Chapter 8: Summary of boat survey data

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Chapter 8 Highlights

Results from boat-based survey data collected in the mid-Atlantic study area.

Context[1]

Standardized boat-based surveys are widely used to obtain density data for birds, sea turtles, and marine mammals. Chapter 7 describes the standardized protocol used to collect data. Chapter 9 describes the methods used to collect data on relative biomass of aquatic prey below the study vessel, using a scientific echo sounder that was deployed on all surveys.

This chapter describes the basic results of the boat surveys, including counts of various species and groups, and a discussion of identification rates. Subsequent chapters in Part III of the report present a more detailed analysis of the relationship between foraging seabirds and acoustically detected prey (Chapter 10), and use hierarchical Bayesian statistical approaches to estimate abundances and distribution patterns of seabirds in relation to habitat variables, while correcting for certain biases associated with boat methodologies (e.g., distance bias; Chapters 11-12). Part IV of this report (Chapters 13-19) combines data from boat-based surveys with data from digital video aerial survey approaches to develop a more comprehensive understanding of marine wildlife populations that use the mid-Atlantic study area.

Study goal/objectives

Summarize animal distribution and abundance data that were collected in the mid-Atlantic study area using a well-known and widely used survey method.

Highlights

- There were 64,642 animals observed over two years of surveys; most of the animals were birds (over 62,000) though there were aquatic animals observed as well.
- The highest counts of animals occurred in December and January.
- The most abundant animals observed were scoters (*Melanitta* spp., 34% of the data), primarily Black Scoters (*M. americana*), most commonly in winter surveys.
- Other abundant or commonly observed animals included several species of gulls (*Laridae*), Northern Gannets (*Morus bassanus*), loons (*Gavia* spp.), and dolphins (*Odontoceti*).
- Rates of identification of animals to species were high for most animals, with the exception of scoters.

Implications

Boat-based surveys are a well established means to collect distribution and abundance data for marine animals, and the study design used for these surveys may have been particularly useful for monitoring many species of birds. Many taxa were readily identified using this method, though there were few aquatic animals observed relative to birds.

[1] For more detailed context for this chapter, please see the introduction to Part III of this report.

Abstract

Information on bird, sea turtle, and marine mammal movements and abundance was collected from a boat platform using a standardized protocol. Between 2012 and 2014, 16 surveys conducted along twelve transect lines that focused on three offshore Wind Energy Areas (WEAs) in the mid-Atlantic U.S. A total of 64,642 animals were observed on the survey, including over 62,000 birds and 1,500 aquatic animals in a cumulative 10,698 km of transects. The most animals were observed in December and January, when large flocks of wintering birds were present in the study area. Scoters were the most abundant animal, making up 34% of observations; Gulls and Terns were the next most abundant animal group, at 23% of observations, and were primarily Bonaparte's Gulls and Laughing Gulls. Northern Gannets, loons, and auks were also commonly observed. Smaller numbers of aquatic animals such as dolphins, sea turtles, and baleen whales were observed. Rare observations included two Eastern Red Bats, three Roseate Terns, a Bald Eagle, and 35 whales of at least five different species. Most animals were successfully identified to species, save for scoters, which were often observed in large flocks at some distance from the vessel. More in-depth analyses of the boat survey data can be found in subsequent chapters in this report.

Introduction

The mid-Atlantic region is important for a broad range of marine wildlife species throughout the year. Some breed in the area, such as coastal birds and sea turtles, while others visit from the southern hemisphere in their non-breeding season, such as shearwaters. In the fall, many summer residents migrate south to breed or winter in warmer climes, and they are replaced by species that have travelled south from their breeding grounds to winter in the mid-Atlantic. Additionally, many marine and landbird species make annual migrations up and down the eastern seaboard and travel directly through the mid-Atlantic region in spring and fall. Thus, many species use or funnel through the mid-Atlantic region each year, resulting in a complex ecosystem where community composition is constantly shifting, and the temporal and geographic patterns are highly variable.

In this study, we aimed to produce the wildlife data required to inform siting and permitting processes for offshore wind energy development in the mid-Atlantic. We collected information on bird, sea turtle, and marine mammal abundance and movements over a two-year period (2012-2014) using a variety of technologies and methods to examine spatial patterns and trends. Standardized boat-based surveys are a widely used method of estimating densities for coastal and marine birds, sea turtles, and marine mammals (Gjerdrum et al., 2012; Tasker et al., 1984), and are a key part of the Department of Energy (DOE)-funded Mid-Atlantic Baseline Studies Project and state-funded Maryland Project. We conducted boat surveys for wildlife within the study area on the Outer Continental Shelf to accompany and compare with the data from simultaneously conducted digital aerial surveys (for more information on aerial surveys, and for analyses synthesizing boat and aerial datasets, see Parts II and IV of this report). Boat surveys were particularly focused in and around three federally designated Wind Energy Areas (WEAs) off the coasts of Delaware, Maryland, and Virginia. Here, we examine the boat survey results in detail, including discussion of observation rates and species identification rates.

Methods

Between April 2012 and April 2014, project partners conducted sixteen large-scale boat based visual surveys (Table 8-1) across the mid-Atlantic study area, focusing on three offshore WEAs (total transect length = 559 km, Figure 8-1). Details on survey design for our boat surveys can be found in Chapter 7. In the second year of surveys (March 2013 – January 2014), the western ends of three survey lines off of Maryland were extended into state waters (total transect length = 571 km, Figure 8-1). Both Mid-Atlantic Baseline Studies and Maryland Project survey data are presented in this report.

This chapter presents summaries of raw count data from the boat surveys on a monthly, seasonal, and annual basis. We also discuss identification rates for the most common species groups. Chapters 10-12 present additional analyses of the boat survey data. Chapters 13-19 present additional information on comparing digital video aerial to boat survey results, and integrating data from both survey platforms to develop in-depth analyses of wildlife distributions and relative abundances.

Results

A total of 64,462 animals were observed in the sixteen boat surveys, including over 62,000 birds and over 1,500 aquatic animals (including cetaceans, sea turtles, sharks, and fish; Table 8A-1) in a cumulative 10,698 km of survey transects. At least 97 species of birds and 12 species of aquatic animals are represented in this dataset. Seventy-two percent of animals observed in the study were identified to species level; most unidentified animals were scoters, with an approximately 97% identification rate excluding this taxon. The greatest numbers of animals were observed in December and January, when large flocks of birds wintered in the study area (Table 8-2). It should be noted that data collected between the two years are not entirely compatible, as the exact timing of surveys can have a huge effect on species counts, particularly in migration periods when large numbers of wintering birds could be moving in or out of the study area, and a week's difference in survey dates could affect overall abundance observed.

Relative abundance of counts

Birds

Scoters, a genus of sea ducks that in the mid-Atlantic includes Black Scoter (*Melanitta americana*), White-winged Scoter (*M. fusca*), and Surf Scoter (*M. perspicillata*), were the most abundant avian taxon observed in boat surveys (Figure 8-2), making up over 34% of all observations. Scoters were mostly in the region from December through April (Figure 8-4). There were annual fluctuations in the numbers of scoters observed; twice as many scoters were observed in January 2013 as in January 2014. Twelve other species of anatids (ducks and geese) were also observed in the study area (Table 8A-1).

Gulls and terns (*Laridae*) were observed throughout the year (Figure 8-4) and were the next most abundant animal group (23% of all data, Table 8-2). Bonaparte's Gull (*Choicocephalus philadelphia*) was the most common gull species observed (12% overall), and were most abundant in the winter months; in a single survey, in December 2013, over 5,500 were observed, many more than were observed in the December 2012 survey (Table 8A-1). Laughing Gull (*Leucophaeus atricilla*) was the next most abundant gull (4% overall), and was present in the study area in spring, summer and fall. Herring Gulls (*Larus*

smithsonianus, 1.5%) and Great Black-backed Gulls (*L. marinus*, 1.6%) were observed consistently throughout the year in almost every survey, but with peaks in abundance in the winter. Six other gull species were also observed (Table 8A-1). Common Terns (*Sterna hirundo*) were abundant in several of the surveys, and present through the spring and fall (2%). Three endangered Roseate Terns (*Sterna dougallii*) were observed feeding on June 20, 2012, and May 9, 2013. Five other tern species were also observed in the study area (Table 8A-1).

Northern Gannets (*Morus bassanus*) were the next most abundant bird observed (22% of all data, Figure 8-2), and were most common in the winter to early spring months, with the highest numbers observed in January (Table 8A-1). Similar numbers of gannets were observed between survey years, with some fluctuations depending in part on timing of surveys in each year.

Other avian taxa observed in boat surveys included loons (Gaviidae), auks (Alcidae), storm-petrels (Hydrobatidae), shearwaters and fulmars (Procellariidae), shorebirds, and passerines. Loons made up 9% of all observations and were observed mostly in the winter and spring (Figure 8-4), with the highest number of loons observed in December of 2013. Common Loons (*Gavia immer*) were observed about three times as frequently as Red-throated Loons (*G. stellata*). Auks were observed in the winter and early spring (Figure 8-4). Razorbills were the most abundant (*Alca torda,* 1.7%), followed by Dovekies (*Alle alle,* 0.69%). Wilson's Storm-Petrels (*Oceanites oceanicus*) were observed in the study during summer surveys (1.3%). Thirteen species of shorebirds were also observed, the most abundant being Red Phalaropes (*Phalaropus fulicarius*) in spring surveys (0.59%). Six species of procellarids were observed, with very similar numbers of Cory's Shearwater (*Calonectris diomedea*), Sooty Shearwater (*Puffinus griseus*), Great Shearwater (*P. gravis*), and Manx Shearwater (*P. puffinus*) observed (all at 0.10% of all observations). Twenty-one different species of passerines were observed in the study, and the most common were Purple Martins (*Progne subis,* 0.09%; see Table 8A-1 for the full list of species). Fourteen Osprey (*Pandion haliaetus*) and one Bald Eagle (*Haliaeetus leucocephalus*) were observed.

Aquatic animals

Dolphins were the most common non-avian animal group observed (Figure 8-5), with Bottlenose Dolphins (*Tursiops truncatus*) the most abundant (1.4% of all observations). They were observed predominantly in warmer months (Figure 8-5). Fewer numbers of Common Dolphins were observed (*Delphinus delphis*, 0.32%), and four Atlantic Spotted Dolphins (*Stenella frontalis*) were observed on one June survey (Table 8A-1). Large whales were also observed in the study in winter (Figure 8-5), including 12 Humpback Whales (*Megaptera novaeangliae*), three Fin Whales (*Balaenoptera physalus*) and three Minke Whales (*B. acutorostrata*), and one sighting each of North Atlantic Right Whales (*Eubalaena glacialis*) and Sei Whales (*B. borealis*). Two species of turtles were observed in the summertime (0.18%, Table 8A-1). Of the two species observed, Loggerhead Turtles (*Caretta caretta*) were the most common (0.14%), followed by Leatherback Turtles (*Dermochelys coriacea*, 0.02%). Fish were not a focus of the current study, but some were identified to Flying Fish spp. (Exocoetidae), and three Ocean Sunfish were observed (*Mola mola*; Table 8A-1).

Bats

Two bats were observed flying within normal line of sight (within 20 m of sea level), one in each September that the study took place (Table 8-2). Both were Eastern Red Bats (*Lasiurus borealis*). In 2012 the bat was seen 44 km east of Delaware, and in 2013 the bat was seen about 65 km off the coast of Virginia (see Chapter 14 for observation map). These observations were notable as they contributed towards evidence of offshore migrations of red bats in the study area, which was reported in a publication along with observations from our aerial survey data and historical records (Hatch et al., 2013).

Identification rates

The bulk of scoters (73%) were not identified to species, but those identified were predominantly Black Scoters (*Melanitta nigra*; 4.5% of all animals, Figure 8-6). Scoters were often observed in large flocks, some far from the boat, which led to lower levels of identification to species (for additional discussion of this topic, see Chapter 12). Identification rates for other avian species were fairly high; most gull and tern observations were made to the species level, as were 92.2% of alcids and 91.4% of loons (Figure 8-6). Toothed whales were primarily identified to species (89%), most commonly Bottlenose Dolphins (Figure 8-7), though there were 15 sightings of unidentified large whales (Figure 8-7). Larger whales were identified to species 57% of the time, and Humpback Whales were the most commonly identified, but the "passing mode" in which surveys were conducted prevented accurate species identification and probably accurate estimation of group sizes for cetaceans in some cases (see Chapters 6 and 15 for more information). Sea turtles were almost always identified to species (88%), and most were Loggerhead Sea Turtles.

Discussion

The most abundant animals observed in the boat-based surveys were scoters, gulls, Northern Gannets, and loons, which is similar to the high resolution digital video aerial surveys (Chapter 5). One notable difference between the results of the two study methods was the number of aquatic animals observed relative to the number of animals observed overall; a much higher number of aquatic animals were seen from the digital video aerial study, likely in part as a result of the differences between the observers' perspectives. However, the boat observers' perspective looking forward from the survey vessel (Chapter 7) appeared to provide an excellent means to spot distant large birds (e.g., Northern Gannets, shearwaters), large flocks of birds (e.g., scoters), the spouts and surfaced body parts of large whales, and pods of dolphins. Further examination of the differences in results from the two survey methods may be found in Chapters 13 and 14.

Rates of identification to species level were quite high for boat surveys, especially for avian groups. The notable exception was scoters, likely because many large flocks of scoters were visible at great distances from the boat, and were called either unidentified scoters or "dark scoters" (Black Scoter or Surf Scoter). The ability to see large flocks of birds at a great distance may be an advantage of boat surveys, but depending on the taxon, identifications to species level may be difficult in these cases. Even closely related species often have differences in their conservation status, ecology, and habitat requirements, so obtaining species-specific information on distributions, abundance, and habitat use is often important for identifying potential conflicts with anthropogenic activities in the marine environment.

Many of the subsequent chapters in Parts III and IV of this report use modeling approaches to investigate the distribution and abundance data from the boat-based surveys (including Chapters 11-13, 15-16, 18-19). These methods estimate detection as well as abundance, which helps correct for various types of observation bias, including distance bias, where observers are less likely to see animals located farther from the survey transect (Gardner et al., 2008; Spear et al., 2004). These methods can also incorporate environmental covariates into the model structure, in order to predict animal distributions and abundance on a broader geographic scale than where surveys were actually conducted.

Estimating spatial patterns in relative abundance in the offshore environment can be difficult, as these systems are extremely dynamic, animals tend to show high degrees of spatial autocorrelation or aggregative behaviors, and surveys are logistically challenging and more expensive than terrestrial equivalents. In the past century, offshore surveys have mostly been carried out by direct visual observation of wildlife from boats (or aircraft). Standardized methods using strip or line transects are common for monitoring marine species on boat-based surveys (Camphuysen and Garthe, 2004; Camphuysen et al., 2004; Gjerdrum et al., 2012; Tasker et al., 1984), and have been refined over the last few decades to achieve more accurate estimates of population size (Buckland et al., 2001, 1993; Evans and Hammond, 2004; Kaschner et al., 2012). These survey results on the geographic distributions and relative abundance of wildlife in the mid-Atlantic are expected to be useful for minimizing impacts to wildlife populations from offshore wind energy development in several ways. These data can inform the siting of future projects, and can also be used to inform the permitting process for projects, by contributing data towards National Environmental Protection Act (NEPA) and other regulatory requirements, and by helping to define target taxa or research priorities on which to focus on during site-specific pre- and post-construction monitoring studies. Detailed baseline survey data can also inform mitigation efforts, by presenting temporal data on community composition, distributions, and abundance that can be used to time certain activities to coincide with reduced potential for exposure of key populations.

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Figures and tables

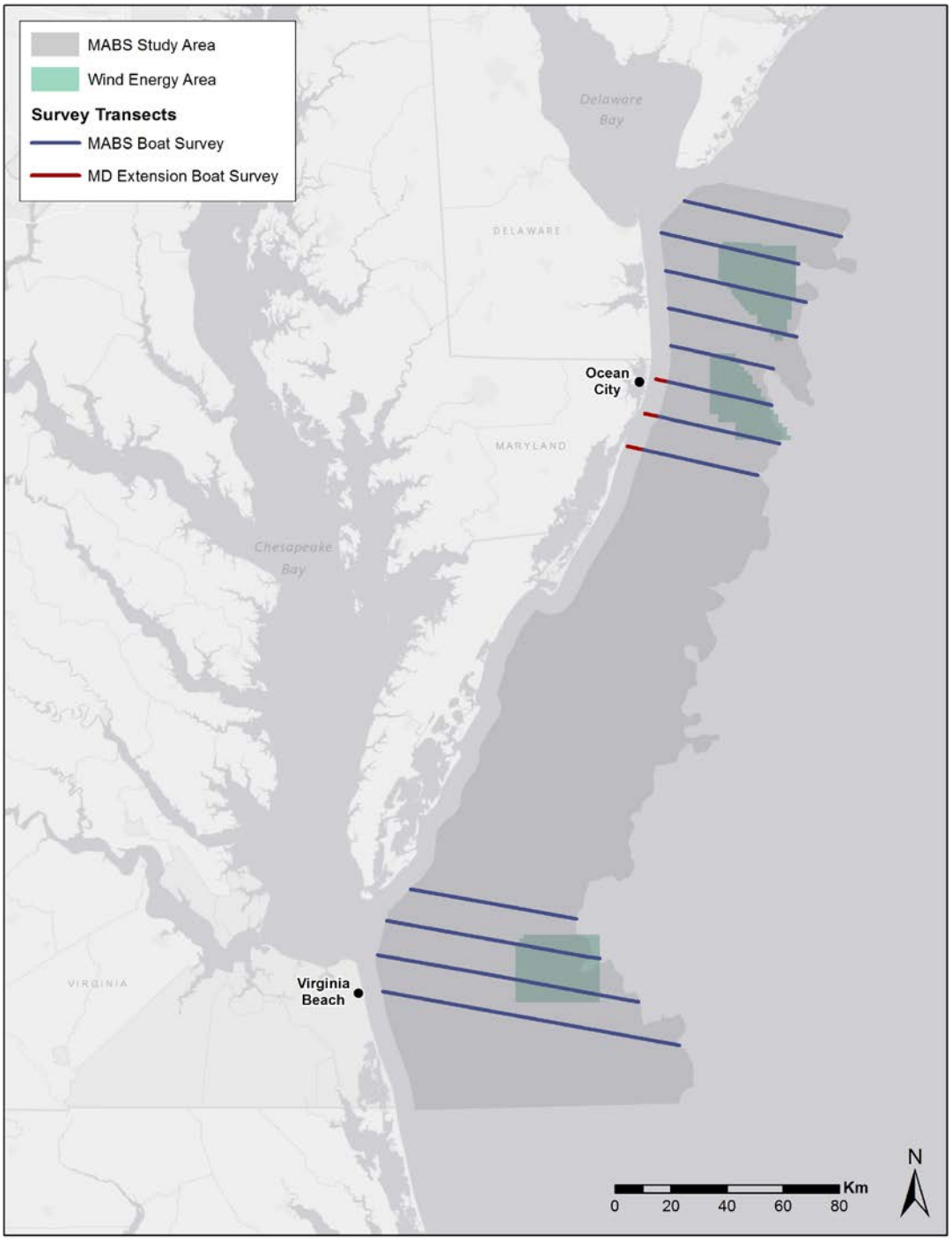

Figure 8-1. Map of boat survey transects for the Mid-Atlantic Baseline Studies and Maryland projects. Lines in blue are part of the Mid-Atlantic Baseline Studies, and lines red are part of the Maryland study (surveys conducted in March 2013-January 2014).

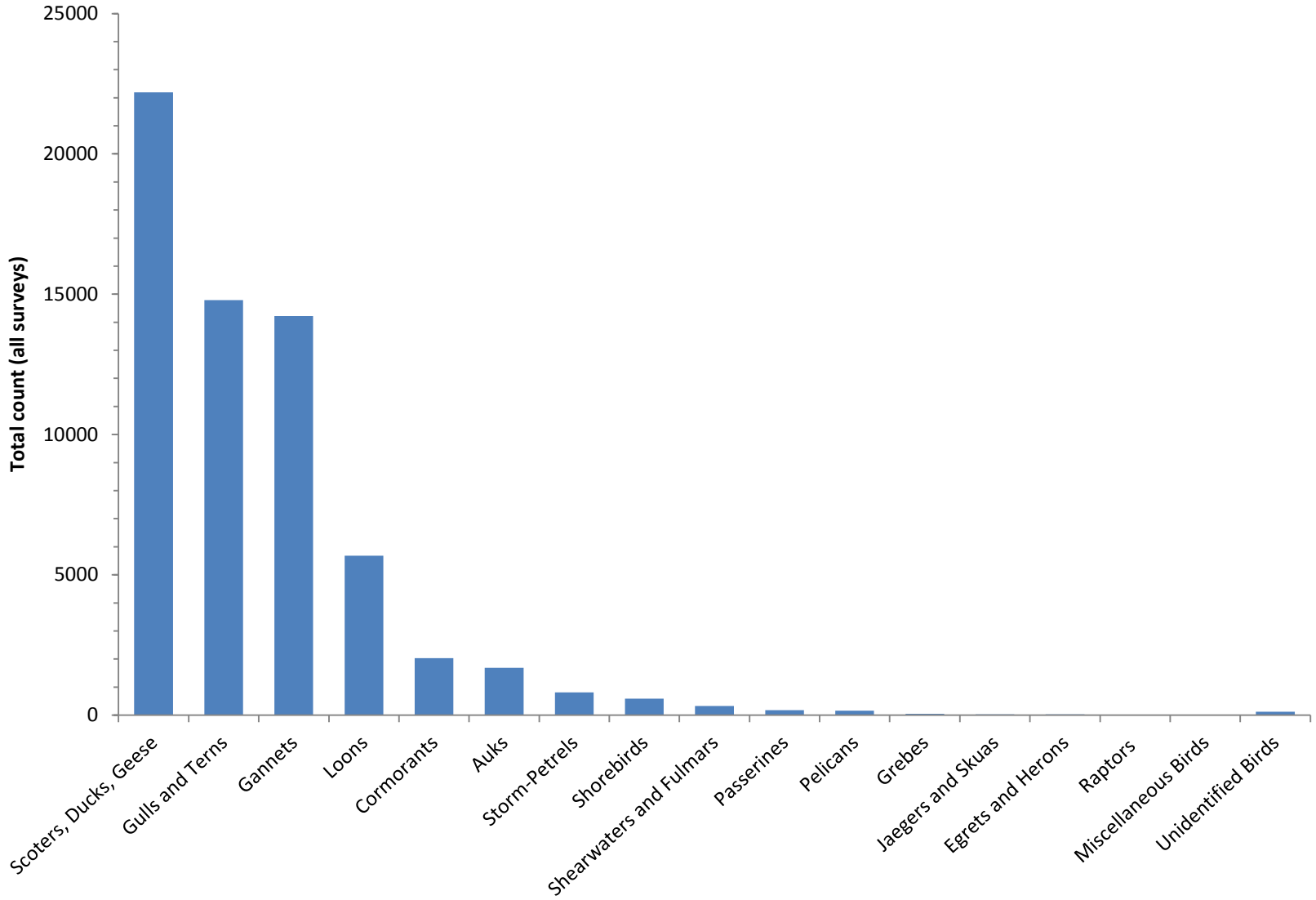

Figure 8-2. Avian observations (raw counts) from April 2012-April 2014 boat surveys, by family or species group. "Miscellaneous birds" include coots, hummingbirds, vultures, and woodpeckers. "Unidentified birds" were not identified to species or to a specific avian taxonomic group.

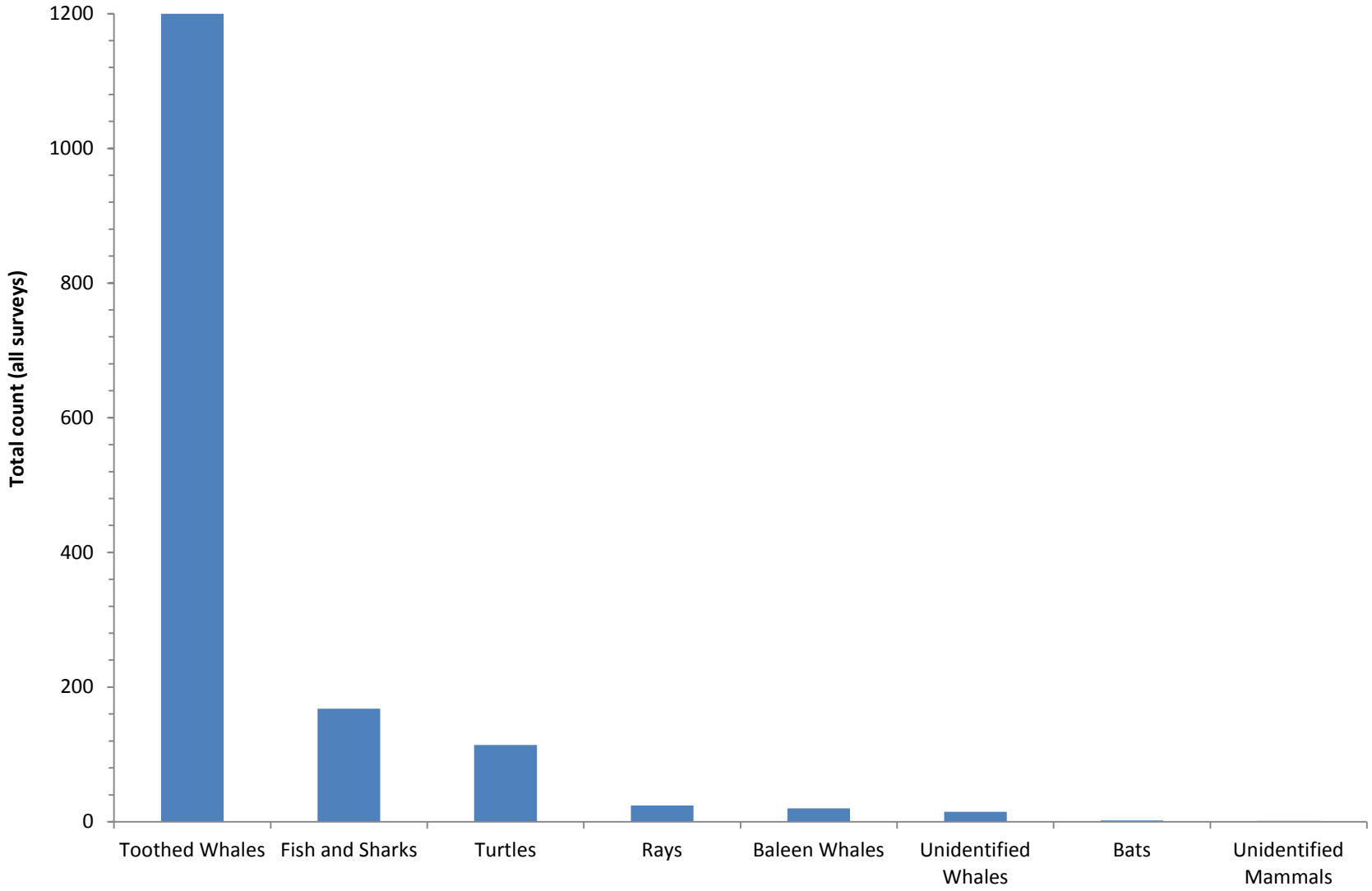

Figure 8-3. Observations of aquatic animals and bats from April 2012-April 2014 boat surveys, by species group. "Toothed whales" include dolphins and porpoises. Schools of fish were excluded from this figure.

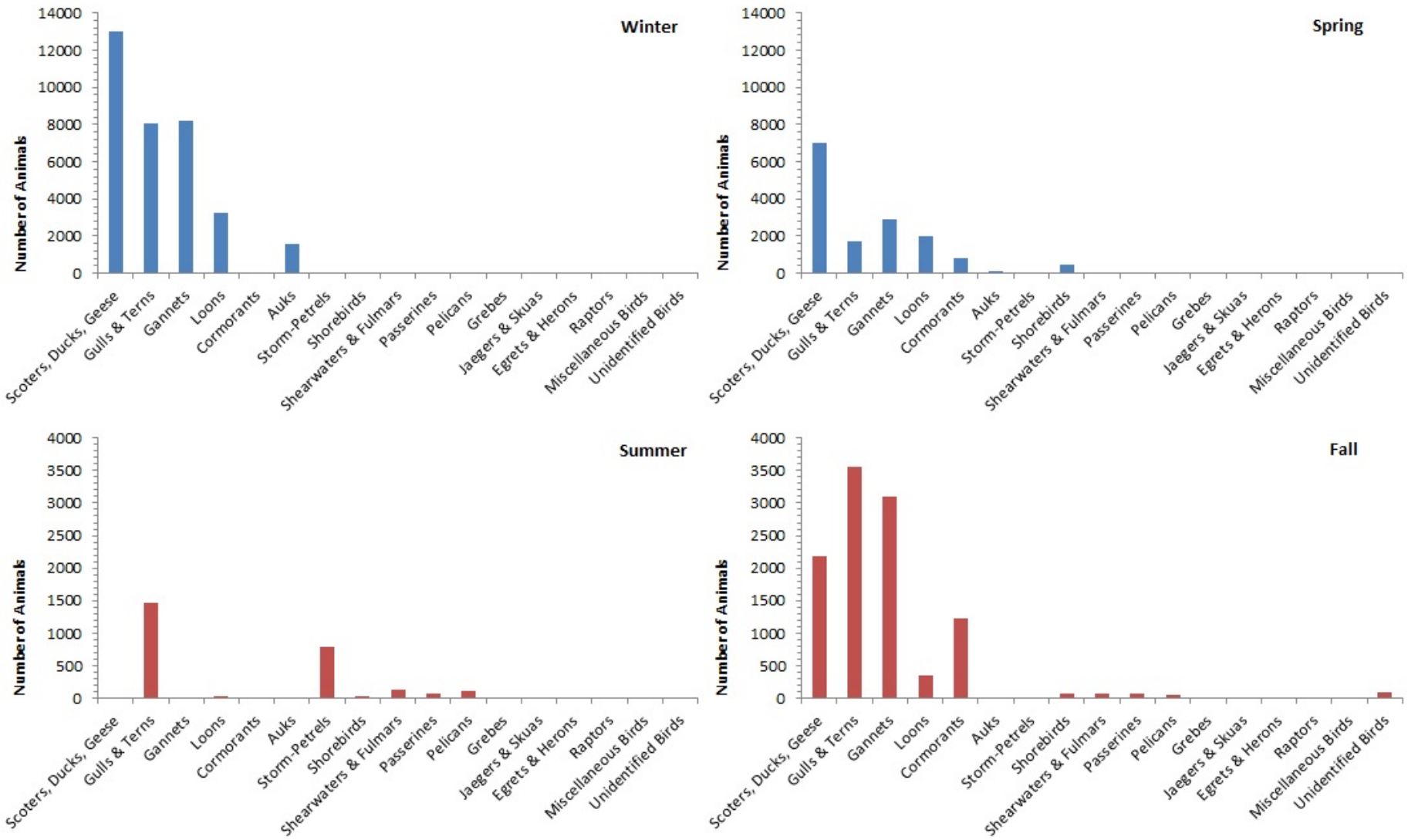

Figure 8-4. Abundance of birds by family or group in a) winter (Dec.-Feb.), b) spring (Mar.-May), c) summer (Jun.-Aug.), and d) fall (Sep.-Nov.). Note different y-axis between top (winter and spring) and bottom (summer and fall) graphs. X-axes are in order of overall abundance by family or group across all surveys.

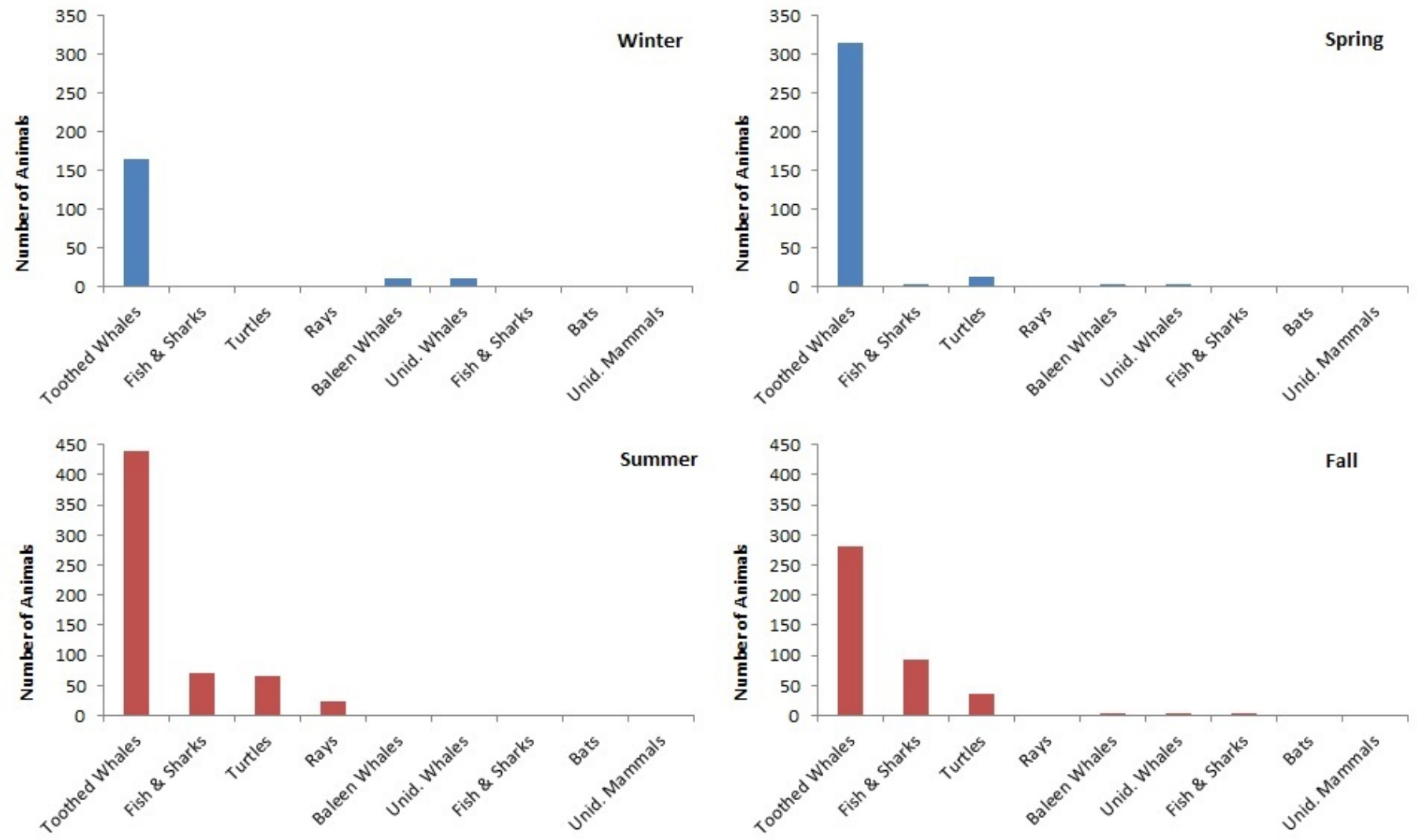

Figure 8-5. Abundance of non-avian animals by family or group in a) winter (Dec.-Feb.), b) spring (Mar.-May), c) summer (Jun.-Aug.), and d) fall (Sep.-Nov.). Note different y-axis between top (winter and spring) and bottom (summer and fall) graphs. X-axes are in order of overall abundance by family or group across all surveys.

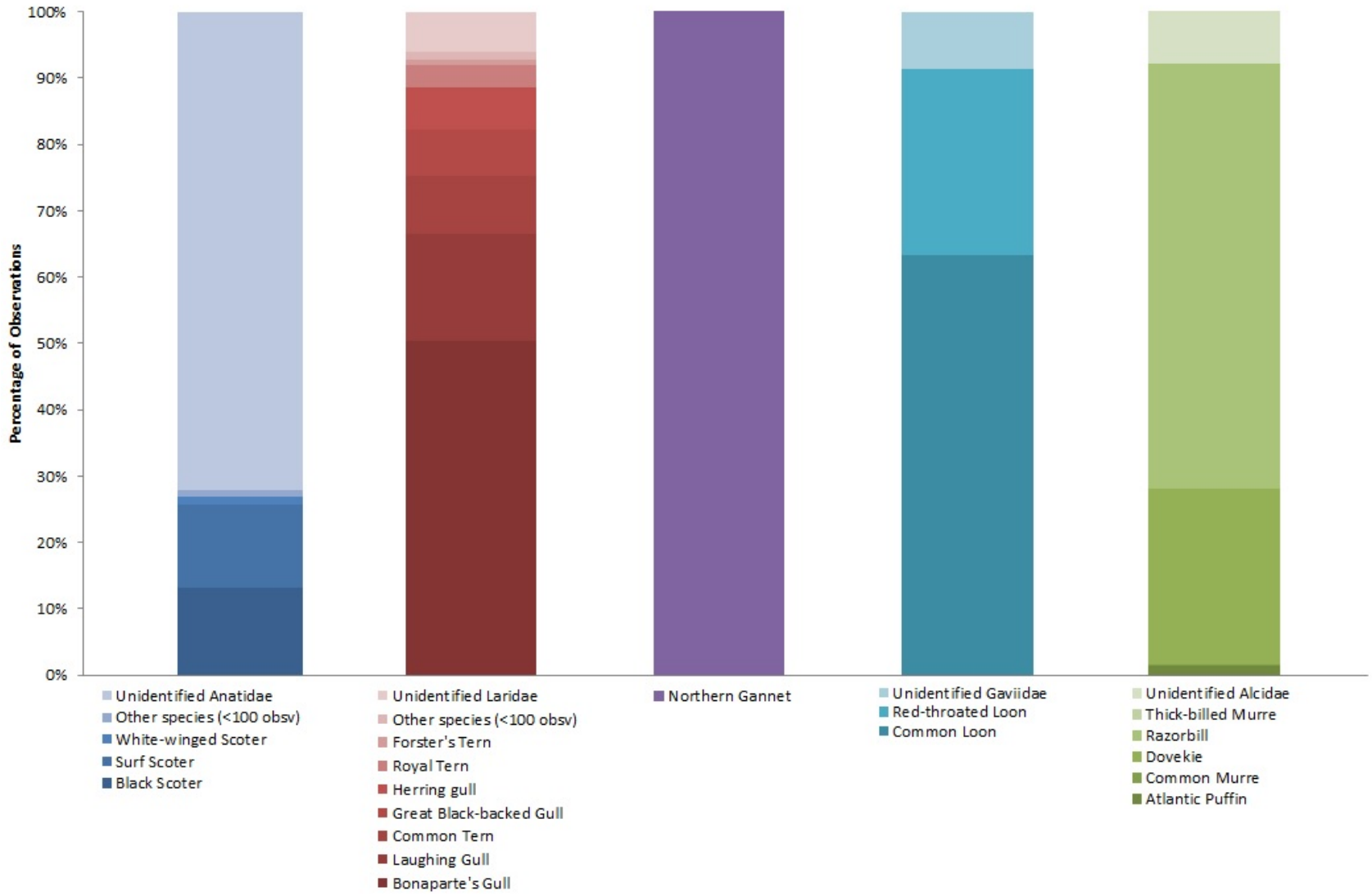

Figure 8-6. Identification rates for the most common bird groups observed in boat surveys. Identifications to species level are shown in darker colors. "Other species" in the Anatidae (blue; n=22,193) and Laridae (red; n=14,789) can be found in **Table 8A-1**. Sample sizes for gannets, loons, and auks are 14,091, 5,684 and 1,690, respectively.

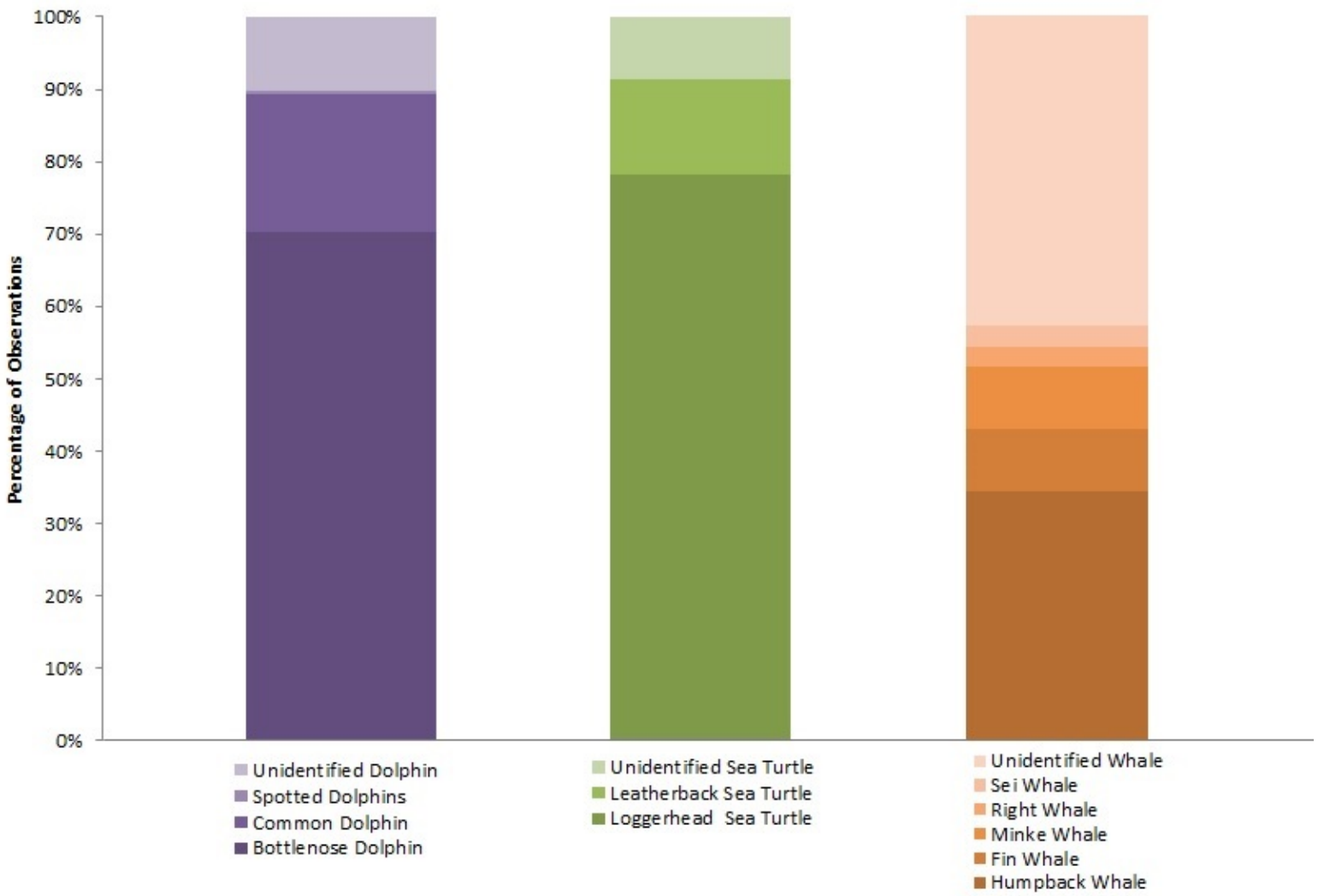

Figure 8-7. Identification rates for common aquatic animal groups observed in the boat surveys. Identifications to species level are shown in darker colors. Sample sizes for each taxon: dolphins (purple, n=1,200); sea turtles (green, n=114); whales (orange, n=35). A single "unidentified marine mammal" is not included in this figure **(Table 8A-1)**.

Table 8-1. Weeks in which boat surveys were completed during the Mid-Atlantic Baseline Studies Project. Each survey took from four to five days to complete, depending upon weather, ship availability, and other factors. Surveys colored in gray only included Mid-Atlantic Baseline Studies transects; surveys in blue also included Maryland study transects.

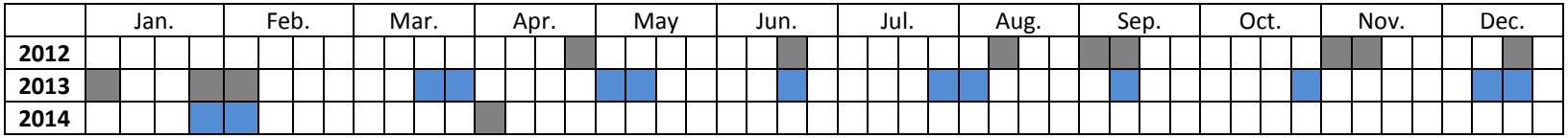

Table 8-2. Summary data for April 2012-April 2014 boat surveys (by species group). Data are presented in order of abundance based on the total counts from all surveys. Gray survey headings and totals are surveys conducted solely within the Mid-Atlantic Baseline Studies Area, while surveys in blue also include the Maryland study transects.

Animal Group	Apr. 2012	Jun. 2012	Aug. 2012	Sep. 2012	Nov. 2012	Dec. 2012	Jan. 2013	Mar. 2013	May. 2013	Jun. 2013	Aug. 2013	Sep. 2013	Oct. 2013	Dec. 2013	Jan. 2014	Apr. 2014	Total	Percent
Scoters, Ducks, Geese (Anatidae)	1	6	0	30	447	707	7404	5438	94	0	0	0	1703	1682	3230	1451	22193	34.43%
Gulls and Terns (Laridae)	294	215	484	608	1111	514	319	142	793	271	492	565	1272	6099	1139	471	14789	22.94%
Gannets (Sulidae)	483	2	0	0	2344	1177	2209	1158	118	0	1	3	760	1345	3492	1127	14219	22.06%
Loons (Gaviidae)	470	7	0	0	310	799	289	377	443	11	8	1	36	1476	715	742	5684	8.82%
Cormorants (Phalacrocoracidae)	10	5	0	3	128	4	0	55	530	1	0	2	1095	0	0	202	2035	3.16%
Auks (Alcidae)	0	0	0	0	0	344	608	76	2	0	0	0	0	24	623	13	1690	2.62%
Storm-Petrels (Hydrobatidae)	3	238	130	7	0	0	0	0	9	118	308	1	0	0	0	0	814	1.26%
Shorebirds (Charadriiformes spp.)	2	5	4	57	0	3	1	328	40	0	25	22	3	0	1	96	587	0.91%
Shearwaters and Fulmars (Procellariidae)	0	44	1	5	2	21	0	5	66	74	10	17	43	18	17	2	325	0.50%
Passerines (Passeriformes spp.)	13	2	48	49	14	0	0	0	2	0	33	0	4	0	0	15	180	0.28%
Pelicans (Pelecanidae)	0	18	1	18	2	0	0	0	1	67	21	16	16	0	0	0	160	0.25%
Unidentified Birds (Aves spp.)	1	0	0	10	82	11	8	1	1	1	0	1	1	1	0	0	118	0.18%
Grebes (Podicipedidae)	0	0	0	0	0	0	0	1	0	0	0	0	0	0	32	10	43	0.07%
Jaegers and Skuas (Stercorariidae)	9	2	0	1	2	0	0	0	8	2	0	0	4	3	0	0	31	0.05%
Egrets and Herons	2	0	0	0	2	1	0	1	0	0	0	0	18	0	0	1	25	0.04%

Animal Group	Apr. 2012	Jun. 2012	Aug. 2012	Sep. 2012	Nov. 2012	Dec. 2012	Jan. 2013	Mar. 2013	May. 2013	Jun. 2013	Aug. 2013	Sep. 2013	Oct. 2013	Dec. 2013	Jan. 2014	Apr. 2014	Total	Percent
(Ardeidae)																		
Raptors (Accipitridae, Falconidae, and Pandionidae)	0	5	0	1	0	0	0	0	0	2	2	4	1	1	0	1	17	0.03%
Rails, Coots and Gallinules (Rallidae)	1	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	4	0.01%
Hummingbirds (Trochilidae)	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0.00%
Vultures (Cathartidae)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0.00%
Woodpeckers and Sapsuckers (Picidae)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.00%
Avian Total	**1289**	**549**	**668**	**789**	**4445**	**3581**	**10838**	**7582**	**2108**	**547**	**901**	**632**	**4957**	**10650**	**9249**	**4132**	**62917**	**97.60%**
Toothed Whales (Odontoceti)	223	208	99	106	32	67	60	62	3	60	72	27	116	18	20	27	1200	1.86%
Fish and Sharks	1	70	0	61	9	0	0	0	2	0	0	6	20	0	0	0	169	0.25%
Turtles (Testudines)	13	13	22	8	2	0	0	0	0	8	22	13	13	0	0	0	114	0.18%
Rays (Batoidea)	0	3	14	1	0	0	0	0	0	0	6	0	0	0	0	0	24	0.04%
Baleen Whales (Mysticeti)	0	0	0	0	2	1	6	2	0	0	1	3	0	2	2	1	20	0.03%
Unidentified Whale (Cetacea)	0	0	0	0	2	1	4	2	0	0	0	1	0	1	4	0	15	0.02%
Bats (Chiroptera)	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	2	0.00%
Unidentified Marine Mammals (Mammalia)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0.00%
Total Non-Avian Animals	**237**	**294**	**135**	**177**	**47**	**69**	**70**	**66**	**5**	**68**	**101**	**51**	**149**	**22**	**26**	**28**	**1545**	**2.40%**
Grand Total	**1526**	**843**	**803**	**966**	**4492**	**3650**	**10908**	**7648**	**2113**	**615**	**1002**	**683**	**5106**	**10672**	**9275**	**4160**	**64462**	**100.00%**

Supplementary material

Appendix 8A.

Table 8A-1. Animals observed during the boat survey. Data are presented in order of abundance by family, based on the total count from all surveys, with avian species first. Gray survey headings and totals are surveys conducted solely within the Mid-Atlantic Baseline Studies Area, while surveys in blue also include the Maryland study transects (**Figure 8-1**).

Animals	Apr. 2012	Jun. 2012	Aug. 2012	Sep. 2012	Nov. 2012	Dec. 2012	Jan. 2013	Mar. 2013	May. 2013	Jun. 2013	Aug. 2013	Sep. 2013	Oct. 2013	Dec. 2013	Jan. 2014	Apr. 2014	Total	Percent
Unidentified Scoter	0	0	0	0	222	269	6188	28	1	0	0	0	128	86	1918	2	8842	**13.72%**
Dark scoter - either black scoter or surf scoter	0	0	0	0	0	0	0	4099	75	0	0	0	685	1109	224	887	7079	**10.98%**
Black Scoter	0	0	0	0	112	340	706	981	2	0	0	0	158	322	116	179	2916	**4.52%**
Surf Scoter	1	0	0	0	31	5	461	269	0	0	0	0	685	111	886	346	2795	**4.34%**
White-winged Scoter	0	0	0	0	1	91	39	40	15	0	0	0	3	8	58	0	255	**0.40%**
Unidentified Duck	0	0	0	0	31	2	0	0	1	0	0	0	0	19	0	3	56	**0.09%**
Red-breasted Merganser	0	0	0	0	0	0	0	16	0	0	0	0	0	3	0	30	49	**0.08%**
Green-winged Teal	0	0	0	10	0	0	0	0	0	0	0	0	30	0	0	0	40	**0.06%**
Brant	0	0	0	0	25	0	10	4	0	0	0	0	0	0	0	0	39	**0.06%**
Long-tailed Duck	0	0	0	0	0	0	0	0	0	0	0	0	0	7	28	2	37	**0.06%**
Mallard	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	20	**0.03%**
Unidentified Eider	0	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	18	**0.03%**
Unidentified Teal	0	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	13	**0.02%**
Canada Goose	0	6	0	0	0	0	0	1	0	0	0	0	0	4	0	0	11	**0.02%**
American Black Duck	0	0	0	0	6	0	0	0	0	0	0	0	1	0	0	2	9	**0.01%**
Bufflehead	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	**0.01%**
Common Goldeneye	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	**0.01%**
Unidentified Scaup	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	**0.00%**
Wood Duck	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	**0.00%**
Scoters, Ducks, Geese (Anatidae) Total	**1**	**6**	**0**	**30**	**447**	**707**	**7404**	**5438**	**94**	**0**	**0**	**0**	**1703**	**1682**	**3230**	**1451**	**22193**	**34.43%**

Animals	Apr. 2012	Jun. 2012	Aug. 2012	Sep. 2012	Nov. 2012	Dec. 2012	Jan. 2013	Mar. 2013	May. 2013	Jun. 2013	Aug. 2013	Sep. 2013	Oct. 2013	Dec. 2013	Jan. 2014	Apr. 2014	Total	Percent
Bonaparte's Gull	22	0	0	0	468	286	76	18	2	0	0	0	0	5534	799	255	7460	**11.57%**
Laughing Gull	113	81	140	110	348	0	1	4	30	188	292	318	699	24	0	41	2389	**3.71%**
Common Tern	38	38	265	233	12	0	0	0	482	33	87	86	0	0	0	0	1274	**1.98%**
Great Black-backed Gull	7	17	6	17	93	166	148	64	19	6	19	56	179	141	78	18	1034	**1.60%**
Herring gull	46	3	0	8	39	36	77	50	105	5	0	3	163	73	197	147	952	**1.48%**
Unidentified Gull	0	0	0	76	79	24	0	6	115	2	5	3	149	220	22	6	707	**1.10%**
Royal Tern	46	70	53	124	2	0	0	0	2	26	88	65	14	0	0	0	490	**0.76%**
Unidentified Tern	12	5	9	25	7	0	0	0	28	5	0	25	55	0	0	0	171	**0.27%**
Forster's Tern	4	0	0	1	47	0	0	0	0	0	1	4	0	56	0	2	115	**0.18%**
Ring-billed Gull	0	0	0	0	3	1	2	0	0	0	0	0	8	42	22	0	78	**0.12%**
Black-legged Kittiwake	0	0	0	0	5	1	14	0	0	0	0	0	4	8	9	0	41	**0.06%**
Lesser Black-backed Gull	6	0	3	0	8	0	1	0	0	0	0	0	0	0	9	2	29	**0.04%**
Black Tern	0	0	8	12	0	0	0	0	0	0	0	1	0	0	0	0	21	**0.03%**
Least Tern	0	0	0	0	0	0	0	0	8	5	0	0	0	0	0	0	13	**0.02%**
Caspian Tern	0	0	0	0	0	0	0	0	0	1	0	3	1	0	0	0	5	**0.01%**
Roseate Tern	0	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	3	**0.00%**
Little Gull	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	**0.00%**
Glaucous Gull	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2	**0.00%**
Sabine's Gull	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	**0.00%**
Unidentified Large Gull	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	**0.00%**
Gulls and Terns (Laridae) Total	**294**	**215**	**484**	**608**	**1111**	**514**	**319**	**142**	**793**	**271**	**492**	**565**	**1272**	**6099**	**1139**	**471**	**14789**	**22.94%**
Northern Gannet	483	2	0	0	2344	1177	2209	1158	118	0	1	3	760	1345	3492	1127	14219	**22.06%**
Gannets (Sulidae) Total	**483**	**2**	**0**	**0**	**2344**	**1177**	**2209**	**1158**	**118**	**0**	**1**	**3**	**760**	**1345**	**3492**	**1127**	**14219**	**22.06%**
Common Loon	456	7	0	0	267	314	149	140	250	11	8	1	31	1281	373	318	3606	**5.59%**
Red-throated Loon	14	0	0	0	32	173	124	215	96	0	0	0	5	190	325	416	1590	**2.47%**
Unidentified Loon	0	0	0	0	11	312	16	22	97	0	0	0	0	5	17	8	488	**0.76%**

Animals	Apr. 2012	Jun. 2012	Aug. 2012	Sep. 2012	Nov. 2012	Dec. 2012	Jan. 2013	Mar. 2013	May. 2013	Jun. 2013	Aug. 2013	Sep. 2013	Oct. 2013	Dec. 2013	Jan. 2014	Apr. 2014	Total	Percent
Loons (Gaviidae) Total	**470**	**7**	**0**	**0**	**310**	**799**	**289**	**377**	**443**	**11**	**8**	**1**	**36**	**1476**	**715**	**742**	**5684**	**8.82%**
Double-crested Cormorant	10	5	0	3	119	4	0	55	530	1	0	2	1095	0	0	202	2026	**3.14%**
Unidentified Cormorant	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	9	**0.01%**
Cormorants (Phalacrocoracidae) Total	**10**	**5**	**0**	**3**	**128**	**4**	**0**	**55**	**530**	**1**	**0**	**2**	**1095**	**0**	**0**	**202**	**2035**	**3.16%**
Razorbill	0	0	0	0	0	217	291	31	0	0	0	0	0	23	509	13	1084	**1.68%**
Dovekie	0	0	0	0	0	123	278	42	0	0	0	0	0	0	2	0	445	**0.69%**
Unidentified Alcid	0	0	0	0	0	3	14	3	1	0	0	0	0	1	51	0	73	**0.11%**
Unidentified large alcid (Razorbill or Murre)	0	0	0	0	0	0	2	0	0	0	0	0	0	0	56	0	58	**0.09%**
Atlantic Puffin	0	0	0	0	0	0	21	0	1	0	0	0	0	0	0	0	22	**0.03%**
Common Murre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	5	**0.01%**
Unidentified small alcid (Puffin/Dovekie)	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	**0.00%**
Thick-billed Murre	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	**0.00%**
Auks (Alcidae) Total	**0**	**0**	**0**	**0**	**0**	**344**	**608**	**76**	**2**	**0**	**0**	**0**	**0**	**24**	**623**	**13**	**1690**	**2.62%**
Wilson's Storm-petrel	0	236	129	6	0	0	0	0	9	117	308	1	0	0	0	0	806	**1.25%**
Unidentified Storm-petrel	3	2	1	1	0	0	0	0	0	1	0	0	0	0	0	0	8	**0.01%**
Storm-Petrels (Hydrobatidae) Total	**3**	**238**	**130**	**7**	**0**	**0**	**0**	**0**	**9**	**118**	**308**	**1**	**0**	**0**	**0**	**0**	**814**	**1.26%**
Red Phalarope	0	0	0	0	0	3	0	328	1	0	0	0	0	0	0	48	380	**0.59%**
Unidentified Phalarope	0	0	0	23	0	0	0	0	12	0	14	5	2	0	0	0	56	**0.09%**
Dunlin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47	47	**0.07%**
Red-necked Phalarope	1	0	0	13	0	0	0	0	2	0	0	16	0	0	0	0	32	**0.05%**
Unidentified shorebird	0	0	1	14	0	0	0	0	9	0	4	0	1	0	0	0	29	**0.04%**
Unidentified peep	0	0	0	6	0	0	0	0	0	0	2	0	0	0	0	0	8	**0.01%**

Animals	Apr. 2012	Jun. 2012	Aug. 2012	Sep. 2012	Nov. 2012	Dec. 2012	Jan. 2013	Mar. 2013	May. 2013	Jun. 2013	Aug. 2013	Sep. 2013	Oct. 2013	Dec. 2013	Jan. 2014	Apr. 2014	Total	Percent
Short-billed Dowitcher	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	7	**0.01%**
Willet	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	6	**0.01%**
Wilson's Plover	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	**0.01%**
Sanderling	0	0	2	0	0	0	0	0	0	0	1	0	0	0	1	1	5	**0.01%**
Semipalmated Plover	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	3	**0.00%**
Semipalmated Sandpiper	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	**0.00%**
Whimbrel	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	**0.00%**
Least Sandpiper	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	**0.00%**
Black Skimmer	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	**0.00%**
Lesser Yellowlegs	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	**0.00%**
Ruddy Turnstone	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	**0.00%**
White-rumped Sandpiper	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	**0.00%**
Shorebirds (Charadriiformes spp.) Total	**2**	**5**	**4**	**57**	**0**	**3**	**1**	**328**	**40**	**0**	**25**	**22**	**3**	**0**	**1**	**96**	**587**	**0.91%**
Cory's Shearwater	0	6	1	5	0	0	0	0	0	29	6	17	3	0	0	0	67	**0.10%**
Sooty Shearwater	0	0	0	0	0	0	0	0	64	0	0	0	1	0	1	0	66	**0.10%**
Greater Shearwater	0	32	0	0	0	0	0	0	0	33	0	0	0	0	0	0	65	**0.10%**
Manx Shearwater	0	3	0	0	1	21	0	5	1	8	0	0	2	18	5	0	64	**0.10%**
Unidentified Shearwater	0	2	0	0	1	0	0	0	1	4	4	0	35	0	2	0	49	**0.08%**
Northern Fulmar	0	0	0	0	0	0	0	0	0	0	0	0	2	0	8	2	12	**0.02%**
Unidentified Small Shearwater (Audubon's, Manx, or Little)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	**0.00%**
Audubon's Shearwater	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**0.00%**
Shearwaters and Fulmars (Procellariidae) Total	**0**	**44**	**1**	**5**	**2**	**21**	**0**	**5**	**66**	**74**	**10**	**17**	**43**	**18**	**17**	**2**	**325**	**0.50%**

Animals	Apr. 2012	Jun. 2012	Aug. 2012	Sep. 2012	Nov. 2012	Dec. 2012	Jan. 2013	Mar. 2013	May. 2013	Jun. 2013	Aug. 2013	Sep. 2013	Oct. 2013	Dec. 2013	Jan. 2014	Apr. 2014	Total	Percent
Purple Martin	0	1	45	2	0	0	0	0	0	0	10	0	0	0	0	0	58	**0.09%**
Unidentified Swallow	0	0	0	12	0	0	0	0	0	0	20	0	0	0	0	5	37	**0.06%**
Unidentified Passerine	0	0	0	8	5	0	0	0	2	0	0	0	0	0	0	5	20	**0.03%**
Barn Swallow	13	1	1	0	0	0	0	0	0	0	3	0	0	0	0	0	18	**0.03%**
Unidentified Warbler	0	0	1	14	0	0	0	0	0	0	0	0	0	0	0	0	15	**0.02%**
Tree Swallow	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7	**0.01%**
Myrtle Warbler	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	0	3	**0.00%**
Song Sparrow	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	**0.00%**
Water Pipit	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	**0.00%**
Red-winged Blackbird	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	**0.00%**
Palm Warbler	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	**0.00%**
Tennessee Warbler	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	**0.00%**
Golden-crowned Kinglet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	**0.00%**
Dark-eyed Junco	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	**0.00%**
American Redstart	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	**0.00%**
American Robin	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	**0.00%**
Blackpoll Warbler	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	**0.00%**
Cedar Waxwing	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	**0.00%**
Red-breasted Nuthatch	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	**0.00%**
Unidentified sparrow	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	**0.00%**
Black-throated Blue Warbler	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	**0.00%**
Mourning Warbler	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	**0.00%**
Ruby-crowned Kinglet	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	**0.00%**
Northern Waterthrush	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**0.00%**
Brown-headed Cowbird	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	**0.00%**

Animals	Apr. 2012	Jun. 2012	Aug. 2012	Sep. 2012	Nov. 2012	Dec. 2012	Jan. 2013	Mar. 2013	May. 2013	Jun. 2013	Aug. 2013	Sep. 2013	Oct. 2013	Dec. 2013	Jan. 2014	Apr. 2014	Total	Percent
Passerines (Passeriformes spp.) Total	**13**	**2**	**48**	**49**	**14**	**0**	**0**	**0**	**2**	**0**	**33**	**0**	**4**	**0**	**0**	**15**	**180**	**0.28%**
Brown Pelican	0	18	1	18	2	0	0	0	1	67	21	16	16	0	0	0	160	**0.25%**
Pelicans (Pelecanidae) Total	**0**	**18**	**1**	**18**	**2**	**0**	**0**	**0**	**1**	**67**	**21**	**16**	**16**	**0**	**0**	**0**	**160**	**0.25%**
Unidentified Bird	1	0	0	10	82	11	8	1	1	1	0	1	1	1	0	0	118	**0.18%**
Unidentified Birds (Aves spp.) Total	**1**	**0**	**0**	**10**	**82**	**11**	**8**	**1**	**1**	**1**	**0**	**1**	**1**	**1**	**0**	**0**	**118**	**0.18%**
Horned Grebe	0	0	0	0	0	0	0	1	0	0	0	0	0	0	16	7	24	**0.04%**
Red-necked Grebe	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	3	19	**0.03%**
Grebes (Podicipedidae) Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**32**	**10**	**43**	**0.07%**
Parasitic Jaeger	9	0	0	0	2	0	0	0	4	0	0	0	2	2	0	0	19	**0.03%**
Unidentified Jaeger	0	1	0	1	0	0	0	0	4	1	0	0	2	1	0	0	10	**0.02%**
Unidentified Skua	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	**0.00%**
Pomarine Jaeger	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	**0.00%**
Jaegers and Skuas (Stercorariidae) Total	**9**	**2**	**0**	**1**	**2**	**0**	**0**	**0**	**8**	**2**	**0**	**0**	**4**	**3**	**0**	**0**	**31**	**0.05%**
Great Blue Heron	1	0	0	0	1	1	0	1	0	0	0	0	16	0	0	1	21	**0.03%**
Green Heron	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	**0.00%**
Great Egret	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	**0.00%**
Egrets and Herons (Ardeidae) Total	**2**	**0**	**0**	**0**	**2**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**18**	**0**	**0**	**1**	**25**	**0.04%**
Osprey	0	5	0	0	0	0	0	0	0	2	2	4	0	0	0	1	14	**0.02%**
Northern Harrier	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	**0.00%**
Bald Eagle	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	**0.00%**
Merlin	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	**0.00%**
Raptors (Accipitridae, Falconidae, and Pandionidae) Total	**0**	**5**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**4**	**1**	**1**	**0**	**1**	**17**	**0.03%**
American Coot	1	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	4	**0.01%**

Animals	Apr. 2012	Jun. 2012	Aug. 2012	Sep. 2012	Nov. 2012	Dec. 2012	Jan. 2013	Mar. 2013	May. 2013	Jun. 2013	Aug. 2013	Sep. 2013	Oct. 2013	Dec. 2013	Jan. 2014	Apr. 2014	Total	Percent
Rails, Coots and Gallinules (Rallidae) Total	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**4**	**0.01%**
Black Vulture	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	**0.00%**
Vultures (Cathartidae) Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0.00%**
Northern Flicker	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	**0.00%**
Woodpeckers and Sapsuckers (Picidae) Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0.00%**
Unidentified Hummingbird	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	**0.00%**
Hummingbirds (Trochilidae) Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0.00%**
Aves Total	**1289**	**549**	**668**	**789**	**4445**	**3581**	**10838**	**7582**	**2108**	**547**	**901**	**632**	**4957**	**10650**	**9249**	**4132**	**62917**	**97.60%**
Red Bat	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	2	**0.00%**
Bats (Chiroptera) Total	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**0.00%**
Unidentified ray	0	3	14	1	0	0	0	0	0	0	6	0	0	0	0	0	24	**0.04%**
Unidentified thresher shark	0	0	0	0	0	0	0	0	1	0	0	0	4	0	0	0	5	**0.01%**
Unidentified fish	0	70	0	2	9	0	0	0	0	0	0	1	15	0	0	0	97	**0.15%**
Unidentified flying fish	0	0	0	59	0	0	0	0	0	0	0	5	0	0	0	0	64	**0.10%**
Ocean Sunfish (Mola)	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	3	**0.00%**
Fish and Sharks total	**1**	**73**	**14**	**62**	**9**	**0**	**0**	**0**	**2**	**0**	**6**	**6**	**20**	**0**	**0**	**0**	**193**	**0.30%**
Bottlenose Dolphin	221	180	94	87	28	0	0	12	2	54	72	26	86	6	2	4	874	**1.36%**
Common Dolphin	0	0	0	0	0	64	60	47	0	0	0	0	0	10	10	18	209	**0.32%**
Unidentified Dolphin	2	28	5	19	4	3	0	3	1	2	0	1	30	2	8	5	113	**0.18%**
Spotted Dolphins	0	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4	**0.01%**
Toothed Whales (Odontoceti) Total	**223**	**208**	**99**	**106**	**32**	**67**	**60**	**62**	**3**	**60**	**72**	**27**	**116**	**18**	**20**	**27**	**1200**	**1.86%**
Humpback Whale	0	0	0	0	1	0	3	0	0	0	1	3	0	2	2	0	12	**0.02%**
Fin Whale	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	3	**0.00%**

Animals	Apr. 2012	Jun. 2012	Aug. 2012	Sep. 2012	Nov. 2012	Dec. 2012	Jan. 2013	Mar. 2013	May. 2013	Jun. 2013	Aug. 2013	Sep. 2013	Oct. 2013	Dec. 2013	Jan. 2014	Apr. 2014	Total	Percent
Minke Whale	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	3	**0.00%**
Sei Whale	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	**0.00%**
Right Whale	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	**0.00%**
Baleen Whales (Mysticeti) Total	**0**	**0**	**0**	**0**	**2**	**1**	**6**	**2**	**0**	**0**	**1**	**3**	**0**	**2**	**2**	**1**	**20**	**0.03%**
Unidentified Whale	0	0	0	0	2	1	4	2	0	0	0	1	0	1	0	0	11	**0.02%**
Unidentified large whale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	**0.01%**
Unidentified Whale (Cetacea) Total	**0**	**0**	**0**	**0**	**2**	**1**	**4**	**2**	**0**	**0**	**0**	**1**	**0**	**1**	**4**	**0**	**15**	**0.02%**
Unidentified Marine Mammal	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	**0.00%**
Unidentified Marine Mammals (Mammalia) Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0.00%**
Loggerhead Turtle	11	11	19	3	2	0	0	0	0	6	16	11	10	0	0	0	89	**0.14%**
Leatherback Turtle	0	1	2	4	0	0	0	0	0	0	6	0	2	0	0	0	15	**0.02%**
Small turtle - Loggerhead, Green, Hawksbill, or Kemp's Ridley	0	0	0	1	0	0	0	0	0	2	0	2	1	0	0	0	6	**0.01%**
Unidentified Sea Turtle	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	**0.01%**
Turtles (Testudines) Total	**13**	**13**	**22**	**8**	**2**	**0**	**0**	**0**	**0**	**8**	**22**	**13**	**13**	**0**	**0**	**0**	**114**	**0.18%**
Non-Avian Animals Total	**237**	**294**	**135**	**177**	**47**	**69**	**70**	**66**	**5**	**68**	**101**	**51**	**149**	**22**	**26**	**28**	**1545**	**2.40%**
Grand Total	**1526**	**838**	**803**	**965**	**4492**	**3650**	**10908**	**7648**	**2113**	**613**	**1000**	**679**	**5105**	**10671**	**9275**	**4159**	**64462**	**100.00%**