reaching during the broadcast just over 1000 viewers, and a total accumulated of more than 7800 reproductions.
See: https://www.facebook.com/BC.SEST/videos/2656158418002787/UzpfSTExMjY4NzQ4MTY6MTAyMjE5MjE2MTM5NjU5Mzc/?notif_id=1591298988304218¬if_t=feedback_reaction_generic
- Protection of Habitat: In order to protect the nests of Snowy Plovers and California Least Tern in early April 2020 we installed predator excluders and a temporary fence on the nesting beach of Estero de Punta Banda, northwest Baja California. This action also includes monitoring of the Least Tern breeding season. The fence will remain installed until August. See: <http://terrapeninsular.org/cercos-para-proteger-nidos-de-chorlos-nevados/>
- Protection of Habitat: To protect the public beach of the City of Ensenada, that is nesting ground for the Snowy Plover, Terra Peninsular applied to the Federal Government to get a land use designation called Acuerdo de Destino in favor of the Municipal stewardship. The technical study to support this

designation was completed. The municipal authorities will have the legal background to control disturbance and promote best management practices in this beach.

- Protection of Habitat: Terra Peninsular along with partners achieved a municipal law to designate the beaches of Ensenada as tobacco smoke free.
- Member of the steering committee for the Pacific Americas Shorebird Conservation Strategy.
- Mentor of Jonathan Vargas, fellow of the Coastal Solutions Fellows program (<http://www.solucionescosteras.org/>).

Central America

Personnel involved (organization/institution)

- 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
- Ericka Reyes, y Michael Gutierrez, Quetzalli, Nicaragua Coordinator
- Luis Sandoval, Unión de Ornólogos Costa Rica, Costa Rica Coordinator
- Rosabel Miro y Esther Carty, Sociedad Audubon Panama), Panamá Coordinator

Field Surveys

- 100 sites surveyed by 28 volunteers and 77 assistants in 2019-2020. Data collected at 9 sites and 54 sampling units in Guatemala, 28 sites and sampling units in El Salvador, 15 sites and 19 sampling units in Honduras, 37 sites and 53 sampling units in Nicaragua, 7 sites and 39 sampling units in Costa Rica and 2 sites and 23 sampling units in Panamá.
- Data collected by >15 partners from federal and state agencies, universities and NGOs.
- Counted 240,563 shorebirds and >30 species.
- Guatemala completed its first year on the Project with surveys of 9 new sites.
- Gulf of Fonseca was surveyed in a Trinational effort in September 2019 - 12 people were part of this survey.
- Joined with other initiatives: Waterbird Census in Central America, Coastal Solutions Fellows program fellowship (Guatemala).

Workshops & Presentations

- Training session performed in Parque Nacional Sipacate-Naranjo Guatemala (Dec 2019); Central America University in Nicaragua (Sep 2019), National University of Panamá (Jan 2020).
- Some partners attend XI Neotropical Ornithological Congress held in Costa Rica (July 2019).
- Several partners presented their results at the 8th Western Hemisphere Shorebird Group Meeting in Panama (Oct, 2019).
- At least 7 partners from Central America participated in the data analysis workshop using R (Oct 2019).
- Publication of the *article Migratory Shorebird Project: A support Tool for Conservation Decision-making* in the monthly Newsletter of the Western Hemisphere Reserve Network.
<https://whsrn.org/es/el-proyecto-de-aves-playeras-migratorias-msp-una-herramienta-de-soporte-para-la-toma-de-decisiones-de-conservacion>

Science

- Progress on the thesis about the effect of disturbances on shorebirds on the beaches of Bahía de Panamá by a student at the University of Panama and advised by Eduardo Palacios.

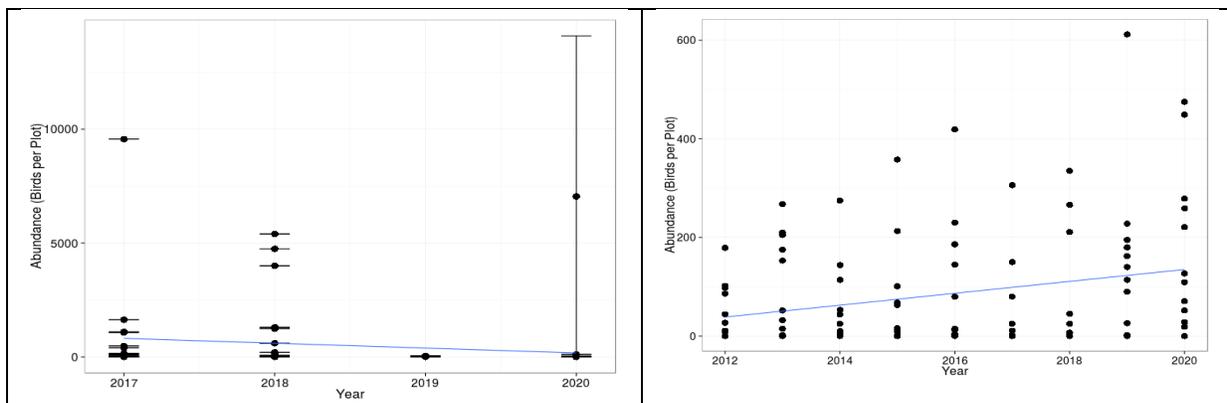
South America

Personnel involved (organization/institution)

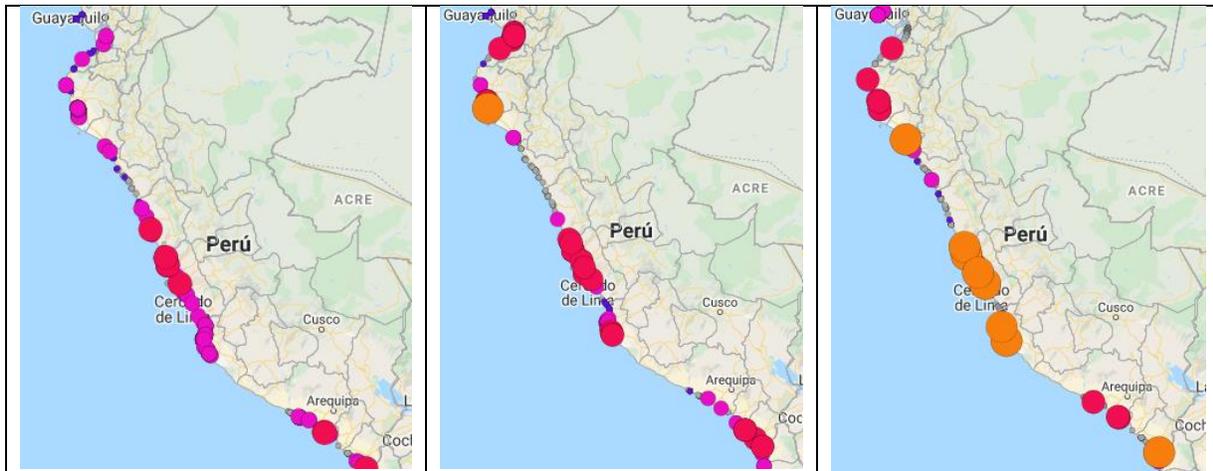
- Diana Eusse, Asociación Calidris; Fundación Guandal; Colombia
- Ana Agreda (Aves y Conservación); Ecuador
- Fernando Angulo & Frank Suarez (Corbidi), RN Paracas; Perú
- Ivo Tejada & Sharon Montecinos (Red de Observadores de aves de Chile-ROC)

Field Surveys

- Surveys in 21 sites, 319 units in coastal estuaries, between 15 Jan – 15 Feb 2020.
- Data collected by 6 partners from NGOs and governmental agencies with 62 volunteers.
- Counted 116,432 shorebirds.
- Chile, Ecuador and Colombia included 3 new sites. Refugio de Vida Silvestre Isla Corazón y Fragata (REVISICOF)-ECU, the Tumaco Inlet and the Punta Soldado Island in Colombia, three new sites in Chile: the mouth of river Lluta, Huentelauquén and Mantagua wetland.
- Disturbance protocol was implemented for the 5th year. The main disturbances were made by people (tourists), pets, and cows. Beside the effects on the birds, also the sites look changed by some of the disturbances (i.e. holes in the ground because the cows).
- Surveys are receiving the support of local and national governmental agencies (COL, PER), producers (ECU, PER), universities (ECU), and local communities (COL, ECU, PER).
- Some Dunlin were recorded in Colombia. This species is not common in this region.
- In 2020, some surveys were the highest abundance records for sites or countries in the last years.
- Multiple surveys were completed in Ecuador and Colombia
- Surveys were integrated with other initiatives: Neotropical WaterBird Census in Colombia, and with the Peru and Chile Shorebird Atlas.
- Partners are using CADC analyst tools and Migratory Shorebird Project Multimap and Tables:



Trend estimation with local scatterplot smoothing (LOESS; left) at Canal de Jambeli-Ecuador and Mar Bravo (right). Figures derived using the online MSP Explore Data app – www.migratoryshorebirdproject.org/figures-and-tables.



Distribution maps of (left to right) *Haematopus palliatus*, *Numenius phaeopus* and *Calidris alba*. Figures derived using the online MSP Data Map app – www.migratoryshorebirdproject.org/interactive-map.

Science

- Submitted the manuscript: DISTRIBUTION AND ABUNDANCE OF SHOREBIRDS IN NORTHERN NARIÑO, COLOMBIA: SANQUIANGA NATIONAL NATURAL PARK AND BOCANA DE ISCUANDÉ BETWEEN 2009-2020 to Boletín de Investigaciones Marinas y Costeras.
- Three partners attended an in-person training about MSP data analysis and the MSP meeting at the Western Hemisphere Shorebird Group Meeting in Panama City, Panama – October 2019.
- Completed a shorebird Ecosystem service assessment in two MSP sites in Colombia: Bocana de Iscuande and Punta Soldado.
- Continued collaboration with National Audubon and the Western Hemispheric Shorebird Reserve Network to develop a web map for Shorebird Conservation and Shrimp Aquaculture in the Pacific Americas Flyway.

Workshops & Presentations

- Led shorebird ID, count methods, and MSP protocol training workshop in Tumaco-Colombia and Guatemala in November 2019.
- Park rangers and students attended trainings to support surveys in Ecuador and Peru in November to January 2019.
- During the Western Hemisphere Shorebird Group Meeting, 17 participants representing 9 countries, participated in a data analysis session. Researchers from Point Blue and Asociación Calidris led the session. This session was part of a series of training and online discussions on the analysis of the data obtained from the counts.
- Included MSP protocol as part of a monitoring manual for coastal waterbirds for the Environmental Authority -CVC of Valle del Cauca department in Colombia.
- Presented about the MSP at the Western Hemisphere Shorebird Group Meeting: Eusse et al. *Migratory Shorebird Project: Increasing Capacity for Shorebird Conservation through Coordinated Monitoring and Application of Data*.
- In Chile in January 2020, ROC organized a training workshop at the Maipo River MSP site. Matthew Reiter (Point Blue Conservation Science) and Sharon Montecino (ROC) talked during this workshop. It was attended by more than 15 people, including volunteer ROC partners and census takers, site

administrators, and members of governmental and non-governmental agencies, such as James Chu of the US Forest Service and Johannes Burmeister of the Manfred Hermsen Foundation Stiftung.

- In February 2020, during Matthew Reiter and James Chu's visit to Chile, we also held a meeting with government entities (Ministry of the Environment of Chile) to strengthen relationships and share the work we are developing through MSP, in order to generate synergy with the actions that are developed in matters of wetlands and coastal ecosystems at the governmental level.

Outreach / Education / Awareness

- A shorebird observation workshop was held with boys and girls at Manglar de San Pedro in Peru during February 2020.
- The importance of the San Pedro Mangroves in Peru for migratory birds was disseminated on World Wetlands Day held by the Ministry of the Environment on February 4, 2020 and on World Wildlife Day held by the Regional Government of Piura on March 4, 2020.