

LESSER YELLOWLEGS



ANNUAL
REPORT

2022

Strengthening Conservation of Lesser Yellowlegs – 2021-2022 Annual Report

Executive Summary:

The Lesser Yellowlegs (*Tringa flavipes*) is designated as a species of high conservation concern because of significant population declines during the past several decades. At the current 2.7% annual rate of range-wide decline, a reduction from 400,000 to 300,000 individuals could occur in as few as 10 years. Regional populations that are declining at rates as high as 9% annually may be reduced by 60% as soon as 2032. These statistics emphasize the urgency to identify causes of decline and the actions needed to limit them.

One year ago, we embarked on a collaborative, international effort that set into motion range-wide conservation and management actions for Lesser Yellowlegs. The Knobloch Family Foundation provided crucial funding that greatly accelerated our progress on Lesser Yellowlegs conservation. This report highlights our accomplishments over the past year.

We created a Steering Committee and an International Working Group that built new and strengthened existing partnerships among stakeholders, which will increase communication among practitioners and researchers to increase conservation interventions for Lesser Yellowlegs. We hired Kelly Srigley Werner, a conservation professional with decades of experience partnering with private landowners, as part-time coordinator of our Working Group. In addition, we have initiated essential research to fill important information gaps. Two research projects led by graduate students Court Brown and Shelby McCahon will provide much needed estimates of vital rates that will shed light on population dynamics and evaluate effects of agricultural practices, including pesticides, at key non-breeding areas. Furthermore, we are working with shorebird researchers in Argentina's Pampas to identify hotspots in need of protection. Finally, our engagement with international partners continues to make progress toward achieving sustainable harvest using an adaptive and socially-just framework.

We could not have achieved this year's successes without the support of the Knobloch Family Foundation and the Road to Recovery Initiative. We look ahead toward reaching the next milestones on the path of recovery.

Lesser Yellowlegs Steering Committee,
Brad Andres, Katie Christie, Jim Johnson, Natalia Martinez-Curci, & Kelly Srigley Werner

KNOBLOCH
FAMILY FOUNDATION



✓ ***Initiate a working group to strengthen partnerships with scientists and stakeholders.***

Conservation and management actions that are developed without input from end-users may suffer from a lack of acceptance and durability. Therefore, our first step toward developing open communication and regular engagement among stakeholders was to hire Kelly Srigley Werner as part-time coordinator of the newly formed Lesser Yellowlegs International Working Group. Kelly recently retired from the USFWS where she served as the Missouri State Coordinator for the U.S. Fish and Wildlife Service's (USFWS) Partners for Fish and Wildlife Program.

Kelly's first action was to coordinate and guide our inaugural Lesser Yellowlegs recovery workshop and international working group meeting in conjunction with the Western Hemisphere Shorebird Group conference. Nearly 40 researchers, social scientists, land managers, and policymakers from across the Western Hemisphere attended the virtual four-hour workshop. Highlights included presentations on the status, biology, information gaps, and human dimensions. We also introduced and discussed threat result chains generated by the Midcontinent Shorebird Conservation Initiative.



Furthermore, we are pleased to announce the newest member of the Steering Committee — Dr. Natalia Martinez-Curci. Natalia is a shorebird biologist with Argentina's National Scientific and Technical Research Council (CONICET) and has extensive experience with conservation issues in South America and in particular, Argentina's Pampas, which is a critically important wintering area for Lesser Yellowlegs.

Finally, our team has increased awareness of Lesser Yellowlegs by participating in several other conferences and workshops, published peer-reviewed articles, maintained a wetland-focused citizen science program, and developed interpretive signage at two key recreational wetlands in Anchorage, Alaska.

Next steps:

- Continue to hold regular working group meetings to establish and strengthen communication among stakeholders. (2023–ongoing)
- Increase engagement with Joint Ventures, Flyway Nongame Technical Committees (i.e., states), and international conservation and management organizations. (2023–ongoing)
- Increase awareness of Lesser Yellowlegs by pursuing support for RARE campaigns directed at shorebird friendly agricultural practices in the PPR and Pampas. (2023–ongoing)
- Identify actionable objectives from existing flyway initiatives and conservation plans. (2023)

✓ ***Estimate vital rates to understand population dynamics.***

Accurate vital rate estimates (e.g., fecundity and survival) are essential to understanding species' population dynamics and are used to project future populations, determine the effects of management decisions on population dynamics, and contribute to adaptive harvest models and integrated population models. Vital rates, however, are lacking for Lesser Yellowlegs. This objective aims to estimate vital rates of Lesser Yellowlegs breeding at Churchill, Manitoba, during a four-year period. This study compliments an ongoing, similar effort in Alaska, and will allow comparison between breeding populations at low (Alaska) and moderate (Manitoba) risk of harvest.

Court Brown, a MSc student at Trent University, completed his first year of fieldwork at Churchill, Manitoba, in 2022. Court located nests and monitored their survival. He also conducted habitat surveys in known nesting locations and at random points, allowing him to examine nest site selection based on vegetation characteristics, plant communities, foraging habitat, and predation risk. In addition to nesting habitat surveys, systematic double-observer abundance surveys were conducted in the study area. Lastly, Court's team captured and banded adults and chicks so that they can be resighted in the future to estimate survival. Court's study compliments a multi-year demography study in Anchorage and Fairbanks, Alaska, funded by Alaska Department of Fish & Game, USFWS, and Department of Defense that will provide nest success and adult survival data. Data from these studies will be combined into an integrated population model, which will provide insight as to what demographic rates are most important in limiting population growth for Lesser Yellowlegs.



Next steps:

- Continue estimating vital rates of birds breeding at Churchill. (2023-2024).
- Complete survival estimates of Alaska populations (2023).
- Incorporate results from Alaska and Canada into an Integrated Population Model (2025).

✓ ***Evaluate the effects of agricultural practices in the Prairie Pothole Region.***

Lesser Yellowlegs frequently rely on agricultural areas during migratory and non-breeding periods, which puts them at risk of pesticides, herbicides, and other farming practices that reduce the quality and extent of wetland habitats. For this objective, we will determine exposure and physiological effects of neonicotinoids in relation to migratory behavior in the Prairie Pothole Region (PPR). In addition, we will synthesize information available on abundance, distribution, and habitat use in the PPR to inform site protections (likely through easements) and modifications to agricultural practices that would benefit Lesser Yellowlegs and other shorebirds.

Shelby McCahon, a MSc student at the University of Idaho, completed her second field season in North and South Dakota. Shelby measured each bird's body condition and collected blood and feather samples to determine concentrations of neonicotinoids. She collected water samples to document the amount of variation in neonicotinoid concentrations among wetlands used by migrating Lesser Yellowlegs. Shelby also conducted habitat surveys at each wetland to identify key wetland characteristics (e.g., porosity, number of wetland connections, area, and presence of vegetation buffer). The number of birds present at each wetland was recorded to determine relationships between shorebird abundance and wetland characteristics. Lastly, Shelby used scan sampling to conduct behavioral surveys on shorebirds across study sites to quantify foraging behavior and refueling rates in different habitats.



Next steps:

- Return to the PPR to collect additional data on body condition and contaminant levels in birds and wetlands during 2023 spring and fall migratory periods. (2023)
- Identify favorable wetland conditions for Lesser Yellowlegs in the PPR, estimate loss of habitat, and determine which wetlands are most at risk based on their susceptibility to drought and agricultural conversion. (2024)

✓ ***Addressing sustainability of Lesser Yellowlegs harvest.***

A recent re-evaluation of prescribed take level indicated that Lesser Yellowlegs have been and remain to be overharvested in the Caribbean and northern South America. Furthermore, overharvest is likely having a disproportionate effect on populations occurring in the eastern portion of the species' breeding range. The Atlantic Flyway Shorebird Initiative's Harvest Working Group was established in 2011 and continues to provide a communication forum for cooperative action for sustainable hunting of shorebirds in the region. The following successes are a result of international partnerships among several governmental, non-governmental, and private stakeholders.

Suriname. Although harvest of shorebirds is illegal, more shorebirds are likely harvested in Suriname than any other jurisdiction in the Caribbean and northern South America. After years of working to find a means to support the Suriname Nature Conservation Division, New Jersey Audubon Society and the Green Heritage Fund were able to finance hunter training programs, law enforcement patrols (equipment, field stipends), and reporting modernization during project period. An investment of \$80,000 US was made from USFWS/USAID to support these activities. Additional future funding will enable broader outreach to hunters and increased law enforcement patrols. Investments in Suriname are critical for achieving a sustainable harvest of Lesser Yellowlegs in the Caribbean and northern South America.

Barbados. In 2009, the Woodbourne Shorebird Refuge was established as a demonstration "no-shooting" reserve for shorebird and waterbird conservation in Barbados. Since then, Woodbourne has been managed as a wetland refuge for migrant shorebirds and continues to be highlighted as an example of how to transition shooting swamps into no-shooting refugia. Daily surveys during fall migration indicate that Lesser Yellowlegs are the most abundant species at Woodbourne; they also constitute 60% of the harvest on Barbados. During the project period, \$50,000 US was expended to maintain Woodbourne and monitor the harvest in Barbados. Funding is needed to annually support the operation of Woodbourne, and additional funding is needed to transition former shooting swamps into no-shooting refuges. Partners on Barbados have already been working to identify key sites for wetland reserves.

Next steps:

- Secure funding for a graduate student project to determine the socio-economic characteristics of the shorebird harvest along the coast of Guyana and continue BirdLife International-sponsored outreach effort (ongoing).
- Complete analyses of harvest in Brazil and Martinique. Use the MOU established among the French Office of Biodiversity, Canadian Wildlife Service and USFWS to use management tools to address the shorebird harvest on Guadeloupe and Martinique. Secure funding to continue hunter outreach program and regulation compliance in Suriname, in conjunction with the Nature Conservation Division and Green Heritage Fund (ongoing).

PRODUCTS

We are committed to increasing awareness of our conservation and management efforts. The following communications include our working group agenda and select presentations and publications.

Conservation Actions for Lesser Yellowlegs (*Tringa flavipes*) in the Americas: Western Hemisphere Shorebird Working Group Workshop Agenda

Objective: To facilitate the formation of a range-wide working group and development of an action plan for the Americas with multiple stakeholders using a co-production strategy involving both biological and social sciences and landowners in recovering the species by collaboratively increasing awareness and communication, developing public/private alliances, and diversifying land manager abilities to increase conservation capacity. This strategy of co-production will help serve as an actionable model to also frame the approach for other species on the Road to Recovery (R2R).

Presentations.....

Workshop introduction	Kelly Srigley Werner, Coordinator
Conservation Status including threats, declines and information needs for Lesser Yellowlegs	Rob Clay, Manomet, Inc.
Flyway-Scale GPS Tracking: Uncovering the Lesser Yellowlegs' Migratory Mysteries	Laura McDuffie, USGS
Lesser Yellowlegs in South America: key habitats, population trends, threats and research priorities	Natalia Soledad Martinez, CONICET
Survival of Lesser Yellowlegs breeding in Anchorage, Alaska from 2010 to 2022.	Katie Christie, ADFG
Demography of a declining Boreal Shorebird the Lesser Yellowlegs in Churchill Manitoba	Court Brown, Trent University
Evaluating the effects of neonicotinoids and habitat loss on Lesser Yellowlegs in the Prairie Pothole Region	Shelby McCahon, University of Idaho
Lesser Yellowlegs Harvest in the Caribbean and Northern South America	Brad Andres, USFWS (retired)
Human Dimensions in Conservation Practice and Program Enrollment Decisions	Cheryl Wachenheim, Univ. of N.D.

Open Discussion.....

Biological and Social Expertise Cheryl Wachenheim & Katie Holland

Building a Dream Team for the Working Group Cheryl Wachenheim & Katie Holland

Group Discussion:

Threat Analysis and prioritization of solutions.....

Using a Road to Recovery Framework for
Lesser Yellowlegs Conservation

Kelly Srigley Werner

- Formation of the Lesser Yellowlegs Working Group
- Co-Production of both biological and social science to get on-the-ground results

Prioritizing the Threats for subgroup formation

Brad Andres

Biological and social implications are having an impact on Lesser Yellowlegs populations and the species faces many threats as do shorebirds overall. Through a process known as Open Standards for the Practice of Conservation (POC) 80+ professionals and practitioners have discussed threats to shorebirds and laid out solutions to address the threats. We will discuss the outcomes of these threat 'result chains' and relate them to Lesser Yellowlegs to become laser focused on choosing the top most urgent threats with the objective of forming Task Teams for each to help reverse declines. What we would like to achieve during this session:

- Brief overview of the Open Standards POC result chains specific to Lesser Yellowlegs
- Discussion of the highest priorities

Formation of a Lesser Yellowlegs Working Group

Kelly Srigley Werner

- Group discussion around a draft Working Group Structure modeled after a Recovery Team structure (we can provide examples).
- Identifying additional stakeholders
- Makeup of Task Teams to specifically tackle the 3-5 top threats (Task Teams should use SMART Objectives to begin charting ways to address threats). Would you be willing to serve on a task team to address these threats?

Additional Presentations

Johnson, J.A. 2021. Turning the tide: implementing conservation solutions that benefit the Lesser Yellowlegs. Road to Recovery, 3rd Workshop.

McDuffie, L.A.,...J.A. Johnson. 2021. A year in the life of a Lesser Yellowlegs; The trials and tribulations of a declining shorebird species. Tanana Valley Crane Festival. Fairbanks, Alaska.

McDuffie, L.A.,...J.A. Johnson. 2021. Migration ecology and harvest exposure risk of Lesser Yellowlegs. Kachemak Bay Shorebird Festival. Homer, Alaska.

McDuffie, L.A.,...J.A. Johnson. 2021. Migration ecology and harvest exposure risk of Lesser Yellowlegs. Trent University, Peterborough, Ontario.

McDuffie, L.A.,...J.A. Johnson. 2020. Migration ecology and harvest exposure risk of Lesser Yellowlegs. Road to Recovery Workshop 2.

McDuffie, L.A.,...J.A. Johnson. 2020. Migration ecology and harvest exposure risk of Lesser Yellowlegs. Atlantic Flyway Shorebird Initiative Harvest meeting.

McDuffie, L.A.,...J.A. Johnson. 2020. Migration ecology and harvest exposure risk of Lesser Yellowlegs. Alaska Shorebird Group annual meeting.

Publications

Andres, B.A., L. Moore, A.R. Cox, B. Frei & C. Roy. 2022. A preliminary assessment of shorebird harvest in coastal Guyana. *Wader Study* 129(1): 39–47.

AFSI Harvest Working Group. 2020. Actions for the Atlantic Flyway Shorebird Initiative's Shorebird Harvest Working Group 2020–2025. U.S. Fish & Wildlife Service, Migratory Bird Program, Falls Church, VA, USA.

Buehler, D.M. 2022. Spotlight: Shorebird hunting in Guyana. *Wader Study* 129(1): 3–5.

McDuffie, L.A., K.S. Christie, A-L. Harrison, A.R. Taylor, B.A. Andres, B. Laliberté & J.A. Johnson. 2021. Eastern-breeding Lesser Yellowlegs are more likely than western-breeding birds to visit areas with high shorebird hunting during southward migration. *Ornithological Applications* 124:1–16.

McDuffie, L.A., K.S. Christie, A.R. Taylor, E. Nol, C. Friis, C.M. Harwood, J. Rausch, B. Laliberte, C. Gesmundo, J.R. Wright & J.A. Johnson. 2022. Flyway-scale GPS tracking reveals migratory routes and key stopover and non-breeding locations of lesser yellowlegs. *Ecology and Evolution*. <https://doi.org/10.1002/ece3.9495>

Rivera-Milán, F.F., B.A. Andres & J.A. Johnson. In Review. Reevaluating the potential take level of Lesser Yellowlegs *Tringa flavipes* in Latin America and the Caribbean. *Wader Study*.

