The Central American Waterbird Census

February 2013 summary report

June 2013

Environment Canada

Introduction

The Central American Waterbird Census (CAWC) is an initiative of the Waterbird Conservation Council, BirdLife International and Wetlands International aiming at bi-annual waterbird censuses in the seven countries of Central America; Panama, Costa Rica, Nicaragua, El Salvador, Honduras, Guatemala and Belize. With active waterbird monitoring programs in North America, Caribbean and South America, the CAWC was initiated in 2011 in order to fill a significant gap in waterbird monitoring in the Americas. The census now entered its third year and has been expanding coverage ever since the start. Although not all countries participate yet on a regular basis, there is a clear interest from the region to continue with this initiative.

This report summarizes the results of the Central American Waterbird Census carried out in February 2013

Methodology

The CAWC follows the methodology of the Neotropical Waterbird Census (NWC) coordinated by Wetlands International in South America. Lead organizations in each Central American country coordinate and undertake the census and are asked to focus on key sites for waterbirds and encourage census participants to undertake at least one waterbird census at such a key wetland site. Key wetland sites are considered to be Ramsar site, wetland Important Bird Areas (IBAs), wetlands Protected Areas or WHSRN.

Data is collected on slightly modified versions of the standard two NWC forms used by Wetlands International (see Annex I). There are three options provided for submitting the data: via the national coordinating organizations, to the e-mail address censo.avesacuaticas.ca@gmail.com, or via eBird http://ebird.org/content/ebird (in which case participants were asked to add "Central American waterbird census" to the note section). Participants are asked to count all species of waterbird present at a site, including seabirds.

Participating institutions

The following organizations and institutions have been participating in the February 2013 census. Those highlighted in Bold participated for the first time:

Sociedad Audubon de Panamá – Panama
Museo Nacional de Costa Rica – Costa Rica
Unión de Ornitólogos – Costa Rica
Salva Natura – El Salvador
Sociedad Hondureña de Ornitología – Honduras
Robert J. Gallardo (Field Guide to the Birds of Honduras) - Honduras
Flora & Fauna International - Nicaragua
Universidad Centroamericana – Nicaragua
ONG La Cuculmeca – Nicaragua

Results

The census was formally carried out between 2 and 17 February, however, three surveys were carried out after these dates due to logistics. Five of the seven Central American countries participated (Costa Rica, El Salvador, Honduras, Panama and Nicaragua). The census was implemented in 37 sites and included 25 sites that fall within key wetland sites (11 IBAs, nine Ramsar sites and one WHSRN site; see Table 1). A total of 88 waterbird species were recorded, comprising 19 families, and 68.027 individuals counted. This is the highest number of waterbird counted during the census to date.

Table 1. Key wetland sites covered in the February 2013 waterbird census

Country	Site	IBA	RAMSAR	WHSRN
Honduras	Refugio de Vida Silvestre Cuero y Salado	HN004	Barras de Cuero y Salado	-
	Lake Yojoa	-	Subcuenca del Lago de Yojoa	-
Costa Rica	Tarcoles, Carara, La Cangreja	CR010	-	-
	Manglares y franja costera del Golfo de Nicoya	CR004	-	-
	Laguna La Bocana	CR003	Parque Nacional de Palo Verde	-
	Isla de Pajaros			-
	La Catalina- Puente La Espuela			-
	Humedal Palo Verde			-
	Río Tempisque- transecto Bolsón á Isla de Pajaros			-
El Salvador	Salinera El Jiote	SV019	-	-
	Salinera San Ramon		-	-
	Playa San Diego	SV005	-	-
	Bocana del Rio Jiboa	SV014	-	-
	Bahía de Jiquilisco - Isla San Sebastián		Complejo Bahía de Jiquilisco	-
	Bahía de Jiquilisco - Isla Pajarito			-
	Bahía de Jiquilisco - Punta San Juan			-
	Bocana del Río Lempa			-
	Estero de Jaltepeque		Complejo Jaltepeque	-
	Volcán de San Miguel/ Laguna el Jocotal	SV015	Area Natural Protegida Laguna del Jocotal	-
Panama	Costa del Este	PA041	Bahía de Panamá	Upper Bay of Panamá
	Área de Uso Múltiple Ciénaga de Las Macanas	PA026	-	-
Nicaragua	Delta del Estero Real	NI003	Estero Real y Llanos de Apacunca	-
	Humedales de Cosiguina			-
	Lago de Apanás - Malecón Sisle	-	Lago de Apanás-Asturias	-
	Lago de Apanás - El Canal planta hidroelectrica	-		-
	Lago de Apanás - Base Militar Apanás	-		-

Comments on sites and species

Most sites were visited in El Salvador where the census was implemented at 20 wetlands, including 10 sites that fall within four key sites for waterbirds (4 IBAs and 3 Ramsar sites). The highest number of waterbirds was counted in Nicaragua, where at all sites combined, no less than 24.106 waterbirds were counted. However, also the total count of waterbirds at monitored sites in Costa Rica surpassed 20.000 individuals. Specific sites with noteworthy high counts include Delta del Estero Real in Nicaragua, Manglares y franja costera del Golfo de Nicoya and Humedal Palo Verde in Costa Rica, and Lake Yojoa in Honduras (Table 2).

In terms of waterbird species richness, the highest diversity of species was found at Bocana del Rio Jiboa (43 species), Volcán de San Miguel/ Laguna el Jocotal (42 species), Manglares y franja costera del Golfo de Nicoya (42 species), Bahía de Jiquilisco - Isla San Sebastián (35 species) and Lake Yojoa (33 species). Number of species and total count for each site is presented in table 2.

Table 2. Summary of the number of species and individuals recorded at each site during the CAWC in February 2013

Country	Site	Total species	Total count
Costa Rica	Tarcoles, Carara, La Cangreja	22	1.359
	Manglares y franja costera del Golfo de Nicoya	42	8.695
	Laguna La Bocana (IBA Parque Nacional de Palo Verde)	6	1.415
	Isla de Pajaros (IBA Parque Nacional de Palo Verde)	4	248
	La Catalina- Puente La Espuela (IBA Parque Nacional de Palo Verde)	11	245
	Humedal Palo Verde (IBA Parque Nacional de Palo Verde)	24	8.530
	Río Tempisque- transecto Bolsón á Isla de Pajaros (IBA Parque Nacional de Palo Verde)	13	188
		Sub-total	***20.680***
El Salvador	Salinera El Jiote (IBA Bahía de La Unión)	15	47
	Salinera San Ramon (IBA Bahía de La Unión)	18	187
	Laguna El Pilon	9	20
	Laguna Los Negritos	12	223
	Playa las Tunas	14	439
	Playa Maculis	4	129
	Playa Rocosa El Jaguey	13	384
	Estero El Tamarindo	17	211
	Lagunetas en Manglar Las Tunas - El Icacal	22	641
	Playa Las Bocanitas	27	235
	Playa Los Pinos	27	797
	Playa Toluca	20	271
	Playa San Diego	15	338
	Bocana del Rio Jiboa (IBA: Jiquilisco - Jaltepeque) A*	43	1.331
	Bocana del Rio Jiboa (IBA: Jiquilisco - Jaltepeque) B*	26	2.201
	Bahía de Jiquilisco - Isla San Sebastián (IBA: Jiquilisco - Jaltepeque)	35	1.680
	Bahía de Jiquilisco - Isla Pajarito (IBA: Jiquilisco - Jaltepeque)	18	1.529
	Bahía de Jiquilisco - Punta San Juan (IBA: Jiquilisco - Jaltepeque)	19	200
	Estero de Jaltepeque (IBA: Jiquilisco - Jaltepeque)	19	372

	Bocana del Río Lempa	19	274
	Volcán de San Miguel/ Laguna el Jocotal	42	1.289
		Sub-total	***12.798***
Honduras	Refugio de Vida Silvestre Cuero y Salado	28	180
	Lake Yojoa	33	7.445
		Sub-total	***7.625***
Panama	Costa del Este (IBA: Parte Alta de la Bahía de Panamá)	24	2.371
	Área de Uso Múltiple Ciénaga de Las Macanas (IBA: Humedales de Santa María)	25	410
		Sub-total	***2.781***
Nicaragua	Delta del Estero Real (IBA: Delta del Estero Real y Llanos de Apacunca)	27	22.206
	Humedales de Cosiguina (IBA: Delta del Estero Real y Llanos de Apacunca)	14	374
	Humedal Istian - Reserva de Biosfera Isla de Ometepe	23	1001
	Lago de Apanás - Malecón Sisle	12	136
	Lago de Apanás - El Canal planta hidroelectrica	12	265
	Lago de Apanás - Base Militar Apanás	7	161
		Sub-total	***24.143***
**two seperate visits on different dates*		**TOTAL**	**68.027**

Comments on species

The most numerous species during the census included *Dendrocygna autumnalis* (9.817 individuals), *Calidris pusilla* (7.587 individuals), *Calidris mauri* (7.462 individuals), *Charadrius semipalmatus* (5.565 individuals) and *Charadrius wilsonia* (5.444 individuals). For all these five species alike, the majority of were recorded at a single site. At Humedal Palo Verde (Costa Rica) a total of 7.025 *D. autumnalis* were counted, and totals of 5.400 *C. pusilla*, 5.300 *C. mauri*, 5.000 *C. semipalmatus* and 4.500 *C. wilsonia* were recorded all at Delta del Estero Real (Nicaragua). The top four most commonly recorded species (i.e. recorded at most sites) are nearly all herons, including *Casmerodius albus* recorded at 28 sites, *Egretta caerulea* recorded at 26 sites, *Ardea herodias* recorded at 25 sites and *Egretta thula* together with *Actitis macularius* recorded at 24 sites.

A total of 43.154 Nearctic migrant waterbirds were counted, comprising no less than 44 species. This is more than 60% of the total of waterbirds recorded during the census. The most abundant species were the previously mentioned *C. pusilla*, *C. mauri* and *C. semipalmatus,* but also numbers of *Anas discors* (2.682), *Fulica americana* (2.525) and *Tringa semipalmata* (2.384) are worth mentioning.

Three recorded species are considered Near-threatened at the global level (BirdLife 2012), which are *Egretta rufescens*, *C. pusilla* and *Thalasseus elegans*.

Species for which counts reach 1% or more of its biogeographic population size at a single site include *Numenius phaeopus* (1.3% of *rufiventris* subspecies), *Thalasseus maximus* (up to 3.6% of Pacific coast population) and *Charadrius wilsonia* (69% of *beldingi* subspecies). Table 4 provides information on specific counts and the sites where they were recorded.

An overview of results per species is presented below in table 3.

Table 3. Summary of families, species and counts of recorded waterbirds during the CAWC in February 2013.

Family	Species*	NM**	Count	N sites	N countries
Anatidae	*Dendrocygna bicolor*		703	5	4
	Dendrocygna autumnalis		9.817	13	5
	Cairina moschata		79	4	3
	Anas americana	X	1.066	5	4
	Anas cyanoptera	X	1	1	1
	Anas discors	X	2.682	23	5
	Anas clypeata	X	197	8	4
	Anas acuta	X	153	4	2
	Anas crecca	X	3	1	1
	Aythya americana	X	2	1	1
	Aythya collaris	X	11	1	1
	Aythya affinis	X	1.008	2	2
Podicipedidae	*Tachybaptus dominicus*		11	2	2
	Podilymbus podiceps		55	4	2
Pelecanidae	*Pelecanus erythrorhynchos*		207	4	1
	Pelecanus occidentalis		739	12	3
Phalacrocoracidae	*Phalacrocorax brasilianus*		453	20	5
Anhingidae	*Anhinga anhinga*		31	5	3
Fregatidae	*Fregata magnificens*		184	16	3
Ardeidae	*Botaurus pinnatus*		5	1	1
	Agamia agami		1	1	1
	Tigrisoma mexicanum		55	5	3
	Cochlearius cochlearius		2	1	1
	Nycticorax nycticorax		31	6	4
	Nyctanassa violacea		51	9	5
	Nyctycorax sp.		1	1	1
	Butorides virescens		92	19	4
	Butorides striata		1	1	1
	Bubulcus ibis		392	14	5
	Ardea herodias	X	245	25	5
	Casmerodius albus		507	28	5
	Egretta tricolor		135	21	5
	Egretta rufescens		32	8	1
	Egretta thula		748	24	5
	Egretta caerulea		234	26	5
Threskiornithidae	*Eudocimus albus*		296	18	5
	Plegadis falcinellus		66	4	2
	Platalea ajaja		100	12	4
Ciconiidae	*Mycteria americana*		414	16	5
Aramidae	*Aramus guarauna*		74	4	4
Rallidae	*Laterallus ruber*		4	1	1
	Laterallus albigularis		1	1	1
	Porphyrio martinica		89	5	4
	Gallinula chloropus		674	5	4
	Fulica americana	X	2.525	9	5
Heliornithidae	*Heliornis fulica*		2	1	1
Charadriidae	*Vanellus chilensis*		33	4	3
	Pluvialis squatarola	X	946	17	5

	Charadrius alexandrinus	X	16	2	2
	Charadrius semipalmatus	X	5.565	15	4
	Charadrius wilsonia		5.444	12	3
	Charadrius vociferus	X	104	7	4
	Charadrius collaris		63	6	2
Haematopodidae	*Haematopus palliatus*		4	2	1
Recurvirostridae	*Himantopus mexicanus*		1.780	20	5
	Recurvirostra americana	X	20	2	2
Burhinidae	*Burhinus bistriatus*		18	2	2
Scolopacidae	*Limnodromus griseus*	X	1.166	9	3
	Limnodromus scolopaceus	X	48	3	2
	Limosa fedoa	X	653	4	3
	Numenius phaeopus	X	861	19	5
	Actitis macularius	X	211	24	5
	Tringa melanoleuca	x	115	10	3
	Tringa flavipes	X	69	9	4
	Tringa solitaria	X	4	3	3
	Tringa semipalmata	X	2.384	16	5
	Arenaria interpres	X	158	11	3
	Aphriza virgata	X	4	1	1
	Calidris canutus	X	116	2	2
	Calidris alba	X	448	14	2
	Calidris pusilla	X	7.587	6	3
	Calidris mauri	X	7.462	9	3
	Calidris minutilla	X	1.706	17	5
	Calidris bairdii	X	2	1	1
	Calidris himantopus	X	33	3	2
	Calidris sp.	X	1.030	2	2
Jacanidae	*Jacana jacana*		132	1	1
	Jacana spinosa		720	16	4
Laridae	*Leucophaeus atricilla*	X	2.190	18	5
	Leucophaeus pipixcan	X	77	6	2
	Sterna antillarum	X	2	1	1
	Gelochelidon nilotica		85	3	2
	Hydroprogne caspia	X	35	6	1
	Chlidonias niger	X	2	2	1
	Sterna forsteri	X	1	1	1
	Sterna hirundo	X	10	1	1
	Thalasseus elegans	X	263	3	1
	Thalasseus sandvicensis	X	330	11	3
	Thalasseus maximus	X	1.643	18	4
	Rynchops niger		308	4	2

* Species in Bold are considered Near-threatened **Nearctic Migrant

Table 4. Sites with counts of species surpassing the 1% threshold level

Country	Site	Species	population	Count	1% threshold
Costa Rica	Manglares y franja costera del Golfo de Nicoya	*Numenius phaeopus*	*rufiventris*	507	1.30%
		Thalasseus maximus	Pacific population	146	1.30%
	Tarcoles, Carara, La Cangreja	*Thalasseus maximus*		254	2.30%
El Salvador	Bahía de Jiquilisco - Isla San Sebastián (IBA: Jiquilisco - Jaltepeque)	*Thalasseus maximus*		391	3.60%
	Bocana del Rio Jiboa (IBA: Jiquilisco - Jaltepeque)	*Thalasseus maximus*		350	3.20%
Nicaragua	Delta del Estero Real (IBA: Delta del Estero Real y Llanos de Apacunca)	*Charadrius wilsonia*	*beldingi*	4500	69%

Discussion

Comparing the February 2013 results to former years, an increase of diversity, abundance is clear. This increase can be clarified by an increase in effort, more sites where covered in February 2013 than in previous years, which is a positive development for the census. Among the new sites were two more IBAs and a Ramsar site.

Graph 1. Summary of CAWC results since initiation