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Re: Request for Public Comments on Designation of Critical Habitat for the Rufa Red Knot (*Calidris canutus rufa*), 86 Fed. Reg. 37,410 (July 15, 2021); Docket ID. No FWS-R5-ES-2021-0032.

On behalf of the members and constituents of the undersigned organizations, we submit these comments on the U.S. Fish and Wildlife Service's ("Service") proposal to designate critical habitat for the threatened *rufa* red knot.¹ Our organizations applaud this long-overdue draft rule. However, the proposal appears to devalue the importance of horseshoe crab eggs to red knots, and it should include special management considerations or protections addressing horseshoe crab collection wherever horseshoe crab eggs are a physical or biological feature ("PBF") essential to the conservation of the species. Moreover, we urge the Service to reconsider designating any areas that were excluded from the proposal on the sole basis of there being an insufficient number of documented sightings in the area. Finally, while we generally support the Service's proposal to designate all 120 proposed units in its draft rule, it omits certain areas in which the PBFs essential to the conservation of the red knot are present, as well as areas that may require special management considerations or protection. We discuss these concerns in further detail below.

I. A Comprehensive Critical Habitat Designation is Necessary for the Survival and Recovery of Red Knots

Although we have concerns about the proposal's omission of certain areas, we generally support the Service's inclusion of the 120 units of critical habitat incorporated in the draft rule. Indeed, the red knot needs robust habitat protections to ensure its survival and recovery. The *rufa* red knot is a medium-sized shorebird that the Service added to the threatened species list in 2015.² Red knot populations were decimated in the late 1800s and early 1900s by commercial hunting

¹ Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for Rufa Red Knot (*Calidris canutus rufa*), 86 Fed. Reg. 37,410 (July 15, 2021).

² Endangered and Threatened Wildlife and Plants; Threatened Species Status for the Rufa Red Knot, 79 Fed. Reg. 73,706 (Dec. 11, 2014).

for sport and food.³ Currently, significant threats to food sources, including from horseshoe crab harvesting, along with disturbances, predation, competition with gulls, habitat destruction, insufficient water quality, and human-caused disasters, stand as major obstacles to the species' survival and recovery.⁴

The Endangered Species Act ("ESA") makes clear, however, that critical habitat is an essential element of a species' survival and recovery. Under most circumstances, the Service must at the time of listing and "to the maximum extent prudent and determinable" designate "any habitat of such species which is then considered to be critical habitat."⁵⁶ Pursuant to the ESA, critical habitat for a threatened or endangered species is:

1. the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 1533 of this title, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and
2. specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 1533 of this title, upon a determination by the Secretary that such areas are essential for the conservation of the species.⁷

Critical habitat serves a crucial role in the success of a species' survival and recovery because it triggers Service consultation on the impacts of federal actions and allows agencies and partners to recognize and track important areas to the species. Section 7 of the ESA imposes on federal agencies a substantive obligation to promote the conservation of species.⁸ As part of this duty, federal agencies must consult with the Service whenever they act, authorize, or fund a project that may impact a listed species or its designated critical habitat.⁹ Through consultation, federal agencies ensure that their actions will not "jeopardize the continued existence" of a listed species or "result in the destruction or adverse modification" of critical habitat.¹⁰ This consultation process is designed to lessen the impact of federal or federally-permitted activities on species and

³ Endangered and Threatened Wildlife and Plants; Proposed Threatened Status for the Rufa Red Knot, 78 Fed. Reg. 60,024, 60,028 (Sept. 30, 2013).

⁴ 86 Fed. Reg. at 37,418-19.

⁵ 16 U.S.C. § 1533(a)(3)(A), (a)(3)(A)(i).

⁶ Both the Service and the National Marine Fisheries Service are responsible for implementing the ESA, 16 U.S.C. § 1532(15), and have jointly promulgated regulations regarding listing species and designating critical habitat under the ESA, *see* 50 C.F.R. Part 424. However, because these comments specifically pertain to the Service's designation of critical habitat for the red knot, they will at times only reference the Service when discussing requirements under the ESA and the accompanying critical habitat regulations.

⁷ *Id.* § 1532(5)(A), (5)(A)(i)–(ii).

⁸ *Id.* § 1536(a)(1).

⁹ *Id.* § 1536(a)(2).

¹⁰ *Id.* § 1536(a)(2).

their critical habitats. Moreover, critical habitat designations offer helpful information for conservation planning, including when developing and implementing recovery plans.

One of the primary purposes of the ESA is to “provide a means whereby the *ecosystems* upon which endangered species and threatened species depend may be conserved.”¹¹ Conservation is statutorily defined as “the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to [listing a species as endangered or threatened] are no longer necessary.”¹² The “plain intent of Congress” in enacting the ESA “was to halt and reverse the trend toward species extinction, whatever the cost. This is reflected not only in the stated policies of the Act, but in literally every section of the statute.”¹³ This conservation mandate colors the Act from nose to tail.

When Congress passed the ESA in 1973, it was acutely aware that stopping the loss of biodiversity requires more than protecting individual animals and plants: it also requires protecting habitat from destruction or adverse modification. Of the many threats to America’s wildlife heritage, Congress recognized that the “most significant has proven also to be the most difficult to control: the destruction of critical habitat.”¹⁴ In the 1978 amendments to the ESA, Congress reemphasized that “[t]he loss of habitat for many species is universally cited as the major cause for the extinction of species worldwide.”¹⁵ Indeed, in the lead-up to those amendments, Congress specifically stated that “if the protection of endangered and threatened species depends in large measure on the preservation of the species’ habitat, then the ultimate effectiveness of the Endangered Species Act will depend on the designation of critical habitat.”¹⁶

The Service must take several factors into consideration when designating critical habitat. First, critical habitat can constitute geographic areas that are occupied and unoccupied by a species.¹⁷ When designating occupied critical habitat, the Service must identify geographic areas “that contain the physical or biological features essential to the conservation of the species.”¹⁸ According to ESA regulations, these physical or biological features (“PBF”) are ones that are:

essential to support the life-history needs of the species, including but not limited to, water characteristics, soil type, geological features, sites, prey, vegetation, symbiotic species, or other features. A feature may be a single habitat characteristic, or a more complex combination of habitat characteristics. Features may include habitat characteristics that support ephemeral or dynamic habitat conditions.

¹¹ *Id.* § 1531(b) (emphasis added).

¹² *Id.* § 1532(3).

¹³ *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 184 (1973).

¹⁴ H.R. Rep. No. 93-412, at 4 (1973); *see also Tenn. Valley Auth.*, 437 U.S. at 179 (“Congress started from the finding that ‘[t]he two major causes of extinction are hunting and destruction of natural habitat.’ Of these twin threats, Congress was informed that the greatest was destruction of natural habitats.”).

¹⁵ H.R. Rep. No. 95-1625, at 5 (1978).

¹⁶ H.R. Rep. No. 94-887, at 3 (1976).

¹⁷ 16 U.S.C. § 1532(5)(A), (5)(A)(i)–(ii); 50 C.F.R. § 424.12(b)(1)–(2).

¹⁸ 50 C.F.R. § 424.12(b)(1)(iii); *see also* § 1532(5)(A)(i); 50 C.F.R. § 424.12(b)(2).

Features may also be expressed in terms relating to principles of conservation biology, such as patch size, distribution distances, and connectivity.¹⁹

The Service must also evaluate special management considerations, which include useful methods or procedures for protecting the physical or biological features essential to the species' conservation.²⁰

The Service must designate critical habitat “on the basis of the best scientific data available and after taking into consideration the economic impact, the impact on national security, and any other relevant impact, of specifying any particular area as critical habitat.”²¹ Courts have interpreted the “best available data” standard broadly. The Service may not ignore available biological information²² and must address all such available data in its decision making.²³ Credible anecdotal evidence may constitute the best available scientific data and the Service cannot ignore it, even if a full-scale study might be preferable.²⁴ Where data are available but have not yet been analyzed, the Service may not lawfully fail to consider whether that data constitutes best available data and thereafter develop appropriate projections based on such data.²⁵

Courts have stressed the importance of designating critical habitat and have regularly stated that the Service may only decline to make a designation under rare circumstances. In *Ctr. for Biological Diversity v. Kempthorne*, the court stated:

[t]he designation of critical habitat is the principal means for conserving an endangered species, by protecting not simply the species, but also the ecosystem upon which the species depends. In fashioning the ESA, it was Congress' understanding that the preservation of species' habitat is essential to the preservation of the species itself.²⁶

Furthermore, “[t]he purpose of establishing critical habitat is for the government to carve out territory that is not only necessary for the species' survival but also essential for the species' recovery.”²⁷ Thus, courts have agreed that the designation of critical habitat plays a pivotal role in the administration of the ESA and is crucial to a species' survival and recovery. Indeed,

¹⁹ 50 C.F.R. § 424.02.

²⁰ 50 C.F.R. §§ 424.02, 424.12(b)(1)(iv).

²¹ 16 U.S.C. § 1533(b)(2); *see also* 50 C.F.R. § 424.12(a).

²² *Conner v. Burford*, 848 F.2d 1441, 1454 (9th Cir. 1988).

²³ *San Luis v. Badgley*, 136 F. Supp. 2d 1136, 1147 (E.D. Cal. 2000).

²⁴ *Ctr. for Native Ecosystems v. U.S. Fish and Wildlife Serv.*, 795 F. Supp. 2d 1199, 1208 (D. Colo. 2011) (citing *Northwest Ecosystem Alliance v. U.S. Fish and Wildlife Serv.*, 475 F.3d 1136, 1147 (9th Cir. 2007)).

²⁵ *Greenpeace v. Nat'l Marine Fisheries Serv.*, 80 F. Supp. 2d 1137, 1149–50 (W.D. Wash. 2000).

²⁶ 607 F. Supp. 2d 1078, 1086 (D. Ariz. 2009) (internal citations and quotations omitted).

²⁷ *Ctr. for Biological Diversity v. Kelly*, 93 F. Supp. 3d 1193, 1200 (D. Idaho 2015) (internal citations and quotations omitted).

research has shown that species with critical habitat are twice as likely to recover as species without designated critical habitat.²⁸

II. We Strongly Support Special Management Considerations and Protections Addressing Horseshoe Crab Collection

We strongly agree with the Service's decision to incorporate managing the collection of horseshoe crabs as a special management consideration or protection in many of the units proposed for designation,²⁹ and urge that the Service do so for every designated unit where horseshoe crabs are a PBF essential to the conservation of the species. Horseshoe crab eggs are immensely important to the survival and recovery of the red knot.

During its journey to the Arctic, the Southern wintering population of red knots stops and feeds along the Atlantic coast before resuming its northbound migration. While there, knots must build up enough fat for the second leg of their journey in the form of nearly 400,000 horseshoe crab eggs per bird.³⁰ Easily digestible horseshoe crab eggs are a favored food source because they provide the highest energy accumulation rates in red knots worldwide.³¹ Because breeding season performance, recruitment and population dynamics are correlated to body condition, the birds that fail to acquire such reserves are less likely to survive and reproduce.³²

Furthermore, the density of spawning horseshoe crabs impacts whether foraging shorebirds are able to access their eggs.³³ Horseshoe crabs lay their eggs 10–20 cm underground, making them generally out of reach to shorebirds.³⁴ For the eggs to become accessible, there must be repeated spawning by multiple crabs in the same area, causing eggs to be distributed onto or just below the earth's surface.³⁵ Thus, areas that support higher densities of horseshoe crabs attract more birds because the eggs are likelier to be within the birds' reach.

²⁸ Taylor, M. T., K. S. Suckling, and R. R. Rachlinski. 2005. The effectiveness of the Endangered Species Act: A quantitative analysis. *BioScience* 55 (4): 360–367 (Exhibit A). Note that we are attaching all materials not included in the Service's reference list for this rulemaking.

²⁹ See, e.g. 86 Fed. Reg. at 37,454.

³⁰ Deborah Cramer, Inside the Biomedical Revolution to Save Horseshoe Crabs and the Shorebirds that Need Them NAT'L AUDUBON SOC'Y (2018), <https://www.audubon.org/magazine/summer-2018/inside-biomedical-revolution-save-horseshoe-crabs> (Exhibit B).

³¹ David S. Mizrahi & Kimberly A. Peters, Relationships Between Sandpipers and Horseshoe Crab in Delaware Bay: A Synthesis, 65, 70 (2009) (internal citation omitted) (Exhibit C).

³² Niles S. Duijns et al., Body Condition Explains Migratory Performance of a Long-Distance Migrant 284 *BIOLOGICAL SCIENCES* (2017).

³³ Fumika Takahashi, "Shorebird Utilization of Horseshoe Crab (*Limulus Polyphemus*) Eggs at Cape Romain National Wildlife Refuge, South Carolina," CLEMSON UNIVERSITY TIGERPRINTS, ALL THESES, 2577 at 24 (2016) (Exhibit D).

³⁴ *Id.*

³⁵ *Id.*

In light of this, the Service points to the “overharvest of the horseshoe crab in Delaware Bay” as the “key causal factor” in the population decline of long-distance migrants, which “drove a decline of the subspecies as a whole” during the 2000s.³⁶ With roughly 8,000 eggs per square meter—an 80% decline from thirty years ago—Delaware Bay’s beaches appear capable of supporting, but not recovering, the long-distance population, with the future sufficiency of egg resources “still uncertain,” according to the Service.³⁷ The harvesting of smaller, less resilient populations throughout the east coast has also impacted the ability of red knots to locate adequate food sources outside of Delaware Bay before resuming their northbound journey.

Horseshoe crab harvesting for the biomedical industry can decimate horseshoe crab populations. Biomedical harvesting can cause the death of nearly 30% of harvested horseshoe crabs.³⁸ A horseshoe crab’s chances of survival diminish for every minute that it remains outside of its marine habitat.³⁹ Members of the species regularly die from the stress of being collected or from physical damage incurred during collection or while being released.⁴⁰ Moreover, puncturing the species’ heart and extracting a third of its blood increases the rate of mortality and infections following the bleeding process. Even if horseshoe crabs survive harvesting and bleeding, their chances of survival remain lowered and they are less likely to subsequently lay eggs even when returned to the areas from which they were harvested.⁴¹

Thus, in order to ensure adequate foraging habitat for red knots, managing the collection of horseshoe crabs—to the extent it may be occurring—must be incorporated into the final rule as a special management consideration in any unit where horseshoe crab eggs are a PBF essential to the conservation of the species.

III. The Service Should Not Exclude Critical Habitat Based on an Arbitrary Numeric Sighting Threshold

The Service used an arbitrary numeric threshold that serves as a barrier to a more robust designation of critical habitat. In this proposed rulemaking, the agency has asserted that “[n]umerical metrics showing consistent habitat use by substantial numbers of rufa red knots [is] an indicator that the physical and biological features of each area are essential to the

³⁶ U.S. Fish and Wildlife Service, *Draft Recovery Plan for the Rufa Red Knot (Calidris cantus rufa)* at 9, Docket No. FWS-R5-ES-2020-0098 (2021).

³⁷ Declaration of Dr. Lawrence Niles, *Defenders of Wildlife v. United States Fish and Wildlife Service*; U.S. Fish and Wildlife Service (Exhibit E); *Draft Recovery Plan for the Rufa Red Knot (Calidris cantus rufa)*, 86 F.R. 26062, Docket No. FWS-R5-ES-2020-0098 (2021), 10.

³⁸ A.S. Leschen & S.J. Correia, *Mortality in Female Horseshoe Crabs (Limulus Polyphemus) From Biomedical Bleeding and Handling: Implications for Fisheries Management*, 43 *Marine & Freshwater Behaviour and Physiology* at 135 (2010) (Exhibit F).

³⁹ Exhibit E at ¶ 24.

⁴⁰ *Id.* at ¶ 25

⁴¹ *Id.*

conservation of the subspecies.”⁴² Accordingly, with certain exceptions, it instituted a policy of excluding areas where fewer than one percent of a biogeographic population were sighted within each proposed critical habitat unit at least three times in the last decade.⁴³ This approach is concerning for a number of reasons. First, it is a slippery slope for the Service to extrapolate the extent to which an area is not used from a lack of documented sightings. Moreover, the Service’s approach has no basis in the ESA or its regulations. Finally, this methodology is borrowed from methodology used by the Western Hemisphere Shorebird Reserve Network (“WHSRN”) when designating Sites of Regional Importance, which involves circumstances that differ significantly from this rulemaking.

First, the Service should not extrapolate the extent to which an area is not used by red knots from the number of documented sightings. Indeed, red knots can be an elusive species to observe. Their migratory stopovers are time-limited, they have “shifting patterns of habitat use on daily, seasonal, and annual temporal scales,” and are influenced by the “dynamic and shifting nature” of shorelines.⁴⁴ In addition, as the Service has acknowledged, members of the species “make regular movements within (though not between) wintering regions and to use clusters of habitats as regional stopover complexes during migration.”⁴⁵ Therefore, an observer must be in the right place at the right time in order for the species’ use of an area to be documented. While sighting data can serve as an indicator of use, the lack of sightings cannot be said to be a reliable indicator of the lack of use, especially in areas that contain PBFs essential to the species within the species’ range.

For example, the Service’s approach of relying on sightings data underestimates the extent to which more undisturbed, remote areas such as barrier islands are used. While we support the Service’s expansive approach to data collection by utilizing citizen science from eBird,⁴⁶ less birding occurs in many of the areas that, ironically, are particularly deserving of protection given that “disturbance could be more damaging to shorebirds than permanent habitat loss.”⁴⁷

Even if data on sightings were a reliable indicator of red knot use, the Service’s exclusion of all areas where fewer than one percent of a biogeographic population were sighted would be inappropriate. No federal law suggests occupied habitat must be excluded from designation simply because it does not meet a numeric sighting or occupancy threshold. Federal law does not define PBFs in terms of sightings or usage. Instead, they are designed to be identified on the basis of the quality of their features, such as soil type, geological features, sites, prey, vegetation, symbiotic species, and connectivity.⁴⁸ While sighting and usage data can assist the Service in

⁴² 86 Fed. Reg. at 37,419.

⁴³ U.S. Fish & Wildlife Serv. *Rufa Red Knot Critical Habitat Methods* at 2 (Apr. 2021).

⁴⁴ 86 Fed. Reg. at 37,416.

⁴⁵ *Id.* (internal citations omitted).

⁴⁶ Again, credible anecdotal evidence can constitute the best available scientific data and *should* be used in the absence of other data such as full-scale studies. *Ctr. for Native Ecosystems*, 795 F. Supp. 2d at 1208 (citing *Northwest Ecosystem Alliance v. U.S. Fish and Wildlife Serv.*, 475 F.3d 1136, 1147 (9th Cir. 2007)).

⁴⁷ *Id.* at 37,416 (internal citation omitted).

⁴⁸ 50 C.F.R. § 424.02.

identifying areas that contain PBFs essential to the conservation of the species, if the Service already has information demonstrating that an area contains PBFs essential to the conservation of the species, then the number of sightings or extent of use should not serve to exclude those areas.

Indeed, Federal Regulations explain that occupied critical habitat may include areas that are “not used on a regular basis (e.g., migratory corridors, seasonal habitats, and habitats used periodically...).”⁴⁹ This stands in stark contrast to the Service’s assertion in the course of this rulemaking that designated critical habitat for red knots should generally only include areas where there is “consistent habitat use by substantial numbers of rufa red knots.”⁵⁰ Although federal regulations for occupied critical habitat do not contemplate areas used “solely by vagrant individuals,”⁵¹ this exception was intended to apply to individuals “who wander far from the known range of the species.”⁵²

The Service’s methodology of excluding any areas that lack recurring sightings of more than 1% of a biogeographic population applies to more areas than just those used by stray individuals that wander far from the red knots’ known range. Rather, it can apply to areas that are visited by several hundred red knots on an annual basis. For example, for red knots that visit an area between Maine and Delaware in the fall, at least 450 birds must generally visit that area for at least three out of the last 10 years in order for that area to be designated as red knot critical habitat.⁵³ If an area is only visited by 449 red knots, rather than 450, it can hardly be said that those 449 red knots are vagrant individuals that have wandered far from the species’ known range. It moreover does not imply that the PBFs that attracted these 449 red knots inherently lack the caliber that would make them essential to the species’ recovery. Although red knots have a tendency to concentrate in areas with a significant number of foraging resources, the Service has acknowledged that they can also “be found widely distributed *in small numbers* within *suitable* stopover habitats.”⁵⁴ The Service has furthermore noted on several occasions that the rufa red knot’s reliance on a handful of spawning sites is likely a historical aberration.⁵⁵ Excluding areas that still support smaller numbers serves to only reinforce the contracting of the species’ range.

Finally, the Service’s exclusionary methodology was inappropriately adapted from the WHSRN’s criteria for designating Sites of Regional Importance,⁵⁶ because the circumstances pertaining to designating critical habitat vastly differ from the circumstances pertaining to designating Sites of Regional Importance. First, the goals of designating critical habitat differ from the goals of designating Sites of Regional Importance. Critical habitat is targeted at

⁴⁹ 50 C.F.R. § 424.02.

⁵⁰ 86 Fed. Reg. at 37,419.

⁵¹ 50 C.F.R. § 424.02.

⁵² Listing Endangered and Threatened Species and Designating Critical Habitat; Implementing Changes to the Regulations for Designating Critical Habitat, 81 Fed. Reg. 7414, 7418 (Feb. 11, 2016).

⁵³ U.S. Fish & Wildlife Serv. *Rufa Red Knot Critical Habitat Methods* at 8 (Apr. 2021).

⁵⁴ 86 Fed. Reg. at 37,416 (emphasis added).

⁵⁵ U.S. Fish and Wildlife Serv., *Species Status Assessment Report for the Rufa Red Knot (Calidris canutus rufa)* at 19 (2020).

⁵⁶ 86 Fed. Reg. at 37,419.

individual species trending toward extinction, necessitating a dire need for intervention. Sites of Regional Importance are not designed to target individual species in need of life support. Rather, “WHSRN is focused on the conservation of *all* shorebird species populations in the Americas for which a site-based approach is both appropriate and effective.”⁵⁷

Moreover, WHSRN designations are accompanied by more stringent compliance requirements than critical habitat designations. As discussed in greater detail below, designating areas as critical habitat generally does not restrict private use of that area unless that private use has some relationship to a federal action. Sites of Regional Importance, however, necessitate proactive management by all landowners, requiring them to “[m]ake shorebird conservation a priority at the site,” “[p]rotect and manage the site for shorebirds,” and provide regular updates to WHSRN.⁵⁸ Because Sites of Regional Importance are accompanied by more restrictions, it is reasonable that there may be a higher bar to designation.

Most importantly, the designation criteria for Sites of Regional Importance are *intended* to rely on numeric thresholds. Indeed, according to the WHSRN, “a Site’s importance for shorebirds is *based on* peak species counts or on calculated turn-over rates.”⁵⁹ As discussed, whether an occupied area qualifies as critical habitat is based on whether it possesses PBFs essential to the conservation of the species that may require special management considerations or protection.⁶⁰ It makes sense that Sites of Regional Importance would be based on more generalized numeric thresholds when compared to critical habitat designations. Sites of Regional Importance are intended to apply to *all* shorebirds, and it would be an extraordinarily complex undertaking to identify sites based on PBFs for all shorebirds that use any given site. Identifying PBFs is intended to serve as a more targeted approach to ensure that certain conservation needs of one specific, listed species could be met.

Designating critical habitat should not be a zero-sum game that results in the designation of certain areas to the exclusion of others, based on their shares of a biogeographic population. Critical habitat is a crucial tool to support the preservation and recovery of imperiled species, including the red knot. As long as an area meets the standards for critical habitat prescribed by federal law, that area is sufficient to be incorporated into a final designation.

IV. Location-Specific Recommendations

We generally agree that the Service should designate all 120 units of proposed critical habitat. Below we offer recommendations on (1) specific issues relating to some of the areas that were proposed for designation and (2) areas that were not included in the Service’s proposal that we strongly urge the agency to consider.

⁵⁷ Western Hemispheric Shorebird Reserve Network, *About WHSRN*, <https://whsrn.org/about-whsrn/> (2019) (emphasis added).

⁵⁸ Western Hemisphere Shorebird Reserve Network, *Is My Site Eligible?* <https://whsrn.org/why-whsrn/is-my-site-eligible/> (2019).

⁵⁹ *Id.* (emphasis added).

⁶⁰ 16 U.S.C. § 1532(5)(A)(i).

A. Massachusetts

While we support the inclusion of both proposed units of critical habitat in Massachusetts, we also recommend the Service include one or more additional units in Cape Cod National Seashore and include Plymouth, Duxbury, and Third Cliff (in Scituate) beaches as a single, localized complex.

First, we encourage the Service to examine designating as critical habitat one or more additional units in Cape Cod National Seashore, including Coast Guard Beach in Eastham, Nauset Marsh, and ocean beaches in Truro and Provincetown. All of these areas are north of Unit MA-1, which encompasses the southern end of Cape Cod National Seashore.⁶¹ According to the National Park Service:

The Seashore provides essential staging and foraging habitat for red knots, which can be found in the greatest numbers during fall migration (mid-July through October), using sandy ocean beaches and tidal mudflats to feed and rest.... Historically, the greatest concentrations of red knots within the Park have been observed at Coast Guard Beach in Eastham, and in Nauset Marsh, although since 2012, hundreds have been seen along the ocean beach in Truro and Provincetown.⁶²

Special management considerations or protection measures in these excluded areas should likely mirror those proposed for Unit MA-1, including managing access to foraging and roosting habitat and addressing the impacts of potential oil spills.⁶³

We further recommend that the Service consider designating Plymouth, Duxbury, and Third Cliff (in Scituate) beaches as a single, localized complex. These three beaches recorded decades of regular, high-intensity red knot usage.⁶⁴ In 2007, these beaches were considered critical Massachusetts habitat.⁶⁵ Since then, the distribution of knots in the area has since shifted. Nonetheless, the preservation of a “heterogeneous mixture of suitable habitats,” is essential if smaller, localized populations, such as that found in Massachusetts, are to survive.⁶⁶ Because the reasons for the shift in land usage around Cape Cod are relatively unclear, the inclusion of Plymouth, Duxbury and Third Cliff beaches would mitigate against continued unforeseen changes and encourage the recolonization of historically preferred, adjacent habitat. Finally, red knots do continue to use these areas, even if it is not in as great of numbers as in prior decades.

⁶¹ 86 Fed. Reg. at 37,503-04.

⁶² U.S. Nat'l Park Serv., *Shorebird Monitoring and Management Cape Cod National Seashore* at 15 (2015), <https://irma.nps.gov/DataStore/DownloadFile/621398> (Exhibit G).

⁶³ 86 Fed. Reg. at 37,434.

⁶⁴ Brian A. Harrington et al., *Changing Use of Migration Staging Areas by Red Knots: An Historical Perspective from Massachusetts*, 33 *Waterbirds* 188-192 (2010) (Exhibit H).

⁶⁵ Niles et al., *Status of the Red Knot (Calidris canutus rufa) in the Western Hemisphere*, prepared for the US Fish and Wildlife Service. 2007. A-23

⁶⁶ Niles et al., 145.

Indeed, eBird users have logged 851 observations of red knots at Plymouth Beach,⁶⁷ 381 observations of red knots at Duxbury Beach,⁶⁸ and 183 observations of red knots at Third Cliff.⁶⁹

B. New Jersey

While we support the inclusion of the listed areas in New Jersey, we encourage the Service to also designate the intertidal shoals in the areas of both Stone Harbor and Brigantine natural area / Forsythe Refuge and west of the Two-Mile Beach section of Cape May Refuge (NJ-1 and NJ-2). The Service's focus appears to be on the beaches, but not the inlets and or totality of habitats used by red knots in the area.

C. Virginia

We strongly support the Service's inclusion of all thirteen units of critical habitat in Virginia that it proposed as a part of this rulemaking. Indeed, Virginia's barrier islands have been described as representing "the most pristine chain of barrier islands remaining along the Atlantic coast," and their remote nature insulates them and their resident wildlife from human disturbance.⁷⁰ We also encourage the agency to explore designating as red knot critical habitat western shore marshes in the Chesapeake Bay and Back Bay National Wildlife Refuge.

1. Chesapeake Bay Western Shore Marshes

We urge consideration of Virginia's Chesapeake Bay western shore marshes for inclusion in critical habitat. In 2008 the National Audubon Society assessed and designated the Western Shore Marshes of Virginia as Important Bird Areas (IBA) based in part on the observations of 240 red knots in spring 2003.⁷¹ The Western Shore Marshes are a system of "high-marsh habitat, low-marsh habitat, an extensive network of sandy berms, and scattered pine hummocks," yet the avifauna has received relatively little study.⁷² (This is unsurprising given the limited access to these marshes.) This should not prejudice the Service against listing this area as critical habitat for red knots because it contains the habitat features essential for red knot conservation. Below

⁶⁷ <https://ebird.org/species/redkno/L269491>.

⁶⁸ <https://ebird.org/species/redkno/L269484>.

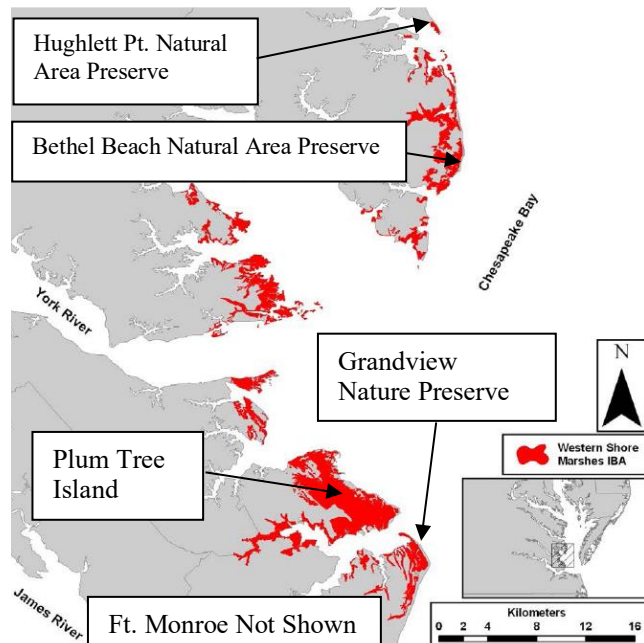
⁶⁹ <https://ebird.org/species/redkno/L844166>.

⁷⁰ Bryan D. Watts & Barry Truitt, *Spring Migration of Red Knots Along the Virginia Barrier Islands*, 79 *Journal of Wildlife Management* 288, 289 (2015) (Exhibit I).

⁷¹ Audubon Important Bird Areas, Western Shore Marshes, Virginia, <https://www.audubon.org/important-bird-areas/western-shore-marshes> (Exhibit J); Watts, B.D. and M.U. Watts. 2003. Observations of Red Knots on Plumtree Island during spring migration. Unpublished data. Species occurs in low numbers during migration on beaches along marsh or on marsh edges with mussels.; Bryan D. Watts, *Synthesizing information resources for the Virginia Important Bird Area Program: Phase II Western Shore* (2006) (Exhibit K), https://scholarworks.wm.edu/cgi/viewcontent.cgi?article=1379&context=ccb_reports.

⁷² Audubon Important Bird Areas, Western Shore Marshes, Virginia, <https://www.audubon.org/important-bird-areas/western-shore-marshes>.

we collate the recent citations and sightings that document the presence of red knots in the Western Shore Marshes IBA.



Mudflats and tidal pools along the western shore of the Chesapeake Bay and within Plum Tree Island National Wildlife Refuge (NWR) are important stopover locations for migrating red knots, according to the Refuge’s Draft Comprehensive Conservation Plan and Environmental Assessment.⁷³ Plum Tree Island NWR was established as a refuge for migratory waterfowl, nesting shorebirds, and wading birds and generally is closed to the public due to unexploded munitions. Thus, sightings data are lacking except for the spring red knot migration on Plum Tree Island in 2003 that is cited by Audubon’s Western Shore Marshes IBA designation.

Sightings of red knots in the vicinity of the Plum Tree Island NWR, where public access is possible, shows red knot use of the Western Shore Marshes IBA. At Fort Monroe National Monument, established in 2011, sandy beaches stretch along the eastern and southern shore, and at parts are separated from the mainland by a 53-acre saltmarsh cordgrass community, “an ecologically productive wetland of the highest quality.”⁷⁴ On May 19, 2020, according to ebird.org, Andrew Rapp photographed 38 red knots in a flock flying by Fort Monroe National Monument.⁷⁵ While the National Park Service’s mission includes preserving natural resources, and the Fort Monroe Foundation Document mentions recreational opportunities including birding, to our knowledge there is no conservation plan for shorebird habitat. Critical habitat

⁷³ U.S. Fish & Wildlife Serv., *Plum Tree Island National Wildlife Refuge Draft Comprehensive Conservation Plan and Environmental Assessment* at 2-54 (January 2017) (Exhibit L).

⁷⁴ Nat’l Park Serv., *Foundation Document Fort Monroe National Monument* at 4 (Jul.2015), https://www.nps.gov/fomr/learn/management/upload/FOMR_FD_2015.pdf (Exhibit M).

⁷⁵ <https://ebird.org/hotspot/L604728> (Exhibit N).

designation could provide an important tool to benefit red knots and restore natural habitat impacted by centuries of military activity at Fort Monroe.

At the City of Hampton's Grandview Nature Preserve, which is north of Fort Monroe National Monument and immediately south of Plum Tree Island NWR, red knots have been sighted in the months of January, February, May, August, September and November, according to ebird.org, and photographed as recently as August 14, 2021.⁷⁶ The shoreline between Grandview Nature Preserve and Milford Haven (i.e., the extent of Audubon's Western Shore Marshes IBA) contains the largest concentration of salt marshes in Virginia outside of the Eastern Shore, plus sandy berms and barriers. While Grandview Nature Preserve's popularity has allowed multiple red knot sightings – ostensibly important to show red knot use of the habitat – in 2006 it was noted that “[h]uman disturbance within the sensitive breeding area at Grandview Beach has become a chronic problem.”⁷⁷ While Grandview Nature Preserve is not federally owned, highlighting it as red knot critical habitat could increase recognition of the important habitat that it protects.

In recent years the site with the most consistent use has been Rigby Island area with about 200-400 birds during May.⁷⁸ This site and the associated beaches to the north and south represent the current center of use for the Western Shore of Virginia.

North of Plum Tree Island NWR and within the Western Shore Marshes IBA, the public access points are fewer and human population less dense, but there are occasional ebird.org sightings of red knots. On August 24, 2019, a red knot was seen flying by at Preserve.⁷⁹ On December 25, 2014, three red knots were seen flying by Hughlett Point Natural Area Preserve.⁸⁰ The Service should designate the Western Shore Marshes IBA as critical habitat because it contains the habitat feature essential to the conservation of red knots and has recent sightings that document red knots' repeated and regular use.

2. Back Bay National Wildlife Refuge

We moreover encourage the Service to examine the inclusion of Back Bay National Wildlife Refuge in its critical habitat designation. Back Bay, which was established in 1938 as a migratory bird refuge, E.O. 7907, and is located within the Atlantic Flyway, making the refuge a crucial area for migratory birds.⁸¹ Migratory shorebirds use the refuge's mud flats, sand flats, and beach tidal habitats to forage for invertebrates, including clams, to sustain them during their

⁷⁶ <https://ebird.org/va/L718480> (Exhibit N).

⁷⁷ Watts (2006) at 36.

⁷⁸ Email from Bryan D. Watts, Director, Center for Conservation Biology College of William and Mary (Sept. 13, 2021).

⁷⁹ <https://ebird.org/hotspot/L271098> (Exhibit N).

⁸⁰ <https://ebird.org/hotspot/L441725> (Exhibit N).

⁸¹ U.S. Fish & Wildlife Serv., *Back Bay National Wildlife Refuge Comprehensive Conservation Plan* at 3-1 (Sept. 2010), https://www.fws.gov/northeast/planning/back%20bay/pdf/FinalCCP/04_Chapter3.pdf (Exhibit O).

migrations.⁸² The refuge’s management plan identifies red knots as a “high regional priority species”⁸³ and notes that they are “regularly seen” in Back Bay.⁸⁴ Indeed, eBird users have logged 145 observations of the species in the refuge.⁸⁵ Because Back Bay draws 40 million visitors annually,⁸⁶ we recommend that the Service consider managing disturbances to red knots.

D. North Carolina

We support the designation of all eight units of critical habitat currently proposed by the Service and urge the agency to also consider designating critical habitat on and around Lea-Hutaff Island and on Masonboro Island.

First, we urge the Service to consider designating areas in and around Lea-Hutaff Island including, from north to south, areas in/on the southern portion of Topsail Island, New Topsail Inlet, Lea-Hutaff Island, Rich Inlet, and the northern portion of Figure 8 Island. These areas contain many PBFs essential to the conservation of red knots, including tidal flats and beaches used for foraging; upper beach areas used for sheltering, roosting, resting, or preening; ephemeral and/or dynamic coastal features used for roosting or foraging; and intertidal peat banks used for roosting or foraging. Audubon North Carolina (“ANC”) surveyed these areas, excluding the central portion of Lea-Hutaff Island, and determined that more than one percent of the biogeographic population appeared in this area for more than three of the last 10 years.⁸⁷

We further recommend the Service consider designating Masonboro Island as critical habitat. Masonboro Island was not included in the agency’s proposed rule. However, it contains beachfront, extensive intertidal mudflats, and sparsely vegetated blowout/overwash habitat. Because Masonboro Island is an undeveloped, remote barrier island there is not extensive sighting data regarding the island on eBird. However, ANC staff have found that flocks of less than 50 can be seen in this area in the months of April and May.⁸⁸ Given the quality of habitat and the relatively undisturbed nature of the island, we believe that red knots can benefit from the Service designating Masonboro Island as critical habitat.

E. South Carolina

We strongly support all proposed critical habitat designations in South Carolina, a crucial area for red knots, and urge the Service to consider also incorporating Bay Point Island into its final rule. The South Carolina/Georgia ecosystem is of immense importance to the long-distance Southern Wintering population of red knots, with birds moving throughout a “single staging

⁸² *Id.* at 3-34, 3-37.

⁸³ *Id.* at 1-8,

⁸⁴ *Id.* at 3-34.

⁸⁵ <https://ebird.org/species/redkno/L718307>.

⁸⁶ *Id.* at 1-4,

⁸⁷ Letter from Lindsay Addison, Coastal Biologist, Audubon North Carolina to Eric Schradling, Field Supervisor, U.S. Fish & Wildlife Serv. at 3-5 (Sept. 13, 2021).

⁸⁸ *Id.*

area” between North Florida and South Carolina, depending on the distribution of prey.⁸⁹ Below, we highlight several examples of the importance of the Service’s rulemaking for red knots that utilize South Carolina.

With over 20 miles of shoreline, Cape Romain (Units SC-5, SC-6, SC-7, SC-8, SC-9) provides unparalleled habitat for shorebirds, including red knots. Among other features, the refuge is composed of many long sandy beaches, barrier islands, and salt marshes.⁹⁰ With thousands of birds documented in Cape Romain, Raccoon Key, Marsh Island, White Banks, Bulls Island, and Lighthouse Island—all of which are proposed for designation—provide invaluable habitat to red knots.⁹¹ Historically, tens of thousands horseshoe crabs have been known to spawn in Cape Romain in any given year, making Cape Romain a key foraging ground for red knots.⁹²

Another example that demonstrates the importance of the Service’s designation to South Carolina red knots is Turtle Island (Unit SC-24). Turtle Island provides healthy foraging grounds for red knots in South Carolina, and more than 3,000 red knots were documented using the island in 2019, alone.⁹³ Horseshoe crabs are a crucial biological feature of the area for red knots and still spawn in robust numbers on Turtle Island. The area also requires special management considerations with respect to human disturbance, with significant disturbance events documented throughout 2019’s spawning season.⁹⁴

Two final examples that demonstrate the importance of the Service’s decision to designate all 25 units of critical habitat in South Carolina are Deveaux Bank (SC-17) and Tybee National Wildlife Refuge (SC-25). Deveaux Bank—a state seabird sanctuary—is similarly undermined by heavy human disturbance and horseshoe crab harvesting.⁹⁵ With thousands of red knots regularly documented, Deveaux’s importance to the species, and the need for special management considerations cannot be overstated.

⁸⁹ Bryan Watts, *CCB Team Spends Fifth Spring With Red Knots Along South Atlantic Coast*, CENTER FOR CONSERVATION BIOLOGY, (Sept. 15, 2019) <https://ccbbirds.org/2019/09/23/ccb-team-spends-fifth-spring-with-red-knots-along-south-atlantic-coast/>.

⁹⁰ U.S. Dep’t of the Interior & U.S. Fish & Wildlife Serv., Southeast Region, *Comprehensive Conservation Plan: Cape Romain Nat’l Wildlife Refuge: Charleston County, South Carolina* at 17 (Oct. 2010) (Exhibit P).

⁹¹ Nicholas Wallover et al., *Monthly Abundance and Seasonal Spatial Distribution of Shorebirds in Cape Romain National Wildlife Refuge*, 79 the Chat 61-79 (2015) (Exhibit Q); South Carolina Presentation delivered to Defenders of Wildlife by the South Carolina Department of Natural Resources (Feb. 2019) (Exhibit R).

⁹² See, e.g. Email from Ryan Wagner, Federal Wildlife Officer, S.C. Lowcountry Complex, U.S. Fish & Wildlife Serv., to Sarah Dawsey, Refuge Manager, Cape Romain Nat’l Wildlife Refuge, U.S. Fish & Wildlife Serv. (June 17, 2014, 15:34 EST) (Exhibit S) (stating that harvesters collected 25,000 crabs in 2014).

⁹³ Fletcher M. Smith et al., *Investigating Red Knot Migration Ecology along the Georgia and South Carolina Coasts: Spring 2019 Season Summaries* at 51-52 (2019) (Exhibit T).

⁹⁴ *Id.* at 18.

⁹⁵ *Id.*

We urge the Service to designate Bay Point Island as critical habitat, which is not included in the agency's draft proposal. Located in Beaufort County, South Carolina, and along the Atlantic Flyway, Bay Point Island regularly supports hundreds of red knots that stop along its front beach to feed.⁹⁶ Bay Point Island is an Audubon Important Bird Area, and likely supports horseshoe crabs, the preferred food source of red knots utilizing Lowcountry resources.⁹⁷ Red knots banded in South America have been documented on Bay Point Island, as have other human intolerant species, such as the American oystercatcher and piping plover.⁹⁸ As such, Bay Point Island is relatively free of human disturbance.

Finally, we strongly support the Service's decision to include regulating horseshoe crab harvesting as a special management consideration or protection for South Carolina units of critical habitat. As elsewhere, human and pet-related disturbances, modification to shoreline habitat, and the overharvesting of horseshoe crabs threatens preferred habitat in South Carolina.

The threat of horseshoe crab harvesting, however, is uniquely acute, with smaller populations seemingly less resilient to the strain of unmitigated harvesting practices.⁹⁹ Because red knots in South Carolina feed upon coquina clams up until the point the spawn occurs, the foraging value of Lowcountry habitat to red knots is ultimately tied to the availability and abundance of horseshoe crabs.¹⁰⁰ According to the US Fish and Wildlife Service, South Carolina Department of Natural Resources, and other partners, "the magnitude of the horseshoe crab harvest in critical shorebird foraging locations in South Carolina is likely the most significant shorebird conservation issue moving forward in the region."¹⁰¹

Indeed, harvesters have been documented collecting tens of thousands of crabs from Cape Romain.¹⁰² Moreover, it is our understanding that half a dozen harvesters were vying for space on Turtle Island this harvest season, with almost every crab removed from the spawning beach at the height of the spring migration. Harvesters have also been documented in Tybee National Wildlife Refuge collecting horseshoe crabs for biomedical use.¹⁰³

⁹⁶ Email from Felicia Sanders, South Carolina Dep't of Nat. Res., to Kristin Williams, Open Land Trust (June 3, 2020 15:37 EST) (Exhibit U); Morse Creek Inlet/Bay Point Island, Important Bird Areas, Audubon. <https://www.audubon.org/important-bird-areas/morse-creek-inletbay-point-island>.

⁹⁷ *Id.*

⁹⁸ Exhibit U.

⁹⁹ Justin W. Widener & Robert B. Barlow, *Decline of a Horseshoe Crab Population on Cape Cod*, 197 BIOLOGICAL BULLETIN 300-302 (Oct., 1999) (Exhibit V).

¹⁰⁰ Janet Thibault, *Assessing Status and Use of Red Knots in South Carolina: Project Report: South Carolina Department of Natural Resources* at 15 (Exhibit X); Takahashi 2016 at 23; Brad Floyd & Larry DeLancey, South Carolina Dep't of Nat. Res., *South Carolina Horseshoe Crab Fishery and Management Program Compliance Report for the Year 2011* (Mar 1, 2012), <https://www.dnr.sc.gov/marine/mrri/pubs/SCComplianceHSC2011.pdf> (Exhibit Y).

¹⁰¹ Smith 2019a at 17.

¹⁰² Exhibit S.

¹⁰³ Smith 2019a at 15.

F. Georgia

We agree with the Service's proposal to designate all 13 units of critical habitat in Georgia but urge the agency to also designate Pine Island and portions of the Savannah Coastal Refuges Complex that had been excluded from the draft rule. Georgia red knot research has shown unequivocally that a high proportion of the population utilizes the Georgia coast each spring, and in some years over half of the population is using the Georgia coast in fall migration."¹⁰⁴

Because red knots move between Georgia and South Carolina, effectively utilizing the area as one, the management of interstate habitat as a contiguous unit is critical. As is the case in South Carolina, red knots utilize coquina clams in addition to horseshoe crab eggs.¹⁰⁵ Moreover, as with South Carolina, the presence of red knots is the greater indicator of horseshoe crab spawning magnitude.¹⁰⁶ We note that the proposed rule generally does not address horseshoe crabs in Georgia, even though they are a PBF essential to the conservation of red knots. Thus, the Service should clarify in its final rule that horseshoe crab eggs in Georgia critical habitat units are a PBF essential to the conservation of the species.

We moreover urge the Service to consider designating as critical habitat portions of the Savannah Coastal Refuges Complex that were not included in the Service's proposal. Straddling the South Carolina-Georgia state line, the Savannah Coastal Refuges Complex protects roughly 100 miles of shoreline and areas of horseshoe crab spawning habitat. The comprehensive conservation plan for the complex suggests that red knots utilize Blackbeard Island, Harris Neck, Pinckney Island, Tybee Island, Wassaw Island and Wolf Island—all but one of the seven refuges in the complex—primarily during the winter months.¹⁰⁷ As the Service knows, the Georgia coast is of disproportionate importance to southbound knots, with the superpopulation numbering as many as 23,000 birds.¹⁰⁸ All the listed refuges should be included as critical habitat, as they provide habitat features apparently found nowhere else in the eastern United States and are explicitly managed for the benefit of shorebirds, such as the red knot.

We also urge the Service to designate Pine Island as critical habitat. Though the largest numbers of red knots to utilize the Ogeechee River area have historically been found on Racoon Key-Ogeechee Bar, Pine Island is a known horseshoe crab spawning site and part of the localized unit that constitutes one of the red knot's most important regional stopover sites.¹⁰⁹ Because sites in Georgia tend to vary in importance on any given year, we recommend the Service include Pine Island to ensure the protection of the Ogeechee River staging ground as a whole.

¹⁰⁴ *Id.* at 17.

¹⁰⁵ Fletcher M. Smith et al., *Assessing Important Horseshoe Crab Spawning Areas and Examination of Spring Red Knot Diet in Coastal Georgia Using DNA Barcoding* at 23 (2019) (Exhibit Z).

¹⁰⁶ *Id.*

¹⁰⁷ U.S. Fish & Wildlife Serv., *Savannah Coastal National Wildlife Refuges Complex Comprehensive Conservation Plan* at 321 (September 2011) (Exhibit AA).

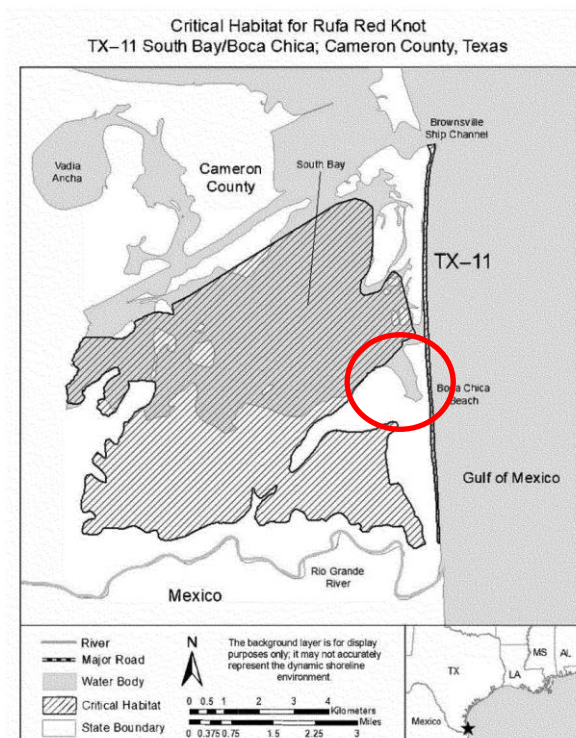
¹⁰⁸ Smith 2019b at 17.

¹⁰⁹ *Id.* 13.

Finally, we would like to stress that the Service consider managing disturbances as a special management consideration or protection for Tybee Bar, Ogeechee Bar, and Beach Hammock (Units GA-2 and GA-4), among others. These immensely important sites to red knots in Georgia are undermined by human disturbance, with Tybee Bar, Ogeechee Bar, and Beach Hammock “completely overrun by humans and dogs during multiple weekends of 2013, 2015, 2016, and 2019 seasons.”¹¹⁰ Ogeechee Bar hosts thousands of knots and is considered “one of the most important stopover sites in the region” and is a high-use horseshoe crab site.¹¹¹ We support the inclusion of these sites but again urge the importance of special management actions to preserve their sensitive features.

G. Texas

We generally support all of the Service’s proposed critical habitat units in the state of Texas, and it is our understanding that this information is based on the best available data. However, we ask the Service to reconsider its configuration of Unit TX-11. The map of TX-11 omits a portion of land in the area, which has been circled in red below.



This land contains the same PBFs as the surrounding land in the unit and should also be designated as critical habitat. According to the Service, it “made every effort to avoid including developed areas such as lands covered by pavement, buildings, and other structures (e.g., docks, maintained rights-of-way, work yards, and stormwater facilities) because such lands lack

¹¹⁰ *Id.* at 18.

¹¹¹ *Id.*

physical or biological features necessary for the rufa red knot.”¹¹² It is our understanding that a SpaceX facility is located within or near a portion of the circled area above, but that habitat has by no means been so utterly destroyed that it can be said that none of it contains any necessary red knot PCBs. The Service should therefore eliminate this carveout and designate that area as critical habitat as a part of TX-11.

V. Designating Critical Habitat for the Red Knot Will Not Result in Undue Regulatory Burdens

Critical habitat designation provides important benefits for species and generally does so with minimal adverse impact on private lands and without preventing projects from proceeding. Based on reactions to this rulemaking during the August 18, 2021 public hearing and in the media, there appears to be a fundamental misunderstanding about the extent to which this rulemaking will impact economic activity and individuals’ private conduct.¹¹³ Critical habitat designation serves a vital function in the ESA’s conservation scheme, and does so without undue imposing burdens on private individuals or commercial activities. Again, designating critical habitat does not convert an area into a park or preserve, nor does it in any way require that humans cease all activity on the land. The consultation requirement that attaches to critical habitat is directed solely at the activities of federal agencies.¹¹⁴ Thus, so long as no federal permit is required, and no federal funding needed, designating critical habitat on private land has no effect on the use of the property.

Even when a federal permit is required, section 7 consultation almost never prevents a proposed development. After examining every consultation conducted between January 2008 and April 2015, Malcolm & Li determined that “no project was stopped or extensively altered as a result of a jeopardy or adverse modification finding.”¹¹⁵ The majority of consultations during this period were informal, but of the 6,829 formal consultations conducted in that time, only two resulted in jeopardy.¹¹⁶ In only one of those two cases did the agencies find that the proposed action would destroy or adversely modify critical habitat.¹¹⁷ Despite that finding, the proposed action was approved with the adoption of reasonable and prudent alternatives that minimized

¹¹² 86 Fed. Reg. at 37,420.

¹¹³ See, e.g. Chase Jordan, *Topsail Beach to Oppose Legislation Using Entire Shore to Protect Threatened Bird*, Wilmington StarNews (Aug. 20, 2021), <https://www.starnewsonline.com/story/news/2021/08/20/topsail-beach-opposes-usfws-proposal-threatened-rufa-red-knot-bird/8187250002/> (“[Topsail Beach] Town Attorney Steve Coggins said [the proposal] has the potential to impact all of the town’s activities. [Topsail Beach Mayor Steven George] Smith added it could change things such as bringing dogs to the beach.”).

¹¹⁴ 16 U.S.C. § 1536(a)(2).

¹¹⁵ Jacob Malcolm & Ya-Wei Li, *Data Contradict Common Perceptions About a Controversial Provision of the U.S. Endangered Species Act*, PNAS (2015) (reviewing all 88,920 consultations from January 2008 through April 2015) (Exhibit BB).

¹¹⁶ *Id.* at 2.

¹¹⁷ *Id.*

impacts to habitat.¹¹⁸ As this research shows, section 7 does not, in theory or practice, hamstring all private development. Rather, when done correctly, it advances the ESA's recovery goals by striking a science driven balance between conservation and economic activity.

Defenders of Wildlife submits these comments on behalf of itself and the following organizations:



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American Bird Conservancy
American Littoral Society
Audubon Mid-Atlantic
Audubon South Carolina
Center for Biological Diversity (prepared
Chesapeake Bay Comments)
Charleston Audubon
Connecticut Audubon Society
Delaware Audubon Society
Friends of the Wildlife Corridor
Indiana Audubon
Island Wildlife-Cape Fear Region
Maryland Ornithological Society
Massachusetts Audubon
Menhaden Defenders
Natural Resources Defense Council
New Jersey Audubon
North Carolina Wildlife Federation
Save RGV
South Carolina Coastal Conservation League
South Carolina Wildlife Federation
Southern Environmental Law Center

¹¹⁸ *Id.*