

Avian Work Group Meeting #1 Friday, August 1; 1:00pm – 2:30pm

Participants

Work Group: Linda Welch (USFWS - Maine Coastal Islands NWR), Scott Johnston & Jeff Leirness (USFWS), David Bigger (BOEM), Dan Dorfman (NOAA), Tom French (MA Division of Fisheries and Wildlife), Wing Goodale & Andrew Gilbert (BRI), Chris Elphick (UConn), Jay Odell (TNC), Holly Goyert (N.C. State)

Marine Life Data & Analysis Team (MDAT): Pat Halpin (Duke), Jesse Cleary (Duke), Corrie Curtice (Duke), Earvin Balderama (Loyola), Brian Kinlan (NOAA), Arliss Winship (NOAA)

NROC: Nick Napoli, Emily Shumchenia, Katie Lund

Introductions, regional ocean planning background, the role of this work group

Nick began the meeting by providing the ocean planning background and context. The June 25th Natural Resource Workshop was an opportunity to discuss the cross-cutting issues related to creating new marine life spatial data products with a broad audience (see table distributed with meeting materials). The goal of this expert work group is to inform MDAT's development of these new distribution and abundance products over the next year and to help identify longer-term priorities for marine life spatial data products. The intent is to have this group meeting every 4-6 weeks through the end of the year, with an eye towards preparing for public meetings in October and the November RPB meeting.

“Developing an analysis plan for avian data in the Northeast” – presentation by Brian Kinlan – link to powerpoint

Using this presentation as a template and incorporating feedback from this call, the MDAT will develop an analysis plan for avian data in the Northeast and present it during the next Avian Working Group call. The following are the topics covered and resulting discussions from this initial presentation.

Data sources

The Compendium of Avian Occurrence (detailed document distributed with meeting material) is current as of Aug. 1, 2014 and includes data from ~80 at-sea scientific surveys. MDAT provided a list of species for the Atlantic coast in the Compendium along with the number of observations per species per season (also distributed with meeting materials).

- **Work group members are encouraged to review the Compendium data sources and send any additional data sources or any other comments about data sources to MDAT:**
northeast_marinelife_data@duke.edu

Temporal resolution of products

The work group discussed the temporal resolution of MDAT's current modeling techniques, specifically why observations are separated into four seasons when distribution/abundance changes are more in accordance with breeding/nonbreeding seasons.

MDAT provided several reasons: Birds respond to environmental variables, which are used as predictors of distribution/abundance in the NOAA NCCOS models. These environmental variables show seasonality,

and the birds' response to them is variable among seasons. In addition, it is prohibitively detailed to determine breeding/nonbreeding seasons for each individually modeled species and then customize a unique suite of environmental predictor variables for each. Lastly, the NOAA NCCOS models trade high spatial resolution for lower temporal resolution – grid cells are 2 km and temporal window is seasons. The models developed by the Loyola group do the opposite – grid cells are larger (4 km) but temporal window is monthly.

- **MDAT will consider the temporal resolution of outputs and potential integration with other modeling efforts. The next work group call will include a more in-depth discussion of MDAT's modeling approach**

Focal/priority species

In addition to the species list provided by the MDAT team based on data in-hand, Emily developed a species list for the Northeast based on existing regulatory mandates and other considerations (both distributed with meeting materials). This list includes 112 species.

The work group discussed several criteria for determining focal/priority species, including conservation status, vulnerability and rarity. While maps of species grouped by vulnerability would be useful for decision making, there are numerous approaches to estimating vulnerability, all are complex with levels of certainty highly dependent on the underlying data (e.g., BOEM/Stantec avian vulnerability study, BOEM effort to create wind energy vulnerability index, indices for oil spill vulnerability, etc.). In all of these approaches, robust distribution/abundance maps are a critical first step.

- **Consider vulnerability groupings or species priorities once the limitations of the data are better understood and distribution/abundance maps are developed**

The discussion about rarity as a criterion for prioritizing certain species highlighted potential problems when attempting to model the distribution/abundance of species with few observations. The work group discussed other techniques to deal with low numbers of observations but these were decidedly not viable for this large of a modeling effort. The group also discussed ways to group species (e.g., by guilds or functional groups) in order to increase the number of available observations.

- **MDAT will assess their ability to model each of the 112 species in the Northeast based on data in-hand and will propose groupings of species (if any) that may increase model robustness**
- **Work group members are encouraged to send feedback to MDAT about selecting focal species and potential species groupings: northeast_marinelife_data@duke.edu**

Shore and Land Birds

MDAT's current models likely do not predict marsh and shorebirds well because of the low availability of environmental predictor variables in embayments and estuaries (e.g., LIS). Therefore other methods and/or collaborations with existing efforts need to be considered for these species and areas. One consideration is to map (rather than model) the colonial waterbird data from the Avian Compendium.

The work group also discussed collaborations with other existing efforts. Chris Elphick mentioned that the Saltmarsh Habitat Avian Research Program (SHARP – www.tidalmarshbirds.net) is planning to model eight marsh bird species in the Northeast region by mid-2015. There is also an opportunity to coordinate on-shore and near shore avian mapping with the Natural Heritage Programs.

- **MDAT to understand outputs from SHARP and consider potential collaboration/integration regarding marsh species**
- **MDAT to follow up with Natural Heritage Programs to identify data sources and understand potential opportunities**

Geographic extent

The Northeast region extends from Long Island Sound and the waters south of Rhode Island and MA through the Gulf of Maine. MDAT and staff will consider connections with the Mid-Atlantic region as the project progresses.

Other product options

The work group ran out of time to before discussing other spatial, temporal, and parameter (probability of occurrence, abundance, quantiles) options. These options will be discussed in more detail during the next call.

Next work group call

Scheduling for the next call in mid-September will go out shortly. The next call will focus on MDAT's assessment of those species that can be modeled using their existing techniques, opportunities to map or collaborate with ongoing efforts to map priority species that cannot be modeled, and more in-depth consideration of MDAT's modeling techniques and potential outputs.