

A. Title of Proposed Project

INCREASING CAPACITY FOR CARIBBEAN WETLANDS CONSERVATION: A TRAINING WORKSHOP FOR MONITORING, EDUCATION AND CONSERVATION

B. Cover letter signed by the authorized representative of the firm.

Please see attached cover letter.

C. Contact Information of the Firm

Name of Firm: Society for the Conservation and Study of Caribbean Birds (SCSCB)

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D. (In case of association) Contact information of Associated Firm(s)

Not applicable

E. Project Summary: An abstract of the proposal (200 words or less) both in English and Spanish. It should include the title of the project, geographic location, a brief description of the rationale, goal(s), objectives, specific project activities, target decision-makers, beneficiaries, and expected products.

The Society for the Conservation and Study of Caribbean Birds (SCSCB) proposes the project **“Increasing capacity for Caribbean Wetlands Conservation: a Training Workshop for Monitoring, Education and Conservation.”** In 2009 SCSCB’s Working Groups (including Monitoring, Waterbirds, Seabirds, and West Indian Whistling-Duck and Wetlands), collaborated with several international agencies to host SCSCB’s first monitoring workshop in Bahamas, funded by the Western Hemisphere Migratory Species Initiative. One of the recommendations of the final report was that further development of and training in the new Caribbean Waterbird Census (CWC) methodology was urgently needed. This proposal addresses this recommendation through final development of a CWC manual and the implementation of a regional wetlands conservation training workshop. The workshop will provide training in bird surveys, threats assessment, outreach and education, and the application of data to wetland management. Also it will seek to provide participants with the skills needed to promote and apply the provisions of the Ramsar Convention and Special Protected Area and Wildlife (SPAW) Protocols. Target audiences will include senior decision-makers, protected area and project managers, field biologists, educators, volunteers, and international organizations. Products will include a training manual for the CWC and new approaches for promoting wetland conservation to decision-makers. Efforts will be made to promote distance-learning techniques and on-line access to materials.

F. Project description (Maximum sixteen pages) - A description of the proposed outcome (product) of the project.

1. Rationale¹:

The Caribbean region, formed by an archipelago of more than 7,000 islands and islets, occupies the fifth position in the list of the world's 25 biodiversity hotspots. This region is only surpassed in number of species and endemism by the tropical regions of the Andes, Sundaland, Madagascar and Brazil's Atlantic Forest. Three percent of endemic vertebrates world-wide are of Caribbean origin, given that 51% of the region's 1,518 vertebrate species are endemic. Birds, with 668 reported species, form the largest group of vertebrates. Of these, 148 species (22%) are endemic to the region, with 105 species being restricted to single islands (Myers *et al.* 2000).

The Caribbean avifauna includes 218 Neotropical migrants; 133 (61%) of these species rely on wetlands (e.g., coastal mangroves) or terrestrial habitats associated with wetlands as wintering or stopover sites (see Appendix 1). These include many migrant warblers (such as Northern Waterthrush and Prothonotary Warbler) as well as species such as Osprey, Kingfishers and a variety of waterbirds. Some of these species spend as much as eight months of the year in the region. In addition, many resident species utilize wetlands or wetland-associated habitat, including seabirds, shorebirds, waterfowl, wading birds and marsh birds.

In spite of the critical importance of Caribbean ecosystems for resident and migratory bird species, only 11.3% of the region's primary vegetation remains (29,840 km² of 263,500 km²). This dramatic habitat loss has been mainly related to activities of a highly dense human population, estimated in 37.5 million, with an annual growth rate of approximately 2.5%. Losses of wetlands have been particularly severe and the few surviving wetlands are increasingly under threat as more land is used for tourism, agriculture, cattle raising, and urban development or lost to sea level rise. In addition to these threats, Caribbean wetland fauna and flora are affected by competition with invasive species, illegal hunting and trade, as well as the regular passage of hurricanes and tropical storms that destroy prey resources, and nesting, roosting and foraging sites. The unsustainable use of Caribbean natural resources and climate effects, which have already threatened 56 resident species with extinction, also represent a challenge for the conservation of Neotropical migrants on migration and on their wintering grounds.

The need for management programmes for the protection and restoration of wetland habitats in the Caribbean is rapidly increasing as the pressures affecting them will increase

¹ This proposal addresses two of the Priority Areas set out in Section IV of the Request for Proposals: **1. Subject Area: Monitoring & Evaluation** - Audiences: Park Personnel, Protected Area Managers, Technical Conservation Personnel, Local NGOs, Upper Level Students
4. Subject Area: Environmental Education and Outreach (public awareness, communication and extension skills) Audiences: Teachers, Local NGOs, Community Leaders and Education Government Officials" and we would add Protected Area Managers.

rapidly as a result of climate change. While monitoring the number of species and individuals using resources can be used to assess the outcomes of these programmes, it can also provide an opportunity to implement adaptive or ecosystem-based management practices. Being highly diverse, easy to detect and better known than other vertebrate groups, bird species are the best available indicators of overall habitat quality.

The importance of wetlands and birds has been recognized in several international and regional conventions, including the Ramsar Convention and the Special Protected Areas and Wildlife (SPAW) Protocol of the Cartagena Convention and. The SPAW protocol obliges signatories on ratification to manage selected wetland species (including mangroves and several bird species). The Ramsar Convention stresses wise use of wetlands and uses the numbers and diversity of wetland birds as a criterion for inclusion of sites. There are large gaps in the coverage of both conventions. Only nine Caribbean jurisdictions are signatory to Ramsar². The draft Caribbean Waterbird Plan identified the need to get more countries to accede to Ramsar, to add sites and manage existing sites better (SCSCB 2003). Similarly only six countries (plus France, Netherlands, UK and USA) have ratified the SPAW Protocol.

One of the reasons for lack of support for these conventions is lack of capacity to carry out the basic science needed to assess sites and design and implement measures (including monitoring and management plans). There is also general lack of awareness among decision makers and the general public regarding the many functions and values of wetlands—the vital role that wetland ecosystems play in mitigating natural catastrophes (e.g. coastal zone protection, flood damage control) and safeguarding human health (e.g., water supply, sediment and nutrient trap), the resources that wetlands provide (e.g., fish, lobsters, conch, shrimp, crabs, honey, firewood, timber, wild game, biodiversity), and the actions that can be taken to protect, restore and use wetlands sustainably. Education is essential to raise local awareness about wetlands and allow people to make informed choices about their local environment and sustainable development.

The Society for the Conservation and Study of Caribbean Birds has a long-standing commitment to wetland conservation, through its *West Indian Whistling-Duck and Wetlands Conservation Project*, as well as its Waterbirds, Seabirds and Monitoring Working Groups. Activities implemented have included development of *Wondrous West Indian Wetlands: Teachers' Resource Book* for Caribbean educators, which has been translated into French and Spanish and is being distributed throughout the Caribbean in Wetlands Education Training Workshops³.

² Bahamas, Cuba, Dominican Republic, Jamaica, Netherlands, Netherlands Antilles, Saint Lucia, Trinidad and Tobago and UK (which covers United Kingdom Overseas Territories in the Caribbean). All together there are 28 sites in 12 islands (Bahamas, Cuba, DR, Jamaica, Aruba, Bonaire, Saint Lucia, Trinidad and Tobago, Bermuda, British Virgin Islands, Cayman Islands, Turks and Caicos Islands).

³ The mission of the West Indian Whistling-Duck (WIWD) and Wetlands Conservation Project is to reverse the decline of the globally threatened WIWD and the continuing loss and degradation of wetlands throughout the West Indies. Since publication of the resource book in 2002, a total of 3,483 teachers and natural resource staff have been

Companion materials (wetland and seabird identification cards, mangrove identification booklet, wetlands field trip notebook, posters, coloring books, etc. and a waterbirds plan for the region have also been developed (e.g. Sorenson 2008, SCSCB 2003).

SCSCB also worked closely with BirdLife International (BLI) in the identification of Important Bird Areas (IBAs) in the region (BirdLife International 2008). Many Caribbean IBAs include wetlands. In cooperation with SCSCB, BLI is continuing to work to develop Island Waterbird Reports for every island in the Caribbean. Each of these reports identifies major gaps in information for wetlands throughout the region (e.g. Levy and Koenig 2009).

In February 2009, the Society for the Conservation and Study of Caribbean Birds hosted a regional workshop entitled “Long-term Bird Monitoring in the Caribbean – Why, What, Where and How?” This workshop was funded by WHMSI, Royal Society for the Protection of Birds and US Fish and Wildlife Service and supported by many other organizations. One of the recommendations made in the final report on the project (Haynes-Sutton 2009) was that SCSCB should promote work in partnership with Wetlands International (WI) to establish the Caribbean Waterbird Census (CWC), which would complement WI’s other wetland census activities (like the Neotropical Waterbird Census in South America) and SCSCB’s wetland conservation programmes. SCSCB is working with WI to adapt the methodology.

The CWC will provide a simple methodology to monitor all waterbirds and their habitats throughout the region and to generate information that can be rolled up to measure national and regional trends. It can also be used in support of international conventions such as the Ramsar Convention and the SPAW Protocol. Information generated by the CWC can be used by habitat managers to improve wetland management as well as at a national level for system planning and zoning.

2. Project Goals and Objectives:

Goal:

To strengthen conservation for migratory species in the Caribbean through the development of a cadre of persons trained in the development, promotion and implementation of a region-wide waterbird and habitat monitoring programme.

Objectives:

- Increase capacity for implementation of the Caribbean Waterbird Census (CWC) that was conceived at the WHMSI Training Workshop in Nassau, Bahamas in 2009 (Haynes-Sutton and Sorenson 2009) and related monitoring, education and management activities, based on an agreed capacity-building strategy.

trained in 138 workshops in 17 Caribbean countries. For more information on the project, visit: www.eco-index.org/search/results.cfm?projectID=979 and www.whistlingduck.org.

- Host a regional workshop to train Caribbean trainers in the application of the CWC methodology, and to educate them in the use of SCSCB's education and outreach materials.
- Design materials to support the implementation of the CWC.
- Promote the implementation of the SPAW Protocol and the Ramsar Convention.

3. Project Activities and Methodologies:

Project implementation will consist of the following:

Activity 1. Formulate Capacity Building Strategy

Output 1.1 Design a capacity building strategy

In order to ensure that the workshop addresses the root causes affecting the implementation of wetland surveys for migratory water bird species and their habitats and the application of the results of such surveys to wetland conservation, SCSCB will engage SCSCB's regional conservation monitoring coalition that was established to support the previous workshop in February 2009 in Nassau, Bahamas. It includes many international and non-governmental organizations such as Wetlands International (WI), US Fish and Wildlife Service (USFWS), Cornell Laboratory of Ornithology, Royal Society for the Protection of Birds (RSPB), Klamath Bird Observatory, US Forest Service, The National Aviary, BirdLife International (BLI), Optics for the Tropics, the USDA International Institute of Tropical Forestry (ITF) and The Nature Conservancy (TNC). Representatives from many local NGOs and agencies are also part of the coalition including the Bahamas National Trust, National Environment and Planning Agency (Jamaica), Turks and Caicos Islands National Trust, Stinapa (Bonaire), Amazona (Guadeloupe), St. Croix Environmental Association, Hispaniolian Ornithological Society, Puerto Rican Ornithological Society (to name a few), and Ministries of Forestry and Wildlife. In addition we will engage the United Nations Environment Programme, the Ramsar Secretariat, Oak Hammock Marsh Interpretive Centre and others. We will work through the coalition to develop a regional capacity building strategy for implementation of the CWC, based on the SCSCB's existing (but more general) capacity building strategy for monitoring (Haynes-Sutton and Sorenson 2009), including long-term sustainability, institutional strengthening and applicability to other regions. The coalition will also assist with project design, implementation and sourcing additional funding.

Output 1.2 Design and compile training materials

Training materials will be designed for use at the workshop and downloading. They will include newly-created materials plus materials adapted from SCSCB's extensive repertoire of existing materials. They will include the CWC training materials and manual, as well as other materials related to Ramsar and SPAW and SCSCB's wetlands education programme (including bird identification cards, teachers' workbook and many others). A new component will be materials designed to educate and influence decision-makers.

Output 1.3 Design online learning products and services to allow retrieval of training materials prepared as part of Output 1.2.

Making sure that materials produced for the workshop can be accessed by people who cannot attend is an important objective for SCSCB. As part of our activities for the previous WHMSI workshop we established a mechanism that works well, which uses ConserveOnline workspaces and www.scsb.org. As technology is constantly improving, we will also ask our coalition partners to help to develop innovative new ways of sharing the training materials.

Activity 2: Implementation

Output 2.1 Conduct training through a one-week workshop

Through our previous activities SCSCB has determined the need for a cadre of Caribbean wetland monitors (“Subject Area 1 - Park Personnel, Protected Area Managers, Technical Conservation Personnel, Local NGOs, Upper Level Students”⁴) and educators (“Subject Area 4 including Teachers, Local NGOs, Community Leaders and Education Government Officials”⁵) who can carry out the CWC and apply its results as appropriate. The workshop will be designed to meet this need. In particular it will promote the newly-designed Caribbean Waterbird Census, which is a product of cooperation between SCSCB and Wetlands International at the February 2009 WHMSI workshop, take the opportunity to incorporate wetland educators into the process and adapt training and awareness programmes to educate decision-makers. We will also examine ways to promote ratification of Ramsar and SPAW and to use data developed from the wetland surveys to meet national obligations relevant to these conventions. The first three days of the workshop will be aimed at international participants and will focus on the CWC methodology. The last two days will focus on wetlands education and will be open to local teachers and educators as well as the international participants.

The outline of the workshop will be as follows:

Day 1: Importance of wetlands, Ramsar Convention, SPAW Protocol, Caribbean Waterbird Census

Day 2: Wetlands monitoring, assessment and ecosystem-based planning – CWC methodology for species, analysis and application of information (with special reference to SPAW and Ramsar), species identification and field methods including wetlands field trip.

Day 3: Wetlands monitoring, assessment and ecosystem-based planning – CWC methodology for species, analysis and application of information (with special reference to SPAW and Ramsar) – results and their application, including wetlands field trip.

Day 4: Wetland education (includes international participants, local teachers and educators)

Day 5: Wetlands education – field trip. (Includes international participants, local teachers and educators)

⁴ WHMSI RFP2

⁵ WHMSI RFP2

4. Time frame / work plan:

ACTIVITY HEADING	OUTPUTS	INDICATORS OF SUCCESS	RESPONSIBLE PERSON	COMPLETION DATE
Adaptation of existing Capacity Building Strategy for wetlands monitoring and management	Wetlands Capacity Building Strategy	Strategy developed and circulated for review	Ann Sutton	October 3009
Development of materials	Caribbean Waterbird Census manual Other supporting materials	1 manual produced Supporting materials for SPAW and Ramsar disseminated	Ann Sutton/Wetlands International/Lisa Sorenson Ramsar/SPAW	November 2009
Dissemination of materials online	Resources on ConserveOnline, scscb.org, whistlingduck.org	Manual and supporting Materials posted	Ann Sutton & Lisa Sorenson	February 2010
Workshop	Workshop held	-Total no of participants -Representation of special interest groups (decision-makers, protected area managers, scientists, educators, volunteers) -Variety of modules - Evaluation sheets	Ann Sutton & Lisa Sorenson lead, partners assist	February 2010
		Workshop report produced	Ann Sutton	February 2010
Project development for funding	Develop project for funding e.g. Neotropical Migratory Bird Act Fund	November 2009	SCSCB and team	November 2009

List of documents to be developed:

- Capacity Building Strategy for enhancing Caribbean capacity for wetlands monitoring, management and education (including needs identified by SCSCB, Ramsar and SPAW and how to address them)
- Caribbean Waterbirds Census Manual, including powerpoints and data analysis
- Two progress reports
- Final report on project

All products will be made freely available through the WHMSI website and SCSCB's website. As far as possible within the budget, or with the assistance of volunteers, materials will be translated into Spanish.

5. Team Composition and Task Assignment:

Position: Team Lead

Name: Ann Sutton

Organisation: Secretary SCSCB, Co-chair Monitoring Working Group and Seabirds Working Group

Area of expertise: Bird monitoring, conservation education, protected area/wetlands management

Tasks assigned: Leads project implementation, strategy development, assists with general and specific aspects of training

Position: Senior Project Advisor

Name: Lisa Sorenson

Organisation: President SCSCB, Project Coordinator, West Indian Whistling-Duck and Wetlands Conservation Project

Area of expertise: Bird research, waterfowl, wetlands education, ecology and conservation, climate change impacts on wetlands

Tasks assigned: Guides project design and implementation, assists with training workshop

The following organizations are part of our conservation coalition and worked closely with SCSCB on our WHMSI Bird Monitoring Training Workshop (held in February 2009) and are expected to assist with project design, implementation and training:

- Royal Society for the Conservation and Study of Caribbean Birds
- US Fish and Wildlife Service
- Wetlands International
- Oak Hammock Marsh Interpretative Center
- Cornell Laboratory of Ornithology
- Klamath Bird Observatory
- The National Aviary
- USDA International Institute of Tropical Forestry
- BirdLife International
- TNC Caribbean Programme.

In addition we are expecting technical advice and support from United Nations Environment Programme and the Ramsar Secretariat.

6. CVs of Proposed Staff:

CVs of major team members Ann Sutton and Lisa Sorenson are attached. Note that both these individuals have wide experience of establishing and running wetland monitoring programmes, training, environmental education and applied conservation.

7. Staffing Schedule:

SCSCB is a voluntary organization, which depends on project funds to implement its programmes. As such it does not have any staff at present, so project staff would be contractors and volunteers, as well as employees of our partner organizations.

8. Work Schedule:

	ACTIVITY	MONTH						
		1	2	3	4	5	6	7
		A	S	O	N	D	J	F
A	ACTIVITY 1- STRATEGY and MATERIALS DEVELOPMENT							
1	Finalize workplan	x						
2	Hold online consultations with experts	x	x					
3	First progress report			x				
4	Finalize manual		x	x	x	x		
5	Produce capacity building strategy			x	x	x		
6	Second progress report (including draft capacity-building strategy and CWC manual)					x		
B	ACTIVITY 2: TRAINING WORKSHOP							
1	Invite participants		x	x	x	x	x	
2	Plan venue, accommodation, transportation		x	x	x	x	x	
3	Hold workshop						x	
4	Prepare workshop report						x	
5	Place manual and other training materials on line						x	
6	Produce final project report							x

9. Relevant literature cited

- BirdLife International. 2008. Important Bird Areas in the Caribbean: key sites for conservation. Cambridge, UK: BirdLife International. (BirdLife Conservation Series No. 15).
- Bradley, P. & Norton, R. (eds) 2009. An Inventory of Breeding Seabirds of the Caribbean University Press of Florida, Gainesville.
- Haynes-Sutton, A. 2009. Long-term Bird Monitoring in the Caribbean – Why, What, Where and How? Final Project Report. Report prepared for WHMSI.
- Haynes-Sutton, A. & Sorenson, L. 2009. Caribbean Birdwatch: How to design and implement a bird monitoring programme for the Caribbean. SCSCB ms prepared for WHMSI.

- Levy, C. & Koenig, S. 2009. Waterbird report for Jamaica. Ms prepared for BirdLife International.
- Myers, N., Mittermeier, R. A., C. G. Mittermeier, G. A. B. da Fonseca, and J. Kent. 2000. Biodiversity hotspots for conservation priorities. *Nature* 403:853-858.
- Rappole, J.H. 1995. *The Ecology of Migrant Birds: A Neotropical Perspective*. Smithsonian Institution Press, Washington, D.C. 269 pages.
- SCSCB. 2003. Draft Caribbean Waterbirds Conservation Plan 2003-2008. SCSCB Waterbirds Task Force Report, available for download at www.scscb.org (Waterbirds Working Group page).
- Sorenson, L.G., Bradley, P.E. and A. M. Haynes Sutton. 2004. The West Indian Whistling-Duck and Wetlands Conservation Project: a model for species and wetlands conservation and education. *The Journal of Caribbean Ornithology*, Special Issue pp. 72-80.
- Sorenson, L. G. 2008. The West Indian Whistling-Duck and Wetlands Conservation Project. *Rainforest Alliance's Eco-Index*. <http://www.eco-index.org/search/results.cfm?projectID=979>. Winner of "Are We Making Progress Yet?" Award for best monitoring and evaluation methodology (May 2006).

G. Summary of Costs

HEADING	ACTIVITY	ITEM	DESCRIPTION	UNIT COST	# UNITS	TOTAL COST WHSMI	TOTAL COST COUNTER -PART
1. Preparation of capacity development plan and training materials							
	Preparation and review of draft capacity development plan	Professional fees	Consultative development of draft plan	400	1	500	2000
	Preparation of training materials	Professional fees	Workshop materials and on-line training methods and materials	1000	1	2250	4000
2. Workshop							
		Professional fees	Workshop organization	400	5	1000	5000
			Workshop delivery	400	7	2050	3000
		Airfares	International participants	600	10	6000	3000
			Presenters	600	3	1800	0
		Accommodation and meals international participants	10 persons x 5 days @ \$150/day	150	50	5000	2500
		Accommodation and meals for presenters	3 persons x 7 days @ \$150/day	150	21	3150	0
		Meals for local participants	20 persons	15	100	1500	0
		Transportation for field trips	(3 days)	0	0	1000	0
		Photocopying and production		0	0	250	500
		Miscellaneous		0	0	500	4000
		Administrative overheads		0	0	1000	2000
		TOTAL				26000	26000

Appendix 1. This is a list of Nearctic-Neotropical migrants that occur regularly in the Caribbean. Species that use wetlands or terrestrial habitats associated with wetlands are indicated. The list is derived from Rappole (1995, pp. 173-182) and includes those species for which all or part of the population breeds north of the Tropic of Cancer and winters south of that line. Of the 341 migrants listed by Rappole (1995), 218 or 64% occur in the Caribbean. English and scientific names follow the taxonomy of the American Ornithologists' Union's Checklist of North American Birds, seventh edition (1998) and supplement 42 (2000).

Common Name	Scientific Name	Uses Wetland Habitats
Podicipediformes		
Pied-billed Grebe	<i>Podilymbus podiceps</i>	√
Pelecaniformes		
Brown Pelican	<i>Pelecanus occidentalis</i>	√
Neotropic Cormorant	<i>Phalacrocorax brasilianus</i>	√
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	√
Anhinga	<i>Anhinga anhinga</i>	√
Ciconiiformes		
American Bittern	<i>Botaurus lentiginosus</i>	√
Least Bittern	<i>Ixobrychus exilis</i>	√
Great Blue Heron	<i>Ardea Herodias</i>	√
Great Egret	<i>Ardea alba</i>	√
Snowy Egret	<i>Egretta thula</i>	√
Little Blue Heron	<i>Egretta caerulea</i>	√
Tricolored Heron	<i>Egretta tricolor</i>	√
Reddish Egret	<i>Egretta rufescens</i>	√
Cattle Egret	<i>Bubulcus ibis</i>	√
Green Heron	<i>Butorides virescens</i>	√
Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>	√
Yellow-crowned Night-Heron	<i>Nyctanassa violacea</i>	√
White Ibis	<i>Eudocimus albus</i>	√
Glossy Ibis	<i>Plegadis falcinellus</i>	√
Roseate Spoonbill	<i>Ajaia ajaja</i>	√
Wood Stork	<i>Mycteria americana</i>	√
Turkey Vulture	<i>Cathartes aura</i>	

Common Name	Scientific Name	Uses Wetland Habitats
Anseriformes		
Fulvous Whistling-Duck	<i>Dendrocygna bicolor</i>	√
Snow Goose	<i>Chen caerulescens</i>	√
Wood Duck	<i>Aix sponsa</i>	√
Gadwall	<i>Anas strepera</i>	√
American Wigeon	<i>Anas americana</i>	√
Mallard	<i>Anas platyrhynchos</i>	√
Blue-winged Teal	<i>Anas discors</i>	√
Northern Shoveler	<i>Anas clypeata</i>	√
Northern Pintail	<i>Anas acuta</i>	√
Green-winged Teal	<i>Anas crecca</i>	√
Canvasback	<i>Aythya valisineria</i>	√
Redhead	<i>Aythya americana</i>	√
Lesser Scaup	<i>Aythya affinis</i>	√
Hooded Merganser	<i>Lophodytes cucullatus</i>	√
Red-breasted Merganser	<i>Mergus serrator</i>	√
Ruddy Duck	<i>Oxyura jamaicensis</i>	√
Falconiformes		
Osprey	<i>Pandion haliaetus</i>	√
Swallow-tailed Kite	<i>Elanoides forficatus</i>	√
Northern Harrier	<i>Circus cyaneus</i>	√
Sharp-shinned Hawk	<i>Accipiter striatus</i>	
Common Black-Hawk	<i>Buteogallus anthracinus</i>	√
Broad-winged Hawk	<i>Buteo platypterus</i>	
Red-tailed Hawk	<i>Buteo jamaicensis</i>	
American Kestrel	<i>Falco sparverius</i>	

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Common Name	Scientific Name	Uses Wetland Habitats
Merlin	<i>Falco columbarius</i>	√
Peregrine Falcon	<i>Falco peregrinus</i>	√
Gruiformes		
Black Rail	<i>Laterallus jamaicensis</i>	√
King Rail	<i>Rallus elegans</i>	√
Virginia Rail	<i>Rallus limicola</i>	√
Sora	<i>Porzana carolina</i>	√
Purple Gallinule	<i>Porphyryla martinica</i>	√
Common Moorhen	<i>Gallinula chloropus</i>	√
American Coot	<i>Fulica americana</i>	√
Sandhill Crane	<i>Grus canadensis</i>	√
Charadriiformes		
Black-bellied Plover	<i>Pluvialis squatarola</i>	√
American Golden-Plover	<i>Pluvialis dominica</i>	√
Snowy Plover	<i>Charadrius alexandrinus</i>	√
Wilson's Plover	<i>Charadrius wilsonia</i>	√
Semipalmated Plover	<i>Charadrius semipalmatus</i>	√
Piping Plover	<i>Charadrius melodus</i>	√
Killdeer	<i>Charadrius vociferus</i>	√
American Oystercatcher	<i>Haematopus palliatus</i>	
Black-necked Stilt	<i>Himantopus mexicanus</i>	√
American Avocet	<i>Recurvirostra americana</i>	√
Greater Yellowlegs	<i>Tringa melanoleuca</i>	√
Lesser Yellowlegs	<i>Tringa flavipes</i>	√
Solitary Sandpiper	<i>Tringa solitaria</i>	√
Willet	<i>Catoptrophorus semipalmatus</i>	√
Spotted Sandpiper	<i>Actitis macularia</i>	√
Upland Sandpiper	<i>Bartramia longicauda</i>	
Whimbrel	<i>Numenius phaeopus</i>	√
Hudsonian Godwit	<i>Limosa haemastica</i>	√

Common Name	Scientific Name	Uses Wetland Habitats
Ruddy Turnstone	<i>Arenaria interpres</i>	√
Red Knot	<i>Calidris canutus</i>	√
Sanderling	<i>Calidris alba</i>	
Semipalmated Sandpiper	<i>Calidris pusilla</i>	√
Western Sandpiper	<i>Calidris mauri</i>	√
Least Sandpiper	<i>Calidris minutilla</i>	√
White-rumped Sandpiper	<i>Calidris fuscicollis</i>	√
Baird's Sandpiper	<i>Calidris bairdii</i>	√
Pectoral Sandpiper	<i>Calidris melanotos</i>	
Stilt Sandpiper	<i>Calidris himantopus</i>	√
Buff-breasted Sandpiper	<i>Tryngites subruficollis</i>	
Short-billed Dowitcher	<i>Limnodromus griseus</i>	√
Long-billed Dowitcher	<i>Limnodromus scolopaceus</i>	√
Common Snipe	<i>Gallinago gallinago</i>	√
Wilson's Phalarope	<i>Phalaropus tricolor</i>	√
Red-necked Phalarope	<i>Phalaropus lobatus</i>	√
Red Phalarope	<i>Phalaropus fulicaria</i>	√
Laughing Gull	<i>Larus atricilla</i>	
Bonaparte's Gull	<i>Larus Philadelphia</i>	√
Ring-billed Gull	<i>Larus delawarensis</i>	√
Gull-billed Tern	<i>Sterna nilotica</i>	√
Caspian Tern	<i>Sterna caspia</i>	√
Royal Tern	<i>Sterna maxima</i>	√
Sandwich Tern	<i>Sterna sandvicensis</i>	√
Roseate Tern	<i>Sterna dougallii</i>	√
Common Tern	<i>Sterna hirundo</i>	√
Forster's Tern	<i>Sterna forsteri</i>	√
Least Tern	<i>Sterna antillarum</i>	√
Sooty Tern	<i>Sterna fuscata</i>	
Black Tern	<i>Chlidonias niger</i>	√
Black Skimmer	<i>Rynchops niger</i>	√
Columbiformes		
White-crowned Pigeon	<i>Columba leucocephala</i>	√
White-winged Dove	<i>Zenaida asiatica</i>	√

Increasing Capacity for Caribbean Wetlands Conservation - SCSCB

Common Name	Scientific Name	Uses Wetland Habitats
Mourning Dove	<i>Zenaida macroura</i>	
Cuculiformes		
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	√
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	
Mangrove Cuckoo	<i>Coccyzus minor</i>	√
Strigiformes		
Burrowing Owl	<i>Athene cunicularia</i>	
Short-eared Owl	<i>Asio flammeus</i>	√
Caprimulgiformes		
Common Nighthawk	<i>Chordeiles minor</i>	
Chuck-will's-widow	<i>Caprimulgus carolinensis</i>	
Apodiformes		
Black Swift	<i>Cypseloides niger</i>	
Chimney Swift	<i>Chaetura pelagica</i>	
Ruby-throated Hummingbird	<i>Archilochus colubris</i>	
Coraciiformes		
Belted Kingfisher	<i>Ceryle alcyon</i>	√
Piciformes		
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	√
Passeriformes		
Western Wood-Pewee	<i>Contopus sordidulus</i>	
Eastern Wood-Pewee	<i>Contopus virens</i>	
Yellow-bellied Flycatcher	<i>Empidonax flaviventris</i>	√
Acadian Flycatcher	<i>Empidonax vireescens</i>	
Alder Flycatcher	<i>Empidonax alnorum</i>	
Willow Flycatcher	<i>Empidonax traillii</i>	√
Least Flycatcher	<i>Empidonax minimus</i>	

Common Name	Scientific Name	Uses Wetland Habitats
Eastern Phoebe	<i>Sayornis phoebe</i>	
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	
Tropical Kingbird	<i>Tyrannus melancholicus</i>	
Western Kingbird	<i>Tyrannus verticalis</i>	
Eastern Kingbird	<i>Tyrannus tyrannus</i>	
Gray Kingbird	<i>Tyrannus dominicensis</i>	
Scissor-tailed Flycatcher	<i>Tyrannus forficatus</i>	
White-eyed Vireo	<i>Vireo griseus</i>	
Yellow-throated Vireo	<i>Vireo flavifrons</i>	
Blue-headed Vireo	<i>Vireo solitarius</i>	
Philadelphia Vireo	<i>Vireo philadelphicus</i>	
Red-eyed Vireo	<i>Vireo olivaceus</i>	
Black-whiskered Vireo	<i>Vireo altiloquus</i>	
Caribbean Martin	<i>Progne dominicensis</i>	√
Purple Martin	<i>Progne subis</i>	
Tree Swallow	<i>Tachycineta bicolor</i>	√
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	√
Bank Swallow	<i>Riparia riparia</i>	
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	
Cave Swallow	<i>Petrochelidon fulva</i>	√
Barn Swallow	<i>Hirundo rustica</i>	√
House Wren	<i>Troglodytes aedon</i>	
Ruby-crowned Kinglet	<i>Regulus calendula</i>	
Blue-gray Gnatcatcher	<i>Poliophtila caerulea</i>	√
Veery	<i>Catharus fuscescens</i>	
Gray-cheeked Thrush	<i>Catharus minimus</i>	
Bicknell's Thrush	<i>Catharus bicknelli</i>	
Swainson's Thrush	<i>Catharus ustulatus</i>	
Hermit Thrush	<i>Catharus guttatus</i>	
Wood Thrush	<i>Hylocichla mustelina</i>	
American Robin	<i>Turdus migratorius</i>	
Gray Catbird	<i>Dumetella carolinensis</i>	

Increasing Capacity for Caribbean Wetlands Conservation - SCSCB

Common Name	Scientific Name	Uses Wetland Habitats
American Pipit	<i>Anthus rubescens</i>	
Cedar Waxwing	<i>Bombycilla cedrorum</i>	
Blue-winged Warbler	<i>Vermivora pinus</i>	√
Golden-winged Warbler	<i>Vermivora chrysoptera</i>	
Tennessee Warbler	<i>Vermivora peregrina</i>	
Orange-crowned Warbler	<i>Vermivora celata</i>	
Nashville Warbler	<i>Vermivora ruficapilla</i>	
Northern Parula	<i>Parula americana</i>	√
Yellow Warbler	<i>Dendroica petechia</i>	√
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>	
Magnolia Warbler	<i>Dendroica magnolia</i>	√
Cape May Warbler	<i>Dendroica tigrina</i>	√
Black-throated Blue Warbler	<i>Dendroica caerulescens</i>	√
Yellow-rumped Warbler	<i>Dendroica coronata</i>	√
Black-throated Green Warbler	<i>Dendroica virens</i>	
Blackburnian Warbler	<i>Dendroica fusca</i>	
Yellow-throated Warbler	<i>Dendroica dominica</i>	
Pine Warbler	<i>Dendroica pinus</i>	
Kirtland's Warbler	<i>Dendroica kirtlandii</i>	
Prairie Warbler	<i>Dendroica discolor</i>	√
Palm Warbler	<i>Dendroica palmarum</i>	√
Bay-breasted Warbler	<i>Dendroica castanea</i>	
Blackpoll Warbler	<i>Dendroica striata</i>	√
Cerulean Warbler	<i>Dendroica cerulean</i>	
Black-and-white Warbler	<i>Mniotilta varia</i>	√
American Redstart	<i>Setophaga ruticilla</i>	√
Prothonotary Warbler	<i>Protonotaria citrea</i>	√
Worm-eating Warbler	<i>Helmitheros vermivorus</i>	
Swainson's Warbler	<i>Limnithlypis swainsonii</i>	

Common Name	Scientific Name	Uses Wetland Habitats
Ovenbird	<i>Seiurus aurocapillus</i>	√
Northern Waterthrush	<i>Seiurus noveboracensis</i>	√
Louisiana Waterthrush	<i>Seiurus motacilla</i>	√
Kentucky Warbler	<i>Oporornis formosus</i>	√
Connecticut Warbler	<i>Oporornis agilis</i>	
Mourning Warbler	<i>Oporornis philadelphia</i>	√
Common Yellowthroat	<i>Geothlypis trichas</i>	√
Hooded Warbler	<i>Wilsonia citrine</i>	√
Wilson's Warbler	<i>Wilsonia pusilla</i>	
Canada Warbler	<i>Wilsonia canadensis</i>	√
Summer Tanager	<i>Piranga rubra</i>	
Scarlet Tanager	<i>Piranga olivacea</i>	
Rufous-crowned Sparrow	<i>Aimophila ruficeps</i>	
Chipping Sparrow	<i>Spizella passerine</i>	
Savannah Sparrow	<i>Passerculus sandwichensis</i>	
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	
Lincoln's Sparrow	<i>Melospiza lincolnii</i>	
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	
Blue Grosbeak	<i>Guiraca caerulea</i>	
Indigo Bunting	<i>Passerina cyanea</i>	
Painted Bunting	<i>Passerina ciris</i>	
Dickcissel	<i>Spiza americana</i>	
Bobolink	<i>Dolichonyx oryzivorus</i>	
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	√
Eastern Meadowlark	<i>Sturnella magna</i>	√
Brown-headed Cowbird	<i>Molothrus ater</i>	
Orchard Oriole	<i>Icterus spurius</i>	
Baltimore Oriole	<i>Icterus galbula</i>	√

Citations

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American Ornithologists' Union. 2000. Forty-second supplement to the American Ornithologists' Union Checklist of North American Birds. *Auk* 117(3):847-858.

Rappole, J. H. 1995. *The Ecology of Migrant Birds: A Neotropical Perspective*. Smithsonian Institution Press, Washington, D. C. 269 pages.

CURRICULUM VITAE (Summary)

ANN M. HAYNES-SUTTON Ph.D.

GENERAL INFORMATION

PERMANENT ADDRESS: Marshall's Pen, P.O. Box 58, Mandeville, Jamaica W.I.

TELEPHONE NUMBER: Home: (876) 904-5454. Mobile: (876) 877 7335

E-MAIL: asutton@cwjamaica.com

DATE AND PLACE OF BIRTH: 7th November 1951, London, England.

AGE: 57

MARITAL STATUS: Widowed

NATIONALITY: British

EDUCATION

2008 Mangrove Restoration (5 days). Lewis Environmental Services Inc.

2003 Project Management (2 days) ESI/ George Washington University.

2003 Microsoft Project training course (2 days). New Horizons, Kingston Jamaica

1983 - 1995 **Ph.D. in Zoology (Wildlife Management)** at University of the West Indies, Mona, Kingston, Jamaica. Title "**On the nesting ecology of seabirds at the Morant Cays (Jamaica), with special reference to nest site selection, conservation and management**".

1980 - 1981 Diploma in Graphic Art, (part-time), at the Jamaica School of Art, Kingston 5, Jamaica.

1970 - 1974 **B.Sc. Honours in Zoology (2.2)**, at Dundee University, Dundee, Scotland. Subsidiary subjects : Physics, Chemistry, Biology, and Psychology.

PROFESSIONAL EXPERIENCE: CONSULTING

1987 - *present:* **Independent environmental consultant** with special interest in conservation and ecology of wildlife and wetlands; protected area design and management; ecotourism (including leading, organising and providing accommodation for ornithological tours); and environmental education.

Assignments have included:

2008-9: Designed and coordinated Western Hemisphere Migratory Species Initiative Project "Long-term bird monitoring in the Caribbean" on behalf of the Society for the Conservation and Study of Caribbean Birds.

2007-9: Portland Bight Sustainable Wetland Project: Phase 1, for Caribbean Coastal Area Management Foundation.

2006: Planning for development of a Watchable Wildlife Pond for the Royal Palm Reserve, Negril for Negril Environmental Protection Trust

2003 Surveys of ducks in Jamaica for Ducks Unlimited and National Environment and Planning Agency

- 2002-2005 Caribbean See Seabirds Project (including regional planning for waterbirds, seabirds surveys and training, seabirds environmental education) for the Society for the Conservation and Study of Caribbean Birds
- 2003-2005 Lead consultant for Development of Biophysical Indicators for Monitoring the Portland Bight Protected Area for Inter-American Development Bank/Global Environment Facility
- 2001-2002 Environmental Consultant for South Coast Sustainable Development Project, focused on protected areas planning and environmental impact assessments (Scott Wilson Assoc.)
- 2001 Assessment of community involvement in local sustainable development and local governance (for Canadian International Development Agency).

PROFESSIONAL EXPERIENCE: EMPLOYMENT

- 2007-2008: **Lecturer at Northern Caribbean University.** Taught Post-graduate course in “Principles and Practices of Conservation.”
- 2003 –2007: **Director of Conservation - The Nature Conservancy in Jamaica.** (Half time position). Developed and supervised TNC’s conservation programmes in Jamaica, including Cockpit Country Parks in Peril programme, Protected Area System Planning, Gap Analysis and Eco-regional Planning.
- 1981 - 1987 **Acting Chief, Ecology Branch, Natural Resources Conservation Division.** Responsibilities included development and implementation of wildlife and terrestrial ecology policy; wildlife law enforcement; wildlife project development, management and search for funding; public education for wildlife conservation including organising programmes of talks, and slide shows; design writing and production of, posters and leaflets; participation in, and facilitation of, research; monitoring the status of critical wildlife populations; development planning; and environmental impact assessment.

BOOKS

- Haynes-Sutton, A., Downer, A., & Sutton, R. 2009. **A photographic guide to the Birds of Jamaica.** Christopher Helm, London.
- Haynes-Sutton, A. and Sorenson, L. 2009. **Caribbean Birdwatch – How to design and monitor a bird monitoring programme in the Caribbean.** Society for the Conservation and Study of Caribbean Birds, Boston.
- Haynes-Sutton, A., Sorenson, L. & Keeley, M. 2001. **Wondrous West Indian Wetlands - A resource book on Caribbean wetlands for teachers and other educators.** West Indian Whistling Duck Working Group of the Society of Caribbean Ornithology.

SELECTED PAPERS AND REPORTS

- Haynes-Sutton, A. 2009 Jamaica and Pedro and Morant Cays. In Bradley, P.E. & Norton, R.L. (eds.) An inventory of breeding seabirds of the Caribbean. University Press of Florida. Gainesville. Pp 66-76.
- Frost, M., Hayes, F. & Haynes-Sutton, A. 2009. Saint Vincent, the Grenadines and Grenada. An inventory of breeding seabirds of the Caribbean. University Press of Florida. Gainesville. Pp 187-194.

MEMBERSHIP OF ORGANISATIONS AND COMMITTEES (2000 onwards)

- 2001 - present Secretary, Society for the Conservation and Study of Caribbean Birds (also Co-chair of Seabirds and Monitoring Sub-committees)

1990 – 2005 Regional Member of the Species Survival Commission, Seabird, Threatened Waterfowl
Research Group, IUCN (The World Conservation Union)

LISA G. SORENSON, PH.D.

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(508) 655-1940 (office), (617) 353-6340 (FAX), e-mail: LSoren@bu.edu

PROFESSIONAL HIGHLIGHTS

- Twenty-five years experience working in the Caribbean, including four years of field research on the breeding ecology of White-cheeked Pintails in the Bahamas, field research on West Indian Whistling-Ducks (WIWD) on Long Island, Bahamas, preparation of an environmental impact statement on the proposed redevelopment of a golf course in the Bahamas (with emphasis on impacts on bird life and recommendations for providing quality wetland and forest habitat for birds in the completed re-development), and long-term involvement with the Society for the Conservation and Study of Caribbean Birds (SCSCB).
- Serving as co-chair of the WIWD Working Group of the SCSCB and Project Coordinator of *The WIWD and Wetlands Conservation Project* since its inception in 1996 with primary responsibility for overseeing and providing leadership on the project, fund raising, coordinating communications and liaising with contacts in each country, conducting training workshops, and development of numerous outreach materials, including writing and editing of *Wondrous West Indian Wetlands: Teachers' Resource Book*
- Expertise in waterfowl and wetlands ecology and conservation, teaching, and bird surveying/monitoring techniques, familiar with wetland conservation threats and needs in the Bahamas and throughout the Caribbean.
- Four years research experience assessing the potential consequences of global warming on wetlands and waterfowl in both breeding and wintering areas of North America (1998-2001).
- With the Union of Concerned Scientists, developed and implemented outreach and communications strategies and public education on key global environmental issue such as climate change, biodiversity loss and invasive species.

EDUCATION

Ph.D. Ecology, Evolution and Behavior, 1990, University of Minnesota, Minneapolis, MN. Thesis title: Breeding behavior and ecology of a sedentary tropical duck: the white-cheeked pintail (*Anas bahamensis bahamensis*)

B.S. Wildlife, Fisheries, and Conservation Biology, 1982, University of California, Davis, CA

PRESENT POSITIONS

Project Coordinator, West Indian Whistling-Duck (WIWD) and Wetlands Conservation Project. Coordinating a region-wide public education and awareness program on the endangered WIWD and the importance of wetlands in the West Indies. 1996-present.

President, Society for the Conservation and Study of Caribbean Birds, 2009-present

Adjunct Assistant Professor, Department of Biology, Boston University, Boston, MA. 1998-present.

Research Associate, Smithsonian Institution, National Zoological Park, Washington, D.C. 1995-present.

Elective Member, American Ornithologists' Union, 1998-present.

PROFESSIONAL EXPERIENCE

Outreach Specialist/Scientist, Union of Concerned Scientists, Cambridge, MA. Nov. 2000-2001. Developed and implemented outreach and communications strategies and public education on key global environmental issues such as climate change, biodiversity loss and invasive species.

Research Assistant Professor, Department of Biology, Boston University, Boston, MA. Project assessing the potential consequences of global warming on wetlands and waterfowl populations in the Prairie Pothole Region of the Northern Great Plains. 1998-2000.

Research Collaborator, Mid-Atlantic Regional Assessment of the Potential Consequences of Climate Variability and Change, part of the of the U.S. National Assessment process mandated by the U.S. Global Change Research Program. 1998-2000.

Environmental Consultant, Sun International Development Limited, Nassau, Bahamas. Prepared an environmental impact statement on the proposed redevelopment of the Paradise Island Golf Course. July, 1999.

Research Associate, Department of Biology/Museum of Zoology and School of Natural Resources and Environment, University of Michigan, Ann Arbor, MI, 1995-1997.

Visiting Lecturer, School of Natural Resources and Environment, University of Michigan. Taught an upper division/graduate level course *Ecology and Management of Waterfowl and Wildlife*. Winter Semester, 1996.

Postdoctoral Fellow, Smithsonian Institution, Conserv. and Research Center, U.S. Nat'l Zoological Park, Front Royal, VA, 1990-1992

GRANTS AND FELLOWSHIPS

West Indian Whistling-Duck and Wetlands Conservation Project (\$899,725, 2002-2009) - Grants from US Fish and Wildlife Service (Neotropical Migratory Bird Conservation Act Fund), USFWS (Wildlife Without Borders Program), US Environmental Protection Agency, Wetlands International, American Bird Conservancy, Royal Society for the Protection of Birds, National Fish and Wildlife Foundation, GEF-UNEP grant to BirdLife International

Potential Effects of Global Warming on Waterfowl and Wetlands in the Prairie Pothole Region of the U.S. and Canada (\$266,000, 1996-2000) - Grants from Institute for Wetlands and Waterfowl Research, Ducks Unlimited, U.S. Environmental Protection Agency, Electric Power Research Institute

Post-doctoral Research on Mate Choice, Sexual Selection, and the Behavioral Endocrinology of White-cheeked Pintails and Northern Pintails, Conservation and Research Center, Smithsonian Institution (\$167,000, 1990-1996) - National Science Foundation Postdoctoral Fellowship, Friends of the National Zoo Postdoctoral Fellowship, Smithsonian Institution Postdoctoral Fellowship, Smithsonian Institution Scholarly Studies Program

SELECTED PUBLICATIONS

Sorenson, L. G. 2008. The West Indian Whistling-Duck and Wetlands Conservation Project. *Rainforest Alliance's Eco-Index*. <http://www.eco-index.org/search/results.cfm?projectID=979>. Winner of "Are We Making Progress Yet?" Award for best monitoring and evaluation methodology (May 2006).

Sorenson, L. Bradley, P., Mugica, L., and K. Wallace. 2005. West Indian Whistling-Duck and Wetlands Conservation Project: Symposium Report and Project News. *The Journal of Caribbean Ornithology* 18: 102-105.

Sorenson, L., Wallace, K., and L. Mugica. 2005. Education, Awareness and Community Training Initiatives—Expanding on What Works and Ideas for New Initiatives. *The Journal of Caribbean Ornithology* 18: 84-86.

Sorenson, L.G. 2005. The White-cheeked Pintail (species account) *in* *Bird Families of the World: Ducks, Geese, Swans*. Edited by J. Kear, Oxford University Press.

Sorenson, L.G., Bradley, P.E. and M. Haynes Sutton. 2004. The West Indian Whistling-Duck and Wetlands Conservation Project: a model for species and wetlands conservation and education. *The Journal of Caribbean Ornithology*, Special Issue pp. 72-80.

Sutton, A.H. Sorenson, L.G., and Keeley, M. 2004. Second Edition. *Wondrous West Indian Wetlands: Teachers' Resource Book*. West Indian Whistling-Duck Working Group of the Society of Caribbean Ornithology. Boston, MA, 276 pp.

Sorenson, L.G. and P. Bradley. 2002. News from the West Indian Whistling-Duck (WIWD) and Wetlands Conservation Project. *El Ptitre* 15: 137-139.

Anderson, M.G. and Sorenson, L.G. 2002. Global Climate Change and Waterfowl: Adaptation in the Face of Uncertainty. *Transactions of the North American Wildlife and Natural Resources Conference* 66: 300-319.

Sorenson, L.G. and L. Hunter. 2002. West Indian Whistling-Duck and Wetlands Conservation Project. *U.S. Fish & Wildlife Service Wildlife Without Borders* Spring 2002: 8-9.

Sorenson, L.G., Goldberg, R., Anderson, M.G., Root, T.L., and C. Rosenzweig. 2001. Potential Impacts of Global Warming on Pothole Wetlands and Waterfowl. *in* *Impacts of Climate Change on Wildlife*. Edited by R. Green, M. Harley, M. Spalding, and C. Zockler. Royal Society for the Protection of Birds, Bedford, UK.

Sorenson, L.G. 2000. Impacts of Global Warming on Waterfowl Wintering in the Chesapeake Bay. Pg. 208-213 *in*: Fisher, A. et al. *Preparing for a Changing Climate—the Potential Consequences of Climate Variability and Change: Mid-Atlantic Foundations Report*. Prepared for U.S. Global Change Research Program First National Assessment, sponsored by U.S. Environmental Protection Agency, Cooperative Agreement CR 826554, Pennsylvania State University, University Park.

Sorenson, L.G. and P. Bradley. 2000. Update on the West Indian Whistling-Duck (WIWD) and Wetlands Conservation Project — Report from the WIWD Working Group. *El Ptitre* 13: 57-63.

- Sorenson, L.G., Goldberg, R., Root, T.L., and M.G. Anderson. 1998. Potential effects of global warming on waterfowl populations breeding in the Northern Great Plains. *Climatic Change* 40: 343-369.
- Sorenson, L.G. and Carey, E. 1998. The West Indian Whistling-Duck and Wetlands Conservation Project — Working Group report on training workshop held in Nassau, Bahamas, 13-15 November 1997. *El Pittirre* 11: 19-22.
- Sorenson, L.G. & S.R. Derrickson. 1994. Sexual selection in the Northern Pintail (*Anas acuta*): the importance of female choice versus male-male competition in the evolution of sexually-selected traits. *Behavioral Ecology and Sociobiology* 35: 389-400.
- Sorenson, L.G. 1994. Forced extra-pair copulation and mate guarding in the White-cheeked Pintail: timing and trade-offs in an asynchronously breeding duck. *Animal Behaviour* 48: 519-533.
- Sorenson, L.G. 1992. Variable mating system of a sedentary tropical duck: the White-cheeked Pintail (*Anas bahamensis bahamensis*). *Auk* 109: 277-292.
- Sorenson, L.G. 1991. Mating systems of tropical and southern hemisphere dabbling ducks. *Proceedings of the International Ornithological Congress* 20: 851-859.