

**Long Island Sound Blue Plan – Potential Data Products Review**  
**Birds**  
**September 27, 2017; 3-4:30pm**

**Objectives:**

- Obtain feedback and input on the existing datasets assembled by the Blue Plan team (i.e., compiled in the rapid assessment) considering their accuracy, representativeness, and relevance to LIS ecosystem
- Discuss data categories that do not meet above criteria, or supported by fewer datasets and identify steps to improve existing data products &/or additional data sources

**Materials:**

- Map book of data templates relevant to existing LIS bird data (pages 2-19)

**Call in:** +1-415-655-0002 | **Meeting #** 641 308 385

**Webinar link:** <https://uconn-cmr.webex.com/uconn-cmr/j.php?MTID=m5fadfdabca9b1186600d7d7ef3ab327b>

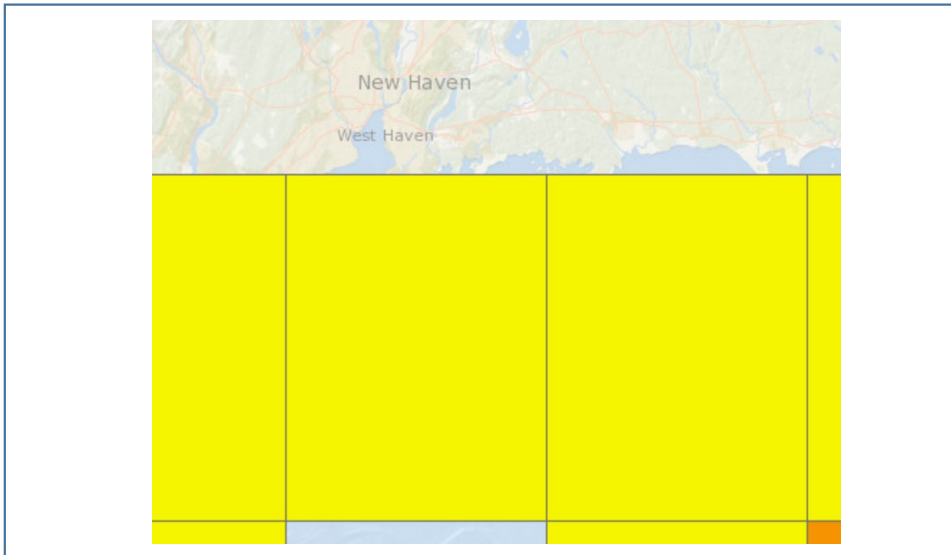
**Agenda**

1. Welcome, introductions (Nathan Frohling, TNC, Blue Plan Advisory Committee) – 15 minutes
  - Roll call
  - Long Island Sound Blue Plan and data assessment process
  - Role of this group/purpose of call
  - Timeline
2. General data considerations and criteria (Kevin O'Brien, CT DEEP) – 10 minutes
  - Pre-Blue Plan inventorying (bi-state efforts)
  - Initial Blue Plan efforts (focus on existing on-line resources)
  - Data organization/triage (prelim vetting to ID best/most appropriate data to engage experts/stakeholders)
3. LIS birds data (Kevin O'Brien) – 10 minutes
  - Summary of datasets in-hand (see map book)
4. Group discussion, topics include: (Emily Shumchenia, Consultant & Kevin O'Brien) - 45 minutes
  - Feedback re accuracy, relevance, representativeness
  - Best available data is NOAA ESI (2016), but spatial resolution is poor
  - Opportunities and limitations of NY Bight/Atlantic coast avian models
  - Saltmarsh Habitat Avian Research Program (SHARP) data
  - Important Bird Areas
  - Availability of SPUE or other observational data
  - What is missing? Additional data &/or improving existing data sets
5. Summary and next steps (Nathan & Emily - 10 minutes)

**Long Island Sound Blue Plan – Potential Data Products Review**  
Birds

Map Book Table of Contents

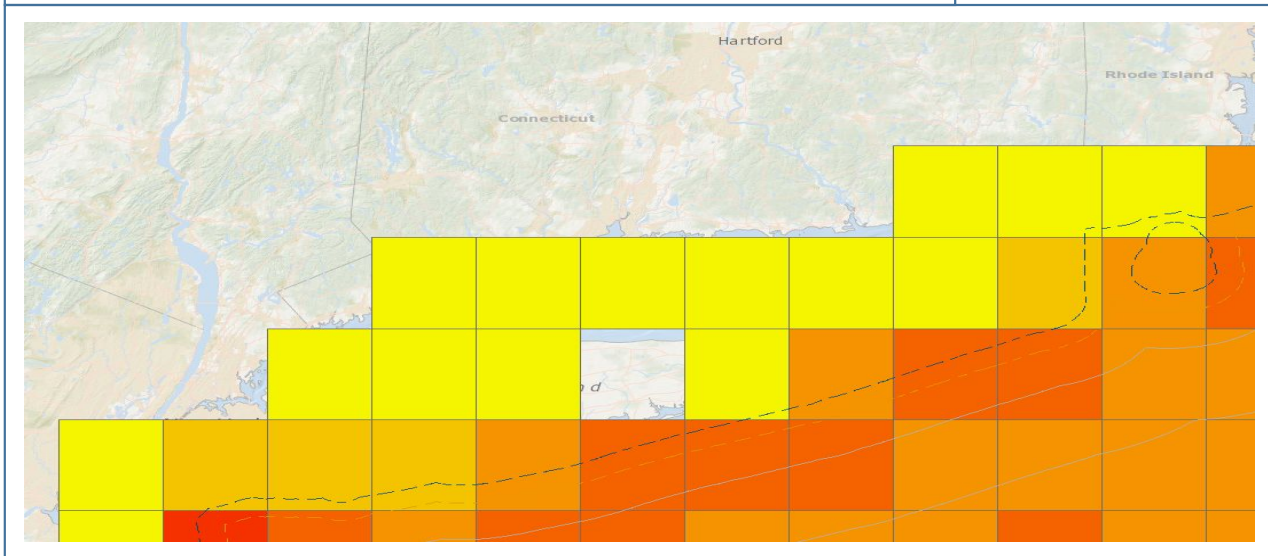
1. Atlantic Offshore Seabird Dataset Catalog (BOEM-USFWS-USGS)
2. NOAA ESI (Environmental Sensitivity Index) Birds
3. Northern Fulmar Predicted Relative Abundance (Summer example, from NY Bight Biogeographical Assessment)
4. Northern Fulmar Model Certainty (Spring example, from NY Bight Biogeographical Assessment)
5. Pomarine Jaeger Predicted Relative Abundance (Summer example, from NY Bight Biogeographical Assessment)
6. Pomarine Jaeger Model Certainty (Fall example, from NY Bight Biogeographical Assessment)
7. Seabirds – Survey Sample Locations (used in NY Bight Biogeographical Assessment)
8. Waterfowl Habitat (from CT Aquaculture Mapping Atlas)



# Atlantic Offshore Seabird Dataset Catalog

Marine Cadastre National Viewer

**Source:** the Bureau of Ocean Energy Management's (BOEM) Environmental Studies Program, the U.S. Fish and Wildlife Service's (USFWS) Division of Migratory Bird Management, and the U.S. Geological Survey's (USGS) Patuxent Wildlife Research Center



### LEGEND PATCH

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- 50.000001 - 100.000000
- 100.000001 - 250.000000
- 250.000001 - 500.000000
- 500.000001 - 1000.000000
- 1000.000001 - 7881.603264



# Atlantic Offshore Seabird Dataset Catalog



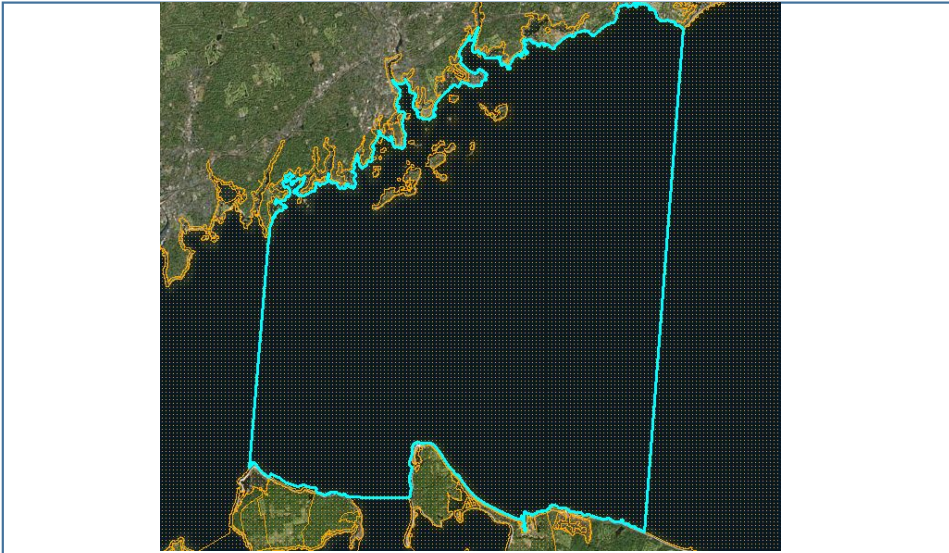
**Blue Plan Sector(s):** Living Resources/Animals/Birds

**Summary Description:** Several bureaus within the Department of Interior compiled available information from seabird observation datasets from the Atlantic Outer Continental Shelf into a single database, with the goal of conducting research and informing coastal and offshore planning activities. The cooperators were the Bureau of Ocean Energy Management's (BOEM) Environmental Studies Program, the U.S. Fish and Wildlife Service's (USFWS) Division of Migratory Bird Management, and the U.S. Geological Survey's (USGS) Patuxent Wildlife Research Center. The resulting product is the Atlantic Offshore Seabird Dataset Catalog, which characterizes the survey effort and bird observations that have been collected across space and time. Currently, the database contains ~60 datasets from 1906-2009 with over 260,000 records of seabird observations. Currently, the database is based on ~60 datasets from 1906-2009 with over 260,000 records of seabird observations. Summary maps provided as web services (see linkage) include representations of survey effort and bird detections. Effort was standardized into "five minute equivalents" so that both discrete and continuous transect data could be combined. This unit is essentially "five minutes of survey effort from a vessel traveling 10 knots." Species data were prepared for occurrence maps by adjusting counts using these five minute equivalents. The resulting species maps are referred to as "Naive occurrence maps" because, although some effort standardization has been applied, there are no corrections for biases introduced by differences in survey methodology, observers, and species detectability.

**Full Description:**

<https://catalog.data.gov/harvest/object/c3a8d38c-fe5b-4e17-bec7-5c294de7ca6e/html/original>

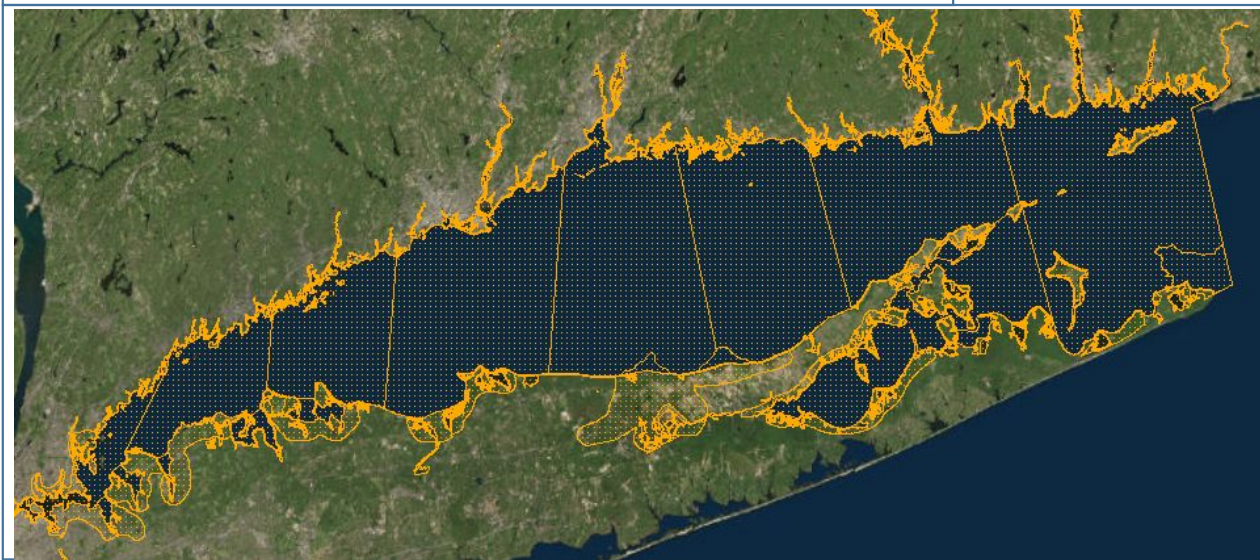
**Access Instructions:** <https://marinecadastre.gov/nationalviewer/>, enter "Atlantic Offshore Seabird" into filter box



## NOAA ESI Birds

*Data not currently available online*

**Source:** NOAA Office of Response and Restoration





## NOAA ESI Birds



**Blue Plan Sector(s):** Living Resources > Animals > Birds

**Summary Description:** Birds displayed in this atlas include: alcids, diving birds, gulls, terns, passerines, pelagic birds, raptors, shorebirds, wading birds, and waterfowl. Species that are federally and state listed, and those that are considered at risk due to oil spills or other potential disasters are included. Particular focus was paid to identifying “special use areas” such as migratory or wintering areas, nesting sites, concentration areas, roosting areas, and vulnerable occurrences. *Colonial waterbirds, shorebirds, and wading birds* – Data for this species group came primarily from US Fish and Wildlife Service, New York Natural Heritage Program, Saltmarsh Habitat and Avian Research Program, Connecticut Natural Diversity Database, International Shorebird Survey, and New York State Significant Coastal Fish and Wildlife Habitats. *Waterfowl* – Data for these species came primarily from US Fish and Wildlife Service, Mid-Winter Waterfowl Survey, the US Geological Survey Compendium of Avian Occurrence Information, and New York Significant Coastal Fish and Wildlife Habitats. *Seabirds* – Data on the distribution of Seabirds was primarily provided by the US Geological Survey Compendium of Avian Occurrence Information.

Though the data will be useful for many shoreline applications, the goal of the ESI data is to present a concise summary of resources that may be particularly vulnerable to spilled oil. The intent of the data should caveat other uses. As an example, the ESI is not intended to present a catalog or comprehensive listing of species present in an area, rather the focus is on species particularly sensitive to oiling and life stages where vulnerability may increase.

**Full Description:** not available as individual file; can be accessed as part of larger data download located here: <http://response.restoration.noaa.gov/maps-and-spatial-data/download-esi-maps-and-gis-data.html#Connecticut>

**Access Instructions:** data not currently available via online viewer; can be accessed as part of larger data download located here: <http://response.restoration.noaa.gov/maps-and-spatial-data/download-esi-maps-and-gis-data.html#Connecticut>

# NOAA ESI Birds



Sustainable Ecosystems - Compatible Uses

**Biofile data example:** ESI uses a relational database structure to link many species records to a single area. The multiple records below correspond to the single selected area in the zoomed in map sample.

ELEMENT	SUBELEMENT	NAME	GEN_SPEC	S	F	STATE	S_DATE	F_DATE	GRANKDATE	MAPPING_QUALIFIER	CONC	SEAS_SUM	BREED1	BREED2	BREED3	BREED4	BREED5	RARNUM *	G_SOURCE	S_SOURCE
BIRD	diving	Common loon	Gavia immer	C/		CT/NY	2016	0	200412	GENERAL DISTRIBUTION	10s	Jan-Dec	-	-	-	-	-	283000018	28300302	28300311
BIRD	diving	Red-throated loon	Gavia stellata				0	0	200412	GENERAL DISTRIBUTION	4	Oct-Apr	-	-	-	-	-	283000018	28300303	28300311
BIRD	diving	Horned grebe	Podiceps auritus				0	0	201503	GENERAL DISTRIBUTION	10s	Oct-May	-	-	-	-	-	283000018	28300302	28300311
BIRD	diving	Double-crested cormorant	Phalacrocorax auritus				0	0	201503	GENERAL DISTRIBUTION	PRESENT	Jan-Dec	Mar-Aug	-	-	-	-	283000018	28300303	28300311
BIRD	waterfowl	Canada goose	Branta canadensis				0	0	201503	GENERAL DISTRIBUTION	100s	Jan-Dec	Mar-Aug	Jan-Dec	-	-	-	283000018	28300302	28300311
BIRD	waterfowl	Mallard	Anas platyrhynchos				0	0	200412	GENERAL DISTRIBUTION	100s	Jan-Dec	Mar-Aug	-	-	-	-	283000018	28300302	28300311
BIRD	waterfowl	Green-winged teal	Anas crecca				0	0	201503	GENERAL DISTRIBUTION	10s	Sep-Apr	-	Mar-Apr	Sep-Oct	-	-	283000018	28300302	28300311
BIRD	waterfowl	Canvasback	Aythya valisineria				0	0	201503	GENERAL DISTRIBUTION	100s	Nov-Apr	-	-	-	-	-	283000018	28300302	28300311
BIRD	waterfowl	Greater scaup	Aythya marila				0	0	200412	GENERAL DISTRIBUTION	100s	Sep-May	-	-	-	-	-	283000018	28300302	28300311
BIRD	waterfowl	Lesser scaup	Aythya affinis				0	0	200412	GENERAL DISTRIBUTION	10s	Oct-Apr	-	-	-	-	-	283000018	28300302	28300311
BIRD	waterfowl	Common goldeneye	Bucephala clangula				0	0	200412	GENERAL DISTRIBUTION	10s	Nov-Apr	-	Nov-Apr	-	-	-	283000018	28300303	28300311
BIRD	waterfowl	Bufflehead	Bucephala albeola				0	0	201503	GENERAL DISTRIBUTION	100s	Oct-Jun	-	Oct-Jun	-	-	-	283000018	28300302	28300311
BIRD	waterfowl	Long-tailed duck	Clangula hyemalis				0	0	201503	GENERAL DISTRIBUTION	100s	Oct-May	-	-	-	-	-	283000018	28300302	28300311
BIRD	waterfowl	White-winged scoter	Melanitta fusca				0	0	200412	GENERAL DISTRIBUTION	10s	Sep-May	-	Sep-May	-	-	-	283000018	28300302	28300311
BIRD	waterfowl	Surf scoter	Melanitta perspicillata				0	0	200412	GENERAL DISTRIBUTION	10s	Oct-May	-	-	-	-	-	283000018	28300302	28300311
BIRD	waterfowl	Common merganser	Mergus merganser				0	0	200412	GENERAL DISTRIBUTION	10s	Nov-Apr	-	-	-	-	-	283000018	28300303	28300311
BIRD	waterfowl	Red-breasted merganser	Mergus serrator				0	0	200412	GENERAL DISTRIBUTION	10s	Oct-May	-	-	-	-	-	283000018	28300302	28300311
BIRD	gull_tern	Herring gull	Larus argentatus				0	0	200412	GENERAL DISTRIBUTION	100s	Jan-Dec	Mar-Aug	-	-	-	-	283000018	28300303	28300311
BIRD	gull_tern	Ring-billed gull	Larus delawarensis				0	0	200412	GENERAL DISTRIBUTION	100s	Jan-Dec	-	-	-	-	-	283000018	28300303	28300311
BIRD	gull_tern	Common tern	Sterna hirundo	E/T		CT/NY	2016	0	200412	GENERAL DISTRIBUTION	PRESENT	May-Oct	May-Aug	-	-	-	-	283000018	28300301	28300311
BIRD	gull_tern	Least tern	Sternula antillarum	T/T		CT/NY	2016	0	201503	GENERAL DISTRIBUTION	PRESENT	Apr-Oct	Apr-Aug	-	-	-	-	283000018	28300301	28300311
BIRD	gull_tern	Great black-backed gull	Larus marinus				0	0	200412	GENERAL DISTRIBUTION	2	Jan-Dec	Mar-Aug	-	-	-	-	283000018	28300303	28300311
BIRD	pelagic	Black-legged kittiwake	Rissa tridactyla				0	0	200412	GENERAL DISTRIBUTION	PRESENT	Nov-Mar	-	-	-	-	-	283000018	28300303	28300311
BIRD	waterfowl	Common eider	Somateria mollissima				0	0	200412	GENERAL DISTRIBUTION	2	Sep-May	Sep-May	-	-	-	-	283000018	28300303	28300311
BIRD	waterfowl	Redhead	Aythya americana				0	0	201503	GENERAL DISTRIBUTION	10s	Nov-Mar	-	Nov-Mar	-	-	-	283000018	28300302	28300311
BIRD	waterfowl	Ruddy duck	Oxyura jamaicensis				0	0	201503	GENERAL DISTRIBUTION	5	Oct-May	-	-	-	-	-	283000018	28300302	28300311
BIRD	shorebird	American oystercatcher	Haematopus palliatus	T/-		CT/NY	2016	0	201503	GENERAL DISTRIBUTION	PRESENT	Mar-Oct	Mar-Aug	-	-	-	-	283000018	28300305	28300311
BIRD	shorebird	Piping plover	Charadrius melodus	T/E T		CT/NY	2016	2016	201503	GENERAL DISTRIBUTION	PRESENT	Mar-Sep	Mar-Aug	-	-	-	-	283000018	28300301	28300311
BIRD	waterfowl	Gadwall	Anas strepera				0	0	201503	GENERAL DISTRIBUTION	100s	Jan-Dec	Jan-Dec	-	-	-	-	283000018	28300302	28300311
BIRD	pelagic	Northern gannet	Morus bassanus				0	0	201503	GENERAL DISTRIBUTION	2	Sep-May	-	-	-	-	-	283000018	28300303	28300311
BIRD	waterfowl	American wigeon	Anas americana				0	0	201503	GENERAL DISTRIBUTION	10s	Sep-May	-	-	-	-	-	283000018	28300302	28300311
BIRD	waterfowl	Ring-necked duck	Aythya collaris				0	0	201503	GENERAL DISTRIBUTION	2	Oct-Apr	-	-	-	-	-	283000018	28300302	28300311
BIRD	waterfowl	American black duck	Anas rubripes				0	0	201503	GENERAL DISTRIBUTION	100s	Sep-May	Apr-May	Mar-Apr	Sep-Nov	-	-	283000018	28300302	28300311
BIRD	waterfowl	Black scoter	Melanitta americana				0	0	200412	GENERAL DISTRIBUTION	2	Sep-May	-	-	-	-	-	283000018	28300303	28300311
BIRD	waterfowl	Hooded merganser	Lophodytes cucullatus				0	0	201503	GENERAL DISTRIBUTION	10s	Oct-Apr	-	-	-	-	-	283000018	28300302	28300311

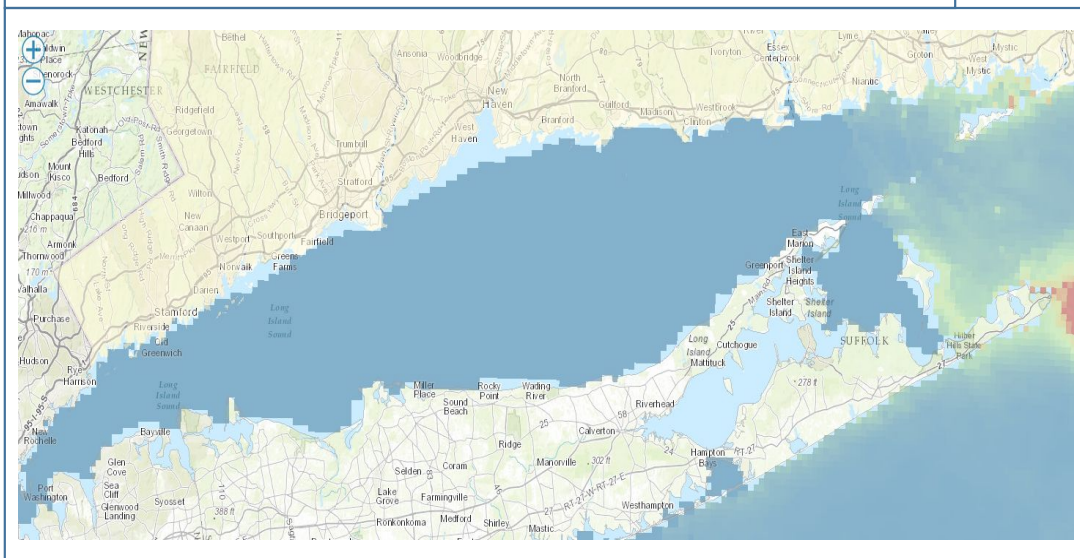
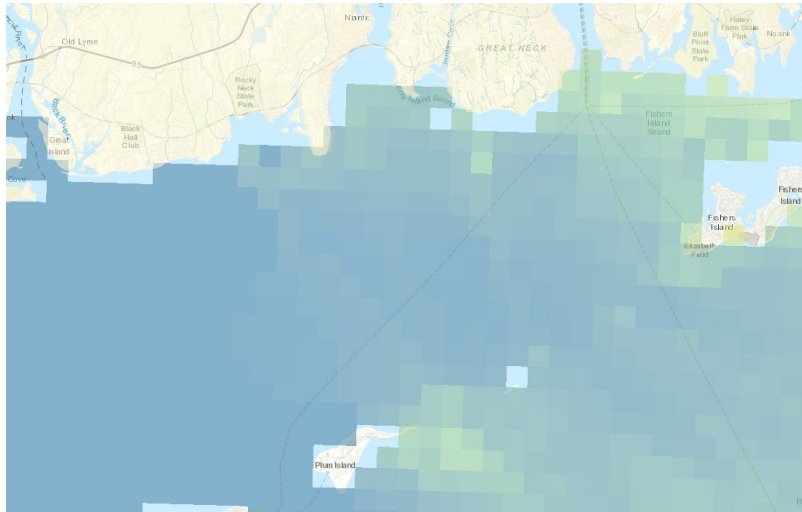


## Northern Fulmar Predicted Relative Abundance - Summer

NY Geographic Information Gateway

**Source:** Department of Commerce (DOC), National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), National Centers for Coastal Ocean Science (NCCOS), Center for Coastal Monitoring and Assessment (CCMA), Biogeography Program

Data also available for other seasons, plus annual totals



Northern Fulmar - Predicted Relative Abundance

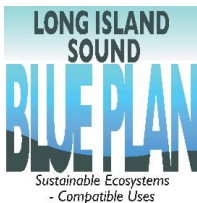
Total Annual

Spring Summer Fall Winter

Transparency:

Legend:

- High : 13 (sightings per unit effort)
- Low : 0





# Northern Fulmar Predictive Relative Abundance - Summer



**Blue Plan Sector(s):** Living Resources/Animals/Birds

**Summary Description:** Abstract: This dataset represents relative seabird abundance predictions from spatial models developed for the New York offshore spatial planning area. Raster values represent the sum of the predicted relative abundance (individuals sighted per km per 15 minutes) for each modeled species across all seasons in which they were modeled. Abundance was treated as zero for all seasons in which a species or group was not modeled. DETAILED METHODS. Seabird sightings data for the offshore planning region were extracted by NOAA NCCOS from the Manomet Bird Observatory's (MBO, now the Manomet Center for Conservation Sciences, or MCCS) Cetacean and Seabird Assessment Program (CSAP) database, which contains over 9,000 survey locations. During these surveys a small number of expert observers were placed on research vessels undertaking a wide variety of work. Seabirds were identified to the most specific taxonomic level possible, usually species, and counted within a fixed strip width of 300 m at one side of a ship as it traveled on a straight course, at a constant speed (generally 8-12 knots). Observations were separated by season, and for each species or group sighting record in each season, the number of individuals of that species observed during the timed survey was divided by the corresponding survey tract area to yield an index of relative abundance that was standardized by both time and area, resulting in SPUE represented as sightings per 15 minutes per sq. km of transect footprint. Based on available high-resolution data coverage within the offshore planning area and previous studies of environmental correlates of seabird distribution and abundance, NOAA NCCOS identified 11 potential environmental predictor variables. These variables were: bottom depth; bottom slope; slope-of-slope; distance from shore; signed distance from shelf; mean sediment grain size; water-column stratification; sea surface temperature; surface turbidity measure; surface chlorophyll-a concentration; and zooplankton biomass. For each season with sufficient data within each species selected for predictive modeling, NOAA NCCOS modeled the transect estimates of SPUE as point samples (located at the centroid of each transect) of two spatial random processes, Stage I and Stage II. Stage I used binary (presence/absence) data from the CSAP surveys and Stage II used relative abundance (i.e., SPUE) observations for each species or group from the same surveys, but did not consider locations where SPUE=0. Within each stage of the model, they used a regression-Kriging framework to account for both seabird-environment relationships and spatial structure. Both Stage I and Stage II models included two components: a trend model that used a generalized linear model (GLM) and incorporated environmental predictors and a geostatistical model that accounted for spatial autocorrelation in the residuals. NCCOS assessed model performance and error via cross-validation, producing numerous statistics for model evaluation. The data used to develop these models do not capture many dynamic aspects of seabird ecology and were collected in the 1980s. Modeling required an assumption that the climatological patterns of ocean conditions have not undergone substantial shifts since then. Finally, survey biases (e.g., detectability) are likely to vary between species. These issues underscore the importance of treating the measures of relative abundance presented here as proxies for underlying patterns. Nonetheless, these maps represent the first high-resolution depiction of spatial patterns in the marine avifauna of New York.

**Purpose:** Seabird abundance predictions were developed by NOAA NCCOS for fourteen species and are intended to be viewed with the corresponding species abundance model uncertainty estimates. Together seabird abundance predictions and uncertainty estimates were made to identify seabird hotspots and coldspots. These data are intended to support New York's offshore spatial planning.

**Full Description:** <http://opdgig.dos.ny.gov/geoportal/catalog/search/resource/detailsnoheader.page?uuid={33EBC8AA-3F40-4CC6-9943-B012092EF58B}>

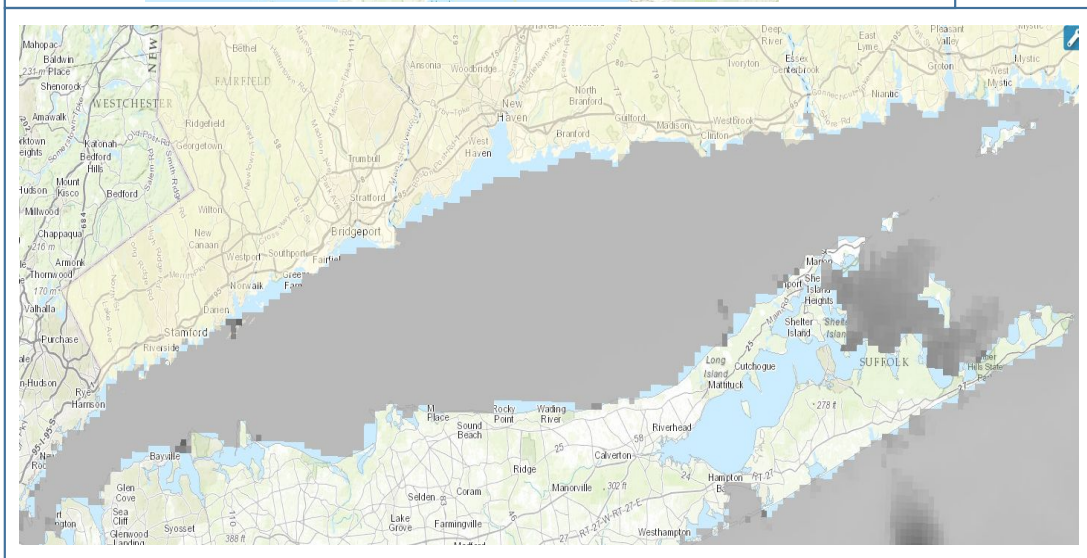
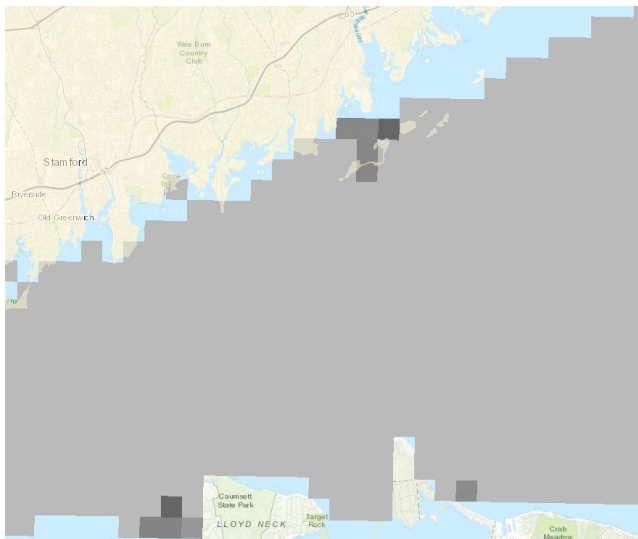
**Access Instructions:** <http://opdgig.dos.ny.gov/#/map> , then Biological/Seabirds. Legend can be used to display other seasons, and total abundance

# Northern Fulmar Model Certainty - Spring

NY Geographic Information Gateway

**Source:** Department of Commerce (DOC), National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), National Centers for Coastal Ocean Science (NCCOS), Center for Coastal Monitoring and Assessment (CCMA), Biogeography Program

Data also available for other seasons, plus annual totals



Northern Fulmar - Model Certainty

Total Annual

Spring Summer Fall Winter

Transparency:

Legend:

- High : 1 (most certain)
- Low : 0 (least certain)



# Northern Fulmar Model Certainty - Spring



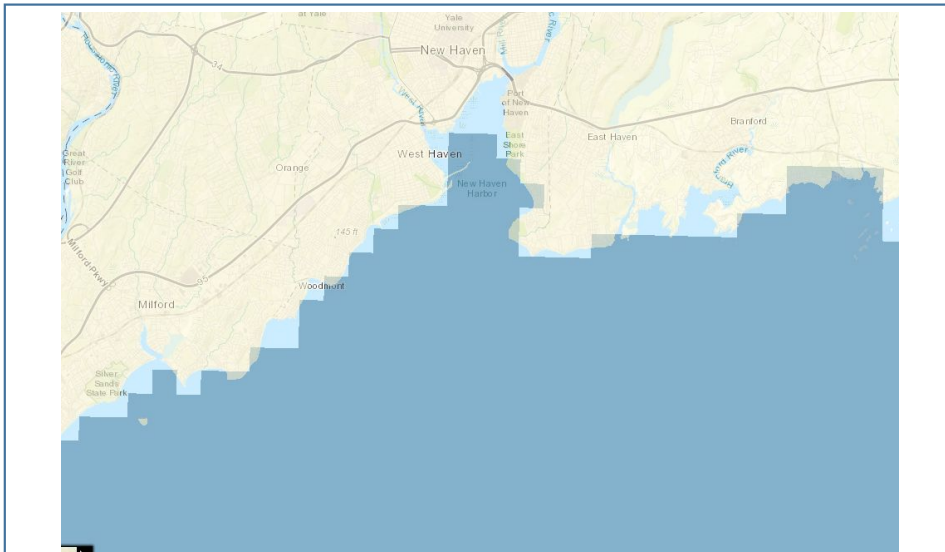
**Blue Plan Sector(s):** Living Resources/Animals/Birds

**Summary Description:** Abstract: This raster was derived from individual species season models. The model also includes spatially-explicit certainty estimates represented in this raster dataset. Raster values represent a dimensionless number scaled between 0 and 1, where values closer to 0 indicate greater certainty. The relative certainty value at each location is the same for all seabird hotspot quantities (abundance, richness, and diversity index), because it is a function of the underlying trend and spatial model certainty for each species/group. Purpose: Seabird predictions were developed to be viewed along with model certainty estimates. Together seabird abundance predictions and certainty estimates were made to identify seabird hotspots and coldspots. These data are intended to support New York's offshore spatial planning.

**Full Description:**

<http://opdgig.dos.ny.gov/geoportal/catalog/search/resource/detailsnoheader.page?uuid={31A339F9-84D4-4E56-A9D6-E42DE0BB8F4A}>

**Access Instructions:** <http://opdgig.dos.ny.gov/#/map>, then Biological/Seabirds Legend can be used to display other seasons, and total abundance

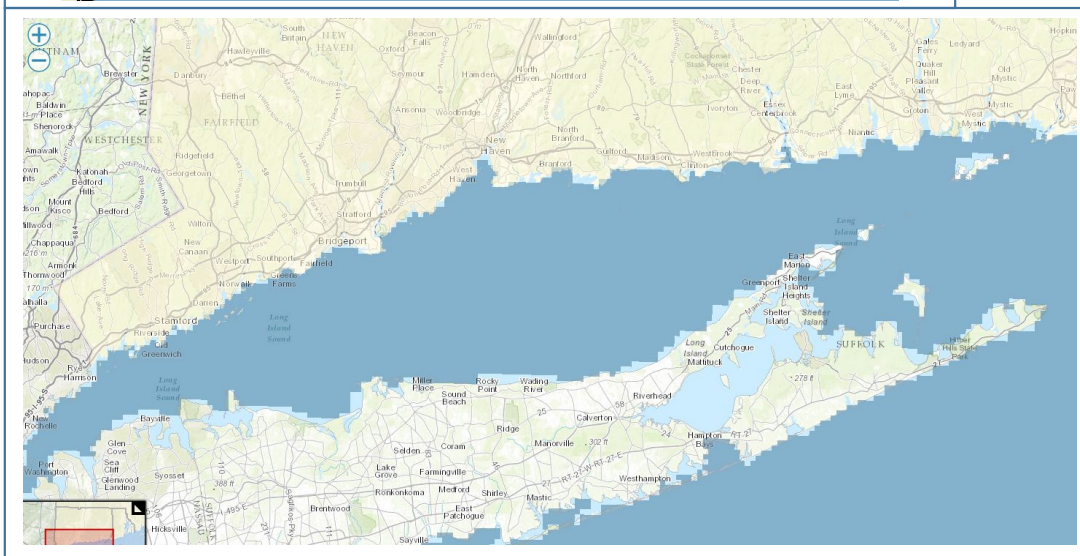


## Pomarine Jaeger Predicted Relative Abundance - Summer

NY Geographic Information Gateway

**Source:** Department of Commerce (DOC), National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), National Centers for Coastal Ocean Science (NCCOS), Center for Coastal Monitoring and Assessment (CCMA), Biogeography Program

No data available for other seasons



Pomarine Jaeger - Predicted Relative Abundance, Fall

Transparency:

Legend:

- High : 43 (sightings per unit effort)
- 
- Low : 0





# Pomarine Jaeger Predictive Relative Abundance - Summer



**Blue Plan Sector(s):** Living Resources/Animals/Birds

**Summary Description:** Abstract: This dataset represents relative seabird abundance predictions from spatial models developed for the New York offshore spatial planning area. Raster values represent the sum of the predicted relative abundance (individuals sighted per km per 15 minutes) for each modeled species across all seasons in which they were modeled. Abundance was treated as zero for all seasons in which a species or group was not modeled. DETAILED METHODS. Seabird sightings data for the offshore planning region were extracted by NOAA NCCOS from the Manomet Bird Observatory's (MBO, now the Manomet Center for Conservation Sciences, or MCCS) Cetacean and Seabird Assessment Program (CSAP) database, which contains over 9,000 survey locations. During these surveys a small number of expert observers were placed on research vessels undertaking a wide variety of work. Seabirds were identified to the most specific taxonomic level possible, usually species, and counted within a fixed strip width of 300 m at one side of a ship as it traveled on a straight course, at a constant speed (generally 8-12 knots). Observations were separated by season, and for each species or group sighting record in each season, the number of individuals of that species observed during the timed survey was divided by the corresponding survey tract area to yield an index of relative abundance that was standardized by both time and area, resulting in SPUE represented as sightings per 15 minutes per sq. km of transect footprint. Based on available high-resolution data coverage within the offshore planning area and previous studies of environmental correlates of seabird distribution and abundance, NOAA NCCOS identified 11 potential environmental predictor variables. These variables were: bottom depth; bottom slope; slope-of-slope; distance from shore; signed distance from shelf; mean sediment grain size; water-column stratification; sea surface temperature; surface turbidity measure; surface chlorophyll-a concentration; and zooplankton biomass. For each season with sufficient data within each species selected for predictive modeling, NOAA NCCOS modeled the transect estimates of SPUE as point samples (located at the centroid of each transect) of two spatial random processes, Stage I and Stage II. Stage I used binary (presence/absence) data from the CSAP surveys and Stage II used relative abundance (i.e., SPUE) observations for each species or group from the same surveys, but did not consider locations where SPUE=0. Within each stage of the model, they used a regression-Kriging framework to account for both seabird-environment relationships and spatial structure. Both Stage I and Stage II models included two components: a trend model that used a generalized linear model (GLM) and incorporated environmental predictors and a geostatistical model that accounted for spatial autocorrelation in the residuals. NCCOS assessed model performance and error via cross-validation, producing numerous statistics for model evaluation. The data used to develop these models do not capture many dynamic aspects of seabird ecology and were collected in the 1980s. Modeling required an assumption that the climatological patterns of ocean conditions have not undergone substantial shifts since then. Finally, survey biases (e.g., detectability) are likely to vary between species. These issues underscore the importance of treating the measures of relative abundance presented here as proxies for underlying patterns. Nonetheless, these maps represent the first high-resolution depiction of spatial patterns in the marine avifauna of New York.

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**Full Description:** <http://opdgig.dos.ny.gov/geoportal/catalog/search/resource/detailsnoheader.page?uuid={D0DAD19D-2CF0-4C1E-B9E3-7DE62FFB56F0}>

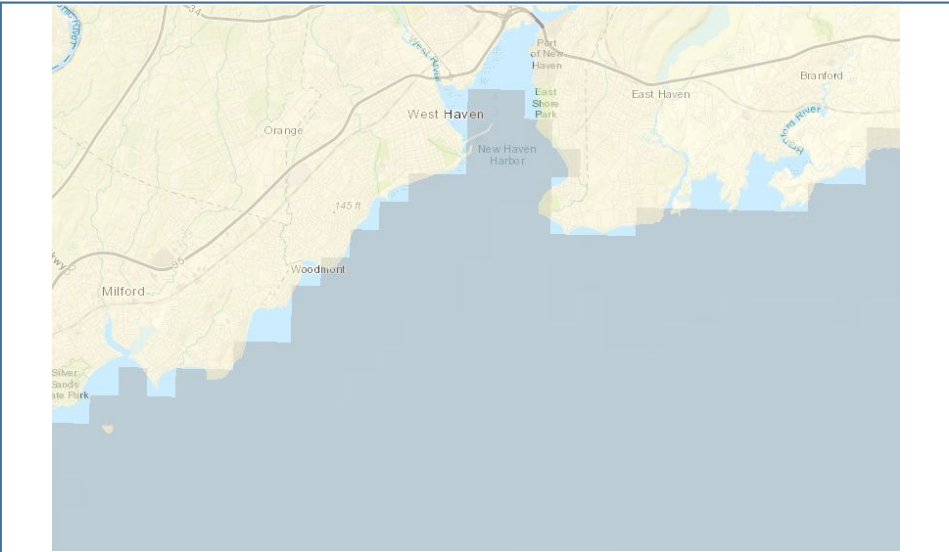
**Access Instructions:** <http://opdgig.dos.ny.gov/#/map>, then Biological/Seabirds.

# Pomarine Jaeger Model Certainty - Fall

NY Geographic Information Gateway

**Source:** Department of Commerce (DOC), National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), National Centers for Coastal Ocean Science (NCCOS), Center for Coastal Monitoring and Assessment (CCMA), Biogeography Program

**NOTE -** No data available for other seasons



Pomarine Jaeger - Model Certainty, Fall

Transparency:

Legend:

- High : 1 (most certain)
- Low : 0 (least certain)



# Pomarine Jaeger Model Certainty - Fall



**Blue Plan Sector(s):** Living Resources/Animals/Birds

**Summary Description:** Abstract: This raster was derived from individual species season models. The model also includes spatially-explicit certainty estimates represented in this raster dataset. Raster values represent a dimensionless number scaled between 0 and 1, where values closer to 0 indicate greater certainty. The relative certainty value at each location is the same for all seabird hotspot quantities (abundance, richness, and diversity index), because it is a function of the underlying trend and spatial model certainty for each species/group. Purpose: These seabird predictions were developed to be viewed along with model certainty estimates. Together seabird abundance predictions and certainty estimates were made to identify seabird hotspots and coldspots. These data are intended to support New York's offshore spatial planning.

**Full Description:**

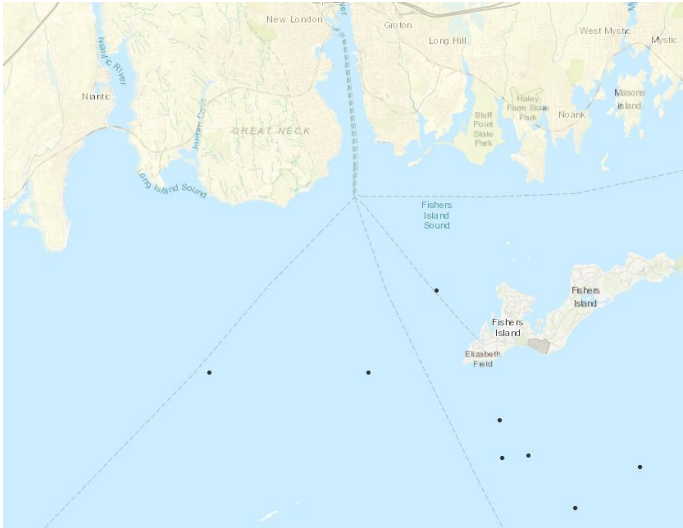
<http://opdgig.dos.ny.gov/geoportal/catalog/search/resource/detailsnoheader.page?uuid={88C57F85-C113-4C23-B3A3-2BB15F057A9B}>

**Access Instructions:** <http://opdgig.dos.ny.gov/#/map>, then Biological/Seabirds

# Seabirds – Survey Sample Locations

NY Geographic Information Gateway

Source: NOAA/NOS/NCCOS/CCMA Biogeography Branch



Seabirds - Survey Sample Locations

Legend:

- Seabirds - Survey Sample Locations (checked box)
- Transparency: (slider)





## Seabirds – Survey Sample Locations

**Blue Plan Sector(s)**: Living Resources/Animals/Birds

**Summary Description**: Abstract: Seabird sightings data for the offshore planning region were extracted by NOAA NCCOS from the Manomet Bird Observatory's (MBO, now the Manomet Center for Conservation Sciences, or M CCS) Cetacean and Seabird Assessment Program (CSAP) database and span from 1980 to 1988. During these surveys a small number of expert observers were placed on research vessels undertaking a wide variety of work. Seabirds were identified to the most specific taxonomic level possible, usually species, and counted within a fixed strip width of 300 m at one side of a ship as it traveled on a straight course, at a constant speed (generally 8-12 knots). Observations were separated by season, and for each species or group sighting record in each season, the number of individuals of that species observed during the timed survey was divided by the corresponding survey tract area to yield an index of relative abundance that was standardized by both time and area, resulting in SPUE represented as sightings per 15 minutes per sq. km of transect footprint.

Purpose: Seabird sightings data extracted by NOAA NCCOS from the Manomet Bird Observatory's (MBO, now the Manomet Center for Conservation Sciences, or M CCS) Cetacean and Seabird Assessment Program. These data were used by NOAA NCCOS to develop predictive models of seabird abundance and distribution in order to support New York's offshore spatial planning.

**Full Description**:

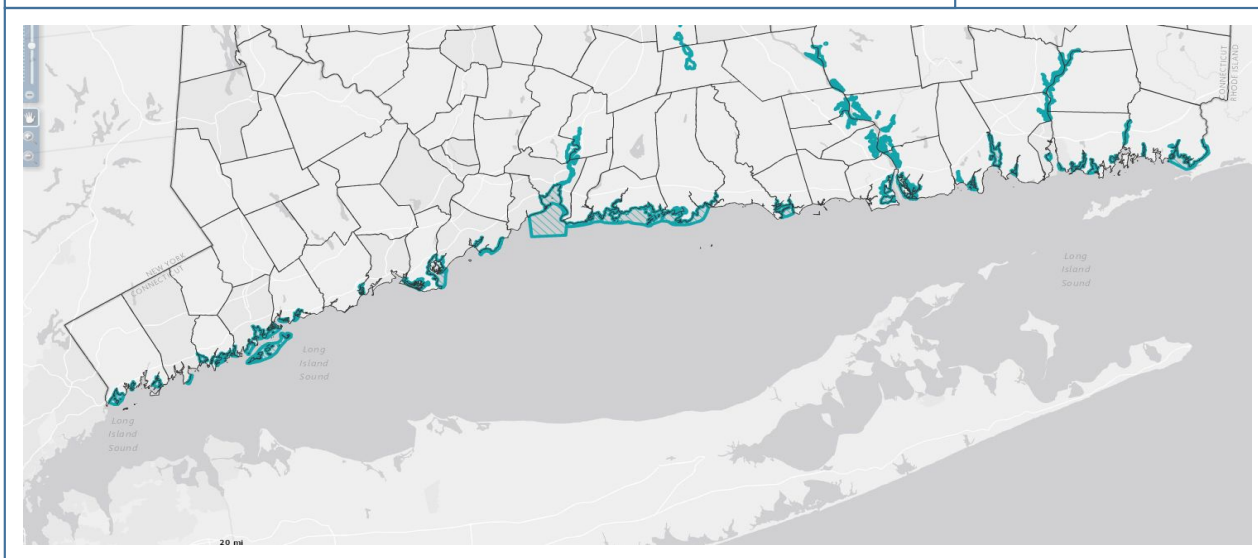
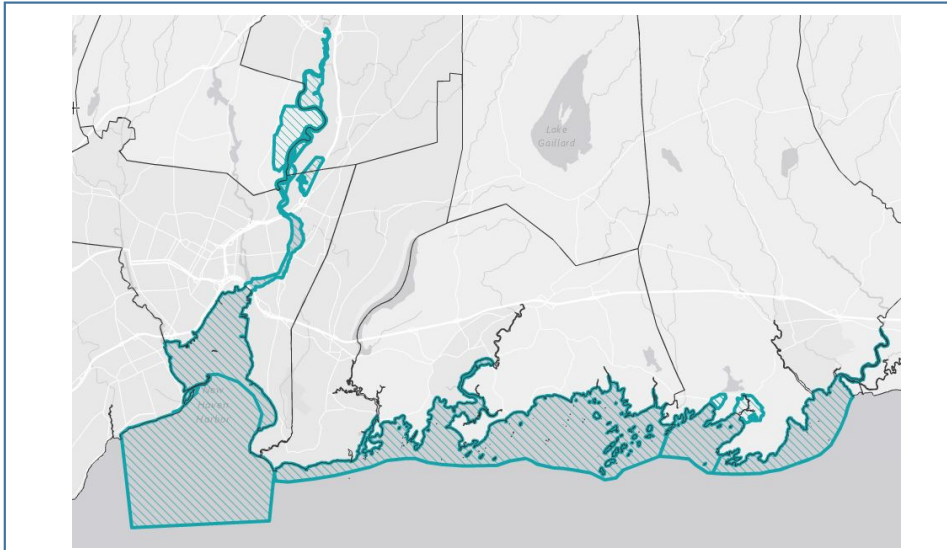
<http://opdgig.dos.ny.gov/geoportal/catalog/search/resource/detailsnoheader.page?uuid={ECA64EBA-AB9D-4EB8-9F93-DE047C7DDD1B}>

**Access Instructions**: <http://opdgig.dos.ny.gov/#/map> then Biological/Seabirds

# Waterfowl Habitat

The Aquaculture Mapping Atlas

**Source:** State of Connecticut, Department of Environmental Protection



# Waterfowl Habitats



**Blue Plan Sector(s):** Living Resources/Animals/Birds

**Summary Description:** **Abstract:** Migratory Waterfowl is a 1:24,000-scale, polygon feature-based layer that depicts the concentration areas of migratory waterfowl at specific locations within Connecticut. Paul Merola, former DEP Wildlife Biologist, and Greg Chasko, DEP Wildlife Biologist, identified the migratory waterfowl concentration areas based on the Northeast Coastal Areas Study, Joseph Dowhan, 1991 (see Supplemental Information) as well as by using midwinter surveys, breeding surveys and personal observations. The concentration areas are primarily found along the shoreline and the lower tributaries and wetlands of major Connecticut rivers. In addition to depicting the concentration areas, the potential waterfowl species associated with each polygon have been identified and are listed in the attribute table as boolean values indicating their presence or absence. The intent of this datalayer is to assist in the identification of migratory waterfowl resource areas in the event of an oil spill or other condition that might be a threat to waterfowl species. This layer identifies conditions at a particular point in time. It is not updated and it is not a complete representation of all areas of migratory waterfowl in Connecticut. **Purpose:** Migratory Waterfowl is 1:24,000-scale data. It depicts concentration areas of migratory waterfowl in Connecticut. The intent of this datalayer is to assist in the identification of migratory waterfowl resource areas in the event of an oil spill or other condition that might be a threat to waterfowl species. This layer is not intended for maps printed at map scales greater or more detailed than 1:24,000 scale (1 inch = 2,000 feet.) This layer was produced in conjunction with a study prepared for the U.S. Fish and Wildlife Service. The results of the study are detailed in the final report entitled "Final Report Northeast Coastal Areas Study: Significant Coastal Habitats of Southern New England and Portions of Long Island, New York", dated August 1991, authored by Joseph Dowhan, U.S. Fish and Wildlife Service, Northeast Estuary Office, Charlestown, Rhode Island. The report can be accessed online at <http://training.fws.gov/library/pubs5/necas/begin.htm>.

**Full Description:** [http://www.cteco.uconn.edu/metadata/dep/document/MIGRATORY\\_WATERFOWL\\_FGDC\\_Plus.htm](http://www.cteco.uconn.edu/metadata/dep/document/MIGRATORY_WATERFOWL_FGDC_Plus.htm)

**Access Instructions:** <http://clear3.uconn.edu/aquaculture/>, scroll down to Waterfowl Habitat.