

# **New Jersey Department of Environmental Protection Baseline Studies**

## **July – September 2009 Quarterly Report**



Geo-Marine, Inc.  
2201 K Avenue, Suite A2  
Plano, Texas 75074

October 5, 2009

## TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
LIST OF FIGURES .....	iii
LIST OF TABLES .....	iv
LIST OF ACRONYMS AND ABBREVIATIONS.....	v
INTRODUCTION.....	1
1.0 QUALITY ASSURANCE WORK PLAN.....	1
2.0 LITERATURE REVIEW.....	1
3.0 DIGITAL DATA COMPILATION.....	2
4.0 AVIAN PREDICTIVE/PROBABILITY MODEL .....	2
5.0 BASELINE SURVEYS.....	5
5.1 SHIPBOARD OFFSHORE SURVEYS .....	5
5.1.1 <i>Avian</i> .....	5
5.1.1.1 Survey Effort.....	5
5.1.1.1.1 August 2009 .....	5
5.1.1.1.2 September 2009.....	5
5.1.1.2 Survey Results .....	5
5.1.1.2.1 Avian species occurrence .....	5
5.1.1.2.2 Avian abundance.....	9
5.1.1.2.3 Avian density .....	9
5.1.2 <i>Marine Mammals and Sea Turtles</i> .....	16
5.1.2.1 Survey Effort.....	16
5.1.2.1.1 July 2009 .....	16
5.1.2.1.2 August 2009 .....	16
5.1.2.1.3 September 2009.....	16
5.1.2.2 Survey Results .....	16
5.2 AERIAL SURVEYS .....	16
5.2.1 <i>Avian</i> .....	16
5.2.2 <i>Marine Mammals and Sea Turtles</i> .....	16
5.3 SMALL BOAT COASTAL SURVEYS .....	19
5.3.1 <i>Survey Effort</i> .....	19
5.3.1.1 August 2009 .....	19
5.3.1.2 September 2009.....	19
5.3.2 <i>Survey Results</i> .....	19
5.3.2.1 Avian Species Occurrence.....	19
5.3.2.2 Avian Abundance .....	21
5.3.2.3 Avian Density .....	21
5.3.3 <i>Discussion</i> .....	23
5.3.3.1 Avian Abundance .....	23
5.3.3.2 Avian Density .....	28
5.4 RADAR SURVEYS .....	28
5.4.1 <i>Data Collection</i> .....	28
5.4.2 <i>Data Analysis</i> .....	28
5.5 THERMAL SURVEYS.....	28
5.5.1 <i>Data Collection</i> .....	28
5.5.2 <i>Data Analysis</i> .....	28
5.6 ACOUSTIC SURVEYS .....	32
5.6.1 <i>June 2009 - Pop-Up Diagnostics Update</i> .....	32
5.6.2 <i>August 2009 - Pop-Up Deployment Update</i> .....	32
5.6.3 <i>Data Analyses/Processing</i> .....	32
5.6.3.1 March 2008 Deployment .....	40

New Jersey Department of Environmental Protection Baseline Studies  
July-September 2009 Quarterly Report

---

5.6.3.2	June 2008 Deployment .....	40
5.6.3.3	September 2008 Deployment .....	40
5.6.3.4	December 2008 Deployment .....	40
5.6.3.5	March 2009 Deployment .....	40
5.6.3.6	August 2009 Deployment.....	41
5.7	OCEANOGRAPHIC SURVEYS.....	41
5.7.1	<i>Surface Mapping System (SMS)</i> .....	41
5.7.2	<i>Conductivity-Temperature-Depth (CTD) Measurements</i> .....	41
5.7.3	<i>Acoustic Doppler Current Profiler (ADCP) Measurements</i> .....	45
5.8	SIDE-SCAN SURVEYS .....	45
5.8.1	<i>August – September 2009 Survey</i> .....	45
5.8.2	<i>Area Surveyed and Transect Parameters</i> .....	45
5.8.3	<i>Equipment</i> .....	46
5.8.4	<i>Discussion</i> .....	46
5.9	REFERENCES.....	46
6.0	<b>INITIAL ASSESSMENT OF POTENTIAL ENVIRONMENTAL IMPACTS FROM OFFSHORE WIND POWER FACILITIES .....</b>	<b>46</b>
7.0	<b>REPORTING .....</b>	<b>46</b>

## APPENDICES

### APPENDIX A REVIEWED LITERATURE

APPENDIX A-1	FISHES
APPENDIX A-2	MARINE BIRDS
APPENDIX A-3	MARINE MAMMALS
APPENDIX A-4	OFFSHORE WIND FARMS
APPENDIX A-5	SEA TURTLES

### APPENDIX B DIGITAL DATA COMPILATION

## LIST OF FIGURES

<u>Figure</u>		<u>Page</u>
Figure 4-1	Example of the spatial distribution of total bird density for offshore surveys during August 2009.....	3
Figure 4-2	Example of the spatial distribution of total bird density for coastal surveys during August 2009.....	4
Figure 5.1-1	Avian offshore and coastal survey effort for the New Jersey Study Area in August 2009.....	6
Figure 5.1-2	Avian offshore and coastal survey effort in the New Jersey Study Area in September 2009.....	7
Figure 5.1-3	Total offshore bird densities (all behaviors) within the New Jersey Study Area in August 2009.....	12
Figure 5.1-4	Total offshore bird densities (all behaviors) within the New Jersey Study Area in September 2009 .....	13
Figure 5.1-5	Total offshore bird densities (sitting) within the New Jersey Study Area in August 2009.....	14
Figure 5.1-6	Total offshore bird densities (sitting) within the New Jersey Study Area in September 2009.....	15
Figure 5.1-7	Shipboard Marine Mammal/Sea Turtle Survey for August 2009 .....	17
Figure 5.1-8	Shipboard Marine Mammal/Sea Turtle Survey for September 2009 .....	18
Figure 5.3-1	Total coastal bird densities (all behaviors) within the New Jersey Study Area in August 2009.....	24
Figure 5.3-2	Total coastal bird densities (all behaviors) within the New Jersey Study Area in September 2009 .....	25
Figure 5.3-3	Total coastal bird densities (sitting) within the New Jersey Study Area in August 2009.....	26
Figure 5.3-4	Total coastal densities (sitting) within the New Jersey Study Area in September 2009.....	27
Figure 5.4-1	Radar Grid and Site Location for September 2009.....	31
Figure 5.6-1	The array configuration for acoustic data collection with passive acoustic monitoring .....	33
Figure 5.7-1	SMS and ADCP Measurements Conducted during Shipboard Surveys in the NJDEP Study Area off the Coast of New Jersey in August 2009.....	42
Figure 5.7-2	SMS and ADCP Measurements Conducted during Shipboard Surveys in the NJDEP Study Area off the Coast of New Jersey in September 2009.....	43
Figure 5.7-3	CTD Measurements Conducted at Point Locations in the NJDEP Study Area off the Coast of New Jersey from August through September 2009.....	44

**LIST OF TABLES**

<b><u>Table</u></b>		<b><u>Page</u></b>
Table 1-1	Dates and Status of Tasks Conducted during this Reporting Period .....	1
Table 2-1	New Jersey Literature Review (as of 02 September 2009) .....	2
Table 5.1-1	Avian species observed during the August and September 2009 shipboard offshore surveys .....	8
Table 5.1-2	In-zone avian species abundance during the August and September 2009 shipboard offshore surveys.....	10
Table 5.1-3	The most abundant in-zone avian species during the August and September 2009 shipboard offshore transect surveys.....	11
Table 5.1-4	Summary of Marine Mammal/Sea Turtle Sightings from the Shipboard Surveys from August through September 2009 .....	19
Table 5.3-1	Avian species observed during the August and September 2009 small boat coastal surveys .....	20
Table 5.3-2	In-zone avian species abundance observed during August and September 2009 small-boat coastal surveys .....	22
Table 5.3-3	The most abundant in-zone avian species during the August and September 2009 small-boat coastal transect surveys .....	23
Table 5.3-4	Identification of high-density gridboxes (quartile rank=1 or A) by month for the offshore (ship) surveys for TOTAL BIRDS (All-Behaviors).....	29
Table 5.3-5	Identification of high-density gridboxes (quartile rank=1 or A) by month for the coastal (boat) surveys for TOTAL BIRDS (All-Behaviors).....	30
Table 5.3-6	Identification of high-density gridboxes (quartile rank=1 or A) by month for the offshore (ship) surveys for TOTAL BIRDS (Sitting).....	30
Table 5.3-7	Identification of high-density gridboxes (quartile rank=1 or A) by month for the coastal (boat) surveys for TOTAL BIRDS (Sitting).....	30
Table 5.6-1	Fin whale pulses detected by date and station are presented in chronological order .....	34
Table 5.6-2	North Atlantic right whale calls detected by date and station are presented in chronological order .....	36
Table 5.6-3	Toothed whale calls detected by date and station are presented in chronological order .....	38

## LIST OF ACRONYMS AND ABBREVIATIONS

°C	Degree(s) Celsius
μW	Microwatt(s)
ADCP	Acoustic Doppler Current Profiler
AM	Amplitude-modulated
ASFA	Aquatic Sciences and Fisheries Abstracts (Cambridge)
BRP	Bioacoustics Research Program
BSS	Beaufort Sea State
CDOM	Colored Dissolved Organic Matter
cm <sup>2</sup>	Square Centimeter(s)
CPU	Computer Processing Unit
CTD	Conductivity-Temperature-Depth
dB	Decibel(s)
EDT	Eastern Daylight Time
ESA	Endangered Species Act
FM	Frequency-modulated
ft	Foot(Feet)
GMI	Geo-Marine, Inc.
GPS	Global Positioning System
hr	Hour
kHz	Kilohertz
km	Kilometer(s)
km <sup>2</sup>	Square Kilometer(s)
kt	Knot
lon-lat	Longitude-Latitude
m	Meter(s)
MARS®	Mobile Avian Radar System
max	Maximum
mbar	Millibar(s)
mg/L	Milligram(s) per Liter
mi	Mile(s)
min	Minute(s)
MMS	Minerals Management Service
NJDEP	New Jersey Department of Environmental Protection
nm	Nanometer(s)
NM	Nautical Mile(s)
NOAA	National Oceanic and Atmospheric Administration
PAR	Photosynthetically Active Radiation
psu	Practical Salinity Unit(s)
PU	Pop-up
QAWP	Quality Assurance Work Plan
s	Second(s)
SMS	Surface Mapping System
SST	Sea Surface Temperature
U.S.	United States
USFWS	United States Fish and Wildlife Service
Xbat	Extensible Bioacoustic Tool

This page intentionally left blank

## INTRODUCTION

This quarterly progress report provides an overview of avian, marine mammal, sea turtle, and pinniped studies conducted for the New Jersey Department of Environmental Protection (NJDEP) Baseline Studies Project from July through September 2009. Survey effort and a brief overview of survey results are presented for birds, marine mammals, sea turtles, and pinnipeds. In addition, the acoustic monitoring task is discussed. Dates for the occurrence of each field task are presented in **Table 1-1**.

**Table 1-1**  
**Dates and Status of Tasks Conducted during this Reporting Period**

Task		July	August	September
Ship Offshore Avian Survey		None Scheduled	08/01-08/05	08/30-09/03
Ship Offshore Mammal Survey		None Scheduled	08/01-08/05	08/30-09/03
Aerial Mammal Survey		None Scheduled	None Scheduled	None Scheduled
Coastal Avian Survey		None Scheduled	08/16	09/15
Radar Sites	Offshore	None Scheduled	None Scheduled	None Scheduled
	Onshore	None Scheduled	None Scheduled	Island Beach State Park: 9/15 – 9/30
Thermal Sites		None Scheduled	None Scheduled	Island Beach State Park: 09/19 – 9/30
Acoustic Surveys		None Scheduled	8/11: 6 pop-ups deployed	Data analyses
Oceanographic Surveys		None Scheduled	08/01-08/05	08/30-09/03
SideScan Surveys		None Scheduled	None Scheduled	08/30-09/03

### 1.0 QUALITY ASSURANCE WORK PLAN

The draft Quality Assurance Work Plan (QAWP) was submitted on 24 October 2007. NJDEP comments on the draft were addressed and a revised QAWP submitted on 04 January 2008 prior to the initiation of field work. Additional comments were addressed and a revised QAWP submitted on 08 February 2008 and then again on 16 June 2008 after secondary revisions.

### 2.0 LITERATURE REVIEW

An initial literature search was conducted within the Geo-Marine, Inc. (GMI) in-house library for information pertaining to wind-farms, birds, marine mammals, sea turtles, fishes, fisheries, habitats, oceanography, and other marine resources for the northeast Atlantic. Literature identified as relevant to the Study Area was catalogued and a new keyword identifying it as New Jersey-specific was entered into GMI's master library. An initial thorough and systematic electronic literature search for additional relevant literature was conducted focusing on the same subject areas as the in-house library search; additional searches are conducted periodically to identify and collect new literature throughout the project performance period. These electronic literature searches are conducted using a variety of database search engines (e.g., Library of Congress' First Search and Dissertation Abstracts databases, Ingenta, Web of Science, Blackwell-Science, and Cambridge Abstract's Aquatic Sciences and Fisheries Abstracts [ASFA] database services). General internet searches were conducted through the Google and Google Scholar web search engines to identify additional reports not collected through the previous database



searches. **Table 2-1** shows the number of references relevant to the Study Area that have been collected to date. **Appendix A** contains a current bibliography for each category of interest.

**Table 2-1**  
**New Jersey Literature Review (as of 02 September 2009)**

Categories	Number of References	Appendix
Fishes	334	A-1
Marine Birds	330	A-2
Marine Mammals	766	A-3
Offshore Wind Farms	161	A-4
Sea Turtles	247	A-5
<b>Total</b>	<b>1838</b>	

Prior experience has demonstrated that electronic searches produce a low number of false positive (references produced by a search that are not relevant) and false negative (references not produced by a search that are relevant) results when combinations of search keywords are used. Keywords for this report typically combine a subject matter (e.g., marine mammal, dolphin, whale, porpoise, sea turtle, fish, fishery, bird, seabird, wind farm, benthos, slope, circulation) paired with a geographic descriptor (e.g., western North Atlantic, northwest Atlantic, New Jersey, Delaware Bay, New York, Mid-Atlantic). Irrelevant (false positive) literature is excluded. The relevant results of these electronic searches are supplemented by investigating and acquiring the references gathered that, based on a reading of their titles or abstracts, appear to provide relevant information. This process is repeated on a continuing basis to ensure that a majority of the relevant references cited by the introduction, results, and discussion sections of the gathered references are obtained. More specific searches may be conducted to hand-pick relevant literature where a generalized keyword search does not result in adequate information and to identify any false negative results. Hand searches of published journals are not being conducted.

Results of these searches are obtained in hard or electronic format and reviewed, key-worded, and indexed regularly into GMI's in-house library using commercial bibliographic software for ease of recall for inclusion in all relevant sections of the Quarterly, Interim, and Final Reports. From each document obtained, information relevant to the biological resources in the Study Area is extracted and integrated into the appropriate report.

### **3.0 DIGITAL DATA COMPILATION**

The Principal Investigator for this task has compiled a digital data list from GMI data banks and geospatial data from numerous sources which is presented in **Appendix B**. These data are currently under review for applicability for this project.

### **4.0 AVIAN PREDICTIVE/PROBABILITY MODEL**

No modeling meetings were conducted in July, August, or September. The next meetings are scheduled for 01 October and 21 October. Internal work on the avian predictive modeling continued during this period. In addition, new versions of the kernel density maps were developed for August and September. Examples of these revised figures are shown in **Figures 4-1** and **4-2**. During the next quarter, GMI will compile both the offshore and coastal data into a consolidated dataset in order to project the total kernel density information on a single map.

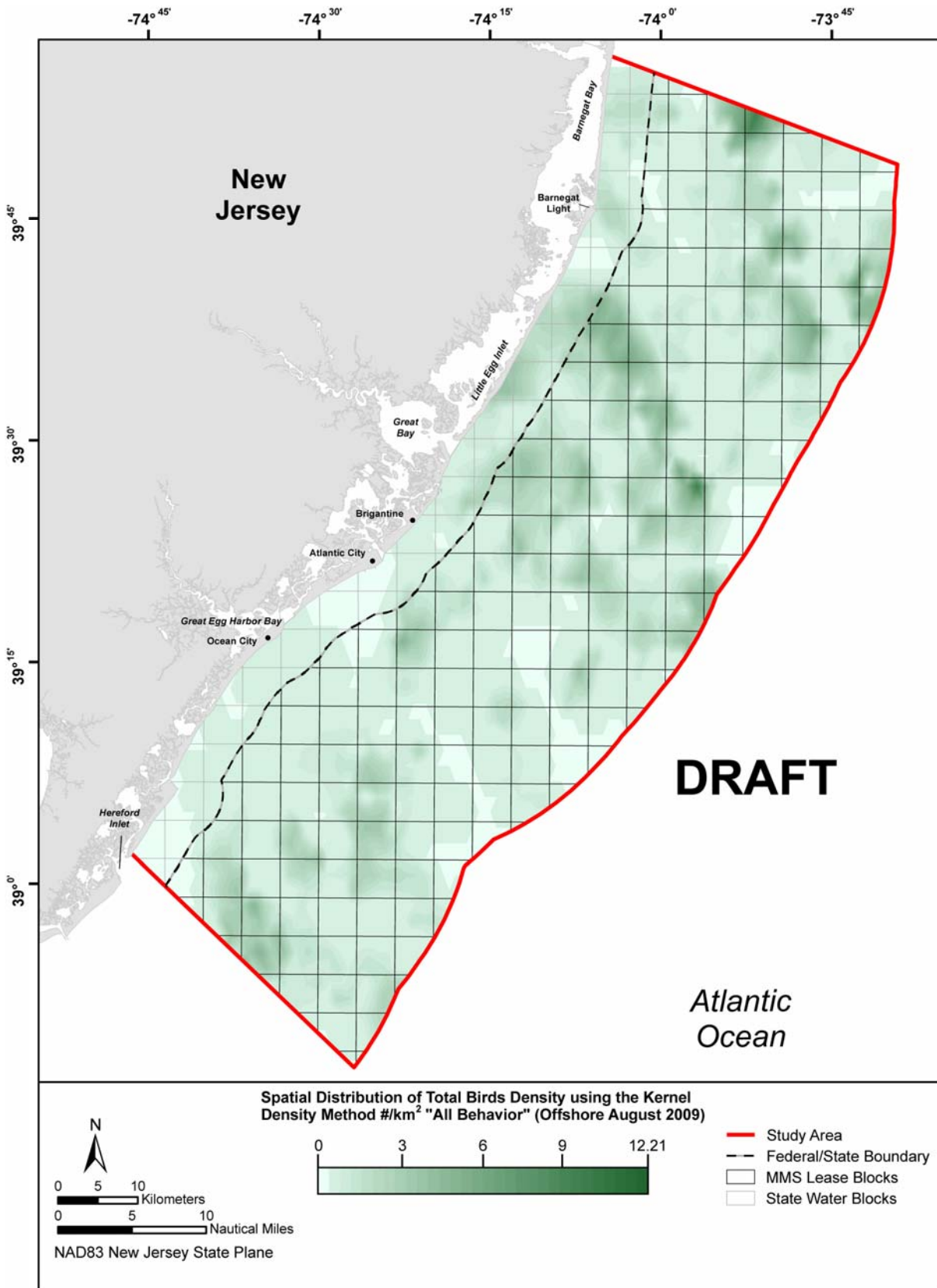


Figure 4-1. Example of the spatial distribution of total bird density for offshore surveys during August 2009.

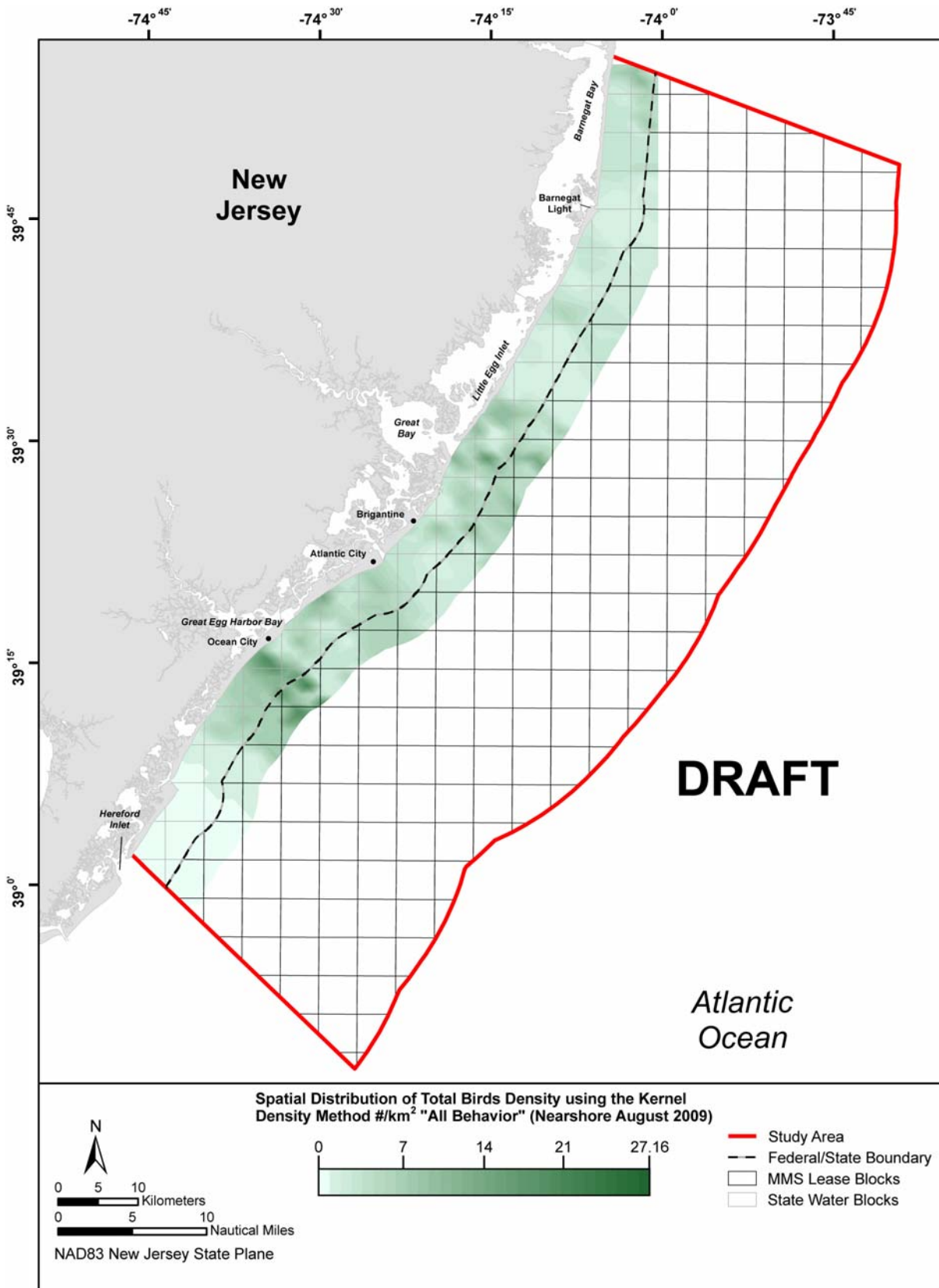


Figure 4-2. Example of the spatial distribution of total bird density for coastal surveys during August 2009.

## 5.0 BASELINE SURVEYS

### 5.1 SHIPBOARD OFFSHORE SURVEYS

#### 5.1.1 *Avian*

This section reports on the survey effort and survey results for the scheduled monthly avian shipboard surveys. In addition, supplemental avian shipboard surveys were conducted monthly to collect avian data from transects missed during the scheduled avian shipboard surveys and to supplement the lack of offshore radar data. The survey effort and survey results for the supplemental surveys are currently being analyzed and will be reported in the Final Report.

##### 5.1.1.1 Survey Effort

Shipboard avian surveys for August and September 2009 were conducted along the same line transects as the marine mammal/sea turtle surveys. Avian surveys may be greater in length and duration because of differing visibility requirements between the avian and marine mammal and sea turtle survey methods. Since the project extension did not begin until August, a July 2009 survey was not conducted. Additionally, the survey listed under September 2009 actually began on 30 August 2009.

##### 5.1.1.1.1 *August 2009*

Shipboard avian surveys were conducted from 01 to 05 August 2009. Effort was delayed for a couple hours on 02 August due to thunderstorms and briefly on 03 August due to thick patches of fog that hindered visibility. The ship transects covered 537.28 nautical miles (NM; 995.04 kilometers [km]; **Figure 5.1-1**) and on-effort survey time totaled 56.65 hours (hrs).

##### 5.1.1.1.2 *September 2009*

Shipboard avian surveys were conducted from 30 August to 03 September 2009. During this entire survey, we experienced unusually rough weather consisting of Beaufort Sea State (BSS) 4-6 and large swells (4-7 feet [ft] high). Therefore, several delays occurred while waiting for winds to minimize the sea state to a BSS of 5 or less and swells to 5 ft or less. The ship transects covered 448.71 NM (831.01 km; **Figure 5.1-2**), and on-effort survey time totaled 47.24 hrs.

##### 5.1.1.2 Survey Results

##### 5.1.1.2.1 *Avian species occurrence*

All 41 avian species observed during the August and September 2009 offshore surveys are listed in **Table 5.1-1**. Of these, 30 were sighted in August 2009 and 27 in September 2009. Birds that were not identifiable due to weather/sea state conditions, behavior, and/or distance were identified to the lowest identifiable form or taxon (genus, family, or class).

Four federal (United States [U.S.] Fish and Wildlife [USFWS]) avian species of concern for Bird Conservation Region 30 (New England/Mid-Atlantic Coast) were recorded during the summer 2009 offshore surveys: Red-throated Loon in August, Greater Shearwater in August and September, Whimbrel in August and September, and Semipalmated Sandpiper in September (**Table 5.1-1**).

Five species listed by the State of New Jersey as endangered, threatened, and/or of special concern during the breeding or non-breeding seasons were recorded during the summer 2009 offshore surveys. Osprey, listed as threatened as a breeder, was recorded in August and September. Sanderling, listed as special concern as a non-breeder, was recorded in August. Semipalmated Sandpiper, listed as special concern as a non-breeder, was recorded in September. Common Tern, listed as a special concern species as a breeder, was recorded in August and September. Yellow-breasted Chat, listed as special concern as a breeder, was recorded in September (**Table 5.1-1**).

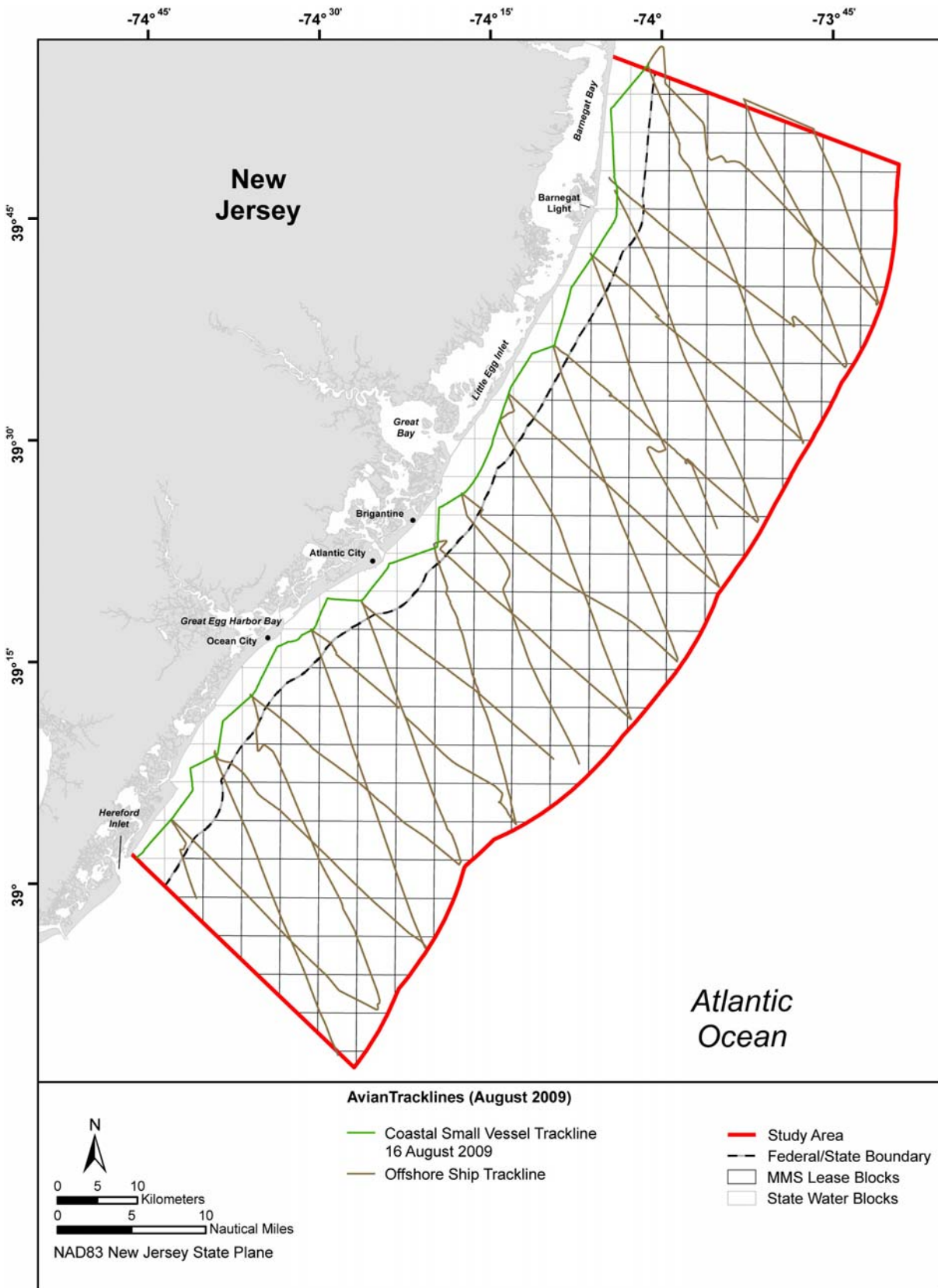


Figure 5.1-1. Avian offshore and coastal survey effort for the New Jersey Study Area in August 2009.



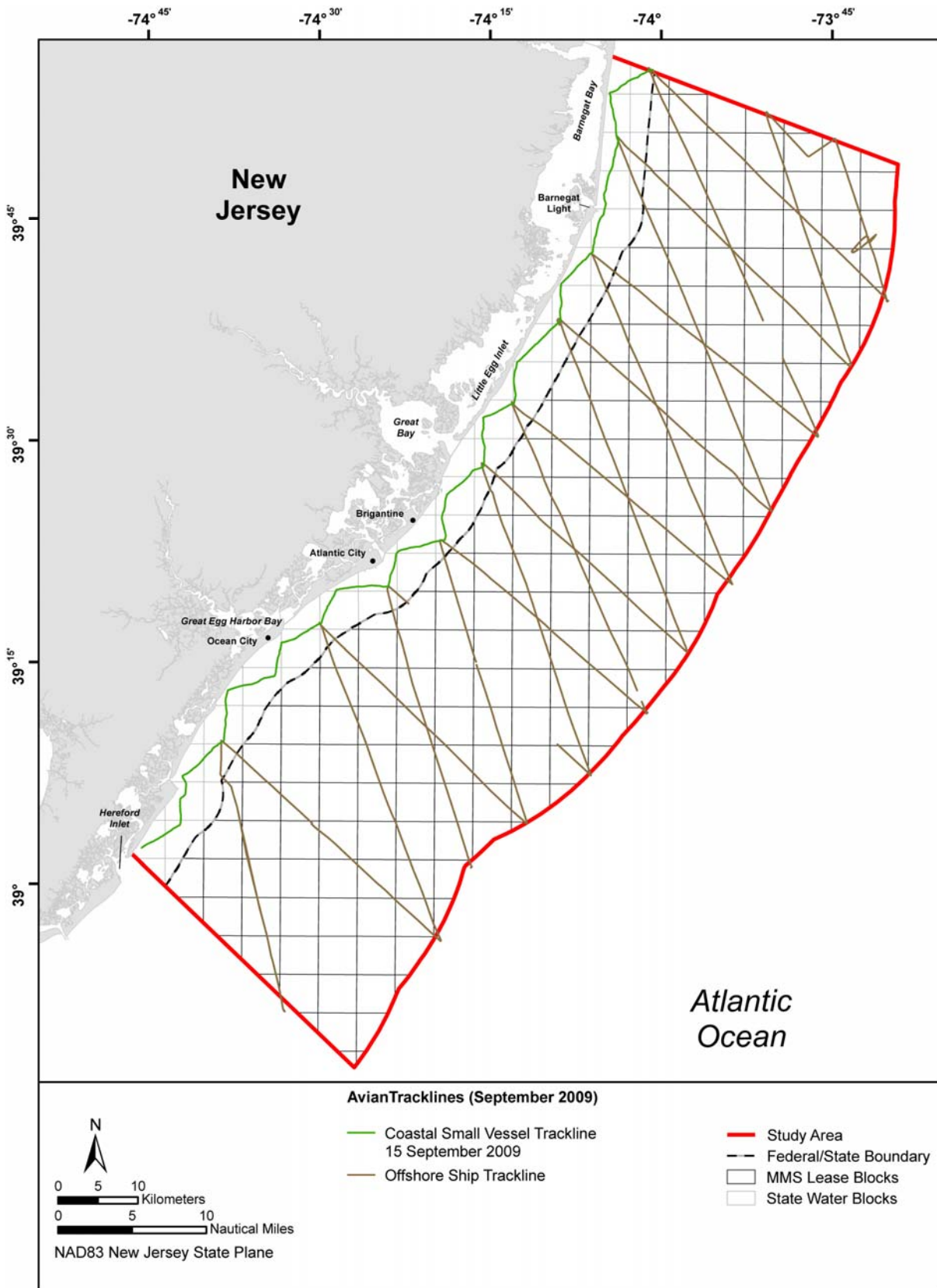


Figure 5.1-2. Avian offshore and coastal survey effort in the New Jersey Study Area in September 2009.

**Table 5.1-1**  
**Avian species observed during the August and September 2009 shipboard offshore surveys<sup>1</sup>.**

Family Common Name, <i>Scientific name</i>	2009	
	August	September
<b>Gaviidae</b> (loons)		
Red-throated Loon, <i>Gavia stellata</i>	X	
Common Loon, <i>Gavia immer</i>	X	
<b>Procellariidae</b> (petrels and shearwaters)		
Cory's Shearwater, <i>Calonectris diomedea</i>	X	X
Greater Shearwater, <i>Puffinus gravis</i>	X	X
Sooty Shearwater, <i>Puffinus griseus</i>	X	
Manx Shearwater, <i>Puffinus puffinus</i>	X	
<b>Hydrobatidae</b> (storm-petrels)		
Wilson's Storm-Petrel, <i>Oceanites oceanicus</i>	X	X
Leach's Storm-Petrel, <i>Oceanodroma leucorhoa</i>	X	
<b>Sulidae</b> (gannets)		
Northern Gannet, <i>Morus bassanus</i>	X	X
<b>Pelecanidae</b> (pelicans)		
Brown Pelican, <i>Pelecanus occidentalis</i>	X	X
<b>Phalacrocoracidae</b> (cormorants)		
Double-crested Cormorant, <i>Phalacrocorax auritus</i>		X
<b>Ardeidae</b> (egrets and herons)		
Snowy Egret, <i>Egretta thula</i>		X
<b>Accipitridae</b> (eagles and hawks)		
Osprey, <i>Pandion haliaetus</i>	X	X
<b>Scolopacidae</b> (sandpipers)		
Willet, <i>Tringa semipalmata</i>	X	
Whimbrel, <i>Numenius phaeopus</i>	X	X
Ruddy Turnstone, <i>Arenaria interpres</i>	X	
Sanderling, <i>Calidris alba</i>	X	
Semipalmated Sandpiper, <i>Calidris pusilla</i>		X
Least Sandpiper, <i>Calidris minutilla</i>	X	X
Pectoral Sandpiper, <i>Calidris melanotos</i>		X
Red-necked Phalarope, <i>Phalaropus lobatus</i>		X
Red Phalarope, <i>Phalaropus fulicarius</i>	X	
<b>Laridae</b> (gulls and terns)		
Laughing Gull, <i>Leucophaeus atricilla</i>	X	X
Ring-billed Gull, <i>Larus delawarensis</i>		X
Herring Gull, <i>Larus argentatus</i>	X	X
Lesser Black-backed Gull, <i>Larus fuscus</i>	X	X
Great Black-backed Gull, <i>Larus marinus</i>	X	X
Sabine's Gull, <i>Xema sabini</i>	X	
Royal Tern, <i>Thalasseus maxima</i>	X	X
Common Tern, <i>Sterna hirundo</i>	X	X
Black Tern, <i>Chlidonias niger</i>		X
<b>Hirundinidae</b> (swallows)		
Tree Swallow, <i>Tachycineta bicolor</i>	X	
Purple Martin, <i>Progne subis</i>	X	X
Bank Swallow, <i>Riparia riparia</i>	X	
Barn Swallow, <i>Hirundo rustica</i>	X	
<b>Parulidae</b> (wood-warblers)		
Prothonotary Warbler, <i>Protonotaria citrea</i>		X
Yellow Warbler, <i>Dendroica petechia</i>	X	
Yellow-breasted Chat, <i>Icteria virens</i>		X
American Redstart, <i>Setophaga ruticilla</i>		X
<b>Icteridae</b> (blackbirds, meadowlarks and orioles)		
Brown-headed Cowbird, <i>Molothrus ater</i>	X	X
Baltimore Oriole, <i>Icterus galbula</i>		X

<sup>1</sup> All birds identified to species during avian surveys are included (in-zone and out-zone).

5.1.1.2.2 *Avian abundance*

The monthly number of individual birds/km (i.e., number of individuals detected on one side of and within 300 meters [m] of the ship from the beam forward) observed on the offshore surveys declined from August (0.79) to September (0.63) (**Table 5.1-2**). These abundance values are the lowest obtained during the course of the project and are only 27 and 60 percent, respectively, of the abundance values during these months in 2008. This difference was driven largely by a significant decrease in Laughing Gull numbers relative to the same period in 2008. Additionally, Laughing Gull numbers accounted for a substantial proportion of the drop in abundance from August 2009 to September 2009, with a decrease in shearwater numbers accounting for much of the rest of the decline in that time period (**Table 5.1-2**).

The five most numerous species for each month of offshore transects are presented in **Table 5.1-3**. Wilson's Storm-Petrel (0.32/km and 0.31/km, respectively) and Laughing Gull (0.18, 0.15), in that order, were the most numerous species for both months, with Great Black-backed Gull (0.06, 0.04) and Common Tern (0.08, 0.03) as third- and fourth-most numerous, though switching places between the two months. Cory's Shearwater was the fifth-most numerous species in August (0.05) while Herring Gull replaced it in September (0.03).

5.1.1.2.3 *Avian density*

**Methods**

High-density grid boxes were identified based on a ranking procedure, in which the individual grid boxes with non-zero densities (i.e., those grid boxes with at least one bird sighting) were ranked in the order of highest to lowest total density.

This procedure was conducted for all birds for each individual month (August and September 2009) for both the offshore ship surveys, using the MMS grid system of 249 grid boxes that are defined on a regular longitude-latitude (lon-lat) grid system that encompasses the entire survey area off the New Jersey coast. Each square grid box is defined by a maximum (max) and minimum (min) longitude and a max-min latitude. The area of each grid box (square kilometers [km<sup>2</sup>]) is calculated from these min-max lon-lat values.

Input bird sightings data for the purpose of these calculations consists of the following parameters recorded for each observation (sighting): Number of birds sighted, date (month, day, and year) of the observation, and the lon-lat coordinates of the observation. Each observation is identified and binned spatially into the appropriate grid box as well as temporally according to month. After all bird counts are binned according to month and grid box, the number of bird counts within each grid box for each month is summed to yield a total bird count, which is then divided by the area of the specific grid box to yield total monthly bird density.

To identify high avian density grid boxes in the Study Area, an alphabetic letter-ranked system (A-F) is used. Rank A is designated as the highest avian density and Rank E is designated as the lowest non-zero density. For each month the zero-density grid boxes are identified and automatically assigned a rank of "F". The percentile density ranges for each rank are: Rank A: 80-100 percent; Rank B: 60-79 percent; Rank C: 40-59 percent; Rank D: 20-39 percent; Rank E: 0.01-19 percent.

The above procedure is repeated for each month (July-September 2009), for both the offshore (ship) and coastal (boat) surveys, for total birds. Then, for each month and survey type, color-coded spatial maps of the 249 grid boxes encompassing the survey area are generated, with the ranks of A, B, C, D, E, represented by a progression from darkest to lightest shades of green, and F represented by white. Each of the 249 grid boxes is assigned the appropriate color according to its ranking. By definition, high-density grid boxes are identified by the dark green grid boxes (which are ranked "A", corresponding to densities in the 80-100 percentile).



**Table 5.1-2**  
**In-zone avian species abundance during the August and September 2009**  
**shipboard offshore surveys.**

Family Common Name, <i>Scientific Name</i>	August 2009		September 2009	
	No. <sup>1</sup>	Abun. <sup>1</sup>	No. <sup>1</sup>	Abun. <sup>1</sup>
<b>Total</b>	<b>765</b>	<b>0.79</b>	<b>530</b>	<b>0.63</b>
<b>Gaviidae</b> (loons)	<b>1</b>	<b>0.00</b>		
Common Loon, <i>Gavia immer</i>	1	0.00		
<b>Procellariidae</b> (petrels and shearwaters)	<b>54</b>	<b>0.06</b>	<b>17</b>	<b>0.02</b>
Cory's Shearwater, <i>Calonectris diomedea</i>	47	0.05	11	0.01
Greater Shearwater, <i>Puffinus gravis</i>	5	0.01	6	0.01
Sooty Shearwater, <i>Puffinus griseus</i>	1	0.00		
Manx Shearwater, <i>Puffinus puffinus</i>	1	0.00		
<b>Hydrobatidae</b> (storm-petrels)	<b>300</b>	<b>0.32</b>	<b>247</b>	<b>0.31</b>
Wilson's Storm-Petrel, <i>Oceanites oceanicus</i>	299	0.32	247	0.31
Storm-Petrel (unknown)	1	0.00		
<b>Sulidae</b> (gannets)	<b>8</b>	<b>0.01</b>	<b>11</b>	<b>0.01</b>
Northern Gannet, <i>Morus bassanus</i>	8	0.01	11	0.01
<b>Pelecanidae</b> (pelicans)	<b>2</b>	<b>0.00</b>		
Brown Pelican, <i>Pelecanus occidentalis</i>	2	0.00		
<b>Phalacrocoracidae</b> (cormorants)			<b>11</b>	<b>0.01</b>
Double-crested Cormorant, <i>Phalacrocorax auritus</i>			11	0.01
<b>Scolopacidae</b> (sandpipers)	<b>15</b>	<b>0.00</b>	<b>18</b>	<b>0.01</b>
Whimbrel, <i>Numenius phaeopus</i>	2	0.00	1	0.00
Ruddy Turnstone, <i>Arenaria interpres</i>	1	0.00		
Sanderling, <i>Calidris alba</i>	3	0.00		
Semipalmated Sandpiper, <i>Calidris pusilla</i>			1	0.00
Least Sandpiper, <i>Calidris minutilla</i>	3	0.00	1	0.00
Pectoral Sandpiper, <i>Calidris melanotos</i>			1	0.00
Red-necked Phalarope, <i>Phalaropus lobatus</i>			3	0.00
Red Phalarope, <i>Phalaropus fulicarius</i>	3	0.00		
Shorebird, small (unknown)	2	0.00		
Peep (unknown)	1	0.00	11	0.01
<b>Laridae</b> (gulls and terns)	<b>314</b>	<b>0.33</b>	<b>216</b>	<b>0.27</b>
Laughing Gull, <i>Leucophaeus atricilla</i>	170	0.18	120	0.15
Ring-billed Gull, <i>Larus delawarensis</i>			2	0.00
Herring Gull, <i>Larus argentatus</i>	4	0.00	23	0.03
Lesser Black-backed Gull, <i>Larus fuscus</i>	1	0.00	1	0.00
Great Black-backed Gull, <i>Larus marinus</i>	53	0.06	32	0.04
Royal Tern, <i>Thalasseus maximus</i>			6	0.01
Common Tern, <i>Sterna hirundo</i>	77	0.08	26	0.03
Black Tern, <i>Chlidonias niger</i>			6	0.01
Tern, small (unknown)	9	0.01		
<b>Hirundinidae</b> (swallows)	<b>68</b>	<b>0.07</b>	<b>2</b>	<b>0.00</b>
Tree Swallow, <i>Tachycineta bicolor</i>	2	0.00		
Purple Martin, <i>Progne subis</i>	22	0.02	2	0.00
Bank Swallow, <i>Riparia riparia</i>	1	0.00		
Barn Swallow, <i>Hirundo rustica</i>	43	0.05		
<b>Parulidae</b> (wood-warblers)	<b>2</b>	<b>0.00</b>	<b>3</b>	<b>0.00</b>
Yellow Warbler, <i>Dendroica petechia</i>	2	0.00		
Yellow-breasted Chat, <i>Icteria virens</i>			1	0.00
American Redstart, <i>Setophaga ruticilla</i>			1	0.00
Warbler (unknown)			1	0.00
<b>Icteridae</b> (blackbirds, meadowlarks and orioles)	<b>1</b>	<b>0.00</b>	<b>2</b>	<b>0.00</b>
Brown-headed Cowbird, <i>Molothrus ater</i>	1	0.00	1	0.00
Baltimore Oriole, <i>Icterus galbula</i>			1	0.00
<b>Other</b>			<b>3</b>	<b>0.00</b>
Passerine (unknown)			3	0.00

<sup>1</sup> Includes avian observations within the 300-m x 300-m survey strip transect when the ship was traveling ≥7 knots (kts)

<sup>2</sup> Detected abundance = No. birds/km and within the 300-m x 300-m survey strip transect when the ship was traveling ≥7 kts

**Table 5.1-3**  
**The most abundant in-zone avian species during the August and September 2009 shipboard offshore transect surveys.**

August 2009 Shipboard Offshore In-zone <sup>1</sup>		
Common Name	Number	Abundance <sup>2</sup>
Wilson's Storm-Petrel	299	0.32
Laughing Gull	170	0.18
Common Tern	77	0.08
Great Black-backed Gull	53	0.06
Cory's Shearwater	47	0.05
September 2009 Shipboard Offshore In-zone <sup>1</sup>		
Common Name	Number	Abundance <sup>2</sup>
Wilson's Storm-Petrel	247	0.31
Laughing Gull	120	0.15
Great Black-backed Gull	32	0.04
Common Tern	26	0.03
Herring Gull	23	0.03

<sup>1</sup> Includes avian observations within the 300-m x 300-m survey strip transect when the ship was traveling ≥7 kts

<sup>2</sup> Detected abundance = No. birds/km and within the 300-m x 300-m survey strip transect when the ship was traveling ≥7 kts

## Results

Monthly color-coded spatial maps illustrating the 249 gridboxes ranked according to avian density are given in **Figure 5.1-3** through **Figure 5.1-6** for the offshore (ship) surveys (**Figure 5.1-3**: All-behavior birds in August; **Figure 5.1-4**: All-behavior birds in September; **Figure 5.1-5**: Sitting birds in August; **Figure 5.1-6**: Sitting birds in September). The gridboxes depicted in dark green (indicating avian densities from 80 to 100 percent among the positive-density gridboxes) are designated as high-density gridboxes. As shown on the color-coded spatial maps, the spatial locations of the high-density gridboxes exhibit monthly variability.

Offshore (ship) surveys showed a highly scattered spatial distribution of high-density (dark green) gridboxes for both all-behavior and sitting birds, in both August and September 2009 (**Figure 5.1-3** through **Figure 5.1-6**). There were generally a greater number of observations in August than in September (see Section 5.1.1.2.2), as indicated by a higher number of colored gridboxes in August than in September. Among regions where sightings occurred (non-white gridboxes), high-density (dark green) gridboxes were highly interspersed with medium-density (medium green) and low-density (light green) gridboxes in the northern, central, and southern regions of the Study Area, with adjacent dark green and light green gridboxes indicating sharp local spatial gradients in abundance. For all-behavior birds, there were 29 high-density gridboxes in August (**Figure 5.1-3**) and 14 in September (**Figure 5.1-4**). Only 3 gridboxes (#6101 at the northern boundary of the Study Area, and #6252 and #6303 in the northern offshore region east of Barnegat Light) were designated as high-density (dark green) gridboxes for both of these months. For sitting birds, the number of high-density gridboxes decreased from 8 in August (**Figure 5.1-5**) to zero in September (**Figure 5.1-6**).

For all-behavior birds, sightings and abundances were scattered throughout the Study Area (from northern to southern regions) in August (**Figure 5.1-3**), whereas sightings were concentrated more in the northern and central regions in September (**Figure 5.1-4**). That is, there were relatively fewer sightings (more white gridboxes) in the southern region in September than in August. Except for the northwestern tips of gridboxes #6387 (between Little Egg Inlet and Barnegat Light) and #6586 (near Great Bay and Little Egg Inlet), no high-density gridboxes were located nearshore in August (**Figure 5.1-3**).

New Jersey Department of Environmental Protection Baseline Studies  
July-September 2009 Quarterly Report

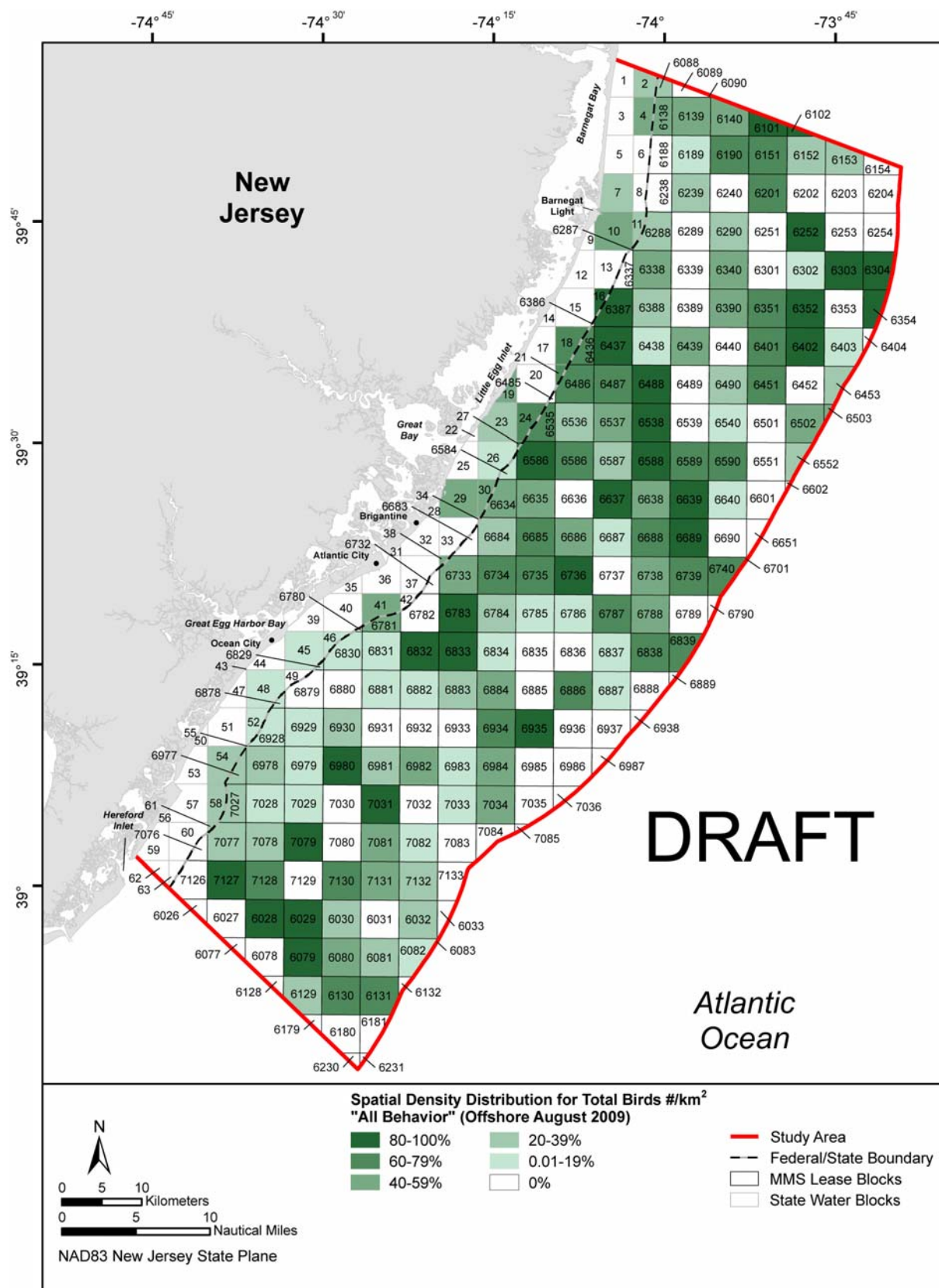


Figure 5.1-3. Total offshore bird densities (all behaviors) within the New Jersey Study Area in August 2009.

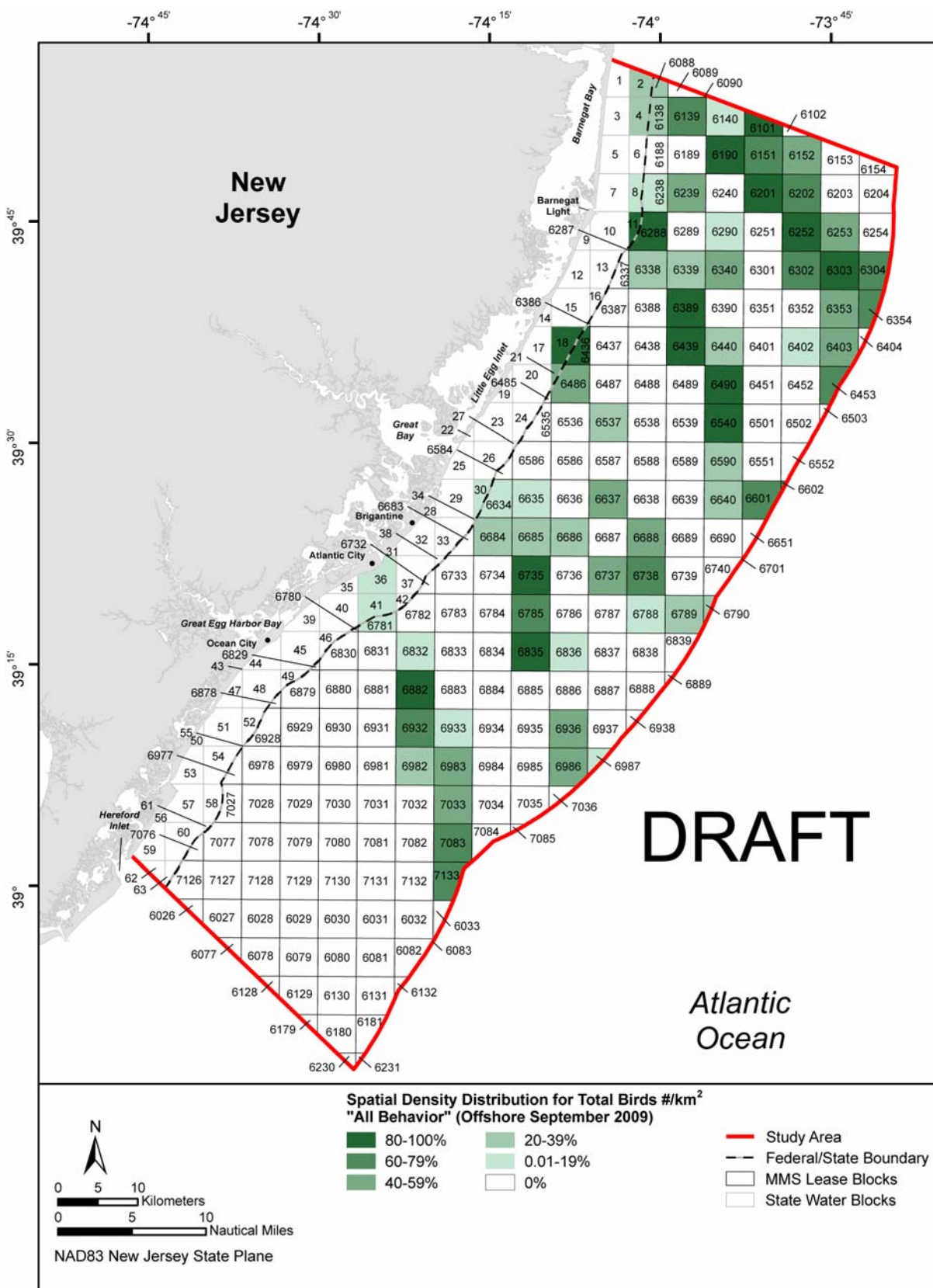


Figure 5.1-4. Total offshore bird densities (all behaviors) within the New Jersey Study Area in September 2009.



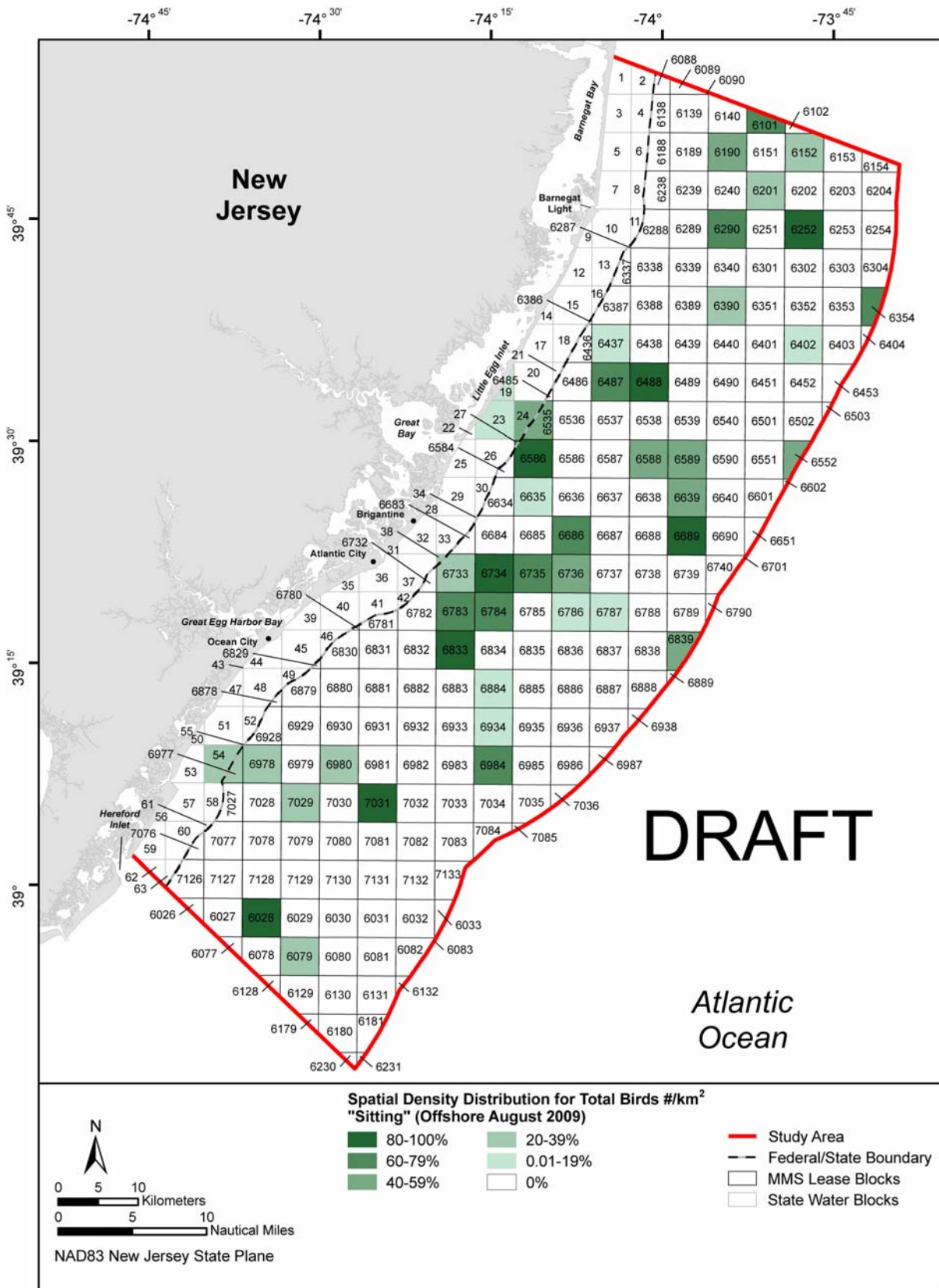


Figure 5.1-5. Total offshore bird densities (sitting) within the New Jersey Study Area in August 2009.

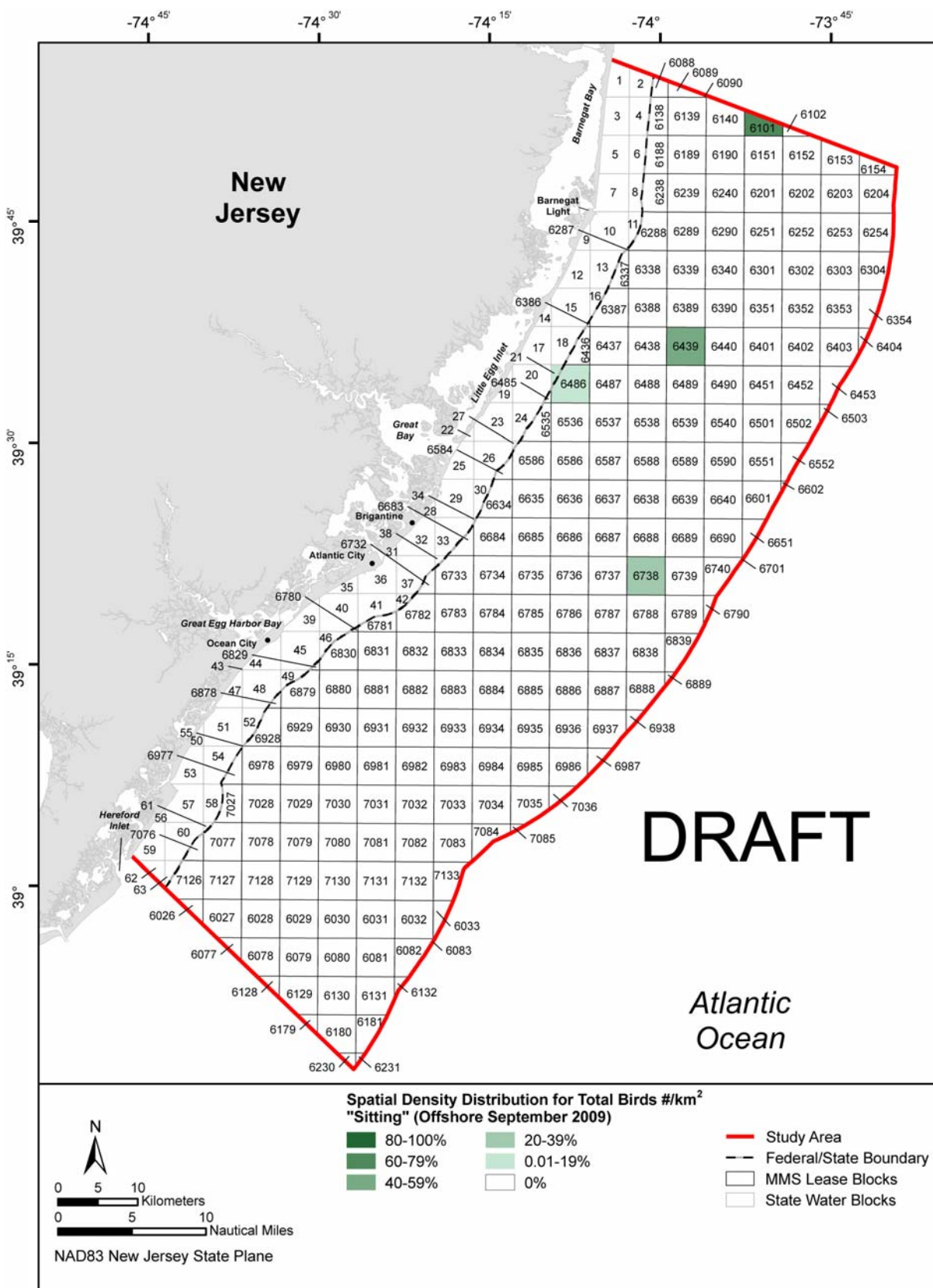


Figure 5.1-6. Total offshore bird densities (sitting) within the New Jersey Study Area in September 2009.

Likewise, in September, portions of only 2 high-density gridboxes (#6288 adjacent to Barnegat Light, and #6436 north of Little Egg Inlet) were located nearshore (**Figure 5.1-4**).

For sitting birds, the 8 sitting-bird high-density gridboxes in August were scattered from the northern through to the southern regions, and were mainly located midshore to offshore (**Figure 5.1-5**). Except for the northwestern tip of gridbox #6586 (near Great Bay and Little Egg Inlet), no high-density gridboxes were located nearshore. September sightings occurred in only 4 gridboxes (#6101, 6439, 6486, and 6738), located offshore and in the central and northern regions of the Study Area (**Figure 5.1-6**).

### 5.1.2 *Marine Mammals and Sea Turtles*

#### 5.1.2.1 Survey Effort

Shipboard marine mammal/sea turtle survey efforts may differ from avian survey efforts due to specific differences in survey methodologies (e.g., sea state/observation requirements)

##### 5.1.2.1.1 *July 2009*

No surveys were scheduled for this month.

##### 5.1.2.1.2 *August 2009*

Marine mammal/sea turtle shipboard surveys were initiated on 01 August and concluded on 05 August. Effort was delayed for a couple hours on 02 August due to thunderstorms and briefly on 03 August due to thick patches of fog that hindered visibility. The survey covered 459.418 NM (850.842 km) of an on-effort trackline (**Figure 5.1-7**).

##### 5.1.2.1.3 *September 2009*

Marine mammal/sea turtle shipboard surveys were initiated on 30 August and concluded on 03 September. During this entire survey, we experienced unusually rough weather consisting of Beaufort Sea State (BSS) 4-6 and large swells (4-7 feet [ft] high). Therefore, we had several delays in survey effort while waiting for winds to minimize to a BSS of 5 or less and swells to 5 ft or less. The survey covered 439.505 NM (813.963 km) of on-effort trackline (**Figure 5.1-8**).

#### 5.1.2.2 Survey Results

Two marine mammal species and two sea turtle species were observed on the ship surveys from August through September 2009. An unidentified porpoise, whale, and dolphin and two unidentified hardshell turtles which could not be identified to species were also observed during these surveys. All sightings from this time period are summarized in **Table 5.1-4**. Three of the four species observed are listed as threatened or endangered under the Endangered Species Act (ESA).

## 5.2 **AERIAL SURVEYS**

### 5.2.1 *Avian*

Aerial avian surveys were discontinued for the remainder of the project.

### 5.2.2 *Marine Mammals and Sea Turtles*

Aerial marine mammal and sea turtle surveys were discontinued for the remainder of the project.

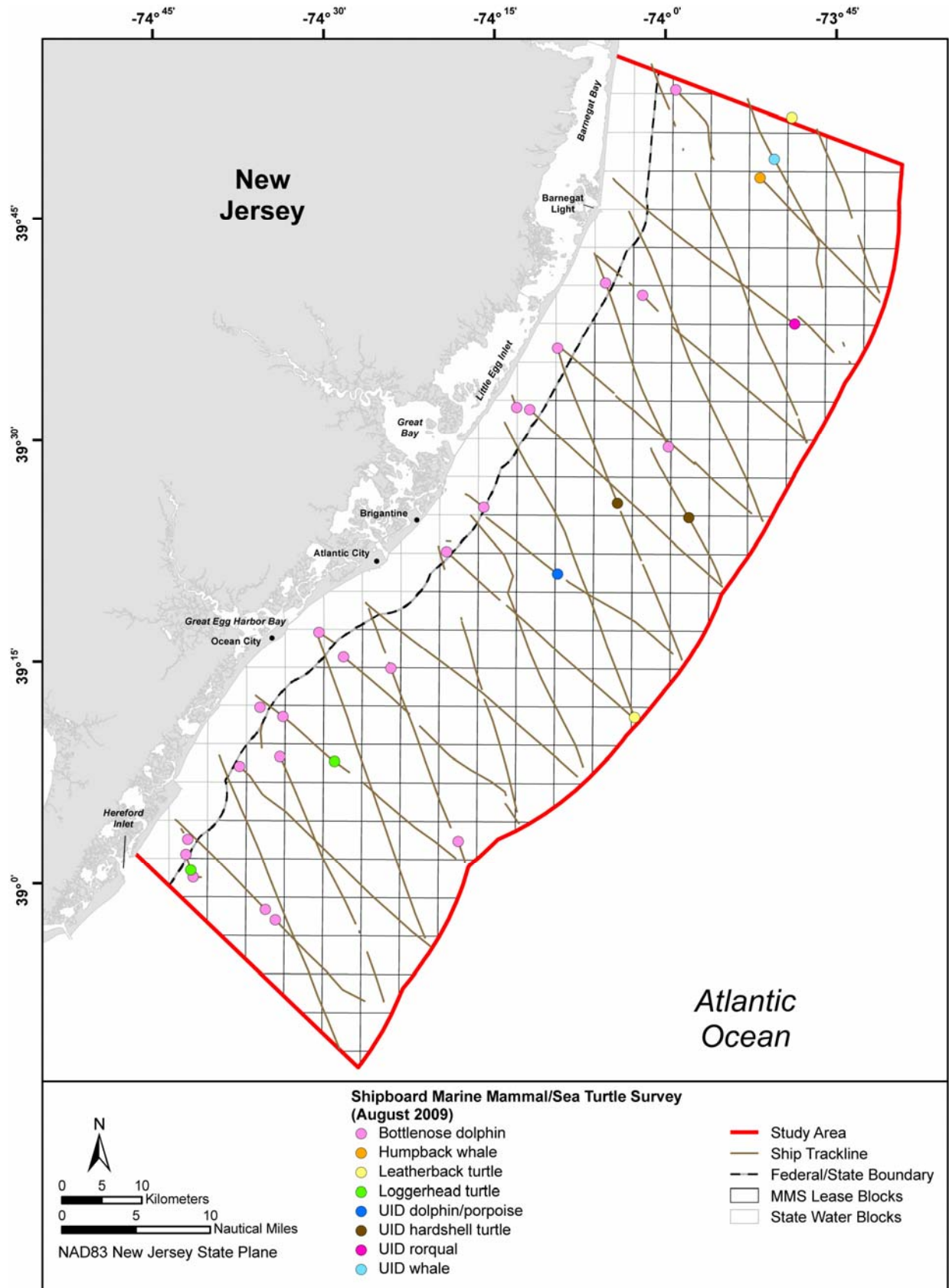


Figure 5.1-7. Shipboard Marine Mammal/Sea Turtle Survey for August 2009.



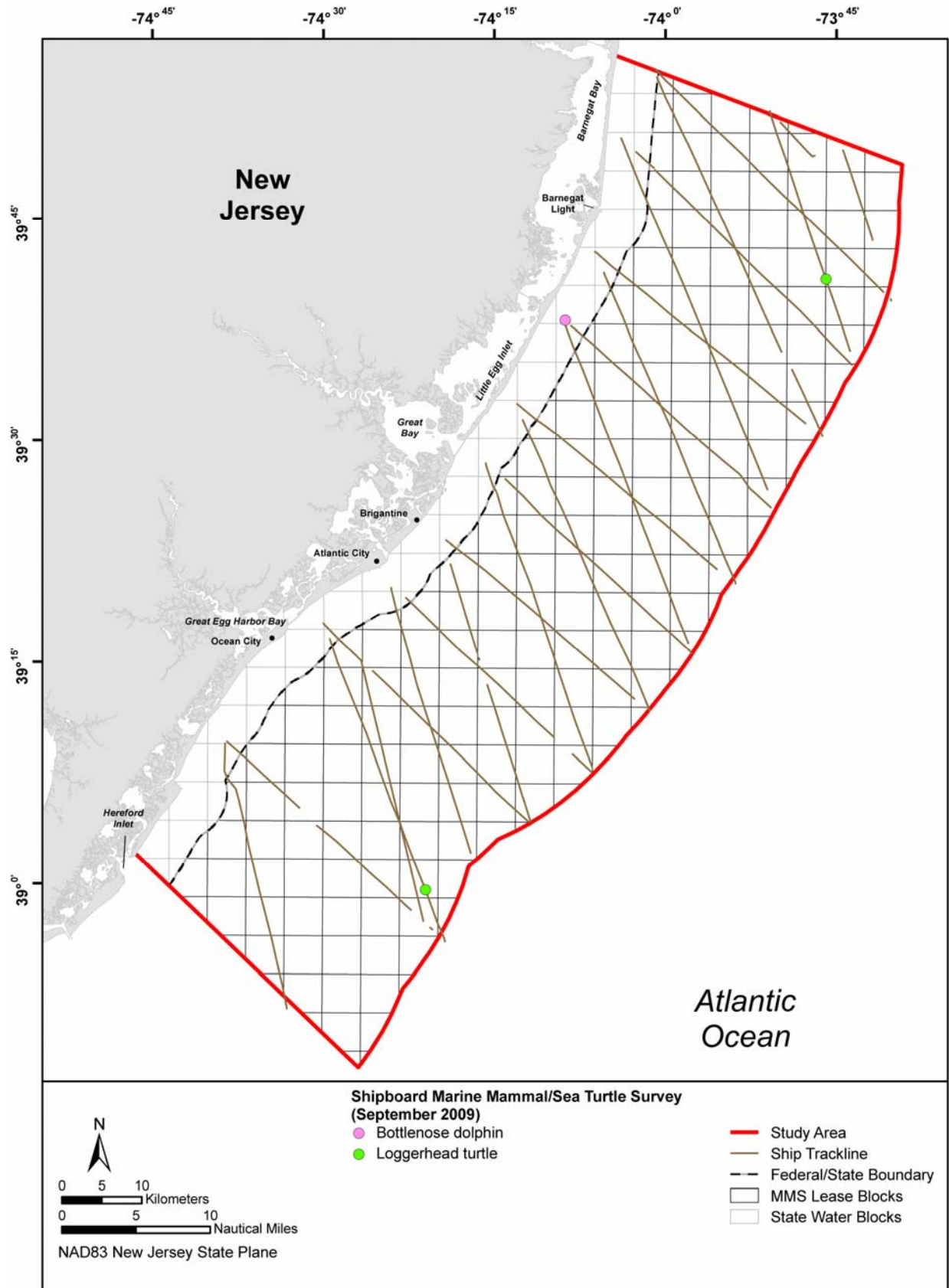


Figure 5.1-8. Shipboard Marine Mammal/Sea Turtle Survey for September 2009.

**Table 5.1-4**  
**Summary of Marine Mammal/Sea Turtle Sightings from the Shipboard Surveys from August through September 2009.**

Common Name, <i>Scientific Name</i>	Sightings by Month*	
	August	September
Humpback whale, <i>Megaptera novaeangliae</i> **	1	
Unidentified rorqual ( <i>Balaenoptera</i> spp.)	1	
Unidentified whale	1	
Bottlenose dolphin, <i>Tursiops truncatus</i>	22	1
Unidentified dolphin	1	
Loggerhead turtle, <i>Caretta caretta</i> **	2	2
Leatherback turtle, <i>Dermochelys coriacea</i> **	2	
Unidentified hardshell turtle	2	

\* No surveys were conducted in July.

\*\* ESA species

This table is a summary of sightings and not the total number of animals observed. Note that a sighting can include more than one animal.

### 5.3 SMALL BOAT COASTAL SURVEYS

#### 5.3.1 Survey Effort

##### 5.3.1.1 August 2009

The small-boat coastal survey was conducted on 16 August 2009, with transects covering 70.3 NM (130 km; **Figure 5.1-1**). Survey effort began while heading north at 0600 Eastern Daylight Time (EDT) at the southern end of the study area; the survey was completed at the north end of the study area at 1220 EDT. The total daily effort was 6.35 hrs.

##### 5.3.1.2 September 2009

The small boat coastal survey was conducted on 15 September 2009, with transects covering 73.3 NM (136 km; **Figure 5.1-2**). Survey effort began while heading north at 0653 EDT at the southern end of the study area; transects were completed at the north end of the study area at 1350 EDT. The total daily effort was 6.96 hrs.

#### 5.3.2 Survey Results

##### 5.3.2.1 Avian Species Occurrence

All 22 avian species observed during the August and September 2009 coastal surveys are listed in **Table 5.3-1**. In the August survey, 16 species were recorded, while there were 18 species recorded in September.

Two federal avian species of concern for Bird Conservation Region 30 (New England/Mid-Atlantic Coast) were recorded during the summer 2009 coastal surveys: Semipalmated Sandpiper in August, and Least Tern, also in August (**Table 5.3-1**).

Six species listed by the State of New Jersey as endangered, threatened, and/or of special concern during the breeding or non-breeding seasons were recorded during the summer 2009 coastal surveys. Osprey, listed as threatened as a breeder, was recorded in August and September. Sanderling, listed as special concern as a non-breeder, was recorded in May. Semipalmated Sandpiper, listed as special

concern as a non-breeder, was recorded in August. Least Tern, listed as endangered as a breeder, was recorded in August. Caspian Tern, listed as special concern as a breeder, was recorded in September. Common Tern, listed as special concern as a breeder, was recorded in August and September (**Table 5.3-1**).

**Table 5.3-1**  
**Avian species observed during the August and September 2009 small boat coastal surveys<sup>1</sup>.**

Family Common Name, <i>Scientific name</i>	2009	
	16 August	15 September
<b>Hydrobatidae</b> (storm-petrels)		
Wilson's Storm-Petrel, <i>Oceanites oceanicus</i>	X	X
<b>Sulidae</b> (gannets)		
Northern Gannet, <i>Morus bassanus</i>	X	X
<b>Pelecanidae</b> (pelicans)		
Brown Pelican, <i>Pelecanus occidentalis</i>	X	X
<b>Phalacrocoracidae</b> (cormorants)		
Double-crested Cormorant, <i>Phalacrocorax auritus</i>	X	X
Great Cormorant, <i>Phalacrocorax carbo</i>		X
<b>Ardeidae</b> (egrets and herons)		
Green Heron, <i>Butorides virescens</i>		X
<b>Accipitridae</b> (eagles and hawks)		
Osprey, <i>Pandion haliaetus</i>	X	X
<b>Falconidae</b> (falcons)		
Merlin, <i>Falco columbarius</i>		X
<b>Charadriidae</b> (plovers)		
Semipalmated Plover, <i>Charadrius semipalmatus</i>	X	
<b>Scolopacidae</b> (sandpipers)		
Sanderling, <i>Calidris alba</i>	X	
Semipalmated Sandpiper, <i>Calidris semipalmatus</i>	X	
<b>Laridae</b> (gulls and terns)		
Laughing Gull, <i>Leucophaeus atricilla</i>	X	X
Herring Gull, <i>Larus argentatus</i>	X	X
Great Black-backed Gull, <i>Larus marinus</i>	X	X
Least Tern, <i>Sternula antillarum</i>	X	
Caspian Tern, <i>Hydroprogne caspia</i>		X
Common Tern, <i>Sterna hirundo</i>	X	X
Forster's Tern, <i>Sterna forsteri</i>	X	X
Sandwich Tern, <i>Thalasseus sandvicensis</i>		X
Royal Tern, <i>Thalasseus maximus</i>	X	X
<b>Hirundinidae</b> (swallows)		
Tree Swallow, <i>Tachycineta bicolor</i>		X
Barn Swallow, <i>Hirundo rustica</i>	X	X

<sup>1</sup> All birds identified to species during avian surveys are included, whether in-zone or out-zone

#### 5.3.2.2 Avian Abundance

Avian numbers and abundances for the coastal surveys of August and September 2009 are presented in **Table 5.3-2**. Species diversity and overall numbers were quite similar in the two months. In the August 2009 survey, 432 individuals of 16 species were recorded, while 435 individuals of 18 species were recorded in September. As is to be expected in summer, gulls and terns dominated both the August and September totals (85 percent of all individuals for both months). In August this was due in large part to Laughing Gulls while in September 3 gull species each comprised roughly 25 percent of the monthly total.

**Table 5.3-3** presents the top five most numerous species (no. birds/km) detected in each month. The most numerous species in August was Laughing Gull (2.04/km), accounting for 63 percent of all individuals recorded. The top 5 species – Laughing Gull, Great Black-backed Gull (0.44/km), Common Tern (0.22), Barn Swallow (0.17), and Herring Gull (0.09) - accounted for 88 percent of all individuals recorded in August. This marks only the second time during the course of the project when a landbird was represented in the top five (Purple Martin, another swallow species, was the fifth most numerous species in August 2008). In September numbers were more evenly distributed among all species, with the top five most numerous species accounting for 79 percent of all individuals recorded.

#### 5.3.2.3 Avian Density

##### **Methods**

Analysis methods are identical to the methods previously described for the offshore surveys (**Section 5.1.1.2.3**).

##### **Results**

Gridboxes ranked according to avian density are given in **Figure 5.3-1** through **5.3-4** for the coastal (boat) surveys (**Figure 5.3-1**: All-behavior birds in August; **Figure 5.3-2**: All-behavior birds in September; **Figure 5.3-3**: Sitting birds in August; **Figure 5.3-4**: Sitting birds in September). The gridboxes depicted in dark green (indicating avian densities in the 80-100 percentile category among the positive-density gridboxes) are designated as high-density gridboxes. As shown on the color-coded spatial maps, the spatial locations of the high-density gridboxes exhibit monthly variability.

Coastal (boat) surveys showed a northward spatial shift in high-density gridboxes between August and September for both all-behavior birds and sitting birds. For all-behavior birds, 6 high-density gridboxes were identified in both August and September (**Figure 5.3-1** and **Figure 5.3-2**). Only 2 gridboxes (#40 just south of Atlantic City, and #51 between Ocean City and Hereford Inlet) were designated as high-density (dark green) gridboxes for both of these months. In the northern coastal portion of the Study Area (Little Egg Inlet and northward) there was only 1 high-density gridbox (#20, at Little Egg Inlet) in August (**Figure 5.3-3**), compared to 4 high-density gridboxes (#3, 7, 10, and 15, surrounding Barnegat Bay and Barnegat Light) in September (**Figure 5.3-4**). Sharp local spatial gradients in abundance were observed at various locations, as indicated by adjacent dark green and light green gridboxes.

For sitting birds, 4 high-density gridboxes were identified in both August and September (compared to 6 for the all-behavior birds), all of which were unique between the 2 months (i.e., no repeat high-density gridboxes for sitting birds) (**Figure 5.3-3** and **Figure 5.3-4**). Like the all-behavior birds, sitting birds showed a northward shift in high-density gridboxes between August and September. In September, 3 high-density gridboxes (#7, 10, and 15, between Barnegat Light and Little Egg Inlet) occurred north of August's northernmost high-density gridbox (#20, adjacent to Little Egg Inlet). There were fewer observations of sitting birds than of all-behavior birds for both months, and the spatial continuity of gridboxes with at least 1 sighting (non-white) was more fragmented for sitting birds than for all-behavior birds. For example, sitting birds showed an isolation of gridboxes 44, 45, 48, and 51 (around Ocean City) in August (**Figure 5.3-3**), and isolation of gridbox #33 (near Brigantine) and of #57 and 60 (near Hereford Inlet) in September (**Figure 5.3-4**).

**Table 5.3-2**  
**In-zone avian species abundance observed during August and September 2009**  
**small-boat coastal surveys.**

Family Common Name, <i>Scientific Name</i>	16 August 2009		15 September 2009	
	No. <sup>1</sup>	Abun. <sup>2</sup>	No. <sup>1</sup>	Abun. <sup>2</sup>
<b>Hydrobatidae</b> (storm-petrels)	<b>10</b>	<b>0.08</b>	<b>1</b>	<b>0.01</b>
Wilson's Storm-Petrel, <i>Oceanites oceanicus</i>	10	0.08	1	0.01
<b>Sulidae</b> (gannets)	<b>1</b>	<b>0.01</b>	<b>5</b>	<b>0.04</b>
Northern Gannet, <i>Morus bassanus</i>	1	0.01	5	0.04
<b>Pelecanidae</b> (pelicans)	<b>9</b>	<b>0.07</b>	<b>19</b>	<b>0.14</b>
Brown Pelican, <i>Pelecanus occidentalis</i>	9	0.07	19	0.14
<b>Phalacrocoracidae</b> (cormorants)	<b>11</b>	<b>0.09</b>	<b>27</b>	<b>0.20</b>
Double-crested Cormorant, <i>Phalacrocorax auritus</i>	11	0.09	26	0.19
Great Cormorant, <i>Phalacrocorax carbo</i>			1	0.01
<b>Ardeidae</b> (bitterns, egrets and herons)			<b>1</b>	<b>0.01</b>
Green Heron, <i>Butorides virescens</i>			1	0.01
<b>Accipitridae</b> (eagles and hawks)	<b>3</b>	<b>0.02</b>	<b>3</b>	<b>0.02</b>
Osprey, <i>Pandion haliaetus</i>	3	0.02	3	0.02
<b>Falconidae</b> (falcons)			<b>4</b>	<b>0.03</b>
Merlin, <i>Falco columbarius</i>			4	0.03
<b>Charadriidae</b> (plovers)	<b>1</b>	<b>0.01</b>		
Semipalmated Plover, <i>Charadrius semipalmatus</i>	1	0.01		
<b>Scolopacidae</b> (sandpipers)	<b>6</b>	<b>0.05</b>		
Sanderling, <i>Calidris alba</i>	3	0.02		
Semipalmated Sandpiper, <i>Calidris pusilla</i>	2	0.02		
Shorebird, small (unknown)	1	0.01		
<b>Laridae</b> (gulls and terns)	<b>369</b>	<b>2.90</b>	<b>370</b>	<b>2.74</b>
Laughing Gull, <i>Leucophaeus atricilla</i>	260	2.04	93	0.69
Herring Gull, <i>Larus argentatus</i>	12	0.09	96	0.71
Great Black-backed Gull, <i>Larus marinus</i>	56	0.44	83	0.62
Sandwich Tern, <i>Thalasseus sandvicensis</i>			1	0.01
Royal Tern, <i>Thalasseus maxima</i>	11	0.09	30	0.22
Caspian Tern, <i>Hydroprogne caspia</i>			3	0.02
Forster's Tern, <i>Sterna forsteri</i>	1	0.01	22	0.16
Common Tern, <i>Sterna hirundo</i>	28	0.22	42	0.31
Least Tern, <i>Sternula antillarum</i>	1	0.01		
<b>Hirundinidae</b> (swallows)	<b>22</b>	<b>0.17</b>	<b>5</b>	<b>0.04</b>
Tree Swallow, <i>Tachycineta bicolor</i>			4	0.03
Barn Swallow, <i>Hirundo rustica</i>	22	0.17	1	0.01
<b>Total</b>	<b>432</b>	<b>3.40</b>	<b>435</b>	<b>3.23</b>

<sup>1</sup> Includes avian observations within the 300-m x 300-m survey strip transect when the ship was traveling ≥7 kts

<sup>2</sup> Detected abundance = No. birds/km and within the 300-m x 300-m survey strip transect when the ship was traveling ≥7 kts

**Table 5.3-3**  
**The most abundant in-zone avian species during the August and September 2009 small-boat coastal transect surveys.**

<b>16 August 2009 Small Boat Coastal In-zone<sup>1</sup></b>		
<b>Common Name</b>	<b>Number</b>	<b>Abundance<sup>2</sup></b>
Laughing Gull	260	2.04
Great Black-backed Gull	56	0.44
Common Tern	28	0.22
Barn Swallow	22	0.17
Herring Gull	12	0.09
<b>15 September 2009 Small Boat Coastal In-zone<sup>1</sup></b>		
<b>Common Name</b>	<b>Number</b>	<b>Abundance<sup>2</sup></b>
Herring Gull	96	0.71
Laughing Gull	93	0.69
Great Black-backed Gull	83	0.62
Common Tern	42	0.31
Royal Tern	30	0.22

<sup>1</sup> Includes avian observations within the 300-m x 300-m survey strip transect when the ship was traveling  $\geq 7$  kts

<sup>2</sup> Detected abundance = No. birds/km and within the 300-m x 300-m survey strip transect when the ship was traveling  $\geq 7$  kts

### 5.3.3 Discussion

#### 5.3.3.1 Avian Abundance

In August and September, coastal abundances of birds (**Table 5.3-2**) were nearly identical (3.40 and 3.23 birds/km, respectively), with total individuals recorded for each month only differing by three birds (432 in August, 435 in September). The compositions for the two months differed, however, mainly in that Laughing Gulls dominated the gull and tern numbers in August (260 of 369 individuals, or 70 percent) whereas the group's numbers were more evenly distributed amongst the species in September. This evenness was due to a decrease in the number of Laughing Gulls from 260 to 93 coupled with an increase in the number of nearly all other larids from 109 to 277, most notably Herring Gulls (from 12 to 96). The offshore surveys showed less marked differences among months. Although Laughing Gull numbers did decrease by 29 percent from August to September, the species still represented a similar percentage of all larids in each month (55 percent in August, 54 percent in September). While Herring Gull numbers increased, other larid numbers decreased by 31 percent during the same period, contrasting with the upward trend seen on the coastal surveys. This overall decrease is possibly due to poor viewing conditions throughout the September offshore surveys.

The low numbers of gulls and terns on both the offshore and coastal surveys this summer may have had their origins in spring and early summer weather and tide cycles. The spring moon high tide occurred on 07 June 2009, a time when all locally breeding larids are incubating or have very small young in nests. There was apparent widespread nest failure due to inundation (D. Freiday pers. comm.) by this tide event, at least in southern New Jersey. Typically, these species will attempt renesting after such occurrences, and certainly some did and were successful, as the presence of juveniles of all species in August can attest (T. Leukering pers. obs., G. Davis pers. obs.); however, June 2009 was the third wettest June on record at Atlantic City (NOAA 2009), which may have had a negative impact on reproduction in these species. These two factors are suspected to be primarily responsible for the low numbers of larids found in New Jersey waters this summer.

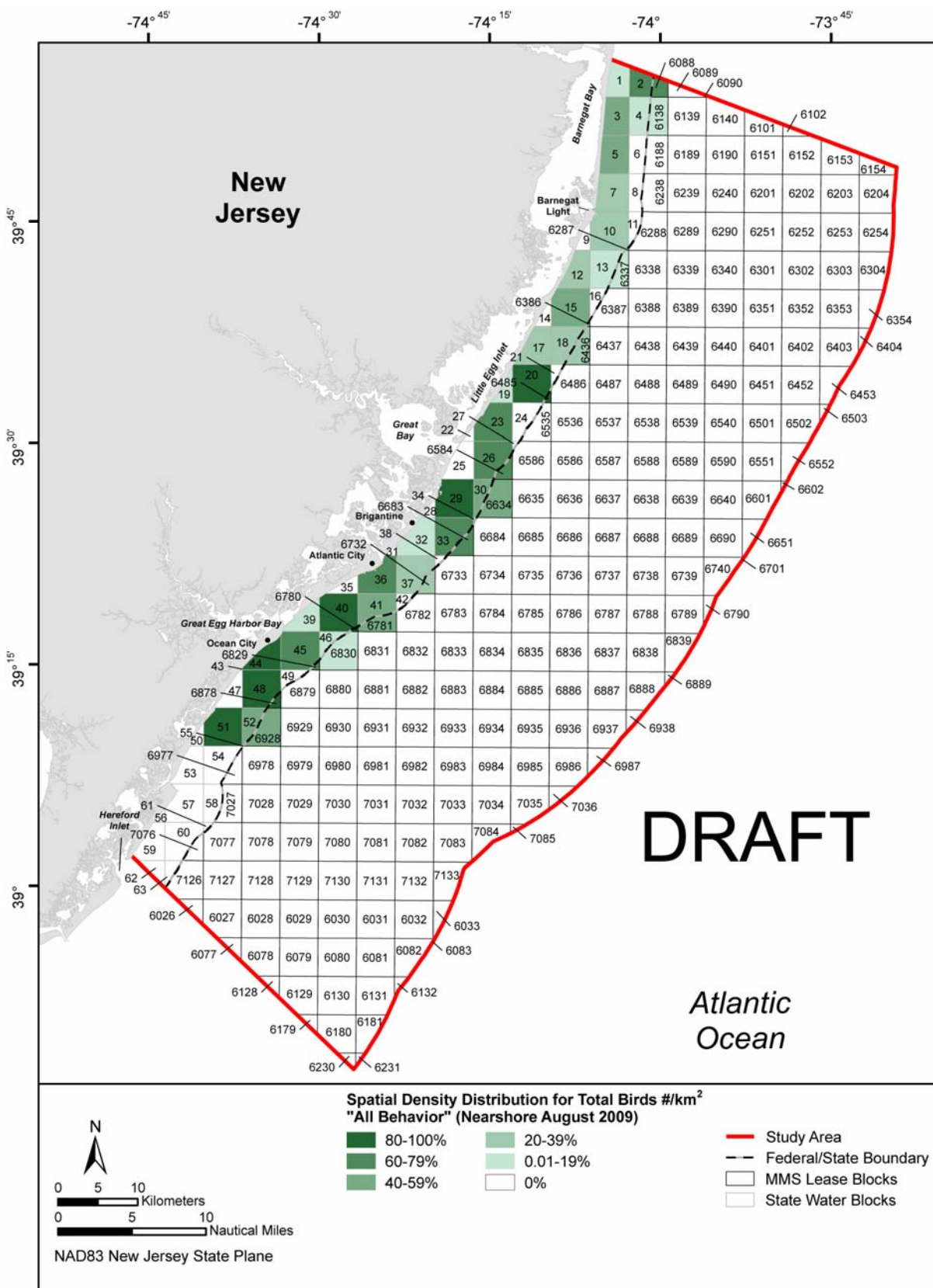


Figure 5.3-1. Total coastal bird densities (all behaviors) within the New Jersey Study Area in August 2009.



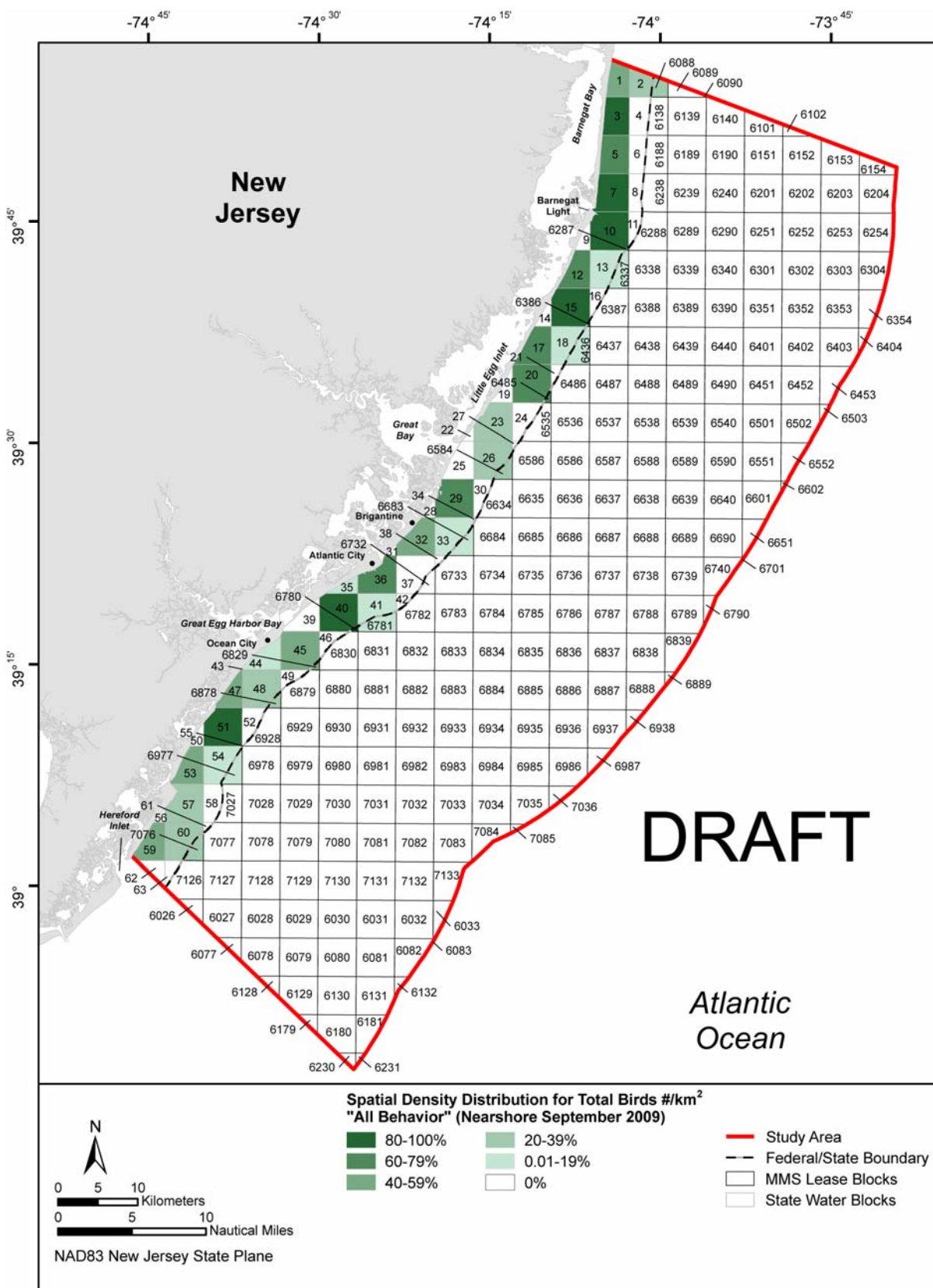


Figure 5.3-2. Total coastal bird densities (all behaviors) within the New Jersey Study Area in September 2009.



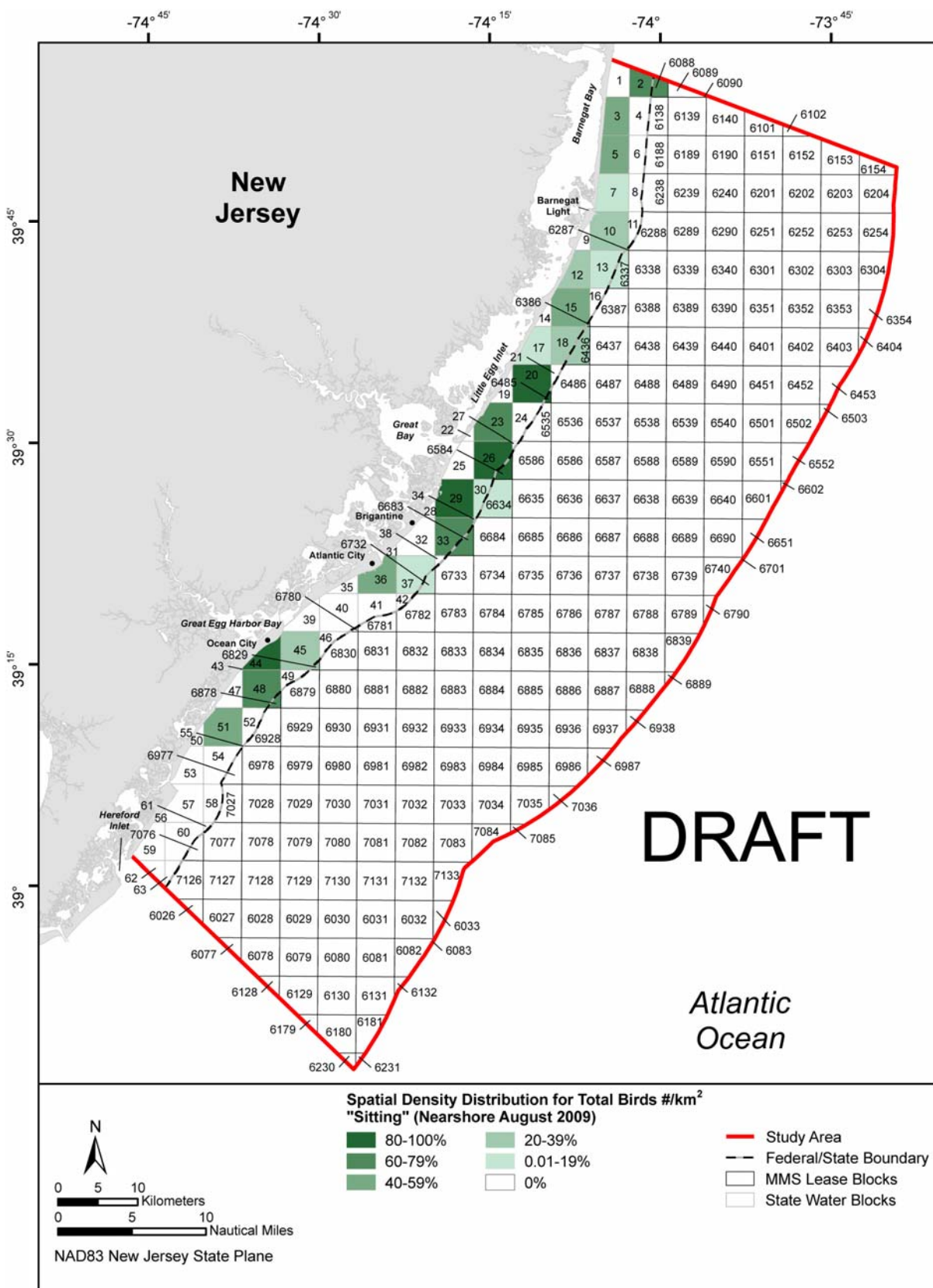


Figure 5.3-3. Total coastal bird densities (sitting) within the New Jersey Study Area in August 2009.

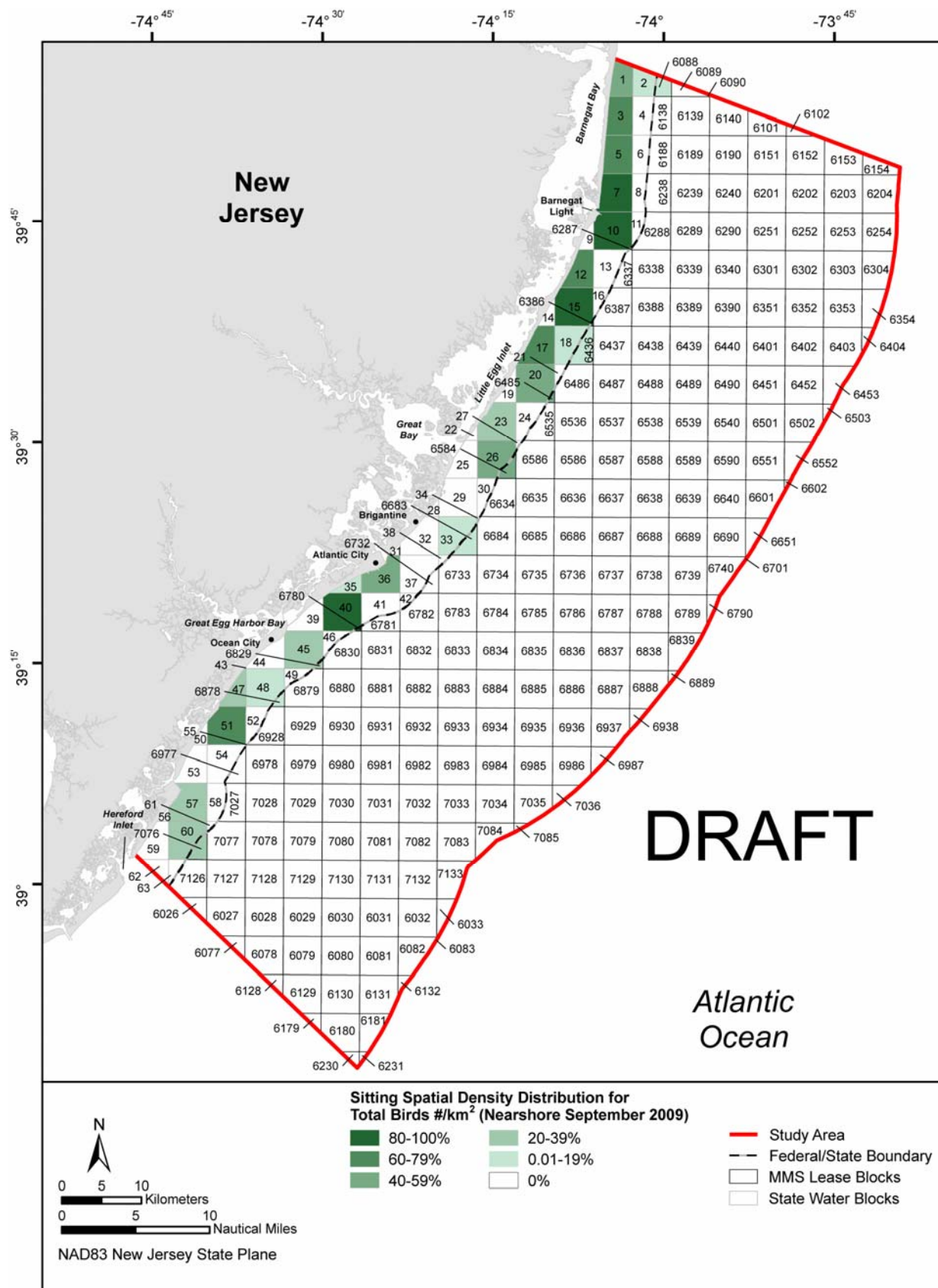


Figure 5.3-4. Total coastal densities (sitting) within the New Jersey Study Area in September 2009.

#### 5.3.3.2 Avian Density

The high-density gridboxes for all-behavior birds are identified on a month-to-month basis by an “x” in **Table 5.3-4** and **Table 5.3-5** for the offshore (ship) and coastal (boat) surveys, respectively. Likewise, high-density gridboxes for sitting birds are identified in **Tables 5.3-6** and **5.3-7** for the respective ship and boat surveys. Of the 249 gridboxes on the Minerals Management Service (MMS) grid system, only those gridboxes that exhibited an occurrence frequency of 1 or greater (i.e., at least 1 month as a high-density gridbox) are listed in the tables. Each row, corresponding to a particular gridbox, is summed over the total number of months in the quarter to obtain the number of months that the given gridbox is designated as a high-density gridbox (i.e., “A” ranking). Likewise, each column, corresponding to a particular month, is summed over the number of gridboxes to obtain the total number of high-density gridboxes occurring in the given month. Summing the occurrence frequencies over both the total number of months (last row) and total number of gridboxes (last column) gives the total number of high-density gridboxes occurring over the entire quarter.

For example, **Table 5.3-4** shows that, for the all-behavior birds on the offshore (ship) surveys, 29 and 14 high-density gridboxes occurred in August and September 2009, respectively, for a total of 43 high-density gridboxes occurring during the quarter (There were no surveys conducted in July 2009). Each listed gridbox exhibited an occurrence frequency of at least 1, with 3 gridboxes (#6101, 6252, and 6303) showing an occurrence frequency of 2 (i.e., designated as a high-density gridbox for 2 months). For the all-behavior birds on the coastal (boat) surveys, 6 high-density gridboxes in each of August and September, for a total of 12 high-density gridboxes occurring during the 2-month period (**Table 5.3-5**). Two gridboxes (#40 and 51) showed an occurrence frequency of 2, with all other listed gridboxes having an occurrence frequency of 1.

Analogous to **Table 5.3-4** and **Table 5.3-5** for all-behavior birds, **Table 5.3-6** and **Table 5.3-7** apply to sitting birds. For the ship surveys, there were 8 high-density gridboxes for sitting birds in August but zero for September (due to insufficient number of sightings and/or zero survey effort) (**Table 5.3-3**). For the boat surveys, 4 high-density gridboxes occurred in each of August and September, for a total of 8 high-density gridboxes occurring during the 2-month period (**Table 5.3-4**). Each of these 8 gridboxes were unique in their given month, showing an occurrence frequency of 1 (i.e., no repeat gridboxes over multiple months).

### 5.4 RADAR SURVEYS

#### 5.4.1 Data Collection

The land-based Mobile Avian Radar System (MARS<sup>®</sup>) was deployed to Island Beach State Park, New Jersey, on 15 September 2009 where it will remain until 02 October (**Figure 5.4-1**). Groundtruthing surveys of the land-based coastal avian radar have been conducted at Island Beach State Park daily from 17 September to 21 September 2009.

#### 5.4.2 Data Analysis

The radar and groundtruthing data are currently being processed and analyzed at GMI's Plano, Texas, office.

### 5.5 THERMAL SURVEYS

#### 5.5.1 Data Collection

For the land-based system, recording was conducted at Island Beach State Park on 19 September.

#### 5.5.2 Data Analysis

The thermal imaging data are currently being analyzed at GMI's Millville, New Jersey office.

**Table 5.3-4**  
**Identification of high-density gridboxes (quartile rank=1 or A) by month for the offshore (ship) surveys for TOTAL BIRDS (All-Behaviors).**

Grid# \ Month:	Aug-09	Sep-09	Total
6101	x	x	2
6102	x		1
6190		x	1
6201		x	1
6288		x	1
6252	x	x	2
6303	x	x	2
6304	x		1
6387	x		1
6389		x	1
6352	x		1
6354	x		1
6436		x	1
6437	x		1
6439		x	1
6402	x		1
6488	x		1
6490		x	1
6538	x		1
6540		x	1
6586	x		1
6588	x		1
6637	x		1
6639	x		1
6689	x		1
6735		x	1
6736	x		1
6783	x		1
6832	x		1
6833	x		1
6835		x	1
6882		x	1
6935	x		1
6980	x		1
7031	x		1
7079	x		1
7127	x		1
6028	x		1
6029	x		1
6079	x		1
Total	29	14	43

**Table 5.3-5**  
**Identification of high-density gridboxes (quartile rank=1 or A) by month for the coastal (boat) surveys for TOTAL BIRDS (All-Behaviors).**

Grid#\Month:	Aug-09	Sep-09	Total
3		x	1
7		x	1
10		x	1
15		x	1
20	x		1
29	x		1
40	x	x	2
44	x		1
48	x		1
51	x	x	2
Total	6	6	12

**Table 5.3-6**  
**Identification of high-density gridboxes (quartile rank=1 or A) by month for the offshore (ship) surveys for TOTAL BIRDS (Sitting).**

Grid#\Month:	Aug-09	Sep-09	Total
6252	x		1
6488	x		1
6586	x		1
6689	x		1
6734	x		1
6833	x		1
7031	x		1
6028	x		1
Total	8	0	8

**Table 5.3-7**  
**Identification of high-density gridboxes (quartile rank=1 or A) by month for the coastal (boat) surveys for TOTAL BIRDS (Sitting).**

Grid#\Month:	Aug-09	Sep-09	Total
7		x	1
10		x	1
15		x	1
20	x		1
26	x		1
29	x		1
40		x	1
44	x		1
Total	4	4	8



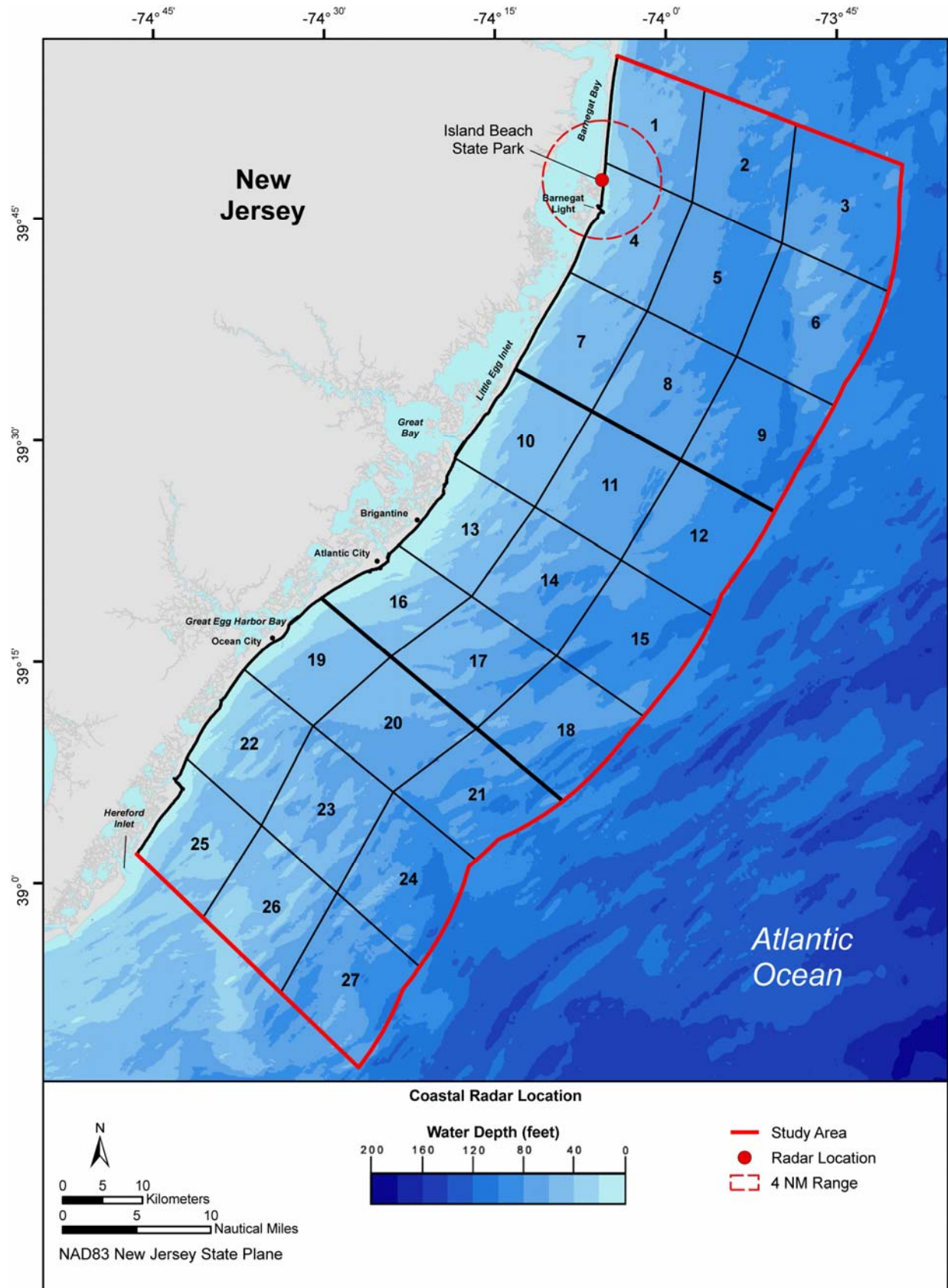


Figure 5.4-1. Radar Grid and Site Location for September 2009.

## 5.6 ACOUSTIC SURVEYS

This report presents an update on the diagnostics for pop-up (PU) PU202 from the December 2008 deployment, on deployment activity for August 2009, and on details regarding the status of data processing and analyses for the duration of the project.

### 5.6.1 June 2009 - Pop-Up Diagnostics Update

PU 202 was part of the December 2008 deployment and responded to the audio burn signals during the 20 March 2009 recovery trip; however, the unit did not surface when called. Divers were unavailable for manual recovery; sea and weather conditions prohibited a second attempt at recovery during April or May. The unit was confirmed to have surfaced (determined via data analysis) on 30 March 2009 but was found near Virginia Beach, Virginia by a fisherman on 07 June 2009. By early July, the unit was returned to the Bioacoustics Research program (BRP) for diagnostic review. The hard drive was delivered to GMI in early August 2009. It has not been confirmed as to why the unit did not respond within identified parameters to burn signals.

PU202 was loaded with a 2-kilohertz (kHz) sample rate for continuous recording and continued to record while on the seafloor. Data from 14 December 2008 to 30 March 2009 have been analyzed for baleen whale calls (see Data Analyses/Processing section below).

It was determined by the BRP team that PU171 did not record usable data during the March 2009 deployment. The error was part of the computer processing unit (CPU) processing hardware and an error on the part of BRP. As such, a replacement unit at no charge will be provided for GMI use during the last deployment planned for August 2009.

### 5.6.2 August 2009 - Pop-Up Deployment Update

Initially, four pop-ups were planned for deployment during this final extension of the acoustics monitoring for the project; however, because of a hardware error during the March 2009 deployment, BRP made available at no charge to GMI or NJDEP the use of one additional pop-up. Also, BRP has been unable to confirm the cause of residue buildup on the grounding rod for PU134 from the December 2008 deployment. BRP requested collaboration in adding PU134 to the deployment plan in an attempt to recreate the problem. Thus, six pop-ups were deployed on 11 August 2009, each with an 1/8<sup>th</sup> stainless steel cable connector between the pop-up and its anchor. On four of the pop-ups (at S#1b, S#3a, and S#2 [two units], see **Figure 5.6-1**), the acoustic burn unit was bypassed and each pop-up was shackled directly, via the steel cable, to its anchor. As such, these units will require diver-assisted recovery after the deployment. The remaining two pop-ups (S#4 and S#5, see **Figure 5.6-1**) employed the acoustic burn unit system but were also each affixed with an Argos global positioning system (GPS) tracking beacon. Thus, should one or both of these units surface prior to the planned recovery dates, the GPS beacon will alert the BRP team via email.

The pop-ups deployed at Station (S) number (#) 1b, 3a, and 5 were loaded with a 2-kHz sample rate and continuous duty cycle. PU134, deployed at S#2, was also loaded with a 2-kHz sample rate and continuous duty cycle. The units deployed at S#4 and S#2 (second unit here) were deployed with a 31.25-kHz sample rate and 5 min on/25 min off duty cycle.

All six pop-ups were deployed successfully on August 11, 2009. Recovery of the units is planned for the week of October 26<sup>th</sup>, with exact dates weather dependent.

### 5.6.3 Data Analyses/Processing

Data analysis details refer to data collected from late March 2008 through June 2009, unless otherwise noted and for comparison purposes. Data analysis details are presented per deployment for ease of reference. Daily presence of fin whales (**Table 5.6-1**), North Atlantic right whales (**Table 5.6-2**), and delphinid species (**Table 5.6-3**) are presented for all deployments. Only presence of identified species

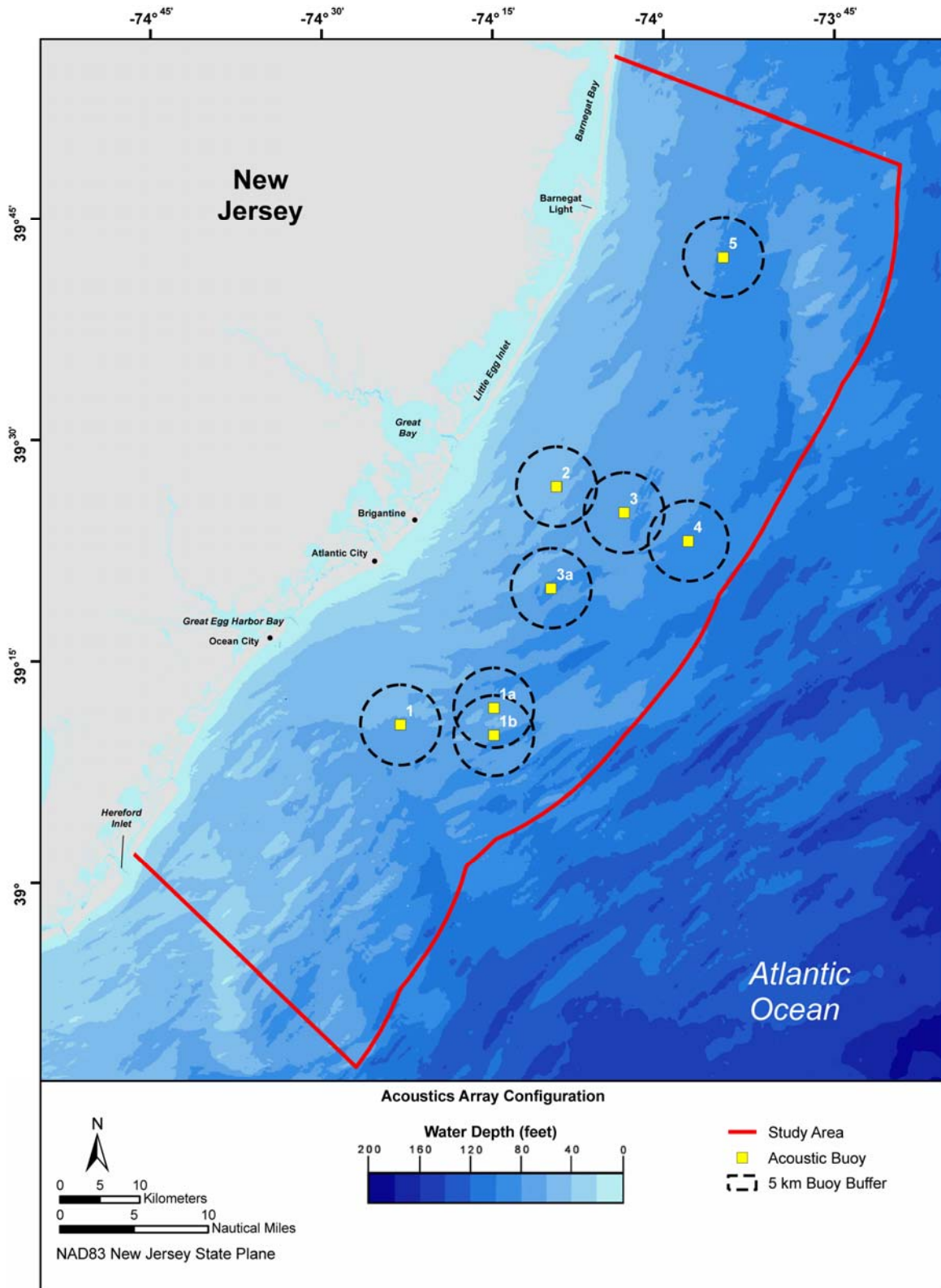


Figure 5.6-1. The array configuration for acoustic data collection with passive acoustic monitoring. The yellow squares represent a recording unit and station numbers are indicated next to each yellow square. Units deployed at S#1b and S#3a were shifted from the original location to affect greater distribution converge in assessment of the study area.



**Table 5.6-1**

**Fin whale pulses detected by date and station are presented in chronological order. Pop-up ID (PU###) and Station (S#) within array configuration are provided. Dates of detection are presented per month per popup. PU179 was deployed only in December 2008, but was not recovered. Thus, this unit is not presented in the table below.**

Month deployed	PU081 (S#4)	PU063 (S#3)	PU134 (S#5)	PU086 (S#2)	PU202 (S#3)	PU203 (S#5)	PU002 (S#1a)	PU171 (S#2)	PU182 (S#4)
March 2008	29 <sup>th</sup>	29 <sup>th</sup>	29 <sup>th</sup>	29 <sup>th</sup> , 30 <sup>th</sup>	Not in use	Not in use	Not in use	Not in use	Not in use
April 2008	4 <sup>th</sup> 6 <sup>th</sup> 7 <sup>th</sup> 9 <sup>th</sup> 10 <sup>th</sup> 12 <sup>th</sup> 27 <sup>th</sup>	4 <sup>th</sup> 9 <sup>th</sup>	4 <sup>th</sup> 9 <sup>th</sup> 13 <sup>th</sup> 15 <sup>th</sup> 27 <sup>th</sup>	1 <sup>st</sup> 5 <sup>th</sup> 7 <sup>th</sup> 8 <sup>th</sup> 15 <sup>th</sup>	Not in use	Not in use	Not in use	Not in use	Not in use
May 2008	19 <sup>th</sup> 20 <sup>th</sup> 21 <sup>st</sup> 22 <sup>nd</sup> 23 <sup>rd</sup>	None	2 <sup>nd</sup>	4 <sup>th</sup> 5 <sup>th</sup> 9 <sup>th</sup> 18 <sup>th</sup> 19 <sup>th</sup> 22 <sup>nd</sup>	Not in use	Not in use	Not in use	Not in use	Not in use
June 2008	4 <sup>th</sup> 10 <sup>th</sup> 11 <sup>th</sup> 15 <sup>th</sup> 16 <sup>th</sup>	2 <sup>nd</sup> 4 <sup>th</sup>	6 <sup>th</sup> 8 <sup>th</sup> 9 <sup>th</sup> 10 <sup>th</sup> 11 <sup>th</sup> 12 <sup>th</sup> 13 <sup>th</sup> 14 <sup>th</sup> 16 <sup>th</sup> 17 <sup>th</sup> 24 <sup>th</sup> – 30 <sup>th</sup>	No data	Not in use	Not in use	Not in use	Not in use	Not in use
July 2008	High frequency code	None	1 <sup>st</sup> 6 <sup>th</sup> 11 <sup>th</sup> 13 <sup>th</sup> 16 <sup>th</sup> 17 <sup>th</sup> 19 <sup>th</sup> 20 <sup>th</sup> 21 <sup>st</sup> 22 <sup>nd</sup> 26 <sup>th</sup> – 31 <sup>st</sup>	High frequency code	Not in use	Not in use	Not in use	Not in use	Not in use
August 2008	High frequency code	6 <sup>th</sup> 8 <sup>th</sup> – 14 <sup>th</sup> 18 <sup>th</sup> 19 <sup>th</sup> 24 <sup>th</sup> 28 <sup>th</sup> 31 <sup>st</sup>	1 <sup>st</sup> – 12 <sup>th</sup> 17 <sup>th</sup> 18 <sup>th</sup> 23 <sup>rd</sup> 24 <sup>th</sup> 25 <sup>th</sup> 27 <sup>th</sup> – 31 <sup>st</sup>	High frequency code	Not in use	Not in use	Not in use	Not in use	Not in use
September 2008	High frequency code	3 <sup>rd</sup> 10 <sup>th</sup> – 12 <sup>th</sup> 14 <sup>th</sup>	1 <sup>st</sup> – 4 <sup>th</sup> 6 <sup>th</sup> 7 <sup>th</sup> 12 <sup>th</sup> 13 <sup>th</sup>	High frequency code	Not in use	Not in use	Not in use	Not in use	Not in use
October 2008	Lost	Lost	Not in use	High frequency code	4 <sup>th</sup> 5 <sup>th</sup> 8 <sup>th</sup> 10 <sup>th</sup> 12 <sup>th</sup> 13 <sup>th</sup> 18 <sup>th</sup> 23 <sup>rd</sup> 27 <sup>th</sup> 28 <sup>th</sup>	19 <sup>th</sup> 27 <sup>th</sup>	Not in use	Not in use	Not in use

**Table 5.6-1 (continued)**

Fin whale pulses detected by date and station are presented in chronological order. Pop-up ID (PU###) and Station (S#) within array configuration are provided. Dates of detection are presented per month per popup. PU179 was deployed only in December 2008, but was not recovered. Thus, this unit is not presented in the table below.

Month deployed	PU081 (S#4)	PU063 (S#3)	PU134 (S#5)	PU086 (S#2)	PU202 (S#3)	PU203 (S#5)	PU002 (S#1a)	PU171 (S#2)	PU182 (S#4)
November 2008	lost	Lost	Not in use	High frequency code	3 <sup>rd</sup> 4 <sup>th</sup> 7 <sup>th</sup> 8 <sup>th</sup> 13 <sup>th</sup> 14 <sup>th</sup> 16 <sup>th</sup>	2 <sup>nd</sup> 14 <sup>th</sup>	Not in use	Not in use	Not in use
December 2008	lost	lost	deployed	High frequency code	1 <sup>st</sup> 16 <sup>th</sup> 18 <sup>th</sup> 20 <sup>th</sup> 21 <sup>st</sup> 24 <sup>th</sup> 26 <sup>th</sup> 28 <sup>th</sup> – 31 <sup>st</sup>	1 <sup>st</sup> 2 <sup>nd</sup>	Not in use	Not in use	Not in use
January 2009	N/A	N/A	High frequency code	Lost	1 <sup>st</sup> 2 <sup>nd</sup> 4 <sup>th</sup> 6 <sup>th</sup> 9 <sup>th</sup> – 31 <sup>st</sup>		Not in use	Not in use	Not in use
February 2009	N/A	N/A	High frequency code	Lost	1 <sup>st</sup> to 5 <sup>th</sup> 8 <sup>th</sup> 9 <sup>th</sup> 13 <sup>th</sup> – 17 <sup>th</sup> 22 <sup>nd</sup> 25 <sup>th</sup> 26 <sup>th</sup>		Not in use	Not in use	Not in use
March 2009	N/A	N/A	High frequency code	Lost	1 <sup>st</sup> 4 <sup>th</sup> 6 <sup>th</sup> – 8 <sup>th</sup> 10 <sup>th</sup> – 14 <sup>th</sup> 20 <sup>th</sup> 22 <sup>nd</sup>		30 <sup>th</sup> 31 <sup>st</sup>	hardware error	29 <sup>th</sup> – 31 <sup>st</sup>
April 2009	N/A	N/A	Not in use	N/A	maybe	N/A	1 <sup>st</sup> 2 <sup>nd</sup> 8 <sup>th</sup> 19 <sup>th</sup>	hardware error	8 <sup>th</sup> 19 <sup>th</sup>
May 2009	N/A	N/A	Not in use	N/A	Not in use	N/A	8 <sup>th</sup> – 11th	hardware error	11 <sup>th</sup> – 16 <sup>th</sup> 18 <sup>th</sup> – 20 <sup>th</sup>
June 2009	N/A	N/A	Not in use	N/A	Not in use	N/A	none	hardware error	none

**Table 5.6-2**

**North Atlantic right whale calls detected by date and station are presented in chronological order. Pop-up ID (PU####) and Station (S#) within array configuration also provided. Dates of detection are presented per month per popup. PU179 was deployed only in December 2008, but was not recovered. Thus, this unit is not presented in the table below.**

Month deployed	PU081 (S#4)	PU063 (S#3)	PU134 (S#5)	PU086 (S#2)	PU202 (S#3)	PU203 (S#5)	PU002 (S#1a)	PU171 (S#2)	PU182 (S#4)
March 2008	27 <sup>th</sup> 28 <sup>th</sup> 29 <sup>th</sup>	27 <sup>th</sup> 28 <sup>th</sup>	27 <sup>th</sup>	26 <sup>th</sup> 27 <sup>th</sup> 28 <sup>th</sup>	Not in use	Not in use	Not in use	Not in use	Not in use
April 2008	6 <sup>th</sup> 20 <sup>th</sup> 25 <sup>th</sup> 27 <sup>th</sup> 28 <sup>th</sup>	20 <sup>th</sup> 21 <sup>st</sup> 25 <sup>th</sup> 26 <sup>th</sup> 27 <sup>th</sup>	20 <sup>th</sup> 22 <sup>nd</sup> 26 <sup>th</sup> 27 <sup>th</sup>	1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup> 19 <sup>th</sup> 20 <sup>th</sup> 29 <sup>th</sup>	Not in use	Not in use	Not in use	Not in use	Not in use
May 2008	5 <sup>th</sup> 6 <sup>th</sup> 15 <sup>th</sup> 17 <sup>th</sup>	2 <sup>nd</sup> 6 <sup>th</sup> 15 <sup>th</sup> 17 <sup>th</sup>	1 <sup>st</sup> 2 <sup>nd</sup> 5 <sup>th</sup> 6 <sup>th</sup> 15 <sup>th</sup> 16 <sup>th</sup> 17 <sup>th</sup>	2 <sup>nd</sup> 3 <sup>rd</sup> 6 <sup>th</sup> 10 <sup>th</sup> 11 <sup>th</sup> 15 <sup>th</sup> 21 <sup>st</sup> 22 <sup>nd</sup> 28 <sup>th</sup> 29 <sup>th</sup>	Not in use	Not in use	Not in use	Not in use	Not in use
June 2008	11 <sup>th</sup>	11 <sup>th</sup>	10 <sup>th</sup>	No data	Not in use	Not in use	Not in use	Not in use	Not in use
July 2008	High frequency code	27 <sup>th</sup> ?	20 <sup>th</sup> 24 <sup>th</sup>	High frequency code	Not in use	Not in use	Not in use	Not in use	Not in use
August 2008	High frequency code	None	3 <sup>rd</sup> 5 <sup>th</sup> 24 <sup>th</sup> 28 <sup>th</sup>	High frequency code	Not in use	Not in use	Not in use	Not in use	Not in use
September 2008	High frequency code	None	14 <sup>th</sup> – 17 <sup>th</sup>	High frequency code	Not in use	Not in use	Not in use	Not in use	Not in use
October 2008	Lost	Lost	Not in use	High frequency code	None	None	Not in use	Not in use	Not in use
November 2008	Lost	Lost	Not in use	High frequency code	16 <sup>th</sup> 17 <sup>th</sup> 19 <sup>th</sup> 26 <sup>th</sup>	11 <sup>th</sup> 12 <sup>th</sup>	Not in use	Not in use	Not in use
December 2008	Lost	Lost	deployed	High frequency code	1 <sup>st</sup>	none	Not in use	Not in use	Not in use

**Table 5.6-2 (continued)**

North Atlantic right whale calls detected by date and station are presented in chronological order. Pop-up ID (PU####) and Station (S#) within array configuration also provided. Dates of detection are presented per month per popup. PU179 was deployed only in December 2008, but was not recovered. Thus, this unit is not presented in the table below.

Month deployed	PU081 (S#4)	PU063 (S#3)	PU134 (S#5)	PU086 (S#2)	PU202 (S#3)	PU203 (S#5)	PU002 (S#1a)	PU171 (S#2)	PU182 (S#4)
January 2009	N/A	N/A	High frequency code	High frequency code	Analyses ongoing	Lost	Not in use	Not in use	Not in use
February 2009	N/A	N/A	High frequency code	High frequency code	Analyses ongoing	Lost	Not in use	Not in use	Not in use
March 2009	N/A	N/A	High frequency code	High frequency code	Analyses ongoing	Lost	none	<i>hardware error</i>	25 <sup>th</sup>
April 2009	N/A	N/A	Not in use	N/A	maybe	N/A	none	<i>hardware error</i>	13 <sup>th</sup> 23 <sup>rd</sup>
May 2009	N/A	N/A	Not in use	N/A	Not in use	N/A	none	<i>hardware error</i>	10 <sup>th</sup> 12 <sup>th</sup> 19 <sup>th</sup> 21 <sup>st</sup>
June 2009	N/A	N/A	Not in use	N/A	Not in use	N/A	none	<i>hardware error</i>	none

**Table 5.6-3**

**Toothed whale calls detected by date and station are presented in chronological order. No calls identified for first deployment (26 March 08 – 17 June 08) since the sample rate was too low to detect toothed whale calls. Pop-up ID (PU####) and Station (S#) within array configuration also provided. Dates of detection are presented per month per popup. PU179 was deployed only in December 2008, but not recovered and is not presented in the table below.**

Month deployed	PU081 (S#4)	PU063 (S#3)	PU134 (S#5)	PU086 (S#2)	PU202 (S#3)	PU203 (S#5)	PU002 (S#1a)	PU171 (S#2)	PU182 (S#4)
June 2008	25 <sup>th</sup> – 30 <sup>th</sup>	low frequency code	low frequency code	26 <sup>th</sup> 27 <sup>th</sup> 29 <sup>th</sup> 30 <sup>th</sup>	Not in use	Not in use	Not in use	Not in use	Not in use
July 2008	All files examined, calls present every day	low frequency code	low frequency code	1 <sup>st</sup> to 7 <sup>th</sup> , 9 <sup>th</sup> to 25 <sup>th</sup> , 27 <sup>th</sup> – 31 <sup>st</sup>	Not in use	Not in use	Not in use	Not in use	Not in use
August 2008	All files examined, calls present every day	low frequency code	low frequency code	1 <sup>st</sup> – 16 <sup>th</sup> (unit stopped early)	Not in use	Not in use	Not in use	Not in use	Not in use
September 2008	Up early, no data	low frequency code	low frequency code	none	Not in use	Not in use	Not in use	Not in use	Not in use
October 2008	lost	lost	Not in use	6 <sup>th</sup> 8 <sup>th</sup> 22 <sup>nd</sup> 24 <sup>th</sup> 30 <sup>th</sup>	low frequency code	low frequency code	Not in use	Not in use	Not in use
November 2008	lost	lost	Not in use	1 <sup>st</sup> 8 <sup>th</sup> 12 <sup>th</sup> 17 <sup>th</sup> 24 <sup>th</sup> 27 <sup>th</sup> 29 <sup>th</sup> 30 <sup>th</sup>	low frequency code	low frequency code	Not in use	Not in use	Not in use
December 2008	lost	lost	14 <sup>th</sup> 18 <sup>th</sup> 19 <sup>th</sup> 21 <sup>st</sup> 24 <sup>th</sup> 26 <sup>th</sup> 27 <sup>th</sup> 29 <sup>th</sup> – 31 <sup>st</sup>	1 <sup>st</sup> 2 <sup>nd</sup> 3 <sup>rd</sup>	low frequency code	low frequency code	Not in use	Not in use	Not in use
January 2009	N/A	N/A	1 <sup>st</sup> – 6 <sup>th</sup> 10 <sup>th</sup> 12 <sup>th</sup> 13 <sup>th</sup> 25 <sup>th</sup> 26 <sup>th</sup>	lost	low frequency code	lost	Not in use	Not in use	Not in use

**Table 5.6-3 (continued)**

Toothed whale calls detected by date and station are presented in chronological order. No calls identified for first deployment (26 March 08 – 17 June 08) since the sample rate was too low to detect toothed whale calls. Pop-up ID (PU####) and Station (S#) within array configuration also provided. Dates of detection are presented per month per popup. PU179 was deployed only in December 2008, but was not recovered. Thus, this unit is not presented in the table below.

Month deployed	PU081 (S#4)	PU063 (S#3)	PU134 (S#5)	PU086 (S#2)	PU202 (S#3)	PU203 (S#5)	PU002 (S#1a)	PU171 (S#2)	PU182 (S#4)
February 2009	N/A	N/A	2 <sup>nd</sup> 5 <sup>th</sup> 15 <sup>th</sup> – 17 <sup>th</sup> 22 <sup>nd</sup>	lost	low frequency code	lost	Not in use	Not in use	Not in use
March 2009	N/A	N/A	7 <sup>th</sup> 14 <sup>th</sup>	lost	low frequency code	lost	low frequency code	System error	low frequency code
April 2009	N/A	N/A	Not in use	N/A	low frequency code	N/A	low frequency code	System error	low frequency code
May 2009	N/A	N/A	Not in use	N/A	Not in use	N/A	low frequency code	System error	low frequency code
June 2009	N/A	N/A	Not in use	N/A	Not in use	N/A	low frequency code	System error	low frequency code

and date of presence have been documented for these analyses. Data from each deployment are being opportunistically examined for vocalizations of species other than North Atlantic right whales, fin whales and delphinid species, as guided by survey data for other species identified during transect surveys.

#### 5.6.3.1 March 2008 Deployment

Data from four pop-ups were collected at a 2-kHz sample rate facilitating an examination of baleen whale vocalizations that might have been made from late March 2008 through 16 June 2008. Data from each popup were examined using automated detection algorithms for Fin whale and North Atlantic right whale calls.

#### 5.6.3.2 June 2008 Deployment

Data from four pop-ups were collected: two at a 2-kHz sample rate (continuous duty cycle) facilitating an examination of baleen whale vocalizations and two at a 31.25-kHz sample rate (5 min on/25 min off duty cycle) facilitating an examination of toothed whale calls. The lower sample rate data have been analyzed for presence of fin and North Atlantic right whale calls using a preset data template detector in Xbat (Extensible Bioacoustic Tool) and BRP's ISRAT call detection, respectively. Results for species presence and date of presence are presented in **Tables 5.6-1** and **5.6-2**, respectively. Toothed whale (likely a dolphin species) vocalizations have been detected in the data from both high-frequency data sets (**Table 5.6-3**). Little research has been conducted to definitively identify different delphinid species via frequency-modulated (FM) or amplitude-modulated (AM) calls alone; thus, identification to species based on call detection has been reserved although survey data suggest these calls to be from either bottlenose dolphins or common dolphins. Whistles, squawks, chirps, clicks, whines, brays, pops, and claps were all detected from various days of recordings.

#### 5.6.3.3 September 2008 Deployment

Data from three pop-ups were collected: two at a 2-kHz sample rate (continuous duty cycle) for baleen whale vocalizations and one at a 31.25-kHz sample rate (5 min on/25 min off duty cycle) for toothed whale calls. The lower sample rate data have been analyzed for presence of fin and North Atlantic right whale calls using a preset data template detector in Xbat and BRP's ISRAT call detection, respectively. Results for species presence and date of presence are presented in **Tables 5.6-1** and **5.6-2**, respectively. Toothed whale (likely a dolphin species) vocalizations have been detected in the data from the high-frequency data set (**Table 5.6-3**), though fewer days presented delphinid calls for this third deployment as compared with the second (summer) deployment. A resident group of bottlenose dolphins frequents the waters of the New Jersey coastline during the summer months (Brown 2007), suggesting that these calls are likely from bottlenose dolphins.

#### 5.6.3.4 December 2008 Deployment

Data from two pop-ups were recovered, though much later than planned (in June 2009 as opposed to the March recovery dates, see explanation above). Data from two pop-ups have been extracted: one at the high frequency (31.25 kHz) sample rate and one at the low frequency (2 kHz) sample rate. The hard drive with the data from PU134 was retrieved from BRP, Ithaca, New York, on 23 June 2009; while the hard drive for PU202 was received in early August 2009. These data represent both sample rates and duty cycles: PU134 at the higher frequency sample rate and PU202 at the low frequency sample rate. Fin whales were observed each month during this winter deployment (**Table 5.6-1**) while North Atlantic right whales were not observed during the mid-winter months (**Table 5.6-2**). Dolphins were observed infrequently during the winter months (**Table 5.6-3**), which supports previous studies suggesting that smaller delphinids are not in the area with colder water temperatures.

#### 5.6.3.5 March 2009 Deployment

Three pop-ups were deployed and recovered; however, data from the high frequency unit were not recorded with proper gain to facilitate analysis. Thus, only data from two pop-ups (PU002, PU182), both



with the 2-kHz sample rate, are available for analysis. Fin whales continued to be observed acoustically during each month of deployment (**Table 5.6-1**), while North Atlantic right whales were not documented by the southern-most pop-up (PU002) but were observed on six days for the eastern-most pop-up (PU182, see **Table 5.6-2**).

#### 5.6.3.6 August 2009 Deployment

Because the six pop-ups deployed on 11 August 2009 have not yet been recovered, no data are available for analyses. The planned recovery of all units is set for the last week in October 2009. Additional details on the analyses of the data recovered will be included in the next quarterly report.

Sample sound files (.wav or .mp3) are available on request for any listed sound type (e.g., North Atlantic right whale, fin whale, or delphinid calls).

### 5.7 OCEANOGRAPHIC SURVEYS

Surface Mapping System (SMS), Conductivity-Temperature-Depth (CTD), and Acoustic Doppler Current Profiler (ADCP) measurements were conducted at point locations in the NJDEP Study Area off the coast of New Jersey during the third quarter (July-September) of 2009. (**Figures 5.7-1 through 5.7-4**).

#### 5.7.1 Surface Mapping System (SMS)

For the SMS, measured static parameters include the measurement date and time, water depth (ft or m), and lon-lat location. Measured climatic parameters include windspeed (knots [kt]), wind direction (deg), air temperature (degrees Celsius [°C]), relative humidity (%), and atmospheric barometric pressure (millibars [mbar]). Measured dynamic oceanographic parameters include water temperature (sea surface temperature [SST], °C), salinity (practical salinity units [psu]), fluorometric chlorophyll and CDOM (Turner raw), and Photosynthetically Active Radiation (PAR; quanta second [s<sup>-1</sup>]). Turner units are a spectral measurement of fluorescent material in the water at specific wavelengths. Chlorophyll has an absorption peak in the blue spectral region (440 nanometers [nm]) and a strong fluorescent peak at red wavelengths (670 nm), whereas Colored Dissolved Organic Matter (CDOM) absorbs strongly in the blue region (412 nm) and has a broad fluorescent peak at green-yellow wavelengths (530 nm). The PAR is measured with a PRR-600 light meter (spectral photometer) and is calculated from the spectral integration of light intensity measured at the following wavelengths: 443, 490, 510, 555, and 656 nm (spectral units: microwatts (uW) per square centimeter (cm<sup>2</sup>) per nanometer (nm)).

These SMS measurements were conducted and recorded every 10 s on the following dates:

- July 2009: None.
- August 2009: 8:46 AM on 8-1 through 9:09 PM on 8-5.
- September 2009: 8:36 AM on 8-30 through 10:10 PM on 9-3

Data values of these parameters for each 10-s interval were written to text files ("yymmddhh.txt"), and separate text files were generated for each hour ("hh") of data collection. For example, data collected during the 8th hour on 01 August 2009 were recorded to the text file "09080108.txt".

#### 5.7.2 Conductivity-Temperature-Depth (CTD) Measurements

In addition to water surface properties, water depth profiles (extending from the surface down to a depth corresponding to 30 decibels [db] pressure) were generated for water temperature (°C), salinity (psu), dissolved oxygen (milligrams per liter [mg/L]), and conductivity (voltage) using CTD instruments. Depth profiles of these four parameters were combined into a single plot for each set of measurements. Graphical plots of these depth profiles were saved as Excel files "CTDxxx.cnv" (where "xxx" = site number: "001", "002", etc.). Other CTD data files that were generated include BL files ("\*.bl"), CON files ("\*.con"), HDR files ("\*.hdr"), HEX files ("\*.hex"), ROS files ("\*.ros"), and WMF Image files ("\*.wmf"). The CON files contain the sensor calibrations: Voltage: 0 = fluorometer (Wetlabs ECO), 1=transmissometer, 2=oxygen (SEB 43), 3=free, 4=transmissometer (C-Star), 5=free, 6=altimeter, 7=free.

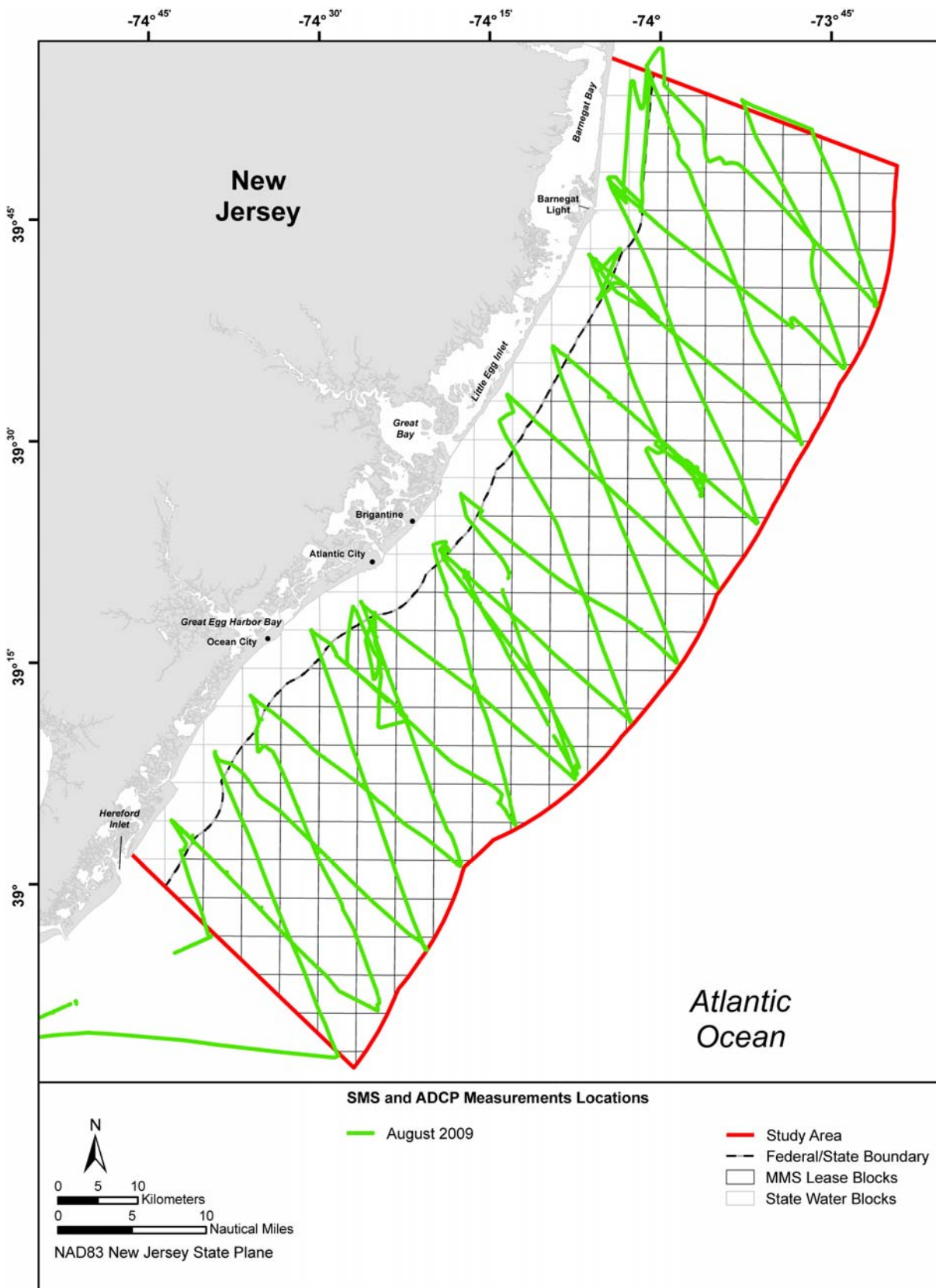


Figure 5.7-1. SMS and ADCP Measurements Conducted during Shipboard Surveys in the NJDEP Study Area off the Coast of New Jersey in August 2009.

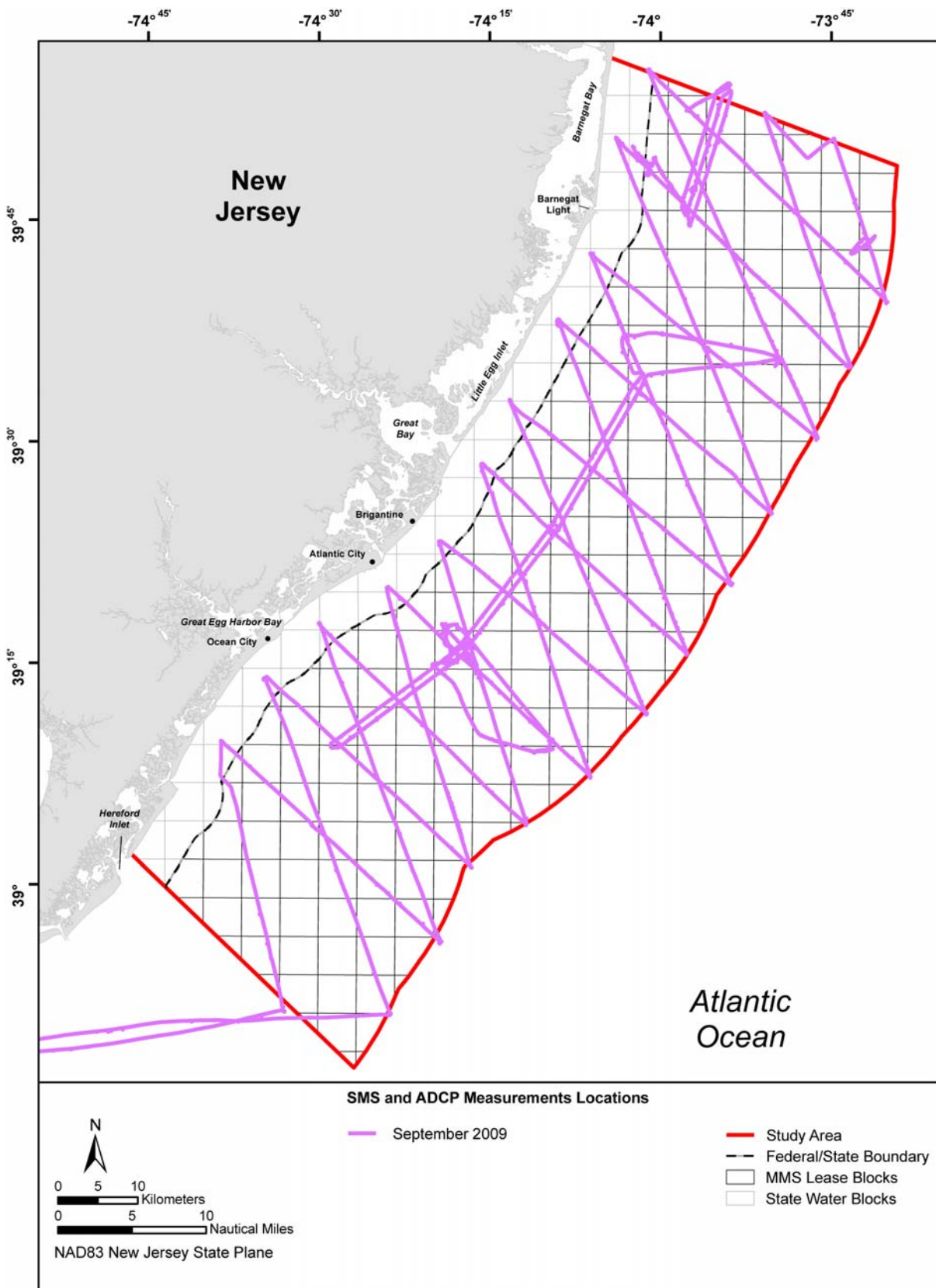


Figure 5.7-2. SMS and ADCP Measurements Conducted during Shipboard Surveys in the NJDEP Study Area off the Coast of New Jersey in September 2009.

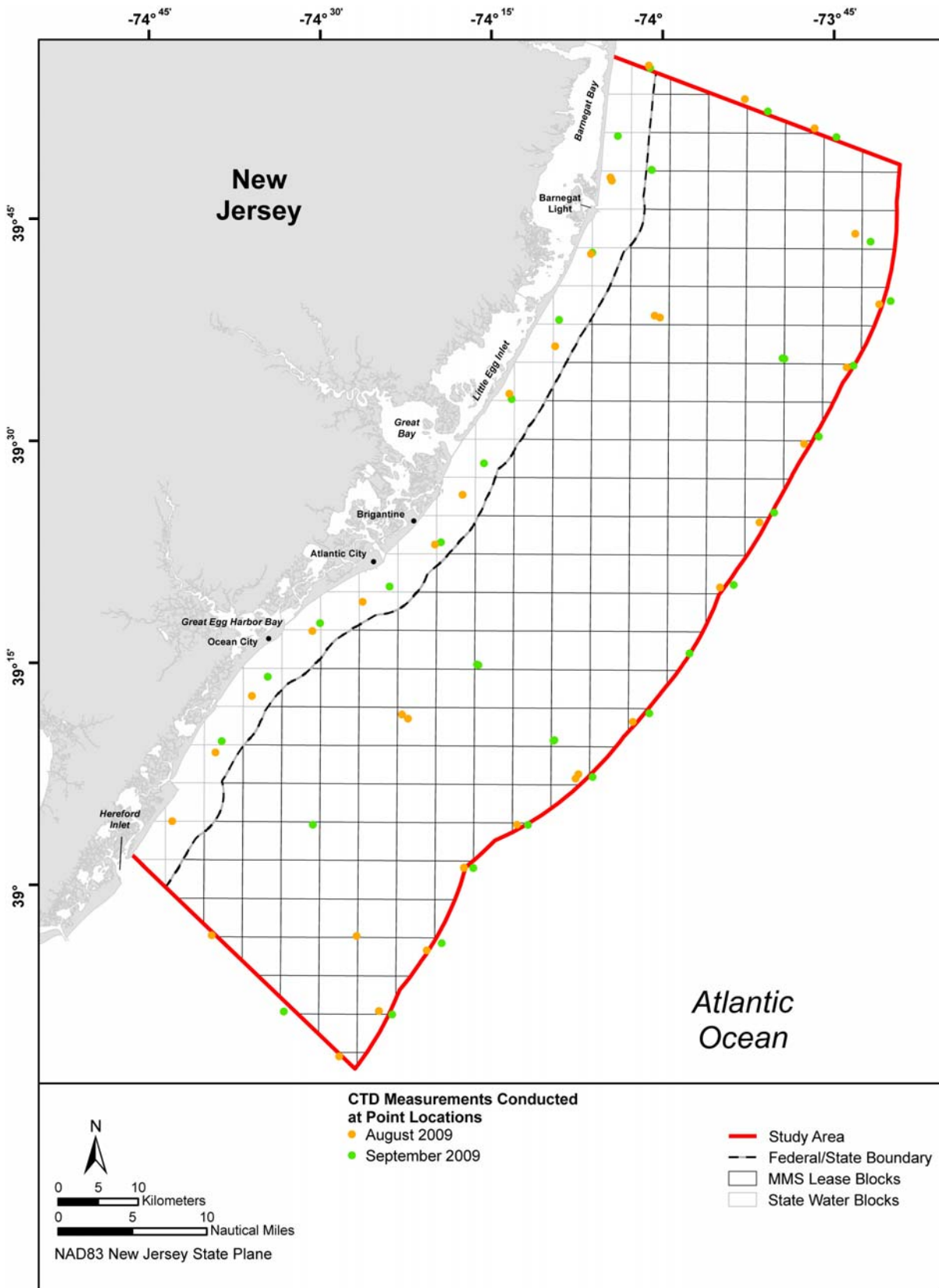


Figure 5.7-3. CTD Measurements Conducted at Point Locations in the NJDEP Study Area off the Coast of New Jersey from August through September 2009.

The CTD measurements were conducted at 20 sites in January, 6 sites in February, and 32 sites in March. The enclosed map shows the lon-lat locations of the sites of the CTD casts at which data collection occurred. The CTD measurements were conducted on the following dates:

- July 2009: None.
- August 2009 (36 sites): 8-1 through 8-5.
- September 2009 (36 sites): 8-30 through 9-3.

### 5.7.3 *Acoustic Doppler Current Profiler (ADCP) Measurements*

In addition to SMS, and CTD, ADCP measurements were conducted at various site locations. The ADCP data were collected and processed using the VM-DAS or WIN-RIVER software programs. The raw ADCP data (generated in files “\*.enr”) were screened for RSSI and correlated by VM-DAS or WIN-RIVER (files “\*.ens”) and then bin-mapped and transformed to Earth coordinates. The single-ping ADCP data after this transformation are in the files “\*.enx”. The text files “\*.vmo” contain the option settings for collecting the ADCP data. The general ADCP file format “\*” = “ADCPxxx\_eeeeee.”, where “xxx” = sequence of data collection files (initially “001” at the beginning of the cruise, and then increases by 1 every time the system is turned on and off), and “eeeeee” = ensemble number. The additional labels “yyyymmdd” = date of ADCP pinging, and “hhmmss.ss” = time of ADCP pinging.

The ADCP measurements were conducted on the following dates and times:

July 2009: None.

August 2009:

- 8-1 (09:51:42 to 23:59:59)
- 8-2 (00:00:00 to 23:59:59)
- 8-3 (00:00:00 to 23:59:59)
- 8-4 (00:00:00 to 23:59:59)
- 8-5 (00:00:00 to 17:01:21)

September 2009:

- 8-27 (16:53:08 to 17:09:54)
- 8-28 (15:34:03 to 15:35:07)
- 8-30 (08:30:45 to 23:59:59)
- 9-1 (00:00:00 to 23:59:59)
- 9-2 (00:00:00 to 23:59:59)
- 9-3 (00:00:00 to 22:09:35)

## 5.8 **SIDE-SCAN SURVEYS**

### 5.8.1 *August – September 2009 Survey*

Side-scan sonar and magnetometer surveys were conducted during the shipboard offshore survey cruise (31 August – 04 September 2009).

### 5.8.2 *Area Surveyed and Transect Parameters*

The area surveyed was a section of the Atlantic Ocean within the proposed New Jersey Wind Farm area located off the New Jersey coastline. Transect lines were created to begin eight miles (mi) off of the Col Regs line and to run parallel to the shore. Multiple transects were completed as conditions allowed and were spaced on 0.5-NM parallel lines. A total of 73,480 m (39.7 NM) were surveyed. Additional transect lines on future cruises will run parallel to the lines completed and on similar intervals. All transect lines were run using ship speeds ranging from 3 to 5 kts. Speed was determined by environmental conditions,

boat traffic, and towfish altitude. Towfish altitude was a function of ship speed, depth of the water, known obstructions within the tow path, and depth of the pycnocline.

#### 5.8.3 *Equipment*

- Klein 300 dual frequency Towfish with a K-2 K-Wing Depressor and Transceiver Processing Unit
- Geometrics 882 Cesium Magnetometer
- Hypack and Navigational software

#### 5.8.4 *Discussion*

Side-scan and magnetometer surveys were completed across seven transects. One unmarked wreck (a bow section approximately 30 ft long with little altitude) was located. Other known wrecks were located in the approximate position as they are charted. The bottom topography is uniform with alternating areas of sand, sand waves, shell, and silt/mud. A strong pycnocline/thermocline, found between 10 and 17 m deep, made it difficult to obtain clear survey records out to the full 100-m range (200-m swath) of the towfish. The nature of the ships wake interfered with the magnetometer signal but did not prevent the magnetometer from providing adequate data to detect any ferrous anomalies. There were no ferrous signals of note with the exception being areas of the known wrecks.

### 5.9 REFERENCES

Brown, J.T. 2007. Aspects of the ecology of bottlenose dolphins (*Tursiops truncatus*) in New Jersey. Master's Thesis, Rutgers University.

National Oceanic and Atmospheric Administration (NOAA). Selected U.S. City and State Extremes, June 2009. Accessed 22 September 2009. <http://www.ncdc.noaa.gov/oa/climate/research/2009/jun/junext2009.html#TEMPERATURE>

### 6.0 INITIAL ASSESSMENT OF POTENTIAL ENVIRONMENTAL IMPACTS FROM OFFSHORE WIND POWER FACILITIES

No activity was initiated on this task during this reporting period.

### 7.0 REPORTING

The fifth quarterly report was presented to NJDEP on 02 July 2009. Responses to comments on the draft QAWP were prepared. The Year 1 Interim Report was submitted on 20 January 2009. Comments were received and addressed in a revised version submitted on 03 March 2009.

**APPENDIX A**  
**REVIEWED LITERATURE**



This page intentionally left blank

## APPENDIX A-1

### FISHES

- Abbas, L.E. 1978. North Carolina charter boat industry. Pages 89-95 in F.E. Carlton and H. Clepper, eds. Marine recreational fisheries 3: Proceedings of the Second Annual Marine Recreational Fisheries Symposium, Norfolk, Virginia, March 29-30, 1978. Washington, DC: Sport Fishing Institute.
- Able, K.W. 1992. Checklist of New Jersey saltwater fishes. Bulletin of the New Jersey Academy of Science 37(1):1-11.
- Able, K.W. 1999. Checklist of fishes of the Jacques Cousteau National Estuarine Research Reserve at Mullica River-Great Bay. Contribution #99-22 of the Institute of Marine and Coastal Sciences and Contribution #99-101 of the Jacques Cousteau National Estuarine Research Reserve.
- Able, K.W., and M.P. Fahay. 1998. The first year in the life of estuarine fishes in the Mid-Atlantic Bight. New Brunswick, New Jersey: Rutgers University Press.
- Able, K.W., M.P. Fahay, D.A. Witting, R.S. McBride, and S.M. Hagan. 2006. Fish settlement in the ocean vs. estuary: Comparison of pelagic larval settled juvenile composition and abundance from southern New Jersey, U.S.A. Estuarine, Coastal and Shelf Science 66:280-280.
- Able, K.W., D.A. Witting, R.S. McBride, R.A. Rountree, and K.J. Smith. 1996. Fishes of polyhaline estuarine shores in Great Bay--Little Egg Harbor, New Jersey: A case study of seasonal and habitat influences. Pages 335-353 in Nordstrom, K.F. and C.T. Roman, eds. Estuarine shores: Evolution, environments and human alterations. New York, New York: John Wiley & Sons, Inc.
- Almeida, F.P., D.L. Hartley, and J. Burnett. 1995. Length-weight relationships and sexual maturity of goosefish off the northeast coast of the United States. North American Journal of Fisheries Management 15:14-25.
- Anderson, E.D. 1982. Silver hake *Merluccius bilinearis*. Pages 72-74 in M.D. Grosslein and T.R. Azarovitz, eds. Fish distribution. Marine EcoSystem Analysis (MESA) New York Bight Atlas Monograph 15. Albany: New York Sea Grant Institute.
- Arocha, F. 1997. The reproductive dynamics of swordfish *Xiphias gladius* L. and management implications in the northwestern Atlantic. Ph.D. dissertation, University of Miami.
- ASMFC (Atlantic States Marine Fisheries Commission). 1997. Amendment 3 to the interstate fishery management plan for American lobster – Fishery management report no. 29. Washington, D.C.: Atlantic States Marine Fisheries Commission.
- ASMFC (Atlantic States Marine Fisheries Commission). 1999. Amendment 1 to the interstate fishery management plan for Atlantic sea herring – Fishery management report no. 33. Washington, D.C.: Atlantic States Marine Fisheries Commission.
- ASMFC (Atlantic States Marine Fisheries Commission). 2002. Interstate fishery management plan for spiny dogfish – Fishery management report no. 40. Washington, D.C.: Atlantic States Marine Fisheries Commission.
- ASMFC (Atlantic States Marine Fisheries Commission) Coastal Shark Plan Development Team. 2008. Interstate fishery management plan for Atlantic coastal sharks – Fishery management report no. 46. Washington, D.C.: Atlantic States Marine Fisheries Commission.
- ASMFC (Atlantic States Marine Fisheries Commission). 2009a. Atlantic States Marine Fisheries Commission. Accessed 12 February 2009. <http://www.asmfc.org>.
- ASMFC (Atlantic States Marine Fisheries Commission). 2009b. 2008 annual report. Washington, D.C.: Atlantic States Marine Fisheries Commission.
- Atlantic Anglers. 2009. 2009 fishing tournaments. Accessed 13 February 2009. <http://www.atlanticanglers.com/forum/maryland/6796-2009-fishing-tournaments.html>.
- Berrien, P. and J. Sibunka. 1999. Distribution patterns of fish eggs in the U.S. northeast continental shelf ecosystem, 1977-1987. NOAA Technical Report NMFS 145:1-310.
- Bester, C. 1999a. Biological profiles - cobia. Florida Museum of Natural History. Accessed 29 December 2004. <http://www.flmnh.ufl.edu/fish/Gallery/Descript/Cobia/Cobia.html>.
- Bester, C. 1999b. Biological profiles - scalloped hammerhead. Accessed 17 December 2003. <http://www.flmnh.ufl.edu/fish/Gallery/Descript/SchHammer/ScallopedHammerhead.html>.
- Binnacle Custom Tackle. 2009. 2009. tournaments. Accessed 19 February 2009. <http://www.binnaclecustomtackle.com/2009Tournaments.html>.

- Block, B.A., H. Dewar, C. Farwell, and E.D. Prince. 1998. A new satellite technology for tracking the movements of Atlantic bluefin tuna. *Proceedings of the National Academy of Sciences* 95:9384-9389.
- Block, B.A., H. Dewar, S.B. Blackwell, T.D. Williams, E.D. Prince, C.J. Farwell, A. Boustany, S.L.H. Teo, A. Seitz, A. Walli, and E. Fudge. 2001. Migratory movements, depth preferences, and thermal biology of Atlantic bluefin tuna. *Science* 293:1310-1314.
- Boesch, D., E. Bureson, W. Dennison, E. Houde, M. Kemp, V. Kennedy, R. Newell, K. Paynter, R. Orth, R. Ulanowicz, C. Peterson, J. Jackson, M. Kirby, H. Lenihan, B. Bourque, R. Bradbury, R. Cooke, and S. Kidwell. 2001. Factors in the decline of coastal ecosystems. *Science* 293:1589-1591.
- Bonfil, R., M. Meyer, M.C. Scholl, R. Johnson, S. O'Brien, H. Oosthuizen, S. Swanson, D. Kotze, and M. Patterson. 2005. Transoceanic migration, spatial dynamics, and population linkages of white sharks. *Nature* 310:100-103.
- Bourne, D.W. 1987. Section III – The Fisheries. Pages 406-513 in R.H. Backus and D.W. Bourne, eds. *Georges Bank*. Cambridge: MIT Press.
- Bowman, R.E., C.E. Stillwell, W.L. Michaels, and M.D. Grosslein. 2000. Food of northwest Atlantic fishes and two common species of squid. NOAA Technical Memorandum NMFS-NE-155. Woods Hole, Massachusetts: National Marine Fisheries Service, Northeast Fisheries Science Center.
- Brander, K. 2009. Impacts of climate change on fisheries. *Journal of Marine Systems* doi:10.1016/j.jmarsys.2008.12.015.
- Brander, K., and P.C.F. Hurley. 1992. Distribution of early-stage Atlantic cod (*Gadus morhua*), haddock (*Melanogrammus aeglefinus*), and witch flounder (*Glyptocephalus cynoglossus*) eggs on the Scotian Shelf: A reappraisal of evidence on the coupling of cod spawning and plankton production. *Canadian Journal of Fisheries and Aquatic Sciences* 49:238-251.
- Branstetter, S. 2002a. Requiem sharks. Family Carcharhinidae. Pages 38-45. In B.B. Collette and G. Klein-MacPhee, eds. *Bigelow and Schroeder's fishes of the Gulf of Maine*. Washington, D.C.: Smithsonian Institution Press.
- Branstetter, S. 2002b. Sand tiger sharks. Family Odontaspidae. Pages 25-27. In B.B. Collette and G. Klein-MacPhee, eds. *Bigelow and Schroeder's fishes of the Gulf of Maine*. Washington, D.C.: Smithsonian Institution Press.
- Briggs, J.C. 1974. *Marine Zoogeography*. New York: McGraw-Hill Book Company.
- Briggs, P.T. 1975. Shore-zone fishes of the vicinity of Fire Island inlet, Great South Bay, New York. *New York Game and Fish Journal* 22:1-12.
- Brill, R., M. Lutcavage, G. Metzger, P. Bushnell, M. Arendt, J. Lucy, C. Watson, and D. Foley. 2002. Horizontal and vertical movements of juvenile bluefin tuna (*Thunnus thynnus*), in relation to oceanographic conditions of the western North Atlantic, determined with ultrasonic telemetry. *Fishery Bulletin* 100:155-167.
- Buckel, A.B., M.J. Fogarty, and D.O. Conover. 1999. Foraging habits of bluefish, *Pomatomus saltatrix*, on the U.S. East Coast continental shelf. *Fishery Bulletin* 97:758-775.
- Burgess, G. H. 2002. Spiny dogfishes. Family Squalidae. Pages 48-57 in B.B. Collette, and G. Klein-MacPhee, eds. *Bigelow and Schroeder's Fishes of the Gulf of Maine*. Washington, D.C.: Smithsonian Institution Press.
- Byrne, C.J., and T.R. Azarovitz. 1982. Summer flounder *Paralichthys dentatus*. Pages 109-113 in M.D. Grosslein and T.R. Azarovitz, eds. *Fish distribution. Marine EcoSystem Analysis (MESA) New York Bight Atlas Monograph 15*. Albany: New York Sea Grant Institute.
- Caddy, J.F., J. Csirke, S.M. Garcia, and R.J.R. Grainger. 1998. How pervasive is "fishing down marine food webs"? *Science* 282:1383.
- Camhi, M., J.A. Musick, and C. Simpendorfer. 2000. *SCarcharinus obscurus* (Northwest Atlantic and Gulf of Mexico subpopulation). In: IUCN 2004. *The 2004 IUCN Red List of Threatened Species*. Accessed 13 December 2004. <http://www.redlist.org>.
- Cargnelli, L.M., S.J. Griesbach, D.B. Packer, and E. Weissberger. 1999a. Essential fish habitat source document: Atlantic surfclam, *Spisula solidissima*, life history and habitat characteristics. NOAA Technical Memorandum NMFS-NE-142:1-13.
- Cargnelli, L.M., S.J. Griesbach, C. McBride, C.A. Zetlin, and W.W. Morse. 1999b. Essential fish habitat source document: Longfin inshore squid, *Loligo pealeii*, life history and habitat characteristics. NOAA Technical Memorandum NMFS-NE-146:1-27.

- Cargnelli, L.M., S.J. Griesbach, D.B. Packer, and E. Weissberger. 1999c. Essential fish habitat source document: Ocean quahog, *Arctica islandica*, life history and habitat characteristics. NOAA Technical Memorandum NMFS-NE-148:1-12.
- Cargnelli, L.M., S.J. Griesbach, D.B. Packer, P.L. Berrien, W.W. Morse, and D.L. Johnson. 1999d. Essential fish habitat source document: Witch flounder, *Glyptocephalus cynoglossus*, life history and characteristics. NOAA Technical Memorandum NMFS-NE-139:1-29.
- Caruso, J.H. 2002. Goosefishes or monkfishes. Family Lophiidae. Pages 264-270 in B.B. Collette, and G. Klein-MacPhee, eds. Bigelow and Schroeder's fishes of the Gulf of Maine. Washington, D.C.: Smithsonian Institution Press.
- Casey, J.G. 1982. Blue shark *Prionaca glauca*. Pages 45-48 in M.D. Grosslein and T.R. Azarovitz, eds. Fish distribution. Marine EcoSystem Analysis (MESA) New York Bight Atlas Monograph 15. Albany: New York Sea Grant Institute.
- Casey, J.G. and H.L. Pratt, Jr. 1985. Distribution of the white shark, *Carcharodon carcharias*, in the western North Atlantic. Memoirs of the Southern California Academy of Science 9:2-14.
- Castro, J.I. 1983. The sharks of North American waters. College Station: Texas A&M University Press.
- Castro, J.I. 1993. The shark nursery of Bulls Bay, South Carolina, with a review of the shark nurseries of the southeastern coast of the United States. Environmental Biology of Fishes 38:37-48.
- CBP (Chesapeake Bay Program). 2004. Cobia. Accessed 29 December 2004. <http://www.chesapeakebay.net/cobia.htm>.
- Chang, S., P.L. Berrien, D.L. Johnson, and W.W. Morse. 1999. Essential fish habitat source document: Windowpane, *Scophthalmus aquosus*, life history and habitat characteristics. NOAA Technical Memorandum NMFS-NE-137:1-32.
- Chase, B.C. 2002. Differences the in diet of Atlantic bluefin tuna (*Thunnus thynnus*) at five seasonal feeding grounds on the New England continental shelf. Fishery Bulletin 100(2):168-180.
- Clapham, P.J., and R.M. Pace, III. 2001. Defining triggers for temporary area closures to protect right whales from entanglements: Issues and options. NMFS-NEFSC Reference Document 01-06:1-28.
- Clark, S.H., and R. Livingstone, Jr. 1982. Ocean pout *Macrozoarces americanus*. Pages 76-79 in M.D. Grosslein and T.R. Azarovitz, eds. Fish distribution. MESA New York Bight Atlas Monograph 15. Albany: New York Sea Grant Institute.
- Clark, S.H., S.X. Cardin, D.F. Schick, P.J. Diodati, M.P. Armstrong, and D. McCarron. 2000. The Gulf of Maine northern shrimp (*Pandalus borealis*) fishery: A review of the record. Journal of Northwest Atlantic Fishery Science 27:193-226.
- Cohen, D.M., T. Inada, T. Iwamoto, and N. Scialabba. 1990. FAO species catalogue. Volume 10 - Gadiform fishes of the world (Order Gadiformes): An annotated and illustrated catalogue of cods, hakes, grenadiers and other gadiform fishes known to date. FAO Fisheries Synopsis Number 125, Volume 10. Rome: Food and Agriculture Organization of the United Nations.
- Cohen, E. 1982. Spiny dogfish *Squalus acanthias*. Pages 49-50 in M.D. Grosslein and T.R. Azarovitz, eds. Fish distribution. Marine EcoSystem Analysis (MESA) New York Bight Atlas Monograph 15. Albany: New York Sea Grant Institute.
- Collette, B.B. 2002. Mackerels, Family Scombridae. Pages 516-536 in B.B. Collette, and G. Klein-MacPhee, eds. Bigelow and Schroeder's Fishes of the Gulf of Maine. Washington, D.C.: Smithsonian Institution Press.
- Collette, B.B., and G. Klein-MacPhee, eds. 2002. Bigelow and Schroeder's Fishes of the Gulf of Maine. Washington, D.C.: Smithsonian Institutions Press.
- Collette, B.B., and C.E. Nauen. 1983. FAO species Catalogue Volume 2 - Scombrids of the world: An annotated and illustrated catalogue of tunas, mackerels, bonitos and related species known to date. FAO Fisheries Synopsis Number 125, Volume 2. Rome: Food and Agriculture Organization of the United Nations.
- Collie, J.S., A.D. Wood, and H.P. Jeffries. 2008. Long-term shifts in the species composition of a coastal fish community. Canadian Journal of Aquatic Fisheries and Science 65:1352-1365.
- Colton, Jr., J.B., W.G. Smith, A.W. Kendall, Jr., P.L. Berrien, and M.P. Fahey. 1979. Principal spawning areas and times of marine fishes, Cape Sable to Cape Hatteras. Fishery Bulletin 76(4):911-915.
- Colvocoresses, J.A. and J.A. Musick. 1984. Species associations and community composition of Middle Atlantic Bight continental shelf demersal fishes. Fishery Bulletin 82(2):295-313.

- Compagno, L.J.V. 1984a. FAO species catalogue. Volume 4 - Sharks of the world: An annotated and illustrated catalogue of shark species known to date. Part 1: Hexanchiformes and Lamniformes. FAO Fisheries Synopsis Volume 4, Part 1. Rome: Food and Agriculture Organization of the United Nations.
- Compagno, L.J.V. 1984b. FAO species catalogue. Volume 4 - Sharks of the world: An annotated and illustrated catalogue of shark species known to date. Part 2: Carcharhiniformes. FAO Fisheries Synopsis Volume 4, Part 2. Rome: Food and Agriculture Organization of the United Nations.
- Compagno, L.J.V. 2001. Sharks of the world: An annotated and illustrated catalogue of shark species known to date. Volume 2: Bullhead, mackerel and carpet sharks (Heterodontiformes, Lamniformes and Orectolobiformes). FAO Species Catalogue for Fishery Purposes. Number 1, Volume 2. Rome: Food and Agriculture Organization of the United Nations.
- Conrath, C.L. and J.A. Musick. 2007. Investigations into depth and temperature habitat utilization and overwintering grounds of juvenile sandbar sharks, *Carcharhinus plumbeus*: the importance of near shore North Carolina waters. Environmental Biology of Fishes: DOI 10:1007/s10641-006-9263-0.
- Cooper, P. 2003. Biological profiles: blue shark. Florida Museum of Natural History. Accessed 03 December 2004. <http://www.flmnh.ufl.edu/fish/Gallery/Descript/BlueShark/BlueShark.html>.
- Cross, J.N., C.A. Zetlin, P.L. Berrien, D.L. Johnson, and C. McBride. 1999. Essential fish habitat source document: Butterfish, *Peprilus triacanthus*, life history and habitat characteristics. NOAA Technical Memorandum NMFS-NE-145:1-42.
- Csanady, G.T., and P. Hamilton. 1988. Circulation of slopewater. Continental Shelf Research 8(5-7):565-624.
- Diaz, R.J., G.R. Cutter, Jr., and K.W. Able. 2003. The importance of physical and biogenic structure to juvenile fishes on the shallow inner continental shelf. Estuaries 26(1):12-20.
- Dery, L., and R. Livingstone, Jr. 1982. Windowpane *Scophthalmus aquosus*. Pages 114-116 in M.D. Grosslein and T.R. Azarovitz, eds. Fish distribution. Marine EcoSystem Analysis (MESA) New York Bight Atlas Monograph 15. Albany: New York Sea Grant Institute.
- Dewar, H., M. Domeier, and N. Nasby-Lucas. 2004. Insights into young of the year white shark, *Carcharodon carcharias*, behavior in the Southern California Bight. Environmental Biology of Fishes 70:133-143.
- Ditty, J.G., and R.F. Shaw. 1992. Larval development, distribution, and ecology of cobia, *Rachycentron canadum* (Family: Rachycentridae) in the northern Gulf of Mexico. Fishery Bulletin 90:668-677.
- Driggers, W.B., III, G.W. Ingram, Jr., M.A. Grace, C.T. Gledhill, T.A. Henwood, C.N. Horton, and C.M. Jones. 2008. Pupping areas and mortality rates of young tiger sharks *Galeocerdo cuvier* in the western North Atlantic Ocean. Aquatic Biology 2:161-170.
- Drohan, A.F., J.P. Manderson, and D.B. Packer. 2007. Black sea bass, *Centropristis striata*, life history and habitat characteristics. Second Edition. NOAA Technical Memorandum NMFS-NE-200:1-68.
- Dunaway, V. 2001. Sport fish of the Atlantic. Tampa: Florida Sportsman.
- Ecosystem Assessment Program. 2009. Ecosystem status report for the northeast U.S. continental shelf large marine ecosystem. NEFSC Reference Document 09-11. Woods Hole, Massachusetts: Northeast Fisheries Science Center.
- Eklund, A.M. 1988. Fishes inhabiting hard bottom reef areas in the Middle Atlantic Bight: Seasonality of species composition, catch rates, and reproduction. Master's thesis, University of Delaware.
- Eklund, A.M. and T.E. Targett. 1990. Reproductive seasonality of fishes inhabiting hard bottom areas in the Middle Atlantic Bight. Copeia 1990:1180-1184.
- Eklund, A.M. and T.E. Targett. 1991. Seasonality of fish catch rates and species composition from the hard bottom trap fishery in the Middle Atlantic Bight (US East Coast). Fisheries Research 12:1-22.
- Epifanio, C.E., and R.W. Garvine. 2001. Larval transport on the Atlantic continental shelf of North America: a review. Estuarine, Coastal and Shelf Science 52:51-77.
- ESS Group, Inc. 2006. Cape Wind Energy Project Appendix 3-8.A: Additional life history descriptions for commercially and recreationally important species and forage species. Prepared for Cape Wind Associates, LLC, Boston, Massachusetts by EES Group, Inc. Wellesley, Massachusetts.
- Fahay, M.P. 1983. Guide to the early stages of marine fishes occurring in the western Atlantic Ocean, Cape Hatteras to the southern Scotian Shelf. Journal of the Northwest Atlantic Fisheries Science 4:1-123.

- Fahay, M.P., P.L. Berrien, D.L. Johnson, and W.W. Morse. 1999a. Essential fish habitat source document: Atlantic cod, *Gadus morhua*, life history and habitat characteristics. NOAA Technical Memorandum NMFS-NE-124:1-41.
- Fahay, M.P., P.L. Berrien, D.L. Johnson, and W.W. Morse. 1999b. Essential fish habitat source document: Bluefish, *Pomatomus saltatrix*, life history and habitat characteristics. NOAA Technical Memorandum NMFS-NE-144:1-68.
- Fay, C.W., R.J. Neves, and G.B. Pardue. 1983. Species profiles: Life histories and environmental requirements of coastal fishes and invertebrates (Mid-Atlantic) -- Surf clam. U.S. Fish and Wildlife Service FWS/OBS-82/11.13. U.S. Army Corps of Engineers TR EL-82-4.
- Fergusson, I., L. Compagno, and M. Marks. 2000. *Carcharodon carcharias*. 2004 IUCN red list of threatened species. Accessed 10 December 2004. <http://www.redlist.org>.
- Ferrari, A., and A. Ferrari. 2002. Sharks. Toronto: Firefly Books Ltd.
- Figley, B. 2003. Marine life colonization of experimental reef habitat in temperate ocean water off New Jersey. Federal Aid to Sportfish Restoration Project F-69-11. Trenton: New Jersey Department of Environmental Protection, Division of Fish and Wildlife.
- Figley, B. 2005. Artificial Reef Management Plan for New Jersey. Trenton: New Jersey Department of Environmental Protection, Division of Fish and Wildlife.
- FMRI (Florida Marine Research Institute). 2003. Cobia, *Rachycentron canadum*. Accessed 28 December 2004. <http://research.myfwc.com/features/>.
- Fordham S., S.L. Fowler, R. Coelho, K.J. Goldman, and M. Francis. 2006. *Squalus acanthias* (Northwest Atlantic population). 2006 IUCN Red List of Threatened Species. Accessed 10 May 2007. <http://www.iucnredlist.org/search/details.php/39326/summ>.
- Franks, J.S., J.R. Warren, and M.V. Buchanan. 1999. Age and growth of cobia, *Rachycentron canadum*, from the northeastern Gulf of Mexico. Fishery Bulletin 97:459-471.
- Freeman, B.L., and L.A. Walford. 1974c. Anglers' guide to the United States Atlantic coast: Fish, fishing grounds & fishing facilities – Section 3: Block Island to Cape May, New Jersey. U.S. Government Printing Office, Washington, D.C.
- Froese, R. and D. Pauly, eds. 2004. FishBase. World Wide Web Electronic Publication. Accessed 1 January 2004. <http://fishbase.org/search.cfm>.
- Gardieff, S. 2004a. Biological profiles: skipjack tuna. Florida Museum of Natural History. Accessed 1 April 2004. <http://www.flmnh.ufl.edu/fish/Gallery/Descript/SkipjackTuna/SkipjackTuna.html>.
- Gardieff, S. 2004b. Biological profiles: swordfish. Florida Museum of Natural History. Accessed 1 April 2004. <http://www.flmnh.ufl.edu/fish/Gallery/Descript/Swordfish/Swordfish.html>.
- Garrison, L.P. and J.S. Link. 2000. Dietary guild structure of the fish community in the Northeast United States continental shelf ecosystem. Marine Ecology Progress Series 202:231-240.
- Giordano, C., S.L. Hartley, K. Kurtz, K. Michalski, and B. Figley. 2008. New Jersey party and charter boat directory. Trenton: New Jersey Department of Environmental Protection.
- Gledhill, C.T. and J. Lyczkowski-Schultz. 2000. Indices of larval king mackerel (*Scomberomorus cavalla*) abundance in the Gulf of Mexico for use in population assessments. Fishery Bulletin 98:684-691.
- GMFMC (Gulf of Mexico Fishery Management Council). 1998. Generic amendment for addressing essential fish habitat requirements in the following fishery management plans of the Gulf of Mexico: shrimp fishery of the Gulf of Mexico, United States waters; red drum fishery of the Gulf of Mexico; reef fish fishery of the Gulf of Mexico; coastal migratory pelagic resources (mackerels) in the Gulf of Mexico and South Atlantic; stone crab fishery of the Gulf of Mexico; spiny lobster in the Gulf of Mexico and South Atlantic; coral and coral reefs of the Gulf of Mexico (includes environmental assessment). Tampa, Florida: Gulf of Mexico Fishery Management Council
- GMFMC (Gulf of Mexico Fishery Management Council) and SAFMC (South Atlantic Fishery Management Council). 1985. Final amendment 1 to the fishery management plan and environmental impact statement for coastal migratory pelagic resources (mackerels) in the Gulf of Mexico and the South Atlantic Region. Tampa, Florida and Charleston, South Carolina: Gulf of Mexico Fishery Management Council and South Atlantic Fishery Management Council.
- Godcharles, M.F., and M.D. Murphy. 1986. Species profiles: Life histories and environmental requirements of coastal fishes and invertebrates (South Florida) – king mackerel and Spanish mackerel. USFWS Biological Report 82(11.58) and USACE TR EI-82-4.



- Gold, J.R., E. Pak, and D.A. DeVries. 2002. Population structure of king mackerel (*Scomberomorus cavalla*) around peninsular Florida, as revealed by microsatellite DNA. *Fishery Bulletin* 100:491-509.
- Govoni, J.J., E.H. Laban, and J.A. Hare. 2003. The early life history of swordfish (*Xiphias gladius*) in the western North Atlantic. *Fishery Bulletin* 101(4):778-789.
- Greene, K.E., J.L. Zimmerman, R.W. Laney, and J.C. Thomas-Blats. 2009. Atlantic coast diadromous fish habitat: A review of utilization, threats, recommendations for conservation, and research needs. ASMFC Habitat Management Series No. 9. Washington, D.C.: Atlantic States Marine Fisheries Commission.
- Grosslein, M.D. and T.R. Azarovitz, eds. 1982. Fish distribution: MESA New York Bight Atlas Monograph 15. Albany, New York: New York Sea Grant Institute.
- Grubbs, R.D., J.A. Musick, C.L. Conrath, and J.G. Romine. 2005. Long-term movements, migration, and temporal delineation of a summer nursery for juvenile sandbar sharks in the Chesapeake Bay region. *American Fisheries Society Symposium* XX:000-000.
- Gusey, W.F. 1981. The fish and wildlife resources of the South Atlantic Coast. Houston, Texas: Shell Oil Company.
- Hagan, S.M. and K.W. Able. 2003. Seasonal changes of the pelagic fish assemblage in a temperate estuary. *Estuarine, Coastal and Shelf Science* 56:15-29.
- Hagan, S.M. and K.W. Able. 2009. Diel variation in the pelagic fish assemblage in a temperate estuary. *Estuaries and Coasts* 31:33-42.
- Hales, L.S., Jr. and K.W. Able. 2001. Winter mortality, growth, and behavior of young-of-the-year of four coastal fishes in New Jersey (USA) waters. *Marine Biology* 139:45-54.
- Hare, J.A. and K.W. Able. 2007. Mechanistic links between climate and fisheries along the east coast of the United States: Explaining population outbursts of Atlantic croaker (*Micropogonias undulatus*). *Fisheries Oceanography* 16(1):31-45.
- Hare, J.A., and R.K. Cowen. 1996. Transport mechanisms of larval and pelagic juvenile bluefish (*Pomatomus saltatrix*) from south Atlantic bight spawning grounds to middle Atlantic bight nursery habitats. *Limnology and Oceanography* 41(16):1264-1280.
- Hare, J.A., M.P. Fahay, and R.K. Cowen. 2001. Springtime ichthyoplankton of the slope region off the north-eastern United States of America: larval assemblages, relation to hydrography and implications for larval transport. *Fisheries Oceanography* 10:164-192.
- Hare, J.A., J.H. Churchill, R.K. Cowen, T.J. Berger, P.C. Cornillon, P. Dragos, S.M. Glenn, J.J. Govoni, and T.N. Lee. 2002. Routes and rates of larval fish transport from the southeast to the northeast United States continental shelf. *Limnology and Oceanography* 47(6):1774-1789.
- Hatfield, E.M.C., and S.X. Cadrin. 2002. Geographic and temporal patterns in size and maturity of the longfin inshore squid (*Loligo pealeii*) off the northeastern United States. *Fishery Bulletin* 100(2):200-213.
- Helfman, G.S., B.B. Collette, and D.E. Facey. 1999. The diversity of fishes. Malden, Massachusetts: Blackwell Science, Inc.
- Helser, T.E. 1996. Growth of silver hake within the U.S. continental shelf ecosystem of the northwest Atlantic Ocean. *Journal of Fish Biology* 48:1059-1073.
- Hillman, R.E., N.W. Davis, and J. Wennemer. 1977. Abundance, diversity and stability in shore-zone fish communities in an area of Long Island Sound affected by discharge of a nuclear power station. *Estuarine, Coastal and Shelf Science* 3:355-381.
- Idoine, J. 1998. American lobster. In S.H. Clark, ed. Status of the Fishery Resources off the Northeastern United States for 1998. National Oceanic and Atmospheric Administration Technical Memorandum NMFS-NE-115. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Resource Evaluation and Assessment Division, Northeast Fisheries Science Center, Woods Hole, Massachusetts.
- Idoine, J. 2001. Northern shrimp. In S.H. Clark, ed. Status of the Fishery Resources off the Northeastern United States for 2001. National Oceanic and Atmospheric Administration Technical Memorandum NMFS-NE-115. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Resource Evaluation and Assessment Division, Northeast Fisheries Science Center, Woods Hole, Massachusetts.
- Jackson, J.B.C., M.X. Kirby, W.H. Berger, K.A. Bjorndal, L.W. Botsford, B.J. Bourque, R.H. Bradbury, R. Cooke, J. Erlandson, J.A. Estes, T.P. Hughes, S. Kidwell, C.B. Lange, H.S. Lenihan, J.M.

- Pandolfi, C.H. Peterson, R.S. Steneck, M.J. Tegner, and R.R. Warner. 2001. Historical overfishing and the recent collapse of coastal ecosystems. *Science* 293:629-638.
- Jacobson, L.D. 2005. Essential fish habitat source document: Longfin inshore squid, *Loligo pealeii*, life history and habitat characteristics--Second edition. NOAA Technical Memorandum NMFS-NE-193:1-42.
- JCNERR (Jacques Cousteau National Estuarine Research Reserve). 2009. Draft management plan 2009-2014. Tuckerton, New Jersey: Jacques Cousteau National Estuarine Research Reserve.
- Johnson, D.L., W.W. Morse, P.L. Berrien, and J.J. Vitaliano. 1999b. Essential fish habitat source document: Yellowtail flounder, *Limanda ferruginea*, life history and habitat characteristics. NOAA Technical Memorandum NMFS-NE-140:1-29.
- Johnson, M.R., C. Boelke, L.A. Chiarella, P.D. Colosi, K. Greene, K. Lellis-Dibble, H. Ludemann, M. Ludwig, S. McDermott, J. Ortiz, D. Rusanowsky, M. Scott, and J. Smith. 2008. Impacts to marine fisheries habitat from nonfishing activities in the northeastern United States. NOAA Technical Memorandum NMFS-NE-209:1-322.
- Jones, D.S. 1981. Reproductive cycles of the Atlantic surf clam *Spisula solidissima*, and the ocean quahog *Arctica islandica* off New Jersey. *Journal of Shellfish Research* 1(1):23-32.
- Jury, S.H., J.D. Field, S.L. Stone, D.M. Nelson, and M.E. Monaco. 1994. Distribution and abundance of fishes and invertebrates in North Atlantic estuaries. ELMR Report No. 13. Silver Spring, Maryland: NOAA/NOS Strategic Environmental Assessments Division. 221 pp.
- Kelly, K.H. and J.R. Moring. 1986. Species profiles: Life histories and environmental requirements of coastal fishes and invertebrates (North Atlantic) -- Atlantic herring. U.S. Fish and Wildlife Services Biological Report 82(11.38). U.S. Army Corps of Engineers, TR EL-82-4.
- Kendall, A.W., Jr. and N.A. Naplin. 1981. Diel-depth distribution of summer ichthyoplankton in the Middle Atlantic Bight. *Fishery Bulletin* 79(4):705-726.
- Kilduff, P., J. Carmichael, and R. Latour. 2009. Guide to fisheries science and stock assessments. Washington, D.C.: Atlantic States Marine Fisheries Commission.
- Klein-MacPhee, G. 2002a. Cod. Family Gadidae. Pages 228-235 in B.B. Collette and G. Klein-MacPhee, eds. *Bigelow and Schroeder's fishes of the Gulf of Maine*. Washington, D.C.: Smithsonian Institution Press.
- Klein-MacPhee, G. 2002b. Sea basses. Family Serranidae. Pages 391-395 in B.B. Collette, and G. Klein-MacPhee, eds. *Bigelow and Schroeder's fishes of the Gulf of Maine*. Washington, D.C.: Smithsonian Institution Press.
- Klein-MacPhee, G. 2002c. Bluefish. Family Pomatomidae. Pages 400-406 in B.B. Collette, and G. Klein-MacPhee, eds. *Bigelow and Schroeder's fishes of the Gulf of Maine*. Washington, D.C.: Smithsonian Institution Press.
- Klein-MacPhee, G. 2002d. Butterfishes. Family Stromateidae. Pages 542-545 in B.B. Collette and G. Klein-MacPhee, eds. *Bigelow and Schroeder's fishes of the Gulf of Maine*. Washington, D.C.: Smithsonian Institution Press.
- Klein-MacPhee, G. 2002e. Red Hake. Family Phycidae. Pages 252-256 in B.B. Collette and G. Klein-MacPhee, eds. *Bigelow and Schroeder's fishes of the Gulf of Maine*. Washington, D.C.: Smithsonian Institution Press.
- Klein-MacPhee, G. 2002f. Porgies. Family Sparidae. Pages 429-435 in B.B. Collette, and G. Klein-MacPhee, eds. *Bigelow and Schroeder's fishes of the Gulf of Maine*. Washington, D.C.: Smithsonian Institution Press.
- Klein-MacPhee, G. 2002g. Silver hakes. Family Merlucciidae. Pages 217-222 in B.B. Collette, and G. Klein-MacPhee, eds. *Bigelow and Schroeder's fishes of the Gulf of Maine*. Washington, D.C.: Smithsonian Institution Press.
- Klein-MacPhee, G. 2002h. Righteye flounders. Family Pleuronictidae. Pages 560-587 in B.B. Collette, and G. Klein-MacPhee, eds. *Bigelow and Schroeder's fishes of the Gulf of Maine*. Washington, D.C.: Smithsonian Institution Press.
- Klein-MacPhee, G. 2002i. Windowpane flounder. Family Scophthalmidae. Pages 548-551 in B.B. Collette and G. Klein-MacPhee, eds. *Bigelow and Schroeder's fishes of the Gulf of Maine*. Washington, D.C.: Smithsonian Institution Press.
- Klein-MacPhee, G., and B.B. Collette. 2002. Eelpouts. Family Zoarcidae. Pages 466-474 in B.B. Collette and G. Klein-MacPhee, eds. *Bigelow and Schroeder's fishes of the Gulf of Maine*. Washington, D.C.: Smithsonian Institution Press.

- Knickle, C. 2003a. Biological profiles: sandbar shark. Florida Museum of Natural History. Accessed 03 December 2004. <http://www.flmnh.ufl.edu/fish/Gallery/Descript/Sandbarshark/sandbarshark.html>.
- Knickle, C. 2003b. Biological profiles: tiger shark. Florida Museum of Natural History. Accessed 03 December 2004. <http://www.flmnh.ufl.edu/fish/Gallery/Descript/Tigershark/tigershark.html>.
- Kohler, N.E., J.G. Casey, and P.A. Turner. 1998. NMFS cooperative shark tagging program, 1962-93: An atlas of shark tag and recapture data. *Marine Fisheries Review* 60(2):1-87.
- Kotas, J.E. 2000. *Sphyrna lewini*. 2004 IUCN red list of threatened species. Accessed 10 December 2004. <http://www.redlist.org>.
- Lange, A.M.T. 1982. Long-finned squid *Loligo pealei*. Pages 133-135 in M.D. Grosslein and T.R. Azarovitz, eds. Fish distribution. Marine EcoSystem Analysis (MESA) New York Bight Atlas Monograph 15. Albany: New York Sea Grant Institute.
- Lange, A.M.T., and M.P. Sissenwine. 1980. Biological considerations relevant to the management of squid (*Loligo pealei* and *Illex illecebrosus*) of the northwest Atlantic. *Marine Fisheries Review* 42:23-38.
- Layman, C.A. 2000. Fish assemblage structure of the shallow ocean surf-zone on the eastern shore of Virginia barrier islands. *Estuarine, Coastal and Shelf Science* 51:201-213.
- Lazaroff, C. 2001. Historic overfishing led to modern ocean problems. Environment News Service. Accessed 5 January 2005. <http://www.sidsnet.org/archives/coastal-newswire/2001/0126.html>.
- Levesque, J.C. and D.W. Kerstetter. 2007. First observations on the re-established southeast Florida recreational swordfish tournament fishery. *Florida Scientist* 70(3):284-296.
- Lock, M.C., and D. Packer. 2004. Essential fish habitat source document: Silver hake, *Merluccius bilinearis*, life history and habitat characteristics--Second Edition.. NOAA Technical Memorandum NMFS-NE-186.
- Lough, R.G. 2004. Essential fish habitat source document: Atlantic cod, *Gadus morhua*, life history and habitat characteristics--Second edition. NOAA Technical Memorandum NMFS-NE-190:1-94.
- Lux, F.E., and R. Livingstone, Jr. 1982. Yellowtail flounder *Limanda ferruginea*. Pages 117-119 in M.D. Grosslein and T.R. Azarovitz, eds. Fish distribution. Marine EcoSystem Analysis (MESA) New York Bight Atlas Monograph 15. Albany: New York Sea Grant Institute.
- Ma, H. 2005. Spatial and temporal variation in surfclam (*Spisula solidissima*) larval supply and settlement on the New Jersey inner shelf during summer upwelling and downwelling. *Estuarine, Coastal and Shelf Science* 62:41-53.
- Ma, H., Grassle, J.P., and Rosario, J.M. 2006. Initial recruitment and growth of surfclams (*Spisula solidissima* Dillwyn) on the inner continental shelf of New Jersey. *Journal of Shellfish Research* 25(2):481-489.
- Ma, H., J.P. Grassle, and R.J. Chant. 2006. Vertical distribution of bivalve larvae along a cross-shelf transect during summer upwelling and downwelling. *Marine Biology* 149:1123-1138.
- MAFMC (Mid-Atlantic Fishery Management Council). 1998a. Amendment #8 to the Atlantic mackerel, squid, and butterfish fishery management plan. Dover, Delaware: Mid-Atlantic Fishery Management Council.
- MAFMC (Mid-Atlantic Fishery Management Council). 1998b. Amendment #12 to the Atlantic surfclam and ocean quahog fishery management plan. Dover, Delaware: Mid-Atlantic Fishery Management Council.
- MAFMC (Mid-Atlantic Fishery Management Council). 1999. Spiny dogfish fishery management plan. Dover, Delaware: Mid-Atlantic Fishery Management Council.
- MAFMC (Mid-Atlantic Fishery Management Council). 2008a. Amendment 9 to the Atlantic mackerel, squid, and butterfish fishery management plan. Volume 1 and 2. Dover, Delaware: Mid-Atlantic Fishery Management Council.
- MAFMC (Mid-Atlantic Fishery Management Council). 2008b. Overview of the surfclam and ocean quahog fisheries and quota considerations for 2009, and 2010. Dover, Delaware: Mid-Atlantic Fishery Management Council.
- MAFMC (Mid-Atlantic Fishery Management Council) and ASMFC (Atlantic States Marine Fisheries Commission). 1998a. Amendment #12 to the summer flounder, scup, and black sea bass fishery management plan. Dover, Delaware: Mid-Atlantic Fishery Management Council and Atlantic States Marine Fisheries Commission.
- MAFMC (Mid-Atlantic Fishery Management Council) and ASMFC (Atlantic States Marine Fisheries Commission). 1998b. Amendment #1 to the bluefish fishery management plan. Volumes 1 and 2.

- Dover, Delaware: Mid-Atlantic Fishery Management Council and Atlantic States Marine Fisheries Commission.
- MAFMC (Mid-Atlantic Fishery Management Council) and NEFMC (New England Fishery Management Council). 1999. Spiny dogfish fishery management plan. Dover, Delaware: Mid-Atlantic Fishery Management Council and the New England Fishery Management Council.
- Mahon, R., S.K. Brown, K.C.T. Zwanenburg, D.B. Atkinson, K.R. Buja, L. Claflin, G.D. Howell, M.E. Monaco, R.N. O'Boyle, and M. Sinclair. 1998. Assemblages and biogeography of demersal fishes of the east coast of North America. *Canadian Journal of Fisheries and Aquatic Sciences* 55:1704-1738.
- Maia, A., N. Queiroz, J.P. Correia, and H. Cabral. 2006. Food habits of the shortfin mako, *Isurus oxyrinchus*, off the southwest coast of Portugal. *Environmental Biology of Fishes* 77:157-167.
- Malakoff, D. 1997. Extinction on the high seas. *Science* 277:486-488.
- Mann, R. 1982. The seasonal cycle of gonadal development in *Arctica islandica* from the southern New England shelf. *Fishery Bulletin* 80:315-326.
- Manooch, C.S., III. 1988. Fisherman's guide: Fishes of the southeastern United States. Raleigh: North Carolina State Museum of Natural History.
- Mather, F.J., J.M. Mason, and A.C. Jones. 1995. Historical document: Life history and fisheries of Atlantic bluefin tuna. NOAA Technical Memorandum NMFS-SEFSC-379:1-165.
- Mayo, R., and L. O'Brien. 2000. Atlantic cod. In S.H. Clark, ed. Status of the fishery resources off the northeastern United States for 2000. NOAA Technical Memorandum NMFS-NE-115. Accessed 17 February 2004. <http://www.nefsc.noaa.gov/sos/spsyn/species.html>.
- McBride, R.A. and T.F. Moslow. 1991. Origin, evolution, and distribution of shoreface sand ridges, Atlantic inner shelf, USA. *Marine Geology* 97:57-85.
- McCandles, C.T., H.L. Pratt, Jr., and N.E. Kohler. eds. 2002. Shark nursery grounds of the Gulf of Mexico and east coast of the United States: An overview. An internal report to NOAA's Highly Migratory Species Office. Narragansett, Rhode Island: NOAA Fisheries Narragansett Lab.
- McCracken, F.D. 1963. Seasonal movements of the winter flounder, *Pseudopleuronectes americanus*, (Walbaum), on the Atlantic coast. *Journal of the Fisheries Research Board of Canada* 20:551-586.
- McDermott, J.J. 1983. Food web in the surf-zone of an exposed sandy beach along the mid-Atlantic coast of the United States. Pages 529-538 in A. McLachlan and T. Erasmus, eds. *Sandy Beaches as Ecosystems*, The Hague, Netherlands: W. Junk.
- McEachran, J.D., and J.A. Musick. 1975. Distribution and relative abundance of seven species of skates (Pisces: Rajidae) which occur between Nova Scotia and Cape Hatteras, *Fishery Bulletin* 73:110-136.
- McEachran, J.D. 2002. Skates. Family Rajidae. In: B.B. Collette and G. Klein-MacPhee, eds. *Bigelow and Schroeders's fishes of the Gulf of Maine*. 3rd Edition. Washington, D.C.: Smithsonian Institution Press.
- McGowan, M.F. and W.J. Richards. 1989. Blue fin tuna, *Thunnus thynnus*, larvae in the Gulf stream off the southeastern United States: Satellite and shipboard observations of their environment. *Fishery Bulletin* 87:615-631.
- McMillan, D.G., and W.W. Morse. 1999. Essential fish habitat source document: Spiny dogfish, *Squalus acanthias*, life history and habitat characteristics. NOAA Technical Memorandum NMFS-NE-150:1-19. 19 p.
- McPhie, R.P. and S.E. Campana. 2009. Reproductive characteristics and population decline of four species of skate (Rajidae) off the eastern coast of Canada. *Journal of Fish Biology* 75:223-246.
- Mollet, H.F., G. Cliff, H.L. Pratt, Jr., and J.D. Stevens. 2000. Reproductive biology of the female shortfin mako, *Isurus oxyrinchus* Rafinesque, 1810, with comments on the embryonic development of lamnoids. *Fishery Bulletin* 98(2):299-318.
- Monaco, M.E., S.B. Weisberg, and T.W. Lowery. 1998. Summer habitat affinities of estuarine fish in the U.S. mid-Atlantic coastal system. *Fisheries Management and Ecology* 5:161-171.
- Morse, W.W. 1982. Scup *Stenotomus chrysops*. Pages 89-91 in M.D. Grosslein and T.R. Azarovitz, eds. *Fish distribution. Marine EcoSystem Analysis (MESA) New York Bight Atlas Monograph* 15. Albany.
- Morse, W.W., and K.W. Able. 1995. Distribution and life history of windowpane, *Scophthalmus aquosus*, off the northeastern United States. *Fishery Bulletin* 93:675-693.

- Morse, W.W., M.P. Fahay, and W.G. Smith. 1987. MARMAP surveys of the continental shelf from Cape Hatteras, North Carolina, to Cape Sable, Nova Scotia (1977-1984). Atlas Number 2. Annual distribution patterns of fish larvae. NOAA Technical Memorandum NMFS-F/NEC-47:1-215.
- Morse, W.W., D.L. Johnson, P.L. Berrien, and S.J. Wilk. 1999. Essential fish habitat source document: Silver hake, *Merluccius bilinearis*, life history and habitat characteristics. NOAA Technical Memorandum NMFS-NE-135:1-42.
- Morse, J. and G.R. Shepherd. 2009. Seasonal distribution and movement of black sea bass (*Centropristis striata*) in the Northwest Atlantic as determined from a mark-recapture experiment. Journal of the Northwest Atlantic Fishery Science 40:17-28.
- Moyle, P.B., and J.J. Cech. 1988. Fishes an introduction to ichthyology, second edition. Englewood Cliffs, New Jersey: Prentice Hall.
- Munroe, T.A. 2002. Herrings. Family Clupeidae. Pages 111-159 in B.B. Collette and G. Klein-MacPhee, eds. Bigelow and Schroeder's Fishes of the Gulf of Maine. Washington: Smithsonian Institution Press.
- Murawski, S.A., A.M. Lange, M.P. Sissenwine, and R.K. Mayo. 1983. Definition and analysis of multispecies ottertrawl fisheries off the northeast coast of the United States. Journal du Conseil International Council pour l'Exploration de la Mer 41:13-27.
- Musick, J.A. 2000. *Carcharinus plumbeus* (northwest Atlantic subpopulation). In: IUCN 2004. The 2004 IUCN Red List of Threatened Species. Accessed 13 December 2004. <http://www.redlist.org>.
- Musick, J.A., and L.P. Mercer. 1977. Seasonal distribution of black sea bass, *Centropristis striata*, in the Mid-Atlantic Bight with Comments on the ecology and fisheries of the species. Transactions of the American Fisheries Society 106(1):12-25.
- Nakamura, I. 1985. FAO species catalogue Volume 5 - Billfishes of the world: An annotated and illustrated catalogue of marlins, sailfishes, spearfishes, and swordfishes known to date. FAO Fisheries Synopsis Volume 125, Number 5. Rome: Food and Agriculture Organization of the United Nations.
- Nammack, M.F., J.A. Musick, and J.A. Colvocoresses. 1985. Life history of spiny dogfish off the northeastern United States. Transactions of the American Fisheries Society 114:367-376.
- Natanson, L.J., J.G. Casey, N.E. Kohler, and T. Colket IV. 1999. Growth of the tiger shark, *Galeocerdo curvier*, in the western North Atlantic based on tag returns and length frequencies; and a note on the effects of tagging. Fishery Bulletin 97(4):944-953.
- NEFMC (New England Fishery Management Council). 1983. American lobster fishery management plan. Saugus, Massachusetts: New England Fishery Management Council.
- NEFMC (New England Fishery Management Council). 1985. Fishery management plan, environmental impact statement, regulatory impact review and initial regulatory flexibility analysis for the northeast multi-species fishery. Saugus, Massachusetts: New England Fishery Management Council.
- NEFMC (New England Fishery Management Council). 1993. Amendment #4 and supplement environmental impact statement to the sea scallop fishery management. Volume 1. Saugus, Massachusetts: New England Fishery Management Council.
- NEFMC (New England Fishery Management Council). 1996. Final Amendment #7 to the northeast multispecies fishery management plan incorporating the supplemental environmental impact statement. Newburyport, Massachusetts: New England Fishery Management Council.
- NEFMC (New England Fishery Management Council). 1998. Final amendment #11 to the northeast multispecies fishery management plan, Amendment #9 to the Atlantic sea scallop fishery management plan, Amendment #1 to the monkfish fishery management plan, Amendment #1 to the Atlantic salmon fishery management plan, Components of the proposed Atlantic herring fishery management plan for essential fish habitat: Incorporating the environmental assessment. Newburyport, Massachusetts: New England Fishery Management Council.
- NEFMC (New England Fishery Management Council). 1999a. Final Atlantic herring fishery management plan incorporating the environmental impact statement and regulatory impact review including the regulatory flexibility analysis. Newburyport, Massachusetts: New England Fishery Management Council.
- NEFMC (New England Fishery Management Council). 1999b. Final amendment #12 to the northeast multispecies fishery management plan (whiting, red hake, and offshore hake). Volume 1. Saugus, Massachusetts: New England Fishery Management Council.

- NEFMC (New England Fishery Management Council). 2003. Fishery management plan for the northeast skate complex. Newburyport, Massachusetts: New England Fishery Management Council.
- NEFMC (New England Fishery Management Council). 2004a. New England Fishery Management Council. Accessed 1 April 2004. [www.nefmc.org](http://www.nefmc.org).
- NEFMC (New England Fishery Management Council). 2004b. Final amendment 13 to the northeast multispecies fishery management plan including a final supplemental environmental impact statement and an initial regulatory flexibility analysis. Newburyport, Massachusetts: New England Fishery Management Council.
- NEFMC (New England Fishery Management Council). 2007. Essential fish habitat (EFH) omnibus amendment draft supplemental environmental impact statement (DSEIS) Phase 1. Newburyport, Massachusetts: New England Fishery Management Council.
- Nelson, D.M. and M.E. Monaco. 2000. National overview and evolution of NOAA's Estuarine Living Marine Resources (ELMR) Program. NOAA Technical Memorandum NOS NCCOS CCMA 144:1-60.
- Nelson, J.S., E.J. Crossman, H.Espinosa-Pérez, L.T. Findley, C.R. Gilbert, R.N. Lea, and J.D. Williams. 2004. Common and scientific names of fishes from the United States, Canada, and Mexico, Sixth Edition. Bethesda, Maryland: American Fisheries Society.
- NMFS (National Marine Fisheries Service). 1998. Final recovery plan for the shortnose sturgeon (*Acipenser brevirostrum*). Silver Spring, Maryland: National Marine Fisheries Service.
- NMFS (National Marine Fisheries Service). 1999a. Amendment 1 to the Atlantic billfish fishery management plan. Silver Spring, Maryland: National Marine Fisheries Service.
- NMFS (National Marine Fisheries Service). 1999b. Final fishery management plan for Atlantic tuna, swordfish, and sharks. Volumes I and II. Silver Spring, Maryland: National Marine Fisheries Service.
- NMFS (National Marine Fisheries Service). 2001a. Marine recreational fisheries statistics survey: MRFSS queries, Fisheries Statistics and Economics Division. Accessed 10 December 2002. <http://www.st.nmfs.gov/st1/recreational/queries/index.html>.
- NMFS (National Marine Fisheries Service). 2001b. Guide to essential fish habitat designations in the northeastern United States. National Marine Fisheries Service, Northeast Regional Office, Habitat Conservation Division. Accessed January through June 2001. <http://www.nero.nmfs.gov/ro/doc/webintro.html>.
- NMFS (National Marine Fisheries Service). 2003a. Final amendment #1 to the fishery management plan for Atlantic tunas, swordfish, and sharks. Silver Spring, Maryland: National Marine Fisheries Service.
- NMFS (National Marine Fisheries Service). 2003b. Commercial fishing effort shapefiles for bottom trawls, scallop dredges, clam dredges, pots, bottom gill nets, and bottom longlines. Received May 2003 from David Stevenson. Gloucester, Massachusetts: National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Northeast Regional Office.
- NMFS (National Marine Fisheries Service). 2003c. Highly Migratory Species Essential Fish Habitat Shapefiles. Received December 2003 from Chris Rilling. Silver Spring, Maryland: National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Office of Sustainable Fisheries, Highly Migratory Division.
- NMFS (National Marine Fisheries Service). 2004a. Northeast (NE) multispecies closed area regulations. Accessed 28 May 2004. <http://www.nero.noaa.gov/ro/doc/infodocs/info4.pdf>.
- NMFS (National Marine Fisheries Service). 2004b. Commercial fishing effort shapefiles for mid-water trawls and paired mid-water trawls. Received May 2003 from David Stevenson. Gloucester, Massachusetts: National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Northeast Regional Office.
- NMFS (National Marine Fisheries Service). 2004f. Endangered and threatened species; establishment of species of concern list, addition of species to species of concern list, description of factors for identifying species of concern, and revision of candidate species list under the endangered species act. Federal Register 69(73):19975-19979.
- NMFS (National Marine Fisheries Service). 2006a. Final consolidated Atlantic highly migratory species fishery management plan. Volumes I, II, and III. Silver Spring, Maryland: National Marine Fisheries Service, Highly Migratory Species Management Division.



- NMFS (National Marine Fisheries Service). 2006b. Endangered and threatened species; revision of species of concern list, candidate species definition, and candidate species list. Federal Register 71(200):61022-61025.
- NMFS (National Marine Fisheries Service). 2008a. NMFS Office of Protected Species. Accessed 8 January 2009. <http://www.nmfs.noaa.gov/pr/species/esa/fish.htm>.
- NMFS (National Marine Fisheries Service). 2008b. NMFS Commercial Fishery Landing Data. Accessed 2 December 2008. <http://www.st.nmfs.noaa.gov/st1/commercial/index.html>.
- NMFS (National Marine Fisheries Service). 2008c. NMFS Recreational Fishery Statistics Data. Accessed 2 December 2008. <http://www.st.nmfs.noaa.gov/st1/recreational/queries/index.html>.
- NMFS (National Marine Fisheries Service). 2008d. Stock assessment and fishery evaluation (SAFE) for Atlantic highly migratory species. Silver Spring, Maryland: National Marine Fisheries Service.
- NMFS (National Marine Fisheries Service). 2009a. 2009 commercial compliance guide for complying with the Atlantic tunas, swordfish, sharks, and billfish regulations. Silver Spring, Maryland: National Marine Fisheries Service, Highly Migratory Species Management Division.
- NMFS (National Marine Fisheries Service). 2009b. 2009 recreational compliance guide for complying with the Atlantic tunas, swordfish, sharks, and billfish regulations. Silver Spring, Maryland: National Marine Fisheries Service, Highly Migratory Species Management Division.
- NMFS (National Marine Fisheries Service). 2009c. 2008 report to Congress – The status of U.S. fisheries. Silver Spring, Maryland: National Marine Fisheries Service.
- NMFS (National Marine Fisheries Service). 2009d. Final amendment 1 to the 2006 consolidated Atlantic highly migratory species fishery management plan for essential fish habitat. Silver Spring, Maryland: National Marine Fisheries Service.
- NMFS (National Marine Fisheries Service). 2009e. Final amendment 3 to the 2006 consolidated Atlantic highly migratory species fishery management plan for essential fish habitat. Silver Spring, Maryland: National Marine Fisheries Service.
- NMFS (National Marine Fisheries Service). 2009f. Fisheries of the United States 2008. Silver Spring, Maryland: National Marine Fisheries Service.
- NMFS (National Marine Fisheries Service). 2009g. 48th northeast regional stock assessment workshop (48th SAW) assessment summary report. Northeast Fisheries Science Center Reference Document 09-10. Woods Hole, Massachusetts: National Marine Fisheries Service.
- NOAA (National Oceanic and Atmospheric Administration). 2004. Magnuson-Stevens Fishery Conservation and Management Act provisions; fisheries of the northeastern United States; monkfish fishery; amendment 2 to the monkfish fishery management plan. Federal Register 70(1):68-69.
- NJDEP (New Jersey Department of Environmental Protection). 2009. New Jersey's endangered and threatened wildlife. Accessed 7 January 2009. <http://www.state.nj.us/dep/fgw/tandespp.htm>.
- Ottersen, G., S. Kim, G. Huse, J.J. Polovina, and N.C. Stenseth. 2009. Major pathways by which climate may force marine fish populations. Journal of Marine Systems doi.10.1016/j.jmarsys.2008.12.013.
- Overholtz, W.J. 2000a. Atlantic herring. In S.H. Clark, ed. Status of fishery resources off the northeastern United States for 2000. NOAA Technical Memorandum NMFS-NE-115.
- Overholtz, W.J. 2000b. Atlantic mackerel. In S.H. Clark, ed. Status of fishery resources off the northeastern United States for 2000. NOAA Technical Memorandum NMFS-NE-115.
- Packer, D.B., S.J. Griesbach, P.L. Berrien, C.A. Zetlin, D.L. Johnson, and W.W. Morse. 1999a. Essential fish habitat source document: Summer flounder, *Paralichthys dentatus*, life history and habitat characteristics. NOAA Technical Memorandum NMFS-NE-151:1-88.
- Packer, D.B., C.A. Zetlin, and J.J. Vitaliano. 2003a. Essential fish habitat source document: Clearnose skate, *Raja eglanteria*, life history and habitat characteristics. NOAA Technical Memorandum NMFS-NE-174:1-50.
- Packer, D.B., C.A. Zetlin, and J.J. Vitaliano. 2003b. Essential fish habitat source document: Little skate, *Leuoraja erinacea*, life history and habitat characteristics. NOAA Technical Memorandum NMFS-NE-175:1-66.
- Packer, D.B., C.A. Zetlin, and J.J. Vitaliano. 2003c. Essential fish habitat source document: Winter skate, *Leucoraja ocellata*, life history and habitat characteristics. NOAA Technical Memorandum NMFS-NE-179:1-56.

- Palko, B.J., G.L. Beardsley, and W.J. Richards. 1981. Synopsis of the biology of the swordfish, *Xiphias gladius* Linnaeus. NOAA Technical Report NMFS Circular 441 and FAO Fisheries Synopsis 127:1-21.
- Parker, R.O., Jr. and R.L. Dixon. 1998. Changes in a North Carolina reef fish community after 15 years of intense fishing-Global warming implications. Transactions of the American Fisheries Society 127:908-920.
- Passarelli, N., C. Knickle, and K. DiVittorio. 2003. Biological profiles: shortfin mako. Florida Museum of Natural History. Accessed 03 December 2004. <http://www.flmnh.ufl.edu/fish/Gallery/Descript/ShortfinMako/Shortfinmako.html>.
- Pauly, D., V. Christensen, J. Dalsgaard, R. Froese, and F. Torres, Jr. 1998. Fishing down marine food webs. Science 279:860-863.
- Pereira, J.J., R. Goldberg, J.J. Ziskowski, P.L. Berrien, W.W. Morse, and D.L. Johnson. 1999. Essential fish habitat source document: Winter flounder, *Pseudopleuronectes americanus*, life history and habitat characteristics. NOAA Technical memorandum NMFS-NE-138:1-39.
- Phoel, W.C. 1985. Community structure of demersal fishes on the inshore U.S. Atlantic continental shelf: Cape Ann, Massachusetts to Cape Fear, North Carolina. Ph.D. diss., College of William and Mary in Virginia.
- Pollard, D., and A. Smith. 2000. *Carcharias taurus*. 2004 IUCN red list of threatened species. Accessed 10 December 2004. <http://www.redlist.org>.
- Punt, A. 1996. *Thunnus maccoyii*. In: IUCN 2008. 2008 IUCN Red List of Threatened Species. <[www.iucnredlist.org](http://www.iucnredlist.org)>. Downloaded on 25 November 2008.
- Reid, R.N., L.M. Cargnelli, S.J. Griesbach, D.B. Packer, D.L. Johnson, C.A. Zetlin, W.W. Morse, and P.L. Berrien. 1999. Essential fish habitat source document: Atlantic herring, *Clupea harengus*, life history and habitat characteristics. NOAA Technical Memorandum NMFS-NE-126:1-48.
- Resciniti, J. and B. Figley. 2005. Marine life colonization of experimental reef habitat in temperate ocean waters off New Jersey, 1996-2004. Trenton: New Jersey Department of Environmental Protection, Division of Fish and Wildlife.
- Richards, A. 2000. Goosefish. In S.H. Clark, ed. Status of fishery resources off the northeastern United States for 2000. NOAA Technical Memorandum NMFS-NE-115. Accessed 17 February 2004. <http://www.nefsc.noaa.gov/sos/spsyn/species.html>.
- Rijnsdorp, A.D., M.A. Peck, G.H. Engelhard, C. Mollmann, and J.K. Pinnegar. 2009. Resolving the effect of climate change on fish populations. ICES Journal of Marine Science 66:000-000.
- Roman, C.T., N. Jaworski, F.T. Short, S. Findlay, and R.S. Warren. 2000. Estuaries of the Northeastern United States: habitat and land signatures. Estuaries 23:743-764.
- Ropes, J.W. 1968. Reproductive cycle of the surf clam, *Spisula solidissima*, in offshore New Jersey. Biological Bulletin 135:349-365.
- Rotunno, T.K., and R.K. Cowen. 1997. Temporal and spatial spawning patterns of the Atlantic butterflyfish, *Peprilus triacanthus*, in the South and Mid-Atlantic Bights. Fishery Bulletin 95:785-799.
- Rountree, R.A. and K.W. Able. 1997. Nocturnal fish use of New Jersey marsh creek and adjacent bays and shoal habitats. Estuarine, Coastal and Shelf Science 44:703-711.
- Safina, C. 1996a. *Thunnus thynnus*. 2004 IUCN red list of threatened species. Accessed 13 December 2004. <http://www.redlist.org>.
- Safina, C. 1996b. *Xiphias gladius*. 2004 IUCN red list of threatened species. Accessed 13 December 2004. <http://www.redlist.org>.
- SAFMC (South Atlantic Fishery Management Council). 1998. Final habitat plan for the South Atlantic Region: Essential fish habitat requirements for fishery management plans of the South Atlantic Fishery Management Council – The shrimp fishery management plan, the red drum fishery management plan, the snapper-grouper fishery management plan, the coastal migratory pelagics fishery management plan, the golden crab fishery management plan, the spiny lobster fishery management plan, the coral, coral reefs, and live/hard bottom habitat fishery management plan, the Sargassum habitat fishery management plan, and the calico scallop fishery management plan. Charleston, South Carolina: South Atlantic Fishery Management Council.
- Saila, S.B., and S.D. Pratt. 1973. Mid-Atlantic fisheries. Pages 1-125 in Coastal and offshore environmental inventory: Cape Hatteras to Nantucket Shoals. Marine Publication Series Number 2. Kingston: University of Rhode Island.

- Saltwater Directions. 2003a. Cape May: Cape May Point to Atlantic City GPS detailed fishing chart. New Jersey series map number NJ0101. <http://www.saltwater directions.com>.
- Saltwater Directions. 2003b. Atlantic City: Ocean City to Barnegat Inlet GPS detailed fishing chart. New Jersey series map number NJ0102. <http://www.saltwater directions.com>.
- Saltwater Directions. 2003c. Barnegat: Barnegat Inlet to Deal GPS detailed fishing chart. New Jersey Series map number 0103. <http://www.saltwater directions.com>.
- Schaefer, H.C., and W.A. Fable, Jr. 1994. King mackerel, *Scomberomorus cavalla*, mark-recapture studies off Florida's east coast. *Marine Fisheries Review* 56:13-23.
- Schuck, H.A. 1982. Bluefin tuna *Thunnus thynnus*. Pages 102-105 in M.D. Grosslein and T.R. Azarovitz, eds. Fish distribution. Marine EcoSystem Analysis (MESA) New York Bight Atlas Monograph 15. Albany: New York Sea Grant Institute.
- Schultz, K. 2004. Field guide to saltwater fish. Hoboken, New Jersey: John Wiley & Sons, Inc..
- Sedberry, G.R. 1983. Food habits and trophic relationships of a community of fishes on the outer continental shelf. NOAA Technical Report NMFS SSRF-773:1-56.
- Serchuk, F.M., S.A. Murawski, and J.W. Ropes. 1982. Ocean quahog *Arctica islandica*. Pages 144-146 in M.D. Grosslein and T.R. Azarovitz, eds. Fish distribution. Marine EcoSystem Analysis (MESA) New York Bight Atlas Monograph 15. Albany: New York Sea Grant Institute.
- Schaefer, R.H. 1967. Species composition, size and seasonal abundance of fish in surf waters of Long Island. *New York Game and Fish Journal* 1:1-46.
- Shepherd, G.R. and D.B. Packer. 2006. Bluefish, *Pomatomus saltatrix*, life history and habitat characteristics. Second Edition. NOAA Technical Memorandum NMFS-NE-198:1-89.
- Shepherd, G.R., and M. Terceiro. 1994. The summer flounder, scup, and black sea bass fishery of the Mid-Atlantic Bight and southern New England waters. NOAA Technical Report NMFS 122:1-13.
- Shepherd, G.R., J. Moser, D. Deusel, and P. Carlsen. 2006. The migration patterns of bluefish (*Pomatomus saltatrix*) along the Atlantic coast determined from tag recoveries. *Fishery Bulletin* 104:559-570.
- Sherman, K., M. Grosselein, D. Mountain, D. Busch, J. O'Reilly, and R. Theroux. 1996. The Northeast shelf ecosystem: an initial perspective. Pages 103-126 in K. Sherman, N.A. Jaworski, and T.J. Smayda, eds. The Northeast shelf ecosystem: assessment, sustainability,
- Simpfendorfer, C. 2000. *Galeocerdo cuvier*. 2004 IUCN red list of threatened species. Accessed 10 December 2004. <http://www.redlist.org>.
- Skomal, G.B. 2007. Shark nursery areas in the coastal waters of Massachusetts. *American Fisheries Society Symposium* 50:17-31.
- Smith, W.G. 1988. An analysis and evaluation of ichthyoplankton survey data from the northeast continental shelf ecosystem. NOAA Technical Memorandum NMFS-F/NEC-57:1-132.
- Sobel, J. 1996a. *Gadus morhua*. 2004 IUCN red list of threatened species. Accessed 13 December 2004. <http://www.redlist.org>.
- Sobel, J. 1996b. *Pleuronectes ferrugineus*. 2004 IUCN red list of threatened species. Accessed 9 December 2004. <http://www.redlist.org>.
- Spaur, C. 2007. Atlantic coast of Maryland shoreline protection project borrow sources for 2010-2014: Essential fish habitat (EFH) impact analysis. Baltimore, Maryland: U.S. Army Corps of Engineers.
- Sportfishermen. 2009. New Jersey fishing tournaments. Accessed 13 February 2009. <http://www.sportfishermen.com/tournamentsnew-jersey/>.
- Stehlik, L.L. 2007. Spiny dogfish, *Squalus acanthias*, life history and habitat characteristics. Second Edition. NOAA Technical Memorandum NMFS-NE-203:1-44.
- Steimle, F.W., and W. Figley. 1996. The importance of artificial reef epifauna to black sea bass diets in the Mid-Atlantic Bight. *North American Journal of Fisheries Management* 16:433-439.
- Steimle, F.W. and C. Zetlin. 2000. Reef habitats in the Middle Atlantic Bight: Abundance, distribution, associated biological communities, and fishery resource use. *Marine Fisheries Review* 62(2):24-42.
- Steimle, F.W., C.A. Zetlin, P.L. Berrien, and S. Chang. 1999a. Essential fish habitat source document: Black sea bass, *Centropristis striata*, life history and habitat characteristics. NOAA Technical Memorandum NMFS-NE-143:1-41.
- Steimle, F.W., W.W. Morse, and D.L. Johnson. 1999b. Essential fish habitat source document: Goosefish, *Lophius americanus*, life history and habitat characteristics. NOAA Technical Memorandum NMFS-NE-127:1-31.

- Steimle, F.W., W.W. Morse, P.L. Berrien, D.L. Johnson, and C.A. Zetlin. 1999c. Essential fish habitat source document: Ocean pout, *Macrozoarces americanus*, life history and habitat characteristics. NOAA Technical Memorandum NMFS-NE-129:1-26.
- Steimle, F.W., W.W. Morse, P.L. Berrien, and D.L. Johnson. 1999d. Essential fish habitat source Document: Red hake, *Urophycis chuss*, life history and habitat characteristics. NOAA Technical Memorandum NMFS-NE-133:1-34.
- Steimle, F.W., C.A. Zetlin, P.L. Berrien, D.L. Johnson, and S. Chang. 1999e. Essential fish habitat source document: Scup, *Stenotomus chrysops*, life history and habitat characteristics. NOAA Technical Memorandum NMFS-NE-149:1-39.
- Stevens, J. 2000a. *Prionace glauca*. 2004 IUCN red list of threatened species. Accessed 10 December 2004. <http://www.redlist.org>.
- Stevens, J. 2000b. *Isurus oxyrinchus*. 2004 IUCN red list of threatened species. Accessed 10 December 2004. <http://www.redlist.org>.
- Stevenson, D., L. Chiarella, D. Stephan, R. Reid, K. Wilhelm, J. McCarthy, and M. Pentony. 2004. Characterization of the fishing practices and marine benthic ecosystems of the northeast U.S. shelf, and an evaluation of the potential effects of fishing on essential fish habitat. NOAA Technical Memorandum NMFS-NE-181:1-179.
- Stevenson, D.K. and M.L. Scott. 2005. Essential fish habitat source document: Atlantic herring, *Clupea harengus*, life history and habitat characteristics--Second edition. NOAA Technical Memorandum NMFS-NE-192:1-84.
- Steves, B.P., R.K. Cowen, and M.H. Malchoff. 1999. Settlement and nursery habitats for demersal fishes on the continental shelf of the New York Bight. Fishery Bulletin 98(1):167-188.
- Steves, B.P., and R.K. Cowen. 2000. Settlement, growth, and movement of silver hake, *Merluccius bilinearis*, in nursery habitat on the New York Bight continental shelf. Marine Ecology Progress Series 196:279-290.
- Stillwell, C.E. and N.E. Kohler. 1985. Food and feeding ecology of the swordfish *Xiphias gladius* in the western North Atlantic Ocean with estimates of daily ration. Marine Ecology Progress Series 22:239-247.
- Stone, S.L., T.A. Lowery, J.D. Field, S.H. Jury, D.M. Nelson, M.E. Monaco, C.D. Williams, and L.A. Andreasen. 1994. Distribution and abundance of fishes and invertebrates in Mid-Atlantic Estuaries. ELMR Report No. 12. Silver Spring, Maryland: NOAA/NOS Strategic Environmental Assessments Division.
- Studholme, A.L., D.B. Packer, P.L. Berrien, D.L., Johnson, C.A. Zetlin, and W.W. Morse. 1999. Essential fish habitat source document: Atlantic mackerel, *Scomber scombrus*, life history and habitat characteristics. NOAA Technical Memorandum NMFS-NE-141:1-35.
- Taylor, D.L., R.S. Nichols, and K.W. Able. 2007. Habitat selection and quality for multiple cohorts of young-of the-year bluefish (*Pomatomus saltatrix*): Comparisons between estuarine and ocean beaches in southern New Jersey. Estuarine, Coastal and Shelf Science 73:667-679.
- Taylor, D.L., P.M. Rowe, and K.W. Able. 2005. Habitat use of the inner continental shelf off southern New Jersey by summer-spawned bluefish (*Pomatomus saltatrix*). Fishery Bulletin 104:593-604.
- The Louis Berger Group, Inc. 1999. Environmental Report: Use of federal offshore sand resources for beach and coastal restoration in New Jersey, Maryland, Delaware, and Virginia. OCS Study MMS-99-0036. Morristown, New Jersey; The Louis Berger Group, Inc.
- Tricas, T.C., K. Deacon, P. Last, J.E. McCosker, T.I. Walker, and L Taylor. 1997. Sharks and Rays. Singapore: Time-Life Books.
- Terceiro, M. 2001a. Scup. In S.H. Clark, ed. Status of fishery resources off the northeastern United States for 2001. NOAA Technical Memorandum NMFS-NE-115. Accessed 17 February 2004. <http://www.nefsc.noaa.gov/sos/spsyn/species.html>.
- Theroux, R.B., and M.D. Grosslein. 1987. Chapter 26: Benthic Fauna. Pages 283-295 in R.H. Backus, ed. Georges Bank. Cambridge, Massachusetts: The MIT Press.
- Turgeon, D.D., J.F. Quinn, Jr., A.E. Bogan, E.V. Coan, F.G. Hochberg, W.G. Lyons, P.M. Mikkelsen, R.J. Neves, C.F.E. Roper, G. Rosenberg, B. Roth, A. Scheltema, F.G. Thompson, M. Vecchione, and J.D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks, Second Edition. Bethesda, Maryland: American Fisheries Society.
- USACE (U.S. Army Corps of Engineers). 2007. Essential fish habitat assessment for Newark Bay maintenance dredging: Newark Bay – Port Newark Channel, Port Newark Pierhead Channel, and

- Port Elizabeth Channel of Newark Bay, Hackensack and Passaic rivers federal navigation project analysis. New York: U.S. Army Corps of Engineers, Operations Division, New York District.
- Vasslides, J.M. and K.W. Able. 2008. Importance of shoreface sand ridges as habitat for fishes off the northeast coast of the United States. *Fishery Bulletin* 106:93-107.
- Vecchione, M. 1981. Aspects of the early life history of *Loligo pealei* (Cephalopoda: Myopsida). *Journal of Shellfish Research* 1:171-180.
- Viscido, S.V., D.E. Stearns, and K.W. Able. 1997. Seasonal and spatial patterns of an epibenthic decapod crustacean assemblage in North-west Atlantic continental shelf waters. *Estuarine, Coastal and Shelf Science* 45:377-392.
- Vougliotois, J.J., K.W. Able, R.J. Kurtz, and K.A. Tighe. 1987. Life history and population dynamics of the bay anchovy in New Jersey. *Transactions of the American Fisheries Society* 116(2):141-153.
- Warlen, S.M., K.W. Able, and E.H. Laban. 2002. Recruitment of larval Atlantic menhaden (*Brevoortia tyrannus*) to North Carolina and New Jersey estuaries: Evidence for larval transport northward along the east coast of the United States. *Fishery Bulletin* 100:609-623.
- Walsh, H.J., K.E. Maranick, and J.A. Hare. 2006. Juvenile fish assemblages collected on unconsolidated sediments of the southeast United States continental shelf. *Fishery Bulletin* 104:256-277.
- Waring, G., and S. Murawski. 1982. Butterfish *Peprilus triacanthus*. Pages 105-107 in M.D. Grosslein and T.R. Azarovitz, eds. *Fish Distribution. Marine EcoSystem Analysis (MESA) New York Bight Atlas Monograph 15*. Albany: New York Sea Grant Institute.
- Weinberg, J.R. 2000. Atlantic surfclam. In S.H. Clark, ed. *Status of the fishery resources off the northeastern United States for 2000*. NOAA Technical Memorandum NMFS-NE-115. Accessed 17 February 2004. <http://www.nefsc.noaa.gov/sos/spsyn/species.html>.
- Weinberg, J. 2001a. Northern shrimp. In S.H. Clark, editor. *Status of the Fishery Resources off the Northeastern United States for 2001*. National Oceanic and Atmospheric Administration Technical Memorandum NMFS-NE-115. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Resource Evaluation and Assessment Division, Northeast Fisheries Science Center, Woods Hole, Massachusetts.
- Weinberg, J.R. 2001b. Ocean quahog. In S.H. Clark, ed. *Status of the fishery resources off the northeastern United States for 2001*. NOAA Technical Memorandum NMFS-NE-115. Accessed 17 February 2004. <http://www.nefsc.noaa.gov/sos/spsyn/species.html>.
- Wilber, D.H., D.G. Clarke, M.H. Burlas, H. Ruben, and R.J. Will. 2003. Spatial and temporal variability in surf zone fish assemblages on the coast of northern New Jersey. *Estuarine, Coastal and Shelf Science* 56:291-304.
- Wilber, D.H., D.G. Clarke, G.L. Ray, and M. Burlas. 2003. Response of surf zone fish to beach nourishment operations on the northern coast of New Jersey, USA. *Marine Ecology Progress Series* 250:231-246.
- Wigley, S.J. 2000. Ocean pout. In S.H. Clark, ed. *Status of the fishery resources off the northeastern United States for 2000*. NOAA Technical Memorandum NMFS-NE-115. Accessed 17 February 2004. <http://www.nefsc.noaa.gov/sos/spsyn/species.html>.
- Wigley, S.J. and R.B. Theroux. 1981. Atlantic continental shelf and slope of the United States-Macrobenthic invertebrate fauna of the middle Atlantic Bight region-Faunal composition and quantitative distribution. *Geological Survey Professional Survey Paper* 529-N. Washington, D.C.: U.S. Government Printing Office.
- Williams, E. 2001. Assessment of cobia, *Rachycentron canadum*, in the waters of the U.S. Gulf of Mexico. Beaufort, North Carolina: National Marine Fisheries Service.
- Williams, N. 1998. Overfishing disrupts entire ecosystems. *Science* 279:809.
- Wood, Jr., P.W. 1982. Goosefish *Lophius americanus*. Pages 67-70 in M.D. Grosslein and T.R. Azarovitz, eds. *Fish distribution. Marine EcoSystem Analysis (MESA) New York Bight Atlas Monograph 15*. Albany: New York Sea Grant Institute.
- Wood, A.D., B.M. Wetherbee, F. Juanes, N.E. Kohler, and C. Wilga. 2009. Recalculated diet and daily ration of the shortfin mako (*Isurus oxyrinchus*), with a focus of quantifying predation on bluefish (*Pomatomus saltatrix*) in the northwest Atlantic Ocean. *Fishery Bulletin* 107:76-88.
- Wood, A.J.M., J.S. Collie, and J.A. Hare. 2008. A comparison between warm-water fish assemblages of Narragansett Bay and those of Long Island Sound waters. *Fishery Bulletin* 107:89-100.

Wuenschel, M.J., K.W. Able, and D. Bryne. 2009. Seasonal patterns of winter flounder *Pseudopleuronectes americanus* abundance and reproductive condition on the New York Bight continental shelf. *Journal of Fish Biology* 74:1508-1524.

This page intentionally left blank

## APPENDIX A-2

### MARINE BIRDS

- Afton, A.D., and M.G. Anderson. 2001. Declining scaup populations: A retrospective analysis of long-term population and harvest survey data. *Journal of Wildlife Management* 65:781-796.
- Alvo, R., and M. Berrill. 1992. Adult Common Loon feeding behavior is related to food fed to chicks. *Wilson Bulletin* 104(1):184-185.
- Ambagis, J. 2004. A comparison of census and monitoring techniques for Leach's Storm Petrel. *Waterbirds* 27(2):211-215.
- Anteau, M.J., and A.D. Afton. 2004. Nutrient reserves of Lesser Scaup (*Aythya affinis*) during spring migration in the Mississippi Flyway: A test of the spring condition hypothesis. *Auk* 121(3):917-929.
- Anteau, M.J., and A.D. Afton. 2006. Diet shifts of Lesser Scaup are consistent with the spring condition hypothesis. *Canadian Journal of Zoology* 84:779-786.
- Antolos, M., D.D. Roby, D.E. Lyons, S.K. Anderson, and K. Collis. 2006. Effects of nest density, location, and timing on breeding success of Caspian Terns. *Waterbirds* 29(4):465-472.
- Atkinson, P.W., G.F. Appleton, J.A. Clark, N.A. Clark, S. Gillings, I.G. Henderson, R.A. Robinson, and R.A. Stillman. 2003. Red Knots *Calidris canutus* in Delaware Bay 2002. Survival, foraging and marking strategy. BTO Research Report number 308. Prepared by British Trust for Ornithology, Norfolk, United Kingdom.
- Atkinson, P.W., A.J. Baker, K.A. Bennett, N.A. Clark, J.A. Clark, K.B. Cole, A. Dekinga, A. Dey, S. Gillings, P.M. González, K. Kalasz, C.D.T. Minton, J. Newton, L.J. Niles, T. Piersma, R.A. Robinson, and H.P. Sitters. 2007. Rates of mass gain and energy deposition in Red Knot on their final spring staging site is both time- and condition-dependent. *Journal of Applied Ecology* 44:885-895.
- Austin, J.E., and L.H. Fredrickson. 1986. Molt of female Lesser Scaup immediately following breeding. *Auk* 103(2):293-298.
- Austin, J.E., A.D. Afton, M.G. Anderson, R.G. Clark, C.M. Custer, J.S. Lawrence, J.B. Pollard, and J.K. Ringelman. 2000. Decling scaup populations: Issues, hyphotheses, and research needs. *Wildlife Society Bulletin* 28(1):254-263.
- Austin, J.E., D.A. Granfors, M.A. Johnson, and S.C. Kohn. 2002. Scaup migration patterns in North Dakota relative to temperatures and water conditions. *Journal of Wildlife Management* 66(3):874-882.
- Badzinski, S.S., and S.A. Petrie. 2006. Diets of Lesser and Greater Scaup during autumn and spring on the lower Great Lakes. *Wildlife Society Bulletin* 34(3):664-674.
- Baillie, S.M., G.J. Robertson, F.K. Wiese, and U.P. Williams. 2005. Seabird data collected by the Grand Banks offshore hydrocarbon industry 1999-2002: Results, limitations and suggestions for improvement. Canadian Wildlife Service Technical Report Series Number 434. Atlantic Region.
- Baker, A.J., P.M. González, T. Piersma, L.J. Niles, I. de Lima Serrano do Nascimento, P.A. Atkinson, N.A. Clark, C.D.T. Minton, M.K. Peck, and G. Aarts. 2004. Rapid population decline in Red Knots: Fitness consequences of decreased refuelling rates and late arrival in Delaware Bay. *Proceedings of the Royal Society of London B* 271:875-882.
- Ballance, L.T. 2007. Understanding seabirds at sea: Why and how? *Marine Ornithology* 35:127-135.
- Ballance, L. 2007. Seabird survey instruction manual. Star-Lite 2007: *Stenella* abundance research- Line transect and ecosystem survey- Eastern tropical Pacific. Prepared by Southwest Fisheries Science Center, Ecosystem Studies (Ecology) Program, La Jolla, California.
- Barrett, R.T., and R.W. Furness. 1990. The prey and diving depths of seabirds on Hornøy, North Norway after a decrease in the Barents Sea capelin stocks. *Ornis Scandinavica* 21(3):179-186.
- Barrett, R.T., G. Chapdelaine, T. Anker-Nilssen, A. Mosbech, W.A. Montevecchi, J.B. Reid, and R.R. Veit. 2006. Seabird numbers and prey consumption in the North Atlantic. *ICES Journal of Marine Science* 63:1145-1158.
- Bart J., S. Droege, P. Geissler, B. Peterjohn, and C.J. Ralph. 2004. Density estimation in wildlife surveys. *Wildlife Society Bulletin* 32(4):1242-1247.
- Beauchamp, G. 1992. Diving behavior in Surf Scoters and Barrow's Goldeneyes. *Auk* 109(4):819-827.



- Beauchamp, G. 2006. Spatial, temporal and weather factors influencing the foraging behavior of migrating semipalmated sandpipers. *Waterbirds* 29(2):221-225.
- Becker, P.H., D. Frank, and M. Wagener. 1997. Luxury in freshwater and stress at sea? The foraging of the Common Tern *Sterna hirundo*. *Ibis* 139:264-269.
- Begg, G.S., and J.B. Reid. 1997. Spatial variation in seabird density at a shallow sea tidal mixing front in the Irish Sea. *ICES Journal of Marine Science* 54:552-565.
- Belant, J.L., and R.A. Dolbeer. 1993. Population status of nesting Laughing Gulls in the United States, 1977-1991. *American Birds* 47:220-224.
- Benjamins, S., D.W. Kulka, and J. Lawson. 2008. Incidental catch of seabirds in Newfoundland and Labrador gillnet fisheries, 2001-2003. *Endangered Species Research* 5:149-160. doi:10.3354/esr00094
- Bergman, R.D., P. Swain, and M.W. Weller. 1970. A comparative study of nesting Forster's and Black Terns. *Wilson Bulletin* 82(4):435-444.
- Boettcher, R., T. Penn, R.R. Cross, K.T. Terwilliger, and R.A. Beck. 2007. An overview of the status and distribution of Piping Plovers in Virginia. *Waterbirds* 30(Special Publication 1):138-151.
- Bond, A.L., P.W. Hicklin, and M. Evans. 2007. Daytime spring migrations of scoters (*Melanitta* spp.) in the Bay of Fundy. *Waterbirds* 30(4):566-572.
- Boomer, G.S., and F.A. Johnson. 2005. An assessment of the harvest potential of the continental scaup population. Progress report. Prepared by U.S. Fish and Wildlife Service, Washington, D.C.
- Botton, M.L., R.E. Loveland, and T.R. Jacobsen. 1994. Site selection by migratory shorebirds in Delaware Bay, and its relationship to beach characteristics and abundance of horseshoe crab (*Limulus polyphemus*) eggs. *Auk* 111(3):605-616.
- Braune, B.M. 1987. Body morphometrics and molt of Bonaparte's Gulls in the Quoddy region, New Brunswick, Canada. *Condor* 89(1):150-157.
- Braune, B.M. 1987. Seasonal aspects of the diet of Bonaparte's Gulls (*Larus philadelphia*) in the Quoddy region, New Brunswick, Canada. *Auk* 104(2):167-172.
- Braune, B.M., and D.E. Gaskin. 1982. Feeding ecology of nonbreeding populations of larids off Deer Island, New Brunswick. *Auk* 99(1):67-76.
- Breton, A.R., G.A. Fox, and J.W. Chardine. 2008. Survival of adult Herring Gulls (*Larus argentatus*) from a Lake Ontario colony over two decades of environmental change. *Waterbirds* 31(1):15-23.
- Brierley, A.S., and P.G. Fernandes. 2001. Diving depths of Northern Gannets: Acoustic observations of *Sula bassana* from an autonomous underwater vehicle. *Auk* 118(2):529-534.
- Brinker, D.F., J.M. McCann, B. Williams, and B.D. Watts. 2007. Colonial-nesting seabirds in the Chesapeake Bay region: Where have we been and where are we going? *Waterbirds* 30(Special Publication 1):93-104.
- Brown, K.M., J.L. Tims, R.M. Erwin, and M.E. Richmond. 2001. Changes in the nesting populations of colonial waterbirds in Jamaica Bay Wildlife Refuge, New York, 1974-1998. *Northeastern Naturalist* 8(3):275-292.
- Brown, R.G.B. 1988. The influence of oceanographic anomalies on the distributions of storm-petrels (Hydrobatidae) in Nova Scotian waters. *Colonial Waterbirds* 11(1):1-8.
- Brown, R.G.B. 1988. Oceanographic factors as determinants of the winter range of the Dovekie (*Alle alle*) off Atlantic Canada. *Colonial Waterbirds* 11(2):176-180.
- Brown, S.C., B.A. Harrington, K.C. Parsons, and E.P. Mallory. 2002. Waterbird use of Northern Atlantic wetlands protected under the North American Wetlands Conservation Act. *Waterbirds: The International Journal of Waterbird Biology* 25(Special Publication 2):106-114.
- Büßer C., A. Kahles, and P. Quillfeldt. 2004. Breeding success and chick provisioning in Wilson's Storm-petrels *Oceanites oceanicus* over seven years: Frequent failures due to food shortage and entombment. *Polar Biology* 27(10):613-622.
- Buckley, F.G. 1979. Colony site selection by colonial waterbirds in coastal New Jersey. *Proceedings of the Colonial Waterbird Group* 2:17-26.
- Buckley, P.A., and F.G. Buckley. 2000. Patterns of colony-site use and disuse in saltmarsh-nesting Common and Roseate Terns. *Journal of Field Ornithology* 71(2):356-369.
- Burger, J. 1977. Nesting behavior of Herring Gulls: Invasion into *Spartina* salt marsh areas of New Jersey. *Condor* 79(2):162-169.
- Burger, J. 1979. Competition and predation: Herring Gulls versus Laughing Gulls. *Condor* 81(3):269-277.

- Burger, J. 1980. The transition to independence and postfledging parental care in seabirds. Pages 367-447 in Burger, J., B.L. Olla, and H.E. Winn, eds. Behavior of marine animals: Current perspectives in research. Volume 4: Marine birds. New York: Plenum Press.
- Burger, J. 1981. Feeding competition between Laughing Gulls and Herring Gulls at a sanitary landfill. Condor 83:328-335.
- Burger, J. 1983. Jamaica Bay Studies IV: Factors affecting distribution of Greater Scaup *Aythya marila* in a coastal estuary in New York, USA. Ornis Scandinavica 14(4):309-316.
- Burger, J. 1988. Foraging behavior in gulls: Differences in method, prey and habitat. Colonial Waterbirds 11(1):9-23.
- Burger, J. 1998. Effects of motorboats and personal watercraft on flight behavior over a colony of Common Terns. Condor 100(3):528-534.
- Burger, J. 2002. Food chain differences affect heavy metals in bird eggs in Barnegat Bay, New Jersey. Environmental Research Section A 90:33-39. doi:10.1006/enrs.2002.4381.
- Burger, J., and M. Gochfeld. 1985. Nest site selection by Laughing Gulls: Comparison of tropical colonies (Culebra, Puerto Rico) with temperate colonies (New Jersey). Condor 87(3):364-373.
- Burger, J., and M. Gochfeld. 1990. Nest site selection in Least Terns (*Sterna antillarum*) in New Jersey and New York. Colonial Waterbirds 13(1):31-40.
- Burger, J., and J. Shisler. 1978. Nest site selection and competitive interactions of Herring and Laughing Gulls in New Jersey. Auk 95(2):252-266.
- Burger, J., and J. Shisler. 1980. Colony and nest site selection in Laughing Gulls in response to tidal flooding. Condor 82(3):251-258.
- Burger, J., L. Niles, and K.E. Clark. 1997. Importance of beach, mudflat and marsh habitats to migrant shorebirds on Delaware Bay. Biological Conservation 79:283-292.
- Burger, J., B.L. Olla, and H.E. Winn, eds. 1980. Behavior of marine animals: Current perspectives in research. Volume 4: Marine birds. New York, New York: Plenum Press.
- Burgess, N.M., D.C. Evers, and J.D. Kaplan. 2005. Mercury and other contaminants in Common Loons breeding in Atlantic Canada. Ecotoxicology 14:241-252.
- Butler, R.W., N.C. Davidson, and R.I.G. Morrison. 2001. Global-scale shorebird distribution in relation to productivity of near-shore ocean waters. Waterbirds 24(2):224-232.
- Butler, R.W., T.D. Williams, N. Warnock and M.A. Bishop. 1997. Wind assistance: A requirement for migration of shorebirds? Auk 114(3):456-466.
- CAFF. 2004. Distribution of murres outside the breeding season. Circumpolar murre banding program. CAFF Technical Report number 13. Akureyri, Iceland: CAFF International Secretariat.
- Camphuysen, C.J., B.E. Scott, and S. Wanless. 2006. Distribution and foraging interactions of seabirds and marine mammals in the North Sea: multispecies foraging assemblages and habitat-specific feeding strategies. Pages 82-97 in I.L. Boyd, S. Wanless, and C.J. Camphuysen, eds. Top predators in marine ecosystems. New York: Cambridge University Press.
- Castro, G., and J.P. Myers. 1993. Shorebird predation on eggs of horseshoe crabs during spring stopover on Delaware Bay. Auk 110(4):927-930.
- Chapdelaine, G. 1997. Pattern of recoveries of banded Razorbills (*Alca torda*) in the western Atlantic and survival rates of adults and immatures. Colonial Waterbirds 20(1):47-54.
- Chapdelaine, G., A.W. Diamond, R.D. Elliot, and G.J. Robertson. 2001. Status and population trends of the Razorbill in eastern North America. Occasional Paper number 105. Ottawa: Canadian Wildlife Service.
- Clapp, R.B., M.K. Klimkiewicz, and J.H. Kennard. 1982. Longevity records of North American birds: Gaviidae through Alcidae. Journal of Field Ornithology 53(2):81-124.
- Clark, K.E., and L.J. Niles. 2000. U.S. shorebird conservation plan: Northern Atlantic regional shorebird plan. Version 1.0. Prepared by Endangered and Nongame Species Program, Woodbine, New Jersey, and Northern Atlantic Shorebird Habitat Working Group.
- Clark, K.E., L.J. Niles and J. Burger. 1993. Abundance and distribution of migrant shorebirds in Delaware Bay. Condor 95(3):694-705.
- Clarke, E.D., L.B. Spear, M.L. McCracken, F.F.C. Marques, D.L. Borchers, S.T. Buckland, and D.G. Ainley. 2003. Validating the use of generalized additive models and at-sea surveys to estimate size and temporal trends of seabird populations. Journal of Applied Ecology 40:278-292.
- Coleman, J.T.H., and M.E. Richmond. 2007. Daily foraging patterns of adult Double-crested Cormorants during the breeding season. Waterbirds 30(2):189-198.

- Copestake, P.G., and J.P. Croxall. 1985. Aspects of the breeding biology of Wilson's Storm Petrel *Oceanites oceanicus* at Bird Island, South Georgia. *British Antarctic Survey Bulletin* 66:7-17.
- Cottam, C. 1935. Winter notes from coastal North Carolina. *Auk* 52(3):318-319.
- Coulson, J.C., and J. Strowger. 1999. The annual mortality rate of Black-legged Kittiwakes in NE England from 1954 to 1998 and a recent exceptionally high mortality. *Waterbirds* 22(1):3-13.
- Coulson, J.C., and C.S. Thomas. 1985. Changes in the biology of the Kittiwake *Rissa tridactyla*: A 31-year study of a breeding colony. *Journal of Animal Ecology* 54(1):9-26.
- Coyle, K.O., G.L. Hunt Jr., M.B. Decker, and T.J. Weingartner. 1992. Murre foraging, epibenthic sound scattering and tidal advection over a shoal near St. George Island, Bering Sea. *Marine Ecology Progress Series* 83:1-14.
- Cronan, J.M., Jr. 1957. Food and feeding habits of the scaups in Connecticut waters. *Auk* 74(4):459-468.
- Custer, C.M., T.W. Custer, and D.W. Sparks. 1996. Radio telemetry documents 24-hour feeding activity of wintering Lesser Scaup. *Wilson Bulletin* 108(3):556-566.
- Dall'Antonia, L., P. Dall'Antonia, S. Benvenuti, P. Ioalè, B. Massa, and F. Bonadonna. 1995. The homing behavior of Cory's Shearwaters (*Calonectris diomedea*) studied by means of a direction recorder. *Journal of Experimental Biology* 198:359-362.
- Daub, B.C. 1989. Behavior of Common Loons in winter. *Journal of Field Ornithology* 60(3):305-311.
- Daunt, F., S. Wanless, G. Peters, S. Benvenuti, J. Sharples, D. Grémillet, and B. Scott. 2006. Impacts of oceanography on the foraging dynamics of seabirds in the North Sea. Pages 177-190 in I.L. Boyd, S. Wanless, and C.J. Camphuysen, eds. *Top predators in marine ecosystems*. New York: Cambridge University Press.
- Davis, M.B., T.R. Simons, M.J. Groom, J.L. Weaver, and J.R. Cordes. 2001. The breeding status of the American Oystercatcher on the east coast of North America and breeding success in North Carolina. *Waterbirds* 24(2):195-202.
- Davoren, G.K., W.A. Montevecchi, and J.T. Anderson. 2003. Distributional patterns of a marine bird and its prey: Habitat selection based on prey and conspecific behaviour. *Marine Ecology Progress Series* 256:229-242.
- Davoren, G.K., W.A. Montevecchi, and J.T. Anderson. 2003. The influence of fish behaviour on search strategies of Common Murres *Uria aalge* in the northwest Atlantic. *Marine Ornithology* 31:123-131.
- DeSorbo, C.R., J. Fair, K. Taylor, W. Hanson, D.C. Evers, H.S. Vogel, and J.H. Cooley, Jr. 2008. Guidelines for constructing and deploying Common Loon nesting rafts. *Northeastern Naturalist* 15(1):75-86.
- Diamond, A.W., and C.M. Devlin. 2003. Seabirds as indicators of changes in marine ecosystems: Ecological monitoring on Machias Seal Island. *Environmental Monitoring and Assessment* 88:153-175.
- Dickson, D.L. 1993. Breeding biology of Red-throated Loons in the Canadian Beaufort Sea region. *Arctic* 46(1):1-7.
- Dinsmore, S.J., J.A. Collazo, and J.R. Walters. 1998. Seasonal numbers and distribution of shorebirds on North Carolina's Outer Banks. *Wilson Bulletin* 110(2):171-181.
- Dolbeer, R.A., J.L. Belant, and J.L. Sillings. 1993. Shooting gulls reduces strikes with aircraft at John F. Kennedy International Airport. *Wildlife Society Bulletin* 21(4):442-450.
- DoN (Department of the Navy). 2007. Pelagic bird assessment for the U.S. Navy's Atlantic Operating Areas—Final report. Contract number N62470-02-D-9997, CTO 0035. Prepared for the Naval Facilities Engineering Command, Norfolk, Virginia, by Geo-Marine, Inc., Hampton, Virginia.
- Donehower, C.E., and D.M. Bird. 2008. Gull predation and breeding success of Common Eiders on Stratton Island, Maine. *Waterbirds* 31(3):454-462.
- Donehower, C.E., D.M. Bird, C. Scott Hall, and S.W. Kress. 2007. Effects of gull predation and predator control on tern nesting success at Eastern Egg Rock, Maine. *Waterbirds* 30(1):29-39.
- Dow, D.D. 1964. Diving times of wintering water birds. *Auk* 81(4):556-558.
- Drew, G.S., and J.F. Piatt. 2008. Using geographic information systems to compare non-uniform marine bird surveys: Detecting the decline of Kittlitz's Murrelet (*Brachyramphus brevirostris*) in Glacier Bay, Alaska. *Auk* 125(1):178-182.
- Drinkwater, K.F., A. Belgrano, A. Borja, A. Conversi, M. Edwards, C.H. Greene, G. Ottersen, A.J. Pershing, and H. Walker. 2003. The response of marine ecosystems to climate variability associated with the North Atlantic Oscillation. *Geophysical Monograph* 134:211-234.

- Drury, W.H. 1973. Population changes in New England seabirds. *Bird-Banding* 44(4):267-313.
- Drury, W.H. 1974. Population changes in New England seabirds. *Bird-Banding* 45(1):1-15.
- Dunn, P.O., T.A. May, M.A. McCollough, and M.A. Howe. 1988. Length of stay and fat content of migrant Semipalmated Sandpipers in eastern Maine. *Condor* 90(4):824-835.
- Durant, J.M., N.C. Stenseth, T. Anker-Nilssen, M.P. Harris, P.M. Thompson, and S. Wanless. 2004. Marine birds and climate fluctuation in the North Atlantic. Pages 95-105 in N.C. Stenseth, G. Ottersen, J.W. Hurrell, and A. Belgrano, eds. *Marine ecosystems and climate variation. The North Atlantic: A comparative approach*. Oxford, United Kingdom: Oxford University Press.
- Eberl, C., and J. Picman. 1993. Effect of nest-site location on reproductive success of Red-throated Loons (*Gavia stellata*). *Auk* 110(3):436-444.
- Eggeman, D.R., and F.A. Johnson. 1989. Variation in effort and methodology for the midwinter waterfowl inventory in the Atlantic Flyway. *Wildlife Society Bulletin* 17(3):227-233.
- Elphick, C.S., and G.L. Hunt Jr. 1993. Variations in the distributions of marine birds with water mass in the northern Bering Sea. *Condor* 95:33-44.
- Emslie, S.D., J.S. Weske, M.M. Browne, S. Cameron, R. Boettcher, D.F. Brinker, and W. Golder. 2009. Population trends in Royal and Sandwich Terns along the Mid-Atlantic Seaboard, USA, 1975-2005. *Waterbirds* 32(1):54-63.
- Enstipp, M.R., F. Daunt, S. Wanless, E.M. Humphreys, K.C. Hamer, S. Benvenuti, and D. Grémillet. 2006. Foraging energetics of North Sea birds confronted with fluctuating prey availability. Pages 191-210 in I.L. Boyd, S. Wanless, and C.J. Camphuysen, eds. *Top predators in marine ecosystems*. New York: Cambridge University Press.
- Enticott, J., and D. Tipling. 1997. *Seabirds of the world: The complete reference*. Mechanicsburg, Pennsylvania: Stackpole Books.
- Erskine, A.J. 1988. The changing patterns of Brant migration in eastern North America. *Journal of Field Ornithology* 59(2):110-119.
- Erwin, R.M. 1988. Correlates of nest-defense behavior of Common Terns. *Journal of Field Ornithology* 59(2):135-142.
- Erwin, R.M. 1996. Dependence of waterbirds and shorebirds on shallow-water habitats in the mid-Atlantic coastal region: An ecological profile and management recommendations. *Estuaries* 19(2A):213-219.
- Erwin, R.M., and R.A. Beck. 2007. Restoration of waterbird habitats in Chesapeake Bay: Great Expectations or *Sisyphus* revisited? *Waterbirds* 30(Special Publication 1):163-176.
- Erwin, R.M., D.H. Allen, and D. Jenkins. 2003. Created versus natural coastal islands: Atlantic waterbird populations, habitat choices, and management implications. *Estuaries* 26(4A):949-955.
- Erwin, R.M., C.J. Conway, and S.W. Hadden. 2002. Species occurrence of marsh birds at Cape Cod National Seashore, Massachusetts. *Northeastern Naturalist* 9(1):1-12.
- Erwin, R.M., J. Galli, and J. Burger. 1981. Colony site dynamics and habitat use in Atlantic coast seabirds. *Auk* 98(3):550-561.
- Erwin, R.M., G.M. Sanders, and D.J. Prosser. 2004. Changes in lagoonal marsh morphology at selected northeastern Atlantic coast sites of significance to migratory waterbirds. *Wetlands* 24(4):891-903.
- Evers, D.C. 2007. Status assessment and conservation plan for the Common Loon (*Gavia immer*) in North America. BRI Report 2007-20. Prepared for U.S. Fish and Wildlife Service, Hadley, Massachusetts, by BioDiversity Research Institute, Gorham, Maine.
- Fetterolf, P.M. 1983. Effects of investigator activity on Ring-billed Gull behavior and reproductive performance. *Wilson Bulletin* 95(1):23-41.
- Finney, S.K., S. Wanless, and M.P. Harris. 1999. The effect of weather conditions on the feeding behaviour of a diving bird, the Common Guillemot *Uria aalge*. *Journal of Avian Biology* 30(1):23-30.
- Ford, T.B., and J.A. Gieg. 1995. Winter behavior of the Common Loon. *Journal of Field Ornithology* 66(1):22-29.
- Ford, R.G., J.A. Wiens, D. Heinemann, and G.L. Hunt. 1982. Modelling the sensitivity of colonially breeding marine birds to oil spills: Guillemot and kittiwake populations on the Pribilof Islands, Bering Sea. *Journal of Applied Ecology* 19:1-31.
- Frederiksen, M., R.A. Mavor, and S. Wanless. 2007. Seabirds as environmental indicators: The advantages of combining data sets. *Marine Ecology Progress Series* 352:205-211.



- Frederiksen, M., S. Wanless, M.P. Harris, P. Rothery, and L.J. Wilson. 2004. The role of industrial fisheries and oceanographic change in the decline of North Sea black-legged kittiwakes. *Journal of Applied Ecology* 41:1129-1139.
- Furness, R.W., and C.J. Camphuysen. 1997. Seabirds as monitors of the marine environment. *ICES Journal of Marine Science* 54:726-737.
- Furness, R.W., K. Ensor, and A.V. Hudson. 1992. The use of fishery waste by gull populations around the British Isles. *Ardea* 80:105-113.
- Galbraith, H., R. Jones, R. Park, J. Clough, S. Herrod-Julius, B. Harrington, and G. Page. 2002. Global climate change and sea level rise: Potential losses of intertidal habitat for shorebirds. *Waterbirds* 25(2):173-183.
- Garthe, S., S. Benvenuti, and W.A. Montevecchi. 2003. Temporal patterns of foraging activities of Northern Gannets, *Morus bassanus*, in the northwest Atlantic Ocean. *Canadian Journal of Zoology* 81:453-461.
- Garthe, S., D. Grémillet, and R.W. Furness. 1999. At-sea-activity and foraging efficiency in chick-rearing Northern Gannets *Sula bassana*: A case study in Shetland. *Marine Ecology Progress Series* 185:93-99.
- Gaston, A.J., and K. Woo. 2008. Razorbills (*Alca torda*) follow Subarctic prey into the Canadian Arctic: Colonization results from climate change? *Auk* 125(4):939-942.
- Gaston, A.J., R. Decker, F.G. Cooch, and A. Reed. 1986. The distribution of larger species of birds breeding on the coasts of Foxe Basin and Northern Hudson Bay, Canada. *Arctic* 39(4):285-296.
- Gill, V.A., S.A. Hatch, and R.B. Lanctot. 2002. Sensitivity of breeding parameters to food supply in Black-legged Kittiwakes *Rissa tridactyla*. *Ibis* 144:268-283.
- Gill, J.A., K. Norris, and W.J. Sutherland. 2001. Why behavioural responses may not reflect the population consequences of human disturbance. *Biological Conservation* 97:265-268.
- Gillings, S., P.W. Atkinson, A.J. Baker, K.A. Bennett, N.A. Clark, K.B. Cole, P.M. González, K.S. Kalasz, C.D.T. Minton, L.J. Niles, R.C. Porter, I. de Lima Serrano, H.P. Sitters, and J.L. Woods. 2009. Staging behavior in Red Knot (*Calidris canutus*) in Delaware Bay: Implications for monitoring mass and population size. *Auk* 126(1):54-63.
- González-Solís, J., J.P. Croxall, D. Oro, and X. Ruiz. 2007. Trans-equatorial migration and mixing in the wintering areas of a pelagic seabird. *Frontiers in Ecology and the Environment* 5(6):297-301.
- Goudie, R.I., and C.D. Ankney. 1986. Body size, activity budgets, and diets of sea ducks wintering in Newfoundland. *Ecology* 67(6):1475-1482.
- Gould, P.J., and D.J. Forsell. 1989. Techniques for shipboard surveys of marine birds. U.S. Fish and Wildlife Technical Report 25. Washington, D.C.: U.S. Fish and Wildlife Service.
- Granadeiro, J.P., M.P. Dias, R. Rebelo, C.D. Santos, and P. Catry. 2006. Numbers and population trends of Cory's Shearwater *Calonectris diomedea* at Selvagem Grande, Northeast Atlantic. *Waterbirds* 29(1):56-60.
- Grant, G.S. 1996. Near-shore feeding behavior of Common and Red-throated Loons in Onslow Bay, North Carolina. *Journal of the Elisha Mitchell Scientific Society* 112(3):103-107.
- Gratto-Trevor, C.L., and H.L. Dickson. 1994. Confirmation of elliptical migration in a population of Semipalmated Sandpipers. *Wilson Bulletin* 106(1):78-90.
- Groves, D.J., B. Conant, R.J. King, J.I. Hodges, and J.G. King. 1996. Status and trends of loon populations summering in Alaska, 1971-1993. *Condor* 98(2):189-195.
- Greenlaw, J.S., and W.J. Sheehan. 2003. The current status and history of Ring-billed Gulls (*Larus delawarensis*) in Maine. *Northeastern Naturalist* 10(1):55-66.
- Haefele, H.J., I. Sidor, D.C. Evers, D.E. Hoyt, and M.A. Pokras. 2005. Hematologic and physiologic reference ranges for free-ranging adult and young Common Loons (*Gavia immer*). *Journal of Zoo and Wildlife Medicine* 36(3):385-390.
- Haig, S.M., and J.H. Plissner. 1993. Distribution and abundance of Piping Plovers: Results and implications of the 1991 international census. *Condor* 95(1):145-156.
- Hall, C.S., and S.W. Kress. 2004. Comparison of Common Tern reproductive performance at four restored colonies along the Maine coast, 1991-2002. *Waterbirds* 27(4):424-433.
- Hamer, K.C., S. Lewis, S. Wanless, R.A. Phillips, T.N. Sherratt, E.M. Humphreys, J. Hennicke, and S. Garthe. 2006. Use of gannets to monitor prey availability in the northeast Atlantic Ocean: Colony size, diet and foraging behaviour. Pages 236-248 in I.L. Boyd, S. Wanless, and C.J. Camphuysen, eds. *Top predators in marine ecosystems*. New York: Cambridge University Press.

- Hamer, K.C., R.A. Phillips, J.K. Hill, S. Wanless, and A.G. Wood. 2001. Contrasting foraging strategies of gannets *Morus bassanus* at two North Atlantic colonies: Foraging trip duration and foraging area fidelity. *Marine Ecology Progress Series* 224:283-290.
- Hamer, K.C., R.A. Phillips, S. Wanless, M.P. Harris, and A.G. Wood. 2000. Foraging ranges, diets and feeding locations of gannets *Morus bassanus* in the North Sea: Evidence from satellite telemetry. *Marine Ecology Progress Series* 200:257-264.
- Haney, J.C. 1986. Seabird patchiness in tropical oceanic waters: The influence of *Sargassum* "reefs". *Auk* 103:141-151.
- Haney, J.C. 1987. Effects of a Gulf Stream warm-core ring on summer seabird distribution in the northwest Atlantic Ocean. *Limnology and Oceanography* 32(3):665-673.
- Haney, J.C. 1990. Winter habitat of Common Loons on the continental shelf of the southeastern United States. *Wilson Bulletin* 102(2):253-263.
- Haney, J.C., and D.S. Lee. 1994. Air-sea heat flux, ocean wind fields, and offshore dispersal of gulls. *Auk* 111(2):427-440.
- Haney, J.C., and P.A. McGillivray. 1985. Aggregations of Cory's Shearwaters (*Calonectris diomedea*) at Gulf Stream fronts. *Wilson Bulletin* 97(2):191-200.
- Harding, A.M.A., J.F. Piatt, and J.A. Schmutz. 2007. Seabird behavior as an indicator of food supplies: Sensitivity across the breeding season. *Marine Ecology Progress Series* 352:269-274.
- Hatch, J.J. 1995. Changing populations of Double-crested Cormorants. *Colonial Waterbirds* 18(Special Publication 1):8-24.
- Hebshi, A.J., D.C. Duffy, and K.D. Hyrenbach. 2008. Associations between seabirds and subsurface predators around Oahu, Hawaii. *Aquatic Biology* 4:89-98.
- Hecht, A., and S.M. Melvin. 2009. Population trends of Atlantic Coast Piping Plovers, 1986-2006. *Waterbirds* 32(1):64-72.
- Henkel, L.A., R.G. Ford, W.B. Tyler, and J.N. Davis. 2007. Comparison of aerial and boat-based survey methods for Marbled Murrelets *Brachyramphus marmoratus* and other marine birds. *Marine Ornithology* 35:145-151.
- Hicklin, P.W. 1987. The migration of shorebirds in the Bay of Fundy. *Wilson Bulletin* 99(4):540-570.
- Huettmann, F. 2000. Seabirds in the Marine Wilderness of the western North Atlantic. In A.E. Watson, G.H. Aplet, and J.C. Hendee, comps. Personal, societal, and ecological values of wilderness: Sixth World Wilderness Congress proceedings on research, management, and allocation, volume II. 24-29 October 1998. Bangalore, India. USDA Forest Proceedings RMRS-P-14. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.
- Huettmann, F., and A.W. Diamond. 2000. Seabird migration in the Canadian northwest Atlantic Ocean: Moulting locations and movement patterns of immature birds. *Canadian Journal of Zoology* 78:624-647.
- Huettmann, F., and A.W. Diamond. 2001. Seabird colony locations and environmental determination of seabird distribution: A spatially explicit breeding seabird model for the Northwest Atlantic. *Ecological Modelling* 141:261-298.
- Huettmann, F., and A.W. Diamond. 2006. Large-scale effects on the spatial distribution of seabirds in the Northwest Atlantic. *Landscape Ecology* 21:1089-1108.
- Huettmann, F., A.W. Diamond, B. Dalzell, and K. MacIntosh. 2005. Winter distribution, ecology and movements of Razorbills *Alca torda* and other auks in the outer Bay of Fundy, Atlantic Canada. *Marine Ornithology* 33:161-171.
- Hunt, G.L., Jr., and D.C. Schneider. 1987. Scale-dependent processes in the physical and biological environment of marine birds. Pages 7-41 in J. Croxall, ed. *Seabirds: Feeding ecology and role in marine ecosystems*. Vol. 2. Cambridge, United Kingdom: Cambridge University Press.
- Huntley, B., Y.C. Collingham, R.E. Green, G.M. Hilton, C. Rahbek, and S.G. Willis. 2006. Potential impacts of climate change upon geographical distributions of birds. *Ibis* 148(Suppl. 1):8-28.
- Hyrenbach, K.D., M.F. Henry, K.H. Morgan, D.W. Welch, and W.J. Sydeman. 2007. Optimizing the width of strip transects for seabird surveys from vessels of opportunity. *Marine Ornithology* 35:29-38.
- Johnsgard, P.A. 1993. *Cormorants, darters, and pelicans of the world*. Washington, D.C. and London, England: Smithsonian Institution Press.
- Johnson, C.M., and W.B. Krohn. 2001. The importance of survey timing in monitoring breeding seabird numbers. *Waterbirds* 24(1):22-33.

- Jones, J.J., and R.D. Drobney. 1986. Winter feeding ecology of scaup and Common Goldeneye in Michigan. *Journal of Wildlife Management* 50(3):446-452.
- Kadlec, J.A., and W.H. Drury. 1968. Structure of the New England Herring Gull population. *Ecology* 49(4):644-676.
- Kaiser, M.J., M. Galanidi, D.A. Showler, A.J. Elliott, R.W.G. Caldow, E.I.S. Rees, R.A. Stillman, and W.J. Sutherland. 2006. Distribution and behaviour of Common Scoter *Melanitta nigra* relative to prey resources and environmental parameters. In *Wind, Fire and Water: Renewable Energy and Birds*. *Ibis* 148(Suppl. 1):110-128.
- Kenow, K.P., D. Adams, N. Schoch, D.C. Evers, W. Hanson, D. Yates, L. Savoy, T.J. Fox, A. Major, R. Kratt, and J. Ozard. 2009. Migration patterns and wintering range of Common Loons breeding in the Northeastern United States. *Waterbirds* 32(2):234-247.
- Kenow, K.P., M.W. Meyer, D.C. Evers, D.C. Douglas, and J. Hines. 2002. Use of satellite telemetry to identify Common Loon migration routes, staging areas and wintering range. *Waterbirds* 25(4):449-458.
- Kerlinger, P. 1982. The migration of Common Loons through eastern New York. *Condor* 84(1):97-100.
- Kirk, D.A., G. Bellerby, R.W. Brook, D.V. Weseloh, and P.J. Ewins. 2008. Assessing seasonal variation in counts and movements of Bonaparte's Gulls *Larus philadelphia* on the Niagara River, Ontario. *Waterbirds* 31(2):193-202.
- Kitaysky, A.S., and E.G. Golubova. 2000. Climate change causes contrasting trends in reproductive performance of planktivorous and piscivorous alcids. *Journal of Animal Ecology* 69:248-262.
- Krementz, D.G., P.W. Brown, F.P. Kehoe, and C.S. Houston. 1997. Population dynamics of White-winged Scoters. *Journal of Wildlife Management* 61(1):222-227.
- Krohn, W.B., R.B. Allen, J.R. Moring, and A.E. Hutchinson. 1995. Double-crested Cormorants in New England: Population and management histories. *Colonial Waterbirds* 18(Special Publication 1):99-109.
- Lacroix, D.L., S. Boyd, D. Esler, M. Kirk, T. Lewis, and S. Lipovsky. 2005. Surf Scoters *Melanitta perspicillata* aggregate in association with ephemerally abundant polychaetes. *Marine Ornithology* 33:61-63.
- Lavers, J.L., I.L. Jones, and A.W. Diamond. 2007. Natal and breeding dispersal of Razorbills (*Alca torda*) in Eastern North America. *Waterbirds* 30(4):588-594.
- Lavers, J.L., I.L. Jones, and A.W. Diamond. 2008. Age at first return and breeding of Razorbills (*Alca torda*) on the Gannet Islands, Labrador and Machias Seal Island, New Brunswick. *Waterbirds* 31(1):30-34.
- Lavers, J.L., I.L. Jones, A.W. Diamond, and G.J. Robertson. 2008. Annual survival of North American Razorbills (*Alca torda*) varies with ocean climate indices. *Canadian Journal of Zoology* 86:51-61.
- Leafloor, J.O., J.E. Thompson, and C.D. Ankney. 1996. Body mass and carcass composition of fall migrant Oldsquaws. *Wilson Bulletin* 108(3):567-572.
- Lebaron, G.S., and F.H. Heppner. 1985. Food theft in the presence of abundant food in Herring Gulls. *Condor* 87(3):430-431.
- Lee, D.S. 1995. The pelagic ecology of Manx Shearwaters *Puffinus puffinus* off the southeastern United States of America. *Marine Ornithology* 23:107-119.
- Lewis, T.L., D. Esler, and W.S. Boyd. 2008. Foraging behavior of Surf Scoters (*Melanitta perspicillata*) and White-winged Scoters (*M. fusca*) in relation to clam density: Inferring food availability and habitat quality. *Auk* 125(1):149-157.
- Maccarone, A.D., and J.N. Brzorad. 2005. Foraging microhabitat selection by wading birds in a tidal estuary, with implications for conservation. *Waterbirds* 28(3):383-391.
- Mallory, M.L., J. Akearok, N.R. North, D. Vaughan Weseloh, and S. Lair. 2006. Movements of Long-tailed Ducks wintering on Lake Ontario to breeding areas in Nunavut, Canada. *Wilson Journal of Ornithology* 118(4):494-501.
- Manomet Bird Observatory. 1987. Cetacean and seabird assessment program. Prepared for National Marine Fisheries Service, Northeast Fisheries Center, Woods Hole, Massachusetts.
- Mawhinney, K., B. Allen, and B. Benedict. 1999. Status of the American Oystercatcher, *Haematopus palliatus*, on the Atlantic Coast. *Northeastern Naturalist* 6(2):177-182.
- Mawhinney, K., A.W. Diamond, P. Kehoe, and N. Benjamin. 1999. Status and productivity of Common Eiders in relation to Great Black-backed Gulls and Herring Gulls in the southern Bay of Fundy and the Northern Gulf of Maine. *Waterbirds* 22(2):253-262.

- McAlpine, D.F., N.R. Garrity, N. Benjamin, A.W. Diamond, L.C. Hughes, M.C. Sollows, D.M. Johnson, and M. Sheppard. 2005. Ring-billed Gulls (*Larus delawarensis*) nesting on Manawagonish Island, New Brunswick: Continuing expansion of the seabird community in the Bay of Fundy. *Northeastern Naturalist* 12(3):263-266.
- McCorquodale, D.B., and R.W. Knapp. 2003. Changes in numbers of wintering American Black Ducks and Mallards in urban Cape Breton Island, Nova Scotia. *Northeastern Naturalist* 10(3):297-304.
- McIntyre, J.W. 1978. Wintering behavior of Common Loons. *Auk* 95(2):396-403.
- McIntyre, J.W. 1994. Loons in freshwater lakes. *Hydrobiologia* 279/280:393-413.
- McIntyre, J.W., and J.F. Barr. 1983. Pre-migratory behavior of Common Loons on the autumn staging grounds. *Wilson Bulletin* 95(1):121-125.
- Melvin, S.M., A. Hecht, and C.R. Griffin. 1994. Piping Plover mortalities caused by off-road vehicles on Atlantic Coast beaches. *Wildlife Society Bulletin* 22(3):409-414.
- Miller, J.B. 1996. Red-breasted Mergansers in an urban winter habitat. *Journal of Field Ornithology* 67(3):477-483.
- Mitro, M.G., D.C. Evers, M.W. Meyer, and W.H. Piper. 2008. Common Loon survival rates and mercury in New England and Wisconsin. *Journal of Wildlife Management* 72(3):665-673.
- Monaghan, P., J.D. Uttley, and M.D. Burns. 1992. Effect of changes in food availability on reproductive effort in Arctic Terns *Sterna paradisaea*. *Ardea* 80:71-81.
- Moody, A.T., and K.A. Hobson. 2007. Alcid winter diet in the northwest Atlantic determined by stable isotope analysis. *Marine Ornithology* 35:39-46.
- Montevecchi, W.A. 2007. Binary dietary responses of northern gannets *Sula bassana* indicate changing food web and oceanographic conditions. *Marine Ecology Progress Series* 352:213-220.
- Montevecchi, W.A., and R.A. Myers. 1995. Prey harvests of seabirds reflect pelagic fish and squid abundance on multiple spatial and temporal scales. *Marine Ecology Progress Series* 117:1-9.
- Montevecchi, W.A., and R.A. Myers. 1996. Dietary changes of seabirds indicate shifts in pelagic food webs. *Sarsia* 80:313-322.
- Montevecchi, W.A., and R.A. Myers. 1997. Centurial and decadal oceanographic influences on changes in northern gannet populations and diets in the North-west Atlantic: Implications for climate change. *ICES Journal of Marine Science* 54:608-614.
- Montevecchi, W.A., V.L. Birt-Friesen, and D.K. Cairns. 1992. Reproductive energetics and prey harvest of Leach's Storm-petrels in the Northwest Atlantic. *Ecology* 73(3):823-832.
- Montevecchi, W.A., D.K. Cairns, and R.A. Myers. 2002. Predation on marine-phase Atlantic salmon (*Salmo salar*) by gannets (*Morus bassanus*) in the Northwest Atlantic. *Canadian Journal of Fisheries and Aquatic Sciences* 59:602-612.
- Montevecchi, W.A., S. Garthe, and G.K. Davoren. 2006. Biophysical influences on seabird trophic assessments. Pages 118-130 in I.L. Boyd, S. Wanless, and C.J. Camphuysen, eds. *Top predators in marine ecosystems*. New York: Cambridge University Press.
- Morrison, R.I.G., C. Downes, and B. Collins. 1994. Population trends of shorebirds on fall migration in eastern Canada 1974-1991. *Wilson Bulletin* 106(3):431-447.
- Morrison, R.I.G., R.E. Gill, Jr., B.A. Harrington, S. Skagen, G.W. Page, C.L. Gratto-Trevor, and S.M. Haig. 2000. Population estimates of Nearctic shorebirds. *Waterbirds* 23(3):337-352.
- Morrison, R.I.G., B.J. McCaffery, R.E. Gill, S.K. Skagen, S.L. Jones, G.W. Page, C.L. Gratto-Trevor, and B.A. Andres. 2006. Population estimates of North American shorebirds, 2006. *Wader Study Group Bulletin* 111:67-85.
- Moser, M.L., and D.S. Lee. 1992. A fourteen-year survey of plastic ingestion by western North Atlantic seabirds. *Colonial Waterbirds* 15(1):83-94.
- National Geographic Society. 1999. *Field guide to the birds of North America*. 3d ed. Washington, D.C.: National Geographic Society.
- Nelson, B. 1980. *Seabirds: Their biology and ecology*. London, England: Hamlyn's.
- Nettleship, D.N., and G. Chapdelaine. 1988. Population size and status of the Northern Gannet *Sula bassanus* in North America, 1984. *Journal of Field Ornithology* 59(2):120-127.
- Nevitt, G. 1999. Olfactory foraging in Antarctic seabirds: A species-specific attraction to krill odors. *Marine Ecology Progress Series* 177:235-241.
- Nevitt, G., K. Reid, and P. Trathan. 2004. Testing olfactory foraging strategies in an Antarctic seabird assemblage. *Journal of Experimental Biology* 207:3537-3544. doi:10.1242/jeb.01198



- Nicholls, J.L., and G.A. Baldassarre. 1990. Habitat associations of Piping Plovers wintering in the United States. *Wilson Bulletin* 102(4):581-590.
- Nisbet, I.C.T. 1989. Long-term ecological studies of seabirds. *Colonial Waterbirds* 12(2):143-147.
- Nisbet, I.C.T., and J.A. Spendelov. 1999. Contribution of research to management and recovery of the Roseate Tern: Review of a twelve-year project. *Waterbirds* 22(2):239-252.
- O'Connell, T.J., and R.A. Beck. 2003. Gull predation limits nesting success of terns and skimmers on the Virginia barrier islands. *Journal of Field Ornithology* 74(1):66-73.
- O'Driscoll, R.L. 1998. Description of spatial pattern in seabird distributions along line transects using neighbour K statistics. *Marine Ecology Progress Series* 165:81-94.
- Olsen, K.M., and H. Larsson. 1995. *Terns of Europe and North America*. New Jersey: Princeton University Press.
- Oro, D., and R.W. Furness. 2002. Influences of food availability and predation on survival of kittiwakes. *Ecology* 83(9):2516-2528.
- Ostrand, W.D., G.S. Drew, R.M. Suryan, and L.L. McDonald. 1998. Evaluation of radio-tracking and strip transect methods for determining foraging ranges of Black-legged Kittiwakes. *Condor* 100(4):709-718.
- Ouwehand, J., M.F. Leopold, and K.(C.J.) Camphuysen. 2004. A comparative study of the diet of Guillemots (*Uria aalge*) and Razorbills *Alca torda* killed during the *Tricolor* oil incident in the south-eastern North Sea in January 2003. *Atlantic Seabirds* 6(3/S.I.):147-164.
- Overholtz, W.J., and J.S. Link. 2006. Consumption impacts by marine mammals, fish, and seabirds on the Gulf of Maine-Georges Bank Atlantic herring (*Clupea harengus*) complex during the years 1977-2002. *ICES Journal of Marine Science Advance Access* doi:10.1093/icesjms/fsl009.
- Overholtz, W.J., S.A. Murawski, and K.L. Foster. 1991. Impact of predatory fish, marine mammals, and seabirds on the pelagic fish ecosystem of the northeastern USA. *ICES Marine Science Symposia* 193:198-208.
- Paredes, R., I.L. Jones, D.J. Boness, Y. Tremblay, and M. Renner. 2008. Sex-specific differences in diving behaviour of two sympatric Alcini species: Thick-billed Murres and Razorbills. *Canadian Journal of Zoology* 86:610-622. doi: 10.1139/Z08-036
- Parsons, K.C., S.R. Schmidt, and A.C. Matz. 2001. Regional patterns of wading bird productivity in northeastern US estuaries. *Waterbirds* 24(3):323-330.
- Paton, P.W.C., R.J. Harris, and C.L. Trocki. 2005. Distribution and abundance of breeding birds in Boston Harbor. *Northeastern Naturalist* 12(3) Boston Harbor Islands National Park Area: Natural Resources Overview:144-168.
- Payne, P.M., K.D. Powers, and J.E. Birds. 1983. Opportunistic feeding on whale fat by Wilson's Storm-petrels in the western North Atlantic. *Wilson Bulletin* 95(3):478-479.
- Payne, P.M., L.A. Selzer, and A.R. Knowlton. 1984. Distribution and density of cetaceans, marine turtles, and seabirds in the shelf waters of the northeastern United States, June 1980 - December 1983, based on shipboard observations. Contract Number NA-81-FA-C-00023. Prepared for National Marine Fisheries Service, Woods Hole, Massachusetts, by Manomet Bird Observatory, Manomet, Massachusetts.
- Perkins, S., T. Allison, A. Jones, and G. Sadoti. 2004. A survey of tern activity within Nantucket Sound, Massachusetts, during the 2003 breeding season. Final report. Prepared for Massachusetts Technology Collaborative, Westborough, Massachusetts, by Massachusetts Audubon Society, Lincoln, Massachusetts.
- Perkins, S., T. Allison, A. Jones, and G. Sadoti. 2004. A survey of tern activity within Nantucket Sound, Massachusetts during the 2003 fall staging period. Final report. Prepared for Massachusetts Technology Collaborative, Westborough, Massachusetts, by Massachusetts Audubon Society, Lincoln, Massachusetts.
- Perkins, S., A. Jones, and T. Allison. 2003. Survey of tern activity within Nantucket Sound, Massachusetts, during pre-migratory fall staging. Final report. Prepared for Massachusetts Technology Collaborative, Westborough, Massachusetts, by Massachusetts Audubon Society, Lincoln, Massachusetts.
- Perkins, S., G. Sadoti, T. Allison, and A. Jones. 2004. Relative waterfowl abundance within Nantucket Sound, Massachusetts during the 2003-2004 winter season. Prepared for Massachusetts Technology Collaborative, Westborough, Massachusetts, by Massachusetts Audubon Society, Lincoln, Massachusetts.

- Perry, M.C., A.M. Wells-Berlin, D.M. Kidwell, and P.C. Osenton. 2008. Temporal changes of populations and trophic relationships of wintering diving ducks in Chesapeake Bay. *Waterbirds* 30 (Special Publication 1):4-16.
- Piatt, J.F., and D.N. Nettleship. 1985. Diving depths of four alcids. *Auk* 102(2):293-297.
- Piatt, J.F., A.M.A. Harding, M. Shultz, S.G. Speckman, T.I. van Pelt, G.S. Drew, and A.B. Kettle. 2007. Seabirds as indicators of marine food supplies: Cairns revisited. *Marine Ecology Progress Series* 352:221-234.
- Piatt, J.F., W.J. Sydeman, and F. Wiese. 2007. Introduction: A modern role for seabirds as indicators. *Marine Ecology Progress Series* 352:199-204.
- Pierotti, R. 1982. Habitat selection and its effect on reproductive output in the Herring Gull in Newfoundland. *Ecology* 63(3):854-868.
- Pierotti, R. 1988. Associations between marine birds and mammals in the northwest Atlantic Ocean. Pages 31-58 in J. Burger, ed. *Seabirds and other marine vertebrates: Competition, predation, and other interactions*. New York: Columbia University Press.
- Piper, W.H., K.B. Tischler, and M. Klich. 2000. Territory acquisition in loons: The importance of take-over. *Animal Behaviour* 59:385-394.
- Poulton, V.K., J.R. Lovvorn, and J.Y. Takekawa. 2002. Clam density and scaup feeding behavior in San Pablo Bay, California. *Condor* 104:518-527.
- Powers, K.D. 1982. A comparison of two methods of counting birds at sea. *Journal of Field Ornithology* 53(3):209-222.
- Powers, K.D. 1983. Pelagic distributions of marine birds off the northeastern United States. NOAA Technical Memorandum NMFS-F/NEC-27:207.
- Powers, K.D., and J. Cherry. 1983. Loon migrations off the coast of the northeastern United States. *Wilson Bulletin* 95(1):125-132.
- Quillfeldt, P., R.A.R. McGill, and R.W. Furness. 2005. Diet and foraging areas of Southern Ocean seabirds and their prey inferred from stable isotopes: Review and case study of Wilson's Storm-petrel. *Marine Ecology Progress Series* 295:295-304.
- Rattner, B.A., and P.C. McGowan. 2007. Potential hazards of environmental contaminants to avifauna residing in the Chesapeake Bay estuary. *Waterbirds* 30(Special Publication 1):63-81.
- Reed, J.M., and S.J. Ha. 1983. Enhanced foraging efficiency in Forster's Terns. *Wilson Bulletin* 95(3):479-481.
- Regehr, H.M., and W.A. Montevecchi. 1997. Interactive effects of food shortage and predation on breeding failure of black-legged kittiwakes: Indirect effects of fisheries activities and implications for indicator species. *Marine Ecology Progress Series* 155:249-260.
- Regehr, H.M., and M.S. Rodway. 1999. Seabird breeding performance during two years of delayed capelin arrival in the northwest Atlantic: A multi-species comparison. *Waterbirds* 22(1):60-67.
- Ridgely, R.S., T.F. Allnut, T. Brooks, D.K. McNicol, D.W. Mehlman, B.E. Young, and J.R. Zook. 2005. Digital distribution maps of the birds of the Western Hemisphere, version 2.1. Arlington, Virginia: NatureServe.
- Ristow, D., P. Berthold, D. Hashmi, and U. Querner. 2000. Satellite tracking of Cory's Shearwater migration. *Condor* 102:696-699.
- Robert, M., R. McNeil, and A. Leduc. 1989. Conditions and significance of night feeding in shorebirds and other water birds in a tropical lagoon. *Auk* 106(1):94-101.
- Robertson, G.J., and F. Cooke. 1999. Winter philopatry in migratory waterfowl. *Auk* 116(1):20-34.
- Robertson, I., and M. Burchett. 1996. Seabirds. Pages 361-394 in G. Waller, ed. *SeaLife: A complete guide to the marine environment*. Washington, D.C.: Smithsonian Institution Press.
- Robinson, R.A., P.W. Atkinson, and N.A. Clark. 2003. Arrival and weight gain of Red Knot *Calidris canutus*, Ruddy Turnstone *Arenaria interpres* and Sanderling *Calidris alba* staging in Delaware Bay in spring. BTO Research Report number 307. Prepared by British Trust for Ornithology, Norfolk, United Kingdom.
- Rodgers, J.A., Jr., P.S. Kubitlis, and S.A. Nesbitt. 2005. Accuracy of aerial surveys of waterbird colonies. *Waterbirds* 28(2):230-237.
- Rogers, J.P., and L.J. Korschgen. 1966. Foods of Lesser Scaups on breeding, migration, and wintering areas. *Journal of Wildlife Management* 30(2):258-264.
- Rome, M.S., and J.C. Ellis. 2004. Foraging ecology and interactions between Herring Gulls and Great Black-backed Gulls in New England. *Waterbirds* 27(2):200-210.

- Ronconi, R.A., and A.E. Burger. 2009. Estimating seabird densities from vessel transects: Distance sampling and implications for strip transects. *Aquatic Biology* 4:297-309.
- Ronconi, R.A., and S.N.P. Wong. 2003. Estimates of changes in seabird numbers in the Grand Manan Archipelago, New Brunswick, Canada. *Waterbirds* 26(4):462-472.
- Rowlett, R.A. 1980. Observations of marine birds and mammals in the northern Chesapeake Bight. FWS/OBS-80/04. Washington, D.C.: U.S. Fish and Wildlife Service.
- Sabine, J.B., III, J.M. Meyers, C.T. Moore, and S.H. Schweitzer. 2008. Effects of human activity on behavior of breeding American Oystercatchers, Cumberland Island National Seashore, Georgia, USA. *Waterbirds* 31(1):70-82.
- Sabine, J.B., S.H. Schweitzer, and J.M. Meyers. 2006. Nest fate and productivity of American Oystercatchers, Cumberland Island National Seashore, Georgia. *Waterbirds* 29(3):308-314.
- Sadoti, G., T. Allison, S. Perkins, E. Jedrey, and A. Jones. 2005. A survey of tern activity within Nantucket Sound, Massachusetts during the 2004 fall staging period. Final report. Prepared for Massachusetts Technology Collaborative, Westborough, Massachusetts, by Massachusetts Audubon Society, Lincoln, Massachusetts.
- Sadoti, G., T. Allison, S. Perkins, and A. Jones. 2005. A survey of tern activity within Nantucket Sound, Massachusetts, during the 2004 breeding period. Final report. Prepared for Massachusetts Technology Collaborative, Westborough, Massachusetts, by Massachusetts Audubon Society, Lincoln, Massachusetts.
- Safina, C., and J. Burger. 1985. Common Tern foraging: Seasonal trends in prey fish densities and competition with bluefish. *Ecology* 66(5):1457-1463.
- Safina, C., J. Burger, M. Gochfeld, and R.H. Wagner. 1988. Evidence for prey limitation of Common and Roseate Tern reproduction. *Condor* 90(4):852-859.
- Salt, G.W., and D.E. Willard. 1971. The hunting behavior and success of Forster's Tern. *Ecology* 52(6):989-998.
- Sanders, F.J., T.M. Murphy, M.D. Spinks, and J.W. Coker. 2008. Breeding season abundance and distribution of American Oystercatchers in South Carolina. *Waterbirds* 31(2):268-273.
- Savard, J.-P.L., A. Reed, and L. Lesage. 2007. Chronology of breeding and molt migration in Surf Scoters (*Melanitta perspicillata*). *Waterbirds* 30(2):223-229.
- Schneider, D.C. 1997. Habitat selection by marine birds in relation to water depth. *Ibis* 139(1):175-178.
- Schneider, D.C., and D.C. Duffy. 1985. Scale-dependent variability in seabird abundance. *Marine Ecology Progress Series* 25:211-218.
- Schneider, D.C., and B.A. Harrington. 1981. Timing of shorebird migration in relation to prey depletion. *Auk* 98(4):801-811.
- Schneider, D.C., and J.F. Piatt. 1986. Scale-dependent correlation of seabirds with schooling fish in a coastal ecosystem. *Marine Ecology Progress Series* 32:237-246.
- Schreiber, E.A., and J. Burger, eds. 2002. *Biology of marine birds*. Boca Raton, Florida: CRC Press LLC.
- Schreiber, E.A., and J. Burger. 2002. Data on life-history characteristics, breeding range, size, and survival for seabird species. Pages 665-685 in E.A. Schreiber, and J. Burger, eds. *Biology of marine birds*. Boca Raton, Florida: CRC Press LLC.
- Scott, B.E., J. Sharples, S. Wanless, O.N. Ross, M. Frederiksen, and F. Daunt. 2006. The use of biologically meaningful oceanographic indices to separate the effects of climate and fisheries on seabird breeding success. Pages 46-62 in I.L. Boyd, S. Wanless, and C.J. Camphuysen, eds. *Top predators in marine ecosystems*. New York: Cambridge University Press.
- Sealy, S.G., and H.R. Carter. 2004. Inland occurrences of Dovekies in September in northeastern North America. *Northeastern Naturalist* 11(4):375-382.
- Shealer, D.A., and S.W. Kress. 1994. Post-breeding movements and prey selection of Roseate Terns at Stratton Island, Maine. *Journal of Field Ornithology* 65(3):349-362.
- Sherony, D.F., B.M. Ewald, and S. Kelling. 2000. Inland fall migration of Red-throated Loons. *Journal of Field Ornithology* 71(2):310-320.
- Sibley, D.A. 2000. *The Sibley guide to birds*. New York: Alfred A. Knopf, Inc.
- Sibley, C.G., and B.L. Monroe, Jr. 1990. *Distribution and taxonomy of birds of the world*. New Haven, Connecticut: Yale University Press.
- Skerratt, L.F., J.C. Franson, C.U. Meteyer, and T.E. Hollmén. 2005. Causes of mortality in sea ducks (Mergini) necropsied at the USGS-National Wildlife Health Center. *Waterbirds* 28(2):193-207.

- Skov, H., J. Durinck, and P. Andell. 2000. Associations between wintering avian predators and schooling fish in the Skagerrak-Kattegat suggest reliance on predictable aggregations of herring *Clupea harengus*. *Journal of Avian Biology* 31(2):135-143.
- Soper, T. 1989. *Oceans of birds*. London, England: David & Charles.
- Spear, L.B., and D.G. Ainley. 1997. Flight behaviour of seabirds in relation to wind direction and wing morphology. *Ibis* 139(2):221-233.
- Spear, L.B., and D.G. Ainley. 1997. Flight speed of seabirds in relation to wind speed and direction. *Ibis* 139(2):234-251.
- Spear, L., and D. Ainley. 1997. *Surveying marine birds and mammals at sea*. Alviso, California: H.T. Harvey & Associates.
- Spendelow, J.A., J.E. Hines, J.D. Nichols, I.C.T. Nisbet, G. Cormons, H. Hays, J.J. Hatch, and C.S. Mostello. 2008. Temporal variation in adult survival rates of Roseate Terns during periods of increasing and declining populations. *Waterbirds* 31(3):309-319.
- Spendelow, J.A., J.D. Nichols, I.C.T. Nisbet, H. Hays, G.D. Cormons, J. Burger, C. Safina, J.E. Hines, and M. Gochfeld. 1995. Estimating annual survival and movement rates of adults within a metapopulation of Roseate Terns. *Ecology* 76(8): 2415-2428.
- Sperduto, M.B., S.P. Powers, and M. Donlan. 2003. Scaling restoration to achieve quantitative enhancement of loon, seaduck, and other seabird populations. *Marine Ecology Progress Series* 264:221-232.
- Sprague, A.J., D.J. Hamilton, and A.W. Diamond. 2008. Site safety and food affect movements of Semipalmated Sandpipers (*Calidris pusilla*) migrating through the upper Bay of Fundy. *Avian Conservation and Ecology* 3(2):4. <http://www.ace-eco.org/vol3/iss2/art4/>.
- Staine, K.J., and J. Burger. 1994. Nocturnal foraging behavior of breeding Piping Plovers (*Charadrius melodus*) in New Jersey. *Auk* 111(3):579-587.
- Stenhouse, I.J., and W.A. Montevecchi. 1999. Increasing and expanding populations of breeding Northern Fulmars in Atlantic Canada. *Waterbirds* 22(3):382-391.
- Stenhouse, I.J., and W.A. Montevecchi. 1999. Indirect effects of the availability of capelin and fishery discards: Gull predation on breeding storm-petrels. *Marine Ecology Progress Series* 184:303-307.
- Stott, R.S., and D.P. Olson. 1972. An evaluation of waterfowl surveys on the New Hampshire coastline. *Journal of Wildlife Management* 36(2):468-477.
- Stott, R.S., and D.P. Olson. 1972. Differential vulnerability patterns among three species of sea ducks. *Journal of Wildlife Management* 36(3):775-783.
- Stott, R.S., and D.P. Olson. 1973. Food-habitat relationship of sea ducks on the New Hampshire coastline. *Ecology* 54(5):996-1007.
- Systad, G.H., J.O. Bustnes, and K.E. Erikstad. 2000. Behavioral responses to decreasing day length in wintering sea ducks. *Auk* 117(1):33-40.
- Tasker, M.L., C.J. Camphuysen, J. Cooper, S. Garthe, W.A. Montevecchi, and S.J.M. Blaber. 2000. The impacts of fishing on marine birds. *ICES Journal of Marine Science* 57:531-547. doi:10.1006/jmsc.2000.00714
- Tasker, M.L., P.H. Jones, T. Dixon, and B.F. Blake. 1984. Counting seabirds at sea from ships: A review of methods employed and a suggestion for a standardized approach. *Auk* 101:567-577.
- Terres, J.K. 1991. Red-throated Loon. Page 595 in *The Audubon Society encyclopedia of North American birds*. New York: Wings Books.
- Thompson, P.M. 2006. Identifying drivers of change: Did fisheries play a role in the spread of North Atlantic fulmars? Pages 143-156 in I.L. Boyd, S. Wanless, and C.J. Camphuysen, eds. *Top predators in marine ecosystems*. New York: Cambridge University Press.
- Thompson, S.A., and J.J. Price. 2006. Water clarity and diving behavior in wintering Common Loons. *Waterbirds* 29(2):169-175.
- Thompson, W.L. 2002. Towards reliable bird surveys: Accounting for individuals present but not detected. *Auk* 119(1):18-25.
- Tickell, W.L.N. 2000. *Albatrosses*. New Haven, Connecticut: Yale University Press.
- Traut, A.H., J.M. McCann, and D.F. Brinker. 2006. Breeding status and distribution of American Oystercatchers in Maryland. *Waterbirds* 29(3):302-307.
- Tsipoura, N. and Burger, J. 1999. Shorebird diet during spring migration stopover on Delaware Bay. *Condor* 101: 635-644.

- Tsipoura, N., and J. Burger. 1999. Shorebirds and surf clams: An unusual interaction. *Waterbirds* 22(1):140-141.
- Turnpenny, A.W.H., and J.R. Nedwell. 1994. The effects on marine fish, diving mammals and birds of underwater: Sound generated by seismic surveys. Consultancy Report. FCR 089/94. Prepared by Fawley aquatic research laboratories Ltd.
- Turpie, J.K., and P.A.R. Hockey. 1997. Adaptive variation in the foraging behaviour of Grey Plover *Pluvialis squatarola* and Whimbrel *Numenius phaeopus*. *Ibis* 139(2):289-298.
- USFWS (U.S. Fish and Wildlife Service). 2004. Shorebird Conservation Plan. High priority shorebirds – 2004. Unpublished report. Arlington, Virginia, U.S. Fish and Wildlife Service.
- USFWS (U.S. Fish and Wildlife Service). 2008. Birds of Conservation Concern 2008. Arlington, Virginia: U.S. Department of the Interior, Fish and Wildlife Service.
- Vanner, M. 2003. The encyclopedia of North American birds. New York: Parragon Publishing.
- Velásquez, C.R., and R.A. Navarro. 1993. The influence of water depth and sediment type on the foraging behavior of Whimbrels. *Journal of Field Ornithology* 64(2):149-157.
- Walsh, J., V. Elia, R. Kane, and T. Halliwell. 1999. Birds of New Jersey. Bernardsville: New Jersey Audubon Society.
- Wanless, S., M.P. Harris, and J.A. Morris. 1990. A comparison of feeding areas used by individual Common Murres (*Uria aalge*), Razorbills (*Alca torda*) and an Atlantic Puffin (*Fratercula arctica*) during the breeding season. *Colonial Waterbirds* 13(1):16-24.
- Warham, J. 1990. The petrels: Their ecology and breeding systems. New York: Academic Press.
- Wells, J.V., and P.D. Vickery. 1990. Willet nesting in sphagnum bog in eastern Maine. *Journal of Field Ornithology* 61(1):73-75.
- Wickett, M.R. 1999. Atlantic Puffin/Razorbill assessment. Final report. Prepared for Maine Department of Inland Fisheries and Wildlife, Wildlife Division.
- Wiese, F.K., W.A. Montevecchi, G.K. Davoren, F. Huettmann, A.W. Diamond, and J. Linke. 2001. Seabirds at risk around offshore oil platforms in the north-west Atlantic. *Marine Pollution Bulletin* 42(12):1285-1290.
- Wilhelm, S.I., S.G. Gilliland, G.J. Robertson, P.C. Ryan, and R.D. Elliot. 2008. Development and validation of a wing key to improve harvest management of alcids in the northwest Atlantic. *Journal of Wildlife Management* 72(4):1026-1034. doi: 10.2193/2007-232
- Williams, L.E., Jr. 1973. Spring migration of Common Loons from the Gulf of Mexico. *Wilson Bulletin* 85(2):230.
- Wilke, A.L., D.F. Brinker, B.D. Watts, A.H. Traut, R. Boettcher, J.M. McCann, B.R. Truitt, and P.P. Denmon. 2007. American Oystercatchers in Maryland and Virginia, USA: Status and distribution. *Waterbirds* 30(Special Publication 1):152-162.
- Wilke, A.L., B.D. Watts, B.R. Truitt, and R. Boettcher. 2005. Breeding season status of the American Oystercatcher in Virginia, USA. *Waterbirds* 28(3):308-315.
- Wilkinson, P.M., S.A. Nesbitt, and J.F. Parnell. 1994. Recent history and status of the eastern Brown Pelican. *Wildlife Society Bulletin* 22(3):420-430.
- Williams, B., D.F. Brinker, and B.D. Watts. 2007. The status of colonial nesting wading bird populations within the Chesapeake Bay and Atlantic barrier island-lagoon system. *Waterbirds* 30(Special Publication 1):82-92.
- Wilson, M.D., B.D. Watts, and D.F. Brinker. 2007. Status review of Chesapeake Bay marsh lands and breeding marsh birds. *Waterbirds* 30(Special Publication 1):122-137.
- Wilson, W.H., Jr. 1990. Relationship between prey abundance and foraging site selection by Semipalmated Sandpipers on a Bay of Fundy mudflat. *Journal of Field Ornithology* 61(1):9-19.
- Wires, L.R., and F.J. Cuthbert. 2000. Trends in Caspian Tern numbers and distribution in North America: A review. *Waterbirds: The International Journal of Waterbird Biology* 23(3):388-404.
- Wires, L.R., and F.J. Cuthbert. 2006. Historic populations of the Double-crested Cormorant (*Phalacrocorax auritus*): Implications for conservation and management in the 21<sup>st</sup> century. *Waterbirds* 29(1):9-37.



## APPENDIX A-3

### MARINE MAMMALS

- Accidental tourist: Manatee cruises Hudson River. Accessed 15 August 2006. <http://www.cnn.com/2006/US/08/07/manatee.hudson.river.ap/index.html>.
- Adams, L.D. and P.E. Rosel. 2006. Population differentiation of the Atlantic spotted dolphin (*Stenella frontalis*) in the western North Atlantic, including the Gulf of Mexico. *Marine Biology* 148:671-681.
- Aguilar, A. 2002. Fin whale *Balaenoptera physalus*. Pages 435-438 in Perrin, W.F., B. Würsig, and J.G.M. Thewissen, eds. *Encyclopedia of marine mammals*. San Diego, California: Academic Press.
- Allen, J.A. 1880. History of North American pinnipeds: A monograph of the walruses, sea-lions, sea-bears and seals of North America. U.S. Geological and Geographical Survey of the Territories, Miscellaneous Publications 12:1-785.
- Amaral, K., K. Fullard, G.A. Early, and B. Amos. 2001. Atlantic white-sided dolphin social structure based on stranding trends and genetics. Page 6 in Abstracts, Fourteenth Biennial Conference on the Biology of Marine Mammals. 28 November-3 December 2001. Vancouver, British Columbia.
- Andrews, J.C. and P.R. Mott. 1967. Gray seals at Nantucket, Massachusetts. *Journal of Mammalogy* 48(4):657-658.
- Anonymous. 1908a. A manatee in a net. *Forest and Stream* 71:532.
- Anonymous. 1908b. Live sea cow captured: Manatee caught in seine of fishermen off Ocean View, Va. *Washington Post* (23 September 1908):2.
- Anonymous. 2002. Manatee spotted in Richmond waters. *Daily Press* (23 June).
- Anonymous. 2004a. Right whale is spotted in Gulf of Mexico. *News Herald* (Tuesday, 6 July, 2004).
- Anonymous. 2004b. Whale I never! Divers rescue a 15 foot monster. *Royal Gazette* (Apr 29, 2004).
- Anonymous. 2008. Whales heard off New York City. *Marine Pollution Bulletin* 56(11):1818.
- Antonucci, C., R. Higgins, and C. Yuhas. n.d. Seals: Harbor seal (*Phoca vitulina concolor*), gray (or grey) seal (*Halichoerus grypus*). Fort Hancock, New Jersey: New Jersey Marine Sciences Consortium/New Jersey Sea Grant Extension Program.
- Antunes, R., L. Rendell, P. Hammond, and J. Gordon. 2007. Geographical variation of sperm whale coda repertoires in the North Atlantic. Page 19 in Abstracts, Twenty-first Conference of the European Cetacean Society. 22-25 April 2007. Donostia-San Sebastián, Spain.
- Armstrong, P., C. Arthur, and C. Murray. 2005. Migratory bottlenose dolphin movements and numbers along the mid-Atlantic coast and their correlation with remotely sensed chlorophyll-a and sea surface temperatures. Prepared for the Undergraduate Research Experience in Ocean and Marine Science Program, Elizabeth City State University, Elizabeth City, North Carolina.
- ASRG (Atlantic Scientific Review Group). 2005. Minutes of the Atlantic Scientific Review Group meeting held in Hollings Marine Laboratory, Charleston, South Carolina.
- AUTEC (Atlantic Undersea Test and Evaluation Center). 2000. Marine mammals of the Bahamas: A field guide for aerial and shipboard observers. Andros Island, The Bahamas: Atlantic Undersea Test and Evaluation Center.
- Bailey, J.W. 1948. The finback whale in Virginia waters. *Journal of Mammalogy* 29(2):183-184.
- Baird, R.W. 2001. Status of harbour seals, *Phoca vitulina*, in Canada. *Canadian Field-Naturalist* 115(4):663-675.
- Bajzak, C.E., M.O. Hammill, G. Stenson, and S.D. Côté. 2005. Sex differences in diving behaviour of hooded seals (*Cystophora cristata*) in the Gulf of St. Lawrence. Page 22 in Abstracts, Sixteenth Biennial Conference on the Biology of Marine Mammals. 12-16 December 2005. San Diego, California.
- Ballard, K.A. and K.M. Kovacs. 1995. The acoustic repertoire of hooded seals (*Cystophora cristata*). *Canadian Journal of Zoology* 73:1362-1374.
- Baraff, L.S. and R.A. Asmutis-Silvia. 1998. Long-term association of an individual long-finned pilot whale and Atlantic white-sided dolphins. *Marine Mammal Science* 14(1):155-161.
- Baraff, L.S., P.J. Clapham, D.K. Mattila, and R.S. Bowman. 1991. Feeding behavior of a humpback whale in low-latitude waters. *Marine Mammal Science* 7(2):197-202.
- Barco, S., W. McLellan, J. Allen, R. Asmutis, R. Mallon-Day, E. Meagher, D.A. Pabst, J. Robbins, R. Seton, W.M. Swingle, M. Weinrich, and P. Clapham. 2002. Population identity of humpback

- whales (*Megaptera novaeangliae*) in the waters of the U.S. mid-Atlantic states. *Journal of Cetacean Research and Management* 4(2):135-141.
- Barco, S.G. 1995. Population patterns of bottlenose dolphins (*Tursiops truncatus*) in the nearshore waters of Virginia Beach, Virginia. Master's thesis, James Madison University.
- Barco, S.G. and W.M. Swingle. 1996. Sighting patterns of coastal migratory bottlenose dolphins (*Tursiops truncatus*) in the near shore waters of Virginia and North Carolina. Scientific Report 1996 Series 001. Virginia Beach, Virginia: Virginia Marine Science Museum.
- Barco, S.G., N.I. Bowles, K.A. Rittmaster, W.M. Swingle, and V.G. Thayer. 1997. The Virginia/North Carolina coastal dolphin interstate. Abstracts, Fifth Annual Coastal Dolphin Conference. 2-4 April 1997. Wilmington, North Carolina.
- Barco, S.G., W.M. Swingle, and H.C. Morrisette. 2004. Final report: MONAH mid-Atlantic survey effort Feb-March 2004. Virginia Aquarium Foundation Scientific Report 2004-02. Prepared for National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Northeast Fisheries Science Center, Woods Hole, Massachusetts by Virginia Aquarium and Marine Science Center, Virginia Beach, Virginia.
- Barco, S.G., W.M. Swingle, W.A. McLellan, and D.A. Pabst. 1999. Using photo-identification to characterize seasonally occurring bottlenose dolphins in Virginia Beach, VA. Page 11 in Abstracts, Thirteenth Biennial Conference on the Biology of Marine Mammals. 28 November-3 December 1999. Wailea, Hawaii.
- Barco, S.G., W.M. Swingle, W.A. McLellan, R.N. Harris, and D.A. Pabst. 1999. Local abundance and distribution of bottlenose dolphins (*Tursiops truncatus*) in the nearshore waters of Virginia Beach, Virginia. *Marine Mammal Science* 15(2):394-408.
- Barlas, M.E. 1999. The distribution and abundance of harbor seals (*Phoca vitulina concolor*) and gray seals (*Halichoerus grypus*) in southern New England, Winter 1998-Summer 1999. Master's thesis, Boston University.
- Barros, N.B. and A.A. Myrberg, Jr. 1987. Prey detection by means of passive listening in bottlenose dolphins (*Tursiops truncatus*). *Journal of the Acoustical Society of America* 82(Supplement 1):S65.
- Barros, N.B., D.K. Odell, and G.W. Patton. 1990. Ingestion of plastic debris by stranded marine mammals from Florida. Page 247 in Shomura, R.S. and M.L. Godfrey, eds. *Proceedings of the Second International Conference on Marine Debris*, 2-7 April 1989, Honolulu, Hawaii. NOAA Technical Memorandum NMFS-SWFC-154.
- Baumgartner, M.F. 1997. The distribution of Risso's dolphin (*Grampus griseus*) with respect to the physiography of the northern Gulf of Mexico. *Marine Mammal Science* 13(4):614-638.
- Baumgartner, M.F. and B.R. Mate. 2003. Summertime foraging ecology of North Atlantic right whales. *Marine Ecology Progress Series* 264:123-135.
- Baumgartner, M.F., D.M. Fratantoni, and C.W. Clark. 2005. Advancing marine mammal ecology research with simultaneous oceanographic and acoustic observations from autonomous underwater vehicles. Pages 27-28 in Abstracts, Sixteenth Biennial Conference on the Biology of Marine Mammals. 12-16 December 2005. San Diego, California.
- Beardsley, R.C., A.W. Epstein, C. Chen, K.F. Wishner, M.C. Macaulay, and R.D. Kenney. 1996. Spatial variability in zooplankton abundance near feeding right whales in the Great South Channel. *Deep-Sea Research* 43(7-8):1601-1625.
- Beck, C. 2006. Florida manatee travels to Cape Cod, Massachusetts. *SireNews* 46:15-16.
- 'Behemoths in the Bay': A whale of a change in attitude was needed for species to stay afloat. Accessed 23 June 2009. <http://www.bayjournal.com/article.cfm?article=2090&print=yes>.
- Benjaminsen, T. and I. Christensen. 1979. The natural history of the bottlenose whale, *Hyperoodon ampullatus* (Forster). Pages 143-164 in Winn, H.E. and B.L. Olla, eds. *Behavior of marine animals: Current perspectives in research*. Volume 3: Cetaceans. New York, New York: Plenum Press.
- Bermuda dolphin tracking project 2004. Accessed 18 August 2005. <http://dolphinquest.org/learningquest/researchquest/bermutatracking/bertrack2004.php>.
- Bermuda dolphin tracking project 2005. Accessed 18 August 2005. <http://dolphinquest.org/learningquest/researchquest/bermutatracking/bertrack2005.php>.

- Bernard, H.J. and S.B. Reilly. 1999. Pilot whales *Globicephala* Lesson, 1828. Pages 245-279 in Ridgway, S.H. and R. Harrison, eds. Handbook of marine mammals. Volume 6: The second book of dolphins and the porpoises. San Diego, California: Academic Press.
- Blaylock, R.A. 1985. The marine mammals of Virginia with notes on identification and natural history. VIMS Education Series No. 35 (VSG-85-05). Gloucester Point, Virginia: Sea Grant Program, Virginia Institute of Marine Science.
- Blaylock, R.A. 1988. Distribution and abundance of the bottlenose dolphin, *Tursiops truncatus* (Montagu, 1821), in Virginia. Fishery Bulletin 86(4):797-805.
- Blaylock, R.A. 1995. A pilot study to estimate abundance of the U.S. Atlantic coastal migratory bottlenose dolphin. NOAA Technical Memorandum NMFS-SEFSC-362:1-9.
- Blaylock, R.A., W. Hoggard, and K.D. Mullin. 1995. Abundance of bottlenose dolphins in the coastal U.S. mid-Atlantic in 1995. Pascagoula, Mississippi: National Marine Fisheries Sciences, Southeast Fisheries Science Center
- BLM (Bureau of Land Management). 1974. Socio-economic and environmental inventory of the North Atlantic region, including the outer continental shelf and adjacent waters from Sandy Hook, New Jersey, to Bay of Fundy. Volume I through III. [CD-ROM]. South Portland, Maine: The Research Institute of the Gulf of Maine.
- Bonde, R.K., A.A. Aguirre, and J. Powell. 2004. Manatees as sentinels of marine ecosystem health: Are they the 2000-pound canaries? EcoHealth 1:255-262.
- Boness, D.J., W.D. Bowen, B.M. Buhleier, and G.J. Marshall. 2006. Mating tactics and mating system of an aquatic-mating pinniped: The harbor seal, *Phoca vitulina*. Behavioral Ecology and Sociobiology 61:119-130.
- Bonner, W.N. 1981. Grey seal: *Halichoerus grypus* Fabricius, 1791. Pages 111-144 in Ridgway, S.H. and R.J. Harrison, eds. Handbook of marine mammals. Volume 2: Seals. London, England: Academic Press.
- Borchers, D.L. 2005. Estimating detection probability from line-transect cetacean surveys when detection on the line is not certain: An overview. European Cetacean Society Newsletter 44(Special Issue):4-11.
- Borggaard, D., J. Lien, and P. Stevick. 1999. Assessing the effects of industrial activity on large cetaceans in Trinity Bay, Newfoundland (1992-1995). Aquatic Mammals 25(3):149-161.
- Boskovic, R., K.M. Kovacs, M.O. Hammill, and B.N. White. 1996. Geographic distribution of mitochondrial DNA haplotypes in grey seals (*Halichoerus grypus*). Canadian Journal of Zoology 74:1787-1796.
- Bossart, G.D., J.D. Goldstein, M.E. Murdoch, P.A. Fair, and S.D. McCulloch. 2006. Health assessment of bottlenose dolphins in the Indian River Lagoon, Florida and Charleston, South Carolina. Harbor Branch Oceanographic Institution Technical Report 93. Fort Pierce, Florida: Harbor Branch Oceanographic Institution.
- Bossart, G.D., L. Hansen, J.D. Goldstein, D. Kilpatrick, S. Bechdel, E. Howells, K. Kroell, M. De Sieyes, M.K. Stolen, W.K. Durden, J.S. Reif, R.H. Defran, and S.D. McCulloch. 2007. Pathological findings in a rare mass stranding of melon-headed whales (*Peponocephala electra*) in Florida. Aquatic Mammals 33(2):235-240.
- Bossart, G.D., R. Meisner, R. Varela, M. Mazzoil, S.D. McCulloch, D. Kilpatrick, R. Friday, E. Murdoch, B. Mase, and R.H. Defran. 2003. Pathologic findings in stranded Atlantic bottlenose dolphins (*Tursiops truncatus*) from the Indian River Lagoon, Florida. Florida Scientist 66(3):226-238.
- Bottomley, J. and J.A. Theriault. 2002. DRDC Atlantic Q-271 SEA TRIAL - Marine Mammal Impact Mitigation Plan. Defence R&D Canada Technical Memorandum DRDC Atlantic TM 2002-174:1-15.
- Boulva, J. 1973. The harbour seal, *Phoca vitulina concolor*, in eastern Canada. Ph.D. diss., Dalhousie University.
- Boulva, J. and I.A. McLaren. 1979. Biology of the harbor seal, *Phoca vitulina*, in eastern Canada. Bulletin of the Fisheries Research Board of Canada 200:1-24.
- Bowen, W.D. and D.B. Siniff. 1999. Distribution, population biology, and feeding ecology of marine mammals. Pages 423-484 in Reynolds III, J.E. and S.A. Rommel, eds. Biology of marine mammals. Washington, D.C.: Smithsonian Institution Press.
- Bowen, W.D., C.A. Beck, S.J. Iverson, D. Austin, and J.I. McMillan. 2006. Linking predator foraging behaviour and diet with variability in continental shelf ecosystems: Grey seals of eastern Canada. Pages 63-81 in Boyd, I.L., S. Wanless, and C.J. Camphuysen, eds. Top predators in marine



- ecosystems: Their role in monitoring and management. New York, New York: Cambridge University Press.
- Bowen, W.D., D.J. Boness, and S.J. Iverson. 1999. Diving behaviour of lactating harbour seals and their pups during maternal foraging trips. *Canadian Journal of Zoology* 77:978-988.
- Bowen, W.D., J. McMillan, and R. Mohn. 2003. Sustained exponential population growth of grey seals at Sable Island, Nova Scotia. *ICES Journal of Marine Science* 60:1265-1274.
- Bowles, N.I., S.G. Barco, K.A. Rittmaster, V.G. Thayer, R. Mallon-Day, and C. Jones. 1995. Resights of bottlenose dolphins between three states along the east coast of the U.S. Page 15 in Abstracts, Eleventh Biennial Conference on the Biology of Marine Mammals. 14-18 December 1995. Orlando, Florida.
- Bowman, R., E. Lyman, D. Mattila, C. Mayo, and M. Brown. 2001. Habitat management lessons from a satellite-tracked right whale. Page 31 in Abstracts, Fourteenth Biennial Conference on the Biology of Marine Mammals. 28 November-3 December 2001. Vancouver, British Columbia.
- Brimley, H.H. 1937. The false killer whale on the North Carolina coast. *Journal of Mammalogy* 18(1):71-73.
- Brinkley, E.S. and J.B. Patteson. 2005. Observations on Blainville's beaked whales, *Mesoplodon densirostris* (Blainville, 1817), at Poor Man's Canyon, Virginia. *Banisteria* 25:45-49.
- Brown, J.T. 2007. Aspects of the ecology of bottlenose dolphins (*Tursiops truncatus*) in New Jersey. Master's Thesis, Rutgers University.
- Brown, M.W., O.C. Nichols, and M.K. Marx. 2003. Surveillance of North Atlantic right whales in Cape Cod Bay and adjacent waters -- 2003. Pages 7-31 in Center for Coastal Studies, ed. Surveillance, monitoring and management of North Atlantic right whales in Cape Cod Bay and adjacent waters -- 2003. Provincetown, Massachusetts: Center for Coastal Studies.
- Brown, M.W., O.C. Nichols, M.K. Marx, and J.N. Ciano. 2002. Surveillance of North Atlantic right whales in Cape Cod Bay and adjacent waters -- 2002. Pages 3-28 in Center for Coastal Studies, ed. Surveillance, monitoring and management of North Atlantic right whales in Cape Cod Bay and adjacent waters -- 2002. Provincetown, Massachusetts: Center for Coastal Studies.
- Brown, M.W., S.D. Kraus, D.E. Gaskin, and B. White. 1994. Sexual composition and analysis of reproductive females in the North Atlantic right whale, *Eubalaena glacialis*, population. *Marine Mammal Science* 10(3):253-265.
- Buckland, S.T. 2001. Shipboard sighting surveys: Methodological developments to meet practical needs. *Bulletin of the International Statistical Institute, 53rd Session Proceedings, Book 1*:315-318.
- Buckland, S.T., D.R. Anderson, K.P. Burnham, J.L. Laake, D.L. Borchers, and L. Thomas. 2001. Introduction to distance sampling: Estimating abundance of biological populations. New York, New York: Oxford University Press.
- Buckland, S.T., D.R. Anderson, K.P. Burnham, J.L. Laake, D.L. Borchers, and L. Thomas, eds. 2004. Advanced distance sampling. New York, New York: Oxford University Press.
- Bullis Jr., H.R. and J.C. Moore. 1956. Two occurrences of false killer whales, and a summary of American records. *American Museum Novitates* 1756:1-5.
- Bullock, T.H., T.J. O'Shea, and M.C. McClune. 1982. Auditory evoked potentials in the West Indian manatee (*Sirenia: Trichechus manatus*). *Journal of Comparative Physiology* 148:547-554.
- Burdett, L.G. and W.E. McFee. 2004. Bycatch of bottlenose dolphins in South Carolina, USA, and an evaluation of the Atlantic blue crab fishery categorisation. *Journal of Cetacean Research and Management* 6(3):231-240.
- Burn, D.M. and G.P. Scott. 1988. Synopsis of available information on marine mammal-fisheries interactions in the southeastern United States: Preliminary report. Contribution No. CRD-87/88-26. Miami, Florida: National Marine Fisheries Service.
- Caldwell, D.K. and F.B. Golley. 1965. Marine mammals from the coast of Georgia to Cape Hatteras. *Journal of the Elisha Mitchell Scientific Society* 81(1):24-32.
- Caldwell, D.K. and M.C. Caldwell. 1966. Observations on the distribution, coloration, behavior and audible sound production of the spotted dolphin, *Stenella plagiodon* (Cope). *Los Angeles County Museum Contributions in Science* 104:1-28.
- Caldwell, D.K. and M.C. Caldwell. 1972. The world of the bottlenosed dolphin. Philadelphia, Pennsylvania: J.B. Lippincott Company.
- Caldwell, D.K. and M.C. Caldwell. 1974. Marine mammals from the southeastern United States coast: Cape Hatteras to Cape Canaveral. Pages 704-772 in Virginia Institute of Marine Science, ed. A

- socioeconomic environmental baseline summary for the South Atlantic region between Cape Hatteras, North Carolina, and Cape Canaveral, Florida. Volume 3. Washington, D.C.: Bureau of Land Management.
- Caldwell, D.K., H. Neuhauser, M.C. Caldwell, and H.W. Coolidge. 1971. Recent records of marine mammals from the coasts of Georgia and South Carolina. *Cetology* 5:1-12.
- Campbell, R.R. 1987. Status of the hooded seal, *Cystophora cristata*, in Canada. *Canadian Field-Naturalist* 101:253-265.
- Cape Wind Associates LLC. 2007. Cape Wind energy project: Final environmental impact report/development of regional impact. Prepared for Cape Wind Associates, LLC., Boston, Massachusetts by ESS Group, Inc., Wellesley, Massachusetts.
- CETAP (Cetacean and Turtle Assessment Program). 1982. Characterization of marine mammals and turtles in the Mid- and North Atlantic areas of the U.S. Outer Continental Shelf- Final report of the Cetacean and Turtle Assessment Program. Prepared for U.S. Bureau of Land Management, Washington, D.C. by Cetacean and Turtle Assessment Program, University of Rhode Island, Graduate School of Oceanography, Kingston, Rhode Island.
- Charif, R.A., P.J. Clapham, and C.W. Clark. 2001. Acoustic detections of singing humpback whales in deep waters off the British Isles. *Marine Mammal Science* 17(4):751-768.
- "Chessie" back at home after Bay trip. Accessed 23 June 2009. <http://www.bayjournal.com/article.cfm?article=510>. Volume 6.
- Chessie the manatee on a comeback tour after 5-year hiatus. Accessed 23 June 2009. <http://www.usgs.gov/newsroom/article.asp?ID=443>.
- Clancy, P. 2007. A whale of a winter weather and more food have increased sightings of younger whales, from Hatteras north to Cape Henry. *The Virginian Pilot* (02 February):B1.
- Clapham, P.J. 1992. Age at attainment of sexual maturity in humpback whales, *Megaptera novaeangliae*. *Canadian Journal of Zoology* 70:1470-1472.
- Clapham, P.J. and D.K. Mattila. 1990. Humpback whale songs as indicators of migration routes. *Marine Mammal Science* 6(2):155-160.
- Clapham, P.J. and I.E. Seipt. 1991. Resightings of independent fin whales, *Balaenoptera physalus*, on maternal summer ranges. *Journal of Mammalogy* 72(4):88-90.
- Clapham, P.J. and J.G. Mead. 1999. *Megaptera novaeangliae*. *Mammalian Species* 604:1-9.
- Clapham, P.J., L.S. Baraff, C.A. Carlson, M.A. Christian, D.K. Mattila, C.A. Mayo, M.A. Murphy, and S. Pittman. 1993. Seasonal occurrence and annual return of humpback whales, *Megaptera novaeangliae*, in the southern Gulf of Maine. *Canadian Journal of Zoology* 71:440-443.
- Claridge, D. 1998. Whales of the Bahamas. Pages 311-312 in Wilson, M., ed. *The Bahamas Cruising Guide*. Camden, Maine: International Marine.
- Clark, C.W. 1995. Annex M. Matters arising out of the discussion of blue whales: Annex M1. Application of US Navy underwater hydrophone arrays for scientific research on whales. *Reports of the International Whaling Commission* 45:210-212.
- Clark, C.W. and P.J. Clapham. 2004. Acoustic monitoring on a humpback whale (*Megaptera novaeangliae*) feeding ground shows continual singing into late spring. *Proceedings of the Royal Society B: Biological Sciences* 271:1051-1057.
- Clark, C.W., C. Tremblay, J. Kemp, and K. Newhal. 2007. Acoustic monitoring and near real-time reporting of northern right whales (*Eubalaena glacialis*) to mitigate ship strikes in the Boston shipping lanes. Page 5 in Abstracts, 2007 North Atlantic Right Whale Consortium Annual Meeting. 7-8 November 2007. New Bedford, Massachusetts.
- Clark, C.W., M. Brown, S. Mayo, M. Bessinger, O. Nichols, and R. Kenney. 2003. The seasonal occurrence of northern right whales, *Eubalaena glacialis*, in a critical habitat: When, why and how many? Page 34 in Abstracts, Fifteenth Biennial Conference on the Biology of Marine Mammals. 14-19 December 2003. Greensboro, North Carolina.
- Cleator, H.J. and I. Stirling. 1990. Winter distribution of bearded seals (*Erignathus barbatus*) in the Penny Strait area, Northwest Territories, as determined by underwater vocalizations. *Canadian Journal of Fisheries and Aquatic Sciences* 47:1071-1076.
- Colborn, K.E. 1999. Interactions between humans and bottlenose dolphins near Panama City, FL. Wild Dolphin Swim Program Workshop. A workshop held in conjunction with the Thirteenth Biennial Conference on the Biology of Marine Mammals. 28 November 1999. Maui, Hawaii.

- Cole, T. and M. Nelson. 2004. Cruise report: *Delaware II* Large Whale Survey DE 04-11. July 26 - August 19, 2004. Unpublished cruise report. Woods Hole, Massachusetts: National Marine Fisheries Service.
- Cole, T., D. Hartley, and M. Garron. 2006. Mortality and serious injury determinations for baleen whale stocks along the eastern seaboard of the United States, 2000-2004. Northeast Fisheries Science Center Reference Document 06-04. Woods Hole, Massachusetts: National Marine Fisheries Service.
- Cole, T., P. Duley, N. Lysiak, J. Nicolas, M. Niemeyer, and C. Tremblay. 2005. Cruise report: *Delaware II* Large Whale Survey DE05-10. July 28 - August 16, 2005. Unpublished cruise report. Woods Hole, Massachusetts: National Marine Fisheries Service.
- Cole, T.V.N., P. Gerrior, and R.L. Merrick. 2007. Methodologies of the NOAA National Marine Fisheries Service aerial survey program for right whales (*Eubalaena glacialis*) in the Northeast U.S., 1998-2006. Woods Hole, Massachusetts: National Marine Fisheries Service.
- Coltman, D.W., G. Stenson, M.O. Hammill, T. Haug, C.S. Davis, and T.L. Fulton. 2007. Panmictic population structure in the hooded seal (*Cystophora cristata*). *Molecular Ecology* 16:1639-1648.
- Connor, P.F. 1971. The mammals of Long Island, New York. New York State Museum Bulletin 416:1-78.
- Cope, E.D. 1865. Note on a species of whale occurring on the coasts of the United States. *Proceedings of the Academy of Natural Sciences of Philadelphia* 15:168-169.
- Corkeron, P.J. 2009. Reconsidering the science of scientific whaling. *Marine Ecology Progress Series* 375:305-309.
- Cornejo, C., W.M. Swingle, and S. Barco. 2000. A new database for whale sightings in Virginia and North Carolina. Page 2 in Abstracts, Eighth Annual Atlantic Coastal Dolphin Conference. 24-26 March 2000. Wilmington, North Carolina.
- Cortese, N.A. 2000. Delineation of bottlenose dolphin populations in the western Atlantic Ocean using stable isotopes. Master's thesis, University of Virginia.
- COSEWIC (Committee on the Status of Endangered Wildlife in Canada). 1996. COSEWIC assessment and update status report on the northern bottlenose whale *Hyperoodon ampullatus* (Scotian shelf population) in Canada. Ottawa, Ontario: Committee on the Status of Endangered Wildlife in Canada.
- COSEWIC (Committee on the Status of Endangered Wildlife in Canada). 2004. COSEWIC assessment and update status report on the beluga whale *Delphinapterus leucas* in Canada. Ottawa, Ontario: Committee on the Status of Endangered Wildlife in Canada.
- Cottingham, D. 2003. From David Cottingham, Marine Mammal Commission, Bethesda, MD, to Mary Colligan, National Fisheries Service, Gloucester, MA, regarding critical habitat boundaries of northern right whales off the northeastern and southeastern US. 27 February.
- Cox, T.M., A.J. Read, S.G. Barco, J. Evans, D.P. Gannon, H. Koopman, W.A. McLellan, K. Murray, J.R. Nicolas, D.A. Pabst, C.W. Potter, W.M. Swingle, V.G. Thayer, K.M. Touhey, and A.J. Westgate. 1998. Documenting the bycatch of harbor porpoises, *Phocoena phocoena*, in coastal gillnet fisheries from stranded carcasses. *Fishery Bulletin* 96:727-734.
- Cresswell, G. and D. Walker. 2002. Using visual clues to assess group composition of Cuvier's beaked whale (*Ziphius cavirostris*) in the North Atlantic. Page 75 in Abstracts, Sixteenth Annual Conference of the European Cetacean Society. 7-11 April 2002. Liege, Belgium.
- CSN (Caribbean Stranding Network). 1994. Moises the manatee released. *SireNews* 22:10.
- Curry, B.E. 1997. Phylogenetic relationships among bottlenose dolphins (genus *Tursiops*) in a worldwide context. Ph.D. diss., Texas A&M University.
- D'Agrosa, C., A.A. Hohn, and P.N. Halpin. 2001. Spatial analysis of dolphin and gillnet distribution along the Mid-Atlantic coast. Pages 51-52 in Abstracts, Fourteenth Biennial Conference on the Biology of Marine Mammals. 28 November-3 December 2001. Vancouver, British Columbia.
- Dahlheim, M.E. and J.E. Heyning. 1999. Killer whale *Orcinus orca* (Linnaeus, 1758). Pages 281-322 in Ridgway, S.H. and R. Harrison, eds. *Handbook of marine mammals. Volume 6: The second book of dolphins and the porpoises*. San Diego, California: Academic Press.
- Dalebout, M.L., D.E. Ruzzante, H. Whitehead, and N.I. Øien. 2006. Nuclear and mitochondrial markers reveal distinctiveness of a small population of bottlenose whales (*Hyperoodon ampullatus*) in the western North Atlantic. *Molecular Ecology* 15:3115-3129.

- De Kay, J.E. 1842. Zoology of New York or the New-York fauna; comprising detailed descriptions of all the animals hitherto observed within the state of New-York. Part I: Mammalia. Albany, New York: White & Visscher.
- Dead whale retrieved from Brooklyn Bay. Accessed 3 July 2007. <http://www.cbsnews.com/stories/2007/04/19/tech/main2704951.shtml>.
- Degregory, L. 1995. Several harbor seals seen along Outer Banks. The Virginian-Pilot (24 January):B1.
- DeHart, P.A.P. 2002. The distribution and abundance of harbor seals (*Phoca vitulina concolor*) in the Woods Hole region. Master's thesis, Boston University.
- DeLorenzo Costa, A., E.G. Durbin, and C.A. Mayo. 2006. Variability in the nutritional value of the major copepods in Cape Cod Bay (Massachusetts, USA) with implications for right whales. Marine Ecology 27:109-123.
- Deutsch, C.J., J.P. Reid, R.K. Bonde, D.E. Easton, H.I. Kochman, and T.J. O'Shea. 2003. Seasonal movements, migratory behavior, and site fidelity of West Indian manatees along the Atlantic coast of the United States. Wildlife Monographs 151:1-77.
- DFO (Department of Fisheries and Oceans Canada) and CSAS (Canadian Science Advisory Secretariat). 2001. Proceedings of the International Harbour Porpoise Workshop, 26-28 March, 2001, Bedford Institute of Oceanography, Dartmouth, Nova Scotia, Canada. Canadian Science Advisory Secretariat Proceedings Series 2001/042. Ottawa, Ontario: Department of Fisheries and Oceans.
- DFO (Department of Fisheries and Oceans). 2003. Atlantic sea hunt 2003-2004 management plan. Ottawa, Ontario: Fisheries and Oceans Canada.
- DFO (Department of Fisheries and Oceans). 2003. Notices to mariners: General guidelines for marine mammal critical areas. Ottawa, Ontario: Department of Fisheries and Oceans.
- DFO (Department of Fisheries and Oceans). 2005. Stock assessment of northwest Atlantic harp seals (*Pagophilus groenlandicus*). Canadian Science Advisory Secretariat Research Document 2005/037. Ottawa, Ontario: Department of Fisheries and Oceans.
- Di Iorio, L., M. Castellote, A.M. Warde, and C.W. Clark. 2005. Broadband sound production by feeding blue whales (*Balaenoptera musculus*). Page 74 in Abstracts, Sixteenth Biennial Conference on the Biology of Marine Mammals. 12-16 December 2005. San Diego, California.
- DiGiovanni, R.A., Jr., K.F. Durham, J.N. Wocial, R.P. Pisciotta, R. Hanusch, A.M. Chaillet, A.D. Hallett, A.M. Sabrosky, and R.A. Scott. 2005. Rehabilitation and post release monitoring of a male Risso's dolphin (*Grampus griseus*) released in New York waters. Page 76 in Abstracts, Sixteenth Biennial Conference on the Biology of Marine Mammals. 12-16 December 2005. San Diego, California.
- Dixon, M., N. Iammatteo, J. Johnson, S. Collinetti, and S.C. Jones III. 1997. An analysis of sentry behavior in bottlenose dolphins in the lower Chesapeake Bay. Abstracts, Fifth Annual Atlantic Coastal Dolphin Conference. 4-6 April 1997. Wilmington, North Carolina.
- Domning, D.P., ed. 1994. SireNews, Number 22.
- Domning, D.P., ed. 1995. SireNews, Number 23-24.
- Domning, D.P., ed. 2001. SireNews, Number 36.
- Domning, D.P., ed. 2006. SireNews, Number 45.
- DoN (Department of the Navy). 1995. Environmental documentation for candidate site analysis for SEAWOLF shock test program, Mayport, Florida and Norfolk, Virginia.
- DoN (Department of the Navy). 1997. Final environmental review: Adoption of a range management plan for the Atlantic Undersea Test and Evaluation Center (AUTEC), Andros Island, Bahamas.
- DoN (Department of the Navy). 2002. Biological assessment for explosive ordnance disposal (EOD) mine warfare exercises in the East coast operating areas: Endangered Species Act Section 7 compliance. Prepared by Commander, Atlantic Division, Naval Facilities Engineering Command Norfolk, VA.
- DoN (Department of the Navy). 2004. Virtual at-sea training/integrated maritime portable acoustic scoring and simulator (VAST/IMPASS) system. Final IHA/LOA. Silver Spring, Maryland.
- DoN (Department of the Navy). 2005. Draft overseas environmental impact statement/environmental impact statement: Undersea warfare training range. Prepared for the Naval Facilities Engineering Command, Atlantic, Norfolk, Virginia by Earth Tech, Inc., New York, New York.
- DoN (Department of the Navy). 2005. Marine resources assessment for the Northeast operating areas: Atlantic City, Narragansett Bay, and Boston--Report PDF. Final Report. Norfolk, Virginia: Department of the Navy, U.S. Fleet Forces Command.

- DoN (Department of the Navy). 2006. Final biological assessment for USS Truman CSG COMPTUEX/JTFEX. Prepared for National Marine Fisheries Service, Office of Protected Resources, Silver Spring, Maryland by Commander, U.S. Fleet Forces Command, Norfolk, Virginia.
- DoN (Department of the Navy). 2006. Final comprehensive overseas environmental assessment for major Atlantic Fleet training exercises. Prepared for United States Fleet Forces Command, Norfolk, Virginia by Naval Facilities Engineering Command, Atlantic, Norfolk, Virginia.
- DoN (Department of the Navy). 2006. Final environmental assessment, operations at the Bloodsworth Island Range. Prepared for Department of the Navy, Naval Air Systems Command, Patuxent River, Maryland.
- DoN (Department of the Navy). 2007. Marine resources assessment for the Southeastern Florida and the AUTC-Andros operating area. Norfolk, Virginia: Atlantic Division, Naval Facilities Engineering Command.
- DoN (Department of the Navy). 2007. Shock trial of the MESA VERDE. Draft environmental impact statement/overseas environmental impact statement (EIS/OEIS). Norfolk, Virginia: Department of the Navy.
- Donahue, M.A. and E.F. Edwards. 1996. An annotated bibliography of available literature regarding cetacean interactions with tuna purse-seine fisheries outside of the eastern tropical Pacific Ocean. NMFS-SWFSC Administrative Report LJ-96-20:1-45.
- Doniol-Valcroze, T. 2008. Habitat selection and niche characteristics of humpback whales in the northern Gulf of St. Lawrence (Canada). Doctoral Thesis, McGill University.
- Doniol-Valcroze, T., D. Berteaux, P. Larouche, and R. Sears. 2007. Influence of thermal fronts on habitat selection by four humpback whale species in the Gulf of St. Lawrence. *Marine Ecology Progress Series* 335:207-216.
- Donovan, G.P., C.H. Lockyer, and A.R. Martin, eds. 1993. Biology of northern hemisphere pilot whales. Cambridge, England: International Whaling Commission. Reports of the International Whaling Commission (Special Issue 14).
- Doucette, G.J., A.D. Cembella, J.L. Martin, J. Michaud, T.V.N. Cole, and R.M. Rolland. 2006. Paralytic shellfish poisoning (PSP) toxins in North Atlantic right whales *Eubalaena glacialis* and their zooplankton prey in the Bay of Fundy, Canada. *Marine Ecology Progress Series* 306:303-313.
- Dudzinski, K.M. 1996. Communication and behavior in the Atlantic spotted dolphins (*Stenella frontalis*): Relationships between vocal and behavioral activities. Ph.D. diss., Texas A&M University.
- Duffield, D.A. and R.S. Wells. 2002. The molecular profile of a resident community of bottlenose dolphins, *Tursiops truncatus*. Pages 3-11 in Pfeiffer, C.J., ed. Molecular and cell biology of marine mammals. Malabar, Florida: Krieger Publishing Company.
- Duignan, P.J., S. Sadove, J.T. Saliki, and J.R. Geraci. 1993. Phocine distemper in harbor seals (*Phoca vitulina*) from Long Island, New York. *Journal of Wildlife Diseases* 29(3):465-469.
- Duncan, J.F. 1908. Capt. Parkinson's manatee. *Forest and Stream* 71:611-612.
- Dunn, C.A., D.E. Claridge, and T.L. Pusser. 2007. Killer whale (*Orcinus orca*) occurrence and predation in the Bahamas. Abstracts, 17th Biennial Conference on the Biology of Marine Mammals. 29 November - 3 December 2007. Cape Town, South Africa.
- Dunn, D.G., S.G. Barco, D.A. Pabst, and W.A. McLellan. 2002. Evidence for infanticide in bottlenose dolphins of the western North Atlantic. *Journal of Wildlife Diseases* 38(3):505-510.
- Early, G., A.J. Read, D. Gannon, K. Matassa, and C. Merigo. 1995. An unusual stranding of whitesided dolphins (*Lagenorhynchus acutus*). Page 6 in Kopelman, A.H. and S.S. Sadove, eds. Proceedings of the 1995 Northeast Regional Marine Mammal and Sea Turtle Stranding Network Conference. 28-30 April 1995. Riverhead, New York.
- Edds, P.L. and A.J. MacFarlane. 1987. Occurrence and general behavior of balaenopterid cetaceans summering in the St. Lawrence Estuary, Canada. *Canadian Journal of Zoology* 65:1363-1376.
- Elvin, S.S. and C.T. Taggart. 2008. Right whales and vessels in Canadian waters. *Marine Policy* 32:379-386.
- Endangered manatee spotted off R.I. Accessed 28 August 2006. <http://apnews.excite.com/article/20060821/D8JKRFU01.html>.
- Essapian, F.S. 1954. A common dolphin - uncommonly marked. *Everglades Natural History* 2(4):220-222.

- Estrada, E.L. and A. Hohn. 2003. Satellite monitored movements of bottlenose dolphins along the Atlantic coast of the US. Page 48 in Abstracts, Fifteenth Biennial Conference on the Biology of Marine Mammals. 14-19 December 2003. Greensboro, North Carolina.
- Features: Research on distribution and biology. Accessed 19 April 2006. [http://research.myfwc.com/features/view\\_article.asp?id=7511](http://research.myfwc.com/features/view_article.asp?id=7511).
- Ferguson, M.C., J. Barlow, P. Fiedler, S.B. Reilly, and T. Gerrodette. 2006. Spatial models of delphinid (family Delphinidae) encounter rate and group size in the eastern tropical Pacific Ocean. *Ecological Modelling* 193:645-662.
- Ferguson, M.C., J. Barlow, S.B. Reilly, and T. Gerrodette. 2006. Predicting Cuvier's (*Ziphius cavirostris*) and *Mesoplodon* beaked whale population density from habitat characteristics in the eastern tropical Pacific Ocean. *Journal of Cetacean Research and Management* 7(3):287-299.
- Fischer, P.A., ed. 2003. Regulating seismic acquisition for marine mammal protection: Competing interests or mutual goal? *WorldOil* 224(12):34-37.
- Fisk, A.T., M.A. Recks, and P.A. Fair. 2005. Influence of season and habitat on the foraging ecology of bottlenose dolphins (*Tursiops truncatus*) from the Charleston SC region as indicated by stable isotope and fatty acid analyses. Page 92 in Abstracts, Sixteenth Biennial Conference on the Biology of Marine Mammals, 12-16 December. 12-16 December 2005. San Diego, California.
- FMRI (Florida Marine Research Institute). 2004. More than 2,500 manatees counted during synoptic survey. Press Release. 27 February. St. Petersburg, Florida. Florida Marine Research Institute.
- Fonnesbeck, C.J., L.P. Garrison, L.I. Ward-Geiger, and R.D. Baumstark. 2008. Bayesian hierarchical model for evaluating the risk of vessel strikes on North Atlantic right whales in the SE United States. *Endangered Species Research* 6:87-94.
- Foss, K.M. and J.R. Reed. 2003. Temporal and spatial distribution of bottlenose dolphins (*Tursiops truncatus*) in an urbanized estuary. *Virginia Journal of Science* 54(2):60-61.
- Frasier, T.R., P.K. Hamilton, M.W. Brown, L.A. Conger, A.R. Knowlton, M.K. Marx, C.K. Slay, S.D. Kraus, and B.N. White. 2007. Patterns of male reproductive success in a highly promiscuous whale species: The endangered North Atlantic right whale. *Molecular Ecology* 16:5277-5293.
- Gambell, R. 1985. Fin whale *Balaenoptera physalus* (Linnaeus, 1758). Pages 171-192 in Ridgway, S.H. and R. Harrison, eds. *Handbook of marine mammals. Volume 3: The sirenians and baleen whales*. San Diego, California: Academic Press.
- Gambell, R. 1985. Sei whale *Balaenoptera borealis* Lesson, 1828. Pages 155-170 in Ridgway, S.H. and R. Harrison, eds. *Handbook of marine mammals. Volume 3: The sirenians and baleen whales*. San Diego, California: Academic Press.
- Gannon, D. 2003. Behavioral ecology of an acoustically mediated predator-prey system: Bottlenose dolphins and sciaenid fishes. Ph.D. diss., Duke University.
- Gannon, D.P. and D.M. Waples. 2004. Diets of coastal bottlenose dolphins from the U.S. mid-Atlantic coast differ by habitat. *Marine Mammal Science* 20(3):527-545.
- Garcia-Rodriguez, A.I., D. Moraga-Amador, W. Farmerie, P. McGuire, and T.L. King. 2000. Isolation and characterization of microsatellite DNA markers in the Florida manatee (*Trichechus manatus latirostris*) and their application in selected sirenian species. *Molecular Ecology* 9:2161-2163.
- Garrison, L. 2001. Seeking a hiatus in sightings for bottlenose dolphin during summer and winter aerial surveys. Unpublished document prepared for the Take Reduction Team on Coastal Bottlenose Dolphins in the Western Atlantic.
- Garrison, L. and A. Hohn. 2001. Abundance estimates for Atlantic bottlenose dolphin: Combining strip transect data and line transect abundance estimation. Unpublished document prepared for the Take Reduction Team on Coastal Bottlenose Dolphins in the Western Atlantic.
- Garrison, L. and C. Yeung. 2001. Abundance estimates for Atlantic bottlenose dolphin stocks during summer and winter, 1995. Unpublished document prepared for the Take Reduction Team on Coastal Bottlenose Dolphins in the Western Atlantic.
- Garrison, L. and W. Hoggard. 2003. Abundance and spatial distribution of bottlenose dolphins, *Tursiops truncatus*, in near shore U.S. continental shelf waters during winter and summer 2002. Page 58 in Abstracts, Fifteenth Biennial Conference on the Biology of Marine Mammals. 14-19 December 2003. Greensboro, North Carolina.
- Garrison, L.P. 2005. Applying a spatial model to evaluate the risk of interactions between vessels and right whales in the southeast U.S. critical habitat. Miami, Florida: Southeast Fisheries Science Center.

- Garrison, L.P. 2007. Interactions between marine mammals and pelagic longline fishing gear in the U.S. Atlantic Ocean between 1992 and 2004. *Fishery Bulletin* 105:408–417.
- Garrison, L.P., P.E. Rosel, A. Hohn, R. Baird, and W. Hoggard. 2003a. Abundance of the coastal morphotype of bottlenose dolphin, *Tursiops truncatus*, in U.S. continental shelf waters between New Jersey and Florida during winter and summer 2002. Unpublished document prepared for the Take Reduction Team on Coastal Bottlenose Dolphins in the Western Atlantic.
- Garrison, L.P., R.D. Baumstark, C. Keller, and L.I. Ward-Geiger. 2005. A spatial model of the North Atlantic right whale calving habitat in the southeastern United States. Page 102 in Abstracts, Sixteenth Biennial Conference on the Biology of Marine Mammals. 12-16 December 2005. San Diego, California.
- Garrison, L.P., S.L. Swartz, A. Martinez, C. Burks, and J. Stamates. 2003b. A marine mammal assessment survey of the southeast US continental shelf: February - April 2002. NOAA Technical Memorandum NMFS-SEFSC-492. Miami, Florida: NMFS-SEFSC.
- Gaskin, D.E. 1992a. Status of the harbour porpoise, *Phocoena phocoena*, in Canada. *Canadian Field-Naturalist* 106(1):36-54.
- Gaskin, D.E. 1992b. Status of the common dolphin, *Delphinus delphis*, in Canada. *Canadian Field-Naturalist* 106(1):55-63.
- Gaskin, D.E. 1992c. Status of the Atlantic white-sided dolphin, *Lagenorhynchus acutus*, in Canada. *Canadian Field-Naturalist* 106(1):64-72.
- Genevieve, H., S. Laela, A.S. Frankel, C. Powell, A. Bocconcelli, and R. Herman. 2001. Mapping total environmental sound exposure of bottlenose dolphins, *Tursiops truncatus*, in the Wilmington, North Carolina Intracoastal Waterway. Page 95 in Abstracts, Fourteenth Biennial Conference on the Biology of Marine Mammals. 28 November-3 December 2001. Vancouver, British Columbia.
- Geraci, J.R. and D.J. St. Aubin. 1977. Mass stranding of the long-finned pilot whale, *Globicephala melaena*, on Sable Island, Nova Scotia. *Journal of the Fisheries Research Board of Canada* 34(11):2196-2199.
- Geraci, J.R., D.J. St. Aubin, I.K. Barker, R.G. Webster, V.S. Hinshaw, W.J. Bean, H.L. Ruhnke, J.H. Prescott, G. Early, A.S. Baker, S. Madoff, and R.T. Schooley. 1982. Mass mortality of harbor seals: Pneumonia associated with Influenza A virus. *Science* 215:1129-1131.
- Geraci, J.R., D.M. Anderson, R.J. Timperi, D.J. St. Aubin, G.A. Early, and J.H. Prescott. 1989. Humpback whales (*Megaptera novaeangliae*) fatally poisoned by dinoflagellate toxin. *Canadian Journal of Fisheries and Aquatic Sciences* 46:1895-1898.
- Geraci, J.R., P.J. Duignan, and G. Early. 1994. Survey for morbillivirus in pinnipeds along the northeastern coast. Final report to the National Oceanic and Atmospheric Administration and National Marine Fisheries Service. Boston, Massachusetts: New England Aquarium.
- Gero, S. and H. Whitehead. 2006. Opportunistic sightings of small cetaceans off the leeward shore of the Commonwealth of Dominica. Report to the Small Cetacean Subcommittee at the 58<sup>th</sup> annual meeting of the International Whaling Commission. SC/58/SM1. 16-20 June 2006. St. Kitts and Nevis.
- Gerrior, P. and R. Bruce. 2001. Vessel traffic management measures for the protection of northern right whales off the US East Coast. Pages 81-82 in Abstract, Fourteenth Biennial Conference on the Biology of Marine Mammals. 28 November-3 December 2001. Vancouver, British Columbia.
- Gilbert, J.R. and N. Guldager. 1998. Status of harbor and gray seal populations in northern New England. Woods Hole, Massachusetts: National Marine Fisheries Service.
- Gilbert, J.R., G.T. Waring, K.M. Wynne, and N. Guldager. 2005. Changes in abundance of harbor seals in Maine, 1981-2001. *Marine Mammal Science* 21(3):519-535.
- Gill, W. 1981. Manatee found in Chesapeake Bay Virginia. *Endangered Species Technical Bulletin* 5:6-7.
- Glass, A., M. Weinrich, K.A. Sardi, S.G. Barco, W.A. McLellan, and D. Taylor. 2001. Prolonged extreme coastal residency of a juvenile humpback whale (*Megaptera novaeangliae*) in New England: A successful development strategy? Page 83 in Abstracts, Fourteenth Biennial Conference on the Biology of Marine Mammals. 28 November-3 December 2001. Vancouver, British Columbia.
- Glass, A.H., C.R. Taylor, and D. Cupka. 2005. Monitoring North Atlantic right whale (*Eubalaena glacialis*) distribution north of the Southeastern U.S. calving ground critical habitat Pages 106-107 in Abstracts, Sixteenth Biennial Conference on the Biology of Marine Mammals. 12-16 December 2005. San Diego, California.

- Good, C.P., A.J. Reed, P. Halpin, S.S. Qian, C. Taylor, M. Zani, and L.I. Ward-Geiger. 2007. Predictive modeling of North Atlantic right whale (*Eubalaena glacialis*) calving habitat in the North Atlantic. Page 7 in Abstracts, 2007 North Atlantic Right Whale Consortium Annual Meeting. 7-8 November 2007. New Bedford, Massachusetts.
- Goodman, M.A., J. Braun-McNeill, E. Davenport, and A.A. Hohn. 2007. Protected species aerial survey data collection and analysis in waters underlying the R-5306A Airspace. Final report submitted to U.S. Marine Corps, MCAS Cherry Point. NOAA Technical Memorandum NMFS-SEFSC-551:1-26.
- Goodwin, G.G. 1933. Occurrence of a gray seal at Atlantic City, N.J. *Journal of Mammalogy* 14(1):73.
- Goodwin, G.G. 1935. The mammals of Connecticut. Hartford, Connecticut: Connecticut State Geological and Natural History Survey.
- Goodwin, G.G. 1954. Southern records for Arctic mammals and a northern record for Alfaro's rice rat. *Journal of Mammalogy* 35(2):258.
- Gordon, J.C.D., L. Steiner, and H.R. Martins. 1995. Observations of fin whales (*Balaenoptera physalus* L., 1758) around the central north Atlantic islands of the Azores and Madeira. *Arquipélago. Life and Marine Sciences* 13A:79-84.
- Gordon, J.C.D., L. Steiner, and J.M. Gonçalves. 1990. Sei whales (*Balaenoptera borealis*) encountered in the Azores: A new record for the region. *Arquipélago. Life and Marine Sciences* 8:97-100.
- Gormley, G. 1990. Orcas of the Gulf. San Francisco, California: Sierra Club Books.
- Götz, T., U.K. Verfuß, and H.-U. Schnitzler. 2006. 'Eavesdropping' in wild rough-toothed dolphins (*Steno bredanensis*)? *Biology Letters* 2:5-7.
- Goulet, A., M.O. Hammill, and C. Barrette. 2001. Movements and diving of grey seal females (*Halichoerus grypus*) in the Gulf of St. Lawrence, Canada. *Polar Biology* 24:432-439.
- GREEM (Le Groupe de Recherche et d'Education sur les Mammifères Marins). 2005. Hélias : A wayward St. Lawrence beluga...in the Delaware River, near Philadelphia! Tadoussac, Québec: Le Groupe de Recherche et d'Education sur les Mammifères Marins.
- Griffin, R.B., C. Hu, and N.J. Griffin. 2005. Movement patterns of Atlantic spotted dolphins (*Stenella frontalis*) and bottlenose dolphins (*Tursiops truncatus*) in relation to oceanographic fronts. Page 112 in Abstracts, Sixteenth Biennial Conference on the Biology of Marine Mammals, 12-16 December 2005. San Diego, California.
- Griselda, V., G.V. Garaffo, S.L. Dans, S.N. Pedraza, E.A. Crespo, and M. Degradi. 2007. Habitat use by dusky dolphin in Patagonia: How predictable is their location? *Marine Biology* 152:165-177.
- Hain, J.H.W. and R.D. Kenney. 2001. Distribution and abundance of marine mammals at two proposed East Coast shallow-water training range locations: Wallops Island, Virginia and Onslow Bay, North Carolina. Newport, Rhode Island: Naval Undersea Warfare Division.
- Hain, J.H.W., M.J. Ratnaswamy, R.D. Kenney, and H.E. Winn. 1992. The fin whale, *Balaenoptera physalus*, in waters of the northeastern United States continental shelf. *Reports of the International Whaling Commission* 42:653-669.
- Hain, J.H.W., S.L. Ellis, R.D. Kenney, P.J. Clapham, B.K. Gray, M.T. Weinrich, and I.G. Babb. 1995. Apparent bottom feeding by humpback whales on Stellwagen Bank. *Marine Mammal Science* 11(4):464-479.
- Hamazaki, T. 2002. Spatiotemporal prediction models of cetacean habitats in the mid-western North Atlantic Ocean (from Cape Hatteras, North Carolina, U.S.A. to Nova Scotia, Canada). *Marine Mammal Science* 18(4):920-937.
- Hamilton, H. and C. Puckett. 2006. Manatee traveler in northeastern waters not Chessie. *Sound Waves* FY 2006(87):6-7.
- Hamilton, P.K. and C.A. Mayo. 1990. Population characteristics of right whales (*Eubalaena glacialis*) observed in Cape Cod and Massachusetts Bays, 1978-1986. *Reports of the International Whaling Commission (Special Issue 12)*:203-208.
- Hamilton, P.K., G.S. Stone, and S.M. Martin. 1997. Note on a deep humpback whale *Megaptera novaeangliae* dive near Bermuda. *Bulletin of Marine Science* 61(2):491-494.
- Hammill, M.O. and G. Stenson. 2005. Abundance of northwest Atlantic harp seals (1960-2005). Ottawa, Ontario: Department of Fisheries and Oceans
- Hammill, M.O. and J.F. Gosselin. 1995. Grey seal (*Halichoerus grypus*) from the Northwest Atlantic: Female reproductive rates, age at first birth, and age of maturity in males. *Canadian Journal of Fisheries and Aquatic Sciences* 52:2757-2761.



- Hammill, M.O., G.B. Stenson, R.A. Myers, and W.T. Stobo. 1998. Pup production and population trends of the grey seal (*Halichoerus grypus*) in the Gulf of St. Lawrence. *Canadian Journal of Fisheries and Aquatic Sciences* 55:423-430.
- Harley, H.E., E.A. Putman, and H.L. Roitblat. 2003. Bottlenose dolphins perceive object features through echolocation. *Nature* 424:667-669.
- Harris, D.E. and S. Gupta. 2006. GIS-based analysis of ice-breeding seal strandings in the Gulf of Maine. *Northwestern Naturalist* 13(3):403-420.
- Harris, D.E., B. Lelli, and G. Jakush. 2002. Harp seal records from the southern Gulf of Maine: 1997-2001. *Northeastern Naturalist* 9(3):331-340.
- Harris, D.E., B. Lelli, G. Jakush, and G. Early. 2001. Hooded seal (*Cystophora cristata*) records from the southern Gulf of Maine. *Northeastern Naturalist* 8(4):427-434.
- Harry, C.T., R.A. DiGiovanni Jr., W.J. Walton, and S.G. Barco. 2005. Characterizing stranding trends in Virginia and North Carolina from 2000-2005. Page 122 in Abstracts, Sixteenth Biennial Conference of the Biology of Marine Mammals. 12-16 December 2005. San Diego, California.
- Hartley, D. 1998. 1997 NMFS Northeast Region marine mammal strandings. Pages 30-31 in Barco, S.G., ed. Proceedings of the 1997 Northeast Region Stranding Conference. VMSM Scientific Report 1998-002. Virginia Beach: Virginia Marine Science Museum.
- Hartley, D. and F. Wenzel. 2001. 25 years of harbor porpoise (*Phocoena phocoena*) strandings on the U.S. Atlantic coast. Page 93 in Abstracts, Fourteenth Biennial Conference on the Biology of Marine Mammals. 28 November-3 December 2001. Vancouver, British Columbia.
- Hatch, L.T. and A.J. Wright. 2007. A brief review of anthropogenic sound in the oceans. *International Journal of Comparative Psychology* 20:121-133.
- Haubold, E.M., C. Deutsch, and C. Fonnesebeck. 2006. Final biological status review of the Florida manatee (*Trichechus manatus latirostris*). St. Petersburg, Florida: Florida Fish and Wildlife Conservation Commission.
- Hayden, L. 2007. Coastal ocean observations correlation between AVHRR SST and presence of marine mammals. Prepared for Office of Naval Research, Arlington, Virginia by Woods Hole Oceanographic Institution, Woods Hole, Massachusetts.
- Hays, H.E., H.E. Winn, and R. Petricig. 1985. Anomalous feeding behavior of a humpback whale. *Journal of Mammalogy* 66(4):819-821.
- Hazevoet, C.J. and F.W. Wenzel. 2000. Whales and dolphins (Mammalia, Cetacea) of the Cape Verde Islands, with special reference to the humpback whale *Megaptera novaeangliae* (Borowski, 1781). *Contributions to Zoology* 69(3):197-211.
- HBOI (Harbor Branch Oceanographic Institution). 2006. Seals swim south, fly north. Harbor Branch Oceanographic rescues, stabilizes two hooded seals and receives critical help enabling return of one animal to its home range. Press Release. Ft. Pierce, Florida: Harbor Branch Oceanographic Institution - 8 August.
- Hedley, S.L. 2000. Modelling heterogeneity in cetacean surveys. Ph.D. diss., University of St Andrews.
- Hedley, S.L. and S.T. Buckland. 2004. Spatial models for line transect sampling. *Journal of Agricultural, Biological, and Environmental Statistics* 9(2):181-199.
- Hedley, S.L., S.T. Buckland, and D.L. Borchers. 1999. Spatial modelling from line transect data. *Journal of Cetacean Research and Management* 1(3):255-264.
- Heide-Jørgensen, M.P., L. Witting, and M.V. Jensen. 2003. Inshore-offshore movements of two fin whales (*Balaenoptera physalus*) tracked by satellite off West Greenland. *Journal of Cetacean Research and Management* 5(3):241-245.
- Heide-Jørgensen, M.P., N. Hammeken, R. Dietz, J. Orr, and P.R. Richard. 2001. Surfacing times and dive rates for narwhals (*Monodon monoceros*) and belugas (*Delphinapterus leucas*). *Arctic* 54(3):284-298.
- Heide-Jørgensen, M.P., P.R. Richard, and A. Rosing-Asvid. 1998. Dive patterns of belugas (*Delphinapterus leucas*) in waters near eastern Devon Island. *Arctic* 51(1):17-26.
- Hersh, S.L. 1987. Stock structure of bottlenose dolphins (Genus *Tursiops*) in the southeastern U.S.: A review and management considerations. Contract number 40GENF700715. Prepared for the National Marine Fisheries Service, Southeast Fisheries Science Center, Miami, Florida.
- Hiby, L. 1999. The objective identification of duplicate sightings in aerial survey for porpoise. Pages 179-189 in Garner, G.W., S.C. Amstrup, J.L. Laake, B.F.J. Manly, L.L. McDonald, and D.G.

- Robertson, eds. Marine mammal survey and assessment methods. Rotterdam, Netherlands: A.A. Balkema.
- Hoagland, P. and A.E. Meeks. 2000. II. The demand for whalewatching at Stellwagen Bank National Marine Sanctuary. Pages 53-89 in The economic contribution of whalewatching to regional economies: Perspectives from two National Marine Sanctuaries. Silver Spring, Maryland: Marine Sanctuaries Conservation Series MSD-00-2.
- Hodgson, A.J., H. Marsh, S. Delean, and L. Marcus. 2007. Is attempting to change marine mammal behaviour a generic solution to the bycatch problem? A dugong case study. *Animal Conservation* 10:263-273.
- Hoelzel, A.R., A. Natoli, M.E. Dahlheim, C. Olavarria, R.W. Baird, and N.A. Black. 2002. Low worldwide genetic diversity in the killer whale (*Orcinus orca*): Implications for demographic history. *Proceedings of the Royal Society B: Biological Sciences* 269:1467-1473.
- Hohn, A.A. 1997. Design for a multiple-method approach to determine stock structure of bottlenose dolphins in the mid-Atlantic. NOAA Technical Memorandum NMFS-SEFSC-401:1-22.
- Hohn, A.A., L.J. Hansen, F. Townsend, and M.D. Scott. 2000. The use of telemetry to study bottlenose dolphin stock structure along the U.S. Atlantic Coast. *European Research on Cetaceans* 14:334.
- Hoover, K., S.S. Sadove, and P. Forestell. 1999. Trends of harbor seal, *Phoca vitulina*, abundance from aerial surveys in New York waters: 1985-1999. Page 85 in Abstracts, Thirteenth Biennial Conference on the Biology of Marine Mammals. 28 November-3 December 1999. Wailea, Hawaii.
- Horwood, J. 1990. Biology and exploitation of the minke whale. Boca Raton, Florida: CRC Press.
- Huang, T. 1993. The manatee's back in Hampton Roads - A scientist is trying to figure out why the sea animal is in the area. *Virginian Pilot* (October 10):B1.
- Hui, C.A. 1985. Undersea topography and the comparative distributions of two pelagic cetaceans. *Fishery Bulletin* 83(3):472-475.
- ICES (International Council for the Exploration of the Sea). 2006. Report of the ICES/NAFO Working Group on Harp and Hooded Seals (WGHARP), 12-16 June 2006, ICES Headquarters. Copenhagen, Denmark: International Council for the Exploration of the Sea.
- Iliff, M.J. and E.S. Brinkley. 2001. Observation of a yearling hooded seal (*Cystophora cristata*) at Back Bay National Wildlife Refuge, Virginia Beach. *Banisteria* 18:38-40.
- Ingram, S.N., L. Walshe, D. Johnston, and E. Rogan. 2007. Habitat partitioning and the influence of benthic topography and oceanography on the distribution of fin and minke whales in the Bay of Fundy, Canada. *Journal of the Marine Biological Association of the United Kingdom* 87:149-156.
- Innes, S., M.P. Heide-Jørgensen, J.L. Laake, K.L. Laidre, H.J. Cleator, P. Richard, and R.E.A. Stewart. 2002. Surveys of belugas and narwhals in the Canadian High Arctic in 1996. NAMMCO Scientific Publication 4:169-190.
- Irvine, A.B. and H.W. Campbell. 1978. Aerial census of the West Indian manatee, *Trichechus manatus*, in the southeastern United States. *Journal of Mammalogy* 59(3):613-617.
- Irvine, A.B., M.D. Scott, R.S. Wells, and J.G. Mead. 1979. Stranding of the pilot whale, *Globicephala macrorhynchus*, in Florida and South Carolina. *Fishery Bulletin* 77(2):511-513.
- Jacobsen, K.O., M. Marx, and N. Øien. 2004. Two-way trans-Atlantic migration of a North Atlantic right whale (*Eubalaena glacialis*). *Marine Mammal Science* 20(1):161-166.
- Jakush, G. 2004. Woolly makes waves in Maine. *Lifelines* (A Marine Animal Lifeline Publication) Spring:1.
- Jann, B., J. Allen, M. Carrillo, S. Hanquet, S.K. Katona, A.R. Martin, R.R. Reeves, R. Seton, P.T. Stevick, and F.W. Wenzel. 2003. Migration of a humpback whale (*Megaptera novaeangliae*) between the Cape Verde Islands and Iceland. *Journal of Cetacean Research and Management* 5(2):125-129.
- Jaquet, N., C.A. Mayo, O.C. Nichols, M.K. Bessinger, D. Osterberg, M.K. Marx, and C.L. Browning. 2005. Surveillance, monitoring and management of North Atlantic right whales in Cape Cod Bay and adjacent waters - 2005. Provincetown, Massachusetts: Provincetown Center for Coastal Studies.
- Jaquet, N., J. Gordon, and B. Würsig. 2004. Cruise report for *Summer Breeze* cruise 2004: Sperm Whale Seismic Study, PHOTO-ID/mesoscale population study cruise (20 June - 15 August 2004). Unpublished cruise report. College Station, Texas: Texas A&M University.
- Jaquet, N., T. Webster, and S.M. Van Parijs. 2007. Acoustic behavior of individual North Atlantic right whales in Cape Cod Bay. Page 8 in Abstracts, 2007 North Atlantic Right Whale Consortium Annual Meeting. 7-8 November 2007. New Bedford, Massachusetts.
- Jarvis, S. and D. Moretti. 2002. Passive detection and localization of transient signals from marine mammals using widely spaced bottom mounted hydrophones in open ocean environments.

- Pages 109-121 in Listening to fish: Proceedings of the International Workshop on the Applications of Passive Acoustics in Fisheries. 8-10 April 2002. Cambridge, Massachusetts: Massachusetts Institute of Technology.
- Jefferson, T.A. and A.J. Schiro. 1997. Distribution of cetaceans in the offshore Gulf of Mexico. *Mammal Review* 27(1):27-50.
- Jefferson, T.A., D. Fertl, J. Bolaños-Jiménez, and A.N. Zerbini. 2009. Distribution of common dolphins (*Delphinus* spp.) in the western Atlantic Ocean: A critical re-examination. *Marine Biology* 156:1109-1124.
- Jefferson, T.A., M.A. Webber, and R.L. Pitman. 2008. *Marine mammals of the world: A comprehensive guide to their identification*. San Diego, California: Academic Press.
- Jérémie, S. 2005. Synthesis of cetaceans off the island of Martinique, French West Indies. Reference paper presented at the United Nations Environment Programme Regional Workshop of Experts on the Development of the Marine Mammal Action Plan for the Wider Caribbean Region, Barbados, 18-21 July 2005. UNEP(DEC)/CAR WG.27/REF.7. Nairobi, Kenya: United Nations Environment Programme.
- Jochens, A., D. Biggs, D. Engelhaupt, J. Gordon, N. Jaquet, M. Johnson, R. Leben, B. Mate, P. Miller, J. Ortega-Ortiz, A. Thode, P. Tyack, J. Wormuth, and B. Würsig. 2006. Sperm whale seismic study in the Gulf of Mexico. Summary report, 2002-2004. OCS Study MMS 2006-034. New Orleans, Louisiana: Minerals Management Service.
- Jochens, A., D. Biggs, K. Benoit-Bird, D. Engelhardt, J. Gordon, C. Hu, N. Jaquet, M. Johnson, R. Leben, B. Mate, P. Miller, J. Ortega-Ortiz, A. Thode, P. Tyack, and B. Würsig. 2008. Sperm whale seismic study in the Gulf of Mexico: Synthesis report. Prepared for U.S. Department of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, Louisiana by Texas A&M University, Department of Oceanography, College Station, Texas.
- Johnson, M. and P. Tyack. 2004. Sperm whales in the North Atlantic - DTAG effort. NOAA Progress Report. Woods Hole, Massachusetts: Woods Hole Oceanographic Institution.
- Johnston, D.W. 2004. Fine scale oceanographic features and foraging marine predators: The ecology and conservation of an island wake in the Bay of Fundy Canada. Ph.D. diss., Duke University.
- Johnston, D.W., A.J. Westgate, and A.J. Read. 2005b. Effects of fine-scale oceanographic features on the distribution and movements of harbour porpoises *Phocoena phocoena* in the Bay of Fundy. *Marine Ecology Progress Series* 295:279-293.
- Johnston, D.W., A.S. Friedlaender, L.G. Torres, and D.M. Lavigne. 2005c. Variation in sea ice cover on the east coast of Canada from 1969 to 2002: Climate variability and implications for harp and hooded seals. *Climate Research* 29:209-222.
- Johnston, D.W., L.H. Thorne, and A.J. Read. 2005a. Fin whales *Balaenoptera physalus* and minke whales *Balaenoptera acutorostrata* exploit a tidally driven island wake ecosystem in the Bay of Fundy. *Marine Ecology Progress Series* 305:287-295.
- Jones, G.J. and L.S. Sayigh. 2002. Geographic variation in rates of vocal production of free-ranging bottlenose dolphins. *Marine Mammal Science* 18(2):374-393.
- Jones, S.C. 1995. Where are Virginia's dolphin nurseries? Page 4 in Abstracts, Third Annual Atlantic Coastal Dolphin Conference. 24-26 March 1995. Beaufort, North Carolina.
- Jonsgård, Å. 1966. Biology of the North Atlantic fin whale, *Balaenoptera physalus* (L): Taxonomy, distribution, migration and food. *Hvalrådets Skrifter* 49:1-62.
- Katona, S.K. and J.A. Beard. 1991. Humpback whales (*Megaptera novaeangliae*) in the western North Atlantic Ocean. *Memoirs of the Queensland Museum* 30(2):307-321.
- Katona, S.K., J.A. Beard, P.E. Gorton, and F. Wenzel. 1988. Killer whales (*Orcinus orca*) from the Bay of Fundy to the Equator, including the Gulf of Mexico. *Rit Fiskideildar (Journal of the Marine Research Institute Reykjavik)* XI:205-224.
- Katona, S.K., V. Rough, and D.T. Richardson. 1993. *A field guide to whales, porpoises, and seals from Cape Cod to Newfoundland*. Washington, D.C.: Smithsonian Institution Press.
- Kaufman, M. 2005. Whale stranding in N.C. followed Navy sonar use--Military says connection to death of 37 animals is 'unlikely'. *Washington Post* (Friday, January 28):A03.
- Keinath, J.A. and J.A. Musick. 1988. Population trends of the bottlenose dolphin (*Tursiops truncatus*) in Virginia, 1980-1987. Contract No. 40-GENF-800564. Prepared for the National Marine Fisheries Service, Southeast Fisheries Science Center, Miami, Florida by Virginia Institute of Marine Science, Gloucester Point, Virginia.

- Keller, C.A., L.I. Ward-Geiger, W.B. Brooks, C.K. Slay, C.R. Taylor, and B.J. Zoodsma. 2006. North Atlantic right whale distribution in relation to sea-surface temperature in the southeastern United States calving grounds. *Marine Mammal Science* 22(2):426-445.
- Kenney, M.K. 1994. Harbor seal population trends and habitat use in Maine. Master's thesis, University of Maine.
- Kenney, R.D. 1990. Bottlenose dolphins off the northeastern United States. Pages 369-386 in Leatherwood, S. and R.R. Reeves, eds. *The bottlenose dolphin*. San Diego, California: Academic Press.
- Kenney, R.D. 1994. Anomalous 1992 spring and summer distributions of right whales (*Eubalaena glacialis*) and other cetaceans in continental shelf waters off the northeastern United States and adjacent Canada. Final Report, Contract Number T94070648. Prepared for the U.S. Marine Mammal Commission, Washington, D.C.
- Kenney, R.D. 2001. Anomalous 1992 spring and summer right whale (*Eubalaena glacialis*) distributions in the Gulf of Maine. *Journal of Cetacean Research and Management (Special Issue 2)*:209-223.
- Kenney, R.D. 2002a. Quality-control issues for data submissions to the North Atlantic Right Whale Consortium database. Right Whale Consortium Reference Document 2002-02. Narragansett, Rhode Island: University of Rhode Island.
- Kenney, R.D. 2002b. Seals: Marine mammals in our front yard. *Audubon Report* 36(3):1, 7-8.
- Kenney, R.D. 2005b. Freezer paleostratigraphy: Re-discovery of an early gray seal stranding from Block Island, Rhode Island, USA. *Rhode Island Naturalist* 12(2):5-9.
- Kenney, R.D. 2007b. A different sort of invader: The second manatee visit to Rhode Island. *Rhode Island Naturalist* 14(1):8-10.
- Kenney, R.D. and H.E. Winn. 1986. Cetacean high-use habitats of the northeast United States continental shelf. *Fishery Bulletin* 84(2):345-357.
- Kenney, R.D. and M.R. Petrician. 2004. A visitor from the North: Harp seal sighted in the Narrow River. *Narrow River Notes (Newsletter of Narrow River Preservation Association)* Spring 2004:3-4.
- Kenney, R.D., C.A. Mayo, and H.E. Winn. 2001a. Migration and foraging strategies at varying spatial scales in western North Atlantic right whales: A review of hypotheses. *Journal of Cetacean Research and Management (Special Issue 2)*:251-260.
- Kenney, R.D., C.H. Greene, A.J. Pershing, and J.W. Jossi. 2001b. North Atlantic right whale calving success: Linkages to the North Atlantic Oscillation, oceanographic patterns, and prey availability. Page 113 in *Abstracts, Fourteenth Biennial Conference on the Biology of Marine Mammals*. 28 November-3 December 2001. Vancouver, British Columbia.
- Kenney, R.D., H.E. Winn, and M.C. Macaulay. 1995. Cetaceans in the Great South Channel, 1979-1989: Right whale (*Eubalaena glacialis*). *Continental Shelf Research* 15:385-414.
- Kenney, R.D., M.A.M. Hyman, R.E. Owen, G.P. Scott, and H.E. Winn. 1986. Estimation of prey densities required by western North Atlantic right whales. *Marine Mammal Science* 2(1):1-13.
- Kenny, R.D. 2003. Modifications and clarifications of data formats for the North Atlantic Right Whale Consortium database. North Atlantic Right Whale Consortium Reference Document 2003-02. Narragansett, Rhode Island: University of Rhode Island.
- Kerr, K.A., R.H. Defran, and G.S. Campbell. 2005. Bottlenose dolphins (*Tursiops truncatus*) in the Drowned Cayes, Belize: Group size, site fidelity and abundance. *Caribbean Journal of Science* 41(1):172-177.
- Khan, C., T.V.N. Cole, P. Duley, A. Glass, M. Niemeyer, and C. Christman. 2009. North Atlantic Right Whale Sighting Survey (NARWSS) and Right Whale Sighting Advisory System (RWSAS) 2008 results summary. Northeast Fisheries Science Center Reference Document 09-05. Woods Hole, Massachusetts: National Marine Fisheries Service.
- Klatsky, L.J., R.S. Wells, and J.C. Sweeney. 2007. Offshore bottlenose dolphins (*Tursiops truncatus*) movement and dive behavior near the Bermuda Pedestal. *Journal of Mammalogy* 88(1):59-66.
- Klyver, R.Z., S.K. Todd, J.K. Allen, T.A. Stephenson, and E.L. Summers. 2007. Northern right whales (*Eubalaena glacialis*) in the northeast Gulf of Maine: Are they found within state waters? Pages 8-9 in *Abstracts, 2007 North Atlantic Right Whale Consortium Annual Meeting*. 7-8 November 2007. New Bedford, Massachusetts.
- Knowlton, A., C.W. Clark, and S. Kraus. 1991. Sounds recorded in the presence of sei whale, *Balaenoptera borealis*. *Journal of the Acoustical Society of America* 89(4B):1968.

- Knowlton, A.R. 1997. The regulation of shipping to protect North Atlantic right whales: Need and feasibility. Major paper, University of Rhode Island.
- Knowlton, A.R., J.B. Ring, and B. Russell. 2002. Right whale sightings and survey effort in the mid-Atlantic region: Migratory corridor, time frame, and proximity to port entrances. Report submitted to the NMFS Ship Strike Working Group, Silver Spring, Maryland.
- Kovacs, K.M. 2002a. Hooded seal *Cystophora cristata*. Pages 580-582 in Perrin, W.F., B. Würsig, and J.G.M. Thewissen, eds. Encyclopedia of marine mammals. San Diego, California: Academic Press.
- Kovacs, K.M. 2002b. Bearded seal (*Erignathus barbatus*). Pages 84-87 in Perrin, W.F., B. Würsig, and J.G.M. Thewissen, eds. Encyclopedia of marine mammals. San Diego, California: Academic Press.
- Kovacs, K.M., K.M. Jonas, and S.E. Welke. 1990. Sex and age segregation by *Phoca vitulina concolor* at haul-out sites during the breeding season in the Passamaquoddy Bay region, New Brunswick. Marine Mammal Science 6:204-214.
- Kraus, S. and G. Early. 1995. Population trends in southern New England as reflected in survey and stranding data. Pages 9-20 in Mooney-Sues, M.L. and G.S. Stone, eds. Pinniped populations in the Gulf of Maine: Status, issues and management. New England Aquarium Aquatic Forum Series Report 95-1. Boston, Massachusetts: New England Aquarium.
- Kraus, S.D., M.W. Brown, H. Caswell, C.W. Clark, M. Fujiwara, P.K. Hamilton, R.D. Kenney, A.R. Knowlton, S. Landry, C.A. Mayo, W.A. McLellan, M.J. Moore, D.P. Nowacek, D.A. Pabst, A.J. Read, and R.M. Rolland. 2005. North Atlantic right whales in crisis. Science 309:561-562.
- Kraus, S.D., R.D. Kenney, A.R. Knowlton, and J.N. Ciano. 1993. Endangered right whales of the southwestern North Atlantic. OCS Study MMS 93-0024. Herndon, Virginia: Minerals Management Service.
- Kruse, S., D.K. Caldwell, and M.C. Caldwell. 1999. Risso's dolphin *Grampus griseus* (G. Cuvier, 1812). Pages 183-212 in Ridgway, S.H. and R. Harrison, eds. Handbook of marine mammals. Volume 6: The second book of dolphins and the porpoises. San Diego, California: Academic Press.
- LaCommare, K.S., C. Self-Sullivan, and S. Brault. 2008. Distribution and habitat use of Antillean manatees (*Trichechus manatus manatus*) in the Drowned Cayes area of Belize, Central America. Aquatic Mammals 34(1):35-43.
- Laerm, J., F. Wenzel, J.E. Craddock, D. Weinand, J. McGurk, M.J. Harris, G.A. Early, J.G. Mead, C.W. Potter, and N.B. Barros. 1997. New prey species for northwestern Atlantic humpback whales. Marine Mammal Science 13(4):705-711.
- Legendijk, P. 1984. Report of a study of the present status of humpback whales around the Cape Verde Islands. International Whaling Commission, Scientific Committee, Document SC/36/PS16.
- Laist, D.W. and C. Shaw. 2006. Preliminary evidence that boat speed restrictions reduce deaths of Florida manatees. Marine Mammal Science 22(2):472-479.
- Laist, D.W. and J.E. Reynolds III. 2005. Influence of power plants and other warm-water refuges on Florida manatees. Marine Mammal Science 21(4):739-764.
- Laist, D.W., A.R. Knowlton, J.G. Mead, A.S. Collet, and M. Podesta. 2001. Collisions between ships and whales. Marine Mammal Science 17(1):35-75.
- Larsen, F. and P.S. Hammond. 2004. Distribution and abundance of West Greenland humpback whales (*Megaptera novaeangliae*). Journal of Zoology, London 263:343-358.
- Lawson, J.W. and G.B. Stenson. 1997. Diet of northwest Atlantic harp seals (*Phoca groenlandica*) in offshore areas. Canadian Journal of Zoology 75:2095-2106.
- Leatherwood, S. 1979. Aerial survey of the bottlenosed dolphin, *Tursiops truncatus*, and the West Indian manatee, *Trichechus manatus*, in the Indian and Banana rivers, Florida. Fishery Bulletin 77(1):47-59.
- Leatherwood, S., D.K. Caldwell, and H.E. Winn. 1976. Whales, dolphins, and porpoises of the western North Atlantic: A guide to their identification. NOAA Technical Report NMFS CIRC-396.
- Leatherwood, S., M.W. Deerman, and C.W. Potter. 1978. Food and reproductive status of nine *Tursiops truncatus* from the northeastern United States coast. Cetology 28:1-6.
- Lee, D.S. 1986. Marine mammals off the North Carolina coast with particular reference to possible impact of proposed *Empress II*. In: U.S. Department of the Navy. EMPRESS II: Supplemental draft environmental impact statement for the proposed operation of the Navy electromagnetic pulse

- radiation environment simulator for ships (*Empress II*) in the Chesapeake Bay and Atlantic Ocean. Norfolk, Virginia: Atlantic Division, Naval Facilities Engineering and Command.
- Lerczak, J.A. and R.C. Hobbs. 1998. Calculating sighting distances from angular readings during shipboard, aerial, and shore-based marine mammal surveys. *Marine Mammal Science* 14(3):590-599.
- Lesage, V. and M.C.S. Kingsley. 1998. Updated status of the St. Lawrence River population of the beluga, *Delphinapterus leucas*. *Canadian Field-Naturalist* 112:98-113.
- Lesage, V. and M.O. Hammill. 2001. The status of the grey seal, *Halichoerus grypus*, in the Northwest Atlantic. *Canadian Field-Naturalist* 115(4):653-662.
- Lien, J., D. Nelson, and D.J. Hai. 2001. Status of the white-beaked dolphin, *Lagenorhynchus albirostris*, in Canada. *Canadian Field-Naturalist* 115(1):118-126.
- Lien, J., G.B. Stenson, and P.W. Jones. 1988. Killer whales (*Orcinus orca*) in waters off Newfoundland and Labrador, 1978-1986. *Rit Fiskideildar (Journal of the Marine Research Institute Reykjavik)* XI:194-201.
- Lipscomb, T.P., M.G. Mense, P.L. Habecker, J.K. Taubenberger, and R. Schoelkopf. 2001. Morbilliviral dermatitis in seals. *Veterinary Pathology* 38:724-726.
- Little is known about Bay's bottlenose dolphins. *Bay Journal* (Alliance for the Chesapeake Bay). Accessed 23 June 2009. <http://www.bayjournal.com/article.cfm?article=467&print=yes>.
- Litwiler, T.L. 2001. Conservation plan for sea turtles, marine mammals, and the shortnose sturgeon in Maryland. Technical Report FS-SCOL-01-2. Oxford, Maryland: Maryland Department of Natural Resources
- Lucas, Z.N. and D.F. McAlpine. 2002. Extralimital occurrences of ringed seals, *Phoca hispida*, on Sable Island, Nova Scotia. *Canadian Field-Naturalist* 116:607-610.
- Luczkovich, J.J., H.J. Daniel III, M. Hutchinson, T. Jenkins, S.E. Johnson, R.C. Pullinger, and M.W. Sprague. 2000. Sounds of sex and death in the sea: Bottlenose dolphin whistles suppress mating choruses of silver perch. *Bioacoustics* 10:323-334.
- Lydersen, C. and K.M. Kovacs. 1993. Diving behaviour of lactating harp seal, *Phoca groenlandica*, females from the Gulf of St Lawrence, Canada. *Animal Behaviour* 46:1213-1221.
- Lydersen, C., M.O. Hammill, and K.M. Kovacs. 1994. Activity of lactating ice-breeding grey seals, *Halichoerus grypus*, from the Gulf of St Lawrence, Canada. *Animal Behaviour* 48:1417-1425.
- MacLeod, C., A. Williams, and P. Tyack, compilers. 2001. Summary of the Workshop on the Biology and Conservation of Beaked Whales. 28 November 2001. Vancouver, British Columbia.
- MacLeod, C.D. and A.F. Zuur. 2005. Habitat utilization by Blainville's beaked whales off Great Abaco, northern Bahamas, in relation to seabed topography. *Marine Biology* 147:1-11.
- MacLeod, C.D. and G. Mitchell. 2006. Key areas for beaked whales worldwide. *Journal of Cetacean Research and Management* 7(3):309-322.
- MacLeod, R., C.D. MacLeod, J.A. Learmonth, P.D. Jepson, R.J. Reid, R. Deaville, and G.J. Pierce. 2007. Mass-dependent predation risk and lethal dolphin-porpoise interactions. *Proceedings of the Royal Society B: Biological Sciences* 274:2587-2593.
- Maher, J. 2003. Characterization of bottlenose dolphin (*Tursiops truncatus*) use of restricted areas in the Pamlico Sound, NC. Master's thesis, Nicholas School of the Environment of Duke University.
- Malik, S., M.W. Brown, S.D. Kraus, A.R. Knowlton, P.K. Hamilton, and B.N. White. 1999. Assessment of mitochondrial DNA structuring and nursery use in the North Atlantic right whale (*Eubalaena glacialis*). *Canadian Journal of Zoology* 77:1217-1222.
- Manatee synoptic surveys. Accessed 20 October 2006. [http://research.myfwc.com/features/print\\_article.asp?id=15246](http://research.myfwc.com/features/print_article.asp?id=15246).
- Manville, R.H. and R.P. Shanahan. 1961. *Kogia* stranded in Maryland. *Journal of Mammalogy* 42(2):269-270.
- Maratea, J., D.R. Ewalt, S. Frasca, Jr., J.L. Dunn, S. De Guise, L. Szkudlarek, D.J. St. Aubin, and R.A. French. 2003. Evidence of *Brucella* sp. infection in marine mammals stranded along the coast of southern New England. *Journal of Zoo and Wildlife Medicine* 34(3):256-261.
- Marmontel, M. 1995. Age and reproduction in female Florida manatees. Pages 98-119 in O'Shea, T.J., B.B. Ackerman, and H.F. Percival, eds. *Population biology of the Florida manatee*. Information and Technology Report 1. Washington, D.C.: National Biological Service.

- Mate, B.R., B.A. Lagerquist, M. Winsor, J. Geraci, and J.H. Prescott. 2005. Movements and dive habits of a satellite-monitored longfinned pilot whale (*Globicephala melas*) in the northwest Atlantic. *Marine Mammal Science* 21(1):136-144.
- Mate, B.R., K.M. Stafford, R. Nawojchik, and J.L. Dunn. 1994. Movements and dive behavior of a satellite-monitored Atlantic white-sided dolphin (*Lagenorhynchus acutus*) in the Gulf of Maine. *Marine Mammal Science* 10(1):116-121.
- Mate, B.R., S.L. Niekirk, and S.D. Kraus. 1997. Satellite-monitored movements of the northern right whale. *Journal of Wildlife Management* 61(4):1393-1405.
- Mayo, C., M. Bessinger, and M.W. Brown. 2002. Right whale occurrence and habitat measures in Cape Cod Bay: During a year of change 2002. Pages 29-50 in Center for Coastal Studies, ed. Surveillance, monitoring and management of North Atlantic right whales in Cape Cod Bay and adjacent waters – 2002. Provincetown, Massachusetts: Center for Coastal Studies.
- Mayo, C., M. Page, D. Osterberg, and A. Pershing. 2007. A foraging model for predicting the risk of vessel strike to North Atlantic right whales. Pages 11-12 in Abstracts, 2007 North Atlantic Right Whale Consortium Annual Meeting. 7-8 November 2007. New Bedford, Massachusetts.
- McAlear Baker, S.L. 2000a. Population biology, residency status, and management of bottlenose dolphins, *Tursiops truncatus*, in the Eastern Bay and Choptank River areas of Chesapeake Bay. Ph.D. diss, University of Maryland.
- McAlear Baker, S.L. 2000b. Environmental influences and residency status of bottlenose dolphins, *Tursiops truncatus*, in Maryland waters of Chesapeake Bay. Abstracts, Eighth Annual Atlantic Coastal Dolphin Conference. 24-26 March 2000. Wilmington, North Carolina.
- McAllister, R. 2002. Jimmy is spotted on his way out. *Richmond Times-Dispatch* (28 June):B-1.
- McAlpine, D.F. and R.H. Walker. 1990. Extralimital records of the harp seal, *Phoca groenlandica*, from the western North Atlantic: A review. *Marine Mammal Science* 6(3):248-252.
- McAlpine, D.F., M.C.S. Kingsley, and P.-Y. Daoust. 1999b. A lactating record-age St. Lawrence beluga (*Delphinapterus leucas*). *Marine Mammal Science* 15(3):854-859.
- McAlpine, D.F., P.T. Stevick, and L.D. Murison. 1999a. Increase in extralimital occurrences of ice-breeding seals in the northern Gulf of Maine region: More seals or fewer fish? *Marine Mammal Science* 15(3):906-911.
- McAlpine, D.F., P.T. Stevick, L.D. Murison, and S.D. Turnbull. 1999c. Extralimital records of hooded seals (*Cystophora cristata*) from the Bay of Fundy and northern Gulf of Maine. *Northeastern Naturalist* 6(3):225-230.
- McAtee, W.L. 1950. Possible early record of a manatee in Virginia. *Journal of Mammalogy* 31(1):98-99.
- McDonald, M.A. and C.G. Fox. 1999. Passive acoustic methods applied to fin whale population density estimation. *Journal of the Acoustical Society of America* 105(5):2643-2651.
- McFee, W.E. 1990. An analysis of mass strandings of the long-finned pilot whale, *Globicephala melaena*, on Cape Cod. Master's thesis, Northeastern University.
- McFee, W.E. and E.S. Zolman. n.d. Sightings and strandings of seals in South Carolina. Poster presentation.
- McFee, W.E., S.R. Hopkins-Murphy, and L.H. Schwacke. 2006. Trends in bottlenose dolphin (*Tursiops truncatus*) strandings in South Carolina, USA, 1997-2003: Implications for the Southern North Carolina and South Carolina management units. *Journal of Cetacean Research and Management* 8(2):195-201.
- McGrath, G. 2006a. Deal on the seal: Hungry and feisty. Press Release. Wilmington, North Carolina: Star-News.
- McGrath, G. 2006b. Arctic seal's long journey comes to sad end. Press Release. Wilmington, North Carolina: Star-News.
- McGurk, J. 1997. Stomach content analysis of stranded bottlenose dolphins, *Tursiops truncatus*, in Virginia, 1987-1996. Master's thesis, Old Dominion University.
- McKenzie, T.P. and J.R. Nicolas. 1988. Cetaceans, sea turtles, and pinnipeds of the Mid-Atlantic Water Management Unit. Pages 263-304 in Pacheco, A.L., ed. Characterization of the Middle Atlantic Water Management Unit of the Northeast Regional Action Plan. NOAA Technical Memorandum NMFS-F/NEC-56.
- McLellan, B. 2006. Mid-Atlantic surveys. *Right Whale News* 13(2):8.
- McLellan, W.A., E.A. Meagher, L.G. Torres, G.G. Lovewell, and D.A. Pabst. 2002. Winter right whale surveys, Savannah, Georgia to Chesapeake Bay, Virginia, January 22, 2002-March 19, 2002.

- McLellan, W.A., K.M. Lefler, G. Jones, K. Hardcastle, and D.A. Pabst. 2001. Winter right whale surveys from Savannah, Georgia to Chesapeake Bay, Virginia -- February-March 2001. Prepared for NMFS-SEFSC, Miami, Florida by Biological Sciences Center for Marine Science Research, University of North Carolina, Wilmington, North Carolina.
- McLellan, W.A., V.G. Thayer, and D.A. Pabst. 1996. Stingray spine mortality in a bottlenose dolphin, *Tursiops truncatus*, from North Carolina waters. *Journal of the Elisha Mitchell Scientific Society* 112(2):98-101.
- McLeod, L.A. 1999. Summary of marine mammal observations during 1998 surveys. Report ENQUAD 99-01. Boston, Massachusetts: Massachusetts Water Resources Authority.
- McLeod, L.A. 2001. Summary of marine mammal observations during 2000 surveys. Report ENQUAD 2001-01. Boston, Massachusetts: Massachusetts Water Resources Authority.
- McLeod, L.A. 2002. Summary of marine mammal observations during 2001 surveys. Report ENQUAD 2002-01. Boston, Massachusetts: Massachusetts Water Resources Authority.
- McLeod, L.A., L.M. Short, and J. Smith. 2003. Summary of marine mammal observations during 2002 surveys. Report ENQUAD 2003-01. Boston, Massachusetts: Massachusetts Water Resources Authority.
- McLeod, L.A., T.E. Hunt, and R.A. Asmutis-Silvia. 2000. Summary of marine mammal observations during 1999 surveys. Report ENQUAD 00-01. Boston, Massachusetts: Massachusetts Water Resources Authority.
- Mead, J.G. 1975a. Preliminary report on the former net fisheries for *Tursiops truncatus* in the western North Atlantic. *Journal of the Fisheries Research Board of Canada* 32:1155-1162.
- Mead, J.G. 1975b. Distribution of cetaceans along the Atlantic and Gulf coasts of the United States. MMC MM4AC007. Prepared for the U.S. Marine Mammal Commission, Washington, D.C.
- Mead, J.G. 1977. Records of sei and Bryde's whales from the Atlantic coast of the United States, the Gulf of Mexico, and the Caribbean. *Reports of the International Whaling Commission (Special Issue 1)*:113-116.
- Mead, J.G. 1986. Twentieth-century records of right whales (*Eubalaena glacialis*) in the northwestern Atlantic Ocean. *Reports of the International Whaling Commission (Special Issue 10)*:109-119.
- Mead, J.G., W.A. Walker, C.W. Potter, and W.A. McLellan. 1986. Further observations on the life history of the melon-headed whale, *Peponocephala electra*. Unpublished manuscript. Washington, D.C.: National Museum of Natural History.
- Mearns, E.A. 1900. The native mammals of Rhode Island. *Newport Natural History Society* (1):1-4.
- Measures, L., B. Roberge, and R. Sears. 2004. Stranding of a pygmy sperm whale, *Kogia breviceps*, in the northern Gulf of St. Lawrence, Canada. *Canadian Field-Naturalist* 118(4):495-498.
- Medic, H. 2005. Wandering hooded seals. *Rhode Island Naturalist* 12(2):9-10.
- Mellinger, D.K. 2004. A comparison of methods for detecting right whale calls. *Canadian Acoustics* 32(2):55-65.
- Mellinger, D.K., C.D. Carson, and C.W. Clark. 2000. Characteristics of minke whale (*Balaenoptera acutorostrata*) pulse trains recorded near Puerto Rico. *Marine Mammal Science* 16(4):739-756.
- Mellinger, D.K., S.L. Nieukirk, H. Matsumoto, S.L. Heimlich, R.P. Dziak, J. Haxel, M. Fowler, C. Meinig, and H.V. Miller. 2007. Seasonal occurrence of North Atlantic right whale (*Eubalaena glacialis*) vocalizations at two sites on the Scotian Shelf. *Marine Mammal Science* 23(4):856-867.
- Merigo, C., K. Patchett, B. Rubinstein, J. Rice, and G. Early. 1998. An overview of an unusual mass stranding. Page 49 in Barco, S.G., ed. *Proceedings of the 1997 Northeast Region Stranding Conference*. VMSM Scientific Report 1998-002. Virginia Beach, Virginia: Virginia Marine Science Museum.
- Merrick, R.L. 2005. Seasonal management areas to reduce ship strikes of northern right whales in the Gulf of Maine. *Northeast Fisheries Science Center Reference Document 05-19*. Woods Hole, Massachusetts: National Marine Fisheries Service.
- Merrick, R.L. and T.V.N. Cole. 2007. Evaluation of northern right whale ship strike reduction measures in the Great South Channel of Massachusetts. . NOAA Technical Memorandum NMFS-NE-202:1-12.
- Messina, D. 1996. Volunteers nurse sick hooded seal found on shore. *The Virginian-Pilot* (29 February):B3.
- Michelson, B. 2004. Baby beluga whale visits Boston Harbor. *Alert Diver* September/October:16-18.



- Mid-Atlantic bottlenose dolphin aerial surveys. Accessed 2 February 2006. [http://www.aoc.noaa.gov/article\\_midatlantic.htm](http://www.aoc.noaa.gov/article_midatlantic.htm).
- Mignucci-Giannoni, A.A. 1998. Zoogeography of cetaceans off Puerto Rico and the Virgin Islands. *Caribbean Journal of Science* 34(3-4):173-190.
- Mignucci-Giannoni, A.A. and D.K. Odell. 2001. Tropical and subtropical records of hooded seals (*Cystophora cristata*) dispel the myth of extant Caribbean monk seals (*Monachus tropicalis*). *Bulletin of Marine Science* 68(1):47-58.
- Mignucci-Giannoni, A.A. and P. Haddow. 2002. Wandering hooded seals. *Science* 295:627-628.
- Miller, G.S., Jr. 1927. A pollack whale on the coast of Virginia. *Proceedings of the Biological Society of Washington* 40:111-112.
- Mirimin, L., A. Westgate, E. Rogan, P. Rosel, A. Read, J. Coughlan, and T. Cross. 2009. Population structure of short-beaked common dolphins (*Delphinus delphis*) in the North Atlantic Ocean as revealed by mitochondrial and nuclear genetic markers. *Marine Biology* 156(5):821-834.
- Mitchell, E. and R.R. Reeves. 1988. Records of killer whales in the western North Atlantic, with emphasis on eastern Canadian waters. *Rit Fiskideildar (Journal of the Marine Research Institute Reykjavik)* 11:161-193.
- Mitchell, E. and V.M. Kozicki. 1975a. Autumn stranding of a northern bottlenose whale (*Hyperoodon ampullatus*) in the Bay of Fundy, Nova Scotia. *Journal of the Fisheries Research Board of Canada* 32(7):1019-1040.
- Mitchell, E. and V.M. Kozicki. 1975b. Supplementary information on minke whale (*Balaenoptera acutorostrata*) from Newfoundland fishery. *Journal of the Fisheries Research Board of Canada* 32(7):985-994.
- Mitchell, E.D., Jr. 1991. Winter records of the minke whale (*Balaenoptera acutorostrata acutorostrata* Lacépède 1804) in the southern North Atlantic. *Reports of the International Whaling Commission* 41:455-457.
- Mitchell, G.H., R.D. Kenney, A.M. Farak, and R.J. Campbell. 2002. Evaluation of occurrence of endangered and threatened marine species in Naval ship trial areas and transit lanes in the Gulf of Maine and offshore of Georges Bank. Newport, Rhode Island: Naval Undersea Warfare Division.
- MMC (Marine Mammal Commission). 2004. Annual report to Congress 2003. Bethesda, Maryland: Marine Mammal Commission.
- MMC (Marine Mammal Commission). 2005. Annual report to Congress 2004. Bethesda, Maryland: Marine Mammal Commission.
- MMC (Marine Mammal Commission). 2007a. Report of the Workshop on Assessing the Population Viability of Endangered Marine Mammals in U.S. Waters, 13-15 September 2005, Savannah, Georgia. Bethesda, Maryland: Marine Mammal Commission.
- MMC (Marine Mammal Commission). 2007b. Report of the North Atlantic Right Whale Program review. Prepared for the Marine Mammal Commission, Bethesda, Maryland by R.R. Reeves, A.J. Read, L. Lowry, S.K. Katona, and D.J. Boness.
- MMC (Marine Mammal Commission). 2007c. Endangered, threatened, and depleted marine mammals in U.S. waters: A review of species classification systems and listed species. Prepared for the Marine Mammal Commission, Bethesda, Maryland by Lloyd Lowry, David W. Laist, and Elizabeth Taylor.
- MMC (Marine Mammal Commission). 2008. The biological viability of the most endangered marine mammals and the cost-effectiveness of protection programs. Prepared for the United States Congress, Washington, D.C. by Marine Mammal Commission, Bethesda, Maryland.
- Mohn, R. and W.D. Bowen. 1996. Grey seal predation on the eastern Scotian Shelf: Modelling the impact on Atlantic cod. *Canadian Journal of Fisheries and Aquatic Sciences* 53:2722-2738.
- Mooney-Seus, M.L. and G.S. Stone, eds. 1995. Pinniped populations in Gulf of Maine: Status, issues, and management. Forum at the New England Aquarium June 14-15, 1995. Forum Proceedings 95-1. Boston, Massachusetts: New England Aquarium.
- Moore, M.J., A.R. Knowlton, S.D. Kraus, W.A. McLellan, and R.K. Bonde. 2004b. Morphometry, gross morphology and available histopathology in North Atlantic right whale (*Eubalaena glacialis*) mortalities (1970-2002). *Journal of Cetacean Research and Management* 6(3):199-214.

- Moore, M.J., B. Rubinstein, S.A. Norman, and T. Lipscomb. 2004a. A note on the most northerly record of Gervais' beaked whale from the western North Atlantic Ocean. *Journal of Cetacean Research and Management* 6(3):279-281.
- Moore, S.E. and J.T. Clarke. 1998. Summary of marine mammal occurrence and population estimates in U.S. coastal waters subject to military aircraft overflights. Prepared for the U.S. Airforce, Air Force Research Laboratory, AFRL/HECB, Wright-Patterson AFB, Ohio by SAIC, San Diego, CA.
- Morgan, L.W., J.A. Musick, and C.W. Potter. 2002. Temporal and geographic occurrences of cetacean strandings and manatee sightings in Virginia, with notes on adverse human-cetacean interactions, from 1983-1989. *Journal of the North Carolina Academy of Science* 118(1):12-26.
- Morgan, M.A. and G.W. Patton. 1990. Human dolphin interactions on the west coast of Florida: Documentation from MML's Marine Mammal Response Program. Mote Marine Laboratory Technical Report No. 191. Sarasota, Florida: Mote Marine Laboratory.
- Mörzer Bruyns, W.F.J. 1969. Sight records and notes on the false killer whale, *Pseudorca crassidens* (Owen, 1846). *Säugetierkundliche Mitteilungen* 17(4):351-356.
- Mueller, M., E. Hines, and L. Ward. 2007. Systematic collection and analysis of Automatic Identification System (AIS) data for right whale conservation efforts in the southeastern U.S. (SEUS). Page 13 in Abstracts, 2007 North Atlantic Right Whale Consortium Annual Meeting. 7-8 November 2007. New Bedford, Massachusetts.
- Mullin, K.D. and G.L. Fulling. 2003. Abundance of cetaceans in the southern U.S. North Atlantic Ocean during summer 1998. *Fishery Bulletin* 101:603-613.
- Murison, L.D. and D.E. Gaskin. 1989. The distribution of right whales and zooplankton in the Bay of Fundy, Canada. *Canadian Journal of Zoology* 67:1411-1420.
- Murphy, M.A. 1995. Occurrence and group characteristics of minke whales, *Balaenoptera acutorostrata*, in Massachusetts Bay and Cape Cod Bay. *Fishery Bulletin* 93:577-585.
- Musick, J.A., J.A. Keinath, and D.E. Bernard. 1988. Aerial surveys of the Currituck EMPRESS area. Submitted by the Virginia Institute of Marine Science, College of William and Mary to the Department of the Navy, Theater Nuclear Warfare Program Office, Naval Sea Systems Command.
- NAMMCO (North Atlantic Marine Mammal Commission). 1995. Report of the third meeting of the Scientific Committee. Pages 67-171 in NAMMCO annual report 1995. Tromsø, Norway: North Atlantic Marine Mammal Commission.
- NARWC (North Atlantic Right Whale Consortium). 2006. North Atlantic right whale report card: November 2005 - October 2006. Prepared for the National Marine Fisheries Service, Silver Spring, Maryland.
- NARWC (North Atlantic Right Whale Consortium). 2007. North Atlantic right whale report card: November 2006 - October 2007. Prepared for the National Marine Fisheries Service, Silver Spring, Maryland.
- Natoli, A., V.M. Peddemors, and A.R. Hoelzel. 2004. Population structure and speciation in the genus *Tursiops* based on microsatellite and mitochondrial DNA analyses. *Journal of Evolutionary Biology* 17:363-375.
- Naud, M.J., B. Long, J.-C. Brêthes, and R. Sears. 2003. Influences of underwater bottom topography and geomorphology on minke whale (*Balaenoptera acutorostrata*) distribution in the Mingan Islands (Canada). *Journal of the Marine Biological Association of the United Kingdom* 83:889-896.
- Nawojchik, R. 1994. First record of *Mesoplodon densirostris* (Cetacea: Ziphiidae) from Rhode Island. *Marine Mammal Science* 10(4):477-480.
- Nawojchik, R. 1998. 1997 strandings in Connecticut and Rhode Island. Page 24 in Barco, S.G., ed. *Proceedings of the 1997 Northeast Region Stranding Conference*. VMSM Scientific Report 1998-002. Virginia Beach, Virginia: Virginia Marine Science Museum.
- Nemiroff, L. and H. Whitehead. 2008. Pulses calls from long-finned pilot whales (*Globicephala melas*) off Cape Breton, Nova Scotia. Pages 87-88 in Abstracts, Marine Mammals in Time: Past, Present, and Future, Twenty-second Annual Conference of the European Cetacean Society. 10-12 March 2008. Egmond aan Zee, The Netherlands.
- Neuhauser, H., ed. 2002. Right Whale News, Volume 9, Number 1-4.
- Neuhauser, H., ed. 2003a. Right Whale News, Volume 10, Number 4.
- Neuhauser, H., ed. 2003b. Right Whale News, Volume 10, Number 2.
- Neuhauser, H., ed. 2004. Right Whale News, Volume 11, Number 2.

- Neuhauser, H., ed. 2005a. Right Whale News, Volume 13, Number 2.
- Neuhauser, H., ed. 2005b. Right Whale News, Volume 12, Number 3.
- Neuhauser, H., ed. 2007. Right Whale News, Volume 14, Number 4.
- Nichols, O., R. Kenney, and M. Brown. 2003. Spatial and temporal distribution of North Atlantic right whales (*Eubalaena glacialis*) in Cape Cod Bay, USA, 1998-2002 and implications for management of fishing practices. Page 117 in Abstracts, Fifteenth Biennial Conference on the Biology of Marine Mammals. 14-19 December 2003. Greensboro, North Carolina.
- Nichols, O.C. and H.L. Kite-Powell. 2005. Analysis of risk to North Atlantic right whales (*Eubalaena glacialis*) from shipping traffic in Cape Cod Bay. Prepared for NOAA Fisheries, Northeast Fisheries Science Center, Woods Hole, Massachusetts by Center for Coastal Studies, Provincetown, Massachusetts.
- Nichols, O.C., R.D. Kenney, and M.W. Brown. 2008. Spatial and temporal distribution of North Atlantic right whales (*Eubalaena glacialis*) in Cape Cod Bay, and implications for management. Fishery Bulletin 106(3):270-280.
- Nicolas, J., D.C. Potter, C.W. Potter, and P.E. Rosel. 2001. Results of a field collection of biopsy samples from coastal bottlenose dolphin in the mid-Atlantic.1-4. Woods Hole, Massachusetts: National Marine Fisheries Service.
- Niemeyer, M., compiler. 2007. North Atlantic Right Whale Sighting Survey (NARWSS) and Right Whale Sighting Advisory System (RWSAS) 2002 results summary. Northeast Fisheries Science Center Reference Document 07-18a, 07-18b, 07-18c, 07-18d, & 07-18e. Woods Hole, Massachusetts: National Marine Fisheries Service.
- Nieukirk, S.L., K.M. Stafford, D.K. Mellinger, R.P. Dziak, and C.G. Fox. 2004. Low-frequency whale and seismic airgun sounds recorded in the mid-Atlantic Ocean. Journal of the Acoustical Society of America 115(4):1832-1843.
- NMFS (National Marine Fisheries Service). 1991a. Northeast cetacean aerial survey and interplatform study. Prepared by the Southeast Fisheries Science Center, Pascagoula, Mississippi and the Northeast Fisheries Science Center, Woods Hole, Massachusetts.
- NMFS (National Marine Fisheries Service). 1991b. Final recovery plan for the northern right whale (*Eubalaena glacialis*). Silver Spring, Maryland: National Marine Fisheries Service.
- NMFS (National Marine Fisheries Service). 1994. Designated critical habitat; northern right whale. Federal Register 59(106):28793-28808.
- NMFS (National Marine Fisheries Service). 1998. Draft recovery plan for the fin whale *Balaenoptera physalus* and sei whale *Balaenoptera borealis*. Silver Spring, Maryland: National Marine Fisheries Service.
- NMFS (National Marine Fisheries Service). 2000. Conservation plan for the Atlantic coastal stock complex of bottlenose dolphins, *Tursiops truncatus*.
- NMFS (National Marine Fisheries Service). 2001a. Final review of the biological status of the Gulf of Maine/Bay of Fundy harbor porpoise (*Phocoena phocoena*) pursuant to the Endangered Species Act. Silver Spring, Maryland.
- NMFS (National Marine Fisheries Service). 2001b. North Atlantic right whale death reported: Second confirmed right whale death this year. NMFS Northeast Region News NR01-09(20 March):3.
- NMFS (National Marine Fisheries Service). 2002a. Biological opinion: Consultation on dredging in the Thimble Shoal Federal Navigation Channel and Atlantic Ocean Channel. Gloucester, Massachusetts: Northeast Regional Office, National Marine Fisheries Service.
- NMFS (National Marine Fisheries Service). 2002b. Marine mammals; notice of intent to prepare an environmental impact statement for a take reduction plan for the western North Atlantic coastal stock of bottlenose dolphins--Notice of intent to prepare an Environmental Impact Statement (EIS); request for comments. Federal Register 67(140):47772-47773.
- NMFS (National Marine Fisheries Service). 2002c. Endangered and threatened wildlife and plants: Finding for a petition to revise critical habitat for northern right whales. Federal Register 67(223):69708-69710.
- NMFS (National Marine Fisheries Service). 2002d. Taking of marine mammals incidental to commercial fishing operations; Atlantic large whale take reduction plan--Temporary rule. Federal Register 67(126):44092-44093.
- NMFS (National Marine Fisheries Service). 2003. Recovery plan for the North Atlantic right whale (*Eubalaena glacialis*). Silver Spring, Maryland: National Marine Fisheries Service.

- NMFS (National Marine Fisheries Service). 2004c. Report to Congress: Review of commercial fisheries' progress toward reducing mortality and serious injury of marine mammals incidental to commercial fishing operations. Silver Spring, Maryland: National Marine Fisheries Service.
- NMFS (National Marine Fisheries Service). 2004d. Final environmental assessment and regulatory impact review Regulatory Flexibility Act analysis on sea turtle conservation measures for the pound net fishery in Virginia waters of the Chesapeake Bay. Silver Spring, Maryland: National Marine Fisheries Service.
- NMFS (National Marine Fisheries Service). 2005. Taking of marine mammals incidental to commercial fishing operations; Atlantic large whale take reduction plan regulations; Proposed rule. Federal Register 70(118):35894-35944.
- NMFS (National Marine Fisheries Service). 2006b. Environmental assessment, regulatory impact review, and final Regulatory Flexibility Act analysis for a final rule to implement the bottlenose dolphin take reduction plan and revise the large mesh size restriction under the mid-Atlantic large mesh gillnet rule. St. Petersburg, Florida: National Marine Fisheries Service.
- NMFS (National Marine Fisheries Service). 2006d. Environmental impact statement to implement the operational measures of the North Atlantic right whale Ship Strike Reduction Strategy. Draft environmental impact statement. Prepared by National Marine Fisheries Service, Office of Protected Resources, Silver Spring, Maryland.
- NMFS (National Marine Fisheries Service). 2006f. Endangered fish and wildlife; Proposed rule to implement speed restrictions to reduce the threat of ship collisions with North Atlantic right whales. Federal Register 71(122):36299-36313.
- NMFS (National Marine Fisheries Service). 2006g. List of fisheries for 2006--Proposed rule. Federal Register 71(78):20941-20965.
- NMFS (National Marine Fisheries Service). 2008a. Small takes of marine mammals incidental to specified activities; naval explosive ordnance disposal school training operations at Eglin Air Force Base, Florida. Federal Register 73(155):46592-46596.
- NMFS (National Marine Fisheries Service). 2008b. Draft U.S. Atlantic and Gulf of Mexico marine mammal stock assessments - 2008. Silver Spring, Maryland: National Marine Fisheries Service.
- NMFS (National Marine Fisheries Service). 2008c. Taking of marine mammals incidental to commercial fishing operations; Atlantic pelagic longline take reduction plan. Federal Register 73(122):35623-35631.
- NMFS (National Marine Fisheries Service). 2008d. Endangered fish and wildlife; Final rule to implement speed restrictions to reduce the threat of ship collisions with North Atlantic right whales. Federal Register 73(198):60173-60191.
- NMFS (National Marine Fisheries Service). 2008e. Endangered and threatened species; Endangered status for North Pacific and North Atlantic right whales. Federal Register 73(45):120212030.
- NMFS (National Marine Fisheries Service). 2008f. Small takes of marine mammals incidental to specified activities; Marine geophysical survey off Central America, February-April 2008. Federal Register 73(35):9526-9535.
- NMFS (National Marine Fisheries Service). 2008g. Endangered and threatened wildlife; Notice of 90-day finding on a petition to list the three ice seal species as threatened or endangered species. Federal Register 73(172):51615-51617.
- NMFS (National Marine Fisheries Service). 2008h. Final environmental impact statement to implement vessel operational measures to reduce ship strikes to North Atlantic right whales. Silver Spring, Maryland: National Marine Fisheries Service.
- NMFS-NEFSC (National Marine Fisheries Service-Northeast Fisheries Science Center). 1997. Cruise results, R/V *Delaware* cruise no. DEL 97-05, marine mammal distribution survey. Unpublished cruise report. Woods Hole, Massachusetts: National Marine Fisheries Service.
- NMFS-NEFSC (National Marine Fisheries Service-Northeast Fisheries Science Center). 1998a. 1998 aerial survey: A component of the NEFSC offshore marine mammal survey. Unpublished survey report. Woods Hole, Massachusetts: National Marine Fisheries Service.
- NMFS-NEFSC (National Marine Fisheries Service-Northeast Fisheries Science Center). 1998b. Cruise results, R/V *Delaware* cruise no. DE-98-04, mid-Atlantic marine mammal distribution survey. Unpublished cruise report. Woods Hole, Massachusetts: National Marine Fisheries Service.
- NMFS-NEFSC (National Marine Fisheries Service-Northeast Fisheries Science Center). 1999. Cruise results, R/V *ABEL-J* cruise no. AJ 99-02, Gulf of Maine/Bay of Fundy harbor porpoise abundance

- survey. Unpublished cruise report. Woods Hole, Massachusetts: National Marine Fisheries Service.
- NMFS-NEFSC (National Marine Fisheries Service-Northeast Fisheries Science Center). 2000a. Cruise results, R/V *Delaware II* cruise no. DE-00-07, right whale tagging survey. Unpublished cruise report. Woods Hole, Massachusetts: National Marine Fisheries Service.
- NMFS-NEFSC (National Marine Fisheries Service-Northeast Fisheries Science Center). 2000b. FY 2000 right whale photogrammetry flight report. 5 August - 27 August 2000. Unpublished survey report. Woods Hole, Massachusetts: National Marine Fisheries Service.
- NMFS-NEFSC (National Marine Fisheries Service-Northeast Fisheries Science Center). 2001a. Cruise results, NOAA FRV *Albatross IV* cruise no. AL 01-08, northern right whale habitat survey. Unpublished cruise report. Woods Hole, Massachusetts: National Marine Fisheries Service.
- NMFS-NEFSC (National Marine Fisheries Service-Northeast Fisheries Science Center). 2001b. Cruise results, NOAA FRV *Delaware II* cruise no. DE 01-08, northern right whale survey and tagging. Unpublished cruise report. Woods Hole, Massachusetts: National Marine Fisheries Service.
- NMFS-NEFSC (National Marine Fisheries Service-Northeast Fisheries Science Center). 2001c. Cruise results, NOAA FRV *Delaware II* cruise no. DE 01-07, marine mammal survey calibration study. Unpublished cruise report. Woods Hole, Massachusetts: National Marine Fisheries Service.
- NMFS-NEFSC (National Marine Fisheries Service-Northeast Fisheries Science Center). 2002a. Cruise report, R/V *Delaware II* cruise no. DE 02-07, large whale survey. Unpublished cruise report. Woods Hole, Massachusetts: National Marine Fisheries Service.
- NMFS-NEFSC (National Marine Fisheries Service-Northeast Fisheries Science Center). 2002b. Cruise results, NOAA Fisheries Research Vessel *Albatross IV* cruise no. AL-02-05, northern right whale survey. Unpublished cruise report. Woods Hole, Massachusetts: National Marine Fisheries Service.
- NMFS-NEFSC (National Marine Fisheries Service-Northeast Fisheries Science Center). 2002c. Aerial survey results, NOAA twin otter aircraft, circle-back method experimental abundance survey. Unpublished survey report. Woods Hole, Massachusetts: National Marine Fisheries Service.
- NMFS-NEFSC (National Marine Fisheries Service-Northeast Fisheries Science Center). 2004a. Cruise results, R/V *Endeavor* cruise no. EN 04-395: Mid-Atlantic marine mammal abundance survey. Unpublished survey report. Woods Hole, Massachusetts: National Marine Fisheries Service.
- NMFS-NEFSC (National Marine Fisheries Service-Northeast Fisheries Science Center). 2004b. Aerial survey results, NOAA twin otter aircraft, circle-back abundance survey. Unpublished survey report. Woods Hole, Massachusetts: National Marine Fisheries Service.
- NMFS-NEFSC (National Marine Fisheries Service-Northeast Fisheries Science Center). 2005. Beluga whale returns to Delaware River. Press Release. 29 April. Gloucester, Massachusetts: National Marine Fisheries Service, Northeast Fisheries Science Center.
- NMFS-NEFSC (National Marine Fisheries Service-Northeast Fisheries Science Center). 2008. Northeast US right whale sighting advisory system (SAS). Electronic data. Download date: 08 August 2008. <http://rwhalesightings.nefsc.noaa.gov/>.
- NMFS-SEFSC (National Marine Fisheries Service-Southeast Fisheries Science Center). 1999. Cruise results, summer Atlantic Ocean marine mammal survey, NOAA Ship *Oregon II* cruise OT 99-05 (236). Unpublished cruise report. Pascagoula, Mississippi: National Marine Fisheries Service.
- NMFS-SEFSC (National Marine Fisheries Service-Southeast Fisheries Science Center). 2000. Cruise results: Windwards humpback survey: NOAA Ship *Gordon Gunter* Cruise GU-00-01 (06), 9 February - 3 April 2000. Unpublished cruise report. Pascagoula, Mississippi: National Marine Fisheries Service.
- NMFS-SEFSC (National Marine Fisheries Service-Southeast Fisheries Science Center). 2001. Preliminary stock structure of coastal bottlenose dolphins along the Atlantic coast of the US. Unpublished document prepared for the Take Reduction Team on Coastal Bottlenose Dolphins in the Western Atlantic.
- NMFS-SEFSC (National Marine Fisheries Service-Southeast Fisheries Science Center). 2004a. Cruise results, NOAA Ship *Gordon Gunter* cruise GU-04-03 (028), 22 June - 19 August: A survey for abundance and distribution of cetaceans in the U.S. mid-Atlantic with an emphasis on pilot whales. Unpublished cruise report. Pascagoula, Mississippi: National Marine Fisheries Service.

- NMFS-SEFSC (National Marine Fisheries Service-Southeast Fisheries Science Center). 2004b. Mid-Atlantic Aerial *Tursiops* Survey (MATS). Unpublished aerial survey plan. Miami, Florida: National Marine Fisheries Service.
- NMFS-SEFSC (National Marine Fisheries Service-Southeast Fisheries Science Center). 2005. Cruise results, NOAA Ship *Gordon Gunter* cruise GU-05-03, 14 June - 16 August, 2005: A survey of the U.S. mid-Atlantic to collect biopsy samples for analysis of population structure in bottlenose dolphins and pilot whales. Unpublished cruise report. Pascagoula, Mississippi: National Marine Fisheries Service.
- NOAA (National Oceanic and Atmospheric Administration) and USCG (U.S. Coast Guard). 2007. News from NOAA: NOAA & Coast Guard help shift Boston ship traffic lane to reduce risk of collisions with whales. Press Release. 28 June 2007. Gloucester, Massachusetts: National Oceanic and Atmospheric Administration.
- NOAA (National Oceanic and Atmospheric Administration). 2004. Analysis of dead dolphins in Florida. Marine Pollution Bulletin 48:816.
- NOAA (National Oceanic and Atmospheric Administration). 2006b. NOAA proposes regulations to reduce risk of whale collisions. Marine Pollution Bulletin 52:837.
- NOAA Fisheries Service. 2007. Important sighting of mother and calf right whales confirmed off northeast Florida: NOAA asks mariners to keep a lookout and report future sightings. Press Release. 19 July. St. Petersburg, Florida: Southeast Regional Office.
- Norris, K.S. and B. Møhl. 1983. Can odontocetes debilitate prey with sound? American Naturalist 122(1):85-104.
- Northridge, S. 1996. Seasonal distribution of harbour porpoises in US Atlantic waters. Reports of the International Whaling Commission 46:613-617.
- Northridge, S., M. Tasker, A. Webb, K. Camphuysen, and M. Leopold. 1997. White-beaked *Lagenorhynchus albirostris* and Atlantic white-sided dolphin *L. acutus* distributions in northwest European and US North Atlantic waters. Reports of the International Whaling Commission 47:797-805.
- NOS (National Ocean Service). 2002. Environmental Sensitivity Index (ESI) atlas: Massachusetts. Volumes 1 and 2. [2 CD-ROMs]. Seattle, Washington: National Oceanic and Atmospheric Administration.
- Nowacek, D., A. McGregor, M. Johnson, and P. Tyack. 2007. Comparing and quantifying stereotyped dive profiles to explore right whale behavior. Pages 13-14 in Abstracts, 2007 North Atlantic Right Whale Consortium Annual Meeting. 7-8 November 2007. New Bedford, Massachusetts.
- Odell, D.K. and C. Chapman. 1976. A striped dolphin, *Stenella coeruleoalba*, from Florida. Cetology 20:1-6.
- Olson, P.A. and S.B. Reilly. 2002. Pilot whales *Globicephala melas* and *G. macrorhynchus*. Pages 898-903 in Perrin, W.F., B. Würsig, and J.G.M. Thewissen, eds. Encyclopedia of marine mammals. San Diego, California: Academic Press.
- Orphanides, C.D. and D.L. Palka. 2008. Bycatch of harbor porpoises in three U.S. gillnet management areas: Southern mid-Atlantic, offshore, and western Gulf of Maine. Northeast Fisheries Science Center Reference Document 08-09. Prepared by National Marine Fisheries Service, Northeast Fisheries Science Center, Woods Hole, Massachusetts.
- Overholtz, W.J. and J.S. Link. 2007. Consumption impacts by marine mammals, fish, and seabirds on the Gulf of Maine-Georges Bank Atlantic herring (*Clupea harengus*) complex during the years 1977-2002. ICES Journal of Marine Science 64:83-96.
- Overstrom, N.A., S. Spotte, J.L. Dunn, A.D. Goren, and H.W. Kaufman. 1991. A resident belukha whale (*Delphinapterus leucas*) in Long Island Sound. Pages 143-149 in Reynolds, J.E. and D.K. Odell, eds. Marine mammal strandings in the United States: Proceedings of the second marine mammal stranding workshop, Miami, Florida, December 3-5, 1987. NOAA Technical Report NMFS 98.
- Pace III, R.M. and R.L. Merrick. 2008. Northwest Atlantic Ocean habitats important to the conservation of North Atlantic right whales (*Eubalaena glacialis*). Northeast Fisheries Science Center Reference Doc. 08-07. Woods Hole, Massachusetts: National Marine Fisheries Service.
- Palka, D. 2001. Cetacean habitats during summer off the US Northeast Atlantic coast. Page 167 in Abstracts, Fourteenth Biennial Conference on the Biology of Marine Mammals. 28 November-3 December 2001. Vancouver, British Columbia.

- Palka, D. 2005a. Density estimates of cetaceans in strata defined by the Navy. Unpublished report. Woods Hole, Massachusetts: National Marine Fisheries Service.
- Palka, D. 2005b. Shipboard surveys in the northwest Atlantic: Estimation of  $g(0)$ . European Cetacean Society Newsletter 44(Special Issue):32-37.
- Palka, D. 2005c. Aerial surveys in the northwest Atlantic: Estimation of  $g(0)$ . European Cetacean Society Newsletter 44(Special Issue):12-17.
- Palka, D. 2007. Summary of harbor porpoise bycatch in waters off New Jersey. Woodshole, Massachusetts: National Marine Fisheries Service.
- Palka, D. and J. Pollard. 1999. Adaptive line transect survey for harbor porpoises. Pages 3-11 in Garner, G.W., S.C. Amstrup, J.L. Laake, B.F.J. Manly, L.L. McDonald, and D.G. Robertson, eds. Marine Mammal Survey and Assessment Methods. Rotterdam, Netherlands: A.A. Balkema.
- Palka, D., A. Read, and C. Potter. 1997. Summary of knowledge of white-sided dolphins (*Lagenorhynchus acutus*) from US and Canadian Atlantic waters. Reports of the International Whaling Commission 47:729-734.
- Palka, D., L. Garrison, A. Hohn, and C. Yeung. 2001. Summary of abundance estimates and PBR for coastal *Tursiops* for waters between New York and Florida during 1995 to 2000. Unpublished document prepared for the Take Reduction Team on Coastal Bottlenose Dolphins in the Western Atlantic.
- Palka, D.L. 2006. Summer abundance estimates of cetaceans in US North Atlantic Navy operating areas. Northeast Fisheries Science Center Reference Document 06-03. Woods Hole, Massachusetts: National Marine Fisheries Service.
- Palka, D.L. and P.S. Hammond. 2001. Accounting for responsive movement in line transect estimates of abundance. Canadian Journal of Fisheries and Aquatic Sciences 58:777-787.
- Palka, D.L., G.T. Waring, and D.C. Potter. 2005. Abundances of cetaceans and turtles in the Northwest Atlantic during summer 1995 and 1998. Draft report. Woods Hole, Massachusetts: National Marine Fisheries Service.
- Paradiso, J.L. 1958. The common blackfish in Virginia coastal waters. Journal of Mammalogy 39(3):440-441.
- Paradiso, J.L. and C.O. Handley, Jr. 1965. Checklist of mammals of Assateague Island. Chesapeake Science 6(3):167-171.
- Parks, S.E. and P.L. Tyack. 2005. Sound production by North Atlantic right whales (*Eubalaena glacialis*) in surface active groups. Journal of the Acoustical Society of America 117(5):3297-3306.
- Parks, S.E., C.W. Clark, and P.L. Tyack. 2007a. Short- and long-term changes in right whale calling behavior: The potential effects of noise on acoustic communication. The Journal of the Acoustical Society of America 122(6):3725-3731.
- Parks, S.E., M.W. Brown, L.A. Conger, P.K. Hamilton, A.R. Knowlton, S.D. Kraus, C.K. Slay, and P.L. Tyack. 2007b. Occurrence, composition, and potential functions of North Atlantic right whale (*Eubalaena glacialis*) surface active groups. Marine Mammal Science 23(4):868-887.
- Parks, S.E., P.K. Hamilton, S.D. Kraus, and P.L. Tyack. 2005. The gunshot sound produced by male North Atlantic right whales (*Eubalaena glacialis*) and its potential function in reproductive advertisement. Marine Mammal Science 21(3):458-475.
- Patchett, K., C. Merigo, B. Rubinstein, and J. Rice. 1998. New England Aquarium 1997 accession report. Pages 25-27 in Barco, S.G., ed. Proceedings of the 1997 Northeast Region Stranding Conference. VMSM Scientific Report 1998-002. Virginia Beach, Virginia: Virginia Marine Science Museum.
- Patterson, B. 1964. Repetitive 20 cycle per second biological hydroacoustic signals at Bermuda. Pages 125-145 in Tavalga, W.N., ed. Marine Bio-Acoustics--Proceedings of a symposium held at Bimini, Bahamas, April 1963. Oxford, Great Britain: Pergamon Press.
- Patteson, B. 2007. Personal communication via letter between Mr. Brian Patteson, Seabirding Pelagic Trips, Hatteras, North Carolina and USWTR DOEIS/DEIS Project Manager, NAVFAC Atlantic, Washington, D.C. 19 October 2007.
- Payne, P.M. and D.C. Schneider. 1984. Yearly changes in abundance of harbor seals, *Phoca vitulina*, at a winter haul-out site in Massachusetts. Fishery Bulletin 82(2):440-442.
- Payne, P.M. and D.W. Heinemann. 1993. The distribution of pilot whales (*Globicephala* spp.) in shelf/shelf-edge and slope waters of the Northeastern United States, 1978-1988. Reports of the International Whaling Commission (Special Issue 14):51-68.

- Payne, P.M. and L.A. Selzer. 1989. The distribution, abundance and selected prey of the harbor seal, *Phoca vitulina concolor*, in southern New England. *Marine Mammal Science* 5(2):173-192.
- Payne, P.M., D.N. Wiley, S.B. Young, S. Pittman, P.J. Clapham, and J.W. Jossi. 1990b. Recent fluctuations in the abundance of baleen whales in the southern Gulf of Maine in relation to changes in selected prey. *Fishery Bulletin* 88:687-696.
- Payne, P.M., D.W. Heinemann, and L.A. Selzer. 1990a. A distributional assessment of cetaceans in shelf/shelf-edge and adjacent slope waters of the northeastern United States based on aerial and shipboard surveys, 1978-1988. Woods Hole, Massachusetts: National Marine Fisheries Service, Northeast Fisheries Science Center.
- Payne, P.M., J.R. Nicolas, L. O'Brien, and K.D. Powers. 1986. The distribution of the humpback whale, *Megaptera novaeangliae*, on Georges Bank and in the Gulf of Maine in relation to densities of the sand eel, *Ammodytes americanus*. *Fishery Bulletin* 84:271-277.
- Payne, R.S. and S. McVay. 1971. Songs of humpback whales. *Science* 173:585-597.
- Pendleton, D.E., A.J. Pershing, M.W. Brown, C.A. Mayo, R.D. Kenney, N.R. Record, and T.V.N. Cole. 2009. Regional-scale mean copepod concentration indicates relative abundance of North Atlantic right whales. *Marine Ecology Progress Series* 378:211-225.
- Perkins, J.S. and P.C. Beamish. 1979. Net entanglements of baleen whales in the inshore fishery of Newfoundland. *Journal of the Fisheries Research Board of Canada* 36:521-528.
- Perrin, W.F. 2002. Common dolphins *Delphinus delphis*, *D. capensis*, and *D. tropicalis*. Pages 245-248 in Perrin, W.F., B. Würsig, and J.G.M. Thewissen, eds. *Encyclopedia of marine mammals*. San Diego, California: Academic Press.
- Pershing, A.J., N.R. Record, B.C. Monger, C.A. Mayo, M.W. Brown, T.V.N. Cole, R.D. Kenney, D.E. Pendleton, and L.A. Woodard. 2009. Model-based estimates of right whale habitat use in the Gulf of Maine. *Marine Ecology Progress Series* 378:245-257.
- Pfeiffer, C.J., ed. 2002. *Molecular and cell biology of marine mammals*. Malabar, Florida: Krieger Publishing Company.
- Polacheck, T., F.W. Wenzel, and G. Early. 1995. What do stranding data say about harbor porpoises (*Phocoena phocoena*)? *Reports of the International Whaling Commission (Special Issue 16)*:169-179.
- Potter, C.W. 1979. The marine fauna. Pages 595-602 in *Proceedings of the Symposium on Endangered and Threatened Plants and Animals of Virginia*. 19-20 May 1978. Blacksburg, Virginia.
- Potter, C.W. 1984. Marine mammals of Maryland. Pages 442-453 in Norden, A.W., D.C. Forester, and G.H. Fenwick, eds. *Threatened and endangered plants and animals of Maryland*. Special Publication 84-1. Annapolis, Maryland: Maryland Natural Heritage Program.
- Potter, C.W. 1991. Marine mammals. Pages 603-616 in Terwilliger, K., ed. *Virginia's endangered species: Proceedings of a symposium*. Blacksburg, Virginia: The McDonald and Woodward Publishing Company.
- Prescott, J.H. and P.M. Fiorelli. 1980. Review of the harbor porpoise (*Phocoena phocoena*) in the U.S. Northwest Atlantic. Washington, D.C.: Marine Mammal Commission.
- Prescott, J.H., P. Fiorelli, G. Early, and P.J. Boyle. 1990. Marine mammal strandings: The New England Aquarium Stranding Network. Prepared for the U.S. Marine Mammal Commission, Washington, D.C.
- Prescott, R. 1982. Harbor seals: Mysterious lords of the winter beach. *Cape Cod Life* 3(4):24-29.
- Quintal, J.M. and T.D. Smith. 1999. Marine Mammal Research Program of the Northeast Fisheries Science Center during 1990-95. NOAA Technical Memorandum NMFS-NE-120:1-28.
- Ramp, C., M. Berube, W. Hagen, and R. Sears. 2006. Survival of adult blue whales *Balaenoptera musculus* in the Gulf of St. Lawrence, Canada. *Marine Ecology Progress Series* 319:287-295.
- Rankin, J.J. 1956. The structure of the skull of the beaked whale, *Mesoplodon gervaisi* Deslongchamps. *Journal of Morphology* 99(2):329-357.
- Rathbun, G.B., R.K. Bonde, and D. Clay. 1982. The status of the West Indian manatee on the Atlantic coast north of Florida. Pages 152-165 in Odom, R.R. and J.W. Guthrie, eds. *Proceedings of the Nongame and Endangered Wildlife Symposium*. 13-14 August 1981. Athens, Georgia.
- Read, A., J. Durban, K. Urian, D. Waples, and B. Foster. 2003. Abundance and stock structure of bottlenose dolphins along the Outer Banks, North Carolina. Draft Final Report. Project 02-EP-02. Raleigh, North Carolina: North Carolina Sea Grant Fishery Resource Grant Program.



- Read, A.J. 1999. Harbour porpoise *Phocoena phocoena* (Linnaeus, 1758). Pages 323-355 in Ridgway, S.H. and R. Harrison, eds. Handbook of marine mammals. Volume 6: The second book of dolphins and the porpoises. San Diego, California: Academic Press.
- Read, A.J., D.M. Waples, K.W. Urian, and D. Swanner. 2003. Fine-scale behaviour of bottlenose dolphins around gillnets. Proceedings of the Royal Society B: Biological Sciences 270:90-92.
- Read, A.J., J.E. Craddock, and D. Gannon. 1994. Life history of harbour porpoises and pilot whales taken in commercial fishing operations off the northeastern United States. Final report to the National Marine Fisheries Service. Woods Hole, Massachusetts: Woods Hole Oceanographic Institution.
- Read, A.J., J.R. Nicolas, and J.E. Craddock. 1996. Winter capture of a harbor porpoise in a pelagic drift net off North Carolina. Fishery Bulletin 94:381-383.
- Redfern, J.V., M.C. Ferguson, E.A. Becker, K.D. Hyrenbach, C. Good, J. Barlow, K. Kaschner, M.F. Baumgartner, K.A. Forney, L.T. Ballance, P. Fauchald, P. Halpin, T. Hamazaki, A.J. Pershing, S.S. Qian, A. Read, S.B. Reilly, L. Torres, and F. Werner. 2006. Techniques for cetacean-habitat modeling. Marine Ecology Progress Series 310:271-295.
- Reeves, R.R. 1990. An overview of the distribution, exploitation and conservation status of belugas, worldwide. Pages 47-58 in Prescott, J. and M. Gauquelin, eds. For the future of the beluga: Proceedings of the International Forum for the Future of the Beluga. Sillery, Quebec: University of Quebec Press.
- Reeves, R.R. and E. Mitchell. 1988. History of whaling in and near North Carolina. NOAA Technical Report NMFS 65:1-28.
- Reeves, R.R. and S.K. Katona. 1980. Extralimital records of white whales (*Delphinapterus leucas*) in eastern North American waters. Canadian Field-Naturalist 94(3):239-247.
- Reeves, R.R., B.S. Stewart, P.J. Clapham, and J.A. Powell. 2002a. National Audubon Society guide to marine mammals of the world. New York, New York: Alfred A. Knopf, Inc.
- Reeves, R.R., E. Josephson, and T.D. Smith. 2004a. Putative historical occurrence of North Atlantic right whales in mid-latitude offshore waters: 'Maury's smear' is likely apocryphal. Marine Ecology Progress Series 282:295-305.
- Reeves, R.R., J.M. Breiwick, and E.D. Mitchell. 1999. History of whaling and estimated kill of right whales, *Balaena glacialis*, in the northeastern United States, 1620-1924. Marine Fisheries Review 61(3):1-36.
- Reeves, R.R., T.D. Smith, and E.A. Josephson. 2007. Near-annihilation of a species: Right whaling in the North Atlantic. Pages 39-74 in Kraus, S.D. and R.M. Rolland, eds. The urban whale: North Atlantic right whales at the crossroads. Cambridge, Massachusetts: Harvard University Press.
- Reeves, R.R., T.D. Smith, E.A. Josephson, P.J. Clapham, and G. Woolmer. 2004b. Historical observations of humpback and blue whales in the North Atlantic Ocean: Clues to migratory routes and possibly additional feeding grounds. Marine Mammal Science 20(4):774-786.
- Reeves, R.R., T.D. Smith, R.L. Webb, J. Robbins, and P.J. Clapham. 2002b. Humpback and fin whaling in the Gulf of Maine from 1800 to 1918. Marine Fisheries Review 64(1):1-12.
- Reich, K.J. and G.A.J. Worthy. 2006. An isotopic assessment of the feeding habits of free-ranging manatees. Marine Ecology Progress Series 322:303-309.
- Reid, J. 2001. Manatee birth in the Bahamas. SireNews 36:16.
- Reid, J., A. Spellman, and S. Tyson. 1999. Another captive-released manatee rescued at sea. Sirenews 31:8.
- Remington, N., R.D. Stevens, R.S. Wells, A. Holn [sic], S. Dhungana, C.H. Taboy, A.L. Crumbliss, R. Henkens, and C. Bonaventura. 2007. Genetic diversity of coastal bottlenose dolphins revealed by structurally and functionally diverse hemoglobins. Gene 398:123-131.
- Reynolds III., J.E. 1981. Behavior patterns in the West Indian manatee with emphasis on feeding and diving. Florida Scientist 44:233-242.
- Ridoux, V., A.J. Hall, G. Steingrimsson, and G. Olafsson. 1998. An inadvertent homing experiment with a young ringed seal, *Phoca hispida*. Marine Mammal Science 14(4):883-888.
- Right whale aerial survey track. Accessed 3 May 2004. [http://whale.wheelock.edu/whalenet-stuff/reportsRW\\_NE/rw\\_aerialsurvey98.html](http://whale.wheelock.edu/whalenet-stuff/reportsRW_NE/rw_aerialsurvey98.html).
- Robbins, J. 2007. Structure and dynamics of the Gulf of Maine humpback whale population. Master's thesis, University of St. Andrews.
- Rogers, C.A., B.J. Brunnick, D.L. Herzing, and J.D. Baldwin. 2004. The social structure of bottlenose dolphins, *Tursiops truncatus*, in the Bahamas. Marine Mammal Science 20(4):688-708.

- Ronald, K. and B.L. Gots. 2003. Seals: Phocidae, Otariidae, and Odobenidae. Pages 789-854 in Feldhamer, G.A., B.C. Thompson, and J.A. Chapman, eds. Wild mammals of North America: Biology, management, and conservation, 2d ed. Baltimore, Maryland: Johns Hopkins University Press.
- Ronald, K. and J.L. Dougan. 1982. The ice lover: Biology of the harp seal (*Phoca groenlandica*). Science 215:928-933.
- Ronald, K. and P.J. Healey. 1981. Harp seal, *Phoca groenlandica* Erxleben, 1777. Pages 55-87 in Ridgway, S.H. and R.J. Harrison, eds. Handbook of marine mammals. Volume 2: Seals. London, England: Academic Press.
- Rosel, P., A. Hohn, L. Hansen, A. Sellas, and R. Wells. 2003. Genetic analysis reveals complicated population structure for coastal bottlenose dolphins in the western North Atlantic and Gulf of Mexico. Page 140 in Abstracts, Fifteenth Biennial Conference on the Biology of Marine Mammals. 14-19 December 2003. Greensboro, North Carolina.
- Rosenbaum, H.C., M.G. Egan, P.J. Clapham, R.L. Brownell Jr., S. Malik, M.W. Brown, B.N. White, P. Walsh, and R. Desalle. 2000. Utility of North Atlantic right whale museum specimens for assessing changes in genetic diversity. Conservation Biology 14(6):1837-1842.
- Rosenfeld, M., M. George, and J.M. Terhune. 1988. Evidence of autumnal harbour seal, *Phoca vitulina*, movement from Canada to the United States. Canadian Field-Naturalist 102(3):527-529.
- Rough, V. 1995. Gray seals in Nantucket Sound, Massachusetts: Winter and spring, 1994. Prepared for the U.S. Marine Mammal Commission, Washington, D.C.
- Rowles, T.K., A.A. Hohn, R.S. Wells, L.J. Hansen, F. Townsend, H.L. Rhinehart, and J.T. Saliki. 2003. Evidence of susceptibility to morbillivirus in free ranging populations of bottlenose dolphins from the United States Atlantic and Gulf of Mexico coasts. Page 141 in Abstracts, Fifteenth Biennial Conference on the Biology of Marine Mammals. 14-19 December 2003. Greensboro, North Carolina.
- Rowlett, R.A. 1980. Observations of marine birds and mammals in the northern Chesapeake Bight. FWS/OBS-80/04. Washington, D.C.: U.S. Fish and Wildlife Service.
- Rubinstein, B.L. 1994. An apparent shift in distribution of ice seals, *Phoca groenlandica*, *Cystophora cristata*, and *Phoca hispida*, toward the east coast of the United States. Master's thesis, Boston University.
- Runge, M.C., C.A. Sanders-Reed, and C.J. Fonnesbeck. 2007. A core stochastic population projection model for Florida manatees (*Trichechus manatus latirostris*). U.S. Geological Survey Open-File Report 2007-1082. Laurel, Maryland: U.S. Geological Survey.
- Ryan, W.L. and T.D. Schofield. 1998. A preliminary analysis of habitat usage from a survey of migratory bottlenose dolphins (*Tursiops truncatus*) off Assateague and Wallops islands, VA. Integrative and Comparative Biology 38:49A.
- Sardi, K.A. and C. Merigo. 2006. *Erignathus barbatus* (bearded seal) vagrant in Massachusetts. Northeastern Naturalist 13(1):39-42.
- Sardi, K.A., M.T. Weinrich, and R.C. Connor. 2005. Social interactions of humpback whale (*Megaptera novaeangliae*) mother/calf pairs on a North Atlantic feeding ground. Behaviour 142:731-750.
- Sassu, R. and B. Cozzi. 2007. The external and middle ear of the striped dolphin *Stenella coerulealba* (Meyen 1833). Anatomy, Histology, and Embrology 36:197-201.
- Sayigh, L., K. Urian, A. Bocconcelli, G. Jones, D. Koster, K. Halbrook, and A. Read. 1997. Photo-identification of dolphins near Wilmington, NC. Abstracts, Fifth Annual Atlantic Coastal Dolphin Conference. 4-6 April 1997. Wilmington, North Carolina.
- Sayigh, L.S., H.C. Esch, R.S. Wells, and V.M. Janik. 2007. Facts about signature whistles of bottlenose dolphins, *Tursiops truncatus*. Animal Behaviour 74:1631-1642.
- Scheifele, P.M., S. Andrew, R.A. Cooper, M. Darre, F.E. Musiek, and L. Max. 2005. Indication of a Lombard vocal response in the St. Lawrence River beluga. Journal of the Acoustical Society of America 117(3, Part 1):1486-1492.
- Schevill, W.E. 1954. Sight records of the gray grampus, *Grampus griseus* (Cuvier). Journal of Mammalogy 35(1):123-124.
- Schick, R.S., J.S. Clark, B.R. Mate, M.F. Baumgartner, C.S. Slay, S.D. Kraus, P.N. Halpin, A.J. Read, D.L. Urban, F.E. Werner, and B.D. Best. 2007. Estimating movement forces in NW Atlantic right whales with hierarchical Bayes. Pages 16-17 in Abstracts, 2007 North Atlantic Right Whale Consortium Annual Meeting. 7-8 November 2007. New Bedford, Massachusetts.

- Schmidly, D.J. 1981. Marine mammals of the southeastern United States coast and the Gulf of Mexico. Washington, D.C.: U.S. Fish and Wildlife Service.
- Schneider, D.C. and P.M. Payne. 1983. Factors affecting haul-out of harbor seals at a site in southeastern Massachusetts. *Journal of Mammalogy* 64(3):518-520.
- Schofield, D. and G. Page. 1998. A year in review for the marine animal rescue program of the National Aquarium in Baltimore. Pages 16-18 in Barco, S.G., ed. Proceedings of the 1997 Northeast Region Stranding Conference. VMSM Scientific Report 1998-002. Virginia Beach, Virginia: Virginia Marine Science Museum.
- Schofield, T.D., G. Early, F.W. Wenzel, K. Matassa, C. Perry, G. Beekman, B. Whitaker, E. Gebhard, W. Walton, and M. Swingle. 2008. Rehabilitation and homing behavior of a satellite-tracked harbor porpoise (*Phocoena phocoena*). *Aquatic Mammals* 34(1):1-8.
- Schroeder, C. and R.D. Kenney. 2001. Harbor seals, *Phoca vitulina*, in Rhode Island, USA waters. Page 191 in Abstracts, Fourteenth Biennial Conference on the Biology of Marine Mammals. 28 November-3 December 2001. Vancouver, British Columbia.
- Schroeder, C.L. 2000. Population status and distribution of the harbor seal in Rhode Island waters. Master's thesis, University of Rhode Island.
- Schwartz, F.J. 1962. Summer occurrence of an immature little piked whale, *Balaenoptera acutorostrata*, in Chesapeake Bay, Maryland. *Chesapeake Science* 3(3):206-209.
- Scott, G.P., D.M. Burn, and L.J. Hansen. 1988. The dolphin die-off: Long-term effects and recovery of the population. Pages 818-823 in Proceedings, Oceans '88 Conference. 31 October-2 November 1988. Baltimore, Maryland.
- Sears, R., F.W. Wenzel, and J.M. Williamson. 1987. The blue whale: A catalogue of individuals from the western North Atlantic (Gulf of St. Lawrence) [Le rorqual bleu: Catalogue des individus répérés dans l'Atlantique nord-ouest (Golfe du Saint-Laurent)]. Saint Lambert, Quebec: Report of the Mingan Island Cetacean Study.
- Seeley, R.H. and J.E. Bell. 1994. Adult harbor seal retrieves dead pup from bald eagles. *Maine Naturalist* 2(1):31-32.
- Seipt, I.E., P.J. Clapham, C.A. Mayo, and M.P. Hawvermale. 1990. Population characteristics of individually identified fin whales *Balaenoptera physalus* in Massachusetts Bay. *Fishery Bulletin* 88:271-278.
- Selzer, L.A. and P.M. Payne. 1988. The distribution of white-sided (*Lagenorhynchus acutus*) and common dolphins (*Delphinus delphis*) vs. environmental features of the continental shelf of the northeastern United States. *Marine Mammal Science* 4(2):141-153.
- Selzer, L.A., G. Early, P.M. Fiorelli, P.M. Payne, and R. Prescott. 1986. Stranded animals as indicators of prey utilization by harbor seals, *Phoca vitulina concolor*, in southern New England. *Fishery Bulletin* 84(1):217-220.
- Sergeant, D.E. 1962. The biology of the pilot or pothead whale *Globicephala melaena* (Traill) in Newfoundland waters. *Bulletin of the Fisheries Research Board of Canada* 132:1-84.
- Sergeant, D.E., D.J. St. Aubin, and J.R. Geraci. 1980. Life history and northwest Atlantic status of the Atlantic white-sided dolphin, *Lagenorhynchus acutus*. *Cetology* 37:1-12.
- Seton, R.E., J.M. Allen, and S.K. Todd. 2002. Curation of the North Atlantic humpback whale catalogue and associated databases. Progress report to Northeast Fisheries Science Center. Woods Hole, Massachusetts: National Marine Fisheries Service.
- Shippee, S.F. and A.A. Hohn. 2003. Sleepless in New Jersey: Overnight behavioral observations of radio-tagged dolphins. Page 150 in Abstracts, Fifteenth Biennial Conference on the Biology of Marine Mammals. 14-19 December 2003. Greensboro, North Carolina.
- Shoemaker, M. 2004. Estimating the lower temperature limit of bottlenose dolphins along the North Carolina coast. Master's thesis, Duke University.
- Silber, G.K., L.I. Ward, R. Clarke, K.L. Schumacher, and A.J. Smith. 2002. Ship traffic patterns in right whale critical habitat: Year one of the Mandatory Ship Reporting System. NOAA Technical Memorandum NMFS-OPR-20:1-10.
- Silva, M.A., R. Prieto, S. Magalhães, M.I. Seabra, R.S. Santos, and P.S. Hammond. 2008. Ranging patterns of bottlenose dolphins living in oceanic waters: Implications for population structure. *Marine Biology* 156:179-192.
- Singer, L.T. and L. Ludwig, eds. 2005. Proceedings from a workshop on right whale foraging in the nearshore waters of the northern Gulf of Maine. 15 April 2005. Saco, Maine.

- Slay, C., M. Zani, C. Emmons, E. LaBrecque, B. Pike, S. Kraus, and R. Kenney. 2002. Early Warning System 1994-2002: Aerial surveys to reduce ship/whale collisions in the North Atlantic right whale calving ground. Charleston, South Carolina: National Ocean Service.
- Slay, C.K., S.L. Swartz, A. Knowlton, S. Martin, J. Roman, and J. Martinez. 2002. VHF-radio tracking of a North Atlantic right whale (*Eubalaena glacialis*) female and calf in the calving ground: Preliminary results - January 1999. NOAA Technical Memorandum NMFS-SEFSC-476:1-27.
- Slijper, E.J., W.L. van Utrecht, and C. Naaktgeboren. 1964. Remarks on the distribution and migration of whales, based on observations from Netherlands ships. *Bijdragen Tot de Dierkunde* 34:3-93.
- Slocum, C., R. Schoelkopf, and N. Furina. 2003. Patterns of seasonal stranding in the true seal populations in the western mid-Atlantic region (USA): Abundance, diversity, location, seasonality, age and gender. Page 152 in Abstracts, Fifteenth Biennial Conference on the Biology of Marine Mammals. 14-19 December 2003. Greensboro, North Carolina.
- Slocum, C.J. and R. Schoelkopf. 2001. Population dynamics of phocid seals wintering in New Jersey and the mid-Atlantic region (U.S.), 1993-2001. Page 199 in Abstracts, Fourteenth Biennial Conference on the Biology of Marine Mammals. 28 November-3 December 2001. Vancouver, British Columbia.
- Slocum, C.J., A. Ferland, N. Furina, and S. Evert. 2005. What do harbor seals eat in New Jersey? A first report from the mid-Atlantic region (USA). Page 262 in Abstracts, Sixteenth Biennial Conference on the Biology of Marine Mammals. 12-16 December 2005. San Diego, California.
- Slocum, C.J., R. Schoelkopf, and S. Tulevech. 1995. Population changes in seals overwintering in New Jersey: A pilot study. Page 107 in Abstracts, Eleventh Biennial Conference on the Biology of Marine Mammals. 14-18 December. Orlando, Florida.
- Slocum, C.J., R. Schoelkopf, S. Tulevech, M. Stevens, S. Evert, and M. Moyer. 1999. Seal populations wintering in New Jersey (USA) have increased in abundance and diversity. Pages 174-175 in Abstracts, Thirteenth Biennial Conference on the Biology of Marine Mammals. 28 November-3 December 1999. Wailea, Hawaii.
- Smith, T.D., J. Allen, P.J. Clapham, P.S. Hammond, S. Katona, F. Larsen, J. Lien, D. Mattila, P.J. Palsbøll, J. Sigurjónsson, P.T. Stevick, and N. Øien. 1999. An ocean-basin-wide mark-recapture study of the North Atlantic humpback whale (*Megaptera novaeangliae*). *Marine Mammal Science* 15(1):1-32.
- Smultea, M.A., M. Hoist, W.R. Koski, and S. Stoltz. 2004. Marine mammal monitoring during Lamont-Doherty Earth Observatory's seismic program in the southeast Caribbean Sea and adjacent Atlantic Ocean, April-June 2004. LGL Report TA2822-26. Prepared for Lamont-Doherty Earth Observatory of Columbia University, Palisades, New York and National Marine Fisheries Service, Silver Spring, Maryland by LGL Ltd., King City, Ontario.
- Sorensen, P.W., R.J. Medved, M.A.M. Hyman, and H.E. Winn. 1984. Distribution and abundance of cetaceans in the vicinity of human activities along the continental shelf of the northwestern Atlantic. *Marine Environmental Research* 12:69-81.
- Southall, B., J. Berkson, D. Bowen, R. Brake, J. Eckman, J. Field, R. Gisiner, S. Gregerson, W. Lang, J. Lewandoski, J. Wilson, and R. Winokur. 2009. Addressing the effects of human-generated sound on marine life: An integrated research plan for U.S. federal agencies. Washington, D.C.: Joint Subcommittee on Ocean Science and Technology, Interagency Task Force on Anthropogenic Sound and the Marine Environment.
- Spangler, D. and S. Sadove. 1995. The satellite tracking of a juvenile male hooded seal (*Cystophora cristata*). Page 38 in Kopelman, A.H. and S.S. Sadove, eds. Proceedings of the 1995 Northeast Regional Marine Mammal and Sea Turtle Stranding Network Conference. 28-30 April 1995. Riverhead, New York.
- Speakman, T., E. Zolman, J. Adams, R.H. Defran, D. Laska, L. Schwacke, J. Craigie, and P. Fair. 2006. Temporal and spatial aspects of bottlenose dolphin occurrence in coastal and estuarine waters near Charleston, South Carolina. NOAA Technical Memorandum NOS NCCOS 37. Charleston, South Carolina: NOAA/NOS/NCCOS Center for Coastal Environmental Health and Biomolecular Research.
- Spence, L. 1998. 1997 Delaware strandings. Pages 19-20 in Barco, S.G., ed. Proceedings of the 1997 Northeast Region Stranding Conference. VMSM Scientific Report 1998-002. Virginia Beach, Virginia: Virginia Marine Science Museum.

- St. Aubin, D.J. and J.R. Geraci. 1988. Capture and handling stress suppresses circulating levels of thyroxine (T4) and triiodothyronine (T3) in beluga whales *Delphinapterus leucas*. *Physiological Zoology* 61(2):170-175.
- Stacey, P.J. and R.W. Baird. 1993. Status of the short-finned pilot whale, *Globicephala macrorhynchus*, in Canada. *Canadian Field-Naturalist* 107(4):481-489.
- Stamper, M.A., B.R. Whitaker, and T.D. Schofield. 2006. Case study: Morbidity in a pygmy sperm whale *Kogia breviceps* due to ocean-borne plastic. *Marine Mammal Science* 22(3):719-722.
- Stanley, H.F., S. Casey, J.M. Carnahan, S. Goodman, J. Harwood, and R.K. Wayne. 1996. Worldwide patterns of mitochondrial DNA differentiation in the harbor seal (*Phoca vitulina*). *Molecular Biology and Evolution* 13(2):368-382.
- Steimle, F.W. and C. Zetlin. 2000. Reef habitats in the Middle Atlantic Bight: Abundance, distribution, associated biological communities, and fishery resource use. *Marine Fisheries Review* 62(2):24-42.
- Stenson, G.B., R.A. Myers, W.G. Warren, and I.-H. Ni. 1996. Pup production of hooded seals (*Cystophora cristata*) in the northwest Atlantic. *NAFO Scientific Council Studies* 26:105-114.
- Stevick, P.T. and T.W. Fernald. 1998. Increase in extralimital records of harp seals in Maine. *Northeastern Naturalist* 5(1):75-82.
- Stevick, P.T., J. Allen, M. Bérubé, P.J. Clapham, S.K. Katona, F. Larsen, J. Lien, D.K. Mattila, P.J. Palsbøll, J. Robbins, J. Sigurjónsson, T.D. Smith, N. Øien, and P.S. Hammond. 2003b. Segregation of migration by feeding ground origin in North Atlantic humpback whales (*Megaptera novaeangliae*). *Journal of Zoology, London* 259:231-237.
- Stevick, P.T., J. Allen, P.J. Clapham, N. Friday, S.K. Katona, F. Larsen, J. Lien, D.K. Mattila, P.J. Palsbøll, J. Sigurjónsson, T.D. Smith, N. Øien, and P.S. Hammond. 2003a. North Atlantic humpback whale abundance and rate of increase four decades after protection from whaling. *Marine Ecology Progress Series* 258:263-273.
- Stevick, P.T., L.S. Incze, S.D. Kraus, S. Rosen, N. Wolff, and A. Baukus. 2008. Trophic relationships and oceanography on and around a small offshore bank. *Marine Ecology Progress Series* 363:15-28.
- Stimpert, A.K., D.N. Wiley, W.W.L. Au, M.P. Johnson, and R. Arsenault. 2007. 'Megapclicks': Acoustic click trains and buzzes produced during night-time foraging of humpback whales (*Megaptera novaeangliae*). *Biology Letters* 3:467-470.
- Stimpert, A.K., T.V.N. Cole, R.M. Pace, III, and P.J. Clapham. 2003. Distributions of four baleen whale species in the northwest Atlantic Ocean based on large-scale aerial survey data. Page 157 in *Abstracts, Fifteenth Biennial Conference on the Biology of Marine Mammals*. 14-19 December 2003. Greensboro, North Carolina.
- Stolen, M.K., W. Noke Durden, and D.K. Odell. 2007. Historical synthesis of bottlenose dolphin (*Tursiops truncatus*) stranding data in the Indian River Lagoon System, Florida, from 1977-2005. *Florida Scientist* 70(1):45-54.
- Sundaram, B., A.C. Poje, R.R. Veit, and H. Nganguia. 2006. Acoustical dead zones and the spatial aggregation of whale strandings. *Journal of Theoretical Biology* 238:764-770.
- Swingle, W.M., C.M. Trapani, S.G. Barco, and G.G. Lockhart. 2007. Marine mammal and sea turtle stranding response 2006 grant report. NOAA CZM Grant #NA05NOS4191180. VAQF Scientific Report 2007-01. Prepared for the Virginia Coastal Zone Management Program by Virginia Aquarium Foundation Stranding Response Program, Virginia Beach, Virginia.
- Swingle, W.M., S.G. Barco, and W.A. McLellan. 1995a. Characterizing a migratory population of coastal bottlenose dolphins (*Tursiops truncatus*) in Virginia. *Abstracts, Third Annual Atlantic Coastal Dolphin Conference*. 24-26 March 1995. Beaufort, North Carolina.
- Swingle, W.M., S.G. Barco, T.D. Pitchford, W.A. McLellan, and D.A. Pabst. 1993. Appearance of juvenile humpback whales feeding in the nearshore waters of Virginia. *Marine Mammal Science* 9(3):309-315.
- Swingle, W.M., S.G. Barco, W.A. McLellan, and D.A. Pabst. 1995b. Virginia's shore-based bottlenose dolphin surveys. Page 112 in *Abstracts, Eleventh Biennial Conference on the Biology of Marine Mammals*. 14-18 December 1995. Orlando, Florida.
- Swingle, W.M., S.G. Barco, W.A. McLellan, and D.A. Pabst. 1995c. Strandings of bottlenose dolphins and harbor porpoises in Virginia (1990-1994). Pages 40-49 in *Kopelman, A.H. and S.S. Sadove, eds. Proceedings of the 1995 Northeast Regional Marine Mammal and Sea Turtle Stranding Network Conference*. 28-30 April 1995. Riverhead, New York.

- Tavolga, W.N., ed. 1964. Marine bio-acoustics: Proceedings of a symposium held at the Lerner Marine Laboratory, Bimini, Bahamas, 11-13 April 1963.
- Taylor, C.R., W.A. McLellan, A.H. Glass, M. Zani, and D.A. Pabst. 2007. Right whale sightings in the mid-Atlantic and southeast Atlantic Bight from 2001-2007. Pages 17-18 in Abstracts, 2007 North Atlantic Right Whale Consortium Annual Meeting. Pages 7-8 November 2007. New Bedford, Massachusetts.
- Taylor, D. 2002. A beluga sighting - Massachusetts Bay. Whalenet. Electronic data. Access date: 12 March 2004. <http://whale.wheelock.edu/whalenet-stuff/BelugaMay02/>.
- Terhune, J.M. 1985. A linear decrease of harbor seal numbers. *Marine Mammal Science* 1(4):340-341.
- Terwilliger, K. 1991. Virginia's endangered species: Proceedings of a symposium. Blacksburg, Virginia: The McDonald and Woodward Publishing Company.
- Testaverde, S.A. and J.G. Mead. 1980. Southern distribution of the Atlantic whitesided dolphin, *Lagenorhynchus acutus*, in the western North Atlantic. *Fishery Bulletin* 78(1):167-169.
- Thomas, C.T. 1996. Aerial survey of coastal bottlenose dolphins, *Tursiops truncatus*, along the east coast of Florida. Master's thesis, University of North Carolina at Wilmington.
- Thomas, C.T., W.B. Brooks, and W.D. Webster. 1997. Aerial surveys of bottlenose dolphins (*Tursiops truncatus*) along the east coast of Florida. Page 9 in Abstracts, Fifth Annual Atlantic Coastal Dolphin Conference. 4-6 April 1997. Wilmington, North Carolina.
- Thomas, G. 1995. Sea secrets. *Sea Frontiers* 41(1):22-24.
- Thomas, L., J.L. Laake, E. Rexstad, S. Strindberg, F.F.C. Marques, S.T. Buckland, D.L. Borchers, D.R. Anderson, K.P. Burnham, M.L. Burt, S.L. Hedley, J.H. Pollard, J.R.B. Bishop, and T.A. Marques. 2006. Distance 6.0. Release Beta 1. St Andrews, Scotland: Research Unit for Wildlife Population Assessment, University of St Andrews. <http://www.ruwpa.st-and.ac.uk/distance/>.
- Thomsen, F., F. Ugarte, and P.G.H. Evans, eds. 2005. Proceedings of the workshop on estimation of  $g(0)$  in line-transect surveys of cetaceans held at the European Cetacean Society's 18th Annual Conference, Vildmarkshotellet at Kolmården Djur Park, Kolmården, Sweden, 28th March 2004. *European Cetacean Society Newsletter* 44(Special Issue):1-46.
- Tiemann, C.O., S.W. Martin, and J.R. Mobley, Jr. 2006. Aerial and acoustic marine mammal detection and localization on Navy ranges. *IEEE Journal of Oceanic Engineering* 31(1):107-119.
- Torres, L.G., A.J. Read, and P. Halpin. 2008. Fine-scale habitat modeling of a top marine predator: Do prey data improve predictive capacity? *Ecological Applications* 18(7):1702-1717.
- Torres, L.G., W.A. McLellan, E. Meagher, and D.A. Pabst. 2005. Seasonal distribution and relative abundance of bottlenose dolphins, *Tursiops truncatus*, along the US mid-Atlantic Coast. *Journal of Cetacean Research and Management* 7(2):153-161.
- Toth, J.L., A. Hohn, A. Gorgone, and K.W. Able. 2005. Sighting patterns of bottlenose dolphins (*Tursiops truncatus*) in their northern range along the US Atlantic Coast. Page 282 in Abstracts, Sixteenth Biennial Conference on the Biology of Marine Mammals. 12-16 December 2005. San Diego, California.
- Toth-Brown, J., A.A. Hohn and K.W. Able. In review a. Patterns of seasonal occurrence, distribution and site fidelity of coastal bottlenose dolphins in southern New Jersey.
- Toth-Brown, J., A.A. Hohn, and K.W. Able. In review b. Occurrence of two bottlenose dolphin (*Tursiops truncatus*) population units in southern New Jersey, U.S.A.
- Tougaard, J. and J. Teilmann. 2007. Rodsand 2 offshore wind farm. Environmental impact assessment: Marine mammals. NERI Report. Roskilde, Denmark: Ministry of Environment and Energy, National Environmental Research Institute.
- Tougaard, J., O.D. Henriksen, and L.A. Miller. 2009. Underwater noise from three types of offshore wind turbines: Estimation of impact zones for harbor porpoises and harbor seals. *Journal of the Acoustical Society of America* 125(6): 3766-3773.
- True, F.W. 1885. The bottle-nose dolphin, *Tursiops tursio*, as seen at Cape May, New Jersey. *Science* V(116):338-339.
- True, F.W. 1909. Occurrence of the killer whale (*Orcinus orca*) on the New Jersey coast. *Science* 29(750):790-791.
- Trzcinski, M.K., R. Mohn, and W.D. Bowen. 2005. Estimation of grey seal population size and trends at Sable Island. Canadian Science Advisory Secretariat Research Document 2005/067. Ottawa, Ontario: Department of Fisheries and Oceans.

- Turgut, A. and C. Lefler. 2006. Acoustical monitoring of finback whale movements on the New Jersey Shelf. *Journal of the Acoustical Society of America* 120(5, Part 2):3266.
- Tyack, P. and H. Whitehead. 1983. Male competition in large groups of wintering humpback whales. *Behaviour* 83:132-153.
- Ulmer, F.A., Jr. 1981. New Jersey's dolphins and porpoises. New Jersey Audubon Society Occasional Paper 137:1-11.
- Urazghildiiev, I.R. and C.W. Clark. 2006. Acoustic detection of North Atlantic right whale contact calls using the generalized likelihood ratio test. *Journal of the Acoustical Society of America* 120(4):1956-1963.
- Urian, K., A. Hohn, L. Hansen, S. Baker, S. Barco, N. Bowles, M. Caldwell, C. Gubbins, F. Lapolla, R. Mallon-Day, K. Mazarella, T. Murphy, R. Petricig, A. Read, K. Rittmaster, G. Rountree, W. Ryan, L. Sayigh, D. Scholfield, J. Tapia, V. Thayer, R. Young, and E. Zolman. 1999. The mid-Atlantic bottlenose dolphin photo-id catalog: A cooperative approach to examine stock structure. Page 191 in Abstracts, Thirteenth Biennial Conference on the Biology of Marine Mammals. 28 November-3 December 1999. Wailea, Hawaii.
- Urian, K.W. and R.S. Wells. 1996. Bottlenose Dolphin Photo-Identification Workshop: March 21-22, 1996, Charleston, South Carolina. NOAA Technical Memorandum NMFS-SEFSC-393:1-91.
- Urian, K.W., A.A. Hohn, and L.J. Hansen. 1999. Status of the photo-identification catalog of coastal bottlenose dolphins of the western North Atlantic: Report of a workshop of catalog contributors. NOAA Technical Memorandum NMFS-SEFSC-425:1-24.
- USFWS (U.S. Fish and Wildlife Service). 2004. Monomoy National Wildlife Refuge: Eastern Massachusetts National Wildlife Refuge Complex Fact Sheet.:1 pp. Clatham, Massachusetts: Monomoy National Wildlife Refuge.
- USFWS (U.S. Fish and Wildlife Service). 2007. West Indian manatee. 5-year review: Summary and evaluation. Jacksonville, Florida and Boqueron, Puerto Rico: U.S. Fish and Wildlife Service, Southeast Region.
- USFWS (U.S. Fish and Wildlife Service). Undated. FWS critical habitat for threatened and endangered species. Electronic data. Download date: various. <http://criticalhabitat.fws.gov/>.
- USGS (U.S. Geological Survey). 2004. Manatee population rising in some regions, likely stalled or declining in others. Press Release. 6 August. U.S. Geological Survey. Reston, Virginia
- USMC (U.S. Marine Corps). 2007. Compliance for the Marine Mammal Protection Act at Bombing Targets BT-9 and BT-11 Marine Corps Air Station Cherry Point. Final Report. Cherry Point, North Carolina: Marine Corps Air Station Cherry Point, U.S. Marine Corps, Marine Corps Air Station Cherry Point, Environmental Affairs Department.
- Wade, P., S.B. Reilly, and T. Gerrodette. 2003. Dynamics of the eastern spinner dolphin and the northeastern offshore spotted dolphin populations: Are they recovering? Page 171 in Abstracts, Fifteenth Biennial Conference on the Biology of Marine Mammals. 14-19 December 2003. Greensboro, North Carolina.
- Walker, J.L., C.W. Potter, and S.A. Macko. 1999. The diets of modern and historic bottlenose dolphin populations reflected through stable isotopes. *Marine Mammal Science* 15(2):335-350.
- Walker, M.M., J.L. Kirschvink, G. Ahmen, and A.E. Diction. 1992. Evidence that fin whales respond to the geomagnetic field during migration. *Journal of Experimental Biology* 171:67-78.
- Walker, R.J., E.O. Keith, A.E. Yankovsky, and D.K. Odell. 2005. Environmental correlates of cetacean mass stranding sites in Florida. *Marine Mammal Science* 21(2):327-335.
- Wandering hooded seals puzzle and challenge NOAA's stranding network. Accessed 22 June 2009. <http://www.noaanews.noaa.gov/stories2006/s2705.htm>.
- Wang, K.R., P.M. Payne, and V.G. Thayer, compilers. 1994. Coastal stock(s) of Atlantic bottlenose dolphin: Status review and management. NOAA Technical Memorandum NMFS-OPR-4:1-120.
- Ward, J.A. 1999. Right whale (*Balaena glacialis*) South Atlantic Bight habitat characterization and prediction using remotely sensed oceanographic data. Master's thesis, University of Rhode Island.
- Ward, J.A. 2002. Sperm whale bioacoustic characterization in the Tongue of the Ocean, Bahamas. NUWC-NTP Technical Report 11,398. Newport, Rhode Island: Naval Undersea Warfare Center Division.

- Ward, J.A., D. Moretti, and N.A. DiMarzio. 2001. Long-term sperm whale bioacoustic characterization at the Tongue of the Ocean, Bahamas. Page 229 in Abstracts, Fourteenth Biennial Conference on the Biology of Marine Mammals. 28 November - 3 December 2001. Vancouver, British Columbia.
- Ward, J.A., G.H. Mitchell, A.M. Farak, and E.P. Keane. 2005. Beaked whale habitat characterization and prediction. NUWC-NPT Technical Report 11,548. Newport, Rhode Island: Naval Undersea Warfare Center Division.
- Waring, G.T. and D.L. Palka. 2002. North Atlantic marine mammals. Pages 802-806 in Perrin, W.F., B. Würsig, and J.G.M. Thewissen, eds. Encyclopedia of marine mammals. San Diego, California: Academic Press.
- Waring, G.T., C.P. Fairfield, C.M. Ruhsam, and M. Sano. 1992. Cetaceans associated with Gulf Stream features off the northeastern USA Shelf. Copenhagen, Denmark: International Council for the Exploration of the Sea.
- Waring, G.T., E. Josephson, C.P. Fairfield, and K. Maze-Foley, eds. 2006b. U.S. Atlantic and Gulf of Mexico marine mammal stock assessments -- 2005. NOAA Technical Memorandum NMFS-NE-194:1-346.
- Waring, G.T., E. Josephson, C.P. Fairfield, and K. Maze-Foley, eds. 2007. U.S. Atlantic and Gulf of Mexico marine mammal stock assessments -- 2006. NOAA Technical Memorandum NMFS-NE-201:1-378.
- Waring, G.T., E. Josephson, C.P. Fairfield-Walsh, and K. Maze-Foley, eds. 2008. Final U.S. Atlantic and Gulf of Mexico marine mammal stock assessments - 2007. NOAA Technical Memorandum NMFS-NE-205:1-415.
- Waring, G.T., E. Josephson, C.P. Fairfield-Walsh, and K. Maze-Foley eds. 2009. US Atlantic and Gulf of Mexico marine mammal stock assessments 2008. NOAA Technical Memorandum NMFS-NE-210: 1-429.
- Waring, G.T., J.R. Gilbert, J. Loftin, and N. Cabana. 2006a. Short-term movements of radio-tagged harbor seals in New England. *Northeastern Naturalist* 13(1):1-14.
- Waring, G.T., P. Gerrior, P.M. Payne, B.L. Parry, and J.R. Nicolas. 1990. Incidental take of marine mammals in foreign fishery activities off the northeast United States, 1977-88. *Fishery Bulletin* 88(2):347-360.
- Waring, G.T., R.M. Pace, J.M. Quintal, C.P. Fairfield, and K. Maze-Foley, eds. 2004. U.S. Atlantic and Gulf of Mexico marine mammal stock assessments -- 2003. NOAA Technical Memorandum NMFS-NE-182:1-287.
- Waters, J.H. 1967. Gray seal remains from southern New England archeological sites. *Journal of Mammalogy* 48(1):139-141.
- Watkins, W.A. 1986. Whale reactions to human activities in Cape Cod waters. *Marine Mammal Science* 2(4):251-262.
- Watkins, W.A. and W.E. Schevill. 1982. Observations of right whales, *Eubalaena glacialis*, in Cape Cod waters. *Fishery Bulletin* 80(4):875-880.
- Watts, P. and D.E. Gaskin. 1985. Habitat index analysis of the harbor porpoise (*Phocoena phocoena*) in the southern coastal Bay of Fundy, Canada. *Journal of Mammalogy* 66:733-744.
- Watwood, S.L., E.C.G. Owen, P.L. Tyack, and R.S. Wells. 2005. Signature whistle use by temporarily restrained and free-swimming bottlenose dolphins, *Tursiops truncatus*. *Animal Behaviour* 69:1373-1386.
- Watwood, S.L., P.J.O. Miller, M. Johnson, P.T. Madsen, and P.L. Tyack. 2006. Deep-diving foraging behaviour of sperm whales (*Physeter macrocephalus*). *Journal of Animal Ecology* 75:814-825.
- Watwood, S.L., P.L. Tyack, and R.S. Wells. 2004. Whistle sharing in paired male bottlenose dolphins, *Tursiops truncatus*. *Behavioral Ecology and Sociobiology* 55:531-543.
- Webster, W.D., J.F. Parnell, and W.C. Biggs, Jr. 1985. Mammals of the Carolinas, Virginia, and Maryland. Chapel Hill, North Carolina: University of North Carolina Press.
- Weinrich, M. 1995. Humpback whale competitive groups observed on a high-latitude feeding ground. *Marine Mammal Science* 11(2):251-254.
- Weinrich, M. 1998. Early experience in habitat choice by humpback whales (*Megaptera novaeangliae*). *Journal of Mammalogy* 79(1):163-170.
- Weinrich, M., M. Martin, R. Griffiths, J. Bove, and M. Schilling. 1997. A shift in distribution of humpback whales, *Megaptera novaeangliae*, in response to prey in the southern Gulf of Maine. *Fishery Bulletin* 95(4):826-836.



- Weinrich, M.T., C.R. Belt, M.R. Schilling, and M. Marcy. 1986. Behavior of sei whales in the southern Gulf of Maine, summer 1986. *Whalewatcher* (Journal of the American Cetacean Society) 20(4):4-7.
- Weinrich, M.T., R.D. Kenney, and P.K. Hamilton. 2000. Right whales (*Eubalaena glacialis*) on Jeffreys Ledge: A habitat of unrecognized importance? *Marine Mammal Science* 16(2):326-337.
- Weiß, B.M., F. Ladich, P. Spong, and H. Symonds. 2006. Vocal behavior of resident killer whale matriline with newborn calves: The role of family signatures. *Journal of the Acoustical Society of America* 119(1):627-635.
- Wells, R.S. and M.D. Scott. 1999. Bottlenose dolphin--*Tursiops truncatus* (Montagu, 1821). Pages 137-182 in Ridgway, S.H. and R. Harrison, eds. *Handbook of marine mammals*. Volume 6: The second book of dolphins and the porpoises. San Diego, California: Academic Press.
- Wells, R.S., C.A. Manire, L. Byrd, D.R. Smith, J.G. Gannon, D. Fauquier, and K.D. Mullin. 2009. Movements and dive patterns of a rehabilitated Risso's dolphin, *Grampus griseus*, in the Gulf of Mexico and Atlantic Ocean. *Marine Mammal Science* 25(2):420-429.
- Wells, R.S., G.A. Early, J.G. Gannon, R.G. Lingenfelter, and P. Sweeney. 2008. Tagging and tracking of rough-toothed dolphins (*Steno bredanensis*) from the March 2005 mass stranding in the Florida Keys. NOAA Technical Memorandum NMFS-SEFSC-574. Miami, Florida: U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Southeast Fisheries Science Center.
- Wells, R.S., H.L. Rhinehart, P. Cunningham, J. Whaley, M. Baran, C. Koberna, and D.P. Costa. 1999. Long distance offshore movements of bottlenose dolphins. *Marine Mammal Science* 15(4):1098-1114.
- Wenzel, F. 1999. Strandings of harbor porpoise (*Phocoena phocoena*) in Massachusetts waters: 1978-1998. Page 199 in Abstracts, Thirteenth Biennial Conference on the Biology of Marine Mammals. 28 November-3 December 1999. Wailea, Hawaii.
- Wenzel, F. and G. Early. 2001. Strandings of harbor porpoise (*Phocoena phocoena*) in Massachusetts waters: 1976-2000. Page 231 in Abstracts, Fourteenth Biennial Conference on the Biology of Marine Mammals. 28 November-3 December 2001. Vancouver, British Columbia.
- Wenzel, F.W., J.R. Nicolas, A. Abend, and B. Hayward. 2009. A bibliography of the long-finned pilot whale, *Globicephala melas*, and the short-finned pilot whale, *Globicephala macrorhynchus*, in the North Atlantic Ocean. Northeast Fisheries Science Center Reference Document 09-06. Woods Hole, Massachusetts: National Marine Fisheries Service.
- Westgate, A.J. 2005. Population structure and life history of short-beaked common dolphins (*Delphinus delphis*) in the North Atlantic. Ph.D. diss., Duke University.
- Westgate, A.J. 2007. Geographic variation in cranial morphology of short-beaked common dolphins (*Delphinus delphis*) from the North Atlantic. *Journal of Mammalogy* 88(3):678-688.
- Westgate, A.J. and A.J. Read. 2007. Reproduction in short-beaked common dolphins (*Delphinus delphis*) from the western North Atlantic. *Marine Biology* 150:1011-1024.
- Westgate, A.J., A.J. Read, T.M. Cox, T.D. Schofield, B.R. Whitaker, and K.E. Anderson. 1998. Monitoring a rehabilitated harbor porpoise using satellite telemetry. *Marine Mammal Science* 14(3):599-604.
- WhaleNet. 2003. Sighting data: Gray seals "Tom" and "Nikkie". Electronic data. Download date: April 2007. <http://whale.wheelock.edu/whalenet-stuff/StopUNE03/reportsUNE.html>.
- WhaleNet. 2004. Sighting data: "Gus". Electronic data. Download date: 10 October 2006. [http://whale.wheelock.edu/whalenet-stuff/StopUNE04Hp/data\\_Gus.html](http://whale.wheelock.edu/whalenet-stuff/StopUNE04Hp/data_Gus.html).
- WhaleNet. 2005. Sighting data: "Rocky". Electronic data. Download date: 11 October 2006. <http://whale.wheelock.edu/whalenet-stuff/Stop47826/data47826.html>.
- WhaleNet. 2007a. Sighting data: "Jaws" & "Chewbacca". Electronic data. Download date: 20 June 2007. <http://whale.wheelock.edu/whalenet-stuff/Stop73227/>.
- WhaleNet. 2007b. Sighting data: "Assateague". Electronic data. Download date: 18 July 2007. <http://whale.wheelock.edu/whalenet-stuff/StopNAq/ReportsAssateague.html>.
- Whitehead, H. 1982. Populations of humpback whales in the northwest Atlantic. *Reports of the International Whaling Commission* 32:345-353.
- Whitehead, H. and M.J. Moore. 1982. Distribution and movements of West Indian humpback whales in winter. *Canadian Journal of Zoology* 60:2203-2211.
- Whitehead, H., B. McGill, and B. Worm. 2008. Diversity of deep-water cetaceans in relation to temperature: Implications for ocean warming. *Ecology Letters* 11:1198-1207.

- Whitman, A.A. and P.M. Payne. 1990. Age of harbour seals, *Phoca vitulina concolor*, wintering in southern New England. Canadian Field-Naturalist 104(4):579-582.
- Wiley, D.N., F.W. Wenzel, and S.B. Young. 1994. Extralimital residency of bottlenose dolphins in the western North Atlantic. Marine Mammal Science 10(2):223-226.
- Wiley, D.N., G. Early, C.A. Mayo, and M.J. Moore. 2001. Rescue and release of mass stranded cetaceans from beaches on Cape Cod, Massachusetts, USA; 1990-1999: A review of some response actions. Aquatic Mammals 27(2):162-171.
- Wiley, D.N., J.C. Moller, and K.A. Zilinskas. 2003. The distribution and density of commercial fisheries and baleen whales within the Stellwagen Bank National Marine Sanctuary: July 2001-July 2002. Marine Technology Society Journal 37(1):35-53.
- Wiley, D.N., R.A. Asmus, T.D. Pitchford, and D.P. Gannon. 1995. Stranding and mortality of humpback whales, *Megaptera novaeangliae*, in the mid-Atlantic and southeast United States, 1985-1992. Fishery Bulletin 93:196-205.
- Wilson, C.E., W.F. Perrin, J.W. Gilpatrick, Jr., and S. Leatherwood. 1987. Summary of worldwide locality records of the striped dolphin, *Stenella coeruleoalba*. NOAA Technical Memorandum NMFS-SWFC-90:1-65.
- Wilson, S.C. 1978. Social organization and behavior of harbor seals, *Phoca vitulina concolor*, in Maine. Contract MM6ACO13. Prepared for the U.S. Marine Mammal Commission, Washington, D.C.
- Wimmer, T. and H. Whitehead. 2004. Movements and distribution of northern bottlenose whales, *Hyperoodon ampullatus*, on the Scotian Slope and in adjacent waters. Canadian Journal of Zoology 82:1782-1794.
- Winn, H.E. and N.E. Reichley. 1985. Humpback whale *Megaptera novaeangliae* (Borowski, 1781). Pages 241-274 in Ridgway, S.H. and R. Harrison, eds. Handbook of marine mammals. Volume 3: The sirenians and baleen whales. San Diego, California: Academic Press.
- Winn, H.E., C.A. Price, and P.W. Sorensen. 1986. The distributional biology of the right whale (*Eubalaena glacialis*) in the western North Atlantic. Reports of the International Whaling Commission (Special Issue 10):129-138.
- Winn, H.E., E.A. Scott, and R.D. Kenney. 1985. Aerial surveys for right whales in the Great South Channel, Spring 1984. Prepared for the U.S. Marine Mammal Commission, Washington, D.C. by Graduate School of Oceanography, University of Rhode Island, Narragansett, Rhode Island.
- Wishner, K., E. Durbin, A. Durbin, M. Macaulay, H. Winn, and R. Kenney. 1988. Copepod patches and right whales in the Great South Channel off New England. Bulletin of Marine Science 43(3):825-844.
- Wolf, S., B. Cummings, and K. Siegel. 2008. Before the secretary of commerce: Petition to list three seal species under the Endangered Species Act: Ringed seal (*Pusa hispida*), bearded seal (*Erignathus barbatus*), and spotted seal (*Phoca largha*). San Francisco, California: Center for Biological Diversity.
- Wood, P. 2006. Dead whale hitchhikes up bay after hit by ship. The Capital (19 April):A1.
- Wood, S., A. Ferland, G.T. Waring, L. Sette, and S. Shaw. 2001. Harbor seal (*Phoca vitulina*) food habits along the New England coast. Pages 236-237 in Abstracts, Fourteenth Biennial Conference on the Biology of Marine Mammals. 28 November-3 December 2001. Vancouver, British Columbia.
- Wood, S., V. Rough, J. Gilbert, G. Waring, and S. Brault. 2003. The current status of gray seals (*Halichoerus grypus*) in the United States. Page 180 in Abstracts, Fifteenth Biennial Conference on the Biology of Marine Mammals. 14-19 December 2003. Greensboro, North Carolina.
- Wood, S.N. 2006. Generalized additive models: An introduction with R. Boca Raton, Florida: Chapman & Hall/CRC.
- Wright, A.J., N.A. Soto, A.L. Baldwin, M. Bateson, C.M. Beale, C. Clark, T. Deak, E.F. Edwards, A. Fernandez, A. Godinho, L. Hatch, A. Kakuschke, D. Lusseau, D. Martineau, L.M. Romero, L.S. Weilgart, B. Wintle, G. Notarbartolo-di-Sciara, and V. Martin. 2007. Do marine mammals experience stress related to anthropogenic noise? International Journal of Comparative Psychology 20:274-316.
- Wynne, K. and M. Schwartz. 1999. Guide to marine mammals & turtles of the U.S. Atlantic and Gulf of Mexico. Narragansett, Rhode Island: Rhode Island Sea Grant.
- Yeung, C., S.P. Epperly, and C.A. Brown. 2000. Preliminary revised estimates of marine mammal and marine turtle bycatch by the U.S. Atlantic pelagic longline fleet, 1992-1999. PRD Contribution Number 99/00-13. Miami, Florida: National Marine Fisheries Service.

- Zaretsky, S.C., A. Martinez, L.P. Garrison, and E.O. Keith. 2005. Differences in acoustic signals from marine mammals in the western North Atlantic and northern Gulf of Mexico. Page 314 in Abstracts, Sixteenth Biennial Conference on the Biology of Marine Mammals. 12-16 December 2005. San Diego, California.
- Zollet, E.A. and A.J. Read. 2006. Depredation of catch by bottlenose dolphins (*Tursiops truncatus*) in the Florida king mackerel (*Scomberomorus cavalla*) troll fishery. Fishery Bulletin 104:343-349.

## APPENDIX A-4

### OFFSHORE WIND FARMS

- Ahlén, I., L. Bach, H.J. Baagøe, and J. Pettersson. 2007. Bats and offshore wind turbines studied in southern Scandinavia. Report Number 5571. Stockholm, Sweden: The Swedish Environmental Protection Agency.
- Archer, C.L. and M.Z. Jacobson. 2005. Evaluation of global wind power. *Journal of Geophysical Research* 110:D12110, doi:10.1029/2004JD005462.
- Aqua-Fact International Services Ltd. 2007. Oriel Windfarm Ltd. offshore wind farm: Environmental impact statement. Non-technical summary. Volume 1 of 3. Prepared for Oriel Windfarm Ltd., Dundalk, Ireland, by Aqua-Fact International Services Ltd., Galway, Ireland.
- Band, W., M. Madders, and D.P. Whitfield. 2007. Developing field and analytical methods to assess avian collision risk at wind farms. Pages 259-275 in M. de Lucas, G.F.E. Janss, and M. Ferrer, eds. *Birds and wind farms: Risk assessment and mitigation*. Madrid: Quercus.
- Bech, M., R. Frederiksen, J. Pedersen, and S.B. Leonhard. 2005. Infauna monitoring Horns Rev offshore wind farm: Annual status report 2004. Denmark: Elsam Engineering Bio/consult as.
- Bech, M., S.B. Leonhard, and J. Pedersen. 2004. Infauna monitoring Horns Rev offshore wind farm: Annual status report 2003. Denmark: Elsam Engineering Bio/consult as.
- BERR (Department for Business Enterprise and Regulatory Reform). 2007. Aerial surveys of waterbirds in strategic wind farm areas: 2005-06 final report. Aberdeen, United Kingdom: Department of Trade and Industry.
- BERR (Department for Business Enterprise and Regulatory Reform). 2007. Offshore wind Capital Grant Scheme: North Hoyle offshore wind farm. Third annual report: July 2006-June 2007. URN Number 08/P47. Berkshire, United Kingdom: Npower Renewables Ltd.
- Betke, K. 2006. Measurement of underwater noise emitted by an off shore wind turbine at Horns Rev. Oldenburg, Germany: Institut für technische und angewandte Physik GmbH (ITAP).
- Blew, J., A. Diederichs, T. Grünkorn, M. Hoffmann, and G. Nehls. 2006. Investigations of the bird collision risk and the responses of harbour porpoises in the offshore wind farms Horns Rev, North Sea, and Nysted, Baltic Sea, in Denmark. Status report 2005: Draft version, 27.2.2006. Prepared by Universität Hamburg, Hamburg, Germany, and BioConsult SH, Husum, Germany.
- Brasseur, S.M.J.M., M. Scheidat, G.M. Aarts, J.S.M. Cremer, and O.G. Bos. 2008. Distribution of marine mammals in the North Sea for the generic appropriate assessment of future offshore wind farms. Report C046/08. Prepared for Deltares, Delft, The Netherlands, by Wageningen IMARES (Institute for Marine Resources and Ecosystem Studies), Texel, The Netherlands.
- Brown, M., and R. Walls. 2004. The remote monitoring of seabird movement using bird detection radar from an offshore jack-up barge Loch Ryan, Dumfries. York, United Kingdom: Central Science Laboratory, Bird Management Unit.
- Bruns, E., and I. Steinhauer. 2005. Concerted Action for Offshore Wind Energy Deployment (COD). Work package 4: Environmental issues. Prepared for European Commission, Brussels, Belgium, by SenterNovem, Utrecht, the Netherlands.
- Camphuysen, C.J., A.D. Fox, M.F. Leopold, and I.K. Petersen. 2004. Towards standardised seabirds at sea census techniques in connection with environmental impact assessments for offshore wind farms in the UK: A comparison of ship and aerial sampling methods for marine birds, and their applicability to offshore wind farm assessments. COWRIE Report BAM-02-2002. Prepared for Collaborative Offshore Wind Research into the Environment (COWRIE), by Royal Netherlands Institute for Sea Research, Texel, the Netherlands.
- Canadian Wildlife Service. 2006. Recommended protocols for monitoring impacts of wind turbines on birds. Final report. Gatineau, Quebec: Canadian Wildlife Service, Environment Canada.
- Canadian Wildlife Service. 2007. Wind turbines and birds: A guidance document for environmental assessment. Gatineau, Quebec: Canadian Wildlife Service, Environment Canada.
- Cartensen, J., O.D. Henriksen, and J. Teilmann. 2006. Impacts of offshore wind farm construction on harbour porpoises: Acoustic monitoring of echo-location activity using porpoise detectors (T-PODs). *Marine Ecology Progress Series* 321:295-308.

- Chamberlain, D.E., M.R. Rehfisch, A.D. Fox, M. Desholm, and S.J. Anthony. 2006. The effect of avoidance rates on bird mortality predictions made by wind turbine collision risk models. In *Wind, Fire and Water: Renewable Energy and Birds*. Ibis 148(Suppl. 1):198-202.
- Christensen, C.F. 2006. Navigational risk assessment: Frequency analysis: Wind farm Horns Rev 2. Report Number 643233-REP-01. Prepared for Energi E2 A/S, Brøndby, Denmark.
- Christensen, T.K., and J.P. Hounisen. 2005. Investigations of migratory birds during operation of Horns Rev offshore wind farm 2004. Annual status report 2004. NERI Report. Prepared for Elsam Engineering A/S, Kraftværksvej, Denmark, by National Environmental Research Institute, Roskilde, Denmark.
- Christensen, T.K., I. Clausager, and I.K. Petersen. 2001. Base-line investigations of birds in relation to an offshore wind farm at Horns Rev: Results and conclusions 2000/2001. NERI Report. Prepared for Tech-wise A/S, Fredericia, Denmark, by National Environmental Research Institute, Roskilde, Denmark.
- Christensen, T.K., I. Clausager, and I.K. Petersen. 2002. Status report of seabird surveys at Horns Rev, 2000-2001. NERI Report. Prepared for Tech-wise A/S, Fredericia, Denmark, by National Environmental Research Institute, Roskilde, Denmark.
- Christensen, T.K., I. Clausager, and I.K. Petersen. 2003. Base-line investigations of birds in relation to an offshore wind farm at Horns Rev, and results from the year of construction. NERI Report 2003, April 10 ed. Roskilde, Denmark: National Environmental Research Institute.
- Christensen, T.K., J.P. Hounisen, I. Clausager, and I.K. Petersen. 2004. Visual and radar observations of birds in relation to collision risk at the Horns Rev offshore wind farm. Annual status report 2003. NERI Report. Prepared for Elsam Engineering A/S, Kraftværksvej, Denmark, by National Environmental Research Institute, Roskilde, Denmark.
- Cranswick, P., C. Hall, and L. Smith. 2003. Aerial surveys of birds in proposed strategic areas for offshore windfarm development, round 2: Preliminary report, winter 2002/03. WWT research report. Prepared for Department of Trade and Industry, Aberdeen, United Kingdom, by the Wildfowl and Wetlands Trust, Gloucestershire, United Kingdom.
- Cryan, P.M., and A.C. Brown. 2007. Migration of bats past a remote island offers clues toward the problem of bat fatalities at wind turbines. *Biological Conservation* 139:1-11.
- Desholm, M. 2001. First phase of the project 'Development of method for estimating the collision frequency between migrating birds and offshore wind turbines' – the choice of equipment. Prepared for SEAS Wind Energy Centre, Haslev, Denmark, by National Environmental Research Institute, Rønde, Denmark.
- Desholm, M. 2003. Thermal Animal Detection System (TADS): Development of a method for estimating collision frequency of migrating birds at offshore wind turbines. NERI Technical Report Number 440. Roskilde, Denmark: National Environmental Research Institute.
- Desholm, M. 2009. Avian sensitivity to mortality: Prioritising migratory bird species for assessment at proposed wind farms. *Journal of Environmental Management*. In press.
- Desholm, M., and J. Kahlert. 2005. Avian collision risk at an offshore wind farm. *Biology Letters* 1(3):296-298.
- Desholm, M., A.D. Fox, and P.D. Beasley. 2004. Best practice guidance for the use of remote techniques for observing bird behaviour in relation to offshore windfarms. COWRIE-REMOTE-05-2004. Prepared for Collaborative Offshore Wind Research into the Environment consortium, United Kingdom, by National Environmental Research Institute, Rønde, Denmark.
- Desholm, M., A.D. Fox, P.D.L. Beasley, and J. Kahlert. 2006. Remote techniques for counting and estimating the number of bird-wind turbine collisions at sea: A review. In *Wind, Fire and Water: Renewable Energy and Birds*. Ibis 148(Suppl.1):76-89.
- Desholm, M., T. Fox, J. Kahlert, I. Petersen, and T. Christensen. 2007. Assessing effects of offshore wind farms on birds – the Danish approach. Roskilde, Denmark: University of Aarhus, National Environmental Research Institute.
- Desholm, M., J. Kahlert, I.K. Petersen, and I. Clausager. 2001. Base-line investigations of birds in relation to an offshore wind farm at Rødsand: Results and conclusions, 2000. NERI Report. Prepared for SEAS Distribution, by National Environmental Research Institute, Roskilde, Denmark.
- Desholm, M., I.K. Petersen, J. Kahlert, and I. Clausager. 2003. Base-line investigations of birds in relation to an offshore wind farm at Rødsand: Results and conclusions 2002. NERI Report. Prepared for

- ENERGI E2 A/S, København SV, Denmark, by National Environmental Research Institute, Roskilde, Denmark.
- DeTect, Inc. 2005. An overview: Radar technology for assessment of avian issues at wind energy project sites. Panama City, Florida: DeTect, Inc.
- DeTect, Inc. 2006. An overview: Radar technology for assessment of avian issues at wind energy project sites. Panama City, Florida: DeTect, Inc.
- Dhanju, A., P. Whitaker, and S. Burton. 2005. Assessment of Delaware offshore wind power. Newark, Delaware: University of Delaware, College of Marine Studies.
- Diederichs, A., G. Nehls, M. Dähne, S. Adler, S. Koschinski, and U. Verfuß. 2008. Methodologies for measuring and assessing potential changes in marine mammal behaviour, abundance or distribution arising from the construction, operation and decommissioning of offshore windfarms. COWRIE ENG-01-2007. Prepared for COWRIE, Ltd.
- Dirksen, S., A.L. Spaans, and J. van der Winden. 1998. Studies on nocturnal flight paths and altitudes of waterbirds in relation to wind turbines: A review of current research in The Netherlands. Pages 97-109 in Proceedings of National Avian-Wind Power Planning Meeting III. May 1998. San Diego, California.
- Dirksen, S., A.L. Spaans, and J. van der Winden. 2007. Collision risks for diving ducks at semi-offshore wind farms in freshwater lakes: A case study. Pages 201-218 in M. de Lucas, G.F.E. Janss, and M. Ferrer, eds. Birds and wind farms: Risk assessment and mitigation. Madrid: Quercus.
- Dirksen, S., R.H. White, and M.F. Leopold. 2005. Nocturnal movements and flight altitudes of Common Scoters *Melanitta nigra*: Research north of Ameland and Terschelling, February 2004, for the baseline study Near Shore Windfarm. Prepared for National Institute for Coastal and Marine Management, The Hague, Netherlands, by Bureau Waardenburg bv, AJ Culemborg, The Netherlands.
- Dolman, S.J., M.P. Simmonds, and S. Keith. 2003. Marine wind farms and cetaceans. IWC Working Document SC/55/E4 presented to the IWC Scientific Committee. 16 to 19 June. Berlin, Germany.
- DONG Energy, V., Danish Energy Authority, and Danish Forest and Nature Agency. 2006. Danish offshore wind key environmental issues. Copenhagen, Denmark: Danish Energy Authority.
- Dooling, R. 2002. Avian hearing and the avoidance of wind turbines. Technical Report NREL/TP-500-30844. Prepared for National Renewable Energy Lab, Golden, Colorado, by University of Maryland, College Park, Maryland.
- Drewitt, A.L., and R.H.W. Langston. 2006. Assessing the impacts of wind farms on birds. In Wind, Fire and Water: Renewable Energy and Birds. Ibis 148(Suppl.1):29-42.
- DTI (Department of Trade and Industry). 2005. Offshore wind turbines and bird activity at Blyth. Aberdeen, United Kingdom: Department of Trade and Industry.
- DTI (Department of Trade and Industry). 2006. Aerial surveys of waterbirds in strategic windfarm areas: 2004/05 final report. Aberdeen, United Kingdom: Department of Trade and Industry.
- Elsam Engineering, and ENERGI E2. 2005. Review report 2004. The Danish Offshore Wind Farm Demonstration Project: Horns Rev and Nysted offshore wind farms: Environmental impact assessment and monitoring. Prepared for The Environmental Group, by Elsam Engineering A/S, Fredericia, Denmark and ENERGI E2 A/S, København SV, Denmark.
- ENSR. 2005. Essential fish habitat assessment for the Long Island offshore wind park within New York State waters and federal waters of the outer continental shelf. Prepared for Long Island Offshore Wind Park, LLC, Juno Beach, Florida, by ENSR International, Willington, Connecticut.
- ESS Group, Inc. 2006. Appendix 3.8-C. Essential fish habitat assessment for the Cape Wind energy project: Final environmental impact report/development of regional impact. Prepared for Cape Wind Associates, LLC, Boston, Massachusetts, by ESS Group, Inc., Wellesley, Massachusetts.
- ESS Group Inc. 2006. Appendix 3.9-B. Potential impacts to predator-prey relationships as a result of the proposed Cape Wind project in Nantucket Sound. Report number 4.2.5-4. Prepared for Cape Wind Associates LLC, Boston, Massachusetts, by ESS Group, Inc., Wellesley, Massachusetts.
- Evans, P.G.H., ed. 2008. Offshore wind farms and marine mammals: Impacts and methodologies for assessing impacts. ECS Special Publication Series Number 49. Proceedings of the Ascobans/ECS workshop. European Cetacean Society's Twenty-first Annual Conference. 21 April 2007. San Sebastian, Spain.
- Everaert, J. 2003. Wind turbines and birds in Flanders: Preliminary study results and recommendations. Natuur.Oriolus 69(4):145-155.

- Everaert, J., and E. Kuijken. 2007. Wind turbines and birds in Flanders (Belgium): Preliminary summary of the mortality research results. Report for Research Institute for Nature and Forest (INBO).
- Everaert, J., and E.W.M. Stienen. 2007. Impact of wind turbines on birds in Zeebrugge (Belgium): Significant effect on breeding tern colony due to collisions. *Biodiversity Conservation* 16:3345-3359.
- Exo, K.-M., O. Hüppop, and S. Garthe. 2003. Birds and offshore wind farms: A hot topic in marine ecology. *Wader Study Group Bulletin* 100:50-53.
- Ferrer-Costa, A. 2005. Environmental effects of offshore wind farm developments and their implications for harbour porpoise conservation in UK waters. Master's thesis, Cranfield University at Silsoe, United Kingdom.
- Forward, G. 2005. The potential effects of offshore wind-power facilities on fish and fish habitat: A literature review. Toronto, Ontario: Algonquin Fisheries Assessment Unit, Ontario Ministry of Natural Resources.
- Fox, A.D., and I.K. Petersen. 2006. Assessing the degree of habitat loss to marine birds from the development of offshore wind farms. Pages XX-XX in G.C. Boere, C.A. Galbraith, and D.A. Stroud, eds. *Waterbirds around the world*. Edinburgh, United Kingdom: The Stationery Office.
- Fox, A.D., M. Desholm, J. Kahlert, T.K. Christensen, and I.K. Petersen. 2006. Information needs to support environmental impact assessment of the effects of European marine offshore wind farms on birds. In *Wind, Fire and Water: Renewable Energy and Birds*. *Ibis* 148(Suppl.1):129-144.
- Garthe, S., and O. Hüppop. 2004. Scaling possible adverse effects of marine wind farms on seabirds: Developing and applying a vulnerability index. *Journal of Applied Ecology* 41:724-734.
- Gauthreaux, S.A., Jr. and C.G. Belser. 2003. Radar ornithology and biological conservation. *Auk* 120(2):266-277.
- Gill, A.B. 2005. Offshore renewable energy: Ecological implications of generating electricity in the coastal zone. *Journal of Applied Ecology* 42:605-615.
- Gill, A.B., I. Gloyne-Phillips, K.J. Neals, and J.A. Kimber. 2005. COWRIE 1.5 electromagnetic fields review: The potential effects of electromagnetic fields generated by sub-sea power cables associated with offshore wind farm developments on electrically and magnetically sensitive marine organisms – A review. COWRIE-EM FIELD 2-06-2004. Prepared for Collaborative Offshore Wind Research into the Environment, United Kingdom, by Cranfield University, Silsoe, United Kingdom.
- Gordon, J., D. Thompson, D. Gillespie, M. Lonergan, S. Calderan, B. Jaffey, and V. Todd. 2007. Assessment of the potential for acoustic deterrents to mitigate the impact on marine mammals of underwater noise arising from the construction of offshore wind farms. COWRIE DETER-01-2007. Prepared for Collaborative Offshore Wind Research into the Environment, United Kingdom, by Gatty Marine Laboratory, University of St. Andrews, Scotland.
- Gradient Corporation. 2006. Appendix 3.7-C. Sensitivity of marine organisms to undersea electric and magnetic fields. Cape Wind energy project: Final environmental impact report/development of regional impact. Prepared for Cape Wind Associates, LLC, Boston, Massachusetts, by Gradient Corporation, Cambridge, Massachusetts.
- Guillemette, M., and J.K. Larsen. 2002. Postdevelopment experiments to detect anthropogenic disturbances: The case of sea ducks and wind parks. *Ecological Applications* 12(3):868-877.
- Guillemette, M., J.K. Larsen, and I. Clausager. 1998. Impact assessment of an off-shore wind park on sea ducks. NERI Technical Report Number 227. Kalø, Denmark: National Environmental Research Institute.
- Guillemette, M., J.K. Larsen, and I. Clausager. 1999. Assessing the impact of the Tunø Knob wind park on sea ducks: The influence of food resources. NERI Technical Report Number 263. Kalø, Denmark: National Environmental Research Institute.
- Harte, M., S. Mulder, and W. van den Wittenboer. 2006. Overall report Baseline Studies Near Shore Windfarm (NSW): Environmental aspects and recommendations for effect monitoring. Project organization MEP NSW. Prepared by SenterNovem Utrecht, Den Haag, The Netherlands.
- Hiscock, K., H. Tyler-Walters, and H. Jones. 2002. High level environmental screening study for offshore wind farm developments – Marine habitats and species project. AEA Technology, environmental contract W/35/00632/00/00. Prepared for The Department of Trade and Industry New & Renewable Energy Programme, London, United Kingdom, by Marine Biological Association, Citadel Hill, United Kingdom.

- Hoffmann, E., J. Astrup, F. Larsen, S. Munch-Petersen, and J. Støttrup. 2000. Effects of marine windfarms on the distribution of fish, shellfish and marine mammals in the Horns Rev area. Baggrundsrapport Number 24. Prepared for ELSAMPROJEKT, A/S, by Danish Institute for Fisheries Research, Charlottenlund, Denmark.
- Hüppop, O., J. Dierschke, K.-M. Exo, E. Fredrich, and R. Hill. 2006. Bird migration studies and potential collision risk with offshore wind turbines. In *Wind, Fire and Water: Renewable Energy and Birds*. Ibis 148(Suppl.1):90-109.
- Hvidt, C.B., S.B. Leonhard, M. Klastrup, and J. Pedersen. 2006. Hydroacoustic monitoring of fish communities at offshore wind farms: Horns Rev offshore wind farm annual report 2005. Prepared for Vattenfall A/S, Stockholm, Sweden, by Bio/consult as, Abyhøj, Denmark, Carl Bro as, Glostrup, Denmark, and Simrad AS, Horten, Norway.
- Jensen, B.S., M. Klastrup, and H. Skov. 2006. EIA report: Fish. Horns Rev 2 offshore wind farm. Prepared by Bio/consult as, Abyhøj, Denmark and Carl Bro as, Glostrup, Denmark.
- Kahlert, J., M. Desholm, I.K. Petersen, and I. Clausager. 2002. Base-line investigations of birds in relation to an offshore wind farm at Rødsand: Results and conclusions, 2001. NERI Report. Roskilde, Denmark: National Environmental Research Institute.
- Kahlert, J., I.K. Petersen, A.D. Fox, M. Desholm, and I. Clausager. 2004. Investigations of birds during construction and operation of Nysted offshore wind farm at Rødsand. Annual status report 2003. NERI Report. Prepared for Energi E2 A/S, København SV, Denmark, by National Environmental Research Institute, Roskilde, Denmark.
- Kaiser, M.J. 2004. Predicting the displacement of common scoter *Melanitta nigra* from benthic feeding areas due to offshore windfarms. Interim report 2004-4. COWRIE-BEN-03-2002. Prepared for COWRIE, Ltd., United Kingdom, by University of Wales, School of Ocean Sciences, Bangor, Wales.
- Kaiser, M.J., A. Elliott, M. Galanidi, E.I.S. Rees, R. Caldow, R. Stillman, W. Sutherland, and D. Showler. 2005. Predicting the displacement of common scoter *Melanitta nigra* from benthic feeding areas due to offshore windfarms. Final Report. COWRIE-BEN-03-2002. Prepared for COWRIE, Ltd., United Kingdom, by University of Wales, School of Ocean Sciences, Bangor, Wales, NERC Centre for Ecology and Hydrology, Bangor, Wales, and University of East Anglia, School of Biological Sciences, Norwich, United Kingdom.
- Kaiser, M.J., M. Galanidi, D.A. Showler, A.J. Elliott, R.W.G. Caldow, E.I.S. Rees, R.A. Stillman, and W.J. Sutherland. 2006. Distribution and behaviour of Common Scoter *Melanitta nigra* relative to prey resources and environmental parameters. In *Wind, Fire and Water: Renewable Energy and Birds*. Ibis 148(Suppl. 1):110–128.
- Keil, M. 2005. The effects of windfarms on birds: A review. Technical Report. Prince George, British Columbia: University of Northern British Columbia.
- Köller, J., Köppel, J., and W. Peters, eds. 2006. Offshore wind energy: Research on environmental impacts. Germany: Springer Berlin Heidelberg.
- Krijgsveld, K.L., R. Lensink, H. Schekkerman, P. Wiersma, M.J.M. Poot, E.H.W.G. Meesters, and S. Dirksen. 2005. Baseline studies North Sea wind farms: Fluxes, flight paths and altitudes of flying birds 2003-2004. Report Number 05-041. Prepared for National Institute for Coastal and Marine Management, The Hague, Netherlands.
- Krijgsveld K.L., S.M.J. van Lieshout, H. Schekkerman, R. Lensink, M.J.M. Poot, and S. Dirksen. 2003. Baseline studies North Sea wind farms: strategy of approach for flying birds. Report Number 03-043. Prepared for National Institute for Coastal and Marine Management, The Hague, Netherlands.
- Kuvlesky, W.P., Jr., L.A. Brennan, M.L. Morrison, K.K. Boydston, B.M. Ballard, and F.C. Bryant. 2007. Wind energy development and wildlife conservation: Challenges and opportunities. *Journal of Wildlife Management* 71(8):2487-2498.
- Langston, R.H.W., and J.D. Pullan. 2002. Windfarm and birds: An analysis of the effects of windfarms on birds, and guidance on environmental assessment criteria and site selection issues. Prepared for the Convention on the Conservation of European Wildlife and Natural Habitats. 22<sup>nd</sup> meeting. 2-5 December 2002. Strasbourg. Commissioned by the Council of Europe for the Bern Convention.
- Larsen, J.K., and M. Guillemette. 2007. Effects of wind turbines on flight behaviour of wintering Common Eiders: Implications for habitat use and collision risk. *Journal of Applied Ecology* 44(3):516–522.



- Lawrence, E.S., S. Painter, and B. Little. 2007. Responses of birds to the wind farm at Blyth Harbour, Northumberland, UK. Pages 47-69 in M. de Lucas, G.F.E. Janss, and M. Ferrer, eds. *Birds and wind farms: Risk assessment and mitigation*. Madrid: Quercus.
- Leonhard, S.B. 2006. EIA report. Benthic communities: Horns Rev 2 offshore wind farm. Prepared by Bio/consult as, Abyhøj, Denmark and Carl Bro as, Glostrup, Denmark.
- Leonhard, S.B. and J. Pedersen. 2006. Benthic communities at Horn Rev before, during and after construction of Horns Rev offshore wind farm. Prepared by Bio/consult as, Abyhøj, Denmark.
- Liu, W.T., W. Tang, and X. Xie. 2008. Wind power distribution over the ocean. *Journal of Geophysical Letters* 35:L13808, doi:10.1029/2008GL034172.
- Maar, M., K. Bolding, J.K. Petersen, J.L.S. Hansen, and K. Timmermann. 2009. Local effects of blue mussels around turbine foundations in an ecosystem model of Nysted off-shore wind farm, Denmark. In press. *Journal of Sea Research*.
- Maclean, I.M.D., M. Frederiksen, and M.M. Rehfish. 2007. Potential use of population viability analysis to assess the impact of offshore windfarms on bird populations. COWRIE PVA-03-07. BTO Research Report Number 480. Prepared for Collaborative Offshore Wind Research into the Environment, by British Trust for Ornithology, Thetford, United Kingdom.
- Maclean, I.M.D., H. Skov, and M.M. Rehfish. 2007. Further use of aerial surveys to detect bird displacement by offshore windfarms. COWRIE EXTDISP-06-07. BTO Research Report Number 482. Prepared for Collaborative Offshore Wind Research into the Environment, United Kingdom, by British Trust for Ornithology, Thetford, United Kingdom.
- Madsen, P.T., M. Wahlberg, J. Tougaard, K. Lucke, and P. Tyack. 2006. Wind turbine underwater noise and marine mammals: Implications of current knowledge and data needs. *Marine Ecology Progress Series* 309:279-295.
- Mellor, M., and M. Maher. 2008. Full scale trial of high definition video survey for offshore windfarm sites. COWRIE HIDEF-03-08. Prepared for Collaborative Offshore Wind Research into the Environment, by HiDef Aerial Surveying Ltd., Whitehaven, United Kingdom.
- Mellor, M., T. Craig, D. Baillie, and P. Woolaghan. 2007. Trial of high definition video survey and its applicability to survey of offshore windfarm sites. COWRIE HIDEF-05-07. Prepared for Collaborative Offshore Wind Research into the Environment, by HiDef Aerial Surveying Ltd., Whitehaven, United Kingdom.
- MMS (Minerals Management Service). 2007. Final environmental impact statement: Programmatic environmental impact statement for alternative energy development and production and alternate use of facilities on the outer continental shelf. Volume I: Executive summary through chapter 4. OCS EIS/EA, MMS 2007-046. U.S. Department of the Interior, Minerals Management Service.
- MMS (Minerals Management Service). 2009. Final environmental impact statement: Cape Wind Energy Project. OSC Publication Number 2008-040. Herndon, Virginia: U.S. Department of the Interior, Minerals Management Service.
- Musial, W., and S. Butterfield. 2004. Future for offshore wind energy in the United States. Preprint to be presented at EnergyOcean 2004. 28 - 29 June 2004. Palm Beach, Florida. NREL/CP-500-36313. Golden, Colorado: National Renewable Energy Laboratory.
- Musial, W., S. Butterfield, and B. Ram. 2006. Energy from offshore wind. Preprint to be presented at Offshore Technology Conference. 1-4 May 2006. Houston, Texas. NREL/CP-500-39450. Prepared by National Renewable Energy Laboratory, Golden, Colorado, and Energetics, Inc., Washington, D.C.
- National Wind Power. 2003. North Hoyle offshore wind farm baseline monitoring report: June 2003. Report NH/MonR/Rev 1. Prepared for NWP Offshore Ltd., Buckinghamshire, United Kingdom.
- National Wind Power. 2005. North Hoyle offshore wind farm: Annual FEPA monitoring report. Executive Summary. NH/FEPA/2003-04-Final. Prepared for NWP Offshore Ltd., Buckinghamshire, United Kingdom, by Npower Renewables Ltd., Berkshire, United Kingdom.
- Nehls, G. K. Betke, S. Eckelmann, and M. Ros. 2007. Assessment and costs of potential engineering solutions for the mitigation of the impacts of underwater noise arising from the construction of offshore windfarms. COWRIE ENG-01-2007. Prepared for Collaborative Offshore Wind Research into the Environment, by BioConsult SH, Husum, Germany.
- New and Renewable Energy Programme and DTI (Depart of Trade and Industry). 2000. Cumulative effects of wind turbines: Volume 3: Report on results of consultations on cumulative effects of

- wind turbines on birds. ETSU W/14/00538/REP/3. Prepared by Landscape Design Associates, United Kingdom.
- Nielsen, S., ed. 2006. Offshore wind farms and the environment: Danish experiences from Horns Rev and Nysted. Copenhagen, Denmark: Danish Energy Authority.
- Nikolaos, N. 2004. Deep water offshore wind technologies. Master's thesis, University of Strathclyde, United Kingdom.
- Noer, H., T.K. Christensen, I. Clausager, and I.K. Petersen. 2000. Effects on birds of an offshore wind park at Horns Rev: Environmental impact assessment. NERI report. Prepared for Elsamprojekt A/S 2000, by National Environmental Research Institute, Roskilde, Denmark.
- Norman, T., R. Buisson, and N. Askew. 2007. COWRIE workshop on the cumulative impact of offshore windfarms on birds. 3 May 2007. Peterborough, United Kingdom. COWRIE CIBIRD-01-2007. Prepared for Collaborative Offshore Wind Research into the Environment, by RPS, Cambridgeshire, United Kingdom.
- OSPAR Commission. 2004. Problems and benefits associated with the development of offshore wind-farms. Biodiversity Series. London, England: OSPAR Commission.
- Oxley, R. 2006. An overview of marine renewables in the UK: A synopsis of Michael Hay's presentation. Ibis 148:203-205.
- Parkinson, K., and IECS. 2001. Environmental consequences of offshore wind power generation. Master's thesis, University of Hull, United Kingdom.
- Percival, S.M. 2001. Assessment of the effects of offshore wind farms on birds. DTI report URN 01/1434. Prepared for DTI Sustainable Energy Programmes, by Ecology Consulting, Durham, United Kingdom.
- Percival, S.M. 2003. Birds and wind farms in Ireland: A review of potential issues and impact assessment. Durham, United Kingdom: Ecology Consulting.
- Perrow, M.R., E.R. Skeate, P. Lines, D. Brown, and M.L. Tomlinson. 2006. Radio telemetry as a tool for impact assessment of wind farms: The case of Little Terns *Sterna albifrons* at Scroby Sands, Norfolk, UK. In Wind, Fire and Water: Renewable Energy and Birds. Ibis 148(Suppl.1):57-75.
- Petersen, I.K. 2005. Bird numbers and distribution in the Horns Rev offshore wind farm area. Annual status report 2004. NERI Report. Prepared for Elsam Engineering A/S, Kraftværksvej, Denmark, by National Environmental Research Institute, Roskilde, Denmark.
- Petersen, J.K., and T. Malm. 2006. Offshore windmill farms: Threats to or possibilities for the marine environment. Ambio: A journal of the Human Environment 35(2):75-80.
- Petersen, I.K., T.K. Christensen, J. Kahlert, M. Desholm, and A.D. Fox. 2006. Final results of bird studies at the offshore wind farms at Nysted and Horns Rev, Denmark. NERI Report prepared for DONG Energy, Fredericia, Denmark and Vattenfall A/S, Stockholm, Sweden, by National Environmental Research Institute, Roskilde, Denmark.
- Petersen, I.K., I. Clausager, and T.K. Christensen. 2004. Bird numbers and distribution in the Horns Rev offshore wind farm area. Annual status report 2003. NERI Report. Prepared for Elsam Engineering A/S, Kraftværksvej, Denmark, by National Environmental Research Institute, Roskilde, Denmark.
- Pettersson, J. 2005. The impact of offshore wind farms on bird life in Southern Kalmar Sound, Sweden: A final report based on studies 1999–2003. Lund, Sweden: Swedish Energy Agency.
- PNAWPPM-III. 2000. Proceedings of National Avian-Wind Power Planning Meeting III. May 1998. San Diego, California. Prepared for the Avian Subcommittee of the National Wind Coordinating Committee by LGL, Ltd., King City, Ontario.
- Proceedings of the Wind Energy and Birds/Bats Workshop: Understanding and Resolving Bird and Bat Impacts. S.S. Schwartz, ed. 18-19 May 2004. Washington, D.C. Prepared by RESOLVE, Inc., Washington, D.C.
- Rodmell, D.P., and M.L. Johnson. 2005. The development of marine based wind energy generation and inshore fisheries in UK waters: Are they compatible? In M. Johnson, and C. Wheatley, eds. Who owns the sea? 24-27 June 2002. Tjarno, Sweden. Scarborough Centre for Coastal Studies, Department of Biology, University of Hull. Accessed 15 September 2008. [http://www.hull.ac.uk/cems/downloads/WOTS\\_rodmedl\\_et\\_al.pdf](http://www.hull.ac.uk/cems/downloads/WOTS_rodmedl_et_al.pdf).
- Rodrigues, L., L. Bach, M.-J. Dubourg-Savage, J. Goodwin, and C. Harbusch 2008. Guidelines for consideration of bats in wind farm projects. EUROBATS Publication Series Number 3 (English version). Bonn, Germany: UNEP/EUROBATS Secretariat.

- Schmaljohann, H., F. Liechti, E. Bächler, T. Steuri, and B. Bruderer. 2008. Quantification of bird migration by radar— a detection probability problem. *Ibis* 150:342-355.
- Skov, H. and F. Thomsen. 2006. EIA report: Marine mammals. Horns Rev 2 offshore wind farm. Prepared by Bio/consult as, Abyhøj, Denmark, and Carl Bro as, Glostrup, Denmark.
- Skov, H., J. Carstensen, J. Teilmann, and O.D. Henriksen. 2002. Investigations of harbour porpoises at the planned site for wind turbines at Horns Reef. Status report: 1/1 2001 – 1/4 2002. Technical report for Tech-wise A/S. Ornix Consult. 45 pp.
- Steinen, E.W.M., W. Courtens, J. Everaert, and M. Van de Walle. 2008. Sex-biased mortality of Common Terns in wind farm collisions. *Condor* 110(1):154-157.
- Steinen, E.W.M., V. Waeyenberge, E. Kuijken, and J. Seys. 2007. Trapped within the corridor of the southern North Sea: The potential impact of offshore wind farms on seabirds. Pages 71-80 in M. de Lucas, G.F.E. Janss, and M. Ferrer, eds. *Birds and wind farms: Risk assessment and mitigation*. Madrid: Quercus.
- Teilmann, J., O. Henriksen, J. Carstensen, and H. Skov. 2002. Monitoring effects of offshore windfarms on harbour porpoises using PODs (porpoise detectors). Technical report. Ministry of the Environment, Denmark.
- Teilmann, J., J. Tougaard, and J. Carstensen. 2006. Summary on harbour porpoise monitoring 1999-2006 around Nysted and Horns Rev Offshore Wind Farms. Report to Energi E2 A/S and Vattenfall A/S. National Environmental Research Institute (NERI), Departments of Arctic Environment and Marine Ecology, Roskilde, Denmark.
- Teilmann, J., J. Tougaard, J. Carstensen, R. Dietz, and S. Tougaard. 2006. Summary on seal monitoring 1999-2005 around Nysted and Horns Rev Offshore Wind Farms. Technical report to Energi E2 A/S and Vattenfall A/S. National Environmental Research Institute (NERI), Departments of Arctic Environment and Marine Ecology, Roskilde, Denmark.
- Thomsen, F., K. Ludemann, R. Kafemann, and W. Piper. 2006. Effects of offshore wind farm noise on marine mammals and fish. Hamburg, Germany: COWRIE Ltd.
- Tingley, M.W. 2003. Effects of offshore wind farms on birds: "Cuisinarts of the sky" or just tilting at windmills? Bachelor's thesis, Harvard University.
- Tougaard, J. and J. Teilmann. 2007. Rodsand 2 offshore wind farm environmental impact assessment – marine mammals. Roskilde, Denmark: National Environmental Research Institute.
- Tougaard, J., J. Carstensen, N.I. Bech, and J. Teilmann. 2005. Final report on the effect of Nysted Offshore Wind Farm on harbour porpoises. Annual report 2005. Technical report to Energi E2 A/S. National Environmental Research Institute (NERI), Departments of Arctic Environment and Marine Ecology, Roskilde, Denmark.
- Tougaard, J., J. Carstensen, O.D. Henriksen, H. Skov, and J. Teilmann. 2003. Short-term effects of the construction of wind turbines on harbour porpoises at Horns Reef. Technical report to TechWise A/S. HME/362-02662, Hedeselskabet, Roskilde.
- Tougaard, J., J. Carstensen, O.D. Henriksen, and J. Teilmann. 2004. Harbour porpoises on Horns Reef - effects of the Horns Reef wind farm. Annual status report 2003 to Elsam Engineering A/S. Jacob Hansen, Consult.
- Tougaard, J., J. Carstensen, J. Teilmann, and N.I. Bech. 2005. Effects of the Nysted Offshore Wind Farm on harbour porpoises. Annual status report 2005 for the T-POD monitoring program. Technical report to Energi E2 A/S.
- Tougaard, J., J. Carstensen, M.S. Wisz, M. Jespersen, J. Teilmann, N.I. Bech, and H. Skov. 2006. Harbour porpoises on Horn Reef. Effects of the Horns Reef wind farm. Prepared for Vattenfall A/S, Stockholm, Sweden by National Environmental Research Institute, Roskilde, Denmark and DHI Water and Environment Hørsholm, Denmark.
- Tougaard, J., Ebbesen, I., Tougaard, S., Jensen T. and Teilmann, J. 2003. Satellite tracking of harbour seals on Horns Reef. Technical report to Techwise A/S, Biological Papers from the Fisheries and Maritime Museum, Esbjerg. No. 3.
- Tougaard, J., S. Tougaard, R.C. Jensen, T. Jensen, J. Teilmann, D. Adelung, N. Liebsch, and G. Muller. 2006. Harbour seals on Horn Reef before, during and after construction of Horns Rev offshore wind farm. Final report to Vattenfall A/S. Biological Papers from the Fisheries and Maritime Museum No. 5, Esbjerg, Denmark.
- Tucker, V.A. 1996. A mathematical model of bird collisions with wind turbine rotors. *Journal of Solar Energy Engineering* 118(4):253-262.

- Tucker, V.A. 1996. Using a collision model to design safer wind turbine rotors for birds. *Journal of Solar Energy Engineering* 118(4):263-269.
- Tulp, I., H. Schekkerman, J.K. Larsen, J. van der Winden, R.J.W. van de Haterd, P. van Horssen, S. Dirksen, and A.L. Spaans. 1999. Nocturnal flight activity of sea ducks near the windfarm Tunø Knob in the Kattegat. Report Number 99.64. Prepared for Novem, Utrecht, The Netherlands, by Bureau Waardenburg bv, Culemborg, The Netherlands.
- Tyrrell, M.C. 2004. Strategic plan for mapping Massachusetts' benthic marine habitats. Massachusetts Office of Coastal Zone Management, Boston, MA.
- van Belle, J., M. Maan, H. van Gasteren, and L.S. Buurma. 2000. Using radar to obtain a quantitative description of summer bird movements in the Dutch coastal area. Report IBSC24/WP. Prepared for Royal Netherlands Air Force, by International Bird Strike Committee, Amsterdam.
- van Gasteren, H., I. Holleman, W. Bouten, E. van Loon, and J. Shamoun-Baranes. 2008. Extracting bird migration from C-band Doppler weather radars. *Ibis* 150(4):674-686.
- Verhoef, J.P., C.A. Westra, H. Korterink, and A. Curvers. 2002. WT-Bird: A novel bird impact detection system. Petten, the Netherlands: ECN Research Centre of the Netherlands.
- Verhoef, J.P., C.A. Westra, R.J. Nijdam, H. Korterink, and P.J. Eecen. 2003. Offshore wind energy and noise monitoring. Report ECN-RX-03-012. Petten, the Netherlands: ECN Research Centre of the Netherlands.
- Vertegaal, C.T.M. 2003. Preliminary study into bird research methods for the MEP-NSW. Prepared for National Institute for Coastal and Marine Management (RIKZ), Den Haag, the Netherlands and Novem, Utrecht, the Netherlands, by Vertegaal Ecologisch Advies en Onderzoek, Leiden, the Netherlands.
- Vigo, A.B. 2007. Impacts of offshore wind developments on birds. Master's thesis, Cranfield University, United Kingdom.
- Vos, E. and R.R. Reeves, eds. 2005. Report of an international workshop: Policy on sound and marine mammals, 28-30 September 2004, London, England. Bethesda, Maryland: Marine Mammal Commission.
- Wahlberg, M. and H. Westerberg. 2005. Hearing in fish and their reactions to sound from offshore wind farms. *Marine Ecology Progress Series* 288:295-309.
- West, A.D. and R.W.G. Caldow. 2006. The development and use of individuals-based models to predict the effects of habitat loss and disturbance on waders and waterfowl. *Ibis* 148(Suppl. 1):158-168.
- Wilhelmsson, D. and T. Malm. 2008. Fouling assemblages on offshore wind power plants and adjacent substrata. *Estuarine Coastal and Shelf Science* doi:10.1016/j.ecss.2008.04.020.
- Wilhelmsson, D., T. Malm, and M.C. Ohman. 2006. The influence of offshore windpower on demersal fish. *ICES Journal of Marine Science* 63:775-784.
- Wilson, J.C. 2007. Offshore wind farms: their impacts, and potential habitat gains as artificial reefs, in particular for fish. MSc dissertation, Estuarine and Coastal Science and Management, University of Hull.
- Zucco, C., W. Wende, T. Merck, I. Köchling, and J. Köppel, eds. 2006. Ecological research on offshore wind farms: International exchange of experiences. Part A: International exchange of experiences on the assessment of the ecological impacts of offshore wind farms. Proceedings of the International Expert Workshop. 17-18 March 2005. TU Berlin, Germany. Bonn, Germany: Bundesamt für Naturschutz (BfN).
- Zucco, C., W. Wende, T. Merck, I. Köchling, and J. Köppel, eds. 2006. Ecological research of offshore wind farms: International exchange of experiences. Part B: Literature review of the ecological impacts of offshore wind farms. Proceedings of the International Expert Workshop. 17-18 March 2005. TU Berlin, Germany. Bonn, Germany: Bundesamt für Naturschutz (BfN).

This page intentionally left blank

## APPENDIX A-5

### SEA TURTLES

- Aero-Marine Surveys Inc. 1984. Final report - Southeast Turtle Survey (SETS): Pelagic aerial surveys V through VII including time of day / sea state special experiment. Inclusive dates of survey report: April 1983 - March 1984. Prepared for the Southeast Fisheries Science Center, Miami, Florida by Aero-Marine Surveys Inc., Groton, Connecticut.
- Allman, P.E. 2000. The phenomenon of cold-stunned sea turtles along the northeast Atlantic coast. Pages 265-266 in Abreu-Grobois, F.A., R. Briseño-Dueñas, R. Márquez-Millán, and L. Sarti-Martínez, eds. Proceedings of the Eighteenth International Sea Turtle Symposium. NOAA Technical Memorandum NMFS-SEFSC-436.
- Andre, J.B. and L. West. 1981. Nesting and management of the Atlantic loggerhead, *Caretta caretta* (Linnaeus) (Testudines: Cheloniidae) on Cape Island, South Carolina, in 1979. *Brimleyana* 6:73-82.
- Avens, L. and K.J. Lohmann. 2004. Navigation and seasonal migratory orientation in juvenile sea turtles. *Journal of Experimental Biology* 207:1771-1778.
- Babcock, H.L. 1930. *Caretta kempii* from Massachusetts. *Copeia* 1930(1):21.
- Babcock, H.L. 1945. Further records of the leatherback turtle from New England waters. *Copeia* 1945(1):46.
- Barbour, T. 1942. New records for ridleys. *Copeia* 1942(4):257-258.
- Barnard, D.E., J.A. Keinath, and J.A. Musick. 1989. Distribution of ridley, green, and leatherback turtles in Chesapeake Bay and adjacent waters. Pages 201-203 in Eckert, S.A., K.L. Eckert, and T.H. Richardson, eds. Proceedings of the Ninth Annual Workshop on Sea Turtle Conservation and Biology. NOAA Technical Memorandum NMFS-SEFSC-232.
- BBNWR (Back Bay National Wildlife Refuge). 1993. Sea turtle nesting summary: 1970-1993. Virginia Beach, Virginia: Back Bay National Wildlife Refuge.
- Bellmund, S.A. 1986. The role of habitat partitioning in Chesapeake Bay by the loggerhead (*Caretta caretta*) and Kemp's ridley (*Lepidochelys kempii*) sea turtles. *Virginia Journal of Science* 37(2):60.
- Bellmund, S.A. 1988. Assessing environmental stress on the loggerhead sea turtle (*Caretta caretta*) in Virginia waters. Master's thesis, College of William and Mary in Virginia.
- Berry, K.A., M.E. Peixoto, and S.S. Sadove. 2000. Occurrence, distribution and abundance of green turtles, *Chelonia mydas*, in Long Island, New York: 1986-1987. Page 149 in Abreu-Grobois, F.A., R. Briseño-Dueñas, R. Márquez-Millán, and L. Sarti-Martínez, eds. Proceedings of the Eighteenth International Sea Turtle Symposium. NOAA Technical Memorandum NMFS-SEFSC-436.
- Bjorndal, K.A. 1985. Nutritional ecology of sea turtles. *Copeia* 1985(3):736-751.
- Bleakney, J.S. 1965. Reports of marine turtles from New England and eastern Canada. *Canadian Field-Naturalist* 79:120-128.
- Bowen, B.W., A.L. Bass, L. Soares, and J. Toonen. 2005. Conservation implications of complex population structure: Lessons from the loggerhead turtle (*Caretta caretta*). *Molecular Ecology* 14:2389-2402.
- Bowen, B.W., J.C. Avise, J.I. Richardson, A.B. Meylan, D. Margaritoulis, and S.R. Hopkins-Murphy. 1993. Population structure of loggerhead turtles (*Caretta caretta*) in the northwestern Atlantic Ocean and Mediterranean Sea. *Conservation Biology* 7(4):834-844.
- Brandner, R.L. 1983. A sea turtle nesting at Island Beach State Park, Ocean County, New Jersey. *Herpetological Review* 14(4):110.
- Burke, V.J., E.A. Standora, and S.J. Morreale. 1991. Factors affecting strandings of cold-stunned juvenile Kemp's ridley and loggerhead sea turtles in Long Island, New York. *Copeia* 1991(4):1136-1138.
- Burke, V.J., E.A. Standora, and S.J. Morreale. 1993. Diet of juvenile Kemp's ridley and loggerhead sea turtles from Long Island, New York. *Copeia* 1993(4):1176-1180.
- Burke, V.J., S.J. Morreale, P. Logan, and E.A. Standora. 1992. Diet of green turtles (*Chelonia mydas*) in the waters of Long Island, N.Y. Pages 140-142 in Salmon, M. and J. Wyneken, eds. Proceedings of the Eleventh Annual Workshop on Sea Turtle Biology and Conservation. NOAA Technical Memorandum NMFS-SEFSC-302.

- Butler, R.W., W.A. Nelson, and T.A. Henwood. 1987. A trawl survey method for estimating loggerhead turtle, *Caretta caretta*, abundance in five eastern Florida channels and inlets. *Fishery Bulletin* 85(3):447-453.
- Byles, R. 1986. Comparison of the life histories of immature loggerhead and ridley sea turtles in the Chesapeake Bay, Virginia. *Virginia Journal of Science* 37(2):60.
- Byles, R.A. 1988. Behavior and ecology of sea turtles from Chesapeake Bay, Virginia. Ph.D. diss., College of William and Mary in Virginia.
- Cape Wind Associates LLC. 2007. Cape Wind energy project: Final environmental impact report/development of regional impact. Prepared for Cape Wind Associates, LLC., Boston, Massachusetts by ESS Group, Inc., Wellesley, Massachusetts.
- Carr, A. 1986. Rips, FADS, and little loggerheads. *BioScience* 36(2):92-100.
- CETAP (Cetacean and Turtle Assessment Program). 1982. Characterization of marine mammals and turtles in the Mid- and North Atlantic areas of the U.S. Outer Continental Shelf- Final report of the Cetacean and Turtle Assessment Program. Prepared for U.S. Bureau of Land Management, Washington, D.C. by Cetacean and Turtle Assessment Program, University of Rhode Island, Graduate School of Oceanography, Kingston, Rhode Island.
- Chan, V.A. 2004. Spatial and temporal trends in sea turtle strandings in North Carolina, 1980-2003. Master's thesis, Nicholas School of the Environment of Duke University.
- Chester, A.J., J. Braun, F.A. Cross, S.P. Epperly, J.V. Merriner, and P.A. Tester. 1994. AVHRR imagery and the near real-time conservation of endangered sea turtles in the western North Atlantic. Pages 184-189 in *Proceedings of the WMO/IOC Technical Conference on Space-Based Ocean Observations*. WMO/TD 649.
- Coles, W.C. 1999. Aspects of the biology of sea turtles in the mid-Atlantic region. Ph.D. diss., College of William and Mary in Virginia.
- Coston-Clements, L. and D.E. Hoss. 1983. Synopsis of data on the impact of habitat alteration on sea turtles around the southeastern United States. NOAA Technical Memorandum NMFS-SEFC-117. Beaufort, North Carolina: Southeast Fisheries Science Center.
- Coyne, M.S., M.E. Monaco, and A.M. Landry, Jr. 1998. Kemp's ridley habitat suitability index model. Slide Presentation, Eighteenth International Sea Turtle Symposium. 3-7 March 1998. Mazatlán, Sinaloa.
- Cross, C.L., J.B. Gallegos, and F.G. James. 2001. Loggerhead sea turtle late nesting ecology in Virginia Beach, Virginia. *Banisteria* 17:52-55.
- Danton, C. and R. Prescott. 1988. Kemp's ridley in Cape Cod Bay, Massachusetts - 1987 field research. Pages 17-18 in Schroeder, B.A., ed. *Proceedings of the Eighth Annual Workshop on Sea Turtle Conservation and Biology*. NOAA Technical Memorandum NMFS-SEFC-214.
- Davenport, J. and G.H. Balazs. 1991. 'Fiery bodies' -- Are pyrosomas an important component of the diet of leatherback turtles? *British Herpetological Society Bulletin* 37:33-38.
- DeAlteris Associates Inc. 2006. Sea turtle-pot fishery interaction survey: Chesapeake Bay and coastal waters of Virginia. Prepared for the National Marine Fisheries Service, Woods Hole, Massachusetts by DeAlteris Associates Inc., Jamestown, Rhode Island.
- DeGroot, K.A. and J.H. Shaw. 1993. Nesting activities by the loggerhead (*Caretta caretta*) at Back Bay National Wildlife Refuge, Virginia. *Proceedings of the Oklahoma Academy of Sciences* 73:15-17.
- Desjardin, N.A. 2005. Spatial, temporal, and dietary overlap of leatherback sea turtles (*Dermochelys coriacea*) and ocean sunfishes (Family Molidae). Master's thesis, Florida Atlantic University.
- Dickerson, D.D. and D.A. Nelson. 1995. Assessment of sea turtle abundance in six South Atlantic U.S. channels. Miscellaneous Paper EL-95-5. Prepared for U.S. Army Engineering Division, South Atlantic and U.S. Naval Submarine Base, Kings Bay.
- Dodge, E.S. 1944. Status of the ridley turtle in Massachusetts waters. *Copeia* 1944(2):120-121.
- DoN (Department Of Navy). 2002. Marine mammal and sea turtle mitigation and take report for the shock trial of *USS Winston S. Churchill* (DDG81). United States Department of the Navy.
- DoN (Department of Navy). 2007. Overseas environmental assessment surface routine training exercises in East and Gulf Coast Operation Areas and seaward. Prepared by Naval Facilities Engineering Command, Atlantic Headquarters, Norfolk, Virginia.
- DoN (Department of the Navy). 1989. Supplemental draft environmental impact statement for the proposed operation of the Navy electromagnetic pulse radiation environment simulator for ships

- (*Empress II*) in the Chesapeake Bay and Atlantic Ocean. Norfolk, Virginia: Naval Facilities Engineering Command, Atlantic Division.
- DoN (Department of the Navy). 1995. Environmental documentation for candidate site analysis for SEAWOLF shock test program, Mayport, Florida and Norfolk, Virginia.
- DoN (Department of the Navy). 1997. Final environmental review: Adoption of a range management plan for the Atlantic Undersea Test and Evaluation Center (AUTEC), Andros Island, Bahamas.
- DoN (Department of the Navy). 2002. Biological assessment for explosive ordnance disposal (EOD) mine warfare exercises in the East coast operating areas: Endangered Species Act section 7 compliance.
- DoN (Department of the Navy). 2003. Biological assessment for Virtual At-Sea Training Deployable Prototype/Integrated Maritime Portable Acoustic Scoring & Simulator (VAST-DP/IMPASS) System. Prepared by Commander, U.S. Atlantic Fleet, Norfolk, Virginia.
- DoN (Department of the Navy). 2005. Draft overseas environmental impact statement/environmental impact statement: Undersea warfare training range. Prepared for the Naval Facilities Engineering Command, Atlantic, Norfolk, Virginia by Earth Tech, Inc., New York, New York.
- DoN (Department of the Navy). 2006. Final biological assessment for *USS Truman* CSG COMPTUEX/JTFEX. Prepared for National Marine Fisheries Service, Office of Protected Resources, Silver Spring, Maryland by Commander, U.S. Fleet Forces Command, Norfolk, Virginia.
- DoN (Department of the Navy). 2006a. Final comprehensive overseas environmental assessment for major Atlantic Fleet training exercises. Prepared for United States Fleet Forces Command, Norfolk, Virginia by Naval Facilities Engineering Command, Atlantic, Norfolk, Virginia.
- DoN (Department of the Navy). 2006b. Final environmental assessment, operations at the Bloodsworth Island Range. Prepared for Department of the Navy, Naval Air Systems Command, Patuxent River, Maryland.
- DoN (Department of the Navy). 2007a. Shock trial of the MESA VERDE. Draft Environmental Impact Statement (EIS)/Overseas Environmental Impact Statement (OEIS). Norfolk, Virginia: Department of the Navy.
- DoN (Department of the Navy). 2007b. Marine resources assessment for the Southeastern Florida and the AUTEC-Andros operating area. Norfolk, Virginia: Atlantic Division, Naval Facilities Engineering Command.
- DoN (Department of the Navy). 2007c. Navy OPAREA density estimates (NODE) for the Southeast OPAREAs: VACAPES, CHPT, JAX/CHASN, and Southeastern Florida & AUTEC-Andros. Final report. Contract number N62470-02-D-9997, CTO 0045. Norfolk, Virginia: Naval Facilities Engineering Command, Atlantic. Prepared by Geo-Marine, Inc., Hampton, Virginia.
- Dwyer, K.L., C.E. Ryder, and R. Prescott. 2003. Anthropogenic mortality of leatherback turtles in Massachusetts waters. Page 260 in Seminoff, J.A., ed. Proceedings of the Twenty-Second Annual Symposium on Sea Turtle Biology and Conservation. NOAA Technical Memorandum NMFS-SEFSC-503.
- Eckert, S., D.A. Bagley, and L.M. Ehrhart. 2005. Following China Girl, satellite tracking a leatherback sea turtle from the Archie Carr National Wildlife Refuge. Page 160 in Coyne, M.S. and R.D. Clark, eds. Proceedings of the 21st Annual Symposium on Sea Turtle Biology and Conservation. NOAA Technical Memorandum NMFS-SEFSC-528.
- Eckert, S.A., D. Bagley, S. Kubis, L. Ehrhart, C. Johnson, K. Stewart, and D. DeFreese. 2006. Interesting and postnesting movements and foraging habitats of leatherback sea turtles (*Dermochelys coriacea*) nesting in Florida. *Chelonian Conservation and Biology* 5(2):239-248.
- Eggers, J.M., M.W. Haberland, and J.C. Griffin. 1992. Growth of juvenile loggerhead sea turtles near PSE&G's Salem Generating Station, Delaware Bay, New Jersey. *Marine Turtle Newsletter* 59:5-7.
- Epperly, S.P., J. Braun, A.J. Chester, F.A. Cross, J.V. Merriner, and P.A. Tester. 1995. Winter distribution of sea turtles in the vicinity of Cape Hatteras and their interactions with the summer flounder trawl fishery. *Bulletin of Marine Science* 56:547-568.
- Epperly, S.P., M.L. Snover, J. Braun-McNeill, W.N. Witzell, C.A. Brown, L.A. Csuzdi, W.G. Teas, L.B. Crowder, and R.A. Myers. 2001. Stock assessment of loggerhead sea turtles of the western North Atlantic. Pages 3-66 in NMFS-SEFSC (National Marine Fisheries Service-Southeast Fisheries Science Center), ed. Stock assessments of loggerhead and leatherback sea turtles and



- an assessment of the impact of the pelagic longline fishery on the loggerhead and leatherback sea turtles of the western North Atlantic. NOAA Technical Memorandum NMFS-SEFSC-455.
- Ernst, C.H., J.E. Lovich, and R.W. Barbour. 1994. Turtles of the United States and Canada. Washington, D.C.: Smithsonian Institution Press.
- Evans, D., C. Ordoñez, S. Trøeng, and C. Drews. 2007. Satellite tracking of leatherback turtles from Caribbean Central America reveals unexpected foraging grounds. Pages 70-71 in Abstracts, Twenty-seventh Annual Symposium on Sea Turtle Biology and Conservation. 22-28 February 2007. Myrtle Beach, South Carolina.
- Evans, J., A. Norden, F. Cresswell, K. Insley, and S. Knowles. 1997. Sea turtle strandings in Maryland, 1991 through 1995. Maryland Naturalist 41(1-2):23-34.
- Fairfield-Walsh, C.F. and L.P. Garrison. 2007. Estimated bycatch of marine mammals and turtles in the U.S. Atlantic pelagic longline fleet during 2006. NOAA Technical Memorandum NMFS-SEFSC-560:1-54.
- Fletemeyer, J.R. 1978. Underwater tracking evidence of neonate loggerhead sea turtles seeking shelter in drifting sargassum. Copeia 1978(1):148-149.
- Ford, J. 1879. The leather turtle. American Naturalist 13(10):633-637.
- Frick, M.G., C.A. Quinn, and C.K. Slay. 1999. *Dermochelys coriacea* (leatherback sea turtle), *Lepidochelys kempi* (Kemp's ridley sea turtle), and *Caretta caretta* (loggerhead sea turtle). Pelagic feeding. Herpetological Review 30(3):165.
- Frick, M.G., C.K. Slay, and C.A. Quinn. 2000. Aerial observations of courtship behavior in loggerhead sea turtles (*Caretta caretta*) from southeastern Georgia and northeastern Florida. Journal of Herpetology 34(1):153-158.
- FWRI (Florida Wildlife Research Institute). 2007a. Statewide Nesting Beach Survey Program: Loggerhead (*Caretta caretta*) nesting data, 1990-2006. Electronic data. Download date: 16 August 2007. [http://research.myfwc.com/features/view\\_article.asp?id=2411](http://research.myfwc.com/features/view_article.asp?id=2411)
- FWRI (Florida Wildlife Research Institute). 2007b. Florida statewide nesting beach survey data – 2006 season. Electronic data. Download date: 13 August 2007. [http://research.myfwc.com/features/view\\_article.asp?id=11812](http://research.myfwc.com/features/view_article.asp?id=11812).
- FWRI (Florida Wildlife Research Institute). 2007c. Marine Turtle Program: Statewide nesting totals, 1979-2006. Electronic data. Download date: 16 August 2007. [http://research.myfwc.com/features/view\\_article.asp?id=11812](http://research.myfwc.com/features/view_article.asp?id=11812).
- FWRI (Florida Wildlife Research Institute). 2007d. Statewide Nesting Beach Survey Program: Leatherback (*Dermochelys coriacea*) nesting data, 1990-2006. Electronic data. Download date: 15 August 2007. [http://research.myfwc.com/features/view\\_article.asp?id=2479](http://research.myfwc.com/features/view_article.asp?id=2479).
- Garrison, L.P. and P.M. Richards. 2004. Estimated bycatch of marine mammals and turtles in the U.S. Atlantic pelagic longline fleet during 2003. NOAA Technical Memorandum NMFS-SEFSC-527:1-57.
- Geanacopoulos, D.P. 2001. Rescue season follows vacation season for rare turtle. New York Times (27 November).
- Gerle, E. and R. DiGiovanni. 1998. An evaluation of human impacts and natural versus human induced mortality in sea turtles in the New York Bight. Pages 187-189 in Epperly, S.P. and J. Braun, eds. Proceedings of the Seventeenth Annual Sea Turtle Symposium. NOAA Technical Memorandum NMFS-SEFSC-415.
- Gerle, E., R. DiGiovanni, and R.P. Pisciotta. 2000. A fifteen year review of cold-stunned sea turtles in New York waters. Pages 222-224 in Abreu-Grobois, F.A., R. Briseño-Dueñas, R. Márquez-Millán, and L. Sarti-Martínez, eds. Proceedings of the Eighteenth International Sea Turtle Symposium. NOAA Technical Memorandum NMFS-SEFSC-436.
- Godley, B.J., A. Almeida, C. Barbosa, A.C. Broderick, P.X. Catry, G.C. Hays, and B. Indjai. 2003. Using satellite telemetry to determine post-nesting migratory corridors and foraging grounds of green turtles nesting at Poiláo, Guinea Bissau: Report to project donors. Poiláo, Guinea Bissau: Marine Turtle Research Group, University of Wales.
- Goff, G.P. and J. Lien. 1988. Atlantic leatherback turtles, *Dermochelys coriacea*, in cold water off Newfoundland and Labrador. Canadian Field-Naturalist 102(1):1-5.
- Goodman, M.A., J. Braun-McNeill, E. Davenport, and A.A. Hohn. 2007. Protected species aerial survey data collection and analysis in waters underlying the R-5306A Airspace. Final report submitted to

- U.S. Marine Corps, MCAS Cherry Point. NOAA Technical Memorandum NMFS-SEFSC-551:1-26.
- Graham, S. 1973. The first record of *Caretta caretta caretta* nesting on a Maryland beach. Bulletin Maryland Herpetological Society 9(2):24-26.
- Hardy, J.D. 1969. Records of the leatherback turtle, *Dermochelys coriacea coriacea* (Linnaeus), from the Chesapeake Bay. Bulletin of the Maryland Herpetological Society 5(3):92-96.
- Hardy, J.D., Jr. 1962. Comments on the Atlantic ridley turtle, *Lepidochelys olivacea kemp*, in the Chesapeake Bay. Chesapeake Science 3(3):217-220.
- Hardy, J.D., Jr. 1972. Reptiles of the Chesapeake Bay region. Chesapeake Science 13(Supplement):S128-S134.
- Hart, K.M., P. Mooreside, and L.B. Crowder. 2006. Interpreting the spatio-temporal patterns of sea turtle strandings: Going with the flow. Biological Conservation 129:283-290.
- Hawkes, L.A., A.C. Broderick, M.H. Godfrey, and B.J. Godley. 2005. Status of nesting loggerhead turtles *Caretta caretta* at Bald Head Island (North Carolina, USA) after 24 years of intensive monitoring and conservation. Oryx 39(1):65-72.
- Hawkes, L.A., A.C. Broderick, M.S. Coyne, M.H. Godfrey, and B.J. Godley. 2007. Only some like it hot-- Quantifying the environmental niche of the loggerhead sea turtle. Diversity and Distributions 13:447-457.
- Henwood, T.A. and W.E. Stuntz. 1987. Analysis of sea turtle captures and mortalities during commercial shrimp trawling. Fishery Bulletin 85(4):813-817.
- Holloway-Adkins, K. and J. Provancha. 2005. Abundance and foraging activity of marine turtles using nearshore rock resources along the mid reach of Brevard County, Florida. Prepared for Olsen Associates, Inc., Jacksonville, Florida by Dynamac Corporation, Cape Canaveral, Florida.
- Holloway-Adkins, K.G. 2006. Juvenile green turtles (*Chelonia mydas*) foraging on a high-energy, shallow reef on the east coast of Florida, USA. Page 193 in Abstracts, Twenty-sixth Annual Symposium on Sea Turtle Biology and Conservation. 3-8 April 2006. Island of Crete, Greece.
- Hopkins-Murphy, S.R., D.W. Owens, and T.M. Murphy. 2003. Ecology of immature loggerheads on foraging grounds and adults in internesting habitat in the eastern United States. Pages 79-92 in Bolten, A.B. and B.E. Witherington, eds. Loggerhead sea turtles. Washington, D.C.: Smithsonian Institution Press.
- Humphrey, B. 1991. N.J. loggerhead rescue. Underwater USA 8(8):11.
- James, M.C. 2004. *Dermochelys coriacea* (leatherback sea turtle). Migration and dispersal. Herpetological Review 35(3):264.
- James, M.C. and T.B. Herman. 2001. Feeding of *Dermochelys coriacea* on medusae in the northwest Atlantic. Chelonian Conservation and Biology 4(1):202-205.
- James, M.C., C.A. Ottensmeyer, and R.A. Myers. 2005. Identification of high-use habitat and threats to leatherback sea turtles in northern waters: New directions for conservation. Ecology Letters 8:195-201.
- James, M.C., C.A. Ottensmeyer, S.A. Eckert, and R.A. Myers. 2006b. Changes in diel diving patterns accompany shifts between northern foraging and southward migration in leatherback turtles. Canadian Journal of Zoology 84:754-765.
- James, M.C., J. Davenport, and G.C. Hays. 2006a. Expanded thermal niche for a diving vertebrate: A leatherback turtle diving into near-freezing water. Journal of Experimental Marine Biology and Ecology 335:221-226.
- James, M.C., K. Martin, and P.H. Dutton. 2004. Hybridization between a green turtle, *Chelonia mydas*, and loggerhead turtle, *Caretta caretta*, and the first record of a green turtle in Atlantic Canada. Canadian Field-Naturalist 118(4):579-582.
- James, M.C., S.A. Sherrill-Mix, and R.A. Myers. 2007. Population characteristics and seasonal migrations of leatherback sea turtles at high latitudes. Marine Ecology Progress Series 337:245-254.
- James, M.C., S.A. Sherrill-Mix, K. Martin, and R.A. Myers. 2006c. Canadian waters provide critical foraging habitat for leatherback sea turtles. Biological Conservation 133:347-357.
- Johnson, S.A., A.L. Bass, B. Libert, M. Marshall, and D. Fulk. 1999. Kemp's ridley (*Lepidochelys kemp*) nesting in Florida. Florida Scientist 62(3-4):194-204.
- Jones III, W.M. 1998. Physical parameters affecting incubating temperatures in loggerhead sea turtles, *Caretta caretta*, in Virginia. Master's thesis, College of William and Mary in Virginia.

- Jonsen, I.D., R.A. Myers, and M.C. James. 2006. Robust hierarchical state-space models reveal diel variation in travel rates of migrating leatherback turtles. *Journal of Animal Ecology* 75:1046-1057.
- Keinath, J.A. 1993. Movements and behavior of wild and head-started sea turtles. Ph.D. diss, College of William and Mary in Virginia.
- Keinath, J.A. and J.A. Musick. 1990. *Dermochelys coriacea* (leatherback sea turtle). Migration. *Herpetological Review* 21:92.
- Keinath, J.A. and J.A. Musick. 1993. Movements and diving behavior of a leatherback turtle, *Dermochelys coriacea*. *Copeia* 1993(4):1010-1017.
- Keinath, J.A., D.E. Barnard, and J.A. Musick. 1995. Behavior of loggerhead sea turtles in Savannah, Georgia and Charleston, South Carolina shipping channels. Prepared for the U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, Mississippi by Virginia Institute of Marine Science, Gloucester Pt., Virginia.
- Keinath, J.A., D.E. Barnard, J.A. Musick, and B.A. Bell. 1994b. Kemp's ridley sea turtles from Virginia waters. Pages 70-73 in Bjorndal, K.A., A.B. Bolten, D.A. Johnson, and P.J. Eliazar, eds. Proceedings of the Fourteenth Annual Symposium on Sea Turtle Biology and Conservation. NOAA Technical Memorandum NMFS-SEFSC-351.
- Keinath, J.A., J. Musick, and D.E. Barnard. 1994a. Final report on movements of head-started and nesting loggerhead sea turtles. Prepared for Back Bay National Wildlife Refuge, Virginia Beach, Virginia by Virginia Institute of Marine Sciences, Gloucester Pt., Virginia.
- Keinath, J.A., J.A. Musick, and R.A. Byles. 1987. Aspects of the biology of Virginia's sea turtles: 1979-1986. *Virginia Journal of Science* 38(2):81.
- Keinath, J.A., J.A. Musick, and W.M. Swingle. 1991. First verified record of the hawksbill sea turtle (*Eretmochelys imbricata*) in Virginia waters. *Catesbeiana* 11(2):35-38.
- Kenney, R.D. 1996. Preliminary assessment of competition for prey between leatherback turtles and ocean sunfish in northeast shelf waters. Pages 144-147 in Keinath, J.A., D.E. Barnard, J.A. Musick, and B.A. Bell, eds. Proceedings of the Fifteenth Annual Symposium on Sea Turtle Biology and Conservation. NOAA Technical Memorandum NMFS-SEFSC-387.
- Klinger, R.C. 1995. Age and growth of loggerhead turtles (*Caretta caretta*) from Chesapeake Bay. *Copeia* 1995(1):204-209.
- Lawson, J.W. and J.-F. Gosselin. 2007. The first large-scale aerial survey of the Canadian east coast; a component of the 2007 TNASS. In Abstracts, 17<sup>th</sup> Biennial Conference on the Biology of Marine Mammals, 29 November-3 December 2007. Cape Town, South Africa.
- Lazell, J.D., Jr. 1980. New England waters: Critical habitat for marine turtles. *Copeia* 1980(2):290-295.
- Leatherback nesting in Florida. Accessed 17 October 2005. [http://www.floridamarine.org/features/view\\_article.asp?id=2479](http://www.floridamarine.org/features/view_article.asp?id=2479).
- Ledwell, W. 2007. Live loggerhead observed in Newfoundland, Canada in late autumn. *Marine Turtle Newsletter* 115(17).
- Lee, D.S. 1989. Supplementary information concerning the proposed VACAPES *Empress II* 1989 testing area off the North Carolina coast. Raleigh, North Carolina: North Carolina State Museum of Natural History.
- Luschi, P., J.R.E. Lutjeharms, P. Lambardi, R. Mencacci, G.R. Hughes, and G.C. Hays. 2006. A review of migratory behaviour of sea turtles off southeastern Africa. *South African Journal of Science* 102:51-58.
- Lutcavage, M. and J.A. Musick. 1985. Aspects of the biology of sea turtles in Virginia. *Copeia* 1985(2):449-456.
- Maier, P.P., A.L. Segars, M.D. Arendt, and J.D. Whitaker. 2005. Examination of local movement and migratory behavior of sea turtles during spring and summer along the Atlantic coast off the southeastern United States. Prepared for the Office of Protected Resources, Silver Spring, Maryland by the South Carolina Department of Natural Resources, Charleston, South Carolina.
- Maier, P.P., A.L. Segars, M.D. Arendt, J.D. Whitaker, B.W. Stender, L. Parker, R. Vendetti, D.W. Owens, J. Quattro, and S.R. Murphy. 2004. Development of an index of sea turtle abundance based upon in-water sampling with trawl gear. Prepared for National Marine Fisheries Service, Washington, D.C. by South Carolina Department of Natural Resources, Charleston, South Carolina.
- Makowski, C., J.A. Seminoff, and M. Salmon. 2006. Home range and habitat use of juvenile Atlantic green turtles (*Chelonia mydas* L.) on shallow reef habitats in Palm Beach, Florida, USA. *Marine Biology* 148:1167-1179.

- Mansfield, K.L. 2003. Surfacing for science. Virginia Marine Resource Bulletin 35(2):2-8.
- Mansfield, K.L. 2006. Sources of mortality, movements and behavior of sea turtles in Virginia. Ph.D. diss, College of William and Mary in Virginia.
- Mansfield, K.L. and J.A. Musick. 2003. Loggerhead sea turtle diving behavior. Submitted to the U.S. Army Corps of Engineers, Norfolk, Virginia by the Virginia Institute of Marine Science, Gloucester Point, Virginia.
- Mansfield, K.L. and J.A. Musick. 2004. Sea turtle diving behavior in Virginia. Final report submitted to the U.S. Army Corps of Engineers, Norfolk, Virginia by the Virginia Institute of Marine Science, Gloucester Point, Virginia.
- Mansfield, K.L. and J.A. Musick. 2005. Foraging behavior and incidental capture of loggerhead sea turtles (*Caretta caretta*) within the Chesapeake Bay, Virginia, USA. Pages 231-234 in Coyne, M.S. and R.D. Clark, eds. Proceedings of the Twenty-First Annual Symposium on Sea Turtle Biology and Conservation. NOAA Technical Memorandum NMFS-SEFSC-528.
- Mansfield, K.L. and J.A. Musick. 2006a. Sea turtle diving behavior in Virginia. Final report submitted to the U.S. Army Corps of Engineers, Norfolk, Virginia by the Virginia Institute of Marine Science, Gloucester Point, Virginia.
- Mansfield, K.L. and J.A. Musick. 2006b. Northwest Atlantic loggerheads: Addressing data gaps in sub-adult abundance estimates. Pages 304-305 in Abstracts, 26th Annual Symposium on Sea Turtle Biology and Conservation. 3-8 March 2006. Island of Crete, Greece.
- Mansfield, K.L., E.E. Seney, and J.A. Musick. 2002a. An evaluation of sea turtle abundances, mortalities and fisheries interactions in the Chesapeake Bay, Virginia 2001. Prepared for National Marine Fisheries Service, Gloucester, Massachusetts and Commercial Fishing Advisory Board, Virginia Marine Resources Commission, Newport News, Virginia by Virginia Institute of Marine Science, Gloucester Point, Virginia.
- Mansfield, K.L., E.E. Seney, M.A. Fagan, J.A. Musick, K.L. Frisch, and A.E. Knowles. 2002b. An evaluation of interactions between sea turtles and poundnet leaders in the Chesapeake Bay, Virginia. Prepared for National Marine Fisheries Service, Gloucester, Massachusetts by Virginia Institute of Marine Science, Gloucester Point, Virginia.
- Mansfield, K.L., J.A. Musick, and S.M. Bartol. 2001. Internesting movements of loggerhead sea turtles in Virginia, USA. Marine Resources Report 2001-4. Gloucester Point, Virginia: Virginia Sea Grant Program.
- Marquez-M., R., compiler. 1994. Synopsis of biological data on the Kemp's ridley turtle, *Lepidochelys kempi* (Garman, 1880). NOAA Technical Memorandum NMFS-SEFSC-343:1-91.
- Martin, R.E. 1996. Storm impacts on loggerhead turtle reproductive success. Marine Turtle Newsletter 73:10-12.
- McAlpine, D.F., M.C. James, J. Lien, and S.A. Orchard. 2007. Status and conservation of marine turtles in Canadian waters. Pages 85-112 in Seburn, C.N.L. and C.A. Bishop, eds. Ecology, conservation and status of reptiles in Canada. Herpetological Conservation Special Publication No. 2. Salt Lake City, Utah: Society for the Study of Amphibians and Reptiles and Ottawa, Ontario: Canadian Amphibian and Reptile Conservation Network.
- McClellan, C.M., C.G. Hudson, and A.J. Read. 2007. Use of oceanic habitats by loggerhead sea turtles (*Caretta caretta*). Pages 77-78 in Abstracts, Twenty-seventh Annual Symposium on Sea Turtle Biology and Conservation. 22-28 February 2007. Myrtle Beach, South Carolina.
- Meylan, A. and A. Redlow. 2006. *Eretmochelys imbricata* - hawksbill turtle. Pages 105-127 in Meylan, P.A., ed. Biology and conservation of Florida turtles. Chelonian Research Monographs No. 3. Lunenburg, Massachusetts: Chelonian Research Foundation.
- Meylan, P.A. 2006a. Introduction to the sea turtles: Family Dermochelyidae. Pages 142-143 in Meylan, P.A., ed. Biology and conservation of Florida turtles. Chelonian Research Monographs No. 3. Lunenburg, Massachusetts: Chelonian Research Foundation.
- Meylan, P.A. 2006b. Introduction to the sea turtles: Family Cheloniidae. Pages 72-73 in Meylan, P.A., ed. Biology and conservation of Florida turtles. Chelonian Research Monographs No. 3. Lunenburg, Massachusetts: Chelonian Research Foundation.
- Meylan, P.A. 2006c. Habitats and ecosystems utilized by Florida turtles. Pages 37-41 in Meylan, P.A., ed. Biology and conservation of Florida turtles. Chelonian Research Monographs No. 3. Lunenburg, Massachusetts: Chelonian Research Foundation.

- Milton, S.L., S. Leone-Kabler, A.A. Schulman, and P.L. Lutz. 1994. Effects of Hurricane Andrew on the sea turtle nesting beaches of South Florida. *Bulletin of Marine Science* 54:974-981.
- Mitchell, J.C. 1991. Amphibians and reptiles. Pages 411-476 in Terwilliger, K., ed. *Virginia's endangered species: Proceedings of a symposium*. Blacksburg, Virginia: The McDonald and Woodward Publishing Company.
- Mitchell, J.C. 1994. *The reptiles of Virginia*. Washington, D.C.: Smithsonian Institution Press.
- Moein Bartol, S. and J.A. Musick. 1998. Movements of adult female loggerhead sea turtles found nesting in Virginia. Prepared for the U.S. Army Corps of Engineers, Norfolk, Virginia by Virginia Institute of Marine Sciences, Gloucester Point, Virginia.
- Morreale, S.J. 2005. Assessing health, status, and trends in northeastern sea turtle populations. Interim report: Sept 2002 - Nov 2004. Prepared for the Northeast Regional Office, National Marine Fisheries Service, Gloucester, Massachusetts by the Department of Natural Resources, Cornell University, Ithaca, New York.
- Morreale, S.J. and E.A. Standora. 1998. Early life stage ecology of sea turtles in northeastern U.S. waters. NOAA Technical Memorandum NMFS-SEFSC-413:1-49.
- Morreale, S.J. and E.A. Standora. 2005. Western North Atlantic waters: Crucial developmental habitat for Kemp's ridley and loggerhead sea turtles. *Chelonian Conservation and Biology* 4(4):872-882.
- Morreale, S.J., A.B. Meylan, S.S. Sadove, and E.A. Standora. 1992. Annual occurrence and winter mortality of marine turtles in New York waters. *Journal of Herpetology* 26:301-308.
- Mrosovsky, N. 1980. Thermal biology of sea turtles. *American Zoologist* 20(3):531-547.
- Murphy, T.M., S.R. Murphy, D.B. Griffin, and C.P. Hope. 2006. Recent occurrence, spatial distribution, and temporal variability of leatherback turtles (*Dermochelys coriacea*) in nearshore waters of South Carolina, USA. *Chelonian Conservation and Biology* 5(2):216-224.
- Murray, K.T. 2004a. Magnitude and distribution of sea turtle bycatch in the sea scallop (*Placopecten magellanicus*) dredge fishery in two areas of the northwestern Atlantic Ocean, 2001-2002. *Fishery Bulletin* 102:671-681.
- Murray, K.T. 2004b. Bycatch of sea turtles in the Mid-Atlantic sea scallop (*Placopecten magellanicus*) dredge fishery during 2003. Northeast Fisheries Science Center Reference Document 04-11. Woods Hole, Massachusetts: National Marine Fisheries Service.
- Musick, J.A. 1979. *The marine turtles of Virginia with notes on identification and natural history*. VIMS Education Series No. 24. Gloucester Point, Virginia: Sea Grant Program, Virginia Institute of Marine Science.
- Musick, J.A. 1988. *The sea turtles of Virginia, second revised edition*. VIMS Education Series No. 24. Gloucester Point, Virginia: Sea Grant Program, Virginia Institute of Marine Science.
- Musick, J.A. 2002. Sea turtles. Pages 2017-2028 in Carpenter, K.E., ed. *The living marine resources of the western central Atlantic. Volume 3: Bony fishes part 2 (Opistognathidae to Molidae), sea turtles and marine mammals*. FAO species identification guide for fishery purposes and American Society of Ichthyologists and Herpetologists Special Publication No. 5. Rome, Italy: Food and Agriculture Organization of the United Nations.
- Musick, J.A., J.A. Keinath, and D.E. Bernard. 1988. Aerial surveys of the Currituck EMPRESS area.
- Musick, J.A., R. Byles, R.E. Klinger, and S. Bellmund. 1984. Mortality and behavior of sea turtles in the Chesapeake Bay: Summary report for 1979 through 1983. Prepared for the National Marine Fisheries Service, Northeast Region, Gloucester, Massachusetts by Virginia Institute of Marine Science, Gloucester Point, Virginia.
- Myers, R., L. Gerber, and L. Crowder. 2005. Use of observer data to estimate fishing impacts on loggerhead and leatherback turtles in the northwest Atlantic. Page 259 in Coyne, M.S. and R.D. Clark, eds. *Proceedings of the Twenty-first Annual Symposium on Sea Turtle Biology and Conservation*. NOAA Technical Memorandum NMFS-SEFSC-528.
- Nawojchik, R. 1998. 1997 strandings in Connecticut and Rhode Island. Page 24 in Barco, S.G., ed. *Proceedings of the 1997 Northeast Region Stranding Conference*. VMSM Scientific Report 1998-002. Virginia Beach, Virginia: Virginia Marine Science Museum.
- Nawojchik, R. and D.J. St. Aubin. 2003. Sea turtles in Connecticut and Rhode Island: Information from strandings (1987-2001). Pages 270-271 in Seminoff, J.A., ed. *Proceedings of the Twenty-Second Annual Symposium on Sea Turtle Biology and Conservation*. NOAA Technical Memorandum NMFS-SEFSC-503.

- Nelson, D.A. 1996. Subadult loggerhead sea turtle (*Caretta caretta*) behavior in St Mary's Entrance Channel, Georgia, USA. Ph.D. diss, College of William and Mary in Virginia.
- Nester, L.R. 2006. Effects of off-road vehicles on the nesting activity of loggerhead sea turtles in North Carolina. Master's thesis, University of Florida.
- NMFS (National Marine Fisheries Service). 1995. Sea turtle conservation; restrictions applicable to shrimp trawl activities; leatherback conservation zone. Federal Register 60(178):47713-47715.
- NMFS (National Marine Fisheries Service). 2000. Sea turtle conservation; restrictions applicable to shrimp trawl activities; Leatherback Conservation Zone--Temporary rule. Federal Register 65(102):33779-33780.
- NMFS (National Marine Fisheries Service). 2002a. Biological opinion: Mine warfare exercises (MINEX) and explosive ordnance disposal (EOD) unit level training at several locations along the east coast of the United States. Prepared for the Department of the Navy, Norfolk, Virginia by the Southeast Region, National Marine Fisheries Service.
- NMFS (National Marine Fisheries Service). 2002b. Biological opinion: Consultation on dredging in the Thimble Shoal Federal Navigation Channel and Atlantic Ocean Channel. Gloucester, Massachusetts: Northeast Regional Office, National Marine Fisheries Service.
- NMFS (National Marine Fisheries Service). 2002c. Listing endangered and threatened wildlife and designating critical habitat; 90-day finding for a petition to reclassify the Northern and Florida Panhandle subpopulations of the loggerhead as distinct population segments with endangered status and to designate critical habitat. Federal Register 67(107):38459-38461.
- NMFS (National Marine Fisheries Service). 2004a. Taking of marine mammals incidental to commercial fishing operations; Bottlenose dolphin take reduction plan; Sea turtle conservation; Restrictions to fishing activities--Proposed rule. Federal Register 69(217):65127-65142.
- NMFS (National Marine Fisheries Service). 2004b. Biological opinion: Ambient water quality criteria for dissolved oxygen, water clarity and chlorophyll a for the Chesapeake Bay and its tidal tributaries F/NER/2003/00961. Prepared for the Environmental Protection Agency by National Marine Fisheries Service.
- NMFS (National Marine Fisheries Service). 2004c. Biological opinion: Sea turtle conservation measures for the pound net fishery in Virginia waters of the Chesapeake Bay (F/NER/2003/01596). Woods Hole, Massachusetts: National Marine Fisheries Service, Northeast Regional Office.
- NMFS (National Marine Fisheries Service). 2004d. Final environmental assessment and regulatory impact review Regulatory Flexibility Act analysis on sea turtle conservation measures for the pound net fishery in Virginia waters of the Chesapeake Bay. National Marine Fisheries Service.
- NMFS (National Marine Fisheries Service). 2006a. Final environmental assessment and regulatory impact review, Regulatory Flexibility Act Analysis of sea turtle conservation measures for the mid-Atlantic sea scallop dredge fishery. Gloucester, Massachusetts: Northeast Regional Office, National Marine Fisheries Service.
- NMFS (National Marine Fisheries Service). 2006b. Final environmental assessment and regulatory impact review, Regulatory Flexibility Act analysis of sea turtle conservation measures for the pound net fishery in Virginia waters of the Chesapeake Bay. Gloucester, Massachusetts: National Marine Fisheries Service.
- NMFS (National Marine Fisheries Service). 2006d. Taking of marine mammals incidental to commercial fishing operations; Bottlenose Dolphin Take Reduction Plan regulations; Sea turtle conservation; Restrictions to fishing activities--Final rule. Federal Register 71(80):24776-24797.
- NMFS-NEFSC (National Marine Fisheries Service-Northeast Fisheries Science Center). 2000. Cruise results, R/V *Delaware II* cruise no. DE-00-07, right whale tagging survey. Unpublished cruise report. Woods Hole, Massachusetts: National Marine Fisheries Service.
- NMFS-NEFSC (National Marine Fisheries Service-Northeast Fisheries Science Center). 2002a. Aerial survey results, NOAA twin otter aircraft, circle-back method experimental abundance survey. Unpublished survey report. Woods Hole, Massachusetts: National Marine Fisheries Service.
- NMFS-NEFSC (National Marine Fisheries Service-Northeast Fisheries Science Center). 2002b. Cruise report, R/V *Delaware II* cruise no. DE 02-07, large whale survey. Unpublished cruise report. Woods Hole, Massachusetts: National Marine Fisheries Service.
- NMFS-SEFSC (National Marine Fisheries Service-Southeast Fisheries Science Center). 2006. Geographic coordinates for sea turtle strandings in Maryland, Virginia, North Carolina, South

- Carolina, and Georgia through 2005. Data received 10 May 2006 from Dr. Wendy Teas, National Marine Fisheries Service, Southeast Fisheries Science Center.
- Norden, A. and D.E. Redman, eds. 1997. The Maryland Naturalist, Volume 41, No.1-2.
- Norem, A.D. 2005. Injury assessment of sea turtles utilizing the neritic zone of the southeastern United States. Master's thesis, University of Florida.
- Ogren, L. and C. McVea, Jr. 1995. Apparent hibernation by sea turtles in North American waters. Pages 127-132 in Bjorndal, K.A., ed. Biology and conservation of sea turtles, Rev ed. Washington, D.C.: Smithsonian Institution Press.
- O'Hara, K., N. Atkins, and S. Iudicello. 1986. Marine wildlife entanglement in North America. Washington, D.C.: Center for Marine Conservation.
- Patchett, K., C. Merigo, B. Rubinstein, and J. Rice. 1998. New England Aquarium 1997 accession report. Pages 25-27 in Barco, S.G., ed. Proceedings of the 1997 Northeast Region Stranding Conference. VMSM Scientific Report 1998-002. Virginia Beach, Virginia: Virginia Marine Science Museum.
- Peña, J. 2007. Plotting Kemp's ridleys, plotting the future of sea turtle conservation. SWOT Report-State of the World's Sea Turtles 2:20.
- Pike, D.A., R.L. Antworth, and J.C. Stiner. 2006. Earlier nesting contributes to shorter nesting seasons for the loggerhead seaturtle [sic], *Caretta caretta*. Journal of Herpetology 40(1):91-94.
- Plotkin, P.T. and J.R. Spotila. 2002. Post-nesting migrations of loggerhead turtles *Caretta caretta* from Georgia, USA: Conservation implications for a genetically distinct subpopulation. Oryx 36(4):396-399.
- Prescott, R. 2000. Sea turtles in New England waters. Conservation Perspectives: The on-line journal of NESCB.
- Rabon, D.R., Jr., S.A. Johnson, R. Boettcher, M. Dodd, M. Lyons, S. Murphy, S. Ramsey, S. Roff, and K. Stewart. 2003. Confirmed leatherback turtle (*Dermochelys coriacea*) nests from North Carolina, with a summary of leatherback nesting activities north of Florida. Marine Turtle Newsletter 101:4-8.
- Rankin-Baransky, K. 1997. Origin of loggerhead turtles (*Caretta caretta*) in the western North Atlantic Ocean as determined by mtDNA analysis. Master's thesis, Drexel University.
- Rankin-Baransky, K., C.J. Williams, A.L. Bass, B.W. Bowen, and J.R. Spotila. 2001. Origin of loggerhead turtles stranded in the northeastern United States as determined by mitochondrial DNA analysis. Journal of Herpetology 35(4):638-646.
- Read, A., B. Foster, C. McClellan, and D. Waples. 2004. Habitat use of sea turtles in relation to fisheries interactions. North Carolina Sea Grant Fishery Resource Grant Program Project 02-FEG-05.
- Reynolds, D.P. and S.S. Sadove. 2000. Size class of sea turtles in New York from 1986 to 1996. Pages 152-153 in Abreu-Grobois, F.A., R. Briseno-Duenas, R. Marquez, and L. Sarti, eds. Proceedings of the Eighteenth International Sea Turtle Symposium. U.S. Dept. of Commerce. NOAA Technical Memorandum NMFS-SEFSC-436.
- Rhodin, A.G.J. and R.C. Schoelkopf. 1982. Reproductive data on a female leatherback turtle, *Dermochelys coriacea*, stranded in New Jersey. Copeia 1982(1):181-183.
- Rhodin, A.G.J., P.C.H. Pritchard, J.L. Behler, and R.A. Mittermeier, eds. 2005. Chelonian Conservation and Biology, Vol 4, No. 4.
- Ruckdeschel, C. and G.R. Zug. 1982. Mortality of sea turtles in *Caretta caretta* in coastal waters of Georgia. Biological Conservation 22:5-9.
- Ruckdeschel, C., C.R. Shoop, and R.D. Kenney. 2005. On the sex ratio of juvenile *Lepidochelys kempii* in Georgia. Chelonian Conservation and Biology 4(4):858-861.
- Rybitski, M.J., R.C. Hale, and J.A. Musick. 1995. Distribution of organochlorine pollutants in Atlantic sea turtles. Copeia 1995(2):379-390.
- Sadove, S. and S. Shumway. 2004. Inshore distributions of leatherback sea turtles in the New York Bight. Pages 302-303 in Coyne, M.S. and R.D. Clark, eds. Proceedings of the Twenty-First Annual Symposium on Sea Turtle Biology and Conservation. NOAA Technical Memorandum NMFS-SEFSC-528.
- Saladin, N. 2007. Using surveys as a tool to assess distribution and habitat use, and to promote public engagement in endangered species research and management. Master's thesis, Duke University.

- Samuel, Y., S.J. Morreale, C.W. Clark, C.H. Greene, and M.E. Richmond. 2005. Underwater, low-frequency noise in a coastal sea turtle habitat. *Journal of the Acoustical Society of America* 117(3, Part 1):1465-1472.
- Sasso, C. and S.P. Epperly. 2007. Survival of pelagic juvenile loggerhead turtles in the open ocean. *Journal of Wildlife Management* 71:1830-1835.
- Sasso, C.R. and S.P. Epperly. 2006. Seasonal sea turtle mortality risk from forced submergence in bottom trawls. *Fisheries Research* 81:86-88.
- Sasso, C.R., J. Braun-McNeill, L. Avens, and S.P. Epperly. 2007. Summer abundance estimates of *Caretta caretta* (loggerhead turtles) in Core Sound, NC. *Southeastern Naturalist* 6(2):365-369.
- Schmid, J.R. and W.J. Barichivich. 2006. *Lepidochelys kempii* - Kemp's ridley. Pages 128-141 in Meylan, P.A., ed. *Biology and conservation of Florida turtles*. Chelonian Research Monographs No. 3. Lunenburg, Massachusetts: Chelonian Research Foundation.
- Schofield, D. and G. Page. 1998. A year in review for the marine animal rescue program of the National Aquarium in Baltimore. Pages 16-18 in Barco, S.G., ed. *Proceedings of the 1997 Northeast Region Stranding Conference*. VMSM Scientific Report 1998-002. Virginia Beach, Virginia: Virginia Marine Science Museum.
- Schroeder, B. 1987. Annual report of the Sea Turtle Stranding and Salvage Network: Atlantic and Gulf coasts of the United States, January - December 1986. Contribution No. CRD-87/88-12. Miami, Florida: National Marine Fisheries Service, Southeast Fisheries Science Center.
- Schwartz, F.J. 1978. Behavioral and tolerance responses to cold water temperatures by three species of sea turtles (Reptilia, Cheloniidae) in North Carolina. Pages 16-18 in Henderson, G.E., ed. *Proceedings of the Florida and Interregional Conference on Sea Turtles, 24-25 July 1976*, Jensen Beach, Florida. Florida Marine Research Publications No. 33. St. Petersburg, Florida: Florida Department of Natural Resources.
- Sea turtle pound net tagging and health assessment study in Maryland's Chesapeake Bay. Accessed 9 March 2006. [www.dnr.state.md.us/fisheries/oxford/research/fwh/taggingstudy/index.html](http://www.dnr.state.md.us/fisheries/oxford/research/fwh/taggingstudy/index.html).
- Sea turtles found in South Carolina: Kemp's ridley. Accessed 14 August 2007. <http://www.dnr.sc.gov/seaturtle/lk.htm>.
- Seney, E.E. 2003. Historical diet analysis of loggerhead (*Caretta caretta*) and Kemp's ridley (*Lepidochelys kempi*) sea turtles in Virginia. Master's thesis, College of William and Mary in Virginia.
- Seney, E.E. and J.A. Musick. 2005. Diet analysis of Kemp's ridley sea turtles (*Lepidochelys kempii*) in Virginia. *Chelonian Conservation and Biology* 4(4):864-871.
- Seney, E.E. and J.A. Musick. 2007. Historical diet analysis of loggerhead sea turtles (*Caretta caretta*) in Virginia. *Copeia* 2007(2):478-479.
- Shellito, B.A. and K.B. Lockwood. 2005. GIS and 3D analysis applied to sea turtle mortalities and navigation channel dredging. *Virginia Journal of Science* 57(4):167-183.
- Shoop, C.R. 1989. Long-distance movement of a juvenile loggerhead sea turtle. *Marine Turtle Newsletter* 47:15.
- Shoop, C.R. and R.D. Kenney. 1992. Seasonal distributions and abundances of loggerhead and leatherback sea turtles in waters of the northeastern United States. *Herpetological Monographs* 6:43-67.
- Shoop, C.R. and T.J. Thompson. 1983. Southeast Turtle Survey (SETS). Final report to the National Marine Fisheries Service. Pelagic surveys.
- Snover, M.L., L. Avens, and A.A. Hohn. 2007. Back-calculating length from skeletal growth marks in loggerhead sea turtles *Caretta caretta*. *Endangered Species Research* 3:95-104.
- Spence, L. 1998. 1997 Delaware strandings. Pages 19-20 in Barco, S.G., ed. *Proceedings of the 1997 Northeast Region Stranding Conference*. VMSM Scientific Report 1998-002. Virginia Beach, Virginia: Virginia Marine Science Museum.
- Steimle, F.W. and C. Zetlin. 2000. Reef habitats in the Middle Atlantic Bight: Abundance, distribution, associated biological communities, and fishery resource use. *Marine Fisheries Review* 62(2):24-42.
- Stewart, K. and C. Johnson. 2006. *Dermochelys coriacea* - Leatherback sea turtle. Pages 144-157 in Meylan, P.A., ed. *Biology and conservation of Florida turtles*. Chelonian Research Monographs No. 3. Lunenburg, Massachusetts: Chelonian Research Foundation.



- Still, B., C. Griffin, and R. Prescott. 2003. Factors affecting cold-stunning of juvenile sea turtles in Massachusetts. Page 236 in Seminoff, J.A., ed. Proceedings of the Twenty-Second Annual Symposium on Sea Turtle Biology and Conservation. NOAA Technical Memorandum NMFS-SEFSC-503.
- Still, B., K. Tuxbury, R. Prescott, C. Ryder, D. Murley, C. Merigo, C. Smith, and B. Turnbull. 2002. A record cold stun season in Cape Cod Bay, Massachusetts. Pages 205-206 in Mosier, A., A. Foley, and B. Brost, eds. Proceedings of the Twentieth Annual Symposium on Sea Turtle Biology and Conservation. NOAA Technical Memorandum NMFS-SEFSC-477.
- Stokes, L., J. Wyneken, L.B. Crowder, and J. Marsh. 2006. The influence of temporal and spatial origin on size and early growth rates in captive loggerhead sea turtles (*Caretta caretta*) in the United States. *Herpetological Conservation and Biology* 1(2):71-80.
- Stokes, L.W. and S.P. Epperly. 2006. *Lepidochelys olivacea* (Olive Ridley seaturtle [sic]). *Herpetological Review* 37(1):105.
- TEI (Tech Environmental Inc.). 2006. Final EIR underwater noise analysis: Cape Wind Energy Project, Nantucket Sound. Waltham, Massachusetts: Tech Environmental, Inc.
- TEWG (Turtle Expert Working Group). 1998. An assessment of the Kemp's ridley (*Lepidochelys kempii*) and loggerhead (*Caretta caretta*) sea turtle populations in the western North Atlantic. NOAA Technical Memorandum NMFS-SEFSC-409:1-96.
- TEWG (Turtle Expert Working Group). 2000. Assessment update for the Kemp's ridley and loggerhead sea turtle populations in the western North Atlantic. NOAA Technical Memorandum NMFS-SEFSC-444:1-115.
- The Bahamas—movements of an olive ridley sea turtle. Accessed 31 January 2007. <http://accstr.ufl.edu/ridley.jpg>.
- Thomas, C.A. and S. Dabo. 2005. Determining the correlation between sea surface temperature [sic], chlorophyll concentration, QuikSCAT wind data and the presence of *Caretta caretta* and *Chelonia mydas* in the mid-Atlantic. Report prepared for the Undergraduate Research Experience in Ocean and Marine Science Program. Elizabeth City, North Carolina: Elizabeth City State University.
- Thompson, N.B., J.R. Schmid, S.P. Epperly, M.L. Snover, J. Braun-McNeill, W.N. Witzell, W.G. Teas, L.A. Csuzdi, and R.A. Myers. 2001. Stock assessment of leatherback sea turtles of the western North Atlantic. Pages 67-104 in NMFS-SEFSC (National Marine Fisheries Service-Southeast Fisheries Science Center), ed. Stock assessments of loggerhead and leatherback sea turtles and an assessment of the impact of the pelagic longline fishery on the loggerhead and leatherback sea turtles of the western North Atlantic. NOAA Technical Memorandum NMFS-SEFSC-455.
- Tiwari, M. and K.A. Bjorndal. 2000. Variation in morphology and reproduction in loggerheads, *Caretta caretta*, nesting in the United States, Brazil, and Greece. *Herpetologica* 56(3):343-356.
- UDSG (University of Delaware Sea Grant). 2000. Sea turtles count on Delaware Bay. University of Delaware Sea Grant Reporter 19(1):7.
- USACE (U.S. Army Corps of Engineers). 1997. Sea Turtle Research Program summary report. Prepared for U.S. Army Engineering Division, South Atlantic and U.S. Naval Submarine Base, Kings Bay.
- USACE (U.S. Army Corps of Engineers). 2004. Marine biological assessment for the Cape Wind Project: Nantucket Sound. Appendix 5.5-A.
- USFWS (U.S. Fish and Wildlife Service). 2001. Nesting loggerhead sea turtle activity report 2000 and 1980-2000 nesting summary. Prepared for U.S. Army Corps of Engineers, Department of the Army, Norfolk, Virginia by S. Williams and J. Gallegos, Back Bay National Wildlife Refuge.
- USFWS (U.S. Fish and Wildlife Service). 2005. Refuge Update (Newsletter of the National Wildlife Refuge System) 2(6):1-24.
- VIMS Sea Turtle Stranding Program. Accessed 13 February 2006. <http://www.fisheries.vims.edu/turtletracking/stsp.html>.
- Walsh, C.F. and L.P. Garrison. 2006. Estimated bycatch of marine mammals and turtles in the U.S. Atlantic pelagic longline fleet during 2005. NOAA Technical Memorandum NMFS-SEFSC-539:1-51.
- Welcome to the Georgia Sea Turtle Center on Jekyll Island. Accessed 23 July 2006. <http://www.georgiaseaturtlecenter.org/>.
- Williams, J.P. 1995. Another Atlantic leatherback turtle observed in the upper Chesapeake Bay. Maryland Naturalist 39(1-2):23-24.

- Witherington, B. and S. Hirma. 2006. Sea turtles of the epi-pelagic sargassum drift community. Page 209 in Abstracts, Twenty-sixth Annual Symposium on Sea Turtle Biology and Conservation. 3-8 April 2006. Island of Crete, Greece.
- Witherington, B., M. Bresette, and R. Herren. 2006a. *Chelonia mydas* - green turtle. Pages 90-104 in Meylan, P.A., ed. Biology and conservation of Florida turtles. Chelonian Research Monographs No. 3. Lunenburg, Massachusetts: Chelonian Research Foundation.
- Witherington, B., R. Herren, and M. Bresette. 2006b. *Caretta caretta* - loggerhead sea turtle. Pages 74-89 in Meylan, P.A., ed. Biology and conservation of Florida turtles. Chelonian Research Monographs No. 3. Lunenburg, Massachusetts: Chelonian Research Foundation.
- Witt, M.J., A.C. Broderick, D.J. Johns, C. Martin, R. Penrose, M.S. Hoogmoed, and B.J. Godley. 2007. Prey landscapes help identify potential foraging habitats for leatherback turtles in the northeast Atlantic. Marine Ecology Progress Series 337:231-243.
- Witzell, W.N. 1992. The incidental capture of sea turtles in commercial non-shrimping fisheries in southeastern U.S. waters. Contribution Number MIA-91/92-43. Miami, Florida: National Marine Fisheries Service.
- Witzell, W.N. 1996. The incidental capture of sea turtles by the U.S. pelagic longline fleet in the western Atlantic Ocean. Pages 32-38 in Williams, P., P.J. Anninos, P.T. Plotkin, and K.L. Salvini, eds. Pelagic longline fishery-sea turtle interactions: Proceedings of an Industry, Academic and Government Experts, and Stakeholders Workshop, held in Silver Spring, Maryland, 24-25 May 1994. NOAA Technical Memorandum NMFS-OPR-7.
- Witzell, W.N. and T. Azarovitz. 1996. Relative abundance and thermal and geographic distribution of sea turtles off the U.S. Atlantic coast based on aerial surveys (1963-1969). NOAA Technical Memorandum NMFS-SEFSC 381:1-10.
- Zarriello, M.C. and D.W. Steadman. 1987. Historic specimens from Long Island, New York. Marine Turtle Newsletter 40:12.

This page intentionally left blank

**APPENDIX B**

**DIGITAL DATA COMPILATION**

This page intentionally left blank

New Jersey Department of Environmental Protection Baseline Studies  
July-September 2009 Quarterly Report

---

**Table B-1**  
**Digital Data Compilation from Multi-Source Data Banks**

Agency	Data
NOAA National Geophysical Data Center	Bathymetry
New Jersey Department of Environmental Protection NJDEP	Earthquakes Epicentered In New Jersey
	New Jersey Tidal Benchmark Network
	Bedrock-Surface Topography of New Jersey (1:100,000-scale)
	Bedrock Outcrops of New Jersey
	Surficial Geology of New Jersey
NOAA ENC®	Electronic navigational chart
Environmental Protection Agency	Geospatial Data Download Relational Feature Class
Minerals Management Service	Baseline tangent lines and bay closing lines/points
	Preliminary Federal Outer Continental Shelf (OCS) Administrative Boundaries
	OCS block outlines
	Continental Shelf Boundary
	Submerged Lands Act boundary line
	Limit of '8(g) Zone'
	Marine Sanctuaries
	MMS Planning Area outlines
	Official Protraction Diagram
NOAA's Marine Protected Areas Center	MPA Inventory
National Pipeline Mapping System	Commercially Navigable Waterways
National Atlas	Hydrography
New Jersey Highlands Water Protection and Planning Council	Conservation Priority Areas
	Critical Habitat (Final Draft)
	Conservation Priority Areas (Final Draft)
	Critical Habitat Resource Area (Draft)
	Highlands Open Waters (Draft) - Water Bodies
	New Jersey Highlands Council Final Draft Land Use Capability
	Highlands Open Waters (Draft) - Wetlands
	New Jersey Highlands Water Protection and Planning Council
	Low Density Residential Land Use (Final Draft)
	Open Space
	Source Water Protection Area (Draft)
	Baseline Transportation & Transit (Final Draft)
NJDEP	2002 Landuse
	2002 Streams Update
	2003 Aerials
	Bald Eagle Foraging
	Beach
	Coastal Area Facilities Review Act Boundary
	Coastal Centers
	Coastal Flooding
	Counties
	Dedicated Open Space
	10-meter Digital Elevation Grid
	Emergent Wetland
	Forest
	Forested Wetland
	Grassland
	Habitat Delineation
	Historical Shorelines
	Known Contaminated Sites
	Lakes
	Landscape Project Endangered Species Habitat

**Table B-1 (continued)**  
**Digital Data Compilation from Multi-Source Data Banks**

Agency	Data
NJDEP	Natural Heritage Priority Sites
	Natural Heritage Program Priority Sites
	Hydrography
	NJPDES Ground Water Discharges
	NJPDES Surface Water Discharges
	Open Space
	Place Name Locations
	Roads
	Sewer Service Status
	Shellfish Classification 2007
	Shoreline Structures
	Shoreline Type
	Soil
	South Jersey Marsh
	STORET Water Quality Monitoring Stations
	Stormwater Rule Areas Affected by 300 Foot Buffers
	Streams
	Surface Water Quality Standards
	Tidelines
	Upper Wetlands Boundary
	Urban Peregrine
	USGS Quarter Quad Index
	Water Bodies
	Water Supply Planning Areas
	Watershed Management Areas
	Watersheds
	Wetlands
NJDOT	Roadway Network.
NOAA	National Geodetic Survey's Vector Shoreline
U.S. Fish and Wildlife Service, Region 5, National Wildlife Refuge System	E.B. Forsythe National Wildlife Refuge Boundary
	Great Swamp NWR
	Cape May
	Supawna Meadows
	Walkill River NWR
Pinelands Management Areas	Pinelands Management Area Boundaries
NOAA Raster Navigational Chart	Raster Navigational Charts
U.S. Department of Agriculture, Natural Resources	Soil
USGS Coastal and Marine Geology Program	Coastal Vulnerability
	Erosion and Accretion Rates
	Geology
	Geomorphology
	Sediment Distribution