



Sent via email

April 29, 2016

Mr. Michael Barnette
Southeast Regional Office
Protected Resources Division
National Marine Fisheries Service
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Re: Notice of Intent to Prepare an Environmental Impact Statement for Sea Turtle Conservation and Recovery Actions in Relation to the Southeastern United States Shrimp Fishery and To Conduct Public Scoping Comments

Dear Mr. Barnette,

Center for Biological Diversity, Turtle Island Restoration Network, Defenders of Wildlife, The Humane Society of the United States, and Animal Welfare Institute (collectively “Commenters”) are pleased to provide the National Marine Fisheries Service (“Fisheries Service”) with comments on its notice of intent to prepare an Environmental Impact Statement (“EIS”) for the yet-to-be proposed new regulations for sea turtle conservation and recovery actions intended to reduce incidental bycatch and mortality of sea turtles in the Southeastern U.S. Shrimp Fishery.

The notice suggests that the Fisheries Service will consider, at a minimum, the following alternatives: (1) requiring all skimmer trawls, pusher-head trawls, and wing nets in both the Atlantic and Gulf to use either modified or standard turtle excluder devices (“TEDs”); (2) requiring all skimmer trawls, pusher-head trawls, and wing nets in both the Atlantic and Gulf to use modified TEDs; (3) requiring all trawlers fishing in specific areas where small sea turtles occur to use modified TEDs; and (4) time and area closures affecting all shrimp vessels – and applying such new TED requirements to vessels fishing in both state and federal waters.¹ The undersigned organizations request that the Fisheries Service also consider additional protective measures including tow time restrictions in addition to TED requirements on non-otter trawl

¹ 81 Fed. Reg. 13772, *Notice of Intent to Prepare an Environmental Impact Statement for Sea Turtle Conservation and Recovery Actions in Relation to the Southeastern United States Shrimp Fishery and to Conduct Public Scoping Meetings* (Mar. 15, 2016).

vessels; increased observer coverage; expanded educational efforts to improve TEDs use; and strengthened enforcement of existing and future TEDs rules.

We agree that all shrimp vessels using specific gear types [skimmer trawls, pusher-head trawls, and wing nets (butterfly trawls) – collectively “skimmer trawls”] that are currently exempt from the use of TEDs should be required to use TEDs. The finding that nearly 500,000 sea turtles per year are captured in the Southeastern shrimp fishery and that approximately 50,000 sea turtles per year may be killed by this fishery is clear evidence that the Fisheries Service must ensure immediate and effective sea turtle protections across every gear type used by shrimp fishers to reduce, or preferably, eliminate, such captures and mortalities.² Closing the loophole in TEDs regulations is an obvious and well-supported next step that could prevent an estimated 2,000 sea turtle mortalities each year. In addition to implementing TEDs regulations for skimmer trawls, we urge the Fisheries Service to commit to a regulatory process to implement additional sea turtle protections in the entire shrimp fishery and to ensure adequate enforcement resources and measures to address ongoing compliance deficiencies throughout the shrimp fishery.

I. Background

Following the Deepwater Horizon oil spill, a record high of more than 3,500 sea turtles died or were injured in the Gulf of Mexico and southeast Atlantic Ocean – excluding cold-stunned sea turtles. With the impacts of the Deepwater Horizon and the elevated stranding numbers, the Fisheries Service reinitiated consultation with itself and proposed new regulations to address sea turtle mortality. The result was a new biological opinion and a proposed rule to require skimmer trawls to use TEDs.

The May 2012 Biological Opinion (“2012 BiOp”) on the Southeastern Shrimp Fishery estimated that the U.S. shrimp fleet utilizing all gear types causes 534,756 sea turtle interactions and 52,534 mortalities per year.³ These take levels were significantly higher than the Fisheries Service had previously estimated in the 2002 Biological Opinion, which predicted 341,510 sea turtle interactions and 9,390 mortalities per year.⁴ The 2012 BiOp analyzed the continued authorization of the fishery under the Magnuson-Stevens Act, the continued implementation of sea turtle conservation regulations, and a proposed rule to withdraw the alternative tow-time restrictions and to require all skimmer, pusher-head, and butterfly trawls used for fishing to have TEDS installed.⁵ Because TEDs have already been required in otter trawls for over 20 years, this

² NMFS, *Reinitiation of Endangered Species Act (ESA) Section 7 Consultation on the Continued Implementation of the Sea Turtle Conservation Regulations under the ESA and the Continued Authorization of the Southeast U.S. Shrimp Fisheries in Federal Waters under the Magnuson-Stevens Fishery Management and Conservation Act (MSFMCA)* (“2014 BiOp”) (Apr. 18, 2014).

³ NMFS, *Reinitiation of Endangered Species Act (ESA) Section 7 Consultation on the Continued Implementation of the Sea Turtle Conservation Regulations, as Proposed to Be Amended, and the Continued Authorization of the Southeast U.S. Shrimp Fisheries in Federal Waters under the Magnuson-Stevens Act* (“2012 BiOp”), at 153 www.sero.nmfs.noaa.gov/protected_resources/section_7/freq_biop/documents/fisheries_bo/southeastshrimpbio.pdf (May 8, 2012); 77 Fed. Reg. 27411, *Sea Turtle Conservation; Shrimp Trawling Requirements* (May 10, 2012).

⁴ 2012 BiOp at 146; NMFS, *Shrimp Trawling in the Southeastern United States, under the Sea Turtle Conservation Regulations and as Managed by the Fishery Management Plans for Shrimp in the South Atlantic and Gulf of Mexico* (“2002 BiOp”) (Dec. 2, 2002) at 57.

⁵ 2012 BiOp.

would have mandated the use of TEDs in all of the shrimp trawl gear used in the Southeastern U.S. The cost to shrimp trawlers would have been minimal, ranging from \$1,000 to \$2,120 if required to purchase their own TEDs.⁶

However, on November 21 2012, the Fisheries Service withdrew the proposed TED rule, citing concerns over the economic burden the rule would place on the shrimp industry in relation to its conservation benefits, as well as concerns with the efficacy of TEDs at preventing turtle drownings.⁷ The withdrawal of the TED rule triggered a need to reinitiate consultation under ESA Section 7 due to the change to the proposed action analyzed in the 2012 BiOp. Consequently, the Fisheries Service reinitiated formal consultation on November 26, 2012 and released a new biological opinion on April 18, 2014 (“2014 BiOp”).

The 2014 BiOp which incorporates by reference sea turtle data from the 2012 BiOp, proposed to continue to “conserve” sea turtles via the current sea turtle regulations that allow for incidental take and alternative tow-time restrictions in lieu of TED usage, as well as the continued authorization of shrimp trawling in the Gulf of Mexico and South Atlantic Exclusive Economic Zone (“EEZ”). This loophole in TED usage results in thousands of sea turtle deaths annually and significantly reduces the chances for the continued survival of the affected sea turtle populations.⁸ The 2014 BiOp nevertheless concluded that the continued authorization of shrimp fisheries within the action area “was not likely to jeopardize the continued existence” of the loggerhead (NW Atlantic Ocean DPS),⁹ green (both Florida breeding and non-breeding populations),¹⁰ hawksbill, Kemp’s ridley, and leatherback sea turtles¹¹ or “reduce the likelihood of survival and recovery” of the Atlantic population(s) of sea turtles under Section 7(a)(2), 16 § U.S.C. § 1536(a)(2).

Shrimp trawling is the primary source of anthropogenic mortality for sea turtles in U.S. waters, and is believed to have the greatest adverse effect on sea turtles compared to “all other activities combined.”¹² Evidence has pointed to low TED compliance in the Southeast region,¹³ increased

⁶ 77 Fed. Reg. 27411.

⁷ See NMFS, *Shrimp Trawling Requirements Withdrawal Announcement*, available at <http://www.regulations.gov/#!documentDetail;D=NOAA-NMFS-2012-0095-0234> (posted Feb. 7, 2013). The original 97% success rate was based on the assumption that there is a 100% compliance rate with TEDs, which lowers to 88% when future (estimated) compliance levels are taken into account. See 2014 BiOp at 16, 233.

⁸ NMFS admits that not only is there a possible reduction of turtle numbers from interactions with trawl gear, but there is also a chance of reduction in reproduction as a result of loss of females in all species, and unknown long-term effects of the DWH oil spill. 2014 BiOp at 97-120, 211, 212, 223.

⁹ Listed as threatened in the South Atlantic and Gulf. 2014 BiOp at 36.

¹⁰ Florida populations of green sea turtles are listed as threatened. 2014 BiOp at 36.

¹¹ Hawksbill, Kemp’s ridley, and leatherback sea turtles are all listed as endangered. 2014 BiOp at 36.

¹² As compared to boating activities, military activities, dredging, and oil and gas exploration. 2014 BiOp at 98, 120.

¹³ August 17, 2010 letter requesting reinitiation of Section 7 consultation (referred to NOAA inspections of the East Texas shrimp fleet having problems in compliance with TEDS, despite the fact that a TED workshop had been conducted earlier that month which was “attended by approximately 90 local fishermen”). Similarly, a message from the Southern Shrimp Alliance admitted “we are having a significant TED compliance problem.” See also *A Message on Turtle Excluder Device Compliance* (June 16, 2011), available at <http://www.shrimpalliance.com/message-to-industry/>; Oceana, *Unacceptable Violations of Sea Turtle Protections in the U.S. Shrimp Fishery* (July 19, 2011); DEIS: Draft Environmental Impact Statement to Reduce Incidental Bycatch and Mortality of Sea Turtles in the Southeastern U.S. Shrimp, April 17, 2012,

use of gear currently exempt from TED requirements, low enforcement of TED regulations and tow-time restrictions,¹⁴ and possible increased risk of drowning caused by the 2010 DWH oil spill.

While the Fisheries Service acknowledged that TEDs are only 50 percent effective on nearshore trawls, and are only 88 percent effective on ottertrawls (a reduction from its original prediction of 97 percent), the fact remains that a great number of turtle mortalities can be prevented by mandating TED usage,¹⁵ particularly as opposed to relying solely on existing tow-time restrictions. Additionally, states that require the use of TEDs on all trawlers have seen significant reductions in sea turtle bycatch.¹⁶ The Fisheries Service has also failed to develop a better alternative to TEDs, so at present an 88 percent mortality prevention rate is still the best hope for recovering listed sea turtle species.

II. National Environmental Policy Act

The purpose of the National Environmental Policy Act (“NEPA”) is “[t]o declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; [and] to enrich the understanding of the ecological systems and natural resources important to the Nation.”¹⁷ “[I]t is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans.”¹⁸

NEPA requires federal agencies to take a “hard look” at environmental consequences of proposed actions and to broadly disseminate relevant environmental information.¹⁹ The fundamental objective of NEPA is to ensure that an “agency will not act on incomplete

http://www.nmfs.noaa.gov/pr/pdfs/species/deis_seaturtle_shrimp_fisheries_interactions.pdf (TED compliance in Gulf fisheries was only 65.88% and only 39.82% in the South Atlantic fisheries).

¹⁴ NMFS has admitted that tow-time restrictions are difficult to enforce. Documentation of a tow-time violation requires enforcement to be in close proximity of a shrimp trawler to monitor gear deployment and recovery, and remain undetected for at least 55 minutes (the duration of the tow-time limitation) so as not to result in “operational procedures.” NMFS, *Draft Environmental Impact Statement to Reduce Incidental Bycatch and Mortality of Sea Turtles in the Southeastern U.S. Shrimp Fisheries* (“DEIS”) at 4.

¹⁵ Specifically, closing the TED loophole can prevent an estimated 5,426-5,515 sea turtle mortalities a year. DEIS at 112, 116.

¹⁶ Sea Turtle Capture Rates and TED Effectiveness in the Southeast Shrimp Otter Trawl Fleet (April 2014-December 2015),

http://sero.nmfs.noaa.gov/protected_resources/sea_turtle_protection_and_shrimp_fisheries/documents/0216_southeastern_shrimp_otter_ted_inspections_compliance_sea_turtle_capture_rates_and_ted_effectiveness_april_2014-december_2015.pdf. Florida state law currently requires TED usage on all shrimp trawlers in Florida waters, and the state has proven success reducing sea turtle mortality. Florida Administrative Rule 68B-31.004, available at <https://www.flrules.org/gateway/RuleNo.asp?id=68B-31.004>.

¹⁷ 42 U.S.C. § 4321.

¹⁸ 42 U.S.C. § 4331(a).

¹⁹ *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989).

information only to regret its decision after it is too late to correct.”²⁰ When preparing an environmental impact statement, agencies have an affirmative duty to obtain the information necessary to evaluate significant environmental impacts when obtaining such information is “essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant.”²¹ Federal agencies also have an affirmative duty to “insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements.”²²

To that end, NEPA requires agencies to “study, develop, and describe appropriate alternatives to recommend courses of action.”²³ The alternatives analysis is “the heart of the environmental impact statement.”²⁴ Reasonable alternatives to the proposed action are those that meet the agency’s purpose and need. The agency must not only identify and study reasonable alternatives on its own initiative, but also analyze and consider significant alternatives that are called to its attention by other agencies, organizations, communities, or members of the public.²⁵

A. The Fisheries Service’s alternatives analysis must include alternatives that provide the best chance for sea turtle conservation success.

The purpose of the Fisheries Service’s yet-to-be proposed action is to protect threatened and endangered sea turtles from incidental capture in shrimp fishing gear. When skimmers were initially granted tow time exemptions, it was under the assumption that the gear was typically retrieved due to physical, practical, or economic necessity at intervals that would prevent sea turtle mortality. However, it has become evident that some participants of the fishery are not aware of the tow-time restrictions, restrictions are difficult to enforce, and repeated captures may result in mortality in a way that was not previously considered. Regardless of what additional measures Fisheries Service may opt to implement, at the very least it is clear that tow time restrictions alone simply do not work and cannot be enforced, and that TEDs provide a viable option to reduce sea turtle mortality.²⁶ Well-installed and maintained TEDs result in high turtle exclusion efficiency rates. For modified TEDs, tow time restrictions should also be required until their efficacy is verified.

Furthermore, because there are significant compliance issues, including excessively steep grid angles, escape openings with insufficient measurements, excessive overlap of double-cover escape opening panel flaps, bar spacing issues, improper floatation, and excessive escape panel flap lengths, any proposed rule would need to also require measures to address compliance

²⁰ *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 371 (1990).

²¹ 40 C.F.R. § 1502.22.

²² 40 C.F.R. § 1502.24.

²³ 42 U.S.C. § 4332(E), 40 C.F.R. 1508.9.

²⁴ 40 C.F.R. § 1502.14.

²⁵ *Seacoast Antipollution League v. Nuclear Regulatory Commission*, 598 F.2d 1221, 1330 (1st Cir. 1979).

²⁶ “Tow times restrictions are difficult to enforce. Documentation of a tow time violation requires enforcement personnel to be in close proximity of a skimmer trawl to monitor gear deployment and recovery...enforcement personnel need to remain undetected for at least 55 minutes – practically impossible at sea – or else their presence may bias a vessel captain’s operational procedure. Similarly, NMFS observers may also result in biased operational procedurals.” DEIS at 4.

issues. Time/area and hot spot closures could also provide additional sea turtle benefits; therefore, we recommend the Fisheries Service explore those options.

1. The Fisheries Service must conduct a detailed analysis of sea turtle abundance, fishing effort and stranding patterns to determine hotspots of sea turtle mortality in the fishery.

In the Fisheries Service's 2012 BiOp, NMFS acknowledged that certain reasonable and prudent measures are necessary and appropriate to minimize impacts of the incidental take of sea turtles. These include the need to monitor fishing efforts and strandings. Under the current management system, the Fisheries Service encounters difficulties in determining how many vessels are engaged in shrimp fishing. For example, the Fisheries Service found that the Louisiana trip ticket system may contribute to discrepancies between the number of licenses issued and the number of vessels reporting catch/sales. It also found that some dealers report minor landings from multiple vessels in a single record. The Fisheries Service should explore the feasibility of implementing a system that enables it to know exactly how many vessels and nets are trawling and where. This will better inform Fisheries Service decision making and likely translate into more protective measures for sea turtles while eliminating any potentially unnecessary restrictions for shrimp trawlers. These measures are vaguely addressed in the terms and conditions of the 2012 BiOp; the Fisheries Service should propose specific measures for addressing this decades-old problem.

Furthermore, the Fisheries Service should also analyze strategies for identifying and protecting sea turtle hot spots. Sea turtle strandings occur due to a variety of reasons, including disease, exposure to biotoxins or pollutants, ingestion of marine debris, vessel collisions, extremely cold water temperatures, and fishery interactions. Sea turtle abundance may be affected by numerous factors and may fluctuate seasonally depending on prey abundance, chronic, large-scale hypoxia, and water temperature. Given the number of factors that may alter when and where sea turtles utilize inshore and coastal waters, the Fisheries Service should implement and maintain dynamic management of the shrimp fishery and identify thresholds based on the above factors for emergency closures of sea turtle hot spots.

2. The Fisheries Service must investigate and promptly enact appropriate time and area closures for the fishery to protect important sea turtle habitat and populations.

In the past, the Fisheries Service has considered time and area closures, but has concluded that area and seasonal closures were not practical given the requirements needed to monitor sea turtle abundance. It also concluded that identifying habitat hotspots and determining criteria for opening and closing areas would be difficult, and that it would be challenging to convey that information to fisheries that span several states and into federal waters. We urge the Fisheries Service to more fully evaluate these approaches as they may provide significant benefits to sea turtles and reduce socioeconomic impacts associated with static closures. A dynamic area management pilot project could also be considered as part of one of the alternatives. Therefore, the Fisheries Service should evaluate the following options:

- A. Seasonal closure of federal waters to align with and expand existing state closures (e.g., Texas). Closing federal and state waters at key times when sea turtle concentrations are highest could provide significant benefits to sea turtles;
- B. The benefits of time and area closures in state and federal waters that include not only skimmer trawls but also otter trawls and other offshore shrimp vessels using any type of gear; and
- C. Closures through the month of July. Since peak nesting season for sea turtles in the Gulf typically extends through July, additional benefits could be recognized if implemented through July.

3. *The Fisheries Service must ensure adequate enforcement of both current and future sea turtle protection measures.*

The Fisheries Service's Office of Law Enforcement only has 13 special agents and single enforcement officer in six duty stations (in Texas, Louisiana, and Florida) to address all NOAA enforcement concerns in the Gulf of Mexico region. As a result, the Fisheries Service relies heavily on U.S. Coast Guard and state law enforcement agency efforts for patrol and monitoring enforcement services, which the Fisheries Service describes as "suboptimal." Inconsistent inspection protocol has led to fisherman believing they have adequate TEDs when they were deficient, and has led to inaccurate TED compliance statistics regarding compliance generally. In the past, the Fisheries Service has acknowledged that "[a]dequate enforcement is needed to insure compliance with federal TED requirements." Therefore, it must explain how it will achieve adequate enforcement or compliance with existing or any new proposed TEDs requirements.

The inadequacy of enforcement efforts is described throughout the Fisheries Service's 2012 draft environmental impact statement for the proposed skimmer trawl rule:

During inspections over the past two years, NMFS documented some fleets were more compliant with TED regulations than others. In some cases, NMFS' gear experts were hard pressed to find vessels possessing a single fully-compliant TED. For instance, during April 2011 evaluations in Biloxi, Mississippi, NMFS' gear experts only found 1 vessel out of 14 that was outfitted with completely legal TEDs in its nets (M. Barnette, NMFS, May 2, 2011, memorandum to D. Bernhart, NMFS). While NMFS acknowledges that fishing gear constantly needs mending due to attrition, these findings are extremely troubling. Deficiencies in TED installation were not limited to shrimp vessels, however, as inspections have revealed numerous net shops manufacturing and selling deficient TEDs.²⁷

The Fisheries Service also found that:

[O]ver the past two years, it has become apparent that TED inspection efforts by the U.S. Coast Guard and some state enforcement agencies have been sub-optimal. Inconsistent inspection protocol, and in some instances, improper inspection protocol, have led fishermen to believe they possessed adequate TEDs

²⁷ DEIS at 6.

when, in actuality, they were deficient. In some cases, this has led to inaccurate TED compliance statistics that did not reflect true compliance within the fisheries. *NMFS is working with its enforcement partners to resolve these issues, and in the interim, is depending on OLE and GMT inspections to determine compliance within the fisheries.*²⁸

The Fisheries Service must explain how it is working with its enforcement partners to resolve these issues. For a new rule to be successful, the Fisheries Service must successfully address the TEDs compliance and enforcement issues.

4. Any proposed action should address the entire shrimp fleet.

Even with existing regulations requiring TEDs in otter trawls, Southeastern shrimping is the leading cause of lethal sea turtle takes in the U.S. and the leading cause of takes of the critically endangered Kemp's ridley sea turtles. Furthermore, due to inconsistent compliance with and enforcement of TEDs laws, shrimp trawling remains one of the primary threats to the recovery and survival of sea turtle populations in the U.S. Therefore, the Fisheries Service should analyze TEDs enforcement in all net types and propose an alternative that addresses the compliance and enforcement deficiencies across the entire shrimp fishery.

B. The Fisheries Service should aid the industry's transition to full TED use.

1. The Fisheries Service should work with states to help mitigate cost of TEDs to the skimmer trawl fleet.

In the 2012 proposal, the Fisheries Service described in detail the estimated costs of requiring TEDs in the skimmer trawl fishery. It described the shrimp fishery as a shrinking fishery that may experience economic loss with the implementation of a skimmer trawl regulation. To address this concern, the Fisheries Service cites funding programs that have provided TEDs to some of the shrimp fleet in the past. For example, the National Fish and Wildlife Foundation allocated funds, received from oil recovery income during the DWH oil spill event, and purchased and distributed TEDs to the resident Mississippi skimmer fleet.

Additionally, the Southern Shrimp Alliance ("SSA") submitted a \$10.8 million proposal for Natural Resource Damage Assessment funds on behalf of the shrimp industry at large to provide funding to equip (at no cost to the industry) the entire Gulf shrimp fleet with new TEDs. The project funding would likely be administered either through the states or directly by the Fisheries Service. At a Gulf Council meeting, Gulf States Marine Fisheries Commission Executive Director Larry Simpson championed a motion before the Gulf Council to send a letter to the Fisheries Service strongly endorsing the SSA funding proposal. The motion was adopted with the unanimous support of the Council.

While we do not believe that the Fisheries Service should provide TEDs to the skimmer trawl fleet at the Service's own expense, the Fisheries Service is in a position to help the industry secure outside funding to supplement the industry's own funds, as needed. We ask the Fisheries

²⁸ DEIS at 7 (emphasis added).

Service to take a proactive role in exploring funding mechanisms to provide TEDs to the skimmer trawl fleet to ensure compliance and to reduce economic impacts.

2. *The Fisheries Service must maintain oversight over the electronic logbook data program.*

According to the SSA, the Electronic Log Book (“ELB”) program is fundamentally a fishery-dependent research program at the core of the Fisheries Service’s scientific research mission. The program analyzes fishery-dependent data including catch rates and landings to generate very precise estimates of the time and location of shrimp fishing effort. The data is collected by electronic logbooks installed on over 500 cooperating vessels in the shrimp fleet. The cost of the ELB program has been borne by the federal government since its inception.

From 2005–10, SSA successfully lobbied Congress for a total of \$5.8 million to maintain funding for the program. Consistent with numerous directives from Congress, beginning in FY 2011 and again in FY 2012, the Fisheries Service covered the cost of the program from its own budget. Nevertheless, in reply to a letter from the Gulf Council supporting continued full agency funding for the program, the Fisheries Service has indicated its intent to shift the cost to the shrimp fishery.

While we do not disagree with the Fisheries Service’s decision to shift these costs to the industry, we urge the Service to maintain oversight over this program. Given the need for improved shrimp fishery data and the economic hardship in the fishery described by the Fisheries Service in the past, we also ask that the Fisheries Service supplement this program’s funding only where absolutely necessary. This will expedite the implementation of the TEDs requirements and enhance the monitoring of fishing effort in the shrimp fishery.

III. Endangered Species Act

Congress passed the Endangered Species Act (“ESA”), 16 U.S.C. §§ 1531–44, in response to growing concern over the extinction of fish, wildlife and plants.²⁹ It was enacted, in part, to provide a “means whereby the ecosystems upon which endangered species and threatened species depend may be conserved . . . [and] a program for the conservation of such endangered species and threatened species.”³⁰ The Supreme Court has held that the ESA reflects “an explicit congressional decision to require agencies to afford first priority to the declared national policy of saving endangered species.”³¹

Section 2(c) of the ESA establishes that it is “the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act.”³² The ESA defines “conservation” to mean “the use of all methods and procedures which are necessary to bring any endangered

²⁹ 16 U.S.C. § 1531(a)(1).

³⁰ 16 U.S.C. § 1531(b).

³¹ *Tennessee Valley Authority v. Hill*, 437 U.S. 153, 185 (1978); *Humane Soc’y of the United States v. Kempthorne*, 481 F. Supp. 2d 53, 55 (D.D.C. 2006).

³² 16 U.S.C. § 1531(c)(1).

species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary.”³³ Similarly, Section 7(a)(1) of the ESA directs that the Fisheries Service and other federal agencies shall use their programs and authorities to conserve endangered and threatened species.³⁴

To fulfill the substantive purposes of the ESA, federal agencies are required to engage in consultation with the Fisheries Service to “insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the adverse modification of habitat of such species . . . determined . . . to be critical.”³⁵ To “jeopardize” the species means to “engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.”³⁶ The action agency must assess the effects of its actions on endangered species and, if it determines that its proposed action “may affect listed species or critical habitat,” it must engage in formal consultation with the federal resource agency responsible for the species at issue, known as the expert agency.³⁷ Here, the Fisheries Service is both the action agency—in its capacity to authorize and manage shrimping and sea turtle conservation through the Magnuson-Stevens Fishery Conservation and Management Act and the ESA—as well as the expert agency.

During a Section 7 consultation, both the action agency and the expert agency are obligated to “use the best scientific and commercial data available.”³⁸ Courts have interpreted the “best available data” standard broadly. The Fisheries Service may not ignore available biological information,³⁹ and must address all such available data in its decision making. 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.⁴⁰ If an agency releases a consultation where “significant data gap exists” it must: 1) “extend the due date of the biological opinion or 2) “develop the biological opinion with the available information giving the benefit of the doubt to the species.”⁴¹ The agency may also have to reinitiate consultation “if and when additional data become[s] available.”⁴²

Where data are available but have not yet been analyzed, the Fisheries Service may not lawfully fail to analyze whether that data constitutes best available data and thereafter develop appropriate projections based on such data.⁴³ The Fisheries Service may not rely on existing models and

³³ 16 U.S.C. § 1532(3).

³⁴ 16 U.S.C. § 1536(a)(1).

³⁵ 16 U.S.C. § 1536(a)(2).

³⁶ 50 C.F.R. § 402.02.

³⁷ 50 C.F.R. § 402.14(a).

³⁸ 16 U.S.C. § 1536(a)(2).

³⁹ *Connor v. Burford*, 848 F.2d 1441, 1454 (9th Cir. 1988).

⁴⁰ *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)).

⁴¹ *Id.*

⁴² *Id.*

⁴³ *Greenpeace v. Nat’l Marine Fisheries Serv.*, 80 F. Supp. 2d 1137, 1149–50 (W.D. Wash. 2000).

population abundance estimates based on past population data without acknowledging and analyzing more recently available population data.⁴⁴

If the biological opinion resulting from a formal consultation finds jeopardy, the opinion shall specify reasonable and prudent alternatives that will avoid jeopardy and allow the agency to proceed with the action.⁴⁵ The Fisheries Service may also “suggest modifications” to the action during the course of consultation to “avoid the likelihood of adverse effects” to the listed species even if the modifications are not necessary to avoid jeopardy.⁴⁶ If the expert agency concludes the action will not result in jeopardy, but that take will occur, it must issue an incidental take statement (“ITS”) with the biological opinion.⁴⁷ The ITS must (1) specify the impact of the taking on the species; (2) specify the reasonable and prudent measures necessary or appropriate to minimize such impact; and (3) set forth terms and condition (including, but not limited to, reporting requirements).⁴⁸

The ITS establishes a trigger level for permitted incidental take that, when exceeded, invalidates the “safe harbor” provision⁴⁹ that protects the action agency from civil and criminal liability for take.⁵⁰ The ITS enables the action agency to engage in the required monitoring and reporting to determine if the actual amount of incidental take exceeds the permitted amount, thus triggering reinitiation.⁵¹

Because the duty to avoid jeopardy continues as long as an action agency has discretionary control over its action, it must also reinitiate (and the expert agency must request it to reinitiate) consultation in any of three additional circumstances: “(b) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (c) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or (d) If a new species is listed or critical habitat designated that may be affected by the identified action.”⁵²

As the Fisheries Service proposes new regulatory mechanisms to protect sea turtles species from the shrimp trawl industry, it will be required to engage in a formal Section 7 consultation. We offer the following suggestions.

A. The Fisheries Service must provide a numerical measure of take or otherwise valid incidental take statement.

Compliance with an ITS protects federal agencies and others acting under the ITS from liability under Section 9’s no-take provision. Specifically, the “taking” of endangered species is

⁴⁴ *Natural Resources Defense Council v. Kempthorne*, 506 F. Supp. 2d 322, 362–66 (E.D. Cal. 2007).

⁴⁵ 16 U.S.C. § 1536(b); 50 C.F.R. § 402.14(i).

⁴⁶ 50 C.F.R. § 402.13.

⁴⁷ 16 U.S.C. § 1536(b)(4); 50 C.F.R. § 402.14(i).

⁴⁸ 50 C.F.R. § 402.14(i)(1).

⁴⁹ 50 C.F.R. § 402.14(i)(5).

⁵⁰ *See Or. Natural Resources Council v. Allen*, 476 F.3d 1031, 1039–40 (9th Cir. 2007).

⁵¹ 50 C.F.R. §§ 402.14(i)(4), 402.16(a).

⁵² 50 C.F.R. §§ 402.16(b)–(d).

prohibited without a special exemption contained in an ITS or incidental take permit.⁵³ Section 7(o)(2) allows for an accompanying incidental take statement to be issued with a biological opinion to provide an exemption to Section 9’s “no-take” prohibition.⁵⁴ The ITS must describe the extent or amount of incidental take that is anticipated to result from a federal agency’s action in order to be valid.⁵⁵

Ideally, Incidental Take Statements set forth a specific numerical value, a ‘trigger’ that when reached, results in an unacceptable level of incidental take, invalidating the safe harbor provision, and requiring the parties to reinitiate consultation. This means a numerical value should be specified in the ITS unless it can be demonstrated it is actually impractical.⁵⁶ Under the Fisheries Service’s revised regulation promulgated May 11, 2015,⁵⁷ “A surrogate (*e.g.*, similarly affected species or habitat or ecological conditions) may be used to express the amount or extent of anticipated take provided that the biological opinion or incidental take statement: Describes the causal link between the surrogate and take of the listed species, explains why it is not practical to express the amount or extent of anticipated take or to monitor take-related impacts in terms of individuals of the listed species, and sets a clear standard for determining when the level of anticipated incidental take has been exceeded.”⁵⁸

The Fisheries Service should attempt to specify a numeric estimate of, or limitation on the actual number of sea turtles allowed to be killed or injured by shrimp trawling. The Fisheries Service claims it has not been able to “reliably quantify the anticipated amount of take [] using the best available information” for sea turtles adversely affected by the shrimp fishery because direct observer data cannot be used to determine the numbers of turtles taken in shrimp fisheries because properly installed TEDs release the majority of turtles,⁵⁹ while sea turtles that fail to escape can go undocumented by observers by falling out of non-compliant TEDs.⁶⁰ Notably, the last real physical observations of fishery interactions are based on “naked net” studies conducted in the late 1990s.⁶¹ The 2014 BiOp attempts to “update” this outdated data by performing calculations that assume catch per unit effort (“CPUE”) and population growth rates are linearly related—a methodology of “questionable validity.”⁶² This method fails to provide contemporaneous monitoring and accounting of the Southeast fishery to ensure that this fishery’s impacts do not jeopardize any affected listed species.

⁵³ 16 U.S.C. § 1538.

⁵⁴ “Any taking that is in compliance with the terms and conditions specified in a written statement under subsection (b)(4)[sic](iv) of this section shall not be considered to be a prohibited taking of the species concerned.” 16 U.S.C. § 1536(o)(2); 16 U.S.C. § 1536(o)(2).

⁵⁵ 16 U.S.C. § 1536(b)(4)(i); 50 C.F.R. § 402.14(1)(i).

⁵⁶ *Accord* H.R. Rep. No. 97-567 at 27 (1982); *Or. Natural Res. Council v. Allen*, 476 F.3d 1031, 1037 (9th Cir.2007) (“Congress clearly declared a preference for expressing take in numerical form with respect to ITSs under Section 7”).

⁵⁷ 80 F.R. 26832, *Interagency Cooperation – Endangered Species Act of 1973, as Amended; Incidental Take Statements*, (May 11, 2015).

⁵⁸ *Id.* at 26845.

⁵⁹ 2014 BiOp at 232.

⁶⁰ 2012 BiOp at 196; 2012 BiOp at 232.

⁶¹ 2014 BiOp at 232.

⁶² *Id.*

In the 2014 BiOp, the Fisheries Service stated that it is not possible to update the survey data in order to estimate the number of incidental takings because it would be “cost prohibitive.” NMFS-SEFSC claimed it would cost \$14 million to gather the information to update estimates for the entire action area.⁶³ As an alternative, we suggest the agency deploy observers to count the actual number of turtles that do not escape or are killed in TEDs to estimate anticipated lethal take. Furthermore, the Fisheries Service in the past has established numeric sea turtle take levels in all other Southeastern fisheries.⁶⁴

B. The Fisheries Service must provide a meaningful trigger for reinitiating consultation.

The new biological opinion must provide a meaningful trigger for reinitiation of Section 7 consultation.⁶⁵ Without a clear numerical indicator to determine when authorized incidental take has been exceeded, the Fisheries Service cannot propose to “monitor take” by comparing anticipated future (fishing) efforts and TED compliance to the 2009 fishing effort levels and TED compliance baseline, as it did in the 2014 BiOp.⁶⁶ Under the current structure, if future sea turtle takes exceed the predicted 2009 effort and compliance baseline levels, it is inferred that take has been exceeded. The Fisheries Service will then “decide” whether to reinitiate consultation.⁶⁷ Contrary to the Fisheries Service’s assertion, an “agency must *immediately* reinitiate consultation if the amount or extent of incidental taking is exceeded.”⁶⁸ By using “effort” and “compliance” as take surrogates, exceeding these triggers means that sea turtle take has exceeded allowable limits. Without establishing clear allowable limits, the action agency cannot monitor its level of compliance.⁶⁹

1. Effort in the southeastern shrimp fishery is uncertain and constantly changing.

The Fisheries Service does not know exactly how many vessels operate in the fishery nor where all the landings originate. Further, it has stated “most available information on the Gulf of Mexico shrimp fisheries focuses on the offshore, federally-permitted fishery. Little economic information is available on the inshore shrimp fishery.”⁷⁰

The Fisheries Service has also noted that collecting data from the skimmer trawl segment is challenging and often conflicting:

For example, information from Louisiana Department of Wildlife and Fisheries (LADWF) indicate there were a total of 12,806 shrimp gear licenses sold in 2010: 4,841 commercial trawl (presumably otter trawl) licenses, 2,846 recreational trawl (presumably otter trawl) licenses, 1,260 wing net licenses, and 6,705 skimmer net

⁶³ *Id.*

⁶⁴ 2012 BiOp at 290.

⁶⁵ 2014 BiOp at 232; 50 C.F.R. § 402.14(i)(4).

⁶⁶ 2014 BiOp at 233.

⁶⁷ 2012 BiOp at 198; 2014 BiOp at 233.

⁶⁸ *Oregon Natural Resources Council*, 476 F.3d 1031 at 1034–35; *see also Ctr. for Biological Diversity v. BLM*, 422 F. Supp. 2d 1115, 1137–38 (N.D. Cal. 2006).

⁶⁹ *Ariz. Cattle Growers’ Assn.*, 273 F.3d at 1250–51.

⁷⁰ 2012 BiOp at 73.

licenses. Louisiana issues a license for each net, so this approximates a universe of approximately 1,210 - 2,421 otter trawlers (range based on quad rigged vessels - double rigged vessels) and 3,300 skimmer boats in Louisiana (LADWF statistics). This is less than half the number of licenses sold in 2000, which totaled 27,799 licenses comprised of 12,262 commercial trawl (presumably otter trawl) licenses, 5,299 recreational trawl (presumably otter trawl) licenses, 2,576 wing net licenses, and 7,662 skimmer net licenses. However, it is important to point out that while there was a potential universe of approximately 1,210 - 2,421 otter trawlers (range based on quad rigged vessels - double rigged vessels) and 3,300 skimmer boats in Louisiana for 2010, only 700 otter trawl vessels, 148 butterfly trawlers, and 1,615 skimmer trawl vessels reported catch/sales in 2010 via Louisiana's required trip ticket system. This difference could be a result of several factors, including: vessels using both otter and skimmer trawl gear; latent effort in the fishery; under-reporting in the trip ticket system; and/or individuals holding commercial gear licenses but only fishing for personal consumption.

The reporting of landings is also problematic due to problems with the Gulf Shrimp System, which consolidates data from state and federal sources. The system tends to “underestimate the total true population” of vessels because “dealers report minor landings from multiple boats consolidated into a single record. In these cases, the landings cannot be assigned to a specific boat.... Further, reporting coverage is probably less than 100 percent, as a substantial number of inshore vessels sell product directly to consumers or restaurants, which also likely occurs in the offshore sector as well. With no federal permit requirement for dealers, these landings and trades are unlikely to be reflected in the GSS.”⁷¹

The Fisheries Service also reports that “fishermen commonly participate in multiple fisheries and these results may not include revenue from non-shrimp species. Comparable information for Mississippi vessels is not available because no shrimp landings from Mississippi vessels using this gear were recorded in the comparable time period (2006-2010). Although some Mississippi vessels are expected to be actively using this gear, it is not known whether these vessels are landing their shrimp harvests in other states, selling directly to the public and not through dealers, or engaging in some other practice that has resulted in the absence of recorded landings.”⁷² By the Fisheries Service's own admission, it does not have a solid baseline of the shrimp fishing effort, much less a practical mechanism for identifying changes in that effort. Therefore, shrimp fishing effort is an unreliable component of the Fisheries Service's equation for identifying allowable take levels, and consequently, does not constitute a meaningful trigger for reinitiating consultation.

2. TEDS compliance in the Southeastern shrimp fishery is uncertain and constantly changing.

The Fisheries Service asserts that an 88 percent compliance rate in the shrimp fleet is necessary in order to avoid a jeopardy decision for listed sea turtles, particularly Kemp's ridley and loggerhead sea turtles. However, it is difficult to understand how the Fisheries Service can

⁷¹ DEIS at 73.

⁷² DEIS at 166.

predict that “future compliance levels are expected to result in TEDs being 88 percent effective,” based on the reality that compliance rates have historically been low.

The Fisheries Service has documented that TEDs compliance rates in the otter trawl fleet averaged 65.88 percent in the Gulf of Mexico and 39.82 percent in the South Atlantic. Because the skimmer trawl fleet does not use TEDs, future compliance rates are completely unknown. The Fisheries Service observed that, in early May 2011 during a period of high sea turtle strandings and increased enforcement in the otter trawl fleet, observed compliance rates rose quickly to approximately 60 percent, then upwards to about 68 percent at the beginning of June 2011.⁷³ By mid-July 2011, inspection data showed an observed compliance rate of nearly 87 percent. So even with this concentrated enforcement, the highest level of compliance reached a level that fell short of the 88 percent compliance level on which the ITS is based. This approach is severely flawed, particularly without a clear plan to establish and maintain enforcement and compliance at a yet-to-be-obtained level of 88 percent.

The Fisheries Service has noted chronic compliance issues with TEDs requirements in the shrimp fisheries, despite more than 20 years of required use:

During numerous evaluations conducted in both the Gulf of Mexico and Atlantic Ocean over the past two years, NMFS gear experts have noted a variety of compliance issues ranging from lack of TED use, TEDs sewn shut, TEDs installed improperly, and TEDs being manufactured that do not comply with regulatory requirements.

...

Because sea turtle interaction rates in shrimp trawls show interactions are not nearly as rare as in other managed fisheries, lack of compliance, even by a relatively small portion of the fleet, can have dramatic results on overall sea turtle mortality levels, and poor compliance with these regulations has previously resulted in NMFS issuing a jeopardy opinion (e.g., NMFS (1994)).⁷⁴

Based on the qualitative and quantitative information above, it is unrealistic to assume the otter trawl shrimp fleet has ever achieved 100 percent compliance with the sea turtle conservation regulations or that it will in the future. Despite investing a lot of resources in outreach, education, and training since 2003, it appears compliance remains strongly correlated with the level of enforcement efforts. Based on analysis of documented compliance rates, the extent of violations, and the effect different TED violations have on capture rates in trawls, both the number and severity of regulatory violations play a major role in how successful the sea turtle conservation regulations are.⁷⁵

⁷³ DEIS at 7.

⁷⁴ 2012 BiOp at 11.

⁷⁵ 2012 BiOp at 139.

Given these chronic and systemic problems with lack of enforcement and compliance in a fleet that has been required to use TEDs for decades, it will not be legally defensible to base the ITS for skimmer trawls equipped with TEDs on future TEDs compliance.

C. The Fisheries Service’s jeopardy determination must take into account the best available scientific and commercial data.

The Fisheries Service’s continued authorization of the Southeastern shrimp fishery without the use of TEDs in all vessels poses significant threats to sea turtles because mortality will continue as long as they have direct interaction with shrimp trawls and fishing gear throughout the Gulf of Mexico and South Atlantic. Specifically, Kemp’s ridley sea turtles are the most frequently captured and killed sea turtle species as a consequence of their interactions with offshore and nearshore shrimp trawl fisheries, with tens of thousands of interactions with gears anticipated to be lethal.⁷⁶ Out of 430,787 predicted Kemp’s ridley interactions with all shrimping gear combined, 44,247 are anticipated to be lethal.⁷⁷ Loggerhead sea turtles have the second highest interactions with shrimp trawlers, with the proposed action anticipated to result in hundreds to thousands of lethal interactions. Out of 81,358 predicted interactions with all shrimping gear combined, 7,778 were estimated to be lethal.⁷⁸ Out of the green sea turtle’s predicted 13,910 interactions with all shrimping gear combined, 1,542 were estimated to be lethal.⁷⁹ Leatherback sea turtles are expected to have 144 lethal interactions out of a predicted 1,427 interactions.⁸⁰

These daunting numbers must be considered in light of future reduction in reproduction as a result of loss of females in all species from the DWH oil spill, reduced numbers of Kemp’s ridley sea turtles, anthropogenic impacts (such as military activities, dredging, oil and gas exploration, private vessel traffic, and marine pollution, ship strikes), degradation of nesting habitats, strandings, and other environmental impacts that will continue to have adverse effects on the action area.⁸¹ In order for a Section 7 consultation to be valid, it must include an analysis of the “environmental baseline,” which is defined as the effects of *past and ongoing* human and natural factors leading to the current status of the species, its habitat (including designated critical habitat) and ecosystem.⁸²

Ample scientific data points to a downward trend in Kemp’s ridley sea turtle nest counts in the Gulf of Mexico and Texas since 2010,⁸³ and an increasing trend in strandings through 2013.⁸⁴

⁷⁶ 2014 Biop at 193.

⁷⁷ *Id.* at 185, 219.

⁷⁸ *Id.* at 185. Conservative estimates of the loggerhead population from NMFS-NEFSC (Northeast Fisheries Science Center) predict a total population of 588,000 turtles. 2014 Biop at 211.

⁷⁹ *Id.* at 215. Green sea turtle population estimates vary significantly- from 34,000-95,000. 2014 Biop at 223.

⁸⁰ *Id.* at 185, 222.

⁸¹ *Id.* at 120.

⁸² Final ESA Section 7 Consultation Handbook (March 1998) at 4-22 (emphasis added); *See also* 50 C.F.R. § 402.02 (“The environmental baseline includes the *past and present* impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process.”) (emphasis added).

⁸³ Harvey Rice, *Sea Turtle Setback Vexes Scientists*, Houston Chronicle (Nov. 17, 2014), http://m.news-journal.com/mobile/news/state/sea-turtle-setback-vexes-scientists/article_bbc18b7a-8d4a-5e24-b4b9-135801c392b2.html; *See also* Harvey Rice *Fears Confirmed: Texas Turtle in Trouble*, Houston Chronicle (Nov. 18,

This population trajectory was based on 2005 and 2011 studies, which assumed “current survival rates within each life stage remained constant.”⁸⁵ An updated population model from 2013 presented at the 2nd International Kemp’s Ridley Sea Turtle Symposium which took into account the 2010 population decline, a “TED multiplier,” effect and “instantaneous effects of shrimping-related mortality,” confirmed that the Kemp’s ridley population is actually declining by 40–50 percent, with the DWH oil spill playing a significant role in this decline.⁸⁶ Likewise, research that sampled Kemp’s ridley skin and shells revealed “significantly different” chemical compositions in turtles exposed to the spill compared to turtles that were not exposed.⁸⁷ A study by Wibbels and Bevan, researchers at the University of Alabama at Birmingham published in May 2016, sheds new light on the historic population size of Kemp’s ridley sea turtles. By comparing film taken of the arribada in 1947 on the Kemp’s ridley nesting beach near Rancho Nuevo, Mexico, which showed that 120,000 to 180,000 nests were laid over the entire 1947 season, to the approximately 14,000 nests laid in the most recent nesting season, these researchers have demonstrated the dramatic decline over the past seventy years.⁸⁸ To add to the complex nature of Kemp’s ridley recovery, it is unknown whether the declines in sea turtle numbers are due to a higher mortality rate from the DWH oil spill and shrimp trawl interactions or a decrease in reproduction and nesting rate arising from either of those factors or other factors.⁸⁹

The Fisheries Service should also develop a funding plan to maintain the Kemp’s ridley recovery program between the United States and Mexico.

CONCLUSION

Given that shrimp trawling is the primary cause of ESA-listed sea turtle mortality in U.S. waters and that hundreds of thousands of endangered and threatened sea turtles are anticipated to interact with shrimp gear every year, we therefore request that the Fisheries Service take these actions necessary to conserve sea turtles and minimize the adverse effects shrimp trawling has on protected sea turtles:

1. Help mitigate the costs of purchasing and installing TEDs for shrimp trawlers to encourage continued TED usage;

2014), <http://m.chron.com/news/houston-texas/houston/article/Fears-confirmed-Texas-turtle-in-trouble-5901533.php>.

⁸⁴ Wendy Teas, *Kemp’s Ridley Stranding Data Summary 1980-2014*, 2nd Int. Kemp’s Ridley Sea Turtle Symposium (Nov. 19, 2014) at 24.

⁸⁵ 2014 BiOp at 220.

⁸⁶ Steve Clark, *Funding Loss Clouds Future For Kemp’s Ridley Sea Turtles* (Nov. 22, 2014), http://www.valleymorningstar.com/premium/article_19c0b81a-72c8-11e4-8a94-4f8336088ae6.html; See also Gallaway Benny, *The 2013 Kemp’s Ridley Stock Assessment: Shrimp Trawls and Oil Spills*, 2nd Int. Kemp’s Ridley Sea Turtle Symposium (Nov. 18, 2014) at 10.

⁸⁷ Steve Clark, *Funding Loss Clouds Future For Kemp’s Ridley Sea Turtles*.

⁸⁸ Thane Wibbels, Ph.D. *et al.* Estimating the historic size and current status of the Kemp’s ridley sea turtle (*Lepidochelys kempii*) population. *Ecosphere*, March 2016 DOI: [10.1002/ecs2.1244](https://doi.org/10.1002/ecs2.1244).

⁸⁹ Selena Heppell, *The Fragility of Recovery: Implications of the Dramatic Reduction of the Kemp’s Ridley Population Growth Rate Since 2010*, 2nd Int. Kemp’s Ridley Sea Turtle Symposium (Nov. 18, 2014) at 9; Benny Gallaway, *The 2014 Kemp’s Ridley Stock Assessment: Reduced Nesting or Reduced Nesters*, 2nd Int. Kemp’s Ridley Sea Turtle Symposium (Nov. 18, 2014) at 11.

2. Ensure enforcement of existing tow-time restrictions and TED requirements by scaling up enforcement operations and actively pursuing violators, since compliance is strongly correlated with enforcement efforts;⁹⁰
3. Prepare a detailed plan for public review proposing specific mitigation or monitoring measures to ensure TED compliance. For example, outlining the amount of enforcement the Fisheries Service can expect to attain with specific reference to numbers of enforcement officers, the number of vessels, and how the agency can leverage partner enforcement agencies such as the Coast Guard or state agencies;
4. Require better record keeping with respect to TED compliance and usage by implementing more adequate monitoring, observer coverage, data logging, and reporting, and keeping track of the number of vessels actively fishing on any given day;
5. Reevaluate and identify regional “hotspots” of critical concentrations of sea turtle activity and applying fishing closures during particularly sensitive periods throughout the year.⁹¹ Specifically, the Fisheries Service should consider seasonal closing of federal waters to harmonize with existing state closures;
6. Reconsider a reduction in the size of the shrimp fishing fleet to limit the number of nets and trawl gear in the water. Specifically, the Fisheries Service should consider reducing fleet sizes during the peak of sea turtle hatching and nesting season;
7. Deploy observers to count the number of sea turtles that do not escape from TEDs as a means to estimate anticipated take limit;
8. Reevaluate the 2014 BiOp’s current method in calculating take and propose a new surrogate or manner of estimating take that does not involve antiquated data from the 1990s and instead is updated to reflect the best available scientific and commercial data.

If you have any questions, wish to meet to discuss this matter, or feel the content of this letter is in error, please contact me at jlopez@biologicaldiversity.org or 727-490-9190.

Sincerely,

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⁹⁰ 2012 BiOp at 139.

⁹¹ For example, the DEIS assessed seasonal closures for March-May only. Peak nesting season for sea turtles in the Gulf extends through July. See Center for Biological Diversity, *Submitted Comments on Sea Turtle Conservation; Shrimp Trawling Requirements* (July 9, 2012).

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