

KELLEY DRYE & WARREN LLP

A LIMITED LIABILITY PARTNERSHIP

WASHINGTON HARBOUR, SUITE 400

3050 K STREET, NW

WASHINGTON, D.C. 20007-5108

NEW YORK, NY

CHICAGO, IL

STAMFORD, CT

PARSIPPANY, NJ

BRUSSELS, BELGIUM

AFFILIATE OFFICES

MUMBAI, INDIA

FACSIMILE

(202) 342-8451

www.kelleydrye.com

(202) 342-8400

DIRECT LINE: (202) 342-8469

EMAIL: sgehan@kelleydrye.com

September 13, 2010

VIA ELECTRONIC MAIL

NMFS National Sea Turtle Coordinator
ATTN: Loggerhead Proposed Listing Rule
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway, Building 3, Room 13657
Silver Spring, MD 20910

RE: RIN 0648-AY49, Proposed Loggerhead Status Change

Dear Sir or Madam:

On behalf of the Fisheries Survival Fund we offer the following comments regarding the proposal to establish nine “distinct population segments” (“DPS”) for loggerhead sea turtles and to change the listing status for most of the new DPSs from “threatened” to “endangered.” 75 Fed. Reg. 12598 (Mar. 16, 2010). These are joined by Associated Fisheries of Maine, Long Island Commercial Fishermen’s Association, North Carolina Fisheries Association, Southeastern Fisheries Association, Garden State Seafood Association, and Sustainable Fisheries Coalition.

The Federal Register notice requests comments on a specific set of questions: “(1) historical and current population status and trends; (2) historical and current distribution; (3) migratory movements and behavior; (4) genetic population structure; (5) current or planned activities that may adversely impact loggerhead turtles; and (6) ongoing efforts to protect loggerhead turtles.” The National Marine Fisheries Service (“NMFS”) and U.S. Fish and Wildlife Service (“FWS”) (collectively, the “Services”) “are also soliciting information and comment on the status and effectiveness of conservation efforts and the approach that should be used to weigh the risk of extinction of each DPS.” *Id.*

In addressing these questions, we incorporate the attached report prepared for the group by Dr. Trevor Kenchington, principal of Gadus Associates. This report well details the scientific deficiencies of the extinction analysis undertaken in the 2009 Status Review¹ by the Loggerhead

¹ Loggerhead Sea Turtle (*Caretta caretta*) 2009 Status Review Under the Endangered Species Act (Aug. 2009) (“2009 Status Review”).

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Biological Review Team (“BRT”), particularly as they relate to the key legal issue of the imminence of loggerhead turtle extinction. It also discusses deficiencies with the DPS analysis, a matter we do not address in great detail herein except to note that the proposed division of the population of loggerhead sea turtles into nine DPSs can be most charitably be described as pushing the limits of the Services’ own policy. On that basis alone, we oppose this aspect of the proposal and would strenuously object to any attempt to further divide the population into yet even smaller units.

Summary of Comments

In summary, we question whether the proposed designation of the loggerhead population as nine individual DPSs is either appropriate or meets the congressional command that DPSs be used “sparingly.”² **However, we strongly oppose the designation of either the species as a whole or the Northwest Atlantic (“NWA”) DPS as endangered.** As we will show, decades of effective regulatory measures and nesting beach and hatchling protection efforts have led to a significant rebound in the species. Certainly, all indications are that this species is comprised of millions of individuals, making extinction in any foreseeable timeframe well nigh impossible.

More to the relevant legal point, a change in status is not warranted by the best scientific and commercial data available, which is the ESA’s primary legal criterion to which the Services must adhere in making listing determinations. *See* 16 U.S.C. § 1533(b)(1)(A). For one, the BRT never assessed the proposed species – that is, the population comprising the NWA DPS – as a whole; rather analysis focused solely on specific indices. No finding was ever made as to whether the species as it is proposed to be defined is in danger of extinction. Nor was there any analysis of the timeframe in which extinction is likely to occur, which itself is the primary factor distinguishing a threatened from an endangered species under the ESA. Thus, the primary legal standard was never addressed. Therefore, the appropriate response would be to find that there is not sufficient evidence to justify the uplisting proposal and to withdraw the proposed regulation under 16 U.S.C. § 1533(b)(6)(B)(ii) of the Endangered Species Act (“ESA”), at least as to the proposed NWA DPS, and likely the proposed North Pacific Ocean DPS, as well.

In this regard, we note that the Services, in cooperation with other federal agencies, are now undertaking an aerial survey of in-water loggerhead turtle population – a recommendation of the most recent review of the species’ recovery plan, every ESA Section 7 Biological Opinion for fisheries impacting loggerheads of which we are aware, and the National Research Council.³

² “Congress has instructed the Secretary to exercise this authority with regard to DPS’s “* * * sparingly and only when the biological evidence indicates that such action is warranted.”” 61 Fed. Reg. 4722, 4722 (Feb. 7, 1996) (quoting Senate Report 151, 96th Congress, 1st Session).

³ National Research Council, Committee on Sea Turtle Population Assessment Methods, *Assessment of Sea-Turtle Status and Trends: Integrating Demography and Abundance* (Prepubl. Copy) (“NRC Report”), at 103 (2010), available at <http://www.nap.edu/catalog/12889.html>.

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As compared to the 2009 Status Review, this planned five-year survey will provide information directly relevant to the question whether loggerheads are threatened with imminent extinction. The Services should withdraw the current proposal and reinitiate a biological review only if the data collected from these surveys provide evidence of unsustainably low populations. The Services should also give time to see if the more recent nesting trends continue to hold.⁴

Importantly, the question before the Services is not whether loggerhead sea turtles should be afforded protection under the ESA, because the worldwide population is already listed under the Act and subject to extensive regulatory protections in the United States and globally. “As soon as the [Services] list[] a species as either endangered or threatened, that species is immediately entitled to a number of measures designed to preserve and protect it.” *Defenders of Wildlife v. Babbitt*, 958 F. Supp. 670, 677 (D.D.C, 1997). Rather, the issue is whether the best scientific and commercial information supports a change in listing status.

As we explain, one key problem is that neither the BRT nor the Services dealt with the actual abundance of loggerhead turtles or bothered to develop a numeric value to define “quasi-extinction” based on known biological characteristics of loggerheads. Rather, the BRT generated relative estimates of potential decline in its susceptibility to quasi-extinction (“SQE”) analysis. Further, those relied solely on nesting data as the only empirical input. Because sea turtles are both long-lived and late maturing, this analysis completely ignores the myriad efforts to reduce anthropogenic mortality and increase survival implemented over the past twenty to thirty years, the benefits of which to conservation of juvenile loggerheads have yet to influence adult numbers. This math-rich, but data-poor approach does not address relevant legal criteria.

As to the BRT’s Threat Matrix Model, the exercise was even further divorced from the task of determining whether loggerhead extinction was imminent, as compared to being a likelihood in the foreseeable future (*i.e.*, whether any DPS is “endangered” or “threatened,” per the terms of the ESA). As the BRT itself frankly stated: “The analysis does not provide estimates for the likelihood or probability of extinction.” 2009 Status Review at 53. Making that determination, however, was the BRT’s sole task. This model skewed estimates of anthropogenic mortalities high, leading to “a false sense of urgency,” *id.* at 58, 67, primarily because it over-relied on the subjective opinions of experts.

In conclusion, *status quo* listing status for loggerhead sea turtles ensures that protection of the species remains in place while further data is collected and analyzed. For the NWS DPS, moreover, the Services have not made the case that a population with more than 30,000 breeding

⁴ As explained below, the declining trend in the Peninsular Florida recovery unit upon which the endangerment finding principally relies appears to have stabilized and may even be trending upward in years subsequent to those examined by the Biological Review Team.

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females, and a neritic female population in the range of 300,000, or perhaps more,⁵ individuals, is in imminent danger of extinction and thus meets the legal standard of endangered.

I. Brief Discussion of Legal Considerations

The standard for determining whether a petition to change the status of listed species is warranted is whether “the status review provides *convincing information* to conclude that a proposal is warranted.”⁶ “Although an agency must . . . use the best available science to make [an ESA Section 4 listing] determination, [caselaw] cannot be read to require an agency to ‘give the benefit of the doubt to the species’ under Section 4 if the data is uncertain or inconclusive.” *Trout Unlimited v. Lohn*, 645 F. Supp. 2d 929, 947 (D. Ore. 2007)). In other words, while “Congress vested the NMFS with discretion to make listing decisions based on consideration of the relevant statutory factors using the best scientific information available,” it did not vest the agency with the authority to shade that information in the same highly precautionary manner that may be appropriate in the context of a Section 7 consultation. *Id.*

The ESA defines an endangered species as “any species which is in danger of extinction throughout all or a significant portion of its range,” whereas a threatened species is one likely to become endangered in the “foreseeable future.” 16 U.S.C. § 1532(6),(20). “The purpose of creating a separate designation for species which are ‘threatened’, in addition to species which are ‘endangered’, was to try to ‘regulate these animals *before the danger becomes imminent* while long-range action is begun.’” *Defenders of Wildlife v. Babbitt*, 958 F. Supp. 670, 680 (D.D.C. 1997) (quoting S. Rep. No. 307, 93d Cong. 1st Sess. 3 (1973), *reprinted in* Legislative History of the Endangered Species Act of 1973, As Amended in 1976, 1977, 1978.1979, and 1980, at 302) (emphasis added). Thus, the difference between a species which is endangered and one that is merely threatened is that the former is in *imminent* danger of extinction.

The definition of “imminent” has received “considerable judicial attention.” *Continental Ill. Nat. B. & T. Co. of Chicago v. United States*, 504 F. 2d 586, 591 (7th Cir. 1974). “Without citing individual cases, it is clear that ‘imminent’ refers to something which is threatening to happen at once, something close at hand, something to happen upon the instant, close although not yet touching, and on the point of happening.” *Id.* In the analogous case of claims of “imminent and substantial endangerment to health or the environment” caused by solid or

⁵ Southeast Fisheries Science Center, “Estimated Impacts of Mortality Reductions on Loggerhead Sea Turtle Population Dynamics, Preliminary Results,” Slide 6 (June 2009), available at http://www.sefsc.noaa.gov/PDFdocs/AP_NOAA_SEFSC_2009.pdf. Of course, with males, year one post-hatchlings, and oceanic juveniles added in, the total population is could be comprised of several millions. Getting a better grasp of the total population is essential and the key purpose of the current in-water survey efforts.

⁶ U.S. Fish and Wildlife Service & NMFS, “Endangered Species Petition Management Guidance” at 13, § III(C)(1)(b)(2) (July 1996) (emphasis added).

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hazardous waste within section 6972 of the Resource Conservation and Recovery Act, the Supreme Court stated: “The meaning of this timing restriction is plain: An endangerment can only be ‘imminent’ if it ‘threaten[s] to occur immediately’” *Meghrig v. KFC Western, Inc.*, 516 US 479, 485 (1996) (quoting Webster’s New Int’l Dictionary 1245 (2d ed.1934).

The ESA, however, does not define “extinction.” Where no definition is provided, courts first “consider the ordinary, common-sense meaning of the words,” *United States v. Dauray*, 215 F.3d 257, 260 (2d Cir. 2000), as did the Supreme Court in *Meghrig* cited above. According to Webster’s, “extinction” is defined as “the condition or fact of being extinct,” while the relevant definition of “extinct” is “no longer existing.” Webster’s New Collegiate Dictionary 402-03 (150th Ann. Ed. 1981). Thus, the ESA’s plain meaning is that an endangered species is one that is in imminent peril of no longer existing, either entirely or throughout a large and/or important part of its range.

The key statutory questions are whether convincing evidence exists showing loggerheads are “in danger of extinction,” *i.e.*, of disappearing, and whether such extinction is likely to be either worldwide or only over some range determined to be significant. As to the first, there is a dearth of caselaw that directly defines the meaning of “danger of extinction.” A negative population trend, standing alone, would not suffice. Any negative trend, however slight, must result in a projection of extinction (or quasi-extinction) over some period if no other factors were taken into account.⁷ Indeed, there are nations with negative population growth, but no one would assume from that that humans are in danger of extinction in a significant portion of their range. Rather, the critical question relating to danger is the imminence of the threat and the existence of factors to mitigate such threat. That is why Congress requires NMFS to examine efforts underway to avoid extinction.⁸

Likewise, it is unreasonable to determine that a population is in danger of extinction if such prospect lies fifty or a hundred years in the future. Such a time frame allows ample time for intervention to avoid the “danger.” *See id.*; *see also Defenders of Wildlife*, 958 F. Supp. at 680.

⁷ In fact, a negative population trend alone, without more, cannot even be said to support a *threatened* listing as a legal matter. *See Lohn*, 645 F. Supp. 2d at 947 (noting that were the Services to “give the benefit of the doubt” to species in making listing determinations, it would “result in all or nearly all species being listed as threatened,” as a conservative assessment of whether any species was “likely to become endangered” would always lead to erring on the side of the inevitability of such a possibility).

⁸ *See* 16 U.S.C. § 1533(b)(1)(A) (listing determinations must “tak[e] into account those efforts, if any, being made by any State or foreign nation, or any political subdivision of a State or foreign nation, to protect such species, whether by predator control, protection of habitat and food supply, or other conservation practices, within any area under its jurisdiction; or on the high seas”). This inquiry includes myriad conservation efforts undertaken by other nations, multinational organizations, various states, and other federal agencies, as well as the Services.

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This is a logical corollary of the distinction between the definitions of “threatened,” which directs the Services to look into the “foreseeable future” for extinction risk, and “endangered,” which implies a near and present danger of extinction. In other words, if the prospect of extinction is well off in the foreseeable future, then, as a legal matter, a stock may only be considered threatened under the ESA because the danger of extinction is distant and the stock, at worst, is only likely to become endangered.

Consistently, when the impact of the scallop fishery on loggerhead turtles was last assessed, for example, NMFS undertook analysis that looked at probability of extinction in terms of the time to quasi-extinction.⁹ This report was conducted in the context of an ESA Section 7 consultation to determine whether the fishery could lead to “jeopardy.” The basic findings, utilizing the same nesting trends and similar modeling techniques as relied upon by the 2009 Status Review¹⁰ and very conservative (*i.e.*, precautionarily high) estimates of takes by the scallop fishery, were that the likelihood of quasi-extinction over a 75 year period was zero, and the likelihood at 100 years was only 0.01. Merrick & Hass, *supra* n.9, at 8. As explained below, neither the BRT nor the Services have made a comparable quantitative finding of the likelihood of near-term extinction with respect to loggerheads as a global species or as a species within any of the newly proposed DPSs.

II. Brief Discussion of the Shortcomings of the 2009 Status Review

As mentioned, we rely upon and incorporate the attached report of Dr. Kenchington as the primary basis for our contention that the BRT’s 2009 Status Review provides no support for a change in loggerhead sea turtle listing status.

Neither of the methodologies utilized in the 2009 Status Review provide the necessary “convincing evidence” of near-term extinction of loggerheads, either globally or in the NWA DPS. In fact, neither of the two models employed by the BRT are geared toward the legally relevant factors, and thus do nothing to further the inquiry as to the imminence of loggerhead extinction. Thus, as a legal matter, a change in listing status is not warranted by the best scientific and commercial data available.

The Susceptibility to Quasi-Extinction Model: The SQE analysis is not a tool that is designed or appropriate for making the necessary listing determination. As the BRT noted, while the SQE “method is robust in assessing actual risk (in terms of a binary metric of ‘at risk’ or ‘not at risk’) using population simulations, [its authors] clarify that SQE values *are not indicative of a*

⁹ See Merrick & Hass, *Analysis of Atlantic Sea Scallop (Placopecten magellanicus) Fishery Impacts on the North Atlantic Population of Loggerhead Sea Turtles (Caretta caretta)*, NOAA Technical Mem. NMFS-NE-207 (Feb. 2008).

¹⁰ See Final Atlantic Sea Scallop Framework Adjustment 21, 75 Fed. Reg. 36559, 36563 (June 28, 2010).

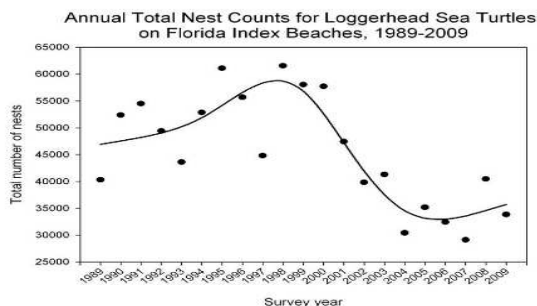
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true probability of quasi-extinction because they assume constant distributions of trend and variance over long time frames (three generations) and ignore density dependence.” 2009 Status Review at 36 (emphasis added). However, the Services have already made the determination that loggerheads are “at risk” back in 1978 when the species was first listed as threatened. The SQE analysis does not tell whether extinction is imminent, a fact to which the BRT itself attests.

Furthermore, the SQE analysis incorporates no biological information save for the results of nesting beach surveys and uses a relative change in population status as a proxy for the likelihood of extinction without regard to actual population levels. It is beyond comprehension how the BRT, and the Services following in its footsteps, could find the NWA DPS in danger of extinction with an adult female population *conservatively* estimated to exceed 30,000 and the 2008 Peninsular Florida nest counts alone exceeding 40,000. For reference, the Tongaland nesting population has shown a steady pattern of growth since the 1960s, recovering from a population of only a few hundred nesting females. Indeed, as Dr. Kenchington notes, the BRT’s own analysis “suggests that the population is safe from quasi-extinction (in the commonly-accepted meaning of that term, which is also the one defined in the Federal Register notice) any time in the next hundred years provided that the threshold of quasi-extinction is not greater than some 2,800 breeding females.” Kenchington Report at 29. Given the Tongaland experience, this appears to be a safe assumption. And neither the BRT, the Services, nor any other body of which we are aware have predicted a rapid decline to such low levels in the near future.

There are myriad other problems with the SQE analysis, not least of which is the basic model which is entirely driven by recent trends in nest counts. It cannot account for the non-monotonic population trends seen in the NWA and North Pacific DPSs. The former shows steady growth from 1989 to late 1990s, a steep decline and a leveling off (or an increasing trend) over the past five years.¹¹ The NWA DPS is not demonstrating a steady trend, but a fluctuating

¹¹ The 2008 Florida nest count, which shows a greater than 10,000 nest increase over 2007 (the series low), was not included, but would have likely substantially changed the SQE analysis. *Id.* at 23. While there was a slight decline again in 2009, it is beyond dispute that the recent trend is level or increasing. See Fla. Fish and Wildlife Research Institute, “2009 Nesting Season for Loggerheads Continues Long-term Declining Trend,” *available at* http://research.myfwc.com/features/view_article.asp?id=27537. Despite the report’s name, the fitted curve in the graph on the website shows a recent increasing trend:



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response to population changes (time-varying mortality acting on various life stages) past or present that have influenced the current number of mature loggerhead females. The SQE analysis, based as it was on nest numbers alone, does not and cannot account for measures taken to reduce mortality over the past twenty to thirty years on eggs, hatchlings, and juveniles. 2009 Status Review at 83. The fact that the Peninsular Florida recovery unit has leveled off and may be increasing is, in itself, significant evidence that the population is not moving towards imminent extinction.¹²

If a particular nesting data series had a generally declining trend, the SQE model found high probabilities of exceeding various quasi-extinction thresholds at the precautionary critical value the BRT set for SQE. This is in the very nature of diffusion approximation analysis. One could have come to the same conclusion by simply looking at the trends, without resorting to such complex models. But this approach was completely inadequate for assessing populations like the NWA DPS with perturbations both known and unknown affecting mortality rates throughout the life of the adult females and the unmeasured population of oceanic and neritic juveniles and young-of-year. These management interventions, particularly the most recent and effective, have and will continue to have beneficial impacts that will not be seen on beaches for decades.

In fact, the Turtle Expert Working Group (“TEWG”), in its 2009 Assessment of the Loggerhead Turtle Population in the Western North Atlantic,¹³ noted significant increases of juvenile loggerhead in four southeastern in-water indices. *Id.* at 65-66. A North Carolina index based on pound net intercepts shows a 13% annual increase in juveniles over the 1995-2003 period. *Id.* at 65 (citing Epperly *et al.* (2007)). The SEAMAP survey shows a 5% increase from 1990-2006, and two other Florida indices likewise show significant increases. *Id.* at 66. While two northeastern indices show the opposite trend, the increases of juveniles found in more rigorous and consistent indices occurring in important southeastern neritic habitat lends strong support to the notion that nesting trends are likely to fluctuate, but move in a positive direction.¹⁴

¹² It is important not to let pass the completely wrong-headed approach the BRT and the Services took in assessing the DPSs. If accepted, each DPS is a “species” within the meaning of the ESA, and the listing determination is being made with respect to each species. However, analysis was done not on such a species bases, nor even on the basis of recovery units within the DPS, but solely on the basis of individual indices. This analysis failed to look at the population as a whole, which is indeed larger than its component parts (even if, with respect to the NWA DPS, the Peninsular Florida is the largest component by far). The BRT does not even purport to have assessed the population, including the turtles outside of index beaches and elsewhere in the Caribbean, or the threat of total extirpation from the region (that extends as far south as Guiana), which is the legal lynch-pin. This, in itself, is a fatal flaw in the proposed determination.

¹³ NOAA Technical Memorandum NMFS-SEFSC-575 (2009).

¹⁴ The TEWG also noted that there has been a significant shift in size of juveniles, *i.e.*, the proportion of smaller juveniles in the surveys is declining. *Id.* at 68-69. While this could be

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These indices provide a strong indication that conservation efforts have helped increase juvenile survival rates, and there is a good chance that “there is a relatively large cohort that will be reaching maturity in the near future.” *Id.* at 69

These are just some of the problems with the SQE analysis. We refer you to Dr. Kenchington’s discussion of the problems with the extrapolations of this model over a 100-year timeframe and other technical deficiencies. At its root, the basic shortcoming with this approach is that it measures only a fraction of the overall population and is necessarily backward-looking, given that the median age of first reproduction is 30 years. Virtually all nesting females captured by beach surveys were born before the species had the benefit of the protection of the ESA.

The Threat Matrix Analysis: This model incorporates out-dated, qualitative estimates of risk factors that, using the scallop fishery as an example, are mischaracterized and inaccurate.¹⁵ This certainly raises the question of just how expert the “expert opinion” used to derive the key model parameter, anthropogenic mortality, is. More to the present point, not even the BRT claims that the model is appropriate for the task it was charged with undertaking: “The analysis does not provide estimates for the likelihood or probability of extinction.” 2009 Status Review at 53. Making that determination, however, was the BRT’s *raison d’etre*.

The entire exercise was fraught with error, and leavened with a heavy dose of precaution.¹⁶ The analysis in Dr. Kenchington’s report is more than adequate to conclude that

indicative of a recent recruitment failure, it may also indicate a shift in the foraging grounds or a delay in leaving the oceanic stage. *Id.* at 70. Considering that smaller juveniles would have been hatched between the mid-1980s to late 1990s, a time of increasing nest counts in Peninsular Florida (not to mentioned increasing protective measures), the latter causes for their absence in recent surveys appear more likely. Certainly, fishermen throughout the Mid-Atlantic Bight have witnessed a sharp increase in foraging juveniles on off-shore fishing grounds, observations consistent with a shift in forage grounds. Dr. Kenchington takes a different view of the data the TEWG examined: “Closer inspection of the data (Assessment Fig. 24, pp. 71–73), however, suggests that only the relative proportion of small juveniles fell, while their absolute numbers remained approximately stable.” Kenchington Report at 67.

¹⁵ For instance, the report ignores the development and use of chain mats, which are proven to reduce harmful and lethal takes. *Compare* 2009 Status Review at 135 (“Turtles can be . . . captured in the bag where they may drown or be further injured or killed when the catch and heavy gear are dumped on the vessel deck”); *see also* Threat Tables, notes (the impact of chain mats was not considered), *available at* http://www.nmfs.noaa.gov/pr/recovery/threats_tables-final.xls.

¹⁶ The BRT itself confessed that “[t]his analysis indicated potential overestimation by the experts of anthropogenic mortalities” and that the analysis “may provide a false sense of urgency.” 2009 Status Review at 67 (citing Tables 3-11). As Dr. Kenchington observes, this is “one way of saying that the model was (a) wrong and (b) biased.” Kenchington Report at 31.

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the BRT's effort was not a scientific enterprise, nor does it provide any useful information with respect to the Services' listing decision. The two elements that deserve to be highlighted here are the admitted use of skewed data and the absolutely indefensible extent of its reliance on so-called "expert opinion." To sum up, the BRT constructed a model that was inadequate to the task with which the BRT was set, and then proceeded to strip the model of scientific value by using biased (in the statistical sense) opinions to construct the most important variable in the model.

To start, the Status Review fails to shed any light on who the experts consulted were, what terms of reference they were given for categorizing threats into the four nominal categories (Very Low, Low, Medium, and High), and even whether they were provided with the ranges of mortality associated with each category or whether the BRT assigned values to the experts' subjective evaluations. This is a critical issue because the public has no indication whether there was any consistency, either between DPSs or between threats within a DPS, as different experts may have vastly different perceptions of various sources of anthropogenic mortality. In response to peer reviewers' criticisms on these questions (both of consistency and use of such broad ranges of mortalities associated with each nominal category), the BRT stated that its "threat levels were determined from available information on anthropogenic mortalities and abundance of loggerhead turtles." 2009 Status Review at 67. But if such data existed, there would be no need to seek opinions—the answers would be contained within the "available information." This statement is both unresponsive and evasive, if not substantially untruthful.¹⁷

Nor is it acceptable that the BRT failed to present the methodology for calculating anthropogenic mortality estimates used by its experts in a rigorous and accessible fashion. Rather, these are presented as embedded notes in an Excel spreadsheet. This is certainly a disservice given the importance of the task at hand.

A review of these notes provides no comfort or assurance that the process of eliciting expert opinion was rigorous or standardized. In some instances, such as for dredge fisheries (primarily the Atlantic sea scallop fishery), estimated anthropogenic mortalities was essentially derived from the most recent Biological Opinion, albeit that estimate was clearly a worst-case scenario. More specifically, the estimate of lethal takes for the scallop fishery in 2005, the latest year used in that report, was zero, yet NMFS assumed biannual lethal takes of 595 loggerheads, which is essentially the level used by the BRT (300 mortalities per year, ranging up, however, to 1,000). While clearly precautionary,¹⁸ at least the number was tethered to some analysis.

¹⁷ The lack of substantive response to the most salient criticisms by the independent experts who reviewed the draft report is one of the more disturbing aspects of this process. See Kenchington Report at 39 for a summary of some of these comments.

¹⁸ As mentioned above, such precaution may be allowable in the context of a Section 7 consultation, where Congress has indicated that the Services should "give the benefit of the doubt" to species in jeopardy determinations. It has no place in a listing decision.

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By contrast, the range of lethal takes for juvenile loggerheads given for trawl fisheries, 10,001 – 100,000 (log mid-point 30,000), took “as a starting point” in order “to be conservative” the high endpoint of mortalities from analysis of shrimp fisheries done before the larger TEDs were required.¹⁹ The rest of the explanation rests on the “experts” view of TED compliance and design, as well as their guess of takes in other Atlantic and Gulf trawl fisheries. The only other “empirical” data are estimates of *total* takes by Mid-Atlantic otter and scallop trawls (616 and 81-191, respectively), not estimates of lethal takes. In short, the estimate of mortality levels is simply a guess, and an improbably high one at that.

Analysis premised on such flimsy grounds is not science, and it certainly does not meet the ESA standard requiring use of the “best scientific and commercial data available.” No matter how the one looks at it, opinions are neither scientific nor are they data. Yet, these experts’ opinions are the sole basis on which the results of the Threat Matrix Analysis rests. Not only would it be improper in the extreme to base something as important as a listing decision on this exercise, doing so would violate the terms of the Endangered Species Act.

Final Comments on the BRT’s Analyses: Perhaps the major problem not heretofore discussed is that, throughout, the BRT incorporated the most pessimistic and conservative assumptions in its analyses. For example, with respect to the assumptions made in the Threat Matrix Analysis, the BRT stated that “we used the precautionary principle for characterizing the threat level.” 2009 Status Review at 77. For the SQE analysis, the BRT ignored the model developers’ use of 0.4 as the critical value, which was found to balance the risk of making both Type I and Type II error, opting (without analysis or discussion) to reduce that value to 0.3. This had the effect of increasing the chances of finding risk where none exists. *Id.* at 38. In short, all assumptions incorporated in the models were skewed towards findings of endangerment—a case study in “worst case scenarios.”

As noted above, this approach could be suitable, and perhaps even required, in the context of a Section 7 consultation, where the question is whether a federal action is or is not likely to result in jeopardy to a listed species. However, it is legally inappropriate in the context of a listing decision. The Services are required to use the best scientific and commercial data available, not data skewed toward a particular result. In the present case, as shown here and in Dr. Kenchington’s report, the BRT failed to utilize both basic biological and population dynamic expertise. Further, contrary information, such as the TEWG’s findings with respect to the increase in juvenile abundance and the newer nest numbers, was ignored.

As the Southeast Fisheries Science Center noted in its attempt to measure the impacts of conservation measures on population trends, “it does not take much adjustment to parameters to

¹⁹ That is, 8,498 mortalities, when NMFS estimates 3,948 annual mortalities from the fishery.

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get dramatically different results.” SEFSC 2009, *supra* n.5, at 40. In that case, small changes in assumptions about various factors, particularly pelagic survival and the age of maturity, changed population trajectories from declining to increasing. In summary, the Center found:

Concluding that any single result is “the best available science” would be a gross simplification of this assessment. This model cannot effectively address any specific question of what the effect of [loggerhead turtle] mortality in a given fishery would be without making very large assumptions that are difficult to justify.

Id. That analysis utilized much of the same data and assumptions as those contained in the 2009 Status Review. The problems the SEFSC team faced were equally applicable to the BRT’s work, and its cautions should be heeded. Indeed, the National Research Council has recently issued a report criticizing the empirical attempts to model turtle populations because of the lack of critical vital rates, quality data, and, most importantly, a rigorous procedural framework informed by experts in other quantitative modeling fields. NRC, *supra* n.3, at 90-91.

But while significant and recognized problems exist in attempting to assess quantitatively sea turtle populations, model risk, and measure the effects of conservation measures on population trends, the simple task facing the Services in making the current listing decision – is the loggerhead population in imminent risk of extinction? – could have been accomplished in a defensible manner. It does not take models of impenetrable complexity to answer this question. Rather, the exercise would have been on much more solid footing if the BRT had used less math, and instead applied critical thought as to whether the results comported with what is known about loggerhead biology, actual experience with specific sub-populations (as in the Tongaland example), and the trends in threats that are not yet reflected in the nesting surveys. There is no way such an analysis could result in finding of imminent extinction of this species.

III. The Services’ Questionable Summary of Factors Affecting Loggerhead Turtles

In the March 16, 2010, proposed rule, the Services set forth their summary, based primarily on the 2009 Status Review, as well as other sources, of the factors set forth in ESA Section 4 for making listing determinations. Those five factors are:

(A) The present or threatened destruction, modification, or curtailment of its habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting its continued existence.

75 Fed. Reg. at 12615 (following 16 U.S.C. § 1533(a)(1)). Application of these factors is mandated by law, but the Administrative Procedure Act, 5 U.S.C. Chapt. 5, further requires, as a

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matter of rational decisionmaking, that such application be based on evidence before the agency and that any conclusions be consistent with such evidence.

As mentioned below in the discussion of each factor (as applied to the NWA DPS), the Services claim merely that conditions discussed “are significant threats to the persistence of this DPS.” *See, e.g., id.* at 12627. In each instance, that statement is more or less true. The fact of significant threats and declines in historical populations is the reason that loggerhead turtles were listed as threatened in the first place. But while existence of these threats is a necessary predicate to a decision as to whether or not list a species, threat alone is not sufficient to support a decision to change the listing status from threatened to endangered. To make this case, the Services must show that either biological or anthropogenic conditions have changed in a manner suggesting that loggerheads are in present danger of extinction throughout all or a significant portion of its range.

This case has not and cannot be made for loggerheads, particularly with respect to the NWA DPS. Indeed, the Services do not even attempt to argue that the level in threats is increasing so rapidly as to support a finding of present danger of extinction. Therefore, the case for a change in listing status has not been established and the proposed rule should be rejected. We discuss each of the Section 4 factors relative to the NWA DPS:

Curtailment of Habitat or Range: The discussion of the terrestrial and neritic/oceanic habitat includes a laundry-list of threats, such as pollution, beach erosion and replenishment, light pollution, and development. All these factors inarguably are important and have negative implications for sea turtles, but they are also long-standing issues that have been well-understood for decades, as is clear from the dates of the cited studies which extend back to the 1940s. What is missing from the discussion are the trends in addressing these threats, which at least over the past twenty years have been, on balance, positive.

For instance, the discussion of serious impacts of artificial lighting ignores the increase in municipal lighting restrictions during nesting and hatching periods throughout Florida and elsewhere (although this is briefly mentioned and dismissed in the “Conservation” section). Similarly, with beach replenishment and the like, we understand that the American Shore and Beach Preservation Association is providing an extensive discussion of new state and local efforts and regulations that have been put in place to mitigate impacts of these activities on nesting turtles. North Carolina is implementing restrictions on vehicle use on beaches in response to ESA litigation.²⁰ These and other measures have been increasingly adopted and must be considered in the context of this decision because measures that increase survivorship of hatchlings and juveniles is directly pertinent to the question the Services are addressing.

²⁰ *See, e.g.,* National Park Service, Cape Hatteras National Seashore Sea Turtle 2009 Annual Report, *available at* <http://www.nps.gov/caha/naturescience/upload/2009%20Amaranth%20Annual%20Report.pdf>.

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Special mention deserves to be made in regards to the discussion of fishing activities on the suitability of loggerhead habitat. First, these impacts are also discussed in the context of the fifth factor, so it is important to insure that any impacts are not double counted. Second, while the issue of forage is important, the analysis in the Federal Register notice is wholly inadequate and incomplete. No rational discussion of the impacts of commercial and recreational fishing on fishery populations, thus forage success, can omit mention of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2007, P.L. 109-479, and its requirements.

The Reauthorization Act has mandated that overfishing of any stock be ended within two years of a declaration and strengthened the rebuilding requirements, in part by hastening development and approval of management measures. More importantly, all fishery management plans are required to include annual catch limits, based on scientific advice that specifically incorporates uncertainty, by 2011. As NMFS is well aware, these new requirements have led to a flurry of new conservation and management measures throughout the United States that reduce fishing effort and will increase stock size. The discussion also omits state management efforts, such as the Atlantic States Marine Fisheries Commission horseshoe crab plan, that directly addresses the issues raised with respect to forage for turtles that are otherwise addressed in the notice.

Overutilization: Again, there is no presentation of data as to the relative trends in direct harvest, although the Services do note the very recent ban on harvest in the Bahamas. The TEWG, however, noted that Cuba was the only nation in the region with significant harvest of turtles and that this ended in 1996. TWEG 2009, *supra* n.13, at xi, 81. Overall, while obviously direct use is a negative, the trend as been improving.

Disease or Predation: In terms of predation, the proposed rule specifically notes that “nest protection programs are in place at most of the major nesting beaches in the Northwest Atlantic” and “current predation levels in the United States are greatly reduced from historic levels.” 75 Fed. Reg. at 12627, 12628. Disease, for its part, is a factor, but one rated as very low by the BRT’s experts – as it doubtless is in an average year. Interestingly, as Dr. Kenchington notes in the section of his report entitled “Causes of the Decline,” an epizootic is the most reasonable explanation for the plunge in Peninsular Florida nests at the beginning of this century, a decline which solely affected loggerheads, as green and Kemps Ridley turtles nesting in the same areas continued their increase. It would be appropriate to investigate this possibility and particularly to confirm that the epizootic event has ended, which appears evident in the stabilization if not increase in recent Florida nest trends. Aside from the rare but major epizootic incidents which can occasionally affect any species, however, disease and predation appear to be trending better as a factor.

Inadequacy of Regulatory Mechanisms: The claims that NMFS faces “limitations on implementing demonstrated effective conservation measures” and that domestic “regulatory mechanisms are insufficient or are not being implemented effectively to address the needs of

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loggerheads” are nothing short of astounding. This is a slap to the fishing organizations on whose behalf this letter is being submitted, and all others in the industry. Not only are fishermen struggling under increasingly stringent measures designed to protect turtles,²¹ but many have been actively working with NMFS to design and implement protective measures, such as the turtle chains in the scallop fishery which have virtually eliminated lethal takes and the circle hook and bait research by pelagic longliners that have led to substantial take reductions. While NMFS may inexplicably want to admit failure, those of us involved with commercial fisheries are proud of the extraordinary measures undertaken to protect sea turtles.

Furthermore, while no regulatory measure is perfect, the mechanisms in the United States (and increasingly internationally) are strong and subject to constant improvement and enforcement. The law virtually assures that identified gaps in protection are filled. The Services are required to consult with federal agencies on activities that impact loggerheads and impose mitigation measures deemed necessary and appropriate to accomplish the task. Beyond this, the ESA regulatory regime is policed by an active environmental community empowered with the oft-exercised power to initiate citizen suits when and where they believe that protected species are not being accorded the full protection afforded by law. Recent litigation in North Carolina resulting in new restrictions is but one example.

The Agencies are empowered with and exercise some of the most substantial regulatory authority in the world to protect threatened and endangered species. While the mechanisms can always be and are being improved, this factor does not justify a change in listing status for loggerhead turtles. ESA regulatory mechanisms are a one-way ratchet – they are only made increasingly stringent.

Other Natural or Manmade Factors: There is no doubt that incidental takes of loggerhead turtles are a negative factor impacting the recovery of the species. This has long been recognized, which is why one of the earliest post-listing actions was to investigate, and subsequently require, TED solutions for the shrimp fishery. But, again, the issue before the Services is whether this factor has changed in such a way as to support a decision to uplist loggerheads from threatened to endangered. In short, the answer here is clearly “no.”

Since the passage of the Sustainable Fisheries Act of 1996 (“SFA”), and rapidly accelerating this past decade both before and after passage of the Reauthorization Act, fishing fleets and effort have declined dramatically²² and gear modifications, including turtle excluder

²¹ As a very, very brief list, this includes new time/area restrictions on the scallop fishery, a virtual shutdown of the Gulf longline fleet, a stepwise process to mandate the use of TEDs in all Atlantic trawl fisheries, and reinitiation of consultation for the Gulf shrimp fishery.

²² Taking the scallop fishery as an example, annual area swept by the fishery declined 70 percent between 1990 and 2008, from 16,266 square nautical miles to 4,880. Framework 19 to the Atlantic Sea Scallop Fishery Management Plan Final Submission at 103 (Tables 38 & 39)

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devices, circle hooks, and scallop dredge chain mats, coupled with time area closures, have all contributed significantly towards reducing in-water turtle mortalities.²³

As a non-exhaustive list, the SEFSC makes the following observations in its 2009 analysis on the impacts of mortality reductions on loggerhead population dynamics. Notably, this exercise was undertaken in support of a new Biological Opinion to evaluate the impacts of the reef fish bottom longline fishery in the Gulf of Mexico, which itself is under stringent emergency turtle protection measures:

Crouse et al. (1987) showed that management focusing on survival of large juveniles would have the greatest proportional effect on long-term population growth rate, supporting the first regulations for turtle excluder devices (TEDs) (Dep. of Commerce 1987). Subsequent work (Crowder et al. 1994, Heppell et al. 2003, NMFS SEFSC 2001) increased awareness of the value of [TEDs] in the shrimp fishery, and most recently led to the requirement for TEDs with large escape openings (Dep. of Commerce 2003s). Only one other trawl fishery in the U.S. Atlantic – the winter trawl fishery for summer flounder in the Mid Atlantic – is required by federal regulations to use TEDs (Dep. of Commerce 1996), but the agency is considering extending regulations to other trawl fisheries (Dep. of Commerce 2007b). Restrictions have also been placed, or are being proposed, in the following non-trawl U.S. fisheries of the Atlantic and Gulf of Mexico to minimize the impact on the neritic/benthic sea turtles by reducing the number of interactions and/or reducing mortality resulting from interaction: scallop dredges (Dep. of Commerce 2008a), Chesapeake Bay pound nets (Dep. of Commerce 2004a), gillnets used in the monkfish (Dep. of Commerce 2002b), shark (Dep. of Commerce 2002a, 2003b, 2007a), and flounder fisheries (Dep. of Commerce 2005), and hook and line gear used in the shark (Dep. of Commerce 2002a, 2007a, 2008b) and reef fish fisheries

(Dec. 19, 2007). Two fisheries with major loggerhead turtle interactions, the shrimp and highly migratory pelagic longline fisheries, are merely a fraction of their former size. *See, e.g.*, “Market Report – Shrimp Gulf shrimp fishery faces stagnant prices, declining fleet” (May 19, 2009) (“There are currently about 5,000 active Louisiana shrimpers, a 75 percent decline since the fishery’s heyday in the mid-1980s. Texas has embarked on government-led programs to reduce its number of shrimp boats by purchasing the licenses of more than half the fleet, or 1,800 inshore shrimpers.”), *available at* <http://www.seafoodsource.com/MarketReport.aspx?id=4830>.

²³ As only one example, see Office of Protected Resources, NMFS, “Report of the U.S. Longline Bycatch Reduction Assessment and Planning Workshop” Seattle, Washington (Sept. 18 - 20, 2007), *available at* http://www.nmfs.noaa.gov/pr/pdfs/interactions/longline_workshop.pdf. Depending on circle hook size and bait, these modifications have been shown to reduce loggerhead turtle takes by 40 to 90 percent. *Id.* at 8.

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(Dep. of Commerce 2006, Dep. of Commerce 2009). The most recent stock assessment examined the loggerhead population with regard to mortality due to pelagic longline fisheries, and culminated in regulations aimed at reducing mortality of oceanic/pelagic juveniles (Dep. of Commerce 2004b)

SEFSC 2009, *supra* n.5, at 1. One can add to this extensive catalogue the total or nearly total bans on the use of gillnets in state waters from South Carolina through to Texas, save for Mississippi (Alabama is phasing them out and North Carolina has recently imposed severe restrictions on location and gear) that began in the early 1980s and continue to today. Gillnetters, where allowed to fish, have generally been required to utilize smaller mesh nets to prevent entanglements and employ other tactics designed to protect turtles. Many time/area restrictions are in place to prevent fisheries interactions, most recently the reduction in scallop fishing during the months of overlap. *See, e.g.*, Atlantic Sea Scallop Framework 21, *supra* n.10, at 36561-62.

Some of these efforts are recognized in the Federal Register. *See, e.g.*, 75 Fed. Reg. at 12645-47 (“Conservation Efforts”). But the notice also fails to recognize some advancements. For instance, with respect to the Atlantic scallop fishery, it contends that loggerheads can be “captured in the bag where they may drown or be further injured or killed when the catch and heavy gear are dumped on the vessel deck.” *Id.* at 12629. This language appears to have been taken from earlier Biological Opinions, but it no longer describes the threat posed by the fishery. Industry-designed and -tested chain mats are required where and when the fishery and turtles overlap, which prevents these types of capture-related injuries. Other dredges modifications that prevent other types of injuries have been cooperatively tested, proven effective, and are in widespread use.²⁴

Combined, these measures—particularly shrimp TEDs and improvements thereto, advances in pelagic longline gear and practices, and dramatic gillnet reductions—have progressively reduced the threat facing juvenile and adult loggerheads by orders of magnitude. Hatchlings born in the past twenty to thirty years have a much improved chance of survival compared to current nesting females over their life span. Thus, while fisheries interactions and other manmade threats remain of concern, the trend has been significantly positive. This factor weighs strongly against a change in listing status.

IV. The Services’ Findings Are Arbitrary, Capricious, and Unsupported by the Evidence Before the Agencies

To reiterate, although we have not addressed the question of the designation of nine new DPSs, that matter is fully covered in Dr. Kenchington’s report, and on the bases detailed therein, we oppose this proposal. The law requires that the Services consider all comments, including

²⁴ *See* Smolowitz et al., “Using Sea Turtle Carcasses to Assess the Conservation Potential of a Turtle Excluder Dredge,” N. AM. J. OF FISHERIES MANAGEMENT 30:993–1000 (2010).

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those of Dr. Kenchington, and make this decision based on the best available scientific and commercial data available. The decision to identify a DPS must also be consistent with the Service's DPS Policy and the congressional command that such designations be used sparingly. We do not believe this standard has been met in the present instance.

But as to a change in the listing status, either of the species as a whole (which, of course, was not assessed) or the NWA DPS, the Services have not even attempted to make a claim that the species is in imminent danger of extinction. All that is claimed, chiefly based on the 2009 Status Review (the problems with which are detailed above), is that the "Northwest Atlantic Ocean DPS is likely to decline in the future, even under the lowest anthropogenic mortality rates." 75 Fed. Reg. at 12651. There is no finding or analysis of how much or how severe such a decline will be, and no such measure is available, not for the least reason that the BRT never undertook any quantitative analysis of population levels. Rather, without reason or analysis, the Services make a series of conclusory statements (addressed below) and then declare "we believe that the Northwest Atlantic Ocean DPS is in danger of extinction throughout all its range." *Id.*

This statement is completely unsupported by either the relevant analysis upon which the Services relied or anything contained in the notice itself. In point of fact, there has been no analysis made of the NWA DPS as a species, *see supra* n.12, nor any findings made with respect to its status whatsoever. The BRT only addressed some of the so-called "recovery units." More specifically, it analyzed only nesting indices themselves, which range from 10 to 23 years in length, or less than one- to two-thirds of a generation time. No finding was ever made that loggerhead turtles will be extinct in the Northwest Atlantic at any time in the foreseeable future, much less in the near term.

Such a finding would be, in fact, impossible to make.²⁵ While there is no estimate of the total neritic western North Atlantic loggerhead population, comprised of individuals older than about ten years, it is almost certain that it is comprised of hundreds of thousands of individuals. Counting all life stages, the NWA DPS likely numbers several millions. *See* Dr. Kenchington's Report at 50-51. This is a question that the newly initiated aerial survey should help answer. In any event, loggerheads are long-lived species, and the sheer number of recognized turtles ensures that loggerheads will be present in the Northwest Atlantic for scores of decades to come. In short, such an abundant species cannot be considered endangered as a legal matter, and the Services have made no finding to the contrary. As a result, this listing decision is entirely predicated on belief: "[W]e believe that the [NWA] DPS is in danger of extinction." 75 Fed. Reg. at 12651 (emphasis added).

²⁵ At least one of the members of the BRT would agree with this statement. J.A.Seminoff wrote: "We see no plausible scenario by which anthropogenic impacts, either direct or indirect, could wipe out an entire [marine turtle] species within the foreseeable future." Seminoff, J.A. & K. Shanker, *Marine turtles and IUCN Red Listing: A review of the process, the pitfalls, and novel assessment approaches*. J.EXPER.MAR.BIOL.ECOL. 356: 52-68 (2008). Apparently, Seminoff had no hand in writing the Synthesis section of the Status Review.

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Mere belief is all this decision could be based on, given the information before the agencies. The Services have completely failed to grapple with the issue of actual extinction. Instead, the finding is predicated on an entirely subjective set of bald statements that are equally unsupported by the record. The lack of empirical support for the claim can be seen from the reasons the Services proffered to support the finding, which itself was drawn from the 2009 Status Review's "synthesis" section, to wit:

Although national and international governmental and non-governmental entities on both sides of the North Atlantic are currently working toward reducing loggerhead bycatch, and some positive actions have been implemented, it is unlikely that this source of mortality can be sufficiently reduced across the range of the DPS in the near future because of [—]²⁶

1. **"The diversity and magnitude of the fisheries operating in the North Atlantic"** – As mentioned above, fisheries of the North Atlantic, and U.S. fisheries in particular, are both less diverse and of smaller magnitude than they were during nearly the entire period when current nesting females were hatched. Limited entry, conservation requirements that started in earnest with the 1996 Sustainable Fisheries Act and accelerated under the Reauthorization Act, and coastal gentrification have all combined to reduce commercial fishing fleets.
2. **"the lack of comprehensive information on fishing distribution and effort"** – The U.S. has perhaps the world's most comprehensive system of information collection and tracking of commercial fishing effort. Today, nearly every federally permitted vessel must carry and utilize vessel monitoring systems. States are increasingly coordinating management of their fisheries through entities like the Atlantic and Gulf States Marine Fisheries Commissions. These systems are magnitudes greater than when loggerheads were first declared threatened under the ESA. Observer levels are also being significantly increased both as a result of court decisions on bycatch monitoring and to meet the needs of new management approaches such as so-called "catch shares" (or "limited access privilege programs" in the term used by the Magnuson-Stevens Act).
3. **"limitations on implementing demonstrated effective conservation measures"** – As shown above, this is perhaps the most fallacious of rationales the Services could offer. Conservation efforts are constantly being upgraded and more broadly applied. Cooperative research, such as the longliners' circle hook program discussed above and ever improving shrimp and trawl TEDs, is leading to ever increasing protection for sea turtles at all life stages. The scallop chain mats and the new turtle dredge design currently in testing are other examples.

²⁶ This block quote and the following quoted text can be found at 75 Fed. Reg. at 12651 and 2009 Status Review at 164.

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Efforts are underway to better protect nesting beaches and nests themselves, as well as to reduce threats to hatchlings, such as light pollution and other natural and man-made threats.²⁷

4. “geopolitical complexities” – Where these geopolitical complexities exist is left unexplained, thus making this an entirely unsuitable basis on which to base a listing decision. Given that all the populations studied are within the United States, the import of such “complexities” is completely opaque. While some nesting populations in the NWA DPS occur in foreign nations, such as Mexico and Caribbean states, the U.S. has excellent relations with these countries (save for Cuba), as well as with European nations. Certainly, turtles emerging from nests within NWA DPS travel across the high seas and into jurisdictions of other nations, thus facing threats from other nations’ distant water and domestic fishing fleets. However, loggerheads are subject to the protection of the Convention on the Trade in Threatened and Endangered Species, and benefit from the efforts of international fora, such as the International Convention for the Conservation of Atlantic Tunas. The latter notably has recently taken serious steps towards reducing pressures on bluefin tuna. These efforts, along with the continued advocacy and education by U.S. conservation and diplomatic officials to export proven technologies to reduce lethal takes and otherwise strengthen international protections for marine turtles, all serve to reduce “geopolitical complexities.”

5. “limitations on enforcement capacity” – Enforcement of sea turtle protective measures always presents challenges, but the current system is comprehensive and effective. TED compliance is enforced through random at-sea boardings. Penalties for failure to comply are stiff. There is no reason to believe that enforcement presents any barrier to creation and implementation of an overarching turtle protection scheme. Nor is there any reason to suspect that enforcement efforts are weakening to the extent that an endangered listing is required.

6. “and lack of availability of comprehensive bycatch reduction technologies” – The meaning of this statement is entirely unclear. Of course, no single technology is appropriate for all fisheries. For some, TEDs are both economic and effective; for others, like gillnets, time/area management, mandatory tending of nets, or reduced soak times work well; for longliners, bait substitution, circle hooks, and use of technologies to avoid temperature bands preferred by turtles are all effective. The U.S., moreover, has an effective system for identifying problem fisheries and addressing those problems in an iterative and comprehensive manner.²⁸ Indeed, that system is largely predicated on cooperative research between the Services, industry, academic institutions, and non-governmental agencies. The interest in developing new bycatch reduction technologies is high and has been for a long time. There is no reason to suspect that such interest

²⁷ For only one example, see “Cape Hatteras National Seashore Sea Turtle 2009 Annual Report,” *supra* n.20, at 4-6 (describing the extraordinary efforts undertaken to protect nests from anthropogenic and natural threats).

²⁸ See, e.g., 74 Fed. Reg. 21627 (May 8, 2009) (notice of intent to expand TED use to all Atlantic trawl fisheries on a prioritized basis).

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will wane. Certainly, the legal requirement to minimize bycatch under the Magnuson-Stevens Act and reduce takes under the ESA will continue to push development of new technologies.

Individually or in combination, this above-enumerated laundry list of factors is insufficient to support the Services' "belie[f]" in the imminent extinction of loggerhead sea turtles. The underlying analysis, where it exists, does not provide "convincing evidence" that the legal standards for changing the listing status of loggerheads to endangered have been met. This proposed rule should and must be rejected.

Conclusion

The important fact to keep in mind is that this species (or these nine species, depending on the ultimate determination with respect to DPSs), is already protected under the ESA. The current issue is whether convincing evidence exists to change that listing, not whether measures are needed to conserve loggerheads. As shown herein, the best scientific and commercial data does not support this change.

However, more information is being collected to better understand the current status of loggerheads. In addition to the first in-water survey since the 1970s, the scallop research set-aside is being used to provide state-of-the-art telemetry data on juvenile turtle movements and foraging activity. What is certain is that in five years, loggerhead turtles will still exist and we will all know much more about the status of the species. In practical terms, an uplisting would divert resources from important research work to a flurry of new consultations, while doing virtually nothing to improve the prospects for the species recovery. Fortunately, since the evidence does not support the change in listing status, we should not have face this unfortunate choice.

We hope the Services seriously consider these comments in making their final listing determination. For their part, the organizations on whose behalf we write look forward to continuing their productive relationship with NMFS in the protection and recovery of sea turtles over the long run. We will be happy to provide any further information the Services may desire.

Sincerely,

/s/

David E. Frulla
Shaun M. Gehan
Andrew E. Minkiewicz

ATTACHMENT