

WESTERN HEMISPHERE MIGRATORY SPECIES
INITIATIVE PROJECT

*Long-term Bird Monitoring in the Caribbean –
Why, What, Where and How?*
REPORT ON BIRD MONITORING TRAINING
WORKSHOP

19-23 February 2009

Bahamas National Trust, The Retreat, Nassau, Bahamas



Prepared by:

Ann Haynes-Sutton Ph.D.
Monitoring Coordinator, SCSCB,
Marshall's Pen, PO Box 58
Mandeville, Jamaica
asutton@cwjamaica.com

For: Society for the Conservation and Study of Caribbean Birds

Date: March 20, 2009



Background:

SCSCB's Working Groups (including Monitoring, Waterbirds and Seabirds) have been working since 2003 to identify gaps in regional monitoring strategies for birds. These include weaknesses in every step of the monitoring process, from the availability of trained field biologists to the use of the results of monitoring in regional and national policy and conservation and protected area management. The overall goal of this project is to initiate and promote a coordinated regional bird monitoring network as a means to improve science-based conservation planning and adaptive management of birds and habitats in the region. The emphasis was on providing practical training in simple, standard protocols for monitoring landbirds, waterbirds, seabirds and shorebirds (and their habitats) and promoting the formation of a coordinated regional monitoring network so that information can be shared and used to support local and regional conservation efforts.

The project has collaboratively developed a strategy for building capacity and start to implement it at a regional bird monitoring training workshop. Products include:

- A Caribbean strategy for capacity building for bird monitoring,
- A database summarizing on-going monitoring programmes,
- A training manual for monitoring protocols for major groups of birds and habitats (e.g., IBAs), including supporting activities (such as the use of volunteers).

Project materials have been made available on-line on the SCSCB ConserveOnline Workspace "Caribbean Birdwatch.

Objectives:

The objective of the workshop was to provide persons from across the Caribbean with equipment, materials, training and skills to apply basic bird monitoring protocols, so that they will be able to:

- Design and implement a long-term bird monitoring programme in their own country
- Train and mentor others
- Form the basis of a regional monitoring network.

Agenda (see Appendix 3)

The workshop format included three tracks:

- **Background material** – introduction to the major considerations for designing, implementing and applying results of monitoring programmes.
- **SCSCB Protocols, field trips and analysis** – simple approaches to monitoring landbirds, seabirds, herons and egrets, waterbirds and habitats, and analysing the results.
- **Clinics and participant presentations** – an opportunity for participants to get personal guidance and advice on their projects from experts in the field.

The workshop included a complete introduction to designing, implementing, analyzing and reporting basic bird monitoring programmes in the region. With the assistance of the team of facilitators and other interested persons, SCSCB is developing simple basic protocols for monitoring landbirds, wetland birds, seabirds and bird habitats. These were presented and tested at the workshop. The participants undertook to share their experiences and train others in their islands.

Trainers and participants (See Appendices 1 and 2):

Participants: Twenty-six participants attended the workshop¹. They came from 19 organizations in 16 countries (representing 18 islands and 2 mainland countries) across the Caribbean (Appendix 3). Participants included directors and staff of national organizations in charge of managing protected areas, conservation officers from government agencies and NGOs, protected area wardens and staff, monitoring contractors and volunteers. All shared a common interest in learning monitoring methodologies and how to use the results from monitoring to more effectively conserve and manage migratory and resident bird species.

Presenters: Presenters included John Alexander (Executive Director, Klamath Bird Observatory), Frank Rivera Milán (Ecologist, Division of Migratory Bird Management, USFWS), Geoff Welch (International Management Plans Advisor, Royal Society for the Protection of Birds), Lynn Gape (Deputy Executive Director, Bahamas National Trust), Jeff Gerbracht (eBird Project Manager, Cornell Laboratory of Ornithology), Arne Lesterhuis (Coordinator Technico, CNAA, Wetlands International). Floyd Hayes (Professor, Pacific College), Lisa Sorenson (Assistant Professor, Boston University/President, SCSCB), and Ann Sutton (Co-chair Monitoring and Seabirds Working Groups, SCSCB) (Appendix 4). Materials and comments were also received from Steve Latta (Assistant Director, Department of Conservation and Field Research, National Aviary), Joe Wunderle (International Institute of Tropical Forestry), Gina Zimmerman (Research Ecologist and Coordinator, Avian Research and Conservation Institute), Will Mackin (Co-chair SCSCB Seabirds Working Group), David Wege (Senior Caribbean Programme Manager, BirdLife International) and several others.

Workshop materials:

- **Agenda.**
- **Protocols:** Basic standard protocols for monitoring landbirds, shorebirds, wetland birds, seabirds and habitats were presented in the form of powerpoint presentations (see below) and field tested at the workshop. The results will be used to refine the manual.
- **Presentations:** The presentations were provided to the participants on a CD at the end of the workshop. The intention is to review and revise the presentations as necessary and then make them available to the Monitoring Working Group on a new Workspace called *Caribbean Birdwatch* set up on ConserveOnline. The presentations are too long to include with this report but will be sent separately.
- **Background reading:** Important literature on monitoring was provided to the participants on their CDs. More literature will be uploaded to the new *Caribbean Birdwatch* ConserveOnline workspace.

¹ Close to 50 applications were received. Thirty-two persons were invited but several were unable to attend due to family crises or problems getting visas.

- **Participant packages:** Each participant received a package of materials including a pair of binoculars, a clipboard, a field guide and several other items. For a complete list see Appendix 10.
- **Evaluation sheet:** All participants were asked to complete an evaluation sheet (Appendix 8) and a report on their responses was prepared
- **Certificate of participation:** At the end of the workshop each participant was presented with a certificate of participation.

Manual: Due to the very limited time available for the preparations for the workshop it proved impossible to draft, review and print the monitoring manual before the workshop. The draft manual is provided with this document.

Development of partnerships, support and linkages: Optics for the Tropics donated 30 pairs of binoculars and t-shirts. Cornell Laboratory for Ornithology donated 35 bird song CDs and 40 copies of bird song analysis software (Ravenlite), Herb Raffaele donated 40 copies of "Field Guide to the Birds of the West Indies" and the Bahamas National Trust provided voluntary services to help with the organization of the workshop and free use of its headquarters as a venue for the workshop. Technical assistance was received from more than 13 organizations and individuals (see above). A private donor sponsored all costs related to the attendance of 2 Cuban ornithologists. Requests for permission to use the materials developed for the course have already been received for a US Forest Service training workshop that is to take place in Trinidad in May 2009. Two of the presenters/facilitators from the SCSCB workshop will attend the Trinidad workshop.

Evaluation Report (See Appendices 5 and 6): The evaluation report on the workshop indicated a very high level of satisfaction with the content and presentation of the workshop

APPENDIX 1: LIST OF PARTICIPANTS AT SCSCB MONITORING WORKSHOP

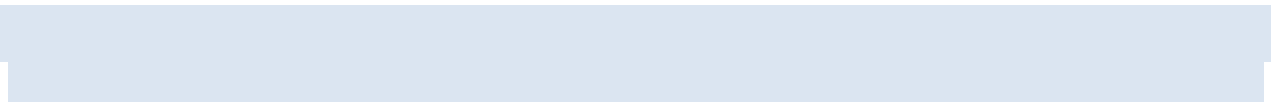
Country	Name	Position, Organization	Email
Antigua	Joseph Prosper	Volunteer and Board Member, Environmental Awareness Group	prosperj@myway.com
Bahamas (New Providence)	Ancilleno (Leno) Davis	The Nature Conservancy	Leno_davis@tnc.org
Bahamas (New Providence)	Randolph (Casper) Burrows	Senior Park Warden, Bahamas National Trust	rburrows@bnt.bs
Bahamas (Abaco)	David Knowles	Chief Park Warden, Abaco, Bahamas National Trust	dknowles@bnt.bs
Bahamas (Grand Bahama)	Prescott Gay	Deputy Park Warden, Grand Bahama, Bahamas National Trust	pgay@bnt.bs
Bahamas (Inagua)	Henry Nixon	Senior Park Warden, Inagua, Bahamas National Trust	hnixon@bnt.bs
Bahamas (New Providence)	Apollo Butler	Deputy Park Warden, New Providence, Bahamas National Trust	abutler@bnt.bs
Bahamas (New Providence)	Predensa W. Moore	Monitoring contractor, Bahamas National Trust	pmoore@bnt.bs
Belize	Marcelo Pau	Belize Audubon Society	comanagedparks@belizeaudubon.org
Cayman Islands	Kristan Godbeer ²	Department of Environment	Kristan.godbeer@gov.ky
Cuba	Ernesto Reyes Mourino ³	Center for Environmental Services	pedro@sagua.hlg.sld.cu
Cuba	Carlos Peña Rodriguez ⁴	Center of Investigation & Env. Services	carlos@cisat.holguin.inf.cu
Dominica	Bertrand Jno Baptiste	Forestry Wildlife & Parks Division	drbirdy2@cwdom.dm
Dominican Republic	Jorge Luis Brocca	Executive Director, Sociedad Ornitologica de la Hispaniola	jbrocca@soh.org.do
Grenada	Anthony Jeremiah	Forestry & National Parks Department	tonydove200@yahoo.com
Jamaica	Ricardo Miller	Environmental Officer, Ecosystems Management Branch, National Environment & Planning Agency	rmiller@nepa.gov.jm
Jamaica	Peter John	Conservation intern, The Nature	painsworth@tnc.org

² Funded by the Royal Society for the Protection of Birds

³ Funded by a private donor

⁴ Funded by a private donor

Country	Name	Position, Organization	Email
	Ainsworth	Conservancy/M.Phil. student, University of the West Indies, Mona campus	
Surinam	Marchal Lingaard	Nature Conservation Division	e_lingaard@hotmail.com
Bonaire, Netherlands Antilles	Fernando Simal	Executive Director, STINAPA	washingtonpark@stinapa.org
Puerto Rico	Mayra Vincenty	Puerto Rico Ornithological Society	mvincenty@yahoo.com
St. Vincent and the Grenadines	Fitzroy Springer	Ministry of Agriculture Forestry & Fishes	springball@incysurf.com
U.S. Virgin Islands	Lisa Yntema ⁵	Volunteer/monitoring contractor, USVI Fish & Wildlife; St. Croix Environmental Association; USFWS	ldyntema@gmail.com
U.S. Virgin Islands	Carol Cramer- Burke	Volunteer/monitoring contractor, St. Croix Environmental Association	cburke.atsea@gmail.com
Turks and Caicos Islands	Ethlyn Gibbs- Williams ⁶	Executive Director, TCI National Trust	nattrust@tcipay.tc
Turks and Caicos Islands	Jonathan Sayao ⁷	Public Awareness/Education Officer, TCI National Trust	jeksayao@yahoo.com
Montserrat	Lloyd Martin ⁸	Montserrat National Trust	martin@gov.ms



⁵ Partly self-funded

⁶ Funded by the Royal Society for the Protection of Birds

⁷ Funded by the Royal Society for the Protection of Birds

⁸ Funded by the Royal Society for the Protection of Birds

APPENDIX 2: LIST OF INTERNATIONAL PRESENTERS AND FACILITATORS AT SCSCB MONITORING WORKSHOP

John D. Alexander, M.S. Executive Director, **Klamath Bird Observatory (KBO)**. Twenty years working to integrate bird conservation and land management in the Klamath Siskiyou Region and beyond. John serves in many regional and national capacities in support of science and conservation holding leadership positions in Partners in Flight, the North American Banding Council and the Western Bird Banding Association and serving on the North American Bird Conservation Initiative Monitoring Sub Committee, the US Department of Agriculture's Forest Research Advisory Committee, Intermountain West Joint Venture Landbird Science Committee and Avian Knowledge Alliance. John works in support of the Klamath Bird Monitoring Network, the Landbird Monitoring Network of the Americas, the Western Hemisphere Banding Network, the Costa Rica Banding Network, and the Avian Knowledge Network. His research focuses on using bird monitoring as a tool for measuring the ecological effects of land management and the role of science in effective conservation delivery. John is currently a PhD student at Prescott College. (Email: jda@KlamathBird.org) (URL: www.KlamathBird.org)

N. Lynn Gape, Deputy Executive Director of the **Bahamas National Trust**. Formerly the Director of Education for the BNT with over 34 years of experience working in education in The Bahamas. Joining the Trust in 1991 allowed Mrs. Gape to work with the Bahamas Ministry of Education and the **West Indian Whistling Duck and Wetlands Conservation Project** to develop the widely-used environmental resource *Wondrous West Indian Wetlands*. She also collaborated in 2007 with the American Museum of Natural History to produce another teacher's resource *Treasures in the Sea*, adopted by the Ministry of the Education as the approved resource for teaching about marine life. Working with Birdlife International she developed the Important Bird Areas Programme in the Bahamas and with Dr. Sorenson developed the beginning courses used to teach local IBA Site Support Groups about monitoring their sites for environmental concerns as well as bird populations. (Email: lgape@bnt.bs) (URL: <http://www.bnt.bs/>)

Jeff Gerbracht, eBird Project Manager, **Cornell Laboratory of Ornithology**. Jeff's professional career has focused on project management and computer programming. His lifelong interest in ornithology and conservation led him to leave American Airlines and join the Cornell Lab of Ornithology as an application developer in 2001. Jeff has developed several interactive GIS, data entry and analysis applications for the Lab, including eBird, the Land Bird Monitoring Program and a Breeding Bird Atlas application. Jeff currently manages the continued development of eBird and Trail Tracker and is developing Neotropical Birds, a project creating online species accounts for all Neotropical bird species not presently covered by the Birds of North America. (Email: jag73@cornell.edu) (URL: ebird.org, neotropical.birds.cornell.edu)

Floyd E. Hayes, Ph.D. Professor of Biology at **Pacific Union College**, and **Editor in Chief** for *Journal of Caribbean Ornithology, SCSCB*. Three years of extensive field work as a Peace Corps Volunteer in Paraguay eventually culminated in a Ph.D. dissertation, followed by nine years working as a Professor of Biology in two universities in Trinidad and a year working as a Wildlife Biologist for the US Virgin Islands. Dr. Hayes conducted field research on the ecology, behavior and biogeography of variety of bird species plus some less elegant animals, including marine invertebrates, amphibians and reptiles. Dr. Hayes is currently developing new courses and directing a new major in Environmental Studies, and enjoys birding and rock climbing in his spare time. (E-mail: floyd_hayes@yahoo.com) (URL: www.geocities.com/floyd_hayes)

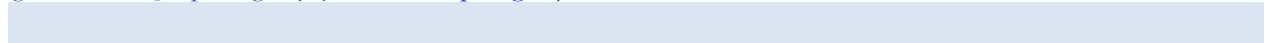
Frank F. Rivera-Milán, Ph.D. is an Ecologist working with the **Population and Habitat Assessment Branch, Division of Migratory Bird Management, US Fish and Wildlife Service**. Previously he was with the Service's Division of International Conservation. He has over 25 years of experience working in Latin America and the Caribbean, and in 1990 earned a PhD from the University of Maryland at College Park. As part of his dissertation work, Dr. Rivera developed a management-based monitoring program for game and nongame columbids on Puerto Rico and territories. Currently he is also monitoring psittacids, columbids and other birds in collaboration with government agencies and NGOs in the Bahamas and Cayman islands. Frank's interests include population ecology, ecological modeling, and the application of methods in ecology and statistics to wildlife management. He has over 30 peer-refereed publications in US and international

journals, and in his current job is mostly involved with the development and application of survey sampling designs and counting methods for landbirds, waterbirds, and shorebirds.

Lisa G. Sorenson, Ph.D. President, **Society for the Conservation and Study of Caribbean Birds (SCSCB)**, Project Coordinator of the **West Indian Whistling-Duck (WIWD) and Wetlands Conservation Project**, Assistant Professor, **Boston University**. 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, environmental impact assessment work, project planning, and conservation education and training. She has also conducted research assessing the potential consequences of global warming on wetlands and waterfowl in both breeding and wintering areas of North America. Currently Dr. Sorenson is leading/coordinating a region-wide outreach and environmental education program and delivering training workshops on the importance and value of local wetlands and their birdlife. (Email: LSoren@bu.edu) (URL: www.scscb.org; www.whistlingduck.org).

Ann Haynes-Sutton, Ph.D., is a Conservation Ecologist who has lived and worked in central Jamaica for 30 years. Her main focal areas are wetlands, birds, conservation education, and management of protected areas. For her Ph.D. she studied and applied conservation of Jamaican seabirds on offshore cays. A member of the executive of the **Society for Conservation and Study of Caribbean Birds** for many years, she is Co-chair of the Monitoring and Seabirds Working Groups. She is currently consulting/volunteering with several NGOs, including working on a project to manage, interpret and develop ecotourism in a wetland in the Portland Bight Protected Area in southern Jamaica. In her spare time she manages a private nature reserve, leads bird tours, and is working on a new photographic field guide to Jamaican birds (due to be published in May 2009). (Email: asutton@cwjamaica.com) (URL: www.scscb.org).

Geoff Welch, International Management Plans Adviser, **Royal Society for the Protection of Birds (RSPB, UK)**. Has worked for the RSPB for 30 years, 25 years as a site manager, mostly on wetlands, and then internationally, initially in Turkey and Central Asia, and, since 2006, globally providing support to BirdLife Partners in management plan development. Has also assisted in student training in bird identification and basic survey techniques in Turkey and Central Asia as part of their national IBA programmes. (Email: geoff.welch@rspb.org.uk) (URL: www.rspb.org.uk).



Workshop Agenda

SCSCB Bird Monitoring Training Workshop

February 19 - 23, 2009, The Retreat, Bahamas National Trust, Nassau, Bahamas

DAY 1 - Thursday, February 19th, 2009

- 08:30 - 09:00** **Registration**
- 09:00 - 09:30** **Welcome, introduction to SCSCB and the Workshop** – Eric Carey, Executive Director, Bahamas National Trust, Lisa Sorenson & Ann Sutton, Society for the Conservation & Study of Caribbean Birds
- 09:30 – 10:00** **Round-robin Introductions – Lisa Sorenson**
- 10:00 – 10:10** **Workshop Logistics – Ann Sutton**
-
- 10:10 – 10:30 Coffee break
-
- 10:30 – 12:30** **Presentations – Why Monitor?**
- 10:30 – 11:00 Introduction to Caribbean Birds – Floyd Hayes, Professor, Pacific Union College
- 11:00 – 11:45 What is Monitoring? Why Monitor Birds? – John Alexander, Executive Director, Klamath Bird Observatory
- 11:45 – 12:30 eBird: Levels A – C Monitoring, What this Data Shows and How it can be Used for Conservation Planning and Management – Jeff Gerbracht – eBird Project Manager, Cornell Lab. of Ornithology
-
- 12:30 – 13:30 Lunch
-
- 13:30 – 15:00** **Presentations – Designing Monitoring Programmes**
- 13:30 – 14:00 How to Establish a Monitoring Programme – Geoff Welch, International Management Plans Adviser, Royal Society for the Protection of Birds, UK
- 14:00 – 14:30 Research, Monitoring and Management of Bird Populations in the Caribbean – Frank Rivera, Ecologist, US Fish and Wildlife Service
- 14:30 – 15:15 Examining the Data: Simple Approaches to Data Analysis – Floyd Hayes
-
- 15:15 – 15:30 Coffee break
-
- 15:30 – 16:00** **Presentations – Monitoring Landbirds**
- 15:30 – 16:15 Point Counts: Methods, Design, Case Studies, Preparation for Field Trip – John Alexander
- 16:15 – 18:00 Point Counts: Demonstration of Distance Estimation and Practice Counts at The Retreat
-
- 18:00 – 19:00 Dinner
-
- 19:00 – 20:30** **Clinics and Individual Presentations, Theme: Landbirds** – Chair: John Alexander

DAY 2 - Friday, February 20th, 2009

- 06:00 – 09:30** **Field trip to pine forest, coppice, woodland sites;** practice point counts and area searches for land birds– John Alexander
-
- 09:30 – 10:00 Coffee break
-
- 10:00 – 12:30** **Data entry and analysis from morning field trip, sample analyses** – Jeff Gerbracht, Frank Rivera, John Alexander
-
- 12:30 – 13:30 Lunch
-
- 13:30 – 15:00** **Presentations – Designing Monitoring Programmes (2)**
13:30 – 14:15 Methods: Sampling Design and Parameter Estimation – Frank Rivera
14:15 – 15:00 Working with Volunteers to Establish a Monitoring Program: Opportunities and Challenges – Lynn Gape, Deputy Executive Director, Bahamas National Trust
-
- 15:00 – 15:30 Coffee break
-
- 15:30 – 17:00** **Presentations - Colonial Waterbirds & Shorebirds - Introduction to Protocols**
15:30 – 16:00 Introduction to Monitoring Seabird Colonies – Ann Sutton
16:00 – 16:30 Introduction to Monitoring Heron and Egret Rookeries – Floyd Hayes
16:30 – 17:00 Introduction to Monitoring Shorebirds – Geoff Welch
-
- 17:30 – 18:30 Dinner
-
- 18:30 – 20:00** **Clinic and Presentations – Theme: Seabirds, Herons & Egrets, Shorebirds** – Chair: Floyd Hayes

DAY 3 - Saturday, February 21st, 2009

- 06:00 – 09:30** **Field Trip to P. Maillis Farm, Adelaide Wetlands and Beach** for training in seabird methods and counting waterbirds.
- 06:30 – 07:45 Estimating Numbers of Ducks and Other Birds – Geoff Welch, Frank Rivera *et al*
07:45 – 09:45 Simulated Seabird Colony: Demonstration and Practice Counts of 2 Methodologies
-
- 09:45 – 11:00 Transfer to The Retreat and coffee break
-
- 11:00 – 12:30** **Data Analysis and Presentation** – Ann Sutton and Frank Rivera
-
- 12:30 – 13:30 Lunch
-
- 13:30 – 15:00** **Presentations - Monitoring Wetland Birds - Introduction to Protocols**
13.30 – 14:00 Introduction to Surveying Wetland Birds - Lisa Sorenson and Ann Sutton
14.00 – 14:30 SCSCB/Caribbean Waterbird Census (modified Neotropical Wetland Census) Protocol - Ann Sutton and Lisa Sorenson

14:30 – 15:00 Protocols to Survey and Monitor West Indian Whistling Ducks - Ann Sutton and Lisa Sorenson

15:00 – 15:30 Coffee break

15:30 - 17:30 **Clinic and Presentations – Theme: Wetlands** – Chair: Lisa Sorenson

18:15 – 22:00 Dinner at Greek Festival – Greek food, sweets, displays, live band, & dancing

DAY 4 - Sunday, February 22nd, 2009

06:00 – 09:30 Field trip to Harrold and Wilson Ponds National Park Wetland Habitats, Lake Cunningham, and Montagu Beach to practice waterbird count protocols – Lisa Sorenson and Ann Sutton

10:00 – 10:30 Coffee break

10.30 - 12:30 Data entry and analysis from morning field trip – Lisa Sorenson and Ann Sutton

12:30 – 13:30 Lunch

13.30 – 15:15 Presentations – Equipment, Parrots and Columbids

13:30 - 14:15 Selecting and Caring for Equipment – Floyd Hayes and Frank Rivera

14:15 – 14:45 Parrot Protocol: Management-based Monitoring of Bahama and Cayman Parrots – Frank Rivera

14:45 – 15:15 Columbid Protocol: Management-based Monitoring of Columbids in Puerto Rico – Frank Rivera

15:15 – 15:30 Coffee break

15:30 – 17:00 Presentations – Monitoring IBAs and Habitats

15:30 – 15:45 Monitoring Important Bird Areas (IBAs) – Geoff Welch

15:45 – 17:00 Habitat Surveys: Simple Ways to Measure and Assess Habitats, including the Relevé method – Geoff Welch, Floyd Hayes, John Alexander

17:00 – 18:00 Dinner

18:00 – 20:00 **Neotropical Waterbird Census** – Arne Lesterhuis, Technical Coordinator, Wetlands International

DAY 5 - Monday, February 23rd, 2009

06:00 – 09:30 **Field Trip to Forest (Bahamas Youth Camp) and Wetland (Bonefish Pond) Habitats to Practice IBA and Relevé Habitat Monitoring Techniques** – Geoff Welch & John Alexander et al.

10:00 – 10:30 Coffee break

10:30 - 12:30 **Data Entry and Analysis from Morning Field Trip** – Floyd Hayes

12:30 – 13:30 Lunch

13:30 – 15:15 **Presentations – Applying and Presenting Results, WorldBirds, Avian Knowledge Network**

13:30 - 14:15 Applying and Presenting Results, Examples – Floyd Hayes

14:15 – 14:45 Sharing Data - Using WorldBirds in Monitoring – Geoff Welch

14:45 – 15:15 Avian Knowledge Network (AKN) – Jeff Gerbracht

15:15 – 15:30 Coffee break

15:30 – 17:00 **Discussion - Directions for the Future** – Chair: Ann Sutton

18:30 – 22:00 Farewell dinner: keynote speaker, Lynn Gape, Deputy Executive Director, Bahamas National Trust; Presentation of Awards and Certificates

APPENDIX 4: LABEL FOR FOLDER COVER FOR WORKSHOP MATERIALS

Society for the Conservation and Study of Caribbean Birds

*Society for the Conservation and Study of Caribbean Birds/
Western Hemisphere Migratory Species Initiative*

BIRD MONITORING TRAINING WORKSHOP
19 - 23 February 2009
Nassau, Bahamas

Logos at the bottom include: Society for the Conservation and Study of Caribbean Birds, U.S. Fish & Wildlife Service, USDA Forest Service, Wetlands International, The Nature Conservancy, Klamath Bird Observatory, BirdLife International, RSPB, Wetlands Conservation Project, National Aviary, Cornell Lab of Ornithology, Optics for the Tropics, and International Institute of Tropical Forestry.

Bird Monitoring Training Workshop

Society for the Conservation and Study of Caribbean Birds / Western Hemisphere Migratory Species Initiative (WHMSI)
February 19 - 23, 2009, The Retreat, Bahamas National Trust,
Nassau, Bahamas

LONG-TERM BIRD MONITORING IN THE CARIBBEAN - WHY, WHAT, WHERE, WHEN AND HOW?

Background

SCSCB's Working Groups (including Monitoring, Waterbirds and Seabirds) have been working since 2003 to identify gaps in regional monitoring strategies for birds. These include weaknesses in every step of the monitoring process, from the availability of trained field biologists to the use of the results of monitoring in regional and national policy and conservation and protected area management. The overall goal of this project is to initiate and promote a coordinated regional bird monitoring network as a means to improve science-based conservation planning and adaptive management of birds and habitats in the region. The emphasis is on providing practical training in simple, standard protocols for monitoring landbirds, waterbirds, seabirds and shorebirds (and their habitats) and promoting the formation of a coordinated regional monitoring network so that information can be shared and used to support local and regional conservation efforts.

The project will collaboratively develop a strategy for building capacity and start to implement it at a regional bird monitoring training workshop. Products will include:

- A Caribbean strategy for capacity building for bird monitoring,
- A database summarizing on-going monitoring programmes,
- A training manual for monitoring protocols for major groups of birds and habitats (e.g., IBAs), including supporting activities (such as the use of volunteers).

Project materials will be made available on-line on the SCSCB website (see below).

The objective of the workshop is to provide persons from across the Caribbean with equipment, materials, training and skills to apply basic bird monitoring protocols, so that they can:

- Design and implement a long-term bird monitoring programme in their own country
- Train and mentor others
- Form the basis of a regional monitoring network.

The workshop format includes three tracks:

- **Background material** – introduction to the major considerations for designing, implementing and applying results of monitoring programmes.
- **SCSCB Protocols, field trips and analysis** – simple approaches to monitoring landbirds, seabirds, herons and egrets, waterbirds and habitats, and analysing the results.
- **Clinics and participant presentations** – an opportunity for participants to get personal guidance and advice on their projects from experts in the field.

Follow up activities will include:

- Revision and publication on website of manual and powerpoint presentations
- Completion of the capacity-building strategy

- Development of follow-up projects
- Establishment of a monitoring coalition
- Participation in other training initiatives e.g. training workshop in Trinidad in May, internships with monitoring programmes
- Further development at the next Monitoring Working Group meeting – Antigua, July 2009

Acknowledgements

We are very grateful to the Organization of American States, US Fish and Wildlife Service, Western Hemisphere Migratory Species Initiative & Division of International Conservation and the Royal Society for the Protection of Birds for providing funding for this workshop. We also thank our many partners and sponsors for their donations of time, expertise, materials and equipment to this make this workshop a success, including:

- The Bahamas National Trust
- Optics for the Tropics
- Cornell Laboratory of Ornithology
- Klamath Bird Observatory
- the National Aviary
- USDA International Institute of Tropical Forestry
- US Forest Service (USFS)
- BirdLife International
- The Nature Conservancy



ABOUT THE SOCIETY FOR THE CONSERVATION AND STUDY OF CARIBBEAN BIRDS

The Society for the Conservation and Study of Caribbean Birds (SCSCB) is a nonprofit membership organization working to conserve the birds of the Caribbean and their habitats through research, education, conservation action and capacity building. Founded in 1988, SCSCB is the largest single bird conservation organization in the Greater Caribbean region, including Bermuda, the Bahamas and all islands within the Caribbean basin.

The overarching goal of the SCSCB is to increase the capacity of Caribbean ornithologists, resource managers, conservation organizations, institutions, and local citizens to conserve the birds of the Caribbean and their habitats. We aim to achieve this by 1) developing regional conservation projects, activities, and materials that facilitate local research, management, conservation, education and outreach, and 2) Building networks and partnerships with local, national and international organizations and institutions that share our bird conservation goals.

The Society holds a week-long biennial meeting, has a number of active Working Groups and publishes *The Journal of Caribbean Ornithology* and two bi-annual newsletters. With assistance from the US Fish and Wildlife Service, SCSCB also sponsors the publication of local bird field guides. The society works to raise public awareness, knowledge and appreciation of the value of the region's many endemic bird species and their habitats through two flagship programs: the *Caribbean Endemic Bird Festival (CEBF)* and the *West Indian Whistling-Duck (WTWD) and Wetlands Conservation Project*. SCSCB also raises awareness about migratory birds through celebration of *International Migratory Bird Day*. To learn more, visit www.scscb.org.

APPENDIX 5: WORKSHOP EVALUATION SHEET

Your name (optional): _____

Place an "X" in the box that best represents your opinion, where 1 = Excellent, 2 = Very Good, 3 = Good, 4 = Fair, 5 = Poor

1. Workshop organization and design

How do you rate:	1	2	3	4	5	Comments
Workshop venue (BNT Retreat)						
Hotel accommodation						
Meals and coffee breaks						
Transportation						
Pre-workshop information						
Equipment and materials received						
Amount of time allotted to powerpoint presentations, time in the field, clinics and discussions						

2. Facilitation Team

Did they:	1	2	3	4	5
Provide good background information and were they knowledgeable of the issues?					
Give adequate answers to questions?					
Use interactive methods?					
Use sufficient supporting materials?					
Do a good job facilitating discussion of the issues?					
Motivate participants to use what was learned in sessions?					

Additional comments:

3. The primary objective of the workshop was to provide you with equipment, materials, training and skills to apply basic bird monitoring protocols, so that you can design and implement a long-term

bird monitoring programme in your own country (or improve protocols/programs in place), train and mentor others, and from the basis of a regional monitoring network. To what extent was this objective met?

Excellent _____ Very good _____ Good _____ Fair _____ Poor _____

4. Rank all bird monitoring protocol/background sessions and check the ones you found most valuable.

	1	2	3	4	5
___ Introduction to Caribbean Birds					
Comment:					
___ What is monitoring? Why monitor?					
Comment:					
___ How to establish a monitoring programme (11 steps)					
Comment:					
___ Landbird monitoring - points counts with distance estimation					
Comment:					
___ Landbird monitoring - area search technique (50 x 10 m transect)					
Comment:					
___ Seabird monitoring					
Comment:					
___ Waterbird monitoring					
Comment:					
___ Shorebird monitoring					
Comment:					
___ eBird and AKN (Avian Knowledge Network)					
Comment:					
___ WorldBirds					
Comment:					
___ Neotropical Waterbird Census (Wetlands International)					
Comment:					
___ Statistics (sampling design and parameter estimation)					
Comment:					
___ Simple approaches to data analysis					
Comment:					
___ Applying, presenting and publishing					
Comment:					
___ Working with volunteers: opportunities and challenges					
Comment:					
___ Research, monitoring and adaptive management					
Comment:					
___ Parrot Protocols					

Comment:					
___ Columboid Protocols					
Comment:					
___ Monitoring IBAs					
Comment:					
___ Habitat Surveys					
Comment:					
___ Field Equipment					
Comment:					

5. What 3 aspects of the workshop did you value the most? (e.g., background presentations, clinics and discussion sessions, sessions on statistics, data entry and analysis, opportunity to get personal guidance and advice from experts in the field, networking opportunities, field trips to practice monitoring protocols, etc.).

- a.
- b.
- c.

6. What are the 2 or 3 most important things (key points or concepts) you learned this week?

7. How will you use what you learned this week?

8. What do you think was missing or how can we improve future workshops?

9. What are the 2 most important topics/questions related to monitoring that you would like to see addressed in future training workshops or in the development of SCSCB's monitoring program?

10. When you go back to your island, what specific questions would you like to use bird monitoring to answer?

11. Overall, how would you rate your satisfaction with the workshop?

Excellent _____ Very good _____ Good _____ Fair _____ Poor _____

Additional comments:

APPENDIX 6: WORKSHOP EVALUATION REPORT

SCSCB/WHMSI BIRD MONITORING TRAINING WORKSHOP
FEBRUARY 19-23, 2009

PARTICIPANT EVALUATION REPORT

Prepared by Elizabeth Blank
19 March 2009

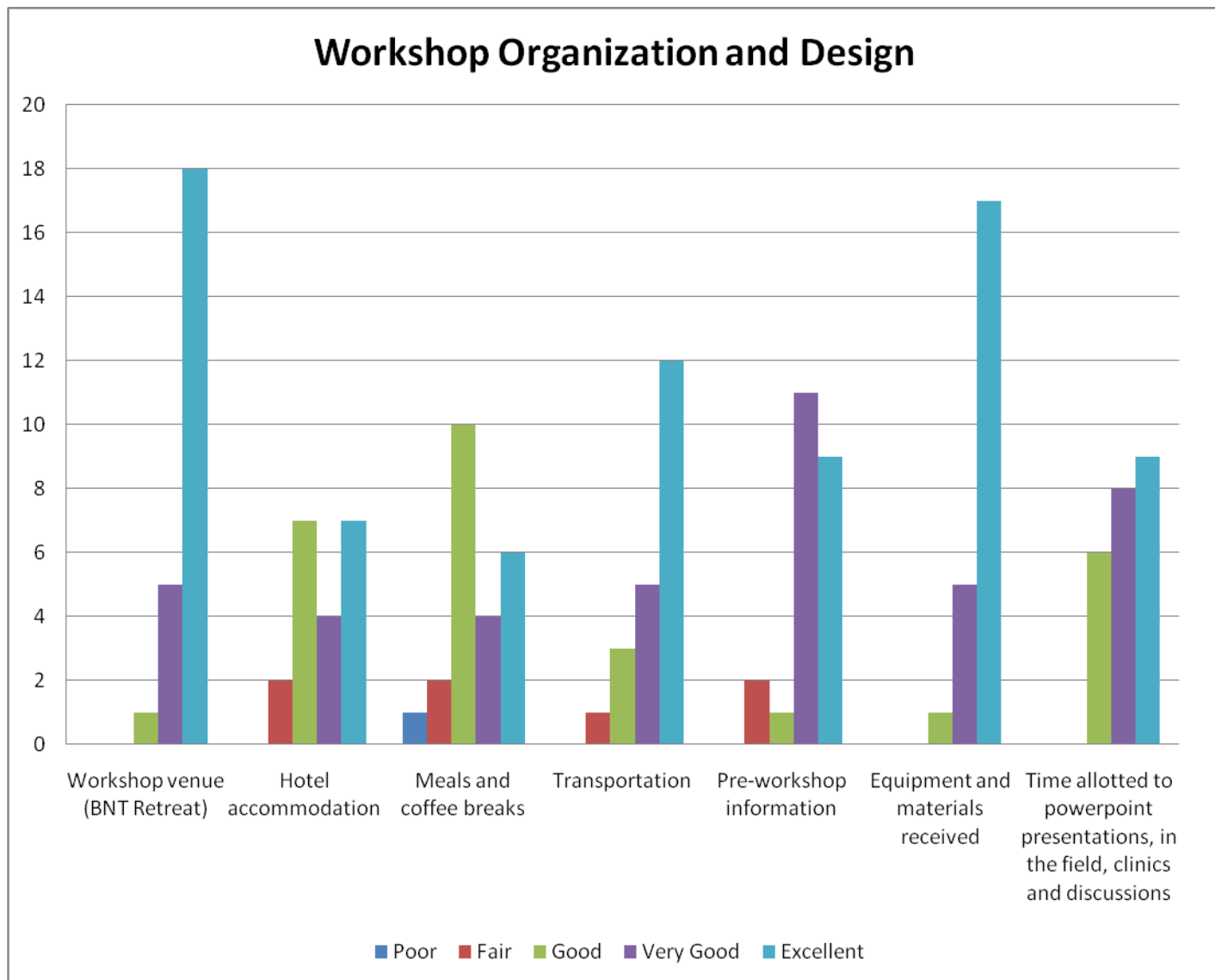
METHODOLOGY OF THE EVALUATION

Evaluation forms were completed at the end of the workshop by each of the 24 participants. Participants were asked to assess how well the workshop objectives were met and to rate the quality of the workshop activities, their personal outcomes, and the facilitators. They assessed the various areas in each category on a scale from 1 to 5, with 1 being the lowest score and 5 the highest (1 ~ poor, 2 ~ satisfactory, 3 ~ good, 4 ~ very good, 5 ~ excellent). If participants did not attend a particular presentation or activity, they were asked to leave the question blank. Several open-response questions were also on the form.

EVALUATION FORM QUESTIONS AND RESULTS

1. Participants were asked to rate their satisfaction with the following aspects of workshop organization and design:

- a) Workshop venue (BNT Retreat)
- b) Hotel accommodation
- c) Meals & coffee breaks
- d) Transportation
 - e) Pre-workshop information
 - f) Equipment & materials received
 - g) Amount of time allotted to PowerPoint presentations, time in the field, clinics and discussion



The data show that the participants were well satisfied with most aspects of the workshop organization and design. The workshop venue (a), transportation (d), and equipment and materials received (f) categories received the highest ratings. Ratings were most variable for meals and coffee breaks (c) and hotel accommodation (b).

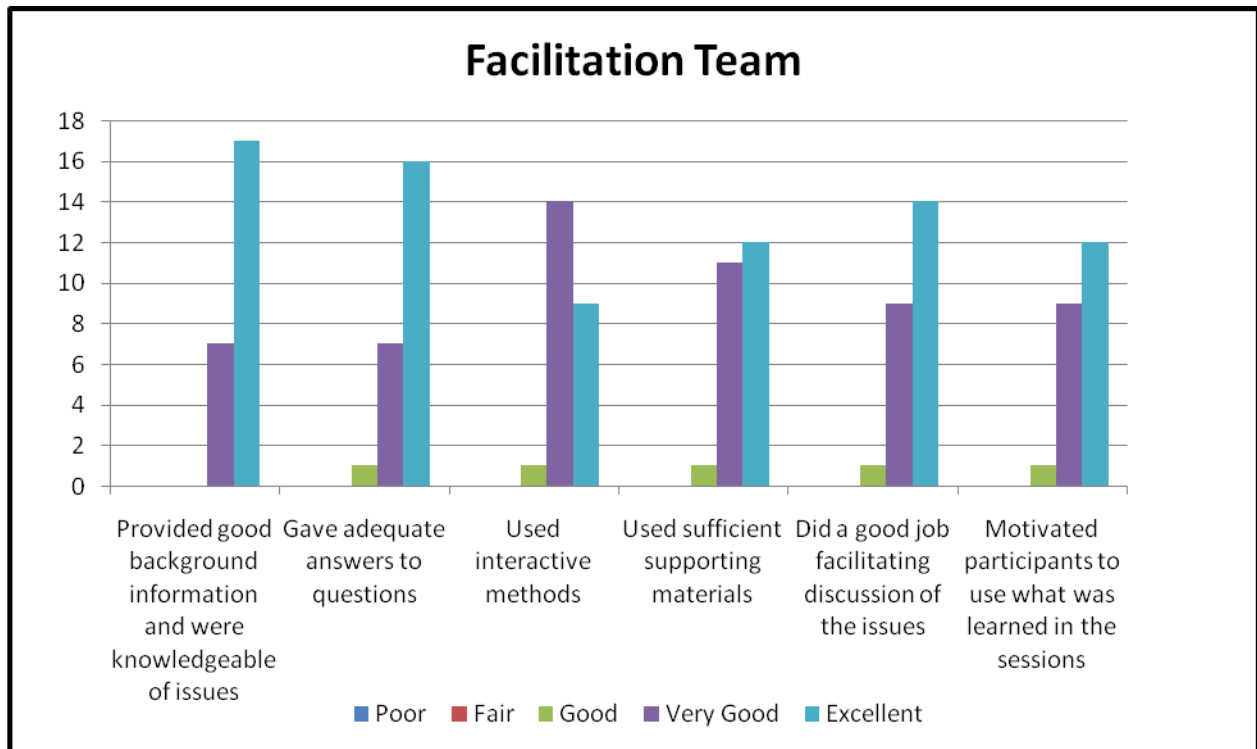
Additional comments by participants on this section:

- *There was no Communication Center at the selected workshop venue (BNT Retreat).*
- *The workshop venue (BNT Retreat) was wonderful!*

- *The workshop venue was perfect and the most appropriate available.*
- *There was little time for in-depth discussion.*
- *It was great to be outdoors.*
- *The field exercises were excellent!*
- *The binders feel uncomfortable in a natural environment but BNT [Retreat] feels natural.*
- *The amount of time allotted to PowerPoint presentations, time in the field, clinics and discussions needed to be more interactive.*
- *Some participants were not accustomed to the meals and coffee breaks provided.*
- *Coffee breaks were adequate but meals could have been improved upon.*
- *Breakfast was not to be provided and some participants expected it to be.*
- *Some of the meals provided were not 'Ecofriendly' and few vegetables were provided within the meals.*
- *Transportation was efficient.*
- *The breaks were a bit amorphous sometimes.*
- *No time to review the pre-workshop information*
- *There was no Jacuzzi in the hotel accommodations provided.*
- *A bit too much information was provided- overload in the PowerPoint presentations and in clinics.*
- *Some free time is needed within the time allotted in the workshop.*
- *I believed that a little more could have been done in terms of interaction. I believed the use of a white board could have helped in this respect when participants could be called on to write pointers, do a calculation, etc.*
- *The wealth of information provided, including all the presentations was excellent.*
- *The **douhed** (? I can't read his handwriting) binoculars and bird guide are a great bonus.*
- *The equipment and materials received were of great quality.*
- *The workshop was well balanced.*

2. Participants were asked to rate their satisfaction with facilitation. Did they:

- a) Provide good background info
- b) Clearly explain the objectives of the workshop?
- c) Clearly explain the importance of issues presented during presentations and clinics?
- d) Clearly explain the importance of bird monitoring and how to monitor birds?
- e) Give adequate answers to questions?



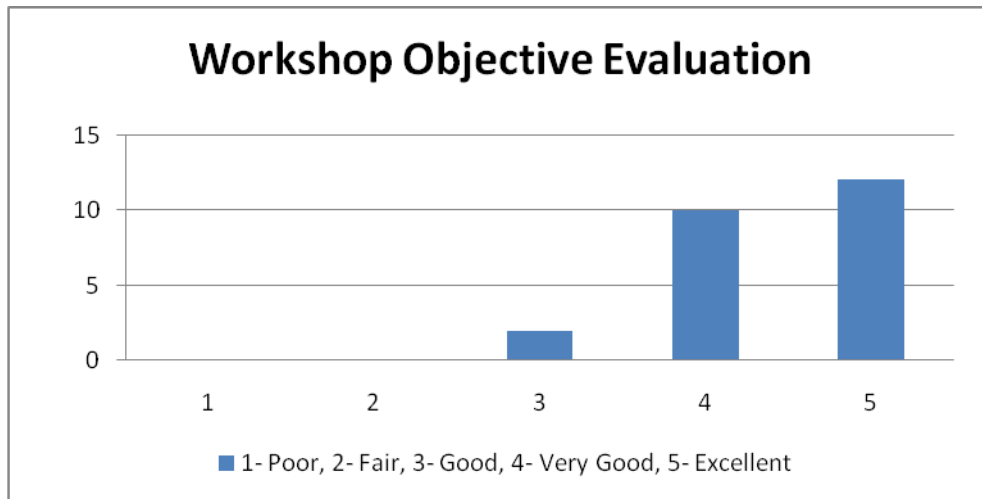
Participants were very well satisfied with the facilitation team. The team received mostly scores of “excellent” and “very good” in all areas of facilitation. Highest scores were received in the areas of providing good background information and were knowledgeable of the issues, gave adequate answers to questions, and did a good job facilitating discussion of the issues.

Additional comments by participants on this section:

- *Networking was great and having an idea pool like this will greatly benefit monitoring and conservation. The presentations will further help.*
- *The South American Continent ask for a different approach. We have to discuss this issue.*
- *[The facilitation team] did a wonderful job but I know there is a lot more to learn, but the time factor was limited. But again, good job and continue the hard work.*
- *Some of information such as statistical analysis was complicated.*
- *Most presentations were excellent, even those which were not understood entirely [such as statistical analysis].*
- *All presenters were very knowledgeable of their respective topic.*
- *The lectures were very good.*
- *It would have been helpful to have agenda and other supporting documents earlier to convince agency “heads” that this was useful information for our organization’s purpose.*
- *I learned a lot, and am inspired to design and carry out new monitoring programs.*
- *[The workshop was a] great effort, thanks!*
- *[The workshop was] an excellent effort coordinated in a short time!*
- *Very well executed plans and very nice organizers (approachable and very pleasing).*

- *The workshop met my objectives and sparked my enthusiasm to return and commence monitoring programs to be managed by my organization.*

3. The primary objective of the workshop was to provide participants with equipment, materials, training and skills to apply basic bird monitoring protocols, so that they could design and implement a long-term bird monitoring program in their own country (or improve protocols/programs in place), train and mentor others, and from the basis of a regional monitoring network. Participants were asked to assess the extent to which this primary objective was met.

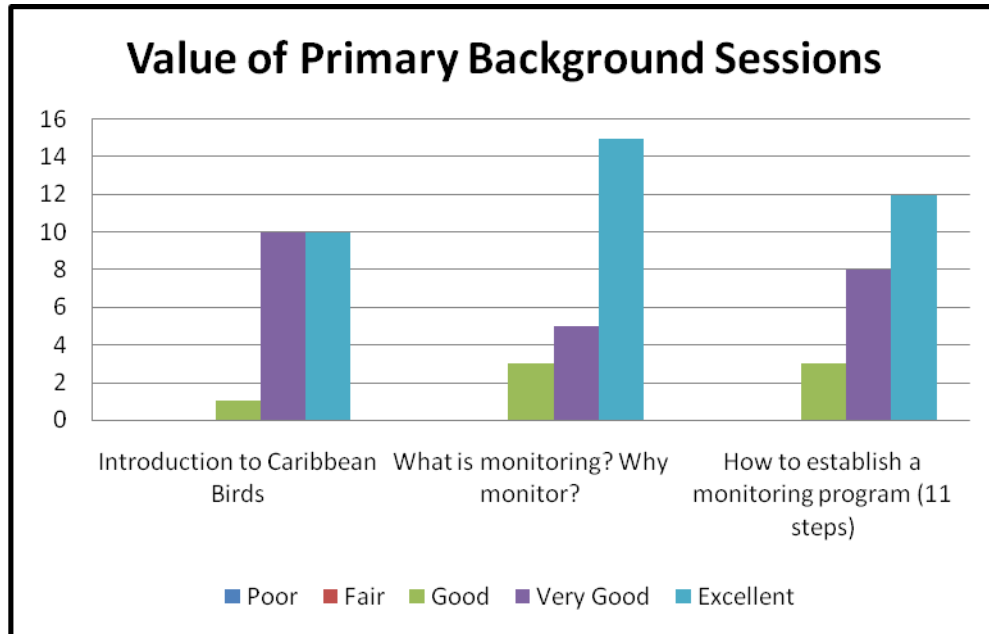


Half of the participants rated the extent to which the objective of the workshop as *excellent*; 42% rated this as *very good*, two participants (8%) gave a rating of *good*.

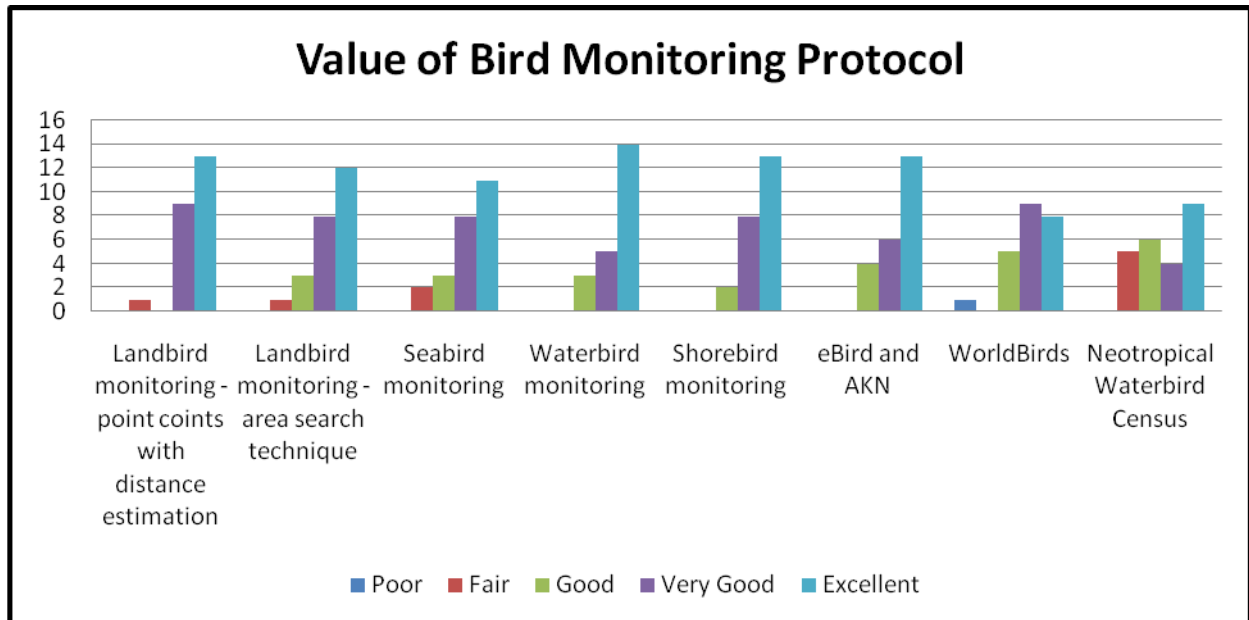
Additional comments by participants for this section:

- *I didn't feel ready to mentor others, but will certainly share as much information as I can.*
- *We'll see about design as time unfolds.*

5. Participants were asked to rank all bird monitoring protocol/background session and check the ones they found most valuable. Results are presented in five graphs below:

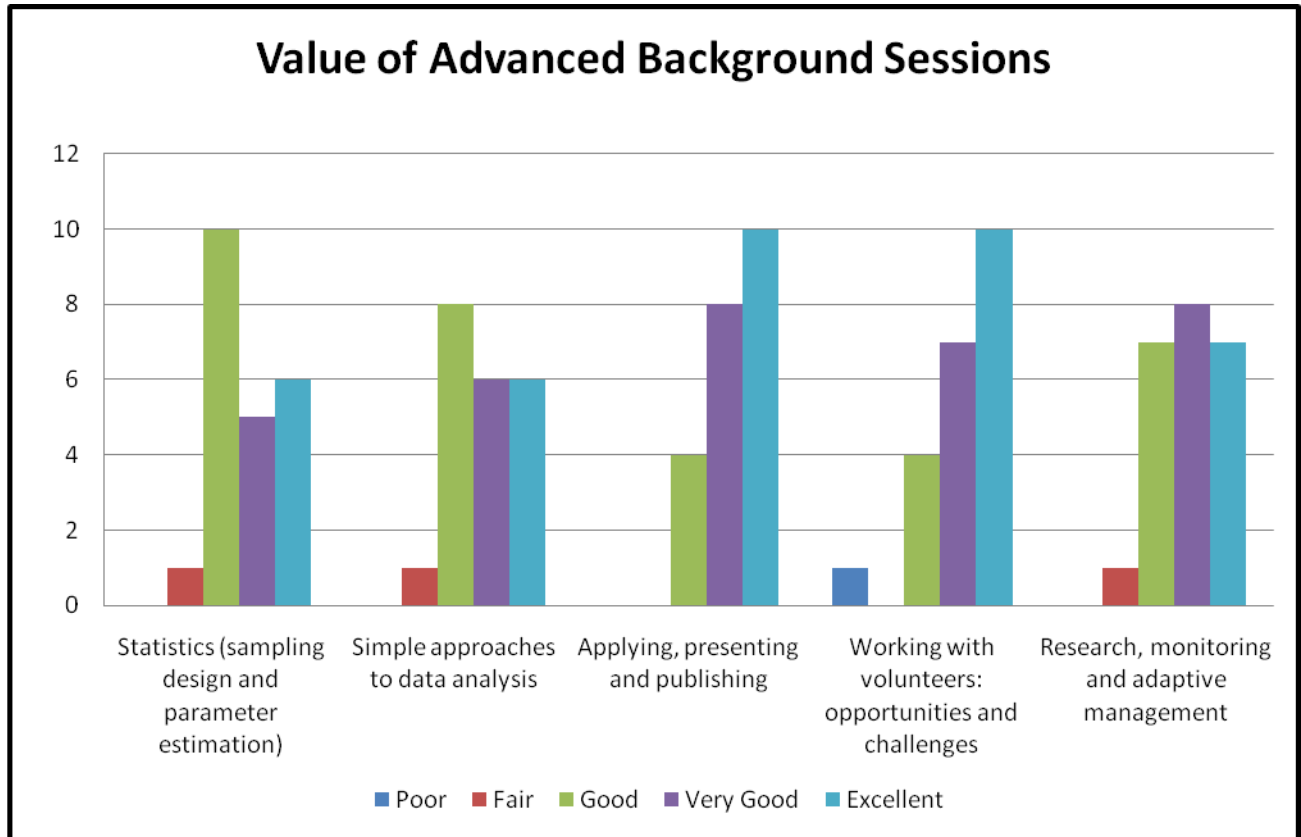


- a) Introduction to Caribbean Birds
- b) What is monitoring? Why monitor?
- c) How to establish a monitoring program (11 steps)



- d) Landbird monitoring- points counts with distance estimation
- e) Landbird monitoring- area search technique (50 x 10 m transect)
- f) Seabird monitoring
- g) Waterbird monitoring
- h) Shorebird monitoring
- i) eBird and AKN (Avian Knowledge Network)
- j) WorldBirds

k) Neotropical Waterbird Census (Wetlands International)



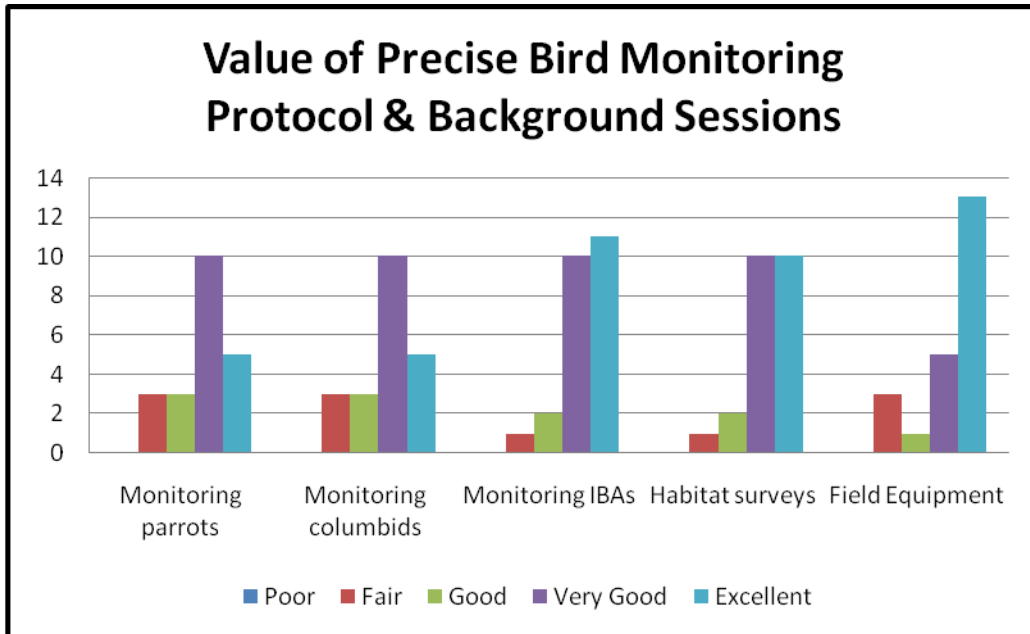
l) Statistics (sampling design and parameter estimation)

m) Simple approaches to data analysis

n) Applying, presenting, and publishing

o) Working with volunteers: opportunities and challenges

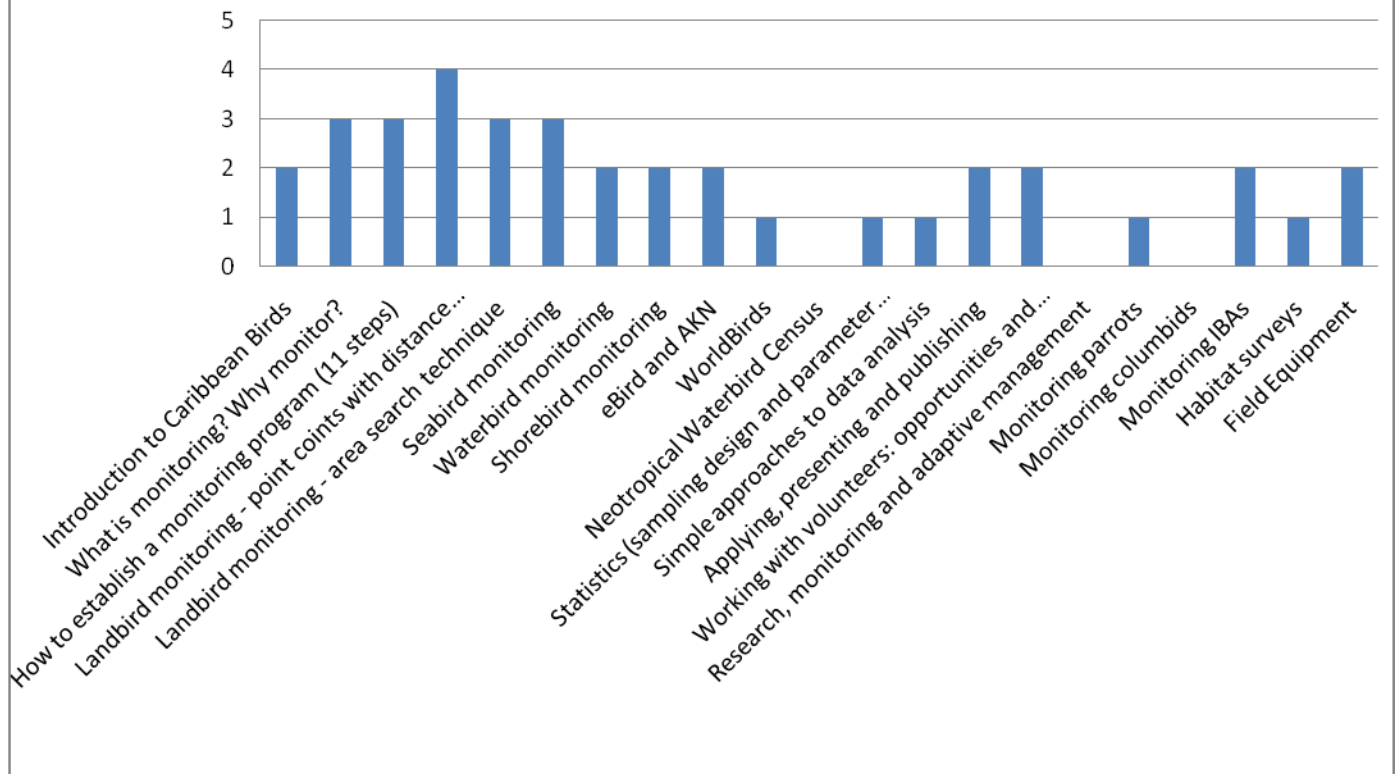
p) Research, monitoring, and adaptive management



- q) Parrot Protocols
- r) Columbid Protocols
- s) Monitoring IBAs
- t) Habitat Surveys
- u) Field Equipment

More than half of the participants rated the information received as to what monitoring is or why to monitor as the most valuable background session.

Most Valuable Protocol or Sessions



Only four participants participated in checking or marking the most valuable of the 21 questions of this section. All of the participants that checked this section felt that “Landbird monitoring” was ranked the most valuable by the greatest amount of applicants.

Additional comments on this set of questions:

a) Introduction to Caribbean Birds

- *Grasped a better understanding of migration.*
- *The [Introduction to Caribbean Birds] is too general.*

b) What is monitoring? Why monitor?

- *To know numbers and where the birds are.*
- *[What is monitoring? Why monitor?] were very good.*

c) How to establish a monitoring program (11 steps)

- *More collaboration is needed.*

d) Landbird monitoring- points counts with distance estimation

- *Subject was unknown to some participants prior to the workshop.*
- *d) Still need work at this, not fully comfortable applying the knowledge gained here.*
- *d)There needed to me more time for this topic.*

e) Landbird monitoring- area search technique (50 x 10 m transect)

- *Daunting since this area still need draining.*

f) Seabird monitoring

- *The Seabird monitoring background session was difficult to judge in usefulness without practice.*

h) Shorebird monitoring

- *Need to get information to be able to apply.*

i) eBird and AKN (Avian Knowledge Network)

- *Participants would like to utilize eBird but do not have data to utilize the program.*
- *eBird and AKN background session is excellent and I will use in the future.*

k) Neotropical Waterbird Census (Wetlands International)

- *Neotropical Waterbird Census was least favorite and participant will probably not use.*
- *A bit uninspired, didn't convince me to participate.*

l) Statistics (sampling design and parameter estimation)

- *Inherently difficult to present but Frank and John did well.*
- *Not comfortable at all with this.*
- *Good information but needed more time.*

m) Simple approaches to data analysis

- *[Simple approaches to data analysis background session] and [Applying, presenting, and publishing] was missed or not recalled by one participant.*
- *Not comfortable with this.*

n) Applying, presenting, and publishing

o) Working with volunteers: opportunities and challenges

- *Eager to draft program.*
- *Nice presentation, need more information in order to follow up.*

r) Columbid Protocols

- *Need more time for the Columbid Protocols.*

t) Habitat Surveys

- *Need more work or explanation of why.*

Thank you!

Open Response Questions

Six open response questions were asked and an additional comment section was included in the end of the evaluation form. Individual comments are compiled below.

6. Participants were asked which three topics/sessions were most valuable to them (e.g. background presentations, clinics and discussion sessions, sessions on statistics, data entry and analysis, opportunity to get personal guidance and advice from experts in the field, networking opportunities, field trips to practice monitoring protocols, etc.)

- *Discussion sections- being able to hear the works being done elsewhere. [9 participants]*
- *Clinics and Background Presentations [14 participants]*
- *Field Visits to practice monitoring [18 participants]*
- *Networking Opportunities [8 participants]*
- *Personal Guidance and advice from experts in the field [10 participants]*
- *Practice monitoring activities[2 participants]*
- *Meeting participant- being able to spend time with people from other countries. [2 participants]*
- *Learning new methods[1 participant]*
- *Data entry and analysis[7 participants]*
- *Sessions on statistics [3 participants]*
- *Interaction with presenters and participants [1 participant]*

7. Participants were asked what the 2 or 3 most important things (key points or concepts) that they learned during the week?

- *11 steps how to establish a monitoring program [7 participants]*
- *Habitat Surveys[5 participants]*

- *Landbird monitoring techniques [4 participants]*
- *All projects are focused around a specific question [3 participants]*
- *Create protocol (well defined to answer questions). [3 participants]*
- *Establish and apply protocols that answer specific questions to inform conservation management. [3 participants]*
- *The workshop gave me the opportunities to network. [3 participants]*
- *It enhanced my ability to enter data and analysis. [3 participants]*
- *eBird- and how easy it is! [2 participants]*
- *Point of view to apply statistic and its interpretation. [2 participants]*
- *Planning and design importance [2 participants]*
- *Counting techniques for different areas. [2 participants]*
- *Setting up goals and objectives- critical and important to the project (e.g. monitoring program); the method should be in relevance to the set goals. [2 participants]*
- *Waterbird monitoring techniques[2 participants]*
- *The workshop clarified my perception of the importance of monitoring. [1 participant]*
- *Highlighted the lacks in programs participants were currently involved in. [1 participant]*
- *The half life of data, publish useful information. [1 participant]*
- *Field trip protocols [1 participant]*
- *Parrot protocol issue [1 participant]*
- *Equipment Used- Range finders [1 participant]*
- *Get the information out to the public! [1 participant]*
- *I found how to establish a volunteer program important this week. [1 participant]*
- *Skills[1 participant]*
- *Coordination [1 participant]*
- *Don't be afraid to ask for help, early and often. [1 participant]*
- *A sense of humor is important.[1 participant]*

8. Participants were asked how they will use what they learned this week.

- *To improve ongoing mentoring; to share with others who monitor; to develop new monitoring projects and to increase volunteer participation.*
- *I learned to keep practicing what I know and to keep doing this as well as the importance in training others.*
- *Refining current monitoring protocol.*
- *To work with others to establish and participate in local birding surveys on my island.*
- *Implement better/ more active monitoring in IBAs/ protected areas. –This was good!*
- *Designing new monitoring programs.*
- *Assist in writing management plan for WIWD. Analyze WIWD duck data into scientific read.*
- *Start a monitoring program for White Tail Tropic Birds.*
- *Try to involve others in monitoring and all other initiatives.*
- *To help the IBA monitoring program in the Bahamas to go further. Also assisting ongoing programs.*
- *I will use it to improve the quality of work now being done back home. Also, to guide others wanting to do other forms of monitoring.*
- *The ability to train other staff members.*
- *To implement information in management strategies.*

- *To identify the most urgently needed projects especially in the area of monitoring endemics and regional endemics.*
- *I will use what I learned this week by teaching and in my research.*
- *Developing and carrying out monitoring.*
- *I intend to redesign current monitoring efforts especially as it relates to Columbidae monitoring.*
- *I intend to increase the monitoring to capture more information for better analysis and ultimately management decision making.*
- *I will improve my knowledge about bird studies and habitat study.*
- *I will setup training for other members of staff.*
- *I learned how to start a monitoring program for White Tail Tropic Birds.*
- *As a park warden and being in charge of our IBA, I will start a quarterly monitoring program.*
- *Setup a working group in our own area, carefully lay-down and analyze current situation and initiate program.*
- *Work with volunteers and encourage more people to engage in bird monitoring.*
- *I learned how to obtain assistance from RSRB, increase public awareness activities and implement monitoring.*
- *I will use what I learned this week to give a proper report to my superiors and my fellow birders as to how to get the job done right.*
- *In the development of monitoring with Waterbird populations.*
- *In the final design for my monitoring program and for consulting in the future.*

9. Participants were asked what they thought was missing or how the future workshops could be improved upon.

- *The workshop could be improved upon by allowing participants to share of cultural experiences/ souvenirs with visitors and bring shirts/ magazines, etc.*
- *To work with others to establish and participate in local birding surveys on my island.*
- *Continue on the base that was created at this workshop by adding sessions in report writing, proposal writing, and setting up other surveying methods (not 5" point counts) area.*
- *Talk about the areas the migratory species use and what are their threats.*
- *Time. I feel it was too compressed; more time would have been useful.*
- *Must provide more or a free time during the day for participants.*
- *Workshops need to be both fun and educational.*
- *The sessions (daily) were too long, leaving me very tired at mid-day, so the afternoon lectures were not absorbed.*
- *I think it was quite packed and nothing missing.*
- *Actually taking data from a project and shows statistical techniques to analyze.*
- *Bird banding and nest monitoring could be discussed more.*
- *More hands-on training will be much better.*
- *Introduction to bird banding.*
- *The option as a group to post-pone some lectures sessions, on 1 day with existing/ night, so to use the daytime to explore the town.*
- *Identification and monitoring needs by country.*
- *The participants should have been given the opportunity to suggest and document current needs and be offered future support.*
- *This kind of workshop is very important but we need to continue to give some more, we cannot stop. To teach people, we need any program like this.*

- *The future workshops could dedicate more time to the analysis of results where we have applied the things that we have learned.*
- *To share with others who monitor.*
- *To develop new monitoring projects and to increase volunteer participation.*
- *I think most people stop being productive after a certain time... fifteen hour days for five days in a row is too much.*
- *Provide substantial food before field trips or immediately after field trips. I don't do well on sugar and caffeine only.*

10. Participants were asked what the 2 most important topics/ questions related to monitoring that they would like to see addressed in future training workshops or in the development of SCSCB's monitoring program.

- *How can I analyze my data for future use?*
- *How to standardize and make protocols feasible?*
- *How to correlate my data to other data sets?*
- *Funding/ Fund raising [2 participants]*
- *Data analysis [3 participants]*
- *Project Design[2 participants]*
- *How to continue the started monitoring program?*
- *Statistics*
- *Methods*
- *Study Design*
- *Equipment needs, i.e. tools to perform work for surveying, etc.*
- *Simple forms of data analysis to produce better results to manage our IBAs/ Protected areas.*
- *Assistance in implementing monitoring projects.*
- *Technical support to continue.*
- *Caribbean birds and monitoring program*
- *Bird banding. The importance of proper techniques*
- *Materials to help teach others.*
- *How to assess the success of a monitoring program.*
- *How to maintain a high quality monitoring program.*
- *How I can analyze my data for future use.*
- *To address island endemic populations and habitat conditions.*
- *Workshop with regards to proper methods of documenting and publishing.*
- *Fund-raising would be a good future topic.*
- *Writing reports should be focused on in the future.*
- *To start a monitoring program in St. Vincent and the Grenadines.*
- *To locate habitat and nest site.*
- *What coordinated monitoring programs can be implemented between countries with a focus on a common bird species?*
- *How to do project design?*
- *How to continue the started monitoring program?*
- *Becoming independent while sharing and data analysis.*

11. Participants were asked when they go back to their island, what specific questions they would like to use bird monitoring to answer.

- *Distribution of land birds (native and migratory) on St. Croix.*

- *Nesting density of White Crowned Pigeons at two specific sites.*
- *Impact of predator removal on Least Tern nesting success at one or two sites on St. Croix.*
- *How do invasive species affect bird distribution and density?*
- *How does removal of invasive species affect bird distribution and density?*
- *What species are in the country and determine the distribution?*
- *What management strategy to apply to Species Conservation? Is there a threat to species survival?*
- *Population of game birds on the island, their distribution.*
- *Is the pressure of hunting on White Crown Pigeons a major issue in the Bahamas and the other countries where it is found?*
- *Check the status of the bird population.*
- *How or what is the amount of American Coots in HWP?*
- *How can we use information to continue/extend protected areas?*
- *How can we use information to educate the public (students, etc.)?*
- *The importance of monitoring*
- *Counting techniques for different areas.*
- *Numbers of a particular species of bird in colonies and population trends.*
- *Winter migrant habitat issue*
- *Regional endemic birds issues, eg. Status, threats, etc.*
- *How to vary the habitat used for the endemics birds that live in my study area, due to the use of the land to build resorts?*
- *To identify the habitat and areas where sea birds nest.*
- *Have a database and know the number (abundance) of the different bird species on the island.*
- *Create a data base report.*
- *Share information*
- *Assistance*
- *Methods*
- *What is the population and range of Bridled Quail Dove on St. Croix?*
- *What Neotropical migrants are present in moist tropical forests on St. Croix?*
- *What other habitats on St. Croix are important to the Neotropics?*
- *How can we increase the breeding success of the Least tern on St. Croix?*
- *Species composition, species distribution, evaluation of results of management actions- eradication of exotics.*

12. Participants were asked to rate their overall satisfaction with the workshop. The choices were poor , (1), fair (2), good (3), very good (4) and excellent (5),



All of the participants expressed an over-whelming positive satisfaction with the workshop.

13. Additional Final Comments of the Evaluation Form:

- *Would like to see banding workshops.*
- *While the group was very enthusiastic and hardworking, we/ I felt we needed time in the field, too long hours sitting.*
- *My favorite suggestion that I heard was Leho's suggestion to do an actual research project during a workshop.*
- *Thanks! I learned a lot.*
- *More involvement of the Neotropics because the migratory species use a large area on this continent.*
- *I would like to know the availability of Ph. D. research funding.*
- *This was an inspiring workshop: presenters and participants were top notch!*
- *I need to take a course on statistics.*
- *Thank you all very much for putting so much time and energy into this important effort! I look forward to future workshops!*
- *Thanks again!*
- *Thank you 😊*

CONCLUSIONS AND RECOMMENDATIONS

The evaluations demonstrate that the participants were very satisfied with the content of the workshop and the quality of the facilitation team. All the modules were useful, but the ones on how and why to monitor were judged particularly useful. Most aspects of the workshop were judged good to excellent. Things that were only ranked as fair included the accommodation, meals and pre-workshop materials. No aspects of the workshop were ranked as poor. Things that could have been improved included the length of the workshop (people felt it was too short given the amount of material presented). There was considerable interest in how the initiative will be continued, and enthusiasm for further training workshops and materials, including a wide range of topics such as:

- Design and implementation of projects and monitoring programmes
- Further development of protocols including monitoring programmes that can be shared across geographic boundaries
- Continued technical support and mentoring

- Banding
- Selecting sites and implementing programmes
- Statistics and data analysis
- Reporting the results
- Funding and sustainability.

These comments will be incorporated into the capacity building strategy.



APPENDIX 10: LIST OF WORKSHOP MATERIALS PROVIDED TO EACH PARTICIPANT

Pre-workshop materials

- Application form
- Letter of invitation
- Information for participants
- Database questionnaire
- What to bring

Workshop materials

- Introduction to the WHMSI project and SCSCB
- Workshop Agenda
- Certificate of participation
- CD with WHMSI/SCSCB workshop presentations and background materials

Field forms

- Point counts
- Seabird surveys
- Caribbean water bird census
- Habitat surveys
- IBAs

Field equipment

- 1 pair binoculars (for personal use or donation to their institution)
- Clipboard
- Bahamas National Trust bag

CDs

- Bird song CD (Lesser Antilles, Puerto Rico, Bahamas/Cuba/Jamaica/Costa Rica as appropriate)
- Ravenlite

Books

- Raffaele et al. 2003. *Birds of the West Indies*. Princeton Field Guides, Princeton, New Jersey)
- Bibby, C., Jones, M. & Marsden, S. 1998. *Expedition Field Techniques - Bird Surveys*. Expedition Advisory Centre, London.
- Gilbert, J. 2008. *RSPB Reserves 2008*. RSPB, Sandy, Bedfordshire, UK.

SCSCB field identification cards

- Wetland Birds of the Caribbean identification card
- Seabirds of the Caribbean identification card
- Landbirds of the Bahamas identification card
- Resident and Migratory Ducks of the Caribbean identification card

T-shirts

- International Migratory Bird Day 2009
- Optics for the Tropics

Other supplies

- Field notebook (waterproof)
- Beaufort scale
- Pencils
- Pens
- Notepad

APPENDIX 7: CERTIFICATE OF PARTICIPATION



