



**EIGHTH MEETING OF THE WESTERN HEMISPHERE  
SHOREBIRD GROUP, 23 – 30 OCTOBER 2019, PANAMA CITY,  
PANAMA**

***Rosabel Miró R., Yenifer L. Díaz, H. River Gates, Stephen Brown, and Richard B. Lanctot***

The Eighth Western Hemisphere Shorebird Group (WHSG) meeting was held at the Hotel El Panama in Panama City, Panama, during 23 – 30 October 2019. The Organizing Committee was Rosabel Miro (Panama Audubon Society), Yenifer Díaz (Panama Audubon Society), River Gates (National Audubon Society), Rick Lanctot (U.S. Fish and Wildlife Service), Stephen Brown (Manomet, Inc.), Liz Guinessey (National Audubon Society) and Eveling Tavera (Simon Fraser University). The Local Committee consisted of staff from the Panama Audubon Society and volunteers (especially Fabiola Riva Melofiro and Ruth Pierson), with the assistance of students from University of Panama and the Maritime University. The WHSG meets biennially with previous meetings held in Boulder, Colorado, USA (2006), Maturin, Venezuela (2007), Mazatlán, Mexico (2009), Vancouver, British Columbia (2011), Santa Marta, Colombia (2013), Virginia, USA (2015), and Paracas, Peru (2017). The Panama City meeting welcomed 221 registered participants from 18 countries in the Western Hemisphere, and 9 individuals from 5 countries located in Europe; there were four international plenary speakers (Rosabel Miro, David Lank, Veronica D'Amico, Cheri Gratto-Trevor), eight symposia comprising 214 oral presentations, and 30 poster presentations. In addition, three pre-conference workshops took place on 23 October: Buff-Breasted Sandpiper *Calidris subruficollis* Conservation Working Group, North American Banding Council Shorebird Banding, and Migratory Shorebird Project Data Analysis. Working group and special topic side-meetings were also hosted including an e-Bird Distribution Modeling and Conservation Roundtable; Shorebirds and Shrimp Aquaculture Working Group, Shorebirds and Salt Working Group, steering committee meetings for the Pacific and Atlantic Shorebird Conservation Initiatives, and International Phalaropes Working Group. After the formal meeting, there was another 1 and ½ day workshop focused on the development of the Midcontinental Flyway Shorebird Conservation Strategy.

The Western Hemisphere Shorebird Group has been committed to reducing language barriers and increasing communication capacity by providing simultaneous translation (English - Spanish) of all conference events. At the Panama City meeting, translation services were provided by Arturo May, Efrén Esquivel, and David Clingan.

The meeting location, Panama City, is one of the main tourist attractions of Panama. This fact allowed people to enjoy excursions to see shorebirds, seabirds, and passerines at the Gamboa Rainforest Reserve, Archipelago of San Blas, and Soberania National Park; as well as cultural attractions such as the Panama Canal, the Old Quarters of Panama City and Indigenous communities. On 27 October, 120 people participated in the field trips organized by Isthmian Adventures and Panamazing.

The Scientific Committee responsible for the program was chaired by Stephen Brown, and consisted of Eduardo Palacios, Juliana Almeida, Fernando Angulo, Lisa Docken, David Lank,

Ronald Ydenberg, Salvadora Morales, River Gates, Fletcher Smith, Ana Agreda, Luis Bala, Guillermo Fernandez, Rob Clay, Oscar López, Rosabel Miro, Rick Lanctot, and Eveling Tavera.

Committee members carefully evaluated both oral presentations and posters to create the General Scientific Program, and book of abstracts (see links at <http://westernshorebirdgroup.org/>)

The next meeting will be organized by Academia Nacional de Ciencias de Buenos Aires and will be located at Puerto Madryn, Argentina from 1-6 September 2021.

## **TRAVEL AWARD AND GENERAL MEETING SUPPORT**

The Travel Award Committee provided financial and logistical support for 57 students from the Western Hemisphere and 26 professionals from Latin American countries. These awards and support for other aspects of the meeting were made possible by generous donations by the David & Lucile Packard Foundation, the U.S. Forest Service – International Program, National Audubon Society, Manomet, Inc., Environment and Climate Change Canada, Suez, Islas Secas Foundation, Lotek Inc., Microwave Telemetry, Inc., Rite in the Rain, the Pacific and Mississippi Flyway Councils, and the Secretariat for Environmental Enforcement Matters for the United States - Panama Trade Promotion Agreement. The now famous Silent Auction was a huge success that helped raise \$4,482.00 in travel award funds for the next meeting.

## **EXECUTIVE COMMITTEE MEETING**

Nominations for three new positions for the Executive Committee were accepted, including the Student Representative, the US / Canada Representative, and the Mexico / Central American Representative. After conducting a listserv survey, the winners are Gianco Angelozzi as Student Representative, Kirsten Grond as the US / Canada Representative, and Abril Heredia as the Mexico / Central American Representative. The full Executive Committee can be found at: <http://westernshorebirdgroup.org/about-us/#committee>.

The Executive Committee decided to upgrade our website (<https://westernshorebirdgroup.org/>) to have a Spanish version. Gustavo Danemann provided the translation and Alex Low is making the update. The committee also discussed developing a “how to host a meeting” manual and appointing a meeting liaison that could assist future organizers in hosting a meeting. Funding for creating the manual will depend on final expenditures from the Panama City meeting. Finally, the Executive Committee highlighted the need to be more proactive in commenting on environmental issues surrounding developments throughout the Western Hemisphere.

The meeting location for the 2023 meeting will be organized by either Dr. David Newstead (Coastal Ben Bays & Estuaries Program) based out of Corpus Christi, Texas, USA; or Drs. Julie Paquet (Canadian Wildlife Service) and Diana Hamilton (Mount Allison University) based out Sackville, New Brunswick, Canada. The Executive Committee decided to create a more formal application document and will be soliciting additional information from these two applicants before making a final decision.

## AWARDS

Many awards were presented during the banquet on the night of 27 October 2019. Guillermo Fernandez, chair of the Student Awards Committee, presented the Best Oral Paper Award to Luke R. Wilde from University of North Carolina for his talk entitled "Effects of variable predation risk on the space-use of breeding Hudsonian Godwits (*Limosa haemastica*)", and the Best Poster Award to Fernando A. Faria from Federal University of Rio Grande for his poster on "Trophic niche and seasonal occurrence of the South-American Painted Snipe (*Nycticryphes semicollaris*) in Brazil". Runner Up Oral Paper Award went to Jonathan Vergara-Amado from Universidad Austral de Chile for his talk entitled "Exploring the gut microbiota dynamics in a migratory shorebird during the non-breeding season", and the Runner Up Poster Award went to Sarah Hoepfner from Humboldt State University for her poster on "Remote monitoring of shorebird nests: An examination of effectiveness and applicability". Abby Powell, Luis O. Bala, David Mizrahi, and Nathan Senner were part of the judging committee.

Loyda Sánchez, former President of the Panama Audubon Society Board of Directors, introduced Dr. Francisco Delgado, a local expert in the study and banding of shorebirds. Dr. Delgado co-authored the 'Atlas of Nearctic Shorebirds and other Waterbirds on the Coast of Panama' published in 1998. This exclusive atlas for Panama, published by the Canadian Wildlife Service, highlighted the importance of the Bay of Panama as a southbound stopover site and wintering area for shorebirds. This information was the bases for the site receiving international and local designation, including being a Ramsar Site, a Site of Hemispheric importance within the Western Hemisphere Shorebird Reserve Network (WHSRN), and a Wildlife Refuge within the National System of Protected Areas of the Republic of Panama. Beginning in 1998, the wetlands of Panama Bay have been a priority area of work for Audubon Panama.



Loyda Sánchez presents Dr. Francisco Delgado the Panama Audubon Award (Photo: Panama Audubon Society)

Rob Clay of Manomet, Inc. presented the 2019 Pablo Canevari Award to Ben Haase, the curator of the Museo de Ballenas in Salinas, Ecuador. Ben is a naturalist-guide who has carried out long-term studies on the presence, migration, and behavior of shorebirds on the Ecuadorian coast beginning in 1986. He has conducted 500 censuses exceeding two and a half million birds. His surveys resulted in the nomination of the Piscinas Artificiales de Ecuasal as a Western Hemisphere Site of Regional Importance in 2007 due to the large number of Wilson's Phalarope (*Phalaropus tricolor*). Ben has organized many training courses; this activity and the publication of his book entitled "Marine Birds of Continental Ecuador" in 2011 resulted in the training of hundreds of people. Ben has been the director of the Museo de Ballenas since 2003 and has had over 12,000 visitors. More information can be found at <https://whsrn.org/ben-haase-of-ecuador-wins-the-2019-pablo-canevari-award/>



Rob Clay presents Ben Haase the 2019 Pablo Canevari award (photo: Patricia Falk).

For the second time, two biennial awards were presented to honor Allan Baker and Lewis Oring (<http://westernshorebirdgroup.org/awards/>). Amazing hand-painted plates created by Rocio Landivar) were given to each winner, along with a \$1,000 USD monetary award. The *Allan Baker Lifetime Achievement Award for Shorebird Conservation* was given to Stan Senner, Vice President for Bird Conservation-Pacific Flyway, National Audubon Society, USA. For the past 40 years, Stan Senner has contributed his considerable expertise in avian ecology, environmental policy, and strategic conservation by leading flyway-wide initiatives to protect shorebird populations. Stan is currently tasked with working collaboratively with hundreds of conservationists, wildlife and land managers, and policy experts; he has achieved notable conservation successes for shorebirds in five global flyways. Stan's career has been an effective leader for many other prominent conservation and governmental organizations, including the Audubon Alaska, Ocean Conservancy, the *Exxon Valdez* Oil Spill Trustee Council, Hawk

Mountain Sanctuary Association, and as staff to a U.S. House Representative. In addition to many internal policy directives, Stan has contributed to conservation by authoring over 34 technical publications including 17 peer-review papers, two Birds of North America species accounts (Surfbird and Broad-winged Hawk), six popular birding articles, four conference symposia, and five book chapters.



Patricia Gonzalez presents Stan Senner with the 2019 Allan Baker Lifetime Achievement Award for Shorebird Conservation (photo: Panama Audubon Society).

Finally, the *Lewis W. Oring Lifetime Achievement Award for Shorebird Research* was presented to Dr. Roberto Carmona, Professor, Universidad Autónoma de Baja California Sur, Mexico. Roberto Carmona has dedicated his entire professional career to the study and conservation of shorebirds and their habitat in northwestern Mexico. This began in the late 1980s, when Pablo Canevari taught in Baja California the first course on shorebirds offered in the region. Roberto has designed, directed and implemented numerous research, exploration, monitoring, education and conservation projects of shorebirds in the Pacific Migratory Corridor. These include, among others, a shorebird research program of the Ojo de Liebre Lagoon complex and the Guerrero Negro salt mine; study and conservation of Red Knots (*Calidris canutus roselaari*) and Dunlin (*C. alpina*) during spring migration through the Upper Gulf of California and their relationship with spawning fish; and the exploration of wintering areas and reproduction of shorebirds in the states of Sonora and Sinaloa. He has advised 35 Bachelor thesis, Master of Science or Doctorate

degrees on shorebirds; and published 75 scientific articles and book chapters on the ecology and migration of shorebirds in northwestern Mexico. He has helped designate six wetlands in northwestern Mexico (two more in progress) as Western Hemisphere Shorebird Reserve Network sites.



Lewis Oring and Roberto Carmona after Roberto received the 2019 Lewis Oring Lifetime Achievement Award for Shorebird Science (photo: Gustavo Danemann).

## **WORKSHOPS AND INFORMAL SIDE MEETINGS**

### ***Governance and Transparency as Tools for the Conservation of Species Migratory, organized by Rosabel Miró and Bethzaida Carranza***

Within the framework of the 8th meeting of the Group of Shorebirds of the Western Hemisphere, the Secretariat for Environmental Enforcement Matters (for the United States-Panama Trade Promotion Agreement) with the Audubon Society of Panama organized a panel as the opening event for this meeting.

The main objective was to disseminate information of the Secretariats for the Application of Environmental Legislation, created within the Free Trade Agreements with the United States among professionals in the field of environmental sciences, members of NGOs, government

institutions and those interested in habitat conservation for migratory species, especially shorebirds.

Two panels were developed, the first related to the tools available to the public to strengthen governance structures and promote transparency in management and for decision-making through these structures. Patricia Pérez, Governance, Voice and Democracy Officer of the United Nations Development Program (UNDP) as moderator, participated in this panel. Diego Luna Quevedo, a conservation specialist for the Western Hemisphere Shorebird Reserve Network (WHSRN), also participated as a panelist. The second panel revolved around community, legal and research experiences in the protected Area Wildlife Refuge, Ramsar Site Bay of Panama Wetlands. How the strengthening of existent governance structures and can continue to support site conservation was the main purpose of this section.

203 people attend the panel and the welcoming reception. Several of the attendees expressed their interest in learning about the Environmental Communications Mechanism and the Environmental Chapter since they were unaware that the Free Trade Agreements with the United States had an environmental chapter or promoted this type of participation actions. Participants gathered information to contact the Secretariats of their countries for environmental situations that occur in their countries and are related to the protection of wetland areas.

***Buff-Breasted Sandpiper *Calidris subruficollis* Conservation Working Group, organized by Richard Lanctot***

The Buff-breasted Sandpiper Conservation Working Group was held on the 23 October 2019 in Panama City, Panama – a day before the formal Western Hemisphere Shorebird Group (WHSB) meeting. This was the fourth meeting of this group and by far the largest with 36 people participating (see below). The meeting consisted of a series of talks followed by discussing Manomet's efforts to update the 2010 conservation plan and reviewing Canada's newly developed management plan.

Rick Lanctot and Lee Tibbitts gave the first presentation about a full-cycle migration tracking study designed to uncover areas of use and factors in those areas that may be contributing to the species decline. Birds equipped with 94 GPS-Argos and 22 PTT-Argos tags from sites in northern Alaska, southern Texas and three countries in southern South America were tracked between 2016 and 2018. This information illustrated in detail how birds migrate in a figure 8 as they complete their annual migrations. Additional details on major stopover sites and timing of migration were provided.

Jim Lyons spoke next about monitoring Buff-breasted Sandpipers during northbound migration through the Flint Hills ecoregion of eastern Kansas and northeastern Oklahoma, and the Western Gulf Coastal Plain ecoregion of Texas and Louisiana. In the Flint Hills ecoregion, nearly 7000 km of roads were surveyed in 2014 and 2015; extrapolation of population densities indicated 12,782 to 20,727 birds were present. Buff-breasted Sandpipers were more common in the southern portion of the Flint Hills ecoregion in areas with a high proportion of native grass and little development (much of which was recently burned). In the Western Gulf Coastal Plain ecoregion, point count surveys were conducted at 372 (x4), 528 (x1), and 304 (x4) points from

2016 to 2018, respectively, using two different survey sampling designs. Preliminary analyses indicated birds are concentrated in the central coast, and that peak migration periods vary from 23 April to 10 May. A population size estimate is forthcoming that uses bird-days and length-of-stay to adjust for turnover.

Kelli Stone then spoke about how these same coastal surveys in Texas and Louisiana were used to investigate habitat selection by staging Buff-breasted Sandpipers. She helped organize a vast army of people (14, 24, 38 and 24 observers in 2016-2019, respectively) from federal and state agencies, NGOs, universities, and other citizen scientists (e.g., Texas Master Naturalists) that worked together to conduct these surveys. Initial analysis indicated birds preferentially using turf farms, grasslands, and rice fields (as expected) but surprisingly also soy and cotton fields to a lesser extent.

Joaquin Aldabe gave the next talk describing habitat selection of wintering Buff-breasted Sandpipers in Eastern Uruguay using satellite tags. Tagged birds moved during the late winter (Feb – early March) from coastal sites to interior regions of Uruguay, Brazil and Argentina. By comparing ground characteristics from 6 tagged birds and random points, Joaquin demonstrated that the probability of detecting Buff-breasted Sandpipers increased with shorter grass height and flatter ground, but there was no effect from having forest nearby (in contrast to his previous publication). Finally, he showed that birds used dry grasslands, as well as both natural grasslands and artificial prairies.

Next Gabriel Castresana spoke about habitat use of Buff-breasted Sandpipers wintering in Samborombon Bay, Argentina using satellite tags. Using satellite tag information (bi-daily observations at 7:00 AM), he showed how individual birds wintered in very small (2 hectares) grazed but humid pastures during December – early March, sometimes moving 400 m or less before settling into a new area. He also showed that birds use the nearby intertidal mudflats at night to roost, perhaps as a way of avoiding predators. He finished by saying more detailed tracking is needed to fully understand the habitat use.

Robert Penner described the management of landscapes for grassland obligate shorebirds migrating northward through Kansas and Oklahoma. He described ranchers routinely using intensive early stocking (as opposed to season long stocking) combined with annual spring burns to increase weight gains in cattle. This approach, however, decreases residual nesting vegetation needed by grassland birds. The Nature Conservancy is proposing a approach called patch-burn grazing that would provide a mosaic of vegetation heights that would benefit a variety of grassland birds, allowing sensitive forbs time to rejuvenate between burns, as well as greater fuel load conditions that lead to hotter fires to control woody vegetation. Patch-burn grazing also controls noxious weeds, especially when burning in the fall, which may also be attractive to Buff-breasted Sandpipers migrating south.

Tjalle Boorsma talked about the work that Asociación Armonía (private NGO) is doing to protect critical stopover habitat for grassland shorebirds in the Barba Azul Nature Reserve located in the Beni Savanna of Bolivia. Tjalle noted that most Buff-breasted Sandpipers equipped with satellite transmitters (see above) stopped in the Beni Savanna during southward



migration. Daily counts of the species have been conducted during September between 2014 and 2019, with a single maximum daily count of 1,460 birds observed in 2016. This led to the Barba Azul Nature Reserve being recognized as a Western Hemisphere Shorebird Reserve Network (WHSRN) site in 2015. Armonía is selectively managing the Barba Azul Nature Reserve to attract shorebirds through cattle management and selective burning, while at the same time operating a conservation and eco-tourism business. Finally, Tjalle indicated the Beni Savanna grasslands may be a risk to agricultural development due to government incentives.

Carlos Ruiz-Guerra and Yanira Cifuentes-Sarmiento gave the next presentation about the potential for a new WHSRN site in the Llanos of Colombia and Venezuela. The Llanos includes large areas of wetlands and a heterogeneous savanna ecosystem that is being degraded by intensive cattle ranching and expansion of agriculture. Surveys in the Llanos by *Calidris* members indicated this site is important to many shorebirds, including Buff-breasted Sandpipers. Through extensive interactions with local families and communities, *Calidris* is promoting the nomination of two WHSRN sites, one of which would promote the Buff-breasted Sandpiper.

Next, Sandra Giner discussed the current state of knowledge of the Buff-breasted Sandpiper in Venezuela. Using museum specimens, eBird sightings, published literature, and consultations with birdwatchers, Sandra confirmed the importance of the Llanos and to a lesser extent Amazonas to Buff-breasted Sandpipers during northward migration. Fewer observations occurred during southward migration, and most occurred along the coast.

Juliana Almeida spoke about the conservation efforts and current threats facing Buff-breasted Sandpipers at Lagoa do Peixe National Park in Brazil – an area that hosts ca. 10% of the species. The park has experienced conflicts between the park and community, land ownership disputes, and resource use in the area. The park has faced the threat of losing all of its protective status since 2017. SAVE Brasil and others hosted several workshops that resulted in an action plan to strengthen the park and creation of a coalition of supporters to support the park's existence and conduct projects.

Walter Cejas presented data on the presence of Buff-breasted Sandpipers in Córdoba, Argentina. He noted groups of 5, 13, 125 and 400 individuals southeast of Córdoba as well as eBird observations near Laguna Mar Chiquita. This region of Argentina appears to serve as an alternative wintering site for the species, with some of the birds equipped with tags using this area during the later part of winter.

Following the completion of scheduled talks, Arne Lesterhuis, Rob Clay, and Marc-André Cyr discussed the revision of the 2010 Buff-breasted Sandpiper Conservation plan and the development of Canada's new management plan for the species. Rob point out that this species is of special interest because many of WHSRN sites were nominated based on their numbers. He also advocated for thinking about this species as a “working lands” bird as it allows you to expand conservation to other species. Participants pointed out the 1) problems with invasive species in Uruguay and all-terrain vehicles in Colombia; 2) need for best management practices to allow sustainable ranching and the value of having agronomists involved in our studies; and 3) importance of promoting human well-being when promoting the species conservation. Also

mentioned was 1) need for site-specific management actions (even at the farm level); 2) need for more detailed habitat studies to truly understand the species' needs during all phases of their cycle; 3) lack of knowledge of birds in Russia; and 4) need for more information on post-breeding sites in northern Canada. Questions remain about whether the species uses agricultural areas because grasslands are limited and whether agricultural use harms the species (e.g., the role of no till, exposure to pesticides). Participants also discussed the potential impacts of wind farms (e.g., direct mortality and displacement of birds) and sea level rise on birds. Potential future collaborations included conducting age ratio counts over a large number of sites to assess productivity, an intensive monitoring study in the Llanos of Colombia and Venezuela during northward migration, connecting festivals together along the species flyway, and intensive habitat study in the Texas Coastal Plain during both north and southward migration.



Participants at the 4<sup>th</sup> Buff-breasted Sandpiper Workshop (photo: Fernando Faria).

***North American Banding Council Shorebird Banding Workshop, organized by Cheri Gratto-Trevor***

The fourth North American Banding Council shorebird bander training and certification workshop was held 23 October 2019. NABC's mission is to promote sound and ethical banding principles and techniques. This classwork-only session was chaired by Julie Paquet and involved topics such as: scientific and ethical standards; training and certifications; banders code of ethics, and human health and safety considerations (Jen Rock); shorebird nonbreeding capture including working as a team, reducing risk of injury and capture myopathy, and the use of audio lures (Patricia Gonzalez); visual and electronic markers including coded flags, geolocators, satellite transmitters, nanotags, and their attachment methods (Julie Paquet); feathers and blood

collection, including use, collection methods, and storage (David Mizrahi); and the Pan American Shorebird Program and the importance of shorebird marking coordination (Willow English). During breakout exercises, participants were invited to share, demonstrate and practice some techniques and skills, including use of different band and flag types, correct band placement and application, and band corrections and removal. Including presenters, 16 people attended the workshop. Six participants wrote the NABC shorebird certification exam, and will qualify for certification at the assistant, bander or trainer level once they have met all certification criteria in terms of practical experience for their level, and applied for certification.

***Migratory Shorebird Project Data Analysis Workshop, organized by Matt Reiter, Diana Eusse, and Yenifer Diaz***

A 1.5 day workshop was held to teach Migratory Shorebird Project (MSP) partners how to work with MSP data to ask some basic questions. There were 17 participants representing 9 countries and teachers from Point Blue Conservation Science and Asociación Calidris. Specifically our objectives were to: (1) Understand MSP data types, (2) Review statistical approaches for analyzing MSP data, (3) Match statistical approach to question to be addressed and analysis to be conducted, and (4) Complete initial analyses of data. We used a common data set type to facilitate our initial exploration of the data using R. Participants learned about the general structure of the MSP dataset and what type of analyses they are suited for. Participants from different countries were able to look at their own data and begin the data analysis process to assess their questions of interest at their site. We will be hosting follow-up webinars to continue this training process.



***Migratory Shorebird Project Partner Meeting, organized by Matt Reiter, Diana Eusse, and Yenifer Diaz***

This meeting brought together MSP partners that were attending the WHSG meeting in Panama to (1) Review current state of MSP, (2) Assess opportunities for MSP as climate-smart

conservation science network, (3) Understand recent approaches for considering ecosystem services/multiple benefits across the MSP network - more opportunities? (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.

### ***International Phalarope Working Group side meeting, organized by Ryan Carle and Marcela Castellino***

The International Phalarope Working Group held a 2-hour side meeting during the regular meeting days. This was a follow-up meeting to a two-day inaugural meeting of this group that happened at Mono Lake, USA, in June 2019. The goal of the working group is to bring together those interested in advancing phalarope research and conservation in the Americas to share information and foster collaboration. The side meeting in Panama was an opportunity to spread awareness of the group, bring in more members, and give updates. At the meeting, Ryan Carle and Marcela Castellino gave an overview of what is known about the current conservation status of Wilson's (*Phalaropus tricolor*), Red-necked (*P. lobatus*), and Red Phalaropes (*P. fulicarius*); as well as the activities of the phalarope working group to date, including surveys at North American Salt Lake staging grounds during 2019 and a planned survey across South America in early 2020. Attendees shared updates on phalarope research; topics included satellite tracking Red Phalaropes nesting in the Arctic (Rick Lanctot, Willow English), plans for installing MOTUS towers at key phalarope sites for tracking studies (Margaret Rubega), and phalarope numbers and status in Ecuador (Ben Haase, Ana Agreda), Venezuela (Lermith Torres), and Bolivia (Dennis Comacho Rojas). A charter document officially creating the International Phalarope Working Group was distributed for signing. This group is planning to meet again at the 2021 WHSG conference. Those interested in the group are invited to join by contacting organizers Marcela Castellino ([mcastellino@manomet.org](mailto:mcastellino@manomet.org)) and Ryan Carle ([ryan@oikonos.org](mailto:ryan@oikonos.org)).

## **SYMPOSIUM AND WORKSHOP**

### ***Development of a Flyway-scale Shorebird Conservation Initiative for the Midcontinent Americas, organized by Brad Andres, Isadora Angarita-Martínez, Kelli Stone, David Newstead, and Rob Clay.***

The interior regions of North and South America provide critical breeding, migration stopover and nonbreeding habitat for numerous resident and migratory shorebird species, of which many declining and are species of conservation concern. Habitats in the Midcontinent Americas Flyway are experiencing a suite of ecosystem stresses, which will intensify with climate-related changes. Shorebirds dependent upon this geography are impacted by disturbance, habitat loss and modification and direct mortality. Additionally, agencies, non-government organizations and funders are seeking guidance on the priority actions and outcomes needed to best maintain and recover shorebird populations. Despite these clear biological and conservation needs a comprehensive, full annual cycle strategic framework for shorebird conservation (similar to those in the Atlantic and Pacific flyways) is lacking.

Conversations among shorebird biologists and conservation practitioners from across the Midcontinent Americas regarding this conservation gap led to the decision to develop a flyway-scale initiative that will strengthen and align existing shorebird conservation efforts and facilitate collaboration at the scale necessary to support conservation of shorebirds throughout their annual cycle. Complementing the Atlantic Flyway Shorebird Initiative (AFSI) and the Pacific Shorebird Conservation Initiative (PSCI), a Midcontinent initiative will link to global efforts and national plans within the flyway and provide on-the-ground benefits. A symposium and workshop were held at the WHSG meeting to introduce and launch the initiative, get feedback from partners, and begin addressing some aspects of the development of a strategic conservation framework.

During the symposium, talks were presented to illustrate the biological and conservation needs for a Midcontinent Shorebird Conservation Initiative (MSCI): 1) Shorebird Use of the Midcontinent Region of North America, Brad Andres, USFWS; 2) South American-breeding Shorebirds in the Midcontinent Region of South America, Rob Clay, WHSRN; 3) Use of the Midcontinent Region of South America by North American Shorebird Migrants, Arne Lesterhuis, WHSRN; 4) Management and Conservation of Key Stopover Sites along the Midcontinental Flyway in North America, Robert Penner, The Nature Conservancy; 5) Working with Landowners in the Southern Cone for Shorebird Conservation: Influencing the Management of Grazing and Pasture Restoration, Joaquín Aldabe, Universidad de la República, Uruguay; and 6) Suggested Approach for a Midcontinent Americas Shorebird Conservation Strategy: Filling the Gap” by the symposium organizers. This presentation suggested relying upon a network of engaged shorebird conservation practitioners throughout the flyway, and the use of the Open Standards Practice of Conservation to objectively develop a strategic framework for the Midcontinent Shorebird Conservation Initiative. The time line, suggested funding sources and next steps were also presented.

The final session of the symposium was a moderated discussion to get input and feedback from the approximately 40 participants. The feedback was overall very supportive, with participants providing more evidence for the need of a strategic framework, and stressing what species, geographies and issues should be included.

After the formal meeting, a workshop with 30 shorebird specialists, researchers and conservationists from across the midcontinent Americas was held to determine the focus of the Midcontinent Shorebird Conservation Initiative in terms of geography, conservation targets (focal species), and priority threats. In the workshop, we established the process to develop the Midcontinent Strategic Framework, defined the governance of the initiative and discussed potential funding sources. We also identified stakeholders key to the development of the framework and how to engage them at national and regional scales.

The MSCI in North America includes four focal regions based on the administrative flyways in North America, and considered combinations of Bird Conservation Regions: Arctic and Boreal, Mississippi Valley, Great Plains, and Western Gulf of Mexico. For South America, the MSCI includes regions and habitats not influenced by the tide along the northern and eastern coasts. Seven focal geographies were identified, including: 1) Northern Andes – Andean valleys, wetlands, páramo in Ecuador, Colombia and Venezuela; 2) Orinoco Llanos and Llanos de Mojos/Beni Savanna – plains, wetlands in Venezuela, Colombia and Bolivia; 3) Amazonian-Orinoco Lowlands – riverine bars, banks, and floodplains in Venezuela, Brazil, Colombia, Peru and Bolivia; 4) Central/Southern Andes – puna, altiplano, salt flats, wetlands in Peru, Bolivia,

Chile and Argentina; 5) Gran Chaco/Pantanal in Bolivia, Paraguay, Argentina and Brazil; 6) Pampas in Brazil, Uruguay and Argentina; and 7) Patagonia Steppe in Argentina and Chile.

Twenty-five shorebirds were identified for the MSCl: 7 North American migrants and residents, 9 South American migrants and residents, and 9 transcontinental migrants. The approach used to select them was similar to criteria used in the AFSI and PSCI (i.e., endemic to the flyway, representative of the diversity of shorebirds in the flyway, relative to other conservation planning efforts, viable, feasibly restorable, occur in manageable numbers, and of high conservation concern).

Using the draft list of focal species, North and South American breakout groups worked through the Open Standards for the Practice of Conservation's lexicon to identify a preliminary list of threats within their geographies. Similar to the PSCI, regional workshops will be planned to refine the threat analysis and develop strategies and actions pertinent to the specific focal area.

Sub-committees for North and South America will be formed, with 8-10 members representing focal areas and a variety of agencies and organizations, to assist in workshop planning and implementation and provide technical advice and expertise for strategic framework development. Each sub-committee has a coordinator (K. Stone for North America and I. Angarita-Martinez for South America). A Hemispheric Steering Committee of 4-6 people will provide oversight to ensure consistency and communication between sub-committees and provide a hemispheric perspective. We anticipate a two-year timeframe to develop the strategic framework. The next immediate steps are to secure funding to support workshops, plan and implement regional workshops in 2020 through early 2021.

The workshop was possible thanks to the generous contribution of the U.S. Fish and Wildlife Service, the Conservation of Arctic Flora and Fauna through the Arctic Migratory Bird Initiative, Manomet, Inc., and the Western Hemisphere Shorebird Reserve Network.

## **SYMPOSIA**

***Innovative Approaches to Disturbance Management***, organized by Monica Iglecia, Abby Sterling, and Diego Luna

This symposium provided a transdisciplinary and international context for how human disturbance negatively impacts shorebirds, and strategies for managing these types of threats. Disturbance is a recognized and pressing threat to shorebirds across the Western Hemisphere. Innovative solutions are necessary to address the challenges of long-standing and emerging threats. In this context, innovation was defined as a novel, proactive or reactive solution to a conservation problem that increases the effectiveness, efficiency, or sustainability compared to existing solutions. Areas for innovation include organizational processes like fundraising strategies and good governance but also conservation actions like monitoring protocols, outreach activities, management practices, and partnerships. The objectives of the symposium were to: 1. Review current knowledge of the social drivers and the biological impacts of disturbance to shorebirds, 2. Understand the range of disturbance-related threats that conference participants observe, 3. Generate innovative ideas to reduce disturbance activities.

During the symposium, presentations provided examples of ecological and social science strategies to reduce the negative impacts of human disturbance across the Americas. Presentation topics were organized to provide background information followed up with several case studies. First, Kelsi Hunt of Virginia Polytechnic Institute and State University, presented about the effects of disturbance on the distribution and behavior of shorebirds using data gathered from 8 states along the Atlantic Flyway of the United States across multiple seasons. Bird behavior was impacted and birds were less abundant at sites with high densities of people and dogs, and effects varied by species. Further research examined how birds responded to the stress of highly disturbed areas by examining telomere length. Next, Dr. Ashley Dayer of Virginia Polytechnic Institute and State University shared how social science can be applied to change people's behaviors to improve habitat conservation. Her research involved surveying dog walkers in Maine, New York, and South Carolina to better understand how people make decisions about leashing dogs on beaches. This information can be used in community-based social marketing to change behaviors, set new norms, and guide educational messaging.

Three case studies highlighted innovative approaches to reducing human disturbance. Patricia Gonzalez presented her work with a community in Río Negro, Argentina to manage disturbance caused by kitesurfing through collaboration and open communication. Laura Bartlett presented about the Space to Roost program, a community based approach to protect high tide roost sites in the Bay of Fundy, Canada. And finally, Jonathan Vargas presented about efforts to protect beach nesting birds in Bahía Todos Santos, Mexico with shorebird festivals, nest exclosures, and feral dog removal.

Before and after the symposium, an interactive poster was displayed with four questions, and conference participants were encouraged to respond. During the symposium and following the presentations, participants shared specific disturbance types they had observed or were aware of. The symposium concluded with a group brainstorm session to build a list of innovative, out-of-the-box options to reduce disturbance.

#### Results from the interactive poster and group discussion

*Where do you work and what is your biggest disturbance issue?* - Respondents referenced examples of disturbance in fourteen countries including Argentina, Australia, Brazil, Canada, Chile, Colombia, Costa Rica, Honduras, Mexico, New Zealand, Nicaragua, Peru, The United States, and Venezuela. The most frequently cited disturbance types were loose dogs and cats (15), followed by people and related recreation, tourism, and foot traffic (7), and vehicles on beaches (7). Predator expansion (3), development and habitat loss (3), improper waste disposal (2), fireworks (2), agricultural expansion (2), kayaking/windsurfing (2), hunting (2), and natural gas drilling (1) were also listed.

*What are the most pressing challenges, limitations, and needs for dealing with disturbance?* -

Lack of interest (3), lack of enforcement (3), lack of budget (2), fencing (1), nest stewards (1), vehicles (1), agricultural chemicals (1), lack of processes for participation (1), changing vegetation and sedimentation (1) were reported.

*What are some innovative ways that you have seen for managing disturbance?* - Responses varied but some of the most common responses included approaches that involved 1. Youth through signs, youth-led outreach programs, or involved schools and parents, 2. Community participation through presentations and training and educational events, volunteers at sites,

cooperative agreements, and ‘citizen’s arrest’ programs where citizens can report disturbances via social media, 3. Closing critical areas, and 4. Sharing information through songs and videos on television, radio, and social media.

*In a no limits world, what would you do to try to reduce disturbance?* - The most frequently suggested strategy for reducing disturbance was the creation of seasonal or permanent closures (18), followed by having stewards or patrol at every site (10), media campaigns (7), providing attractive alternative areas for human and pet recreation (5), sterilizing and/or control feral dogs and cats (4), create shorebird-specific zones specifically for shorebirds (4), training kids to be messengers to the public (3), not allowing vehicles on beaches (3), studying predator movements (2), and having government and policy level support (2).

Some particularly innovative suggestions included: 1. Invest in marketing to appeal to people who might not ever care about wildlife, and related ideas to play advertisements in movie theaters and through social media influencers that make bird-friendly activities cool, or develop a fun and catchy tune or slogan to be played year round on television and radio, and 2. Develop a whistle that attracts all dogs to you and away from birds.

A key take away from the brainstorming activity to identify innovative ways to manage human disturbance was that even when given the opportunity to think outside of normal limitations to conservation work, it was difficult to come up with new ideas. It is plausible then, that it would benefit the conservation community to reach beyond our own networks to incorporate voices and thinking from other disciplines and fields to help us identify alternative strategies to managing the threat of disturbance.

PDFs of presentations are available at this link:

<https://drive.google.com/drive/folders/1zvN3ERmPYOvhKGB0nTOHPx1kAtU4NNmC?usp=sharing>

More information about efforts to address disturbance will be available at the Shorebird Forum ([www.shorebirdforum.org](http://www.shorebirdforum.org)). We invite those interested to contribute to the conversations at that site.

***Snowy Plovers: integrating behavior, ecology, and conservation***, organized by Luke Eberhart-Phillips and Clemens Küpper

The Snowy Plover is a threatened shorebird that has been studied for many decades throughout North and Central America. Many populations across the species’ range are intensively monitored, and a significant proportion of these rely on active management to maintain population viability. Apart from being a public icon of shorebird conservation, Snowy Plovers have also increasingly captured the spotlight for their intriguing ecology and life-history. Their unusual biology features a rare breeding behavior characterized by highly dispersive polyandry and male-biased uniparental care. Despite excellent local studies, many aspects about basic Snowy Plover biology remain unknown. These knowledge gaps ultimately hamper the development of improved conservation.

Our symposium aimed to bring together the diverse people who study Snowy Plovers throughout the western hemisphere and provide them a platform to discuss range-wide challenges, share exciting findings, and bridge knowledge gaps in a collaborative setting. In total, the symposium featured eleven speakers representing snowy plover research conducted in the USA, Mexico, Venezuela, and Ecuador, including:



- Gabriela Iburguchi, *Conservation Program Manager, San Diego Zoo Global, USA*, “Environmental change, natural history and long-term trends of threatened Western Snowy Plover populations in California”
- Ben Haase, *Director of the Museo de Ballenas, Salinas, Ecuador*, “Population trend of the Snowy Plover in southwest Ecuador”
- Matt Reiter, *Principal Scientist, Point Blue, USA*, “Average and extreme weather conditions affect annual survival in Western Snowy Plovers”
- Luke Eberhart-Phillips, *Postdoc, Max Planck Institute for Ornithology, Germany*, “Individual variation in dispersal and migration strategies of Snowy Plovers”
- Abby Darrach, *Mississippi Coastal Bird Stewardship Program, Audubon, USA*, “Status and distribution of Snowy Plovers in Mississippi”
- Kristen Vale, *Texas Coastal Program Coordinator, American Bird Conservancy, USA*, “Snowy Plover nesting success at the central and lower Texas coasts”
- Gianco Angelozzi-Blanco, *Student, Universidad de Oriente, Núcleo Nueva Esparta, Venezuela*, “New site proposal for the WHSRN in Venezuela based on Snowy Plovers: Salina de San Pedro, Isla de Coche”
- Martin Bulla, *Postdoc, Max Planck Institute for Ornithology, Germany*, “Nest initiation and flooding in response to season and semi-lunar spring tides in a ground-nesting shorebird”
- Krisztina Kupán, *Postdoc, Max Planck Institute for Ornithology, Germany*, “Desertion as last resort? What can the time of leaving the family tell us about Snowy Plovers”
- Medardo Cruz-López, *PhD student, Universidad Nacional Autónoma de México, Mexico*, “Allelic diversity and selection at the Major Histocompatibility Complex class I and class II in the Snowy Plover, a threatened shorebird”
- Clemens Küpper, *Research Group Leader, Max Planck Institute for Ornithology, Germany*, “Well stirred, not shaken: Snowy Plover genetics and conservation”

Over the course of a morning and an afternoon session during the second day of the WHSG meeting in Panama City, this symposium discussed a wide range of topics that generally fit into the themes of population dynamics, conservation, breeding ecology, and genetics. In summary, annual monitoring efforts have resulted in thousands of color-banded Snowy Plovers across extensive latitudinal and longitudinal gradients – a largely untapped resource for range-wide investigations. Furthermore, recent technological advances in conservation genomics and movement ecology have the potential to offer valuable insights into population connectivity and source-sink dynamics. However, it is clear that there is a continued need for active management of coastal populations being impacted by human disturbance, invasive species, and predation.

We are at the dawn of a new era for Snowy Plover research – a time in which valuable progress could be achieved by kindling a Pan-American network of researchers and conservationists. We envision that studying the Snowy Plover at the hemispheric scale is a promising avenue now ready for exploration. Encouragingly, our symposium has fostered several collaborative research and conservation projects of this charismatic shorebird throughout its range. We eagerly look forward to the next meeting!

***Creating wings for new actors: Tools to involve communities in conservation***, organized by Laura Chamberlin and Mirta Carbajal

Threats to shorebirds are often addressed and resolved directly by landowners and land managers, but often the participation of nearby communities is key to achieving progress in conservation. Traditional environmental education has long been a critical way to build conservation values within communities that will drive an environmental ethic. However, in many situations, action is needed for creative and innovative programs that lead to conservation action from communities. This symposium was an opportunity to share experiences and provide guidance in development of similar projects.

An introductory presentation reviewed a step-by-step process to integrate community engagement activities into conservation actions focusing on four types of community engagement activities - volunteer programs, education, advocacy, or social marketing. The remaining nine presentations from Colombia, Perú, Panamá, Chile, Argentina, and Paraguay shared their experiences setting objectives and indicators, planning, managing volunteers, fundraising, coordinating a participatory process, lessons learned, and results. Presentations shared real tools and highlighted details that would allow for easy replication at other sites.

Presentations included:

- Introduction to Community Engagement for Shorebird Conservation; Laura Chamberlin, WHSRN Executive Office – Manomet.
- Involving the community in the conservation of Asuncion Bay, a key stopover for migratory birds in Paraguay; Belén Achon (presented by Lorena Sforza), Gurya Paraguay.
- How do we develop the tools that inspire and engage the community in the conservation of San Antonio Bay; Lic. Mirta Carbajal, Fundación Inalafquen.
- Pride campaigns and bird fairs as tools for engaging communities in the conservation of shorebirds; Claudio Delgado, Fundación Conservación Marina.
- Governance in a World Heritage Site; Soledad Díaz Ovejero, ANP – Chubut.
- Collective construction of a school curriculum to learn about shorebirds and about the territory; Patricia Falk-Fernandez, Calidris.
- Projects to share scientific information about wetlands and shorebirds of Magallanes region, Chile; Jessica Paredes Soto, Centro Bahía Lomas.
- Tools used to set a festival in the Eten Wetlands, Lambayeque, northern coast of Peru; Fabiola Riva Melofiro, Corbidi.
- The Bird Route; Camilla Schilling.
- Pilot projects of Marea Verde Association to improve solid waste management in coastal Panama; Watemberg, Marea Verde Association.
- Muralism as a strategy for the integration of communities in the conservation of birds in Coche Island, Venezuela; Josmar Marquez, Ave Zona. *(unable to attend WHSG meeting, but presentation was recorded and shared in forum)*

After the case study presentations, an open discussion focused on opportunities to stay more connected, especially to share resources and assist partners with starting new projects. Presentations were shared on the Shorebird Forum ([www.shorebirdforum.org](http://www.shorebirdforum.org)), in the Community Engagement and Shorebird Festivals forums. Participants were invited to continue the discussion in the forum.

Finally, it was noted during the discussion that there has been growing interest in community engagement activities during recent Western Hemisphere Shorebird Group Meetings. In the past

six years, synergy and collaborative work among different sites has continued to evolve since the first festival symposium in Santa Marta, Colombia in 2013. This increasing interest highlights the importance of working with communities to incorporate human dimensions in conservation.

***Implementing Key Strategies from the Shorebird Conservation Flyway Initiatives***, organized by Brad Andres, Isadora Angarita-Martinez, Rob Clay, River Gates, and Catherine Hickey

Effective actions to conserve shorebirds and their habitats require coordinated flyway-scale conservation initiatives. The Atlantic Flyway Shorebird Initiative and Pacific Shorebird Conservation Initiative were developed to assemble and synthesize current knowledge to create a comprehensive approach for addressing the most pressing conservation needs of shorebirds along the Atlantic and Pacific coasts of the Americas. While shorebird conservation is our primary goal, we also developed actions to address multiple benefits, including improving the wellbeing of the human communities that interact with shorebirds. Each initiative identified a set of key strategies to achieve the goal of maintaining and restoring shorebird populations across the hemisphere.

The symposium's goals were to: 1) build knowledge among science and conservation practitioners by highlighting a diversity of successful conservation programs and projects that implement the respective initiatives' strategies; 2) demonstrate how research and conservation programs collaborate to achieve shared goals; 3) illustrate how shorebird conservation projects can tie into larger conservation initiatives; and 4) discuss barriers and risks to success. The presentations were organized by the key strategies to: 1) manage and conserve existing habitats; 2) cultivate and empower conservation constituencies, 3) create conservation initiatives with natural resources industries, 4) strengthen compliance and enforcement, 5) develop environmental and wildlife protection policies, 6) provide future shorebird habitats, and 7) increase institutional knowledge and capacity.

In addition to the 14 presentations delivered by partners (see list below), we used the last hour for a moderated panel discussion. Isadora Angarita moderated a three-member panel discussion with the following themes: ***Larger Frameworks*** led by Diego Luna (WHSRN) focused on reiterating the existence of national shorebird plans and how they are a pathway to larger scale initiatives and funding opportunities, including engaging with the Convention on Migratory Species. ***Scaling Up*** led by Rob Clay focused on how we most effectively scale-up projects and programs to increase their conservation impact; and ***Adaptive Learning*** led by Juliana Almeida (SAVE Brasil) focused on applying lessons learned from presentations and audience.

#### Presentations

- Improving Management for Shorebirds in and around Paracas National Reserve, Perú – Fernando Angulo, CORBIDI
- Finding Avenues for the Implementation of Improved Coastal Sediment Management Techniques to Benefit Shorebirds – Brad Winn, Manomet
- Empower Sustainable Community Management of Mangrove Habitat for Shorebirds and other Natural Resources Linked to Livelihoods – Patricia Falk, Asociación Calidris
- Cultivate and Empower Ancestral Users to Protect Critical Shorebird Habitat in the Jambeli Channel – Ana Agreda, Aves y Conservation

- Community Engagement and Stewardship to Reduce Disturbance of Shorebirds – Walker Golder, Audubon North Carolina
- Environmental Education as a Tool for Shorebird Conservation in Panama – Yenifer Diaz, Audubon Society of Panama
- Opportunities and Challenges for Shorebird-friendly Shrimp Farming in the Gulf of Fonseca, Central America – Salvadora Morales, WHSRN
- Guidelines for Assessment and Monitoring of Wind Farm Impacts on Birds in Southern Brazil – Glayson Bencke, Zoobotanical Foundation of Rio Grande do Sul
- Approaches for Setting Regulations to Achieve Sustainable Shorebird Harvest in the Atlantic Americas Flyway – Brad Andres, USFWS
- Integrating Shorebird Data into National and International Policy Initiatives to Support Conservation – Rob Clay, WHSRN
- Flooding to Flyway: Strategies for Tracking and Assessing Impact of Changing Shorebird Habitats – Matt Reiter, Point Blue Conservation Science
- Multiple-benefit Conservation of Shorebirds in the Highly-managed Landscape of California’s Central Valley – Kristin Sesser, Point Blue Conservation Science
- Migratory Shorebird Project: Increasing Capacity for Shorebird Conservation through Monitoring and Application of Data – Diana Eusse, Asociación Calidris
- Bay of Fundy Conservation Partnership – Garry Donaldson, Environment and Climate Change Canada

### Lessons Learned and Recommendations

The importance of building trust within communities and working from the ground up to create support for shorebird conservation was a major theme both within the symposium presentations and the discussion following the symposium. Presenters gave valuable examples about how to engage communities surrounding important shorebird areas, build trust within the community, use shorebirds to help improve the quality of life for the community members, and scale up conservation efforts from the community-level to regional and flyway scales.

Participants generated several recommendations for increasing community engagement: 1) develop a clear vision, mission, and strategy prior to engagement; 2) understand how benefits to shorebirds translate to human society; 3) identify and cultivate the most influential partners within the community, 4) strengthen communication to sustain relationships through time; and 5) create both active and passive opportunities to engage a wide cross-section of society.

Scaling up and planning for the future will be accomplished by building a functional network of partners regionally, nationally, and internationally to use resources more effectively; supporting national initiatives and international agreements to increase capacity and invest in human capital; and developing monitoring and evaluation methods that meet established standards to increase participation and enable larger scale analyses.

Three general recommendations emerged from the symposium: 1) design a framework for increasing the efficiency of communication among local, national and international scales; 2) determine how to increase the sustainability of projects and programs in the face of fluctuating funding, political change and social unrest and transition of key staff or influential partners; and 3) increase knowledge and awareness of social, economic, and cultural factors to more

effectively engage communities, stakeholders, politicians and other actors in the conservation of shorebirds and their habitats.

*Assessing the status of shorebirds breeding in Latin America and the Caribbean*, organized by Arne Lesterhuis and Rob P. Clay

Of the 79 shorebird species that regularly occur in Latin America and the Caribbean, 35 have breeding populations. Although many of these species have relatively small populations and restricted distributions, limited attention has been paid to their conservation status (though six species are considered Near Threatened at a global level). The results of a preliminary status assessment of South American breeding shorebirds conducted following the methodology of Brown *et al.* (2000) were presented at the IV WHSG meeting in Vancouver, Canada, in 2011. In 2013, at the V WHSG meeting in Santa Marta, Colombia, a workshop was held to review these preliminary results. Here, workshop participants highlighted the lack of population estimates as a significant impediment to completing a status assessment. Since then, the authors have generated population estimates for all breeding species and subspecies, by using data available through eBird and from recent survey efforts (e.g. Coastal Shorebird Survey; International Shorebird Survey; Migratory Shorebird Project; Neotropical, Central American, and Caribbean waterbird censuses).

Given these new draft population estimates, a workshop was held during the VIII WHSG meeting to review an updated preliminary status assessment of the 35 shorebird species breeding in Latin American and the Caribbean. About 40 participants attended the workshop, from at least 10 countries from the region, representing governmental organizations, NGOs, and universities. The workshop started with presentations on related topics including a review of breeding shorebird in Colombia presented by Carlos Ruíz-Guerra and Yanira Cifuentes-Sarmiento. They highlighted the lack of information on the conservation status of the four *Gallinago* species that breed in the Colombian Andes and which face serious threats due to habitat loss and degradation. Although in general information on breeding species is still scarce, an increased interest in shorebirds at the national level (in part stimulated by training workshops) is resulting in filling knowledge gaps, especially in regard the distribution of species.

The revised status assessment was conducted once again following the methodology of Brown *et al.* (2000), but updated based on the recent assessment of Canadian shorebirds of conservation concern (Hope *et al.* 2019). Variables considered included Population Trend, Relative Abundance (population size), Threats during Breeding and Non-breeding, and Breeding and Non-breeding Distribution. A sixth variable focusing on the potential impact of climate change to species (Galbraith *et al.* 2014) was not considered, but was discussed with workshop participants, who considered it important to include this variable in future assessments. However, they felt that the methodology will need to be adapted to better represent the issues related to climate change in the region.

The status assessment resulted in two species being considered Highly Imperiled, six considered of High Concern, 17 of Moderate Concern, five of Low Concern and five of Least Concern. These results are similar to those from the workshop during the V WHSG meeting in Santa Marta, Colombia, however, at the time slightly more species were considered of High Concern. The difference between the two preliminary assessments reflects increased knowledge rather than a genuine improvement in the conservation status of any species.

Workshop participants considered the draft population estimates to be a good first step, but there is a need for review at the national level to incorporate information not available through international censuses or eBird, in addition to local expert opinion. It was proposed that participants take advantage of national conferences to organize workshops to review the estimates. Consequently, by the next WHSG meeting, estimates for all species would be revised and agreed upon. The final result will be a publication on the status of shorebirds of Latin America and the Caribbean.

#### Literature cited

Brown, S., C. Hickey, B. Gill, L. Gorman, C. Gratto-Trevor, S. Haig, B. Harrington, C. Hunter, G. Morrison, G. Page, P. Sanzenbacher, S. Skagen and N. Warnock (2000) National Shorebird Conservation Assessment: Shorebird Conservation Status, Conservation Units, Population Estimates, Population Targets, and Species Prioritization. Manomet Center for Conservation Sciences.

Galbraith H, DesRochers DW, Brown S, Reed JM. 2014. Predicting Vulnerabilities of North American Shorebirds to Climate Change. PLoS ONE 9(9)

Hope, D.D, C. Pekarik, M.C. Drever, P.A. Smith, C. Gratto-Trevor, J. Paquet, Y. Aubry, G. Donaldson, C. Friis, K. Gurney, J. Rausch, A.E. McKellar & B. Andres. 2019. Shorebirds of conservation concern in Canada – 2019. Wader Study 126(2): 88–100.

#### ***World Migratory Bird Day: Protect Birds: Be the Solution to Plastic Pollution in the Americas***, organized by Miguel Matta and Susan Bonfield

World Migratory Bird Day (WMBD) is a global celebration that blends impactful conservation messages, compelling activities for youth and adults, with more than 700 global events every year. In 2019, WMBD theme promoted on the impacts of plastic pollution to migratory birds and challenged participants to join plastic cleanups around the world and to reduce plastic use. As a result, more than 850 global community-based activities, education programs, and festivals occurred through all the year. Participants learned about successful experiences and presentations from different regions, discussed how to make a practical field trip, and drafted a regional action plan where they recognized some participants. The symposium worked with the participants to train them about plastic cleanups and restoration of habitats, and they returned to their countries with sufficient educational materials to carry out a WMBD's celebration. Every year Environment for the Americas provides the framework for events, promotional and educational materials and direct training in multiple languages, with our partners, the Convention on Migratory Species and the Agreement on the Conservation of African-Eurasian Migratory Waterbirds.

#### ***The integration of sectors and disciplines for effective coastal conservation: status and opportunities in Latin America***, organized by Osvel Hinojosa-Huerta and Viviana Ruiz-Gutierrez

Coastal ecosystems are under increasing pressure all along the Pacific coast of the Americas, causing detrimental effects on populations of migratory shorebirds and valuable ecosystem services for coastal communities. One of the key elements required to target these challenges is the implementation of evidence-based solutions that integrate multiple sectors (private,

governmental, non-government, academia, etc.) and disciplines (science, conservation, engineering, landscape architecture, etc.). On the one hand, there is a strong need to integrate scientific knowledge and conservation values into formal coastal planning and design process. Similarly, conservation targets need to integrate future scenarios of climate risk assessments and adaptation guidelines. In this symposium, we explored the current status of such initiatives across spatial scales and sectoral perspectives. First, we presented a diverse set of case studies of solutions that integrate these sectors and perspectives, followed by a discussion of future opportunities for actions to foster cross-sectoral collaborations. Lastly, we summarized opportunities and approaches for strengthening the implementation of a network of solutions along the Pacific Americas Flyway.