Seabird Survey Report

11 July -16 July 2018

Integrated Statistics, Northeast Fisheries Science Center Contractor

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Objective:

The primary goal of conducting seabird surveys aboard the Gordon Gunter in July 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.

The data collected this trip is unique in that it was not a part of a dedicated research effort, rather it was a transit of the vessel Northward from Key West, Florida to Newport, Rhode Island in waters not often surveyed by observers.

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 (below 8 knots, the data becomes questionable to use for abundance estimates).

Surveys were conducted on the flying bridge (13.7 m) of the Gordon Gunter.

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 regular survey zone specified for seabird data collection.

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 677 nautical miles were surveyed, from Key West, Florida to Newport, Rhode Island, with significant portions of the survey occurring in off shelf waters. A total of 957 birds were observed in the survey zone, within an additional 503 birds observed outside the zone. Great Shearwater, *Puffinus gravis*, outnumbered all seabirds seen within the survey zone, totaling 345. Wilson's Storm Petrels, *Oceanites oceanicus*, had the second highest count of birds seen in the survey zone at 265 individuals; however, Wilson's Storm Petrels outnumbered all other seabirds in total (in and outside the zone) at 572 individuals observed. These seabirds are followed by Sooty Terns, *Onychoprion fuscatus*, Bridled Terns, *Onychoprion anaethetus*, and Cory's Shearwaters, *Calonectris borealis*, in relative abundance at totals of 93, 71, 71 individuals respectively.

Table 1. Total Number of Birds Observed

Common Bird Name	Scientific Name	Number Observed in Zone	Total Observed
Cory's Shearwater	*Calonectris borealis*	71	115
Great Shearwater	*Puffinus gravis*	345	391
Audubon's Shearwater	*Puffinus lherminieri*	39	56
Wilson's Storm Petrel	*Oceanites oceanicus*	264	572
Leach's Storm Petrel	*Oceanodroma leucorhoa*	9	10
Band-rumped Storm Petrel	*Oceanodroma castro*	32	47
Leach's/Harcourt's Storm Petrel		0	2
Unidentified Storm Petrel		1	1
Black-capped Petrel	*Pterodroma hasitata*	9	20
Parasitic Jaeger	*Stercorarius parasiticus*	1	1
Bridled Tern	*Onychoprion anaethetus*	71	78
Sooty Tern	*Onychoprion fuscatus*	93	114
Sooty/Birdled Tern		2	33
Royal Tern	*Thalasseus maximus*	1	1
Brown Noddy	*Anous stolidus*	4	4
Brown Booby	*Sula leucogaster*	4	4
Double Crested Cormorant	*Phalacrocorax auritus*	1	1
Magnificent Frigatebird	*Fregata magnificens*	1	1
Red-billed Tropicbird	*Phaethon aethereus*	1	1
Whimbrel	*Numenis phaeopus*	1	1
Willet	*Tringa semipalmata*	1	1
Yellowlegs sp	*Tringa sp*	1	1
Sandpiper sp	*Calidris sp*	1	1
Barn Swallow	*Hirundo rustica*	2	2
Brown-headed Cowbird	*Molothrus ater*	2	2
TOTAL		**957**	**1460**

Marine Mammal and Sea TurtleSightings

The most commonly seen marine mammal, was Atlantic Spotted Dolphin, *Stenella frontalis*, accounting for accounting for approximately 37% of all mammal sightings, followed by Striped Dolphin, *Stenella coeruleoalba,* at around 30%. It should be noted that Striped Dolphins consisted of the largest individual pod seen at 60 individuals. The only large whale seen was an individual Sperm Whales, *Physeter macrocephalus*. Only one Loggerhead sea turtle, *Caretta caretta,* and Green sea turtle, *Chelonia* mydas, were seen this trip.

Table 2. Other Sighted Marine Megafauna

Common Name	Scientific Name	Number observed
Sperm Whale	*Physeter macrocephalus*	1
Risso's Dolphin	*Grampus griseus*	6
Common Dolphin	*Delphinus delphis*	34
Bottlenose Dolphin	*Tursiops truncatus*	13
Striped Dolphin	*Stenella coeruleoalba*	60
Atlantic Spotted Dolphins	*Stenella frontalis*	73
Unidentified Dolphin		11
Green Sea Turtle	*Chelonia mydas*	1
Loggerhead Sea Turtle	*Caretta caretta*	1

Literature Cited

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