Actions for the Atlantic Flyway Shorebird Initiative's Shorebird Harvest Working Group 2020–2025

Background

In 2016, the Atlantic Flyway Shorebird Initiative's Harvest Working Group developed *A Plan to Address the Sustainability of Shorebird Harvest in the Western Atlantic Flyway*, as a step-down set of actions from the AFSI Business Plan. The overall goal of the plan is to achieve a sustainable shorebird harvest, while meeting the cultural and subsistence needs of people who use the shorebird resource. In July 2019, the working group held a workshop in Guadeloupe to share information and assess progress. This document presents a summary of actions identified at the workshop, and through subsequent discussions, to work toward the plan's goal over the next five years. Working group members are provided, by jurisdiction, in Appendix 1.

Building on the conceptual model of shorebird hunting in the Western Atlantic Flyway (Figure 1), several key strategies were developed, and subsequently expanded, to address illegal and unsustainable harvest. These eight primary strategies remain relevant to describe the main actions undertaken during 2020–2025:

1) assess biological and social aspects of harvest;
2) develop policies and regulations;
3) strengthen law enforcement and monitor compliance;
4) improve outreach and communication;
5) establish and maintain no-shooting reserves;
6) build capacity of partners;
7) evaluate interventions and shorebird response; and
8) develop incentives to not hunt.

Based on current information, we assigned coarse estimates of shorebirds harvested in targeted jurisdictions, provided a qualitative estimate of the reliability of the harvest estimate, and suggested a trend in hunting pressure (Table 1).

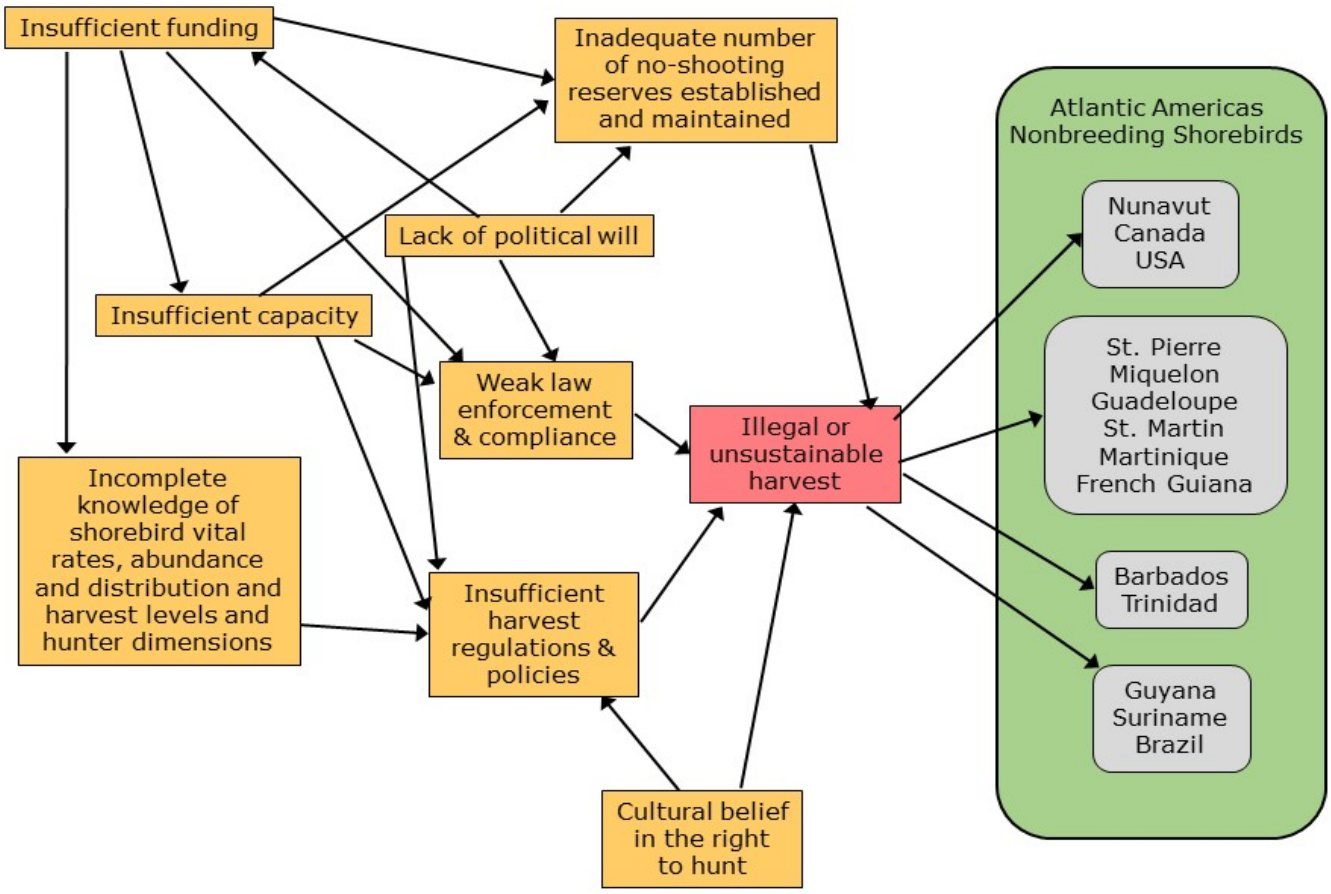

Figure 1. Slightly revised conceptual model for shorebird harvest/take in eastern Canada, the Caribbean and northern South America. Gold boxes indicate contributing factors to the threat of illegal or unsustainable hunting (pink). Green boxes/ovals are shorebird conservation targets identified in the AFSI Business Plan (see AFSI Business Plan 2015 for details).

Table 1. Percent of annual shorebirds harvest (total = 177,000 shorebirds), reliability of the estimate, and trends in hunting pressure for jurisdictions in the Caribbean and northern South America (long-distance migrants, not including American Woodcock or Wilson's Snipe).

Jurisdiction	Approximate Annual Shorebird Harvest		Reliability	Harvest Trend
	range	%		
Northern Alaska	200 – 400	0.2%	very good	declining
Arctic Canada	small numbers	-	unknown	unknown
Saint-Pierre/ Miquelon	400 – 500	0.3%	moderate	declining
Eastern Canada/USA	800 – 1,200	0.6%	poor	declining
Guadeloupe/ Saint-Martin	2,100 – 5,400	2.3%	good	declining
Martinique	9,100 – 12,700	6.2%	good	stable
Barbados	9,000 – 10,000	5.4%	very good	declining
Trinidad & Tobago	0 – 1,000	0.3%	good	declining
Guyana	7,500 – 12,500	5.6%	poor	declining
Suriname[1]	73,500 – 182,100	72.2%	moderate	increasing?
French Guiana	3,000 – 7,000	2.8%	very poor	unknown
Northern Brazil	5,000 – 10,000	4.2%	moderate	declining
All areas	110,900 – 243,100			
All areas outside of Suriname	37,400 – 61,000			

[1] Two methods were used to estimate harvest in Suriname. The first generated a range of 34,000 to 73,500 shorebirds and the second a range of 182,087 to 1,541,522 shorebirds. For now, we used the high end of the range of the first method and the low end of the range of the second estimate.

Based on the conceptual model, the risk of the contributing factors to achieving a sustainable shorebird harvest (see Appendix 2 for definitions) was assessed as high (3), medium (2) or low (1) for jurisdictions in the Caribbean and northern South America (Table 2) and were combined with coarse harvest levels to identify high priority actions and jurisdictions. New and continuing actions were also identified for North America. The focus is on long-distance, migrant shorebirds that cross several international boundaries. Scientific, French, and English names are provided in Appendix 3 along with indicators of harvest levels by region.

Table 2. Assessment of contributing risk factors relative to the risk of achieving a sustainable shorebird harvest in the Caribbean and northern South America.

Contributing risk factor[1]	**Guadeloupe Saint-Martin**	**Martinique**	**Barbados**	**Trinidad & Tobago**	**Guyana**	**Suriname**	**French Guiana**	**Northern Brazil**
Political will	L	L	H	L	H	H	L	H
Institutional capacity & funding	L	L	M	M	H	H	M	H
Economic societal wellbeing	L	L	M	L	H	M	L	H
Socio-cultural attitudes	M	M	M	L	H	H	M	M
Biological/social information gap	M	M	L	L	M	M	H	M
Inadequate no-shooting reserves	H	H	M	M	H	L	M	L
Insufficient laws & policies	L	M	M	L	H	L	L	M
Weak compliance/ enforcement	L	L	M	M	L	H	M	L
Overall Risk	12	13	16	11	21	18	14	17
Risk * p(harvest)	0.28	0.81	0.86	0.03	1.18	13.0	0.39	0.71
Without Suriname Risk * p(harvest)	0.98	2.89	3.09	0.11	4.26		1.43	2.58

[1] Risk factors were scored as Low (1), Medium (2) or High (3); a higher score means that a risk factor poses more challenges to achieving a sustainable shorebird harvest.

High Priority New Actions and Continued Effort, 2020-2025

Suriname

Suriname has the greatest harvest of long-distance migrant shorebirds in the Western Hemisphere, despite being illegal. There are about 30,000 hunters, and 10-15% hunt shorebirds. Although funding has been available to expand law enforcement and to build hunter education programs, there is little governmental political will and low non-governmental organizational capacity to take advantage of available funding from North America. Suriname and the United States are party to the *Convention on Nature Protection and Wild Life Preservation in the Western Hemisphere*, which explicitly addresses the cooperative conservation of migratory birds. Almost the entire coast of Suriname is designated as a Nature Reserve or Multi-use Management Area. However, illegal activities occur in these protected areas and management plans are not implemented.

1. Use international governmental and nongovernmental mechanisms to convince the national government to invest in shorebird conservation. Link to high profile endemic/resident species.

2. Achieve objectives of current funded projects for hunter education and law enforcement.

3. Conduct a robust analyses (i.e., Bayesian modelling) to provide greater certainty about harvest levels in Suriname.

4. Evaluate project results and secure additional funding with the support of the Suriname national government.

Stakeholders: Ministry of Spatial Planning, Land and Forest Management; Suriname Conservation Foundation; New Jersey Audubon Society; Friends of Suriname Nature Conservation; U.S. Fish and Wildlife Service; Conservation International; U.S. Embassy.

Guyana

Migratory shorebirds are provided no legal protection in Guyana. Occurrence of harvesting of shorebirds by shocking wires, and occasionally other methods, in villages along the coast of eastern Guyana in 2017–18 is reduced greatly from that in the early 2000s. However, harvest during fall migration (August to mid-November) may still exceed 10,000 shorebirds. All harvested shorebirds are consumed and are used primarily for commercial purposes, by either directly filling orders or selling at established market

stalls. Some shorebirds are harvested for personal use. The national government appears to have little interest in regulating shorebird harvest and there are no coastal protected areas along the eastern coastline, which is favored by shorebirds. The government is pursuing mangrove restoration and shoreline hardening to combat sea-level rise. Offshore oil production is increasing due to recent discoveries.

1. Collect additional, robust biological data to estimate harvest from mid-August to mid-November. Investigate the cultural use of shorebirds as a food.

2. Monitor changes to Guyana's mudflats with respect to development and climate change mitigation projects.

3. Increase capacity to develop conservation actions for coastal natural resources, including shorebirds. Scope potential funding from offshore oil companies (ExxonMobil, Tullow Oil plc, Rystad Energy, Repsol).

Stakeholders: Leon Moore Nature Experience; U.S. Fish and Wildlife Service; Environmental Protection Agency Guyana; University of Guyana.

Brazil

In Brazil, hunting is an illegal activity but can be considered legal if, for example, it is for subsistence purposes. In developing the Brazilian National Action Plan for Migratory Shorebirds, specialists differed in their opinions on the threat of hunting to shorebirds but agreed that shorebird harvest should be evaluated. Interviews were conducted recently in 43 communities located in 18 protected areas within the northern states of Maranhão, Pará and Amapá; these three states contain 1,979,167 ha of coastal protected or management areas. Shorebird harvest rates are much lower now (thousands) than they were in the 1970s and 1980s (tens of thousands), likely due to 1) creation of sustainable use protected areas along the coast of Maranhão and Pará states, 2) improvement of Brazilian economy and implementation of social policies, and 3) environmental education and enforcement conducted by the federal and state environmental agencies and collaborators in the region.

1. Conduct a robust analyses (i.e., Bayesian modelling) to provide greater certainty about harvest levels in northern Brazil.

2. Assess harvest rates at communities within Reentrâncias Maranhenses (which is state managed) that are located outside of the Federal protected area RESEX Cururupu.

3. Develop harvest monitoring and awareness campaigns to ensure low rates of shorebird harvests are maintained in northern Brazil, particularly in regards to changing economic conditions.

4. If shorebird harvest increases, explore non-governmental options to offset lower economic conditions in rural communities.

Stakeholders: SAVE Brasil; Instituto Chico Mendes de Conservação da Biodiversidade; Protected Areas staff; local communities; state environmental agencies.

Trinidad & Tobago

The Forestry Division, Wildlife Section of the Ministry of Agriculture, Land and Fisheries is responsible for issuing hunting permits, monitoring hunting, and enforcing regulations. In 2016, amendments to the Conservation of Wild Life Act removed all shorebird species from the schedule of allowable species, and a ban on hunting all waterbirds was enacted in 2019. Shorebird hunting is likely uncommon and opportunistic and currently does not appear to be a conservation issue. Caroni Swamp is the only protected area and forest reserve is the western side of the island, which is where most shorebirds occur. Training for monitoring shorebirds has been conducted in conjunction with the Caribbean Waterbird Census.

1. Monitor for any policy changes that would increase shorebird harvest in Trinidad.

Stakeholders: Ministry of Agriculture, Land and Fisheries; Trinidad and Tobago Field Naturalists' Club; BirdsCaribbean; Gebauer & Associates.

Barbados

The number of active shooting swamps on Barbados and the harvest of shorebirds have declined substantially in the last decade. Reductions in harvests are due to actions recommended by the Barbados Wildfowlers Association and external factors such as water policy, gun possession regulations and ammunition costs. In 2019, members of five shooting swamps harvested about 9,000 shorebirds. With the decline in maintaining wetlands for hunting, there is a need to continue to manage artificial wetlands to provide habitat for passage shorebirds. The government has a minor role in the management of harvest and providing protected areas and habitat for passage shorebirds. No public protected areas for shorebirds exist

on Barbados. All shooting swamps, either active or inactive, are privately owned.

1. Annually manage and maintain Woodbourne Shorebird Refuge to benefit shorebirds.

2. Maintain, and perhaps enhance, the ability of Fosters and Congo Road Swamps to support passage shorebirds as a no-shooting reserve.

3. Monitor shorebird response to management at the reserves above and at Chancery Lane and Congo Road wetlands.

4. Develop outreach materials to support and finance a shorebird site network.

5. Assess feasibility to establish other no-shooting wetland reserves.

Stakeholders: Shorebird Conservation Trust; Broomfield Ltd.; Congo Road, Chancery Lane owners; Ministry of Environment and Drainage; Birding the Islands, Ltd.; BirdsCaribbean; BirdLife International; Canadian Wildlife Service; U.S. Fish and Wildlife Service.

Overseas Departments and Collectivities of France

<u>French Guiana</u>

Only recently (2015) has French Guiana afforded legal protection to the majority of migratory shorebirds in the department. In 2017, legislation was passed to require a license for hunting. To obtain a license, hunters must successfully take an examination that tests knowledge of hunting, the forest environment, species, and gun safety (starting in February 2020). There were 8,000 permits issued in 2019, and the license will need to be validated each year (no cost). About 500 license holders hunt shorebirds. A medical certification is needed to receive a license. There is not an elected departmental hunting federation in French Guiana, but are organized locally. Regional and National Nature Reserves along the coast, but also extending inland, cover 736,500 ha. Among these reserves, however, only the Amana Nature Reserve (14,800 ha surrounding the rice fields of Mana) is a hotspot for shorebirds. Since most of the coastline is inaccessible for hunters, the lack of protected areas there does not represent a high risk for birds. Farther east along the coast, the Grand Connétable Island Nature Reserve is used as a resting site by migrating shorebirds. By law, the government, through the agency Conservatoire du Littoral, has first right of refusal to purchase any coastal lands that come up for sale. Using this mechanism, they are

acquiring portions of the Mana rice fields, which are an important site for passage and wintering shorebirds. Shorebird hunting occurs in this region, but the magnitude of the harvest is unknown. Although there is some resistance, hunters in Mana will be required to keep log books of their harvest and others who volunteer.

1. Implement the training needed to obtain a hunting license. Conduct special shorebird training with hunters around Mana, likely in 2020.

2. Develop communication and outreach materials to increase awareness among the Mana hunting community.

3. Assess the magnitude of the shorebird harvest along the coast, particularly around the Mana rice fields.

4. Acquire additional parcels of the Mana rice fields.

5. Develop a management plan, relative to Conservatoire du Littoral ownership, for the Mana rice fields that benefits shorebirds.

6. Monitor shorebird population in and around the Mana rice fields.

7. Develop cooperation between the Conservatoire du littoral land managers and the national reserve of Amana, in particular for law enforcement.

8. Perhaps provide feather samples for Lesser Yellowlegs Canada/USA study.

Stakeholders: Office français de la biodiversité (OFB; formerly ONCFS); Groupe d'Étude et de Protection des Oiseaux en Guyane; Conservatoire du Littoral; Parc Naturel Régional de Guyane (PNRG); local hunting community; Canadian Wildlife Service

<u>Guadeloupe and Saint-Martin</u>

Reductions in the number of allowable hunting days and the setting of daily bag limits have been instituted since the 2013 season. These recommendations supported by the Departmental Federation of Hunters of Guadeloupe have almost certainly reduced shorebird harvest, perhaps to a significant extent. The federation has 2,900 members, of which 30% hunt shorebirds. The French Biodiversity Office (OFB) conducted bag checks in the Port Louis swamp from 2014 to 2017. They have also established the *Guadeloupe and Northern Islands Shorebird Network*, with the purpose of

establishing a communication network among stakeholders to support shorebird conservation. The 200-300 hunters on Saint-Martin follow recommendations instituted on Guadeloupe. Several informational brochures on shorebird natural history and conservation have been produced and distributed to federation hunters (and on Martinique). An assessment of coastal areas and compliance with laws was completed by Conservatoire du Littoral and a permit, with a 20€ fee, will be required in 2020 to hunt in coastal areas. With the concurrence of the Federation, a license will only be issued if a hunter supplies his/her logbook to OFB.

1. Continue to communicate with the Fédération Départementale des Chasseurs de la Guadeloupe.

2. Maintain and expand the Guadeloupe and Northern Islands Shorebird Network. Hold meetings at least once a year.

3. Continue and expand harvest assessments to estimate island-wide on Guadeloupe and Saint-Martin.

4. Complete manuscript on analysis of hunting in the Port Louis swamp (grant requirement).

5. Install and maintain of MOTUS towers in Guadeloupe and Saint-Martin.

6. Initiate shorebird surveys in Saint-Martin.

7. Monitor Wilson's Plover population in Guadeloupe through a banding project.

Stakeholders: Fédération Départementale des Chasseurs de la Guadeloupe; Office français de la biodiversité (OFB); Levesque Birding Enterprise; AMAZONA; Conservatoire du Littoral; Canadian Wildlife Service.

<u>Martinique</u>

Members of the Departmental Federation of Hunters of Martinique (1,500 members, of which about 21% hunt shorebirds) can hunt shorebirds for a total of 205 days from July to February each year. Bag limits only exist for Whimbrels and Hudsonian Godwits, which are three birds per day per hunter for each species and a season limit for both of 15 birds. Until recently, hunter logbooks had not been analyzed to estimate harvest, and no other method has been used to estimate harvest. Hunters join local associations (19 that hunt waterbirds) that lease or own wetlands for hunting (21 lots).

1. Expand analysis of logbooks to estimate shorebird harvest.

2. Depending on the outcome of harvest analysis, consider use of harvest management tools.

3. Develop specific procedures for collecting feathers from Lesser Yellowlegs for projects with Canada/USA.

4. Implement bird-banding training to engage federation members and other stakeholders (2020).

5. Install and maintain a MOTUS tower.

6. Initiate shorebird surveys in hunting zones versus no-hunting zones.

Stakeholders: Fédération Départementale des Chasseurs de la Martinique; Office français de la biodiversité; Conservatoire du littoral; Canadian Wildlife Service.

Saint-Pierre and Miquleon

About 530 hunters are members of the Fédération Départementale des Chasseurs du Territoire de Saint-Pierre et Miquelon, and about 300 members hunt waterbirds. Aside from Whimbrel and Wilson's Snipe, most hunters harvest shorebirds opportunistically while hunting waterfowl. Hunting of six long-distance migrant shorebirds (Black-bellied Plover, American Golden-Plover, Whimbrel, Short-billed Dowitcher, Greater Yellowlegs, and Lesser Yellowlegs) is allowed from 31 August to 29 December. Note that French names in the arrete (ministerial ruling) do not match those in the AOS Checklist. There are no bag limits for any species. The annual harvest is likely <1,000 individuals, of which 50% may be Wilson's Snipe. The Grand Barachois on Miquelon-Langlade, an important area for shorebirds, is closed to hunting as is some areas along the coast of Saint-Pierre

1. Update the estimate of the harvest.

2. Install and maintain a MOTUS tower.

Stakeholders: Fédération Départementale des Chasseurs du Territoire de Saint-Pierre et Miquelon; Office français de la biodiversité; Conservatoire du Littoral; Canadian Wildlife Service.

Canada/USA

Only Wilson's Snipe and American Woodcock (*Scolopax minor*, Bécasse d'Amérique) are harvested by sport hunters in Canada and the USA, although subsistence harvest by indigenous people is allowed in Canada and Alaska (permitted through an amendment to the US-Canada Migratory Bird Treaty). Between 2013 and 2017 in Canada and the USA, an average of 104,582 hunters harvested 236,788 (196,442–277,133) American Woodcock, and 21,682 hunters harvested 76,892 (37,941–115,844) Wilson's Snipe. The majority of harvest occurs in the USA (89–96%). Some incidental harvest is made by hunters during allowable seasons and likely numbers ≈1,000 shorebirds in the Western Atlantic Flyway. Some illegal harvest of Whimbrels did occur in eastern Canada but has been reduced or eliminated through outreach to blueberry growers and local communities. Little is known about subsistence shorebird harvest by First Nations in eastern Canada, although the harvest in the interior is likely negligible. Harvest in northern Alaska is minimal (276 shorebirds; 171–381) and consists primarily of small shorebirds.

1. Determine the shorebird harvest by indigenous communities in Nunavut, Northwest Territory and Yukon Territory in Canada.

2. Continue outreach to blueberry growers and local communities to minimize disturbance to and take of Whimbrels in the Acadian Peninsula, New Brunswick, Canada.

3. Convene meeting in eastern Canada, and perhaps St. Pierre/Miquelon, among French, Canadian, and USA partners in 2020.

Stakeholders: Canadian Wildlife Service; U.S. Fish and Wildlife Service; indigenous communities; blueberry growers; and local communities.

Flyway-wide

1. Maintain communication and coordination of the AFSI Harvest Working Group.

2. Continue coordination among the Canadian Wildlife Service, French Office of Biodiversity, and U.S. Fish and Wildlife Service via their Memorandum of Understanding.

3. Update accomplishments report and publish summary.

4. Work with Cornell Laboratory of Ornithology to develop video media on shorebird harvest.

5. Continue to develop identify potential funding sources, develop proposals and track matching contributions.

Stakeholders: Canadian Wildlife Service; U.S. Fish and Wildlife Service; indigenous communities; blueberry growers; and local communities.

References

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Atlantic Flyway Shorebird Initiative Business Plan. 2015. Available at www.atlanticflywayshorebirds.org.

Appendix 1. Atlantic Flyway Shorebird Initiative Harvest Working Group members, 2020.

Barbados
- Wayne Burke – Shorebird Conservation Trust
- Ryan Chenery – Birding the Islands
- John Webster – independent

Brazil
- Albert Aguiar – SAVE Brazil
- Juliana de Bosi Almeida – SAVE Brazil

Canada
- Yves Aubry – Canadian Wildlife Service
- Martin Gebauer – Gebauer & Associates (Trinidad)
- Benoit Laliberté – Canadian Wildlife Service
- Julie Paquet – Canadian Wildlife Service
- Cynthia Pekarik – Canadian Wildlife Service
- Christian Roy – Canadian Wildlife Service

Ecuador
- Ian Davidson – BirdLife International (hemisphere)

French Guiana
- Olivier Claessens – GEPOG
- Roland Eve – GEPOG
- François Korysko – Office français de la biodiversité

Guadeloupe/Martinique
- Anatoli Bec-Canet – Office français de la biodiversité
- Pierre Coquelet – Office français de la biodiversité
- Charlotte Francesiaz – Office français de la biodiversité, Recherche et Expertise, France
- Anthony Levesque – Levesque Birding Enterprise

USA
- Brad Andres – US Fish and Wildlife Service
- David Mizrahi – New Jersey Audubon (Suriname)
- Jessica Rozek Canizares – BirdsCaribbean
- Lisa Sorenson – BirdsCaribbean
- Audrey Taylor – University of Alaska Anchorage
- Bryan Watts – College of William & Mary

Appendix 2. Definitions of factors that are risks to achieving a sustainable shorebird harvest in the Caribbean and northern South America.

Political will	Lack of political will by governments to prioritize shorebird conservation, through agency capacity, or provide operational funds to enforce existing statutes or policies.
Institutional capacity & funding	The non-governmental conservation community lacks the capacity and funds to deliver public-private shorebird conservation.
Economic societal wellbeing	Economic wellbeing of citizens place a demand on harvested shorebirds, for either personal use or commercial sale.
Socio-cultural attitudes	Beliefs and attitudes of citizens or organized hunting groups about harvest hamper action.
Biological/social information gaps	Reliable information on biological and social components of harvest is unavailable.
Inadequate no-shooting reserves	Protected areas for shorebirds to avoid harvest pressure are too few or inadequately maintained.
Insufficient laws & policies	Legal protection for shorebirds or their habitats is absent or insufficient.
Weak compliance/ enforcement	Existing laws and policies are not enforced routinely or systematically.

Appendix 3. Scientific, French, and English names of shorebird species and their index of harvest (1 = low, 4 = high) in the Caribbean and northern South America.

Species	**French Name**	**English Name**	**Caribbean Islands**	**Northern South America**
Pluvialis squatarola	Pluvier argenté	Black-bellied Plover	2	1
Pluvialis dominica	Pluvier bronzé	American Golden-Plover	3	
Charadrius semipalmatus	Pluvier semipalmé	Semipalmated Plover		2
Numenius phaeopus	Courlis corlieu	Whimbrel	2	2
Limosa haemastica	Barge hudsonienne	Hudsonian Godwit	1	
Calidris himantopus	Bécasseau à échasses	Stilt Sandpiper	3	1
Calidris alba	Bécasseau sanderling	Sanderling		2
Calidris minutilla	Bécasseau minuscule	Least Sandpiper		2
Calidris fuscicollis	Bécasseau à croupion blanc	White-rumped Sandpiper		2
Calidris melanotos	Bécasseau à poitrine cendrée	Pectoral Sandpiper	3	2
Calidris pusilla	Bécasseau semipalmé	Semipalmated Sandpiper		4
Limnodromus griseus	Bécassin roux	Short-billed Dowitcher	3	
Gallinago delicata	Bécassine de Wilson	Wilson's Snipe	2	
Tringa flavipes	Petit Chevalier	Lesser Yellowlegs	4	4
Tringa semipalmata	Chevalier semipalmé	Willet	2	3
Tringa melanoleuca	Grand Chevalier	Greater Yellowlegs	3	2