DIGITAL SUPPLEMENT D[†]

Additional information about datasets extracted from the USGS Avian Compendium Database.

Table D1. List of science-quality datasets in the USGS Avian Compendium Database as of August 2012. [Pages 2-9]

[†]A digital file supporting OCS Study BOEM 2012-101 / NOAA Technical Memorandum NOS NCCOS 158

Citation for main document:

Kinlan, B.P., E.F. Zipkin, A.F. O'Connell, and C. Caldow. 2012. Statistical analyses to support guidelines for marine avian sampling: final report. U.S. Department of the Interior, Bureau of Ocean Energy Management, Office of Renewable Energy Programs, Herndon, VA. OCS Study BOEM 2012-101. NOAA Technical Memorandum NOS NCCOS 158. xiv+77 pp.

Table D1. List of science-quality datasets in the USGS Avian Compendium Database as of August 2012.

Dataset ID	Source Dataset ID	Contact person	Email	Full name of survey	Start date	End date	Survey Method	Survey platform	Purpose, if available	Abstract, if available
5	BarHarborWW05	Linda Welch	Linda_Welch@fws.gov	Bar Harbor Whale Watch Survey 2005	6/16/2005	10/19/2005	continuous time strip	boat	To document seabirds around Mount Desert Island, Maine aboard the Whale Watching vessel Friendship during transit.	Seabird surveys using standardized techniques were completed aboard the Whale Watching vessel Friendship during transit.
6	BarHarborWW06	Linda Welch	Linda_Welch@fws.gov	Bar Harbor Whale Watch Survey 2006	6/21/2006	10/15/2006	continuous time strip	boat	To document seabirds around Mount Desert Island, Maine aboard the Whale Watching vessel Friendship during transit.	Seabird surveys using standardized techniques were completed aboard the Whale Watching vessel Friendship during transit.
7	CapeHatteras0405	Erin LaBrecque	eal12@duke.edu	Summer 2004/ Winter 2005 Cape Hatteras	4/8/2004	2/2/2005	continuous time strip	boat	Our objective is to map the distribution of upper-trophic predators with respect to physical and biological gradients across the NC shelf.	http://www.whoi.edu/science/PO/hatterasfronts/marinemammal.html This dataset contains locational information of marine mammal, sea bird, sea turtle sightings off of Cape Hatteras, North Carolina. A team of observers used standardized population sampling techniques, including line-transect and strip transect methods, to survey the distribution and abundance of marine mammals, birds and turtles. By repeatedly surveying the study area in conjunction with physical and biological measurements from in-situ and remote-sensing platforms, we will quantify how these predators respond to changes in the oceanography of this dynamic region over short time scales (days) and across seasons (summer - winter).

8	CapeWindAerial	Terry Orr	torr@essgroup.com	Cape Wind - Nantucket Sound Seabird Survey	4/17/2002	2/27/2004	continuous time strip	aerial	Provide data for the EIS for the proposed wind energy project on Horsehoe Shoals in Nantucket Sound.	As part of the environmental review, extensive avian research has been conducted on Nantucket Sound using high resolution avian radar, over-flights, and boat transects. Based upon a review of existing information and field observations, there is less bird activity over Horseshoe Shoal than in many other areas of Nantucket Sound. The estimated small number of birds killed by wind turbines is unlikely to cause bird population declines.
9	CapeWindBoat	Terry Orr	torr@essgroup.com	Cape Wind - Nantucket Sound Seabird Survey	4/17/2002	2/27/2004	continuous time strip	boat	Provide data for the EIS for the proposed wind energy project on Horsehoe Shoals in Nantucket Sound.	As part of the environmental review, extensive avian research has been conducted on Nantucket Sound using high resolution avian radar, over-flights, and boat transects. Based upon a review of existing information and field observations, there is less bird activity over Horseshoe Shoal than in many other areas of Nantucket Sound. The estimated small number of birds killed by wind turbines is unlikely to cause bird population declines.

10	CDASMidAtlantic	Doug Forsell	doug_forsell@fws.gov	US Fish and Wildlife Survey As archived in the Minerals Management Service Marine Mammal and Seabird Computer Database Analysis System (MMS-CDAS)	12/19/2001	8/3/2003	continuous time strip	aerial	These data may be used to calculate and display densities.	These are data collected on-transect (120m width, 60 m each side) for transects conducted in the mouth of Chesapeake Bay, in Delaware Bay, and in offshore waters from the beach outward. Aerial surveys of waterbirds were flown to at least 12 nautical miles (22.2 km) offshore from northern New Jersey to the Virginia / North Carolina border, including Delaware Bay and the coastal bays. We flew 237 east-west strip transects following each minute of latitude. Transects were flown along every third line of latitude on any specific day. This pattern separated each transect by 3 nm (5.6 km), limiting the possibility of chasing birds from one transect path into the next area to be surveyed A Partenavia P-68 Observer twin engine aircraft or a Cessna 206 on amphibious floats was flown at an altitude of 40 to 50 meters, while two observers counted birds within a 60 m wide strip of on either side of the aircraft. For some flights in 2003, when the second observer was not available, the pilot served as an observer. The track of the aircraft was recorded with a position every 3 to 5 seconds and the positions were later measured using ArcView 3.3 to determine the length of transects. The survey sampled approximately 6.5 percent of the water area over a three-month period in two years.
21	CSAP	Stephanie Schmidt	sschmidt@manomet.org	Cetacean and Seabird Assessment Program (CSAP)	4/16/1980	10/12/1988	discrete time strip	boat	This long-term monitoring program is designed to provide and assessment of the abundance and distribution of populations of cetaceans, seabirds and marine turtles in the shelf waters of the northeastern United States.	The Cetacean and Seabird Assessment Program (CSAP) has been conducted by the Manomet Bird Observatory, through a contract with the Northeast Fisheries Science Center (NEFSC) of the National Marine Fisheries Service since May 1980. This long-term monitoring program is designed to provide and assessment of the abundance and distribution of populations of cetaceans, seabirds and marine turtles in the shelf waters of the northeastern United States.

77	EcoMonAug08	Richard Veit	veitrr2003@yahoo.com	EcoMon August 2008	8/14/2008	8/26/2008	continuous time strip	boat	Survey seabirds in the Northeast Shelf Ecosystem.	Seabird and marine mammal surveys conducted aboard the NOAA EcoMon cruise during August 2008.
42	EcoMonAug09	Richard Veit	veitrr2003@yahoo.com	EcoMon August 2009	8/17/2009	8/28/2009	continuous time strip	boat	Conduct seabird surveys of the northeast shelf ecosystem.	Seabird and marine mammal surveys conducted aboard the NOAA EcoMon cruise during August 2009.
82	EcoMonAug10	Richard Veit	veitrr2003@yahoo.com	EcoMon August 2010	8/1/2010	8/31/2010	continuous time strip	boat	Survey seabirds in the Northeast Shelf Ecosystem.	Seabird and marine mammal surveys conducted aboard the NOAA EcoMon cruise during August 2010.
79	EcoMonFeb10	Richard Veit	veitrr2003@yahoo.com	EcoMon February 2010	2/3/2010	2/17/2010	continuous time strip	boat	Survey seabirds in the Northeast Shelf Ecosystem.	Seabird and marine mammal surveys conducted aboard the NOAA EcoMon cruise during February 2010.
38	EcoMonJan09	Richard Veit	veitrr2003@yahoo.com	EcoMon January 2009	1/29/2009	2/12/2009	continuous time strip	boat	Conduct seabird and marine mammal surveys during the NOAA EcoMon cruise of January 2009.	Seabird and marine mammal surveys conducted aboard the NOAA EcoMon cruise during January 2009.
33	EcoMonMay07	Richard Veit	veitrr2003@yahoo.com	EcoMon May 2007	5/23/2007	6/3/2007	continuous time strip	boat	Survey seabirds in the Northeast Shelf Ecosystem.	Seabird surveys conducted aboard NOAA research vessel while monitoring fishery-relevant baseline ecosystem data in the Northeast Shelf Ecosystem.
39	EcoMonMay09	Richard Veit	veitrr2003@yahoo.com	EcoMon May 2009	5/28/2009	6/9/2009	continuous time strip	boat	Survey seabirds in the Northeast Shelf Ecosystem.	Seabird and marine mammal surveys conducted aboard the NOAA EcoMon cruise during May 2009.
80	EcoMonMay10	Richard Veit	veitrr2003@yahoo.com	EcoMon May 2010	5/1/2010	5/31/2010	continuous time strip	boat	Survey seabirds in the Northeast Shelf Ecosystem.	Seabird and marine mammal surveys conducted aboard the NOAA EcoMon cruise during May 2010.
76	EcoMonNov09	Richard Veit	veitrr2003@yahoo.com	EcoMon November 2009	11/3/2009	11/19/2009	continuous time strip	boat	Survey seabirds in the Northeast Shelf Ecosystem.	Seabird and marine mammal surveys conducted aboard the NOAA EcoMon cruise during November 2009.
81	EcoMonNov10	Richard Veit	veitrr2003@yahoo.com	EcoMon November 2010	11/1/2010	11/30/2010	continuous time strip	boat	Survey seabirds in the Northeast Shelf Ecosystem.	Seabird and marine mammal surveys conducted aboard the NOAA EcoMon cruise during November 2010.
12	GeorgiaPelagic	J. Christopher Haney	chaney@defenders.org	Northwest Atlantic Sargasso Sea & South Atlantic Bight - Haney	11/15/1982	6/16/1985	discrete time strip	boat	A study of the pelagic avifauna was made off of Georgia, South Carolina and Florida in relationship to biophysical variables.	Seabird data mostly from deep water in the Northwest Sargasso Sea, including outside EEZ. A study of the pelagic avifauna was made off of Georgia, South Carolina and Florida in relationship to biophysical variables.

15	HatterasEddyCruise2004	David Hyrenbach	khyrenba@u.washington.edu	Hatteras Eddy Cruise 2004	8/15/2004	8/19/2004	continuous time strip	boat	This cruise surveyed marine bird and mammal distributions in the vicinity of the shelf-slope off North Carolina, in an area influenced by the Gulf Stream and by cold-core eddies.	The Duke / UNC Oceanographic Consortium supported a four-day exploratory cruise off North Carolina in August 2004, to survey physical and biological properties in the vicinity of the cold-core eddies which form along the inner edge of the Gulf Stream. This cruise was the result of a collaborative proposal assembled by Richard Barber, Andy Read, Larry Crowder, David Johnston, Veronica Lance, and David Hyrenbach.
78	HerringAcoustic06	Richard Veit	veitrr2003@yahoo.com	Acoustic Herring Survey 2006	9/19/2006	9/28/2006	continuous time strip	boat	Seabird and marine mammal surveys.	Seabird and marine mammal surveys conducted during NOAA research cruises during 2006 as part of National Marine Fisheries Service Acoustic Herring survey in the Gulf of Maine.
34	HerringAcoustic07	Richard Veit	veitrr2003@yahoo.com	Acoustic Herring survey 2007	10/16/2007	10/25/2007	continuous time strip	boat	Seabird and marine mammal surveys.	Seabird surveys conducted during NOAA research cruises during 2007 as part of National Marine Fisheries Service Acoustic Herring survey in the Gulf of Maine.
35	HerringAcoustic08	Richard Veit	veitrr2003@yahoo.com	Acoustic Herring survey 2008	9/4/2008	10/9/2008	continuous time strip	boat	Seabird and marine mammal surveys.	Seabird surveys conducted during NOAA research cruises during 2008 as part of National Marine Fisheries Service Acoustic Herring survey in the Gulf of Maine.
69	HerringAcoustic09Leg1	Richard Veit	veitrr2003@yahoo.com	Acoustic Herring Survey 2009 Leg 1	9/12/2009	9/17/2009	continuous time strip	boat	Seabird and marine mammal surveys.	Seabird and marine mammal surveys conducted during NOAA research cruises during 2009 as part of National Marine Fisheries Service Acoustic Herring survey in the Gulf of Maine.
70	HerringAcoustic09Leg2	Richard Veit	veitrr2003@yahoo.com	Acoustic Herring Survey 2009 Leg 2	9/21/2009	10/1/2009	continuous time strip	boat	Seabird and marine mammal surveys.	Seabird and marine mammal surveys conducted during NOAA research cruises during 2009 as part of National Marine Fisheries Service Acoustic Herring survey in the Gulf of Maine.
71	HerringAcoustic09Leg3	Richard Veit	veitrr2003@yahoo.com	Acoustic Herring Survey 2009 Leg 3	10/6/2009	10/15/2009	continuous time strip	boat	Seabird and marine mammal surveys.	Seabird and marine mammal surveys conducted during NOAA research cruises during 2009 as part of National Marine Fisheries Service Acoustic Herring survey in the Gulf of Maine.

22	MassAudNanAerial	Becky Harris	bharris@massaudubon.org	Mass Audubon - Nantucket Sound Seabird survey	8/19/2002	3/29/2006	continuous time strip	aerial	To survey seabirds in Nantucket Sound to determine abundance and distribution.	Survey seabirds in Nantucket Sound to assess the potential effect of wind farm development on avifauna in Nantucket sound. Surveys were conducted from fixed-wing aircraft at 500 feet above the water surface and by boat.
25	NewEnglandSeamount06	Carina Gjerdrum	carina.gjerdrum@ec.gc.ca	New England Seamount Chain	10/31/2006	6/26/2007	discrete time strip	boat	Surveys were done for the Canadian Wildlife Service and all data were handed over to them for their database.	Seabird surveys were conducted in the Sargasso November 2006 (not many hours, as the weather was very challenging!) and May & June 2007 for several days to and from the New England Seamount Chain.
20	NOAAMBO7880	Doug Forsell	doug_forsell@fws.gov	Manomet Bird Observatory seabird survey	1/1/1978	2/28/1980	discrete time strip	boat	"Bird observations were collected throughout the year in shelf waters off the northeastern United States. Data were collected on board ships taking part in oceanographic monitoring and assessment surveys made by the National Marine Fisheries Service (NOAA/NMFS), foreign research vessels, and from U. S. Coast Guard (USCG) ships on offshore law enforcement patrols." (quoted from Powers 1983)	"Bird observations were collected throughout the year in shelf waters off the northeastern United States. Data were collected on board ships taking part in oceanographic monitoring and assessment surveys made by the National Marine Fisheries Service (NOAA/NMFS), foreign research vessels, and from U. S. Coast Guard (USCG) ships on offshore law enforcement patrols. Data were collected opportunistically from a variety of ships, and observers did not determine or influence cruise tracks. Estimates of seabird density (birds/km2) were derived from a strip transect procedure (Powers 1982). Observations were recorded in 10-min periods when the vessel proceeded on a steady course at a constant speed. A total of 61 cruises was made from January 1978 through February 1980, during which 6308 transects were recorded and 5830 km^2 were sampled in shelf waters from 35 to 44 degrees N latitude." (quoted from Powers 1983)

75	PlattsBankAerial	Nicholas Wolff	nwolff@usm.maine.edu	Aerial survey of upper trophic level predators on Platts Bank, Gulf of Maine	7/11/2005	7/29/2005	continuous time strip	aerial	To record the distribution and relative abundance of marine mammals, birds and large fish.	The study area is located 50 km from shore in the western Gulf of Maine and covers 1672 km2, including Platts Bank, Three Dory Ridge and surrounding deep water. Platts Bank (43°10 N, 069°40 W) is a glacial deposit composed primarily of sand and gravel. When defined by the 100 m isobath, the bank is approximately 15 km in its longest dimension and has an area <140 km2. Aerial surveys were flown on ten days from July 11 to 29, 2005 to record the distribution and relative abundance of marine mammals, birds and large fish. Surveys were typically conducted in the morning or early afternoon and consisted of six transects, each 46 km long oriented on an East-West axis to minimize interference from reflected sunlight. Survey legs were flown at 185 km/hr and an altitude of 230 m using a high-wing, twin-engine aircraft. Observation effort (two observers) was concentrated from both sides of the plane perpendicular to the flight path. To estimate the distances of sightings of mammals and fish from the plane s flight path, sightings were binned into five groupings corresponding to 15 degrees of arc from 15° (the area directly beneath the plane was not visible) to 90°. When species identification or number of individuals was uncertain, search effort was interrupted while the plane circled to confirm identifications and number of individuals and to obtain a more precise location. Birds were recorded only within a 170 m strip on each side of the aircraft (15° to 45° of arc) during the survey legs. Sightings of birds continued when the plane circled for closer inspection of mammals and fish, but these data were not used in analyses since this would bias bird sightings towards areas where cetaceans were concentrated. Data were recorded by a dedicated data recorder directly onto a computer using software that recorded the time and location from the GPS navigation system aboard the plane at regular intervals throughout the flight and for each recorded sighting.

29	SEFSC1992	Lance Garrison	lance.garrison@noaa.gov	SEFSC Atlantic surveys, 1992	1/4/1992	2/10/1992	continuous time strip	boat	To document and study marine mammals and pelagic apex predators.	An Atlantic Ocean ship survey was conducted by NOAA Southeast Fisheries Science Center to study marine mammals and pelagic apex predators. The primary area of operation was in the Blake Plateau area of the Atlantic Ocean between 28 degree and 35 degree North latitude and from the coastal boundary to the Exclusive Economic Zone. During 28 survey days, at least 10 cetacean species were sighted, including Atlantic spotted dolphin, Cuvier's beaked whale, Dwarf sperm whale, False killer whale, Pantropical spotted dolphin, Pygmy killer whale, Globicephala sp., Sperm whale, Spinner dolphin, and Standard Bottlenose dolphin. The dataset is accompanied by transect data which is provided as a separate file.
30	SEFSC1998	Lance Garrison	lance.garrison@noaa.gov	SEFSC Atlantic surveys, 1998	7/9/1998	8/20/1998	continuous time strip	boat	Marine mammal survey.	Summer Atlantic Ocean Marine Mammal Survey; NOAA Ship Relentless Cruise RS 98-01 (3).
31	SEFSC1999	Lance Garrison	lance.garrison@noaa.gov	SEFSC Atlantic surveys, 1999	8/9/1999	9/25/1999	continuous time strip	boat	To evaluate abundance, distribution and stock structure of cetaceans in southeastern U.S. Atlantic waters.	An Atlantic Ocean ship survey was conducted by NOAA Southeast Fisheries Science Center to evaluate abundance, distribution and stock structure of cetaceans in southeastern U.S. Atlantic waters. Data gathered on this survey will provide abundance estimates for calculating the Potential Biological Removal for U.S. Atlantic waters as required by the 1994 amendments to the Marine Mammal Protection Act. During the 32 survey days, at least 12 cetacean species were sighted, including Atlantic spotted dolphin Bottlenose dolphin Clymene dolphin Common dolphin Fraser's dolphin Melon-headed whale Pantropical spotted dolphin Pilot whale Risso's dolphin Rough-toothed dolphin Sperm whale Striped dolphin The dataset is accompanied by transect data which is provided as a separate file.