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27 November 2018

Public Comments Processing
Attn: FWS–R4–ES–2018–0043
U.S. Fish and Wildlife Service
MS: BHPC
5275 Leesburg Pike
Falls Church, VA 22041–3803.

RE: Comments about the proposed ruling to list the Black-capped Petrel as a threatened species under the Endangered Species Act: WS–R4–ES–2018–0043

To Whom It May Concern,

As a wildlife biologist at Clemson University, Clemson, South Carolina, I have been studying the spatial ecology and marine conservation of the Black-capped Petrel (*Pterodroma hasitata*) since 2014. Following the request by the U.S. Fish and Wildlife Service (USFWS) for information and public comments concerning the proposition to list the Black-capped Petrel as a threatened species under the Endangered Species Act (ESA), I hereby offer additional information about the marine ecology of the species (Part I, below), and I provide comments about the Proposed Rule (Part II, below).

Although I support the decision by the USFWS to list the Black-capped Petrel under the ESA, I strongly regret that the Service did not propose to list the species as endangered. Given that the species' primary foraging and wintering habitat is located under U.S. jurisdiction, I also regret the lack of designation of critical habitat. Recent surveys in Hispaniola have shown that the fragmented population is declining despite conservation efforts. Also, predictive models built by the USFWS to inform the Proposed Rule have shown a very low future resiliency for the species. Listing the Black-capped Petrel as threatened under the ESA will not provide enough protection to the species in its U.S. habitat (which includes the territorial waters and exclusive economic zone of the continental U.S. and Puerto Rico) nor will it offer mitigation for eventual incidental losses occurring under U.S. jurisdiction.

I hope that the supporting information and comments provided here will help better assess the definition of critical habitat and review the Proposed Rule.

Sincerely,

Yvan Satgé

PART I: ADDITIONAL INFORMATION CONCERNING THE BLACK-CAPPED PETREL

I believe that the information I provide here was not used by or not available to the authors and reviewers of the "Species Status Assessment Report for the Black-capped Petrel (*Pterodroma hasitata*)" (USFWS 2018, used to inform the Proposed Rule) at the time of writing and peer-review.

⬆ Overlap with longline and trawling fisheries

Methods: I conducted a preliminary assessment of the possible overlap between Black-capped Petrels and commercial fisheries. Data on the location of fishing activity by commercial vessels carrying an Automatic Identification System (AIS) has been made publically available recently (for 2012-2016; Global Fishing Watch 2018). The dataset provides fishing effort (fishing hours per 0.01-degrees cells) and fishing vessels are classified into six categories: drifting longlines, purse seines, trawlers, fixed gear (includes set longlines, set gillnets, and pots and traps), squid jiggers, and other fishing gear. I downloaded the fisheries raster datasets using open code provided by Global Fishing Watch for Google Earth Engine queries. In a GIS framework in R (R Core Team 2016), I overlapped the locations of Black-capped Petrel observations during at-sea surveys (O'Connell et al. 2009) for the period 2012-2016, and of satellite tracked Black-capped Petrels from Jodice et al. (2015). In Figures 1 and 2 below, I present results for the two types of fisheries most likely to pose a threat to Black-capped Petrel: longline and trawling fisheries.

Discussion: In the Atlantic and Caribbean basins it appears that the foraging ranges of Black-capped Petrels overlap with pelagic fisheries (Figures 1-4). The drifting longline and trawling fisheries show hotspots of activity in the U.S. South Atlantic Bight north of the Blake Spur, an area of high use by Black-capped Petrel (Figures 1 and 2). In the Caribbean, the area west of the Guajira upwelling utilized by all birds in Jodice et al. (2015) also supports drifting longline fisheries, and trawling (Figures 3 and 4). No reports exist of Black-capped Petrel mortality from bycatch (Hata 2006, and Palka and Warden 2006, cited by Simons et al. 2013) and, because of it foraging behavior, the species is considered to be less susceptible to bycatch than larger pelagic species (Simons et al. 2013; Pearmain personal communication). Nevertheless, it is important to note that recent studies of seabird bycatch in regional fisheries (Klaer 2012, Li et al. 2016) are data deficient in the Caribbean basin, especially in the southern Caribbean Sea. Indeed, Klaer (2012) interpolated bycatch numbers from neighboring regions in the northwest and central Atlantic, and Li et al. (2016) limited their analysis to waters within the U.S. exclusive economic zone (EEZ) and/or U.S. fleets. The trawling fishery may also have an unquantified impact on Black-capped Petrel: indeed, seabirds following trawling vessels and/or attracted to offal may lethally strikes with trawl and netsonde cables. These mortality events are often not reported by on-board bycatch observers since birds that are killed by cable strikes are not recovered (FAO 2009). While a superposition of Black-capped Petrel foraging locations and active fishing areas by AIS-tracked professional vessels does not imply that the species is subject to bycatch, it helps determines exposure and reinforces the need to consider the impact of local and regional fisheries on the survival of the species. Finally, most data available (including the dataset used here) are limited to major commercial fleets and do not take into account the impact of local artisanal fisheries.

⬆ Overlap with oil and gas in activity in the southern Caribbean Sea

Methods: I conducted a preliminary assessment of the possible overlap between Black-capped Petrels and oil and gas industry activities in the southern Caribbean Sea. In Colombia, locations, schedules and status of lease areas and infrastructures have been made available by the Colombian national agency for hydrocarbon (Agencia Nacional de Hydrocarburos 2018). In Venezuela, the location of the only active lease area in the Caribbean Sea was available online (Offshore 2015), and the location of the active drilling platform in this lease area was available from the NOAA VIIRS Boat Detection (NOAA Earth Observation Group 2018). In a GIS framework in R (R Core Team 2016), I overlapped the locations of

satellite tracked Black-capped Petrels from Jodice et al. (2015). In Figure 5 below, I present results of the overlap between oil and gas activity in the southern Caribbean Sea and Black-capped Petrel foraging locations.

Discussion: Explorative drilling and active oil and gas production are ongoing in the offshore waters of Colombia (two active wells are located ca. 11 and 17 km off the central Guajira Peninsula; Agencia Nacional de Hidrocarburos 2018) and Venezuela (one active well is located in the Gulf of Venezuela ca. 35 km west of the Paraguaná Peninsula; Offshore 2015). The Black-capped Petrels that foraged in the southern Caribbean Sea occurred in Colombian lease areas currently under evaluation, under exploration, or opened for concession (Figure 5). The minimum distances to an active lease area and a well in production were 7 km and 24 km, respectively. In addition, petrels occurred at 34 km and 50 km of the active Venezuelan lease area and well in production. Furthermore, the individual that utilized the waters of the western Caribbean Sea and the Clark Basin also occurred in offshore Colombian lease areas. Black-capped Petrels utilizing these areas for foraging and resting could be exposed to hydrocarbon releases during accidental oil spills and to increased concentrations of contaminants from uncontrolled seepage. The population size of Black-capped Petrel could be affected through direct and indirect mortality (due to external oiling or ingestion of crude oil through prey or preening), or sub-lethal effects on reproduction (Helm et al. 2015).

⬘ Modelling of at-sea density of Black-capped Petrel in U.S. EEZ waters

In June of 2018, Winship et al. (2018) published models predicting relative densities of marine birds in the U.S. Atlantic Outer Continental Shelf (OCS). Using data from at-sea surveys compiled in O'Connell et al. (2009), they related the relative density of each species to multiple spatial and temporal predictor variables to develop seasonal maps of the spatial distribution of marine birds in the Atlantic OCS. Maps of the modelled seasonal distribution of the Black-capped Petrel are available online on the Northeast Ocean Data explorer (https://www.northeastoceandata.org/data-explorer/?birds|individual-species). With "7 of 9 performance metrics in the top 10 across all species and seasons" (Winship et al. 2018 p.12), the fall and winter models for Black-capped Petrel were the best performing models across all species and seasons. Unlike most other pelagic species recorded in the region of interest, the Black-capped Petrel was characterized by a southerly distribution, from Cape Hatteras, NC to the South Atlantic Bight (Winship et al. 2018 p.13). While the strongest relative predictor variables for Black-capped Petrel differed by seasons, physical oceanographic variables prevailed in explaining the species' distribution (Table 1). Atmospheric variables were not among the best predictors of Black-capped Petrel distribution: instead, petrels responded to oceanographic fronts typical of the Gulf Stream (surface current velocity and vorticity, and cyclonic eddy probability) and upwelling regimes (sea surface height, upwelling index). Despite little at-sea survey effort east of the Gulf Stream, the models predicting a high relative density of Black-capped Petrel for an area around the Blake Spur were supported by results of satellite tracking (Jodice et al. 2015). However, Winship at al. (2018 p.14) warn that, given the limited survey coverage far from shore, moderate to high relative densities in other offshore areas may have been over inflated (e.g summer distribution). Thus the models developed by Winship et al (2018) show a distribution of Black-capped Petrel that is limited to a band of pelagic waters along the OCS in the U.S. EEZ, with seasonal hotspots offshore the South Atlantic Bight (spring, summer and winter) and offshore the Outer Banks of North Carolina (summer, fall and winter).

Table 1. Four strongest relative predictor variables for *p* (probability of an extra zero; an indication of the density of Black-capped Petrels) and μ (mean of the Poisson distribution; an indication of the number Black-capped Petrels) components of best seasonal models. Predictor variables are ordered by relative importance. n = number of Black-capped Petrels counted during at-sea surveys. Adapted from Winship et al. (2018).

Season	***p***	**μ**	**n**
Spring (Mar.-May)	SST > CEP, Depth, SSV	Na.	315
Summer (Jun.-Aug.)	SCVu > SSH , Upwelling index > Depth, Slope	SCVu >SSH > Upwelling index > Depth, Slope	1001
Fall (Sep.-Nov.)	SCVo > SCD, Slope	SCVm, Slope > CEP > SSH	246
Winter (Dec.-Feb.)	Na.	SCVu > Depth , SST > CEP	212

CEP: Cyclonic Eddy Probability
SCD: Surface Current Divergence
SCVm: Surface Current Velocity (meridional)
SCVu: Surface Current Velocity (zonal)
SCVo: Surface Current Vorticity
SSH: Sea Surface Height
SST: Sea Surface Temperature
SSV: Sea Surface Velocity

Figure 1. Spatial overlap between longline fishing effort (in fishing hours per cell), 2012-2016, locations of Black-capped Petrel observations during at-sea surveys for the period 2012-2016 (yellow), and locations of satellite tracked Black-capped Petrels (blue). White line represents the U.S. EEZ. Basemap: Esri, Oceans basemap.

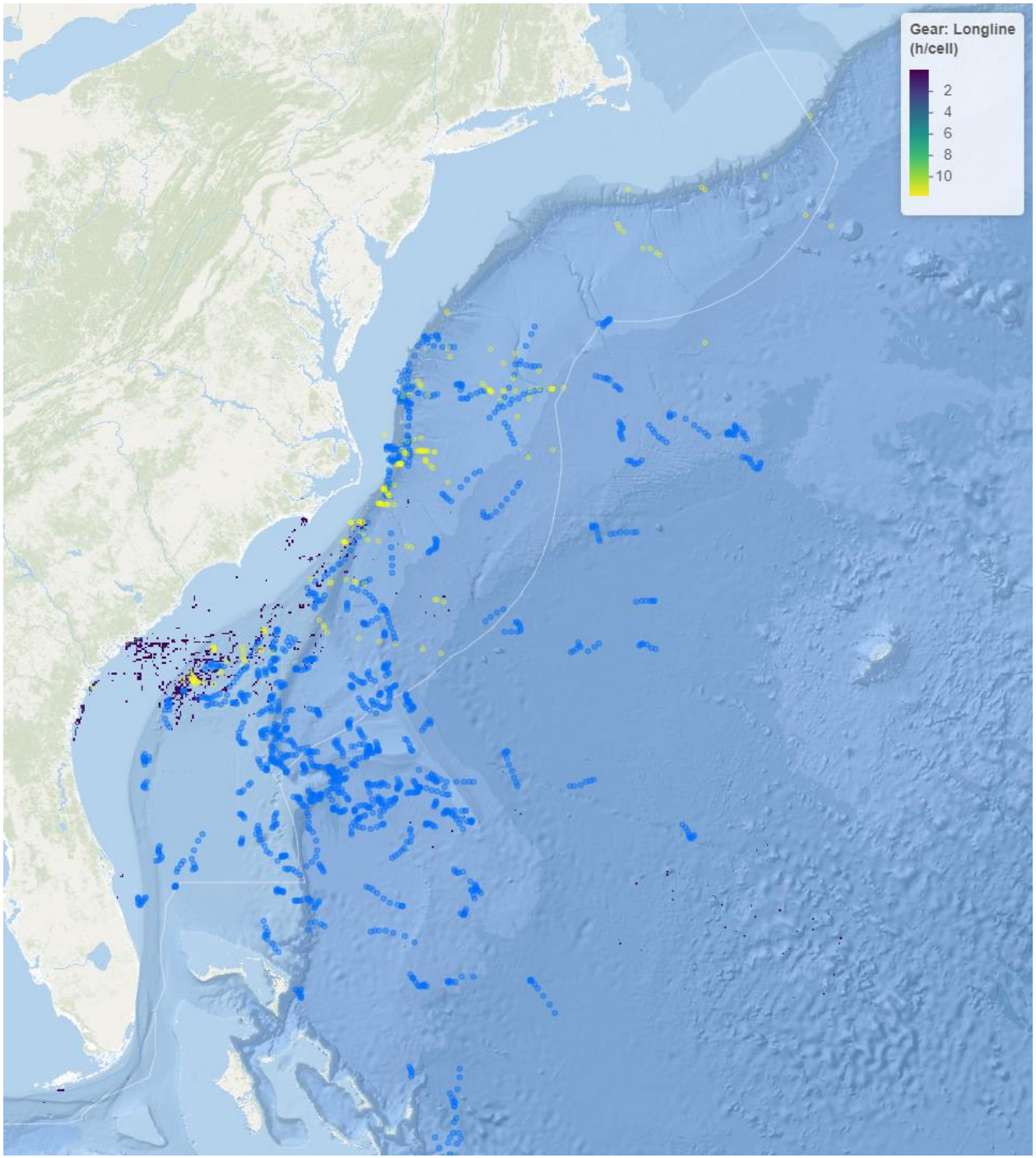


Figure 2. Spatial overlap between trawling fishing effort (in fishing hours per cell), 2012-2016, locations of Black-capped Petrel observations during at-sea surveys for the period 2012-2016 (yellow), and locations of satellite tracked Black-capped Petrels (blue). White line represents the U.S. EEZ. Basemap: Esri, Oceans basemap.

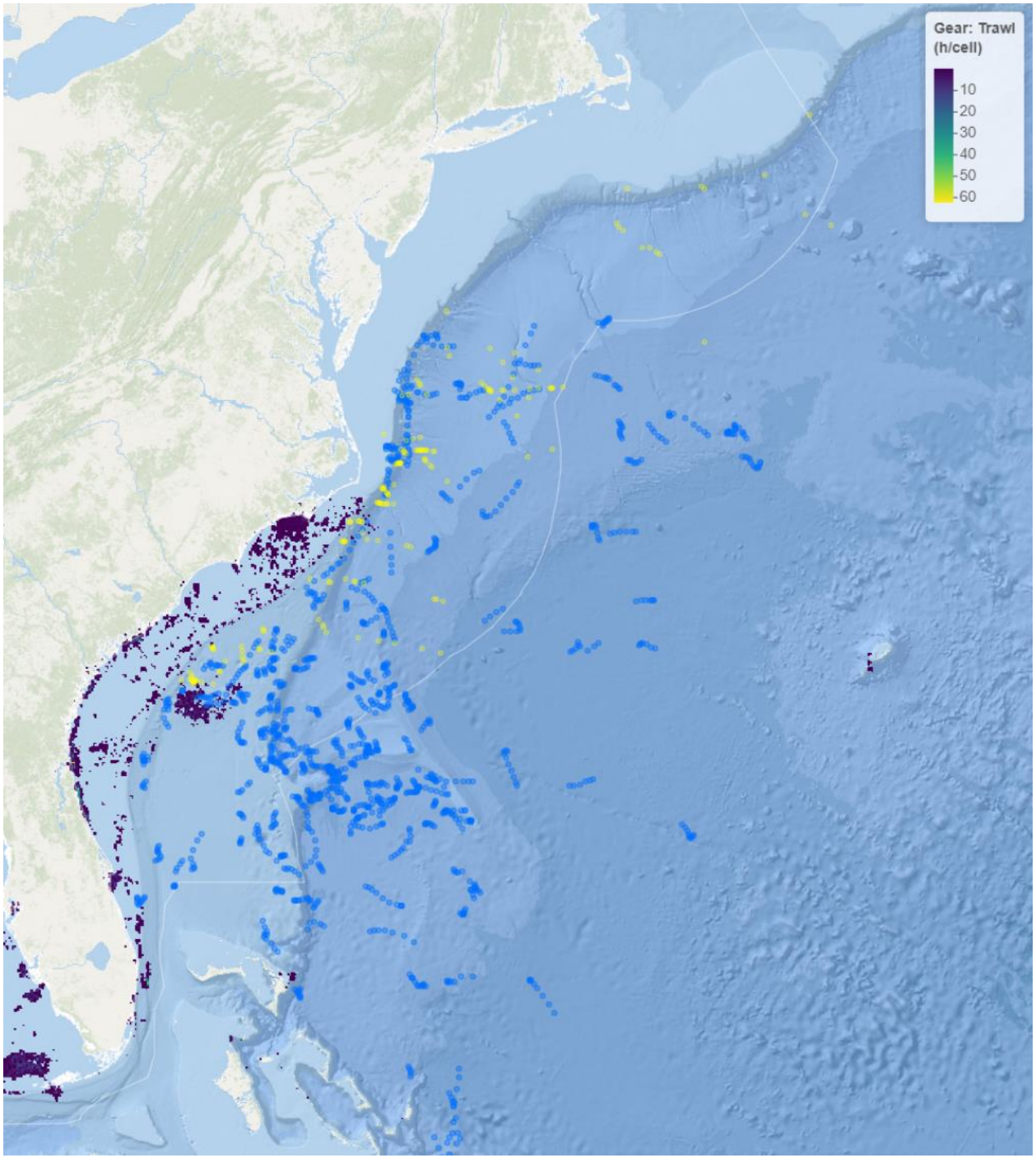


Figure 3. Spatial overlap between longline fishing effort (in fishing hours per cell), 2012-2016, and locations of satellite tracked Black-capped Petrels (blue). White line represents the U.S. EEZ. Basemap: Esri, Oceans basemap.

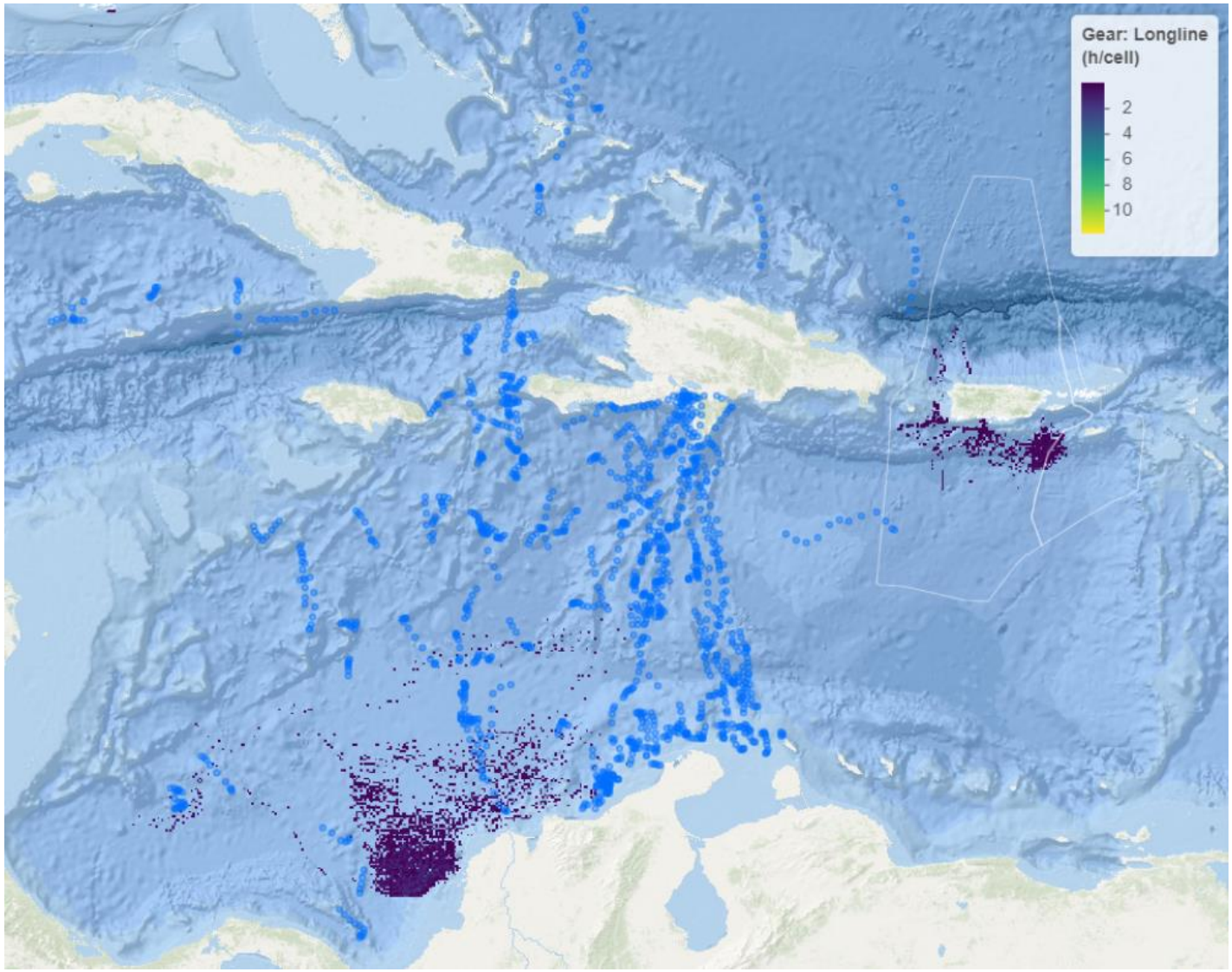


Figure 4. Spatial overlap between trawling fishing effort (in fishing hours per cell), 2012-2016, and locations of satellite tracked Black-capped Petrels (blue). White line represents the U.S. EEZ. Basemap: Esri, Oceans basemap.

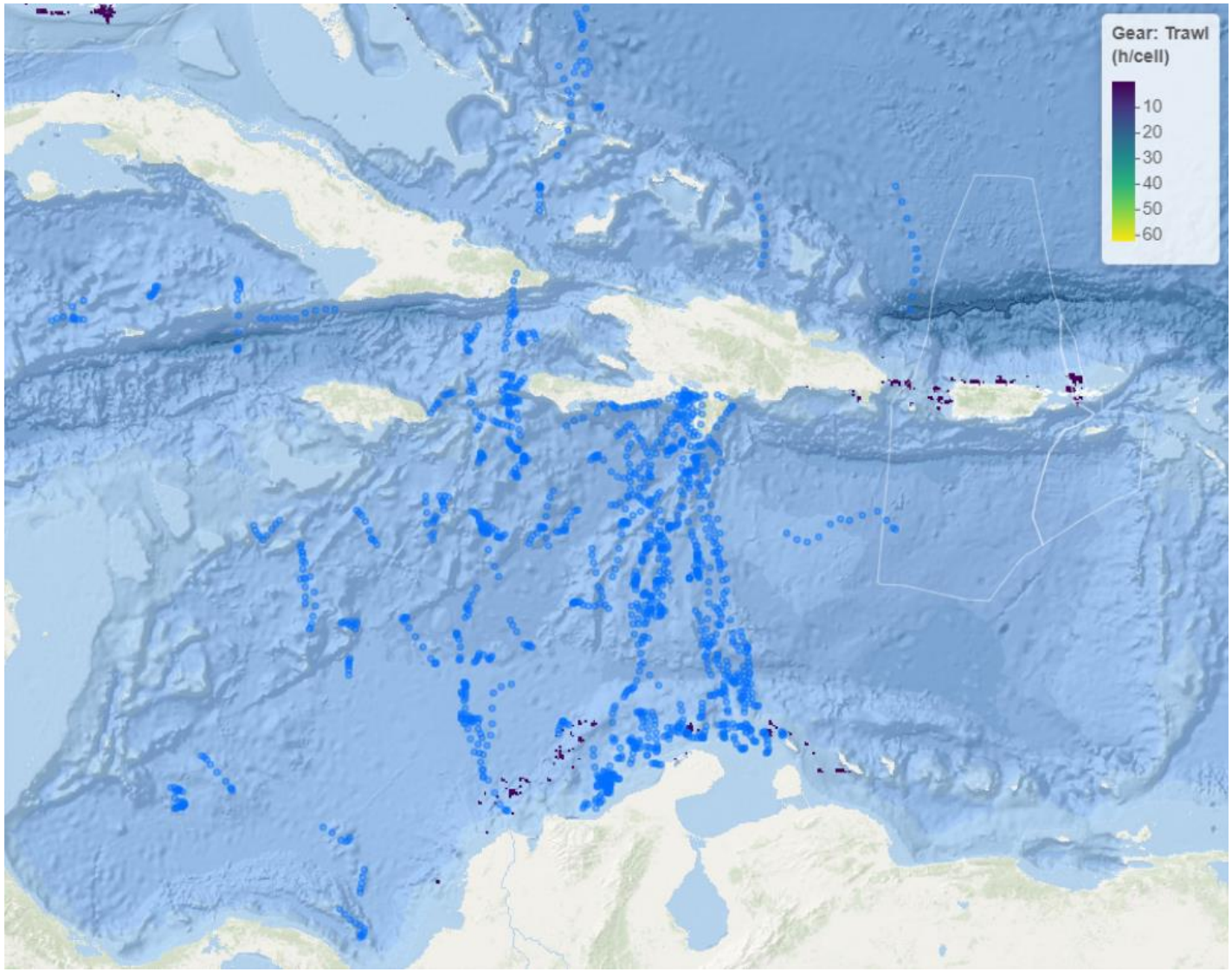
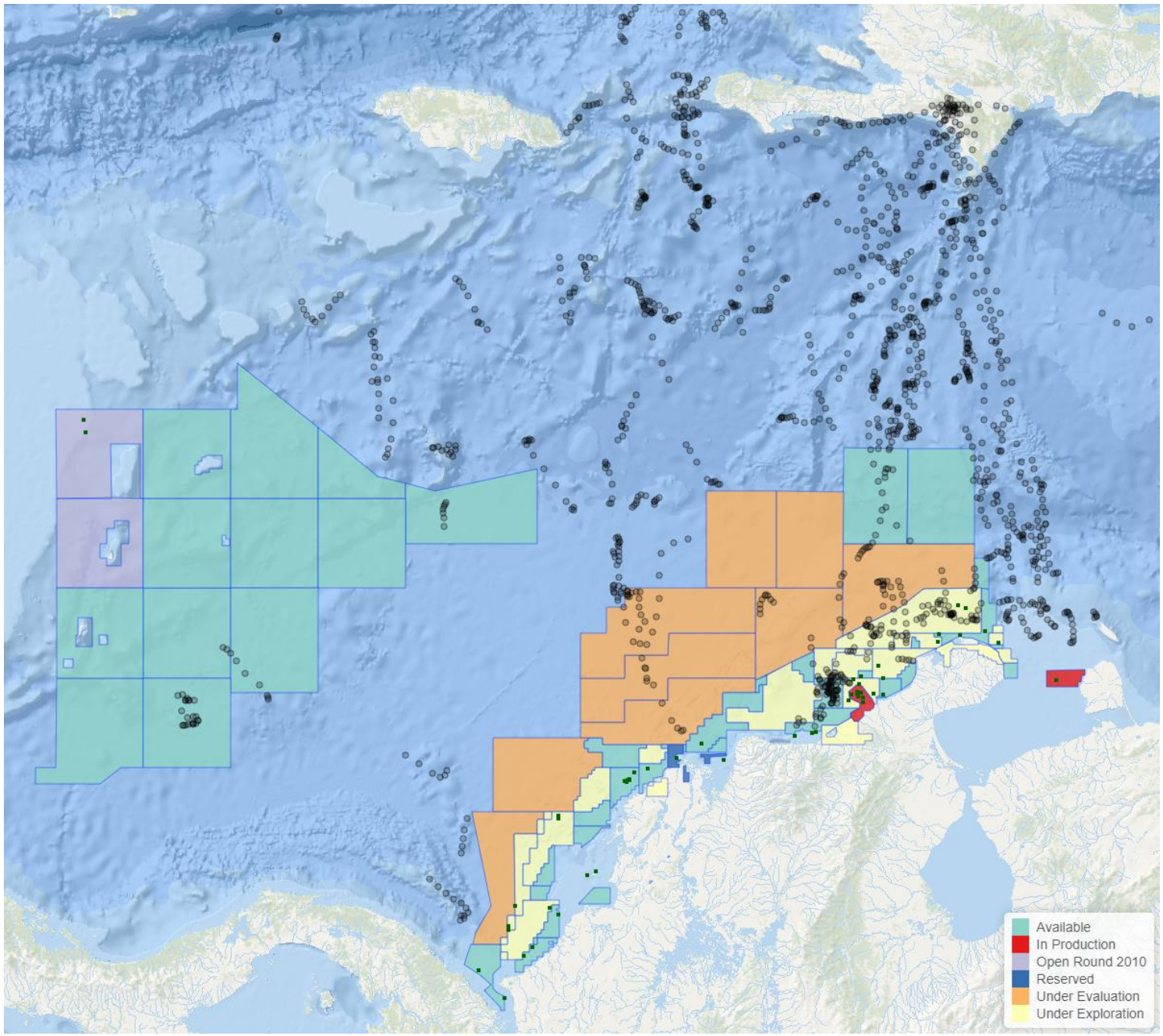


Figure 5. Spatial overlap between oil and gas lease areas (shaded polygons) and infrastructure locations (green squares), and locations of satellite tracked Black-capped Petrels (black).
Source: Colombia: Agencia Nacional de Hidrocarburos 2018; Venezuela: Offshore 2015, NOAA Earth Observation Group 2018.
Basemap: Esri, Oceans basemap.



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PART II: COMMENTS ABOUT THE PROPOSED RULE WS–R4–ES–2018–0043

Comments are ordered by page numbers.

⬆ p 50561, column 3, paragraph 3: "*Off the eastern coast of the United States, petrels forage primarily in the Gulf Stream, from northern North Carolina to northern Florida, in areas of upwelling; off the coast of North Carolina, the species is most commonly observed offshore seaward from the western edge of the Gulf Stream and in areas of deeper waters.*"
The authors fail to note that the area listed here is the only recorded wintering area for Black-capped Petrel. Black-capped Petrel has a range (estimated extent of occurrence) of 9.1x10^6 km2 (BirdLife International 2016a); This is a very limited range compared to other *Pterodroma* species present in this area (P. cahow has a more expansive range in NW Atlantic and the Sargasso Sea, Ramos et al. 2017). Moreover, most *Pterodroma* species listed as endangered under the ESA also have much larger ranges than Black-capped Petrel: *P. axillaris*: 46.2x10^6 km2 (BirdLife International 2018); *P. madeira*: 36.9x10^6 km2 (BirdLife International 2016b); *P. sandwichensis*: 22x10^6 km2 (BirdLife International 2016c); *P. cahow*: 17.5x10^6 km2 (BirdLife International 2016d); *P. phaeopygia*: 16.8x10^6 km2 (BirdLife International 2017); *P. magentae*: 1.9x10^6 km2 (BirdLife International 2016e).

⬆ p 50562, column 2, paragraph 2: "*The estimated population at that time was around 2,000 pairs, based on potential occupied suitable habitat; however, there is some uncertainty of the accuracy of this estimate due to the methods used to extrapolate. Wingate suggested the population may have been even higher (Wingate 1964, p. 154).* "
Here, in chapter "Background", the authors provide background information on the biology and ecology of the Black-capped Petrel. This information is to be considered the most current scientific data for the species. Although they present the historical population size estimated by Wingate (1964) following his re-discovery of Black-capped Petrel nesting areas in the mountains of Haiti, the authors do not mention the most current population estimate listed in USFWS (2018, p10). The current population estimate is of 500-1,000 breeding pairs (Simons et al. 2013).
Farther, the authors refer to Wingate's (1964) suggestion of "even higher" nesting numbers: since the authors do not provide current data, the reader is compelled to understand that the current population size is of 2,000 breeding pairs or "even higher". Nevertheless, while Wingate (1964) suggests the population may have been higher, methods available at the time were imprecise. Indeed, Wingate's estimates of colony size are based on his personal appreciation of the volume of calls heard at colony sites and comparing it to his knowledge of the volume of Bermuda Petrel Cahow (*Pterodroma cahow*) colonies (Wingate 1964). No recordings were made and it is unclear if estimations based on volume can be directly applied from one situation to the other: Cahow nest in open coastal habitat where sound may disperse more easily than in forested mountains where trees provide more reverberation, thus a large colony in Bermuda may sound as loud as a smaller colony in Haiti.

⬆ p 50563, column 3, *Communication Towers and Artificial Lighting* (entire).
Though mentioned in the title, artificial lighting is not addressed in this paragraph. Artificial lighting is a very important issue for fledging Black-capped Petrels: juvenile Procellariidae are likely to become stranded in towns (Reed et al. 1985) and to be attracted to concurrent threats (wind turbines, oil and gas platforms, tower cables, etc.; Montevecchi 2006). Wingate (1964) lists 3 occasions where fledging Black-capped Petrels were stranded and collected in Port Au Prince, Haiti's capital. Additional Black-capped Petrels were since recovered in towns in Haiti and Dominica. Petrels stranded in major towns are more likely to be reported to scientific or conservation experts therefore the total number of stranded petrels is unknown but may conceivably be higher than reported.

⬥ p 50564, column 1, *Wind Farms,* paragraph 1: "*However, most such proposed sites are located nearer to shore than the pelagic areas typically used by petrels for feeding, so this specific threat appears comparatively low (Simons et al. 2013, p. S32).*"
The authors write that proposed sites for offshore wind farms in the United States "are located nearer to shore than the pelagic areas typically used by petrels for feeding". This comment does not address potential offshore wind farms in Caribbean countries.

⬥ p 50564, column 1, *Wind Farms,* paragraph 1: "*Recent construction of inland wind farms near petrel nesting areas on Hispaniola (Jodice, in litt.) may constitute an additional and yet unquantified threat, given that there are currently no data on the flying height of black-capped petrels when approaching nesting areas.*"
It is important to note that this threat may also affect fledging juveniles as they become disoriented by artificial lighting.

⬥ p 50564, column 1, *Offshore Oil and Gas* (entire).
This section only addresses oiling and light attraction and makes almost no mention of sub-lethal contaminants associated with Oil and Gas extraction. Indeed, the authors did not consider the threats of exposure to contaminants resulting from Oil and Gas extraction in the Caribbean Sea and from the intensive use of waters offshore Cape Hatteras, NC by the shipping industry (Halpern et al. 2008).

⬥ p 50564, column 1, *Offshore Oil and Gas*, paragraph 1: "*Offshore oil and gas activity occurs off the coast of Cuba and northern South America near Venezuela and Colombia.*"
This information is not mentioned in USFWS (2018) and is imprecise: while offshore oil and gas activity is indeed occurring "off the coast of Cuba", the offshore oil fields are located in the northwest of the island (Tippee 2015), an area not currently understood to be in the range of Black-capped Petrel (USFWS 2018).

⬥ p 50564, column 1, *Offshore Oil and Gas*, paragraph 1: "*Black-capped petrels use the area of the Caribbean Sea off Hispaniola to northern South America (Jodice et al. 2015, p. 28); accordingly, the birds that are foraging or resting in the waters near Cuba could be directly affected by petroleum or petroleum byproducts.*"
The range of Black-capped Petrel does not currently overlap with Cuban offshore oil fields. However, offshore oil wells are currently in production and exploration in territorial and EEZ waters of Colombia (Agencia Nacional de Hidrocarburos 2018) and Venezuela (Offshore 2015). Jodice et al. (2015) showed that chick-rearing Black-capped Petrels breeding in the Dominican Republic foraged almost exclusively in Colombian and Venezuelan waters off the Guajira Peninsula. Therefore the current population considered by this Proposed Rule is affected by Oil and Gas exploration and production there.

⬥ p 50564, column 2, *Mercury and Plastic Pollution* (entire).
The authors do not address the fact that the quantity of plastic waste entering the marine environment is predicted to increase by an order of magnitude by 2025 (Jambeck et al. 2015). Furthermore, using data from 186 seabird species, including the Moser and Lee (1992) study on plastic ingestion by Black-capped Petrel cited in this Proposed Rule, Wilcox et al. (2015, pp. 11901-11902) showed that the fraction of individual seabirds containing plastic in a study is increasing with time and they predict that, by 2050, plastic will be found in the digestive tracts of 99% of all seabirds species and that 95% of the individuals within these species will have ingested plastic.

⬆ p 50564, column 3, *Marine Fisheries*, paragraph 1: "*Because of the surface-feeding habits of the black-capped petrel, the species is not considered particularly vulnerable to effects of either long-line or pelagic gill net commercial marine fisheries (Simons et al. 2013, p. S33). There are no known reports of Pterodroma bycatch in any marine fisheries of the northern Gulf of Mexico, Atlantic, or Caribbean."*
The authors write that, because of its surface-feeding habits, the species is not considered vulnerable to effects of commercial fisheries. Research on bycatch of *Pterodroma* is scarce and Simons et al. (2013) cited here are unclear on the reasons why Black-capped Petrel is not considered vulnerable to bycatch. Moreover, most data available on the impact of fisheries on Black-capped Petrel are limited to major commercial fleets and do not take into account the impact of local artisanal fisheries. The trawling fishery may also have an unquantified impact on Black-capped Petrel since seabirds following trawling vessels and/or attracted to offal may lethally strikes with trawl and netsonde cables. These mortality events are often not reported by on-board bycatch observers since birds that are killed by cable strikes are not recovered (FAO 2009).

⬆ p 50565, column 1, paragraph 1: "*Petrels tend to concentrate foraging activities in deep pelagic zones, rather than in areas of the continental shelf where most inshore fisheries occur. Thus, marine fisheries and associated activities are considered only a minor (albeit unquantified) threat to the black-capped petrel (Simons et al. 2013, p. S33).*"
By comparing the distribution of Black-capped Petrel in pelagic (i.e. "offshore") zones with the distribution of inshore fisheries, the authors compare two geographically discrete distributions which, logically, do not overlap. While they may reasonably conclude that Black-capped Petrel is not subject to threats linked to inshore fisheries, they fail to address the impact of offshore pelagic fisheries. Indeed they mention that "there are no known reports of *Pterodroma* bycatch" in U.S. and Caribbean waters (supposedly from U.S. fisheries: no reference is given to support this statement) but they also remark that "there is little information from foreign fishing fleets". Farther, the authors reach the conclusion that (U.S.) marine fisheries pose "only a minor [...] threat" but they also describe this threat as "unquantified". First, the reference cited by the authors to support this statement (Simons et al. 2013, p. S33) does not mention that marine fisheries are considered a "minor threat": this qualification is made by the authors of the Proposed Rule with no reference to support it. Moreover, a threat that is unquantified cannot be qualified as minor since this qualification would require to quantify it. Finally, under the precautionary principle, unquantified threats should not be disregarded, especially when Simons et al. (2013, p. S33) write that the Black-capped Petrel is "given little consideration in regional conservation planning". Mention of this lack of consideration by regional fisheries planning is missing from the Proposed Rule although it supports a better understanding of threats affecting the species.

⬆ p 50565, column 1, *Climate Change*, paragraph 1: "*Because there are currently no specific projections of climate-induced changes or reversal of either the Florida Current or Gulf Stream proper, the threat to the petrel from this aspect of climate change is believed to be low (Simons et al. 2013,p.S33).*"
The authors write that the threat to the petrel from climate-induced changes or reversal of the Florida Current or Gulf Stream proper is believed to be low. This is incorrect since, as the authors write earlier, these threats have not been modelled. Therefore, the authors should instead write that the threat to the petrel from this aspect of climate change is unquantified. Moreover, Hass et al. (2012) explain that, under current climate change scenarios, the Gulf Stream is expected to weaken and alter course to a zonal heading at or near Cape Hatteras, NC. Under current conditions, the Black-capped Petrel is dependent on the strong local association of upwelling and cyclonic eddies occurring north of Cape Hatteras: changes in Gulf Stream strength and direction may adversely affect these oceanographic processes and impact the availability of prey to the Black-capped Petrel.

⬥ p 50565, column 1, *Climate Change*, paragraph 2: "*However, predicted temperature increases (Campbell et al. 2011, entire; Karmalkar et al. 2013, entire) may manifest in numerous ways that could likely affect the petrel."*
The authors address the effects of climate change on the habitats of the Black-capped Petrel but they fail to address effects impacting directly the biology of the species. As is the case for several species of seabirds (Rahn et al. 1976, Whittow et al. 1984), Black-capped Petrel eggs are adapted to a certain range of humidity and environmental conditions in the nest chamber. Therefore, changes in humidity patterns and temperature from climate change may negatively affect embryo development. Optimal environmental conditions may not be available as predicted increases in temperature and increased episodes of heavy rainfall will modify current conditions. While Black-capped Petrel populations may remedy to an increase in temperature by using nesting habitat at higher elevations, this nesting habitat may not be available (because petrels are already using the highest habitat available or because vegetation and terrain at higher elevations are not optimal for nesting) or optimal environmental conditions may not be available (because, although temperature at higher elevations may be adequate for embryo development, air pressure and hygrometry are not).

⬥ p 50568, column 1, paragraph 2: "*Projected climate change and associated effects on hurricane intensities may also have repercussions for black-capped petrels in their marine foraging areas."*
The authors do not mention the effects of climate change on the marine habitat and the prey base of the Black-capped Petrel. The reproductive cycle of squid is affected by temperature changes (Downey et al. 2009, Puneeta et al. 2015) and climate change is likely to affect its ecology (Pecl and Jackson 2008, Robinson et al. 2013). Squid is the primary prey for Black-capped Petrel (Simons et al. 2013).

⬥ p 50569, column 1, paragraph 1: "*However, only one black-capped petrel nest has been identified in Valle Nuevo National Park, so this area's overall importance to species resiliency and persistence is uncertain at best."*
The authors write that the overall importance of the breeding area recently identified in Valle Nuevo, Dominican Republic, to the species resiliency is "uncertain at best" yet this nesting area with a single nest site is still used later to estimate the species' resiliency (pp 50569- 50570).

⬥ p 50570, column 2, paragraph 1: "*This also contributes to the loss of representation, as the species has high fidelity to the same nesting sites each year; there is limited genetic exchange between populations. With the loss of populations on other islands, this reduces the potential for additional genetic lineages to increase genotypic diversity within the species."*
The authors write that there is "limited genetic exchange between populations". They also note that a study comparing the genetics of dark and light morphs of Black-capped Petrel utilizing the waters of the Gulf Stream found "a substantial differentiation indicating population breeding isolation" (Manly et al. 2013, p. 231). Howell and Patteson (2008) report seasonal differences in the abundance of dark and light morphs offshore North Carolina. Therefore seasonal threats such as fisheries might affect populations differently and have unrecorded effects on the light-morph population.

⬥ p 50571, column 2, paragraph 2: "*In addition, pursuant to section 6 of the Act, the State of North Carolina would be eligible for Federal funds to implement management actions that promote the protection or recovery of the black-capped petrel because North Carolina State waters are the only place in the United States where the species is found aside from vagrant or extralimital occurrences."*
The authors write that "North Carolina State waters are the only place in the United States where the species is found […]".This statement is confusing and erroneous for several reasons:

1) The authors provide no citation to support their claim that "North Carolina State waters are the only place in the United States where the species is found [...]". In the available literature, the only mention of Black-capped Petrel using waters near North Carolina is Lee (1977, cited by Simons et al. 2013). Lee (1977) mentions the presence of Black-capped Petrel in "offshore waters" and lists that all Black-capped Petrel sightings were more than 24nm from the shore of North Carolina. State waters end at 3nm and States can claim a territorial sea that extends seaward up to 12nm. Since all petrel observations listed by Lee occurred farther than 12nm from the shore of a U.S. State, no sightings of Black-capped Petrels described in the available literature occurred in the waters of North Carolina or any U.S. State. Hence, following the hereby definition proposed by the authors that the "United States" extend only to State waters, Black-capped Petrel does not occur in the United States at all.

2) However, the offshore jurisdiction of the United States applies to federal territorial waters contiguous to State territorial waters, and extends to the limits of the EEZ (United Nations 1982). The Endangered Species Act applies to waters of the U.S. and, under certain conditions, the high seas (cited in the section "Provisions of Section 4(d) of the Act" of this Proposed Rule p50571, column 3). Waters within the U.S. EEZ are therefore part of the "United States", such as defined by the authors. Thus all observations of Black-capped Petrel collected during at-sea surveys (O'Connell et al. 2009) and that were used by USFWS (2018) to inform this proposed rule did occur in U.S. EEZ waters.

3) Moreover, the jurisdiction of the United States (and of the ESA) applies to federal territorial waters and EEZ contiguous to the territorial waters of Puerto Rico and the U.S. Virgin Islands. The range of Black-capped Petrel shown in Figure 2.1. of USFWS (2018) covers Puerto Rico and the U.S. Virgin Islands, and contiguous waters. Furthermore, Jodice et al. (2015) recorded locations of tracked Black-capped Petrels in Puerto Rican waters.

Therefore, (a) the range of Black-capped Petrel is within U.S. waters, (b) consistent concentrations are known to occur in U.S. waters, (c) North Carolina State waters are not "the only place in the United States where the species is found", and (d) observations of Black-capped Petrel in U.S. EEZ waters outside North Carolina State waters are not of "vagrant or extralimital occurrences". In conclusion, the statement that "[...] North Carolina State waters are the only place in the United States where the species is found aside from vagrant or extralimital occurrences" lacks in precision at best, and is erroneous and misleading at worst.

⬘ p 50571, column 2, *Provisions of Section 4(d) of the Act*, paragraph 1: "*The prohibitions of section 9(a)(1) of the Act, codified at 50 CFR 17.31, make it illegal for any person subject to the jurisdiction of the United States to take (which includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect; or to attempt any of these) threatened wildlife within the United States or on the high seas."* The authors cite that the prohibitions of section 9(a)(1) of the Endangered Species Act (E.S.A.) applies within the United States or on the high seas. The "high seas" are waters that are seaward of territorial seas of the United States (Code of Federal Regulations), hence they are the waters extending seaward of the U.S. EEZ. As described in the Species Status Assessment (USFWS 2018) and this Proposed Rule, the marine range of Black-capped Petrel mainly occurs in high seas and in U.S. EEZ. Therefore most of the species' marine range is under the jurisdiction of the E.S.A.

⬘ p 50572, column 2, paragraph 1: "*The primary stressors to the species are occurring on the breeding grounds in Haiti and the Dominican Republic; therefore, prohibiting incidental take in the United States is not going to contribute meaningfully to the conservation of the species."*

It is unclear why authors write that “prohibiting incidental take in the United States is not going to contribute meaningfully for the conservation of the species”. Prohibiting incidental take in the United States would prevent increases in losses of adults and immatures from threats on the foraging and wintering grounds. Primary stressors to the reproductive fraction of the species do occur on Hispaniola but the authors of the Proposed Rule write (under *Offshore Oil and Gas*, p564, col. 2, paragraph 2) "[...] because most petrels that forage in this area [of the continental shelf off the coast of North Carolina where oil production has been proposed], any increase in losses from threats on the foraging grounds would disproportionately affect the adult segment of the population." USFWS (2018) continues: "loss of adults has greater implications for long-lived K-selected species [such as Black-capped Petrel], as time for demographic recovery is inherently longer (Simons 1984, entire; Saether and Bakke 2000, entire)." (p24, 2.9.7 *Offshore oil and gas*). Given this reliance of the species on adult individuals to maintain a viable population, even limited incidental take could compromise the health of the current population and could have long-lasting effects on the demographic recovery of the species.
Moreover, Black-capped Petrels utilize almost exclusively the U.S. waters of the South Atlantic Bight thus making this an area of paramount importance for the conservation of the species. Simons et al. (2013) explain that "if the most conservative estimates of breeding population size are correct, the majority of the world’s population forages off the coast of the southeastern US. If the higher estimates are correct, a significant portion of the population occurs off this region in all seasons." Jodice et al. (2015) showed that, while chick-rearing Black-capped Petrels commonly forage in the southern Caribbean Sea, they winter in United States waters and high seas offshore the South Atlantic Bight. Furthermore, although outside United States territorial waters, in the southern Caribbean Sea Black-capped Petrels and their prey are exposed to direct and sub-lethal threats associated to the Oil and Gas industry offshore the Guajira Peninsula of Colombia and Venezuela. In Colombia, oil extraction is operated by Texas Petroleum Company for Chevron Texaco Petroleum Company (ANH 2018). These companies are based in the United States and their activities may fall under the jurisdiction of the Endangered Species Act.
In conclusion, incidental take may have greater effects on the population of Black-capped Petrel that mentioned in the Proposed Rule. Prohibiting incidental take in the United States may reduce mortality of adults and juveniles in U.S. waters and by entities under U.S. jurisdiction utilizing the high seas and the southern Caribbean Sea.

⬆ p 50572, column 3, *Marine Foraging Habitat*, paragraph 1: “*The black-capped petrel is widely distributed throughout much of its range during the non-breeding season and is considered to have flexible foraging habitat requirements.”*
The authors do not provide a citation to support this statement. Using the species' distribution within its range (instead of its abundance within its range) limits the importance of the area described as "primary foraging range" listed in USFWS (2018). When assessing the importance of marine and foraging habitats, it is more ecologically relevant to consider estimates of abundance rather than distribution. Simons et al. (2013) mention that either "the majority of the world’s population forages off the coast of the southeastern US" or "a significant portion of the population occurs off this region in all seasons." In both cases, although Black-capped Petrel is widely distributed it is most abundant in waters of the South Atlantic Bight.

⬆ p 50572, column 3, *Marine Foraging Habitat*, paragraph 1: “*The species tends to forage near areas of upwelling and other areas where prey species are abundant, and the species is typically found in warmer waters associated with the Gulf Stream (Haney 1987, p. 157; Simons et al. 2013, entire; Jodice et al. 2015, entire).”*

The authors write that the Black-capped Petrel is “considered to have flexible foraging habitat requirements” and they add that the species forages “near areas of upwelling and other areas where prey species are abundant”. Habitat requirements listed here are not "flexible" (as described in the previous sentence): although occurring at mesoscales, upwelling and "warm waters associated with the Gulf Stream" are discrete spatial processes. As described in this Proposed Rule, these habitat requirements can only be found in some localized areas within the species' range. Although the Gulf Stream covers a large area along the eastern coast of the U.S., only a limited portion is utilized by Black-capped Petrel (listed as "Pelagic range" in Figure 2.1 of USFWS 2018).
Moreover, the authors write that Black-capped Petrels tend to forage “where prey species are abundant”. This statement is highly imprecise: most, if not all, secondary consumer species maximize foraging by utilizing "areas where prey species are abundant". This characteristic cannot be used to precisely describe a foraging habitat.

⬆ p 50572, column 3, *Marine Foraging Habitat*, paragraph 1: “*The best scientific information available on foraging habitat suggests that where the black- capped petrel is found, it is widely distributed in pelagic waters offshore of the eastern United States down to northern South America.*”
The authors seem to refer to scientific articles listed previously but these references did not analyze foraging habitat. A full scale analysis of the foraging habitat of Black-capped Petrel has not yet been performed. Moreover, the authors are over-characterizing the foraging range of Black-capped Petrel. The foraging range described here is composed of distinct foraging areas used at distinct times: the Black-capped Petrel uses the southern Caribbean Sea during the breeding season (Jodice et al. 2015) and the Gulf Stream during the non-breeding season (Jodice et al. 2015, Simons et al. 2013). This description of the foraging range also does not represent the narrow longitudinal band used by the species: Figure 2.1. of USFWS (2018) shows a primary foraging range of only 1-2 longitudinal degrees in width while the written description suggests a longitudinal extent over the whole range of the species. Therefore, while the foraging range of Black-capped Petrel does occur in an area extending from “the eastern United States down to northern South America”, it is only distributed in a limited area of pelagic waters.

⬆ p 50573, column 1, paragraph 1: “*Marine habitat contains elements that the black-capped petrel needs (foraging, resting, and commuting between nesting and foraging habitat); however, the best available information indicates that the species’ specific needs and preferences for these habitat elements are relatively flexible, plentiful, and widely distributed, and there are no habitat-based threats to the species in the foraging range.*”
The authors write that the Black-capped Petrel’s “specific needs and preferences for […] habitat elements are relatively flexible, plentiful and widely distributed”. The authors do not explain relative to what are the habitat elements "flexible" and neither do they define this flexibility. Moreover, with this characterization, the authors describe available habitat as a series of natural factors without considering the biological characteristics of the species: it is not because all habitat is available to Black-capped Petrel that all habitat is used. The authors do not consider the fact that a species utilizes only a limited part of an available habitat (i.e. its home range, or foraging range). The authors seem to suggest that, given the “plentiful and widely distributed” habitat elements, disturbances to the species in one area of its foraging range will not affect the species but will displace it to other areas with the same plentiful and widely distributed habitat elements. The authors seem to forget that a pelagic marine habitat may be disturbed but it may not be made *unavailable* (destroyed or removed) the way a terrestrial habitat can be. If the habitat utilized by Black-capped Petrel is compromised, the species may keep using this habitat (whether or not other areas offer plentiful habitat elements) as it will remain available.
The authors conclude that “there are no habitat-based threats to the species in the foraging range”. Given the extent of the Species Status Assessment (USFWS 2018) and the quality of the species’ viability

assessment that were used to inform this Proposed Rule, it is unclear how the authors reach this conclusion. This Proposed Rule lists proposed Offshore Wind, Offshore Oil and Gas (p. 564, section Offshore Oil and Gas, paragraph 2 and paragraph 3), and Contaminants (p. 564, section Mercury and Plastic Pollution, paragraph 2) as threats occurring in the foraging habitat of Black-capped Petrel. Moreover, as explained in these comments, offshore oil and gas is currently affecting the species in its foraging range in the southern Caribbean Sea.

⬥ p 50574, column 1, *Summary*, paragraph 1: "*The foraging habitat for the black- capped petrel falls within the second example; although there are extensive areas of foraging habitat within U.S. jurisdiction, the species faces no habitat-based threats there, and designation would not be beneficial to the species."*
The authors write that "there are extensive areas of foraging habitat within U.S. jurisdiction". This statement is inaccurate since the Species Status Assessment (USFWS 2018) shows that the whole known non-breeding foraging habitat is within U.S. jurisdiction (which includes EEZ and high seas) in water off the South Atlantic Bight.
Moreover, the authors write that "the species faces no habitat-based threats there and designation would not be beneficial to the species". The species faces no current (energy production) or observed (fisheries) habitat-based threats in the United States. As written in the Proposed Rule, many threats are unquantified or their impacts are uncertain. The authors should consider the likely future threats to the species. Just as the Proposed Rule considers future scenario of change in the nesting habitat of the Black-capped Petrel, it should consider the likely future threats to the species in the marine environment. Finally, writing that the designation of the foraging habitat as critical would not be beneficial to the species does not concur with the author's own comment that "any increase in losses from threats on the foraging grounds would disproportionally affect the adult segment of the population" (p50564, col. 2, par. 2).

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