Seabird Survey Report
November 1-13th, 2018
Integrated Statistics, Northeast Fisheries Science Center Contractor
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Objective:

The primary goal of conducting seabird surveys aboard the Hugh R. Sharp in November 2018 was to gather data on the abundance and distribution of seabirds as a part of longer term monitoring efforts for these far-ranging apex predators. Our secondary objective in conducting theses surveys was to also collect data, when possible, on the abundance and distribution of other marine megafauna including, marine mammals, sea turtles, sharks, and other large pelagic fishes.

Collecting this data in conjunction with other biological data and abiotic factors will help better complete our "picture" of possible changes occurring in the marine ecosystem in the Northwest Atlantic from the Outer Banks to the Bay of Fundy.

Methods:

The protocol used for this survey is based on a standardized 300 meter strip transect survey, one that is used by various agencies in North America and Europe (e.g., Anon 2011, Ballance 2011; Tasker 2004).

The survey strip is 300 meters wide, with observers collecting data on all seabirds within that strip, from the bow to 90 degrees to either the port or the starboard side (depending on viewing conditions). Observations can be made in seas up to a Beaufort 7, in light rain, fog, and ship speeds between 8-12 knots. Given the limitations of the R/V Hugh R. Sharp, some of the data was collected below the standard 8 knots,; where this occurred was noted in the data.

Surveys were conducted on the flying bridge (11 m) of the R/V Hugh R. Sharp.

The software used to collect survey data was, SeeBird version 4.3.7. This program draws GPS coordinates, as well as time from the ship's navigation through a NMEA data feed, so each observation received a Lat/Long, time stamp, and ship's course. The standard data collected for observations included, species, distance, number of individuals, association, behavior, flight direction, flight height, and if possible or applicable, age, sex, and plumage status. Flocks of seabirds that were once recorded in a SeeBird sub-module, have been incorporated into the regular sighting data module with species

counted within a given flock being given a special notation in the comment section, marking them as part of a flock, along with an estimated distance to that flock from the transect line. On another note, while SeeBird was not specifically designed to collect data on other marine megafauna, other such observations were recorded anytime an animal was seen, both in and outside of the survey zone.

During surveys, individual observers took two-hour shifts, to prevent observer fatigue. Observers utilized binoculars (10x42 or 8x42) for general scanning purposes within the survey strip, however, if an animal proved elusive a pair of 20x60 Zeiss imaged-stabilized binoculars were used to attain positive identifications. To aide in approximating distance observers used custom made range finders based on height above water and the observers' personal body measurement (Heinemann 1981).

Results:

Seabird Sightings

Over the course of the cruise approximately 710 nautical miles were surveyed, from the mouth of the Delaware Bay, south to the Outer Banks up to the waters south of Marthas Vineyard. A total of 2,410 birds were observed in the survey zone, within an additional 977 birds observed outside the zone (on and off effort). As is usual at this timeof year, migration is under way with the appearance of multiple high arctic breeders, and the gradual disappearance of the usual summer denizens. At the species level, Northern Gannets, *Morus bassanus*, and Bonaparte's Gulls, *Chroicocephalus Philadelphia*, were the most abundant, making up 17% and 15% of the total count of birds recorded. Great Shearwaters, *Puffinus gravis*, and Herring Gulls, *Larus argentatus*, follow next in the most abundant birds surveyed, each making up approximately 9.5% of the total count. As a group Scoters, *Melanitta sp*, made up a little over 19% of the count, with Surf Scoters, *Melanitta perspicilllata*, being the most abundant, followed by Black Socters, *Melanitta americana,* and then White-winged Scoters, *Melanitta fusca,* with only a handful of individuals seen of this species.

Of special note, a single large flock of 250 Snow Geese, *Chen caerulescens*, a species not usually seen on surveys, was sighted off in the distance migrating South. Of further note 11 identified passerine species were seen on their way South, with the most unusual of these being seen at sea being a Brown Creeper, *Certhia americana*.

Table 1. Total Number of Birds Observed and Distance Distribution on Survey Strip

		Distance (zones)				
Common Name	Scientific Name	1	2	3	4	Grand Total
Razorbill	*Alca torda*		4	9		13
Common Loon	*Gavia immer*	1	3	20	30	54
Red-throated Loon	*Gavia stellata*			8	2	10
Unidentified Loon				1		1
Cory's Shearwater	*Calonectris borealis*	1	2			3
Great Shearwater	*Puffinus gravis*	24	82	168	45	319
Manx Shearwater	*Puffinus puffinus*	3	1	14	6	24
Unidentified Storm-petrel					3	3
Northern Fulmar	*Fulmarus glacialis*	3		1	3	7
Black Scoter	*Melanitta americana*	1	2	162	123	288
Surf Scoter	*Melanitta perspicilllata*		4	70	33	107
White-winged Scoter	*Melanitta fusca*				4	4
Unidentified Scoter	*Melanitta sp*			3	251	254
Lesser Scaup	*Aythya affinis*				12	12
Unidentifed Duck			40		9	49
Royal Tern	*Thalasseus maximus*	5	1	6	9	21
Great Black-backed Gull	*Larus marinus*	37	77	113	4	231
Herring Gull	*Larus argentatus*	71	75	159	13	318
Ring-billed Gull	*Larus delawarenisis*		1	2		3
Laughing Gull	*Leucophaeus atricilla*	18	43	91	8	160
Bonaparte's Gull	*Chroicocephalus philadelphia*	16	64	421	7	508
Black-legged Kittiwake	*Rissa tridactyla*	4	10	22	11	47
Unidentified Small Gull				1		1
Parasitic Jaeger	*Stercorarius parasiticus*	1		3	1	5
Pomarine Jaeger	*Stercorarius pomarinus*			3		3
Brown Pelican	*Pelecanus occidentalis*	6	1	17	5	29
Double Crested Comorant	*Phalacrocorax auritus*	1	3	16	14	34
Northern Gannet	*Morus bassanus*	67	121	272	127	587
Red Phalarope	*Phalaropus fulicarius*	2				2
Unidentified Phalarope	*Phalaropus sp*				4	4
Sanderling	*Calidris alba*		3			3
Red-breasted Merganser	*Mergus serrator*	1				1
Unidentified Grebe				1		1
Snow Goose	*Chen caerulescens*				250	250
Great Blue Heron	*Ardea herodias*		3			3
Golden-crowned Kinglet	*Regulus satrapa*	1				1
Ruby-crowned Kinglet	*Regulus calendula*	1				1
American Goldfinch	*Spinus tristis*	1			1	2
Pine Siskin	*Spinus pinus*	1		1		2
American Robin	*Turdus migratoris*		1			1
Black-throated Blue Warbler	*Steophaga caerulescens*				1	1
Yellow Warbler	*Steophaga petechia*	1				1
Dark-eyed Junco	*Junco hyemalis*	2				2
Brown-headed Cowbird	*Molothrus ater*	1				1
Brown Creeper	*Certhia americana*	1				1
Red-breasted Nuthatch	*Sitta canadensis*	2				2
Passerine sp		7	4	1	1	13
Grand Total		280	545	1585	977	3387

Marine Mammal, Sea Turtle, and Large Fishes Sightings

The most commonly seen marine mammal, was of course, the Common Dolphin, *Delphinus delphis,* accounting for approximately 74% of all mammal sightings, followed by Bottlenose Dolphins, *Tursiops truncates,* at approximately 18%. Of the large whales , Humpback Whales, *Megaptera novaengliae*, were the only ones seen, and only in two separate sightings. Of special not we had a sighting of a Grey Seal*, Halichoerus grypus*, sighted south of Marthas Vineyard

Only three Loggerhead sea turtle, *Caretta caretta,* were sighted in the warmer waters off the Mid-Atlantic. Of special note one Sunfish, *Mola mola,* was also seen in the Mid Atlantic.

Table 2. Other Sighted Marine Megafauna and Distance Distribution on Survey Strip

		Distance (zones)				
Common Name	Scientific Name	1	2	3	4	Grand Total
Grey Seal	*Halichoerus grypus*			1		1
Common Dolphin	*Delphinus delphis*		22	56	7	85
Bottlenose Dolphin	*Tursiops truncatus*		7	14		21
Unidentified Dolphin	*Delphinidae sp*		5			5
Humpback Whale	*Megaptera novaengilae*				2	2
Loggerhead Sea Turtle	*Caretta caretta*			2	1	3
Mola	*Mola mola*		1			1
School of Tuna			1			1
Grand Total			36	74	10	120

Literature Cited

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