



National Audubon Society

Coastal Bird Conservation Program

Beach-nesting Bird Breeding Census and Report for Coastal Alabama - 2007



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2007 Beach-nesting Bird Breeding Census and Report for Coastal Alabama-2007

The Audubon Coastal Bird Conservation Program *Beach-nesting Bird Breeding Census and Report for Coastal Alabama- 2007* was written by Margo Zdravkovic, CBCP Field Director, and edited by Scott Hecker, CBCP Director. *This paper contains original data and photographs. It is requested that no data, figures, tables, or images be used or re-interpreted by others without express written consent of the author. For any questions, please contact: Margo Zdravkovic, National Audubon Society, Coastal Bird Conservation Program, Field Director - email: mzdravkovic@audubon.org

Maps in this report were created using DeLorme's XMap 4.5.

Cover photograph of male Snowy Plover at Bon Secour National Wildlife Refuge by Margo Zdravkovic

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Abstract

In the spring and summer of 2007 the Coastal Bird Conservation Program (CBCP) conducted the first comprehensive statewide, standardized survey of the Alabama coast (including islands) for breeding beach-nesting birds with the cooperation of state and federal agencies. The surveyed species included: Snowy Plovers, (*Charadrius alexandrinus*), Wilson's Plovers (*Charadrius wilsonia*), American Oystercatchers (*Haematopus palliatus*), Least Terns (*Charadrius alexandrinus*), Gull-billed Terns (*Gelochelidon nilotica*), Common Terns (*Sterna hirundo*) and Black Skimmers (*Rhynchops niger*). The CBCP surveyed all known and potential beach-nesting bird habitat on the Alabama coastline. The sites covered included: Bon Secour National Wildlife Refuge, Dauphin Island, West Dauphin Island, Isle Aux Herbes, Pelican Island, Cat Island, Gulf State Park, and Barton Island Peninsula. The total pair numbers of breeding birds located for each species are as follows: Snowy Plover 11 pairs, Wilson's Plover 13 pairs, American Oystercatcher 12 pairs, Least Tern 65 pairs, Gull-billed Tern 67 pairs, Common Tern 90 pairs, and Black Skimmer 220 pairs. This survey provides the first baseline data for breeding distribution, abundance and habitat use for these beach-nesting bird species and can be used for future population assessments and conservation and management plans for beach-nesting birds in coastal Alabama.

Introduction

Coastal Bird Conservation Program - Overview

The first step in conserving coastal bird populations begins with identifying and locating nesting habitats and accurately censusing breeding pairs. Comprehensive, coordinated census and monitoring efforts are essential to understanding and preserving beach-nesting species. Human activities represent the major persistent threat to all beach-nesting bird populations. Constant pressure from increased development and recreational use of beaches has resulted in the destruction of breeding and wintering habitats for all beach-nesting species. Efforts to assess and protect threatened coastal bird populations continue to be a high priority of Audubon from its local chapters to the national level.

In 2003 Audubon established the Coastal Bird Conservation Program (CBCP) and identified the Gulf of Mexico coastal region as its first priority for on-the-ground conservation work. The Coastal Bird Conservation Program is a field-based, science-driven effort whose goals are to: 1) to lead or assist in the assessment of coastal species populations and sites of critical importance, 2) conduct comprehensive field surveys and map populations of priority species, 3) conduct field research, draft comprehensive reports and training texts, and publish findings, 4) monitor and protect important nesting and foraging sites and 5) establish long-term protection programs for these birds and sites with the express purpose of maintaining or increasing their populations.

Since 2003 the Coastal Bird Conservation Program has worked with various Gulf coast partners to increase efforts to census, monitor, and protect nesting Snowy and Wilson's Plovers, terns, oystercatchers, skimmers, and other beach-nesting birds. The CBCP has completed comprehensive statewide surveys of Snowy Plovers, Wilson's Plovers, Least Terns (with the exception of rooftop colonies), Gull-billed Terns, American Oystercatchers, and Black Skimmers along the entire Gulf coast from Tamaulipas, Mexico through the Florida Panhandle. Our partners within numerous Audubon Societies, U.S. Fish and Wildlife Service, National Park Service, state fish and wildlife agencies, and universities agree that increased monitoring and protection of this suite of birds should be a high priority. Before the recent survey and monitoring work of the CBCP few comprehensive statewide breeding censuses had been conducted for Snowy and Wilson's Plovers and other beach-nesting bird species on the Gulf coast.

In 2003 the CBCP conducted the first comprehensive survey of breeding Snowy and Wilson's Plovers in the lower Laguna Madre region of Texas. In 2004, with the help of partners the CBCP completed the first comprehensive breeding census of the Texas coast for these two plover species. These new census data indicated the Laguna Madre region of Texas contained the most significant coastal nesting habitat and breeding pair populations of Snowy and Wilson's Plovers in the U.S. (Zdravkovic 2005). In 2005 the CBCP completed the first comprehensive census of Snowy and Wilson's Plovers and American Oystercatchers for coastal Mississippi and Louisiana. From 2006 through 2008 the CBCP expanded its survey work on the Gulf coast to include the panhandle region of Florida, the Florida Keys and the Tamaulipas region (Laguna Madre of Mexico). These efforts have yielded new baseline data on breeding distribution and abundance, habitat selection, nest chronology, and breeding biology for Snowy and Wilson's Plovers and other beach-nesting species, providing valuable information for future population assessments and conservation plans for these species on the Gulf coast.

Conservation Status of Focal Species

The **Snowy Plover** (*Charadrius alexandrinus*) U.S. population is estimated to be 18,000 individuals, the majority of which comprises the U.S. interior population (*C. a. nivosus*) of approximately 13,200 individuals (Brown *et al.* 2001). The federally threatened Pacific Coast population is estimated at 2,000 individuals and the Gulf of Mexico and Caribbean population (*C. a. tenuirostris*) is estimated at 2,200–2,800 individuals (Avian Waterbird Population Estimates, Wetlands International 2003). The U.S. Shorebird Conservation Plan lists the Snowy Plover as Category 5 (highly imperiled) and the Audubon WatchList designation is in the Red Category (Globally Threatened or Near-Threatened). The

Snowy Plover population of the southeastern U.S. is currently under consideration for federal listing as Endangered. The species is state-listed as Endangered in Alabama and Washington; Threatened in Florida, Mississippi, Kansas, Oregon, and Puerto Rico; and a Species of Special Concern in California.

The **Wilson's Plover** (*Charadrius wilsonia*) U.S. population is estimated to be 6,000 individuals (Brown *et al.* 2001). The Wilson's Plover is listed in the U.S. Shorebird Conservation Plan as Category 4 (species of high concern) based on the increased level of threats to this species on its breeding and non-breeding grounds, as well as its relatively limited breeding distribution. The Audubon WatchList designation for the Wilson's Plover is in the Yellow Category (Moderately High Priority). Although the Wilson's Plover has no federal protection under the U.S. Endangered Species Act; it is state-listed as Endangered in Virginia and Maryland; Threatened in South Carolina; Rare in Georgia; and State-Protected in Alabama.

The **American Oystercatcher** (*Haematopus palliatus*) U.S. population is estimated to be 11,000 individuals (Brown *et al.* 2001). This species is listed in the U.S. Shorebird Conservation Plan as Category 4 (species of high concern) based upon the increased level of threats on its breeding and non-breeding grounds, as well as its limited distribution. The Audubon WatchList designation for the American Oystercatcher is in the Yellow Category (Moderately High Priority) and it is state-listed as a Species of Special Concern in Florida.

CBCP Survey Methods

The CBCP uses standardized methods to conduct full breeding censuses of beach-nesting birds as described in *Locating Breeding Snowy and Wilson's Plovers on the U.S. Gulf Coast- Census Guidelines 2005* (Zdravkovic and Hecker 2005). These methods are consistently applied to all sites surveyed. Following the U.S. Shorebird Conservation Plan, which cites that the highest confidence is placed in population estimates obtained from a dedicated census effort (Brown *et al.* 2001), the CBCP conducts exact pair counts of breeding beach-nesting birds. Breeding pairs of Snowy and Wilson's Plovers, American Oystercatchers, and Terns are defined as: 1) birds exhibiting courtship behavior or joint or group defensive behavior, 2) a single bird or pair at a nest, 3) a single bird or pair with young, or 4) birds located together as a pair. Global Positioning System (GPS) coordinates are collected for each breeding pair, and maps are produced indicating the locations of each pair by species. Based on existing available data (Boyd 1972, Bergstrom 1988a, Chase and Gore 1989, Chase 1991) and CBCP plover breeding data collected on the Gulf coast (Zdravkovic 2005), we assumed for the purpose of our census

that both Snowy and Wilson's Plovers nesting on the Gulf coast are seasonally monogamous.

Methods and Study Area

The CBCP 2007 census and study area covered all known and potential beach-nesting bird habitats in coastal Alabama and included Bon Secour National Wildlife Refuge, Dauphin Island, West Dauphin Island, Isle Aux Herbes, Pelican Island, Cat Island, Gulf State Park, and Barton Island Peninsula in Baldwin and Mobile counties. Surveying and monitoring was conducted from April 27 to 13 July 2007. Data were collected on abundance, distribution and habitat use of Snowy Plovers, Wilson's Plovers, and American Oystercatchers, Least Terns, Gull-billed Terns, Common Terns and Black Skimmers. Our 2007 Alabama census and monitoring spanned the peak-nesting periods for all beach-nesting species surveyed. Repeat surveys were conducted at all sites throughout the breeding season to account for variation in species nesting peaks. All surveys were conducted on foot and all breeding pair coordinates were recorded by GPS. Larger habitats were surveyed by teams of at least two individuals. Marginal habitats were first visually surveyed by boat to determine if full surveys on foot should be conducted. The main focus of our survey was to count breeding pairs and identify breeding habitat. For all breeding pairs located, data were collected on macro and microhabitats used by each species including data on vegetation and substrate type. For all nests located additional data were collected on microhabitat, including the distance of each nest to the nearest vegetation, dune edge, wrack line, salt marsh edge, and water. All beach-nesting bird habitats and nests were digitally photographed.

Results

Alabama 2007 Beach-nesting Bird Census Results and Pair Distribution by Habitat

The CBCP census covered approximately 82 km of the Alabama coast and islands. Of this total approximately 45km of developed coastline areas between Bon Secour NWR and Florida Point Gulf State Park in Baldwin County were surveyed and found to support no breeding beach-nesting birds. CBCP staff and partners located 11 breeding pairs of Snowy Plovers, 13 breeding pairs of Wilson's Plovers, 12 breeding pairs of American Oystercatchers, 65 breeding pair of Least Terns, 67 breeding pairs of Gull-billed Terns, 90 breeding pairs of Common Terns pairs, and 220 breeding pairs of Black Skimmers. All beach-nesting birds were located on the barrier island, barrier peninsula and oyster reef island habitats of coastal Alabama. Nests were found on gulf and bayside sand and shell substrates on barren to moderately vegetated beach habitat in front of the primary

dune, and bayside habitat located behind the primary dune with vegetated, low back-dune edges and barren to moderately vegetated mud/sand/shell/flats.

Roger Clay of Alabama Division of Wildlife and Freshwater Fisheries assisted the CBCP in the field with all island surveys in coastal Alabama and conducted a separate survey of Gaillard Island in Mobile Bay. Gaillard Island breeding pair estimated totals are as follows: Brown Pelican 4,000 to 5,000 pairs, Laughing Gull 3,275 to 4000 pairs, Caspian Tern 257 pairs, Sandwich Tern 210 pairs, and Black Skimmer 19 pairs.

Discussion

The CBCP 2007 statewide comprehensive breeding census of Snowy Plovers, Wilson's Plovers, and American Oystercatchers, Least Terns, Gull-billed Terns, Common Terns and Black Skimmers of coastal Alabama provides the first baseline data on breeding distribution, abundance and habitat use. This information can be used for future population assessments and conservation and management plans for these species in coastal Alabama. In 2008 the CBCP plans to conduct a second season of surveying and begin a monitoring/protective signage program. CBCP is currently engaging in discussions to implement protective measures with the cooperation of local state and federal agencies to preserve and enhance Alabama's small but precious beach-nesting bird population. CBCP 2008 plans for coastal Alabama and continued field assistance to our Alabama partners include:

- Regular surveying and monitoring of beach-nesting birds to determine impacts upon breeding success.
- Posting and roping of all beach-nesting bird breeding areas to ensure protection and reduce from impacts of beach-goers, pets, and boats upon breeding success.
- Posting of important wintering sites, with the goal of reducing disturbance-related impacts on critical high-tide resting areas and low-tide foraging areas.
- Developing various means of public outreach using bird monitoring staff, educational brochures, and local presentations.

Acknowledgements

The CBCP work specific to the Alabama coast in 2007 was supported by the Mobile Bay National Estuary Program as part of a grant from the U.S. Environmental Protection Agency and by a grant from the Alabama Department of Conservation and Natural Resources- State Lands Coastal Section through funding from the Coastal Zone Management Act of 1972, as amended, administered by the Office of Ocean and Coastal

Resource Management, National Oceanic and Atmospheric Administration. The CBCP received additional support for its work on the Gulf of Mexico coast from the National Fish and Wildlife Foundation, the Southern Company, the Booth-Bricker Fund, Shell Oil Company, the Doris Stauffenberg Living Trust, and the National Audubon Society members. The CBCP received invaluable in-kind field support for the 2007 field season in the form of survey assistance and boat transportation to survey sites from Roger Clay of Alabama Division of Wildlife and Freshwater Fisheries and Michael Kayes of the Mississippi Coastal Audubon Society. Housing was provided by Jereme Phillips of Bon Secour NWR, Mark Woodrey of Grand Bay National Estuarine Research Reserve in Mississippi, Michael Kayes, and Roberta and LaDon Swann. The CBCP gives special thanks to Roberta Area Swan for her interest and support of beach-nesting bird conservation. Lastly, the CBCP thanks field research assistant Mark Rodes for his dedication and exemplary field work during the 2007 field season.

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Coastal Alabama Beach-nesting Bird Breeding Pairs- 2007

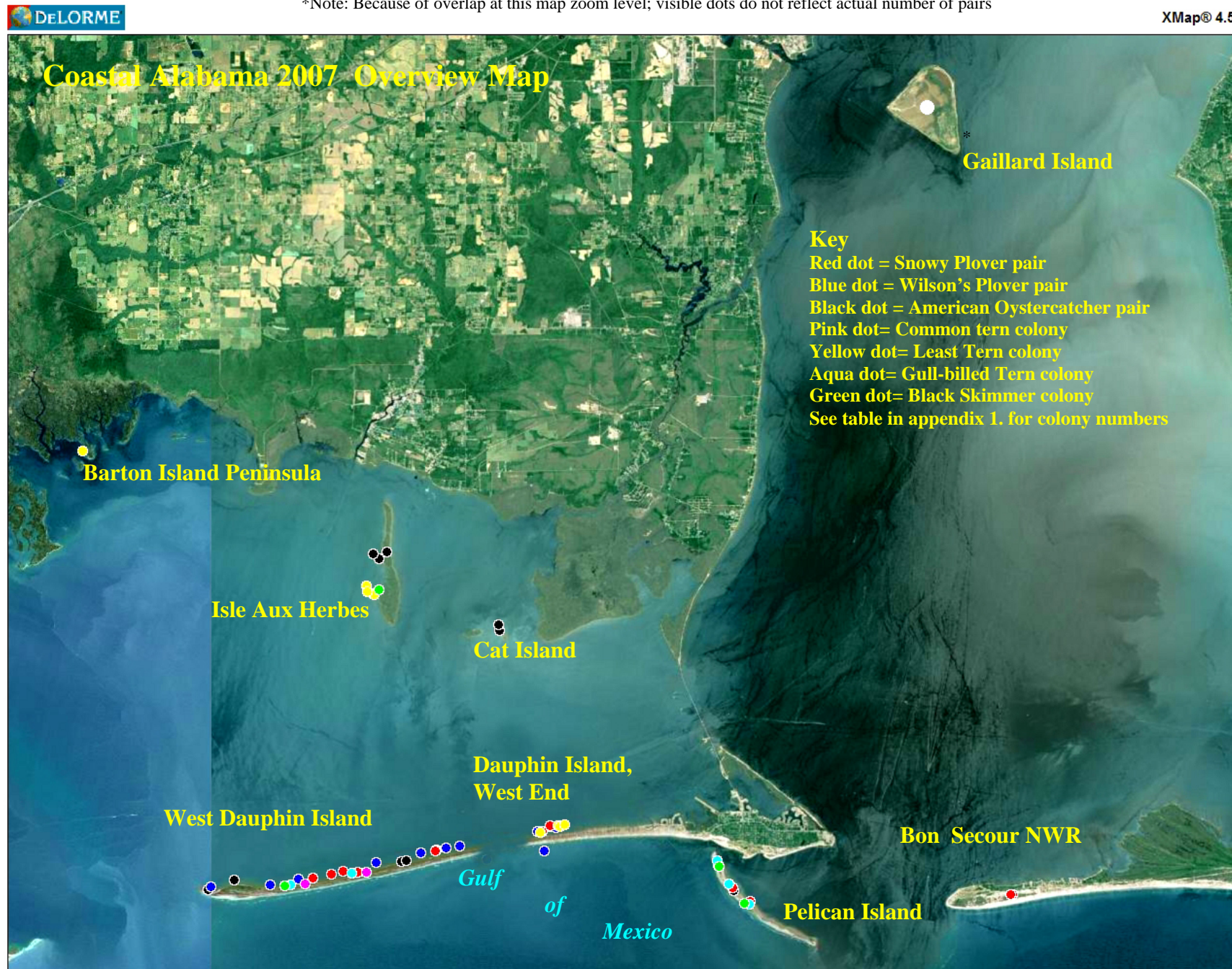
Appendix 1.

Site Name and County	General Habitat Description	SNPL pairs	WIPL pairs	AMOY pairs	LETE pairs	COTE pairs	GUBI pairs	BLSK pairs	Site Km
Dauphin Island, West end, Mobile Co.	barrier island, gulfside and bay side -sand/shell/veg	5	3	0	16	0	0	0	6.5
West Dauphin Island, Mobile, Co.	barrier island, gulf and bayside- sand/shell/veg	2	9	3	3	5	12	0	11
Pelican Island, Mobile, Co.	barrier island gulf and bayside- sand/shell/veg	2	1	1	0	85	45	175	3.5
Barton Island Peninsula, Mobile, Co.	oyster shell reef peninsula gulfside, sand/shell/marsh/veg	0	0	1	6	0	0	0	.5
Isles Aux Herbes, Mobile Co.	oyster shell reef island gulfside, sand/shell/marsh/veg	0	0	5	40	0	10	45	5.25
Cat Island, Mobile Co.	oyster shell reef island gulfside, sand/shell/marsh/veg	0	0	2	0	0	0	1	.5
Bon Secour NWR, Baldwin Co.	barrier island, gulfside sand/shell/veg	2	0	0	0	0	0	0	5.0
Gulf State Park, Baldwin Co.	barrier island, gulfside- sand/shell/veg	0	0	0	0	0	0	0	4.5
Survey totals		11	13	12	65	90	67	220	Total km 36.75

Coastal Alabama Breeding Beach-nesting Bird Pair 2007 Site Map - Appendix 2.

*Note: Because of overlap at this map zoom level; visible dots do not reflect actual number of pairs

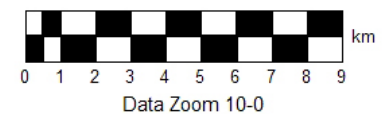
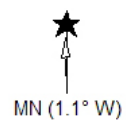
XMap® 4.5



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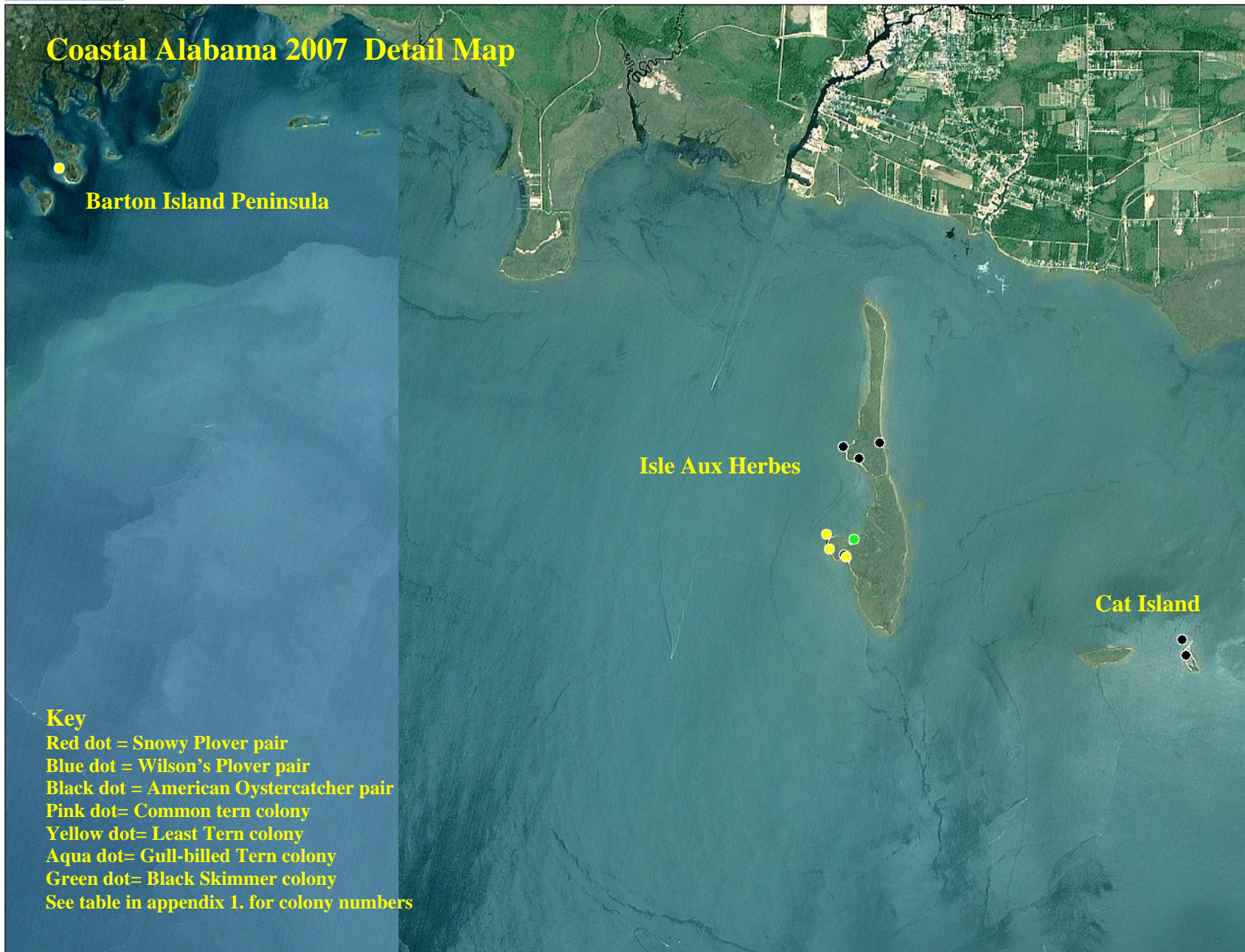
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Coastal Alabama Breeding Beach-nesting Bird Pair 2007 Site Map - Appendix 2.

DeLORME

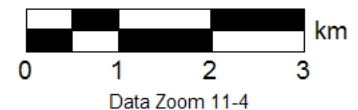
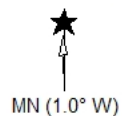
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Coastal Alabama Breeding Beach-nesting Bird Pair 2007 Site Map - Appendix 2.



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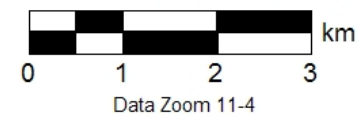
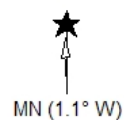
Coastal Alabama 2007 Detail Map



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Coastal Alabama Breeding Beach-nesting Bird Pair 2007 Site Map - Appendix 2.



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Coastal Alabama 2007 Detail Map

West Dauphin Island

Dauphin Island,
West End

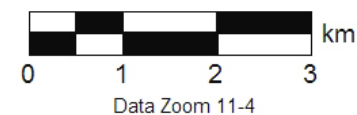
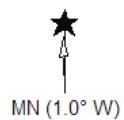
Key

- Red dot = Snowy Plover pair
- Blue dot = Wilson's Plover pair
- Black dot = American Oystercatcher pair
- Pink dot = Common tern colony
- Yellow dot = Least Tern colony
- Aqua dot = Gull-billed Tern colony
- Green dot = Black Skimmer colony
- See table in appendix 1. for colony numbers

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Audubon CBCP Photos from the Field-2007



Female Wilson's Plover



Wilson's Plover nest



2007 CBCP research assistant Mark Rodes



Black Skimmer chick



Snowy Plover nest



Male Snowy Plover

Photos by Margo Zdravkovic