



9 January 2015

Peter Cooper
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F/SF1
Office of Sustainable Fisheries
1315 East-West Highway
Silver Spring, MD 20910

Re: Predraft of Amendment 5b to the Highly Migratory Species Fisheries Management Plan

Dear Mr. Cooper:

Thank you for the opportunity to comment on the predraft for Amendment 5b to the Consolidated Atlantic Highly Migratory Species Fishery Management Plan (HMS FMP). Environmental Defense Fund (EDF) appreciates the National Oceanic and Atmospheric Administration's Office of Sustainable Fisheries' (NOAA Fisheries) interest in protecting dusky sharks, which, despite being a prohibited species since 1999, remain overfished with overfishing occurring. In light of the large reduction in fishing mortality necessary to prevent overfishing and achieve rebuilding, the measures outlined in Predraft Amendment 5b are likely to have significant economic and social impacts on those who fish for sharks, either commercially or recreationally, as well as those who encounter them as bycatch. If developed in close coordination with the fishing industry, rights-based management measures, including tradable bycatch quotas as currently established for Atlantic bluefin tuna in Amendment 7 to the HMS FMP, could minimize economic impacts as the agency brings this fishery into compliance with the Magnuson-Stevens Fishery Conservation and Management Act (MSA).

This letter reviews the legal authorities that apply to dusky sharks and the existing state of its management and then identifies some alternatives that could meet the purpose and need of Amendment 5b.

- I. Amendment 5b must significantly reduce fishing mortality to comply with the Magnuson-Stevens Act
 - A. The Magnuson-Stevens Act requires the agency to prevent overfishing and rebuild overfished fisheries.

Preventing overfishing is arguably the MSA's most central requirement. See 16 U.S.C. §§ 1851(a)(1) (National Standard 1: "Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery"),

1853(a)(1)(A) (FMPs must contain conservation and management measures that are “necessary and appropriate for the conservation and management of the fishery to prevent overfishing and rebuild overfished stocks”).

The overarching requirement to prevent overfishing has been federal law since the MSA was enacted in 1976. The 2007 reauthorization, however, strengthened this important requirement to make explicit that overfishing must end immediately in overfished fisheries, see 16 U.S.C. § 1854(e)(3)(A), and provided that all FMPs must include annual catch limits (ACLs) and “measures to ensure accountability” with those limits, *id.* § 1853(a)(15). The agency has specified that, as used in the MSA, “[c]atch includes fish that are retained for any purpose, as well as mortality of fish that are discarded.” 50 C.F.R. § 600.310(f)(2)(i). ACLs and accountability measures must therefore account for bycatch of a managed species. Because they are subject to overfishing, NOAA Fisheries was required to establish ACLs and accountability measures for dusky sharks by 2010.¹

The statute also requires NOAA Fisheries to rebuild overfished fisheries. See 16 U.S.C. §§ 1854(e)(3)(A) (for HMS, the Secretary must “prepare and implement a fishery management plan . . . to end overfishing immediately in the fishery and to rebuild affected stocks of fish”), 1853(a)(1)(A) (FMPs must contain conservation and management measures that “rebuild overfished stocks”). FMPs for Atlantic HMS species are developed by the Secretary directly, rather than through the regional council process. See *id.* § 1854(g).

The agency’s responsibilities continue when a rebuilding plan is implemented. The MSA requires that the Secretary review rebuilding plans every two years, and if she finds “that such plan, amendment or regulations have not resulted in adequate progress toward ending overfishing and rebuilding affected fish stocks, the Secretary shall – (A) in the case of a fishery to which section 302(a)(3) applies [HMS], immediately make revisions necessary to achieve adequate progress.” 16 U.S.C. § 1854(e)(7).

B. Dusky sharks are overfished, undergoing overfishing, and failing to rebuild.

Like other prohibited species in U.S. waters, virtually all dusky shark fishing mortality results from bycatch. See Predraft for Amendment 5b to the 2006 Consolidated Atlantic Highly Migratory Species Fishery Management Plan (“Am. 5b Predraft”) at 1-12 (NOAA March 2014). Despite the fact that possession of dusky sharks has been prohibited since 2000, repeated stock assessments, most recently in 2011, have found dusky sharks continue to be overfished and experiencing overfishing. See *id.* at 1-5 to 1-9. The agency has estimated that “under the current

¹ The 2007 reauthorizing legislation established a deadline of 2010 for setting ACLs for fisheries subject to overfishing “unless otherwise provided for under an international agreement in which the United States participates.” 16 U.S.C. § 1853 note. Even assuming that dusky sharks are considered a species subject to “an international agreement in which the United States participates,” nothing in any international agreement we are aware of “otherwise provide[s] for” establishing a deadline for setting ACLs for dusky sharks. Congress evidently knew how to exempt altogether a species from the new ACL requirements, see *id.* (exempting species that “have a life cycle of approximately 1 year,” which does not apply to dusky sharks), and did not do so with respect to dusky sharks. Accordingly, NMFS was obligated to establish an ACL for dusky sharks by 2010.

fishing mortality rate, the stock has only an 11 percent probability of recovery by 2480 (400 years).” 78 Fed. Reg. 29,100, 29,105 (May 17, 2013).

This management history makes clear that NOAA Fisheries’ strategy of prohibiting possession has not prevented overfishing and achieved rebuilding for dusky sharks. The current rebuilding plan was established in 2008 via Amendment 2 to the HMS FMP. See Am. 5b Predraft at 1-8. It is unclear whether NOAA Fisheries has undertaken the required biannual review of the effectiveness of the rebuilding plan, see 16 U.S.C. § 1854(e)(7). Regardless, multiple stock assessments have found overfishing continuing despite the rebuilding plan, and thus, by any standard, that plan is not functioning as intended. Indeed, NOAA Fisheries estimates that to achieve the rebuilding target in 100 years, fishing mortality must be cut by more than half. Am. 5b Predraft at 1-12.

We are unable to determine whether an ACL exists for dusky sharks or any of the other eighteen additional prohibited species of highly migratory sharks. See 50 C.F.R. § 635 Table 1 of Appendix A (listing 19 prohibited species). The commercial quota provisions of the shark regulations specify that “[t]he commercial quotas for sharks specified in this section apply to all sharks harvested from the management unit, regardless of where harvested.” *Id.* § 635.27(b)(1). However, prohibited species caught and killed as bycatch are not counted against these quotas. As such, no ACL appears to exist for these species. To the extent that the ACL is effectively set at zero due to the prohibition on retention, there are no accountability measures to ensure compliance with that limit.

Merely prohibiting retention does not satisfy the MSA’s requirement to establish ACLs and accountability measures, particularly where, as here, bycatch will continue to cause fishing mortality. See *Oceana v. Locke*, 831 F. Supp. 2d 95, 115-18 (D.D.C. 2011) (striking down fisheries regulations where accountability measures for prohibited species caught as bycatch were insufficient to ensure compliance with catch limits and thereby control mortality). The ACL and accountability requirements are a means of ensuring that the prohibition on overfishing has full force and effect; their absence in the case of a vulnerable species that the agency has documented has been overfished for many years is cause for particular concern.

Following the most recent (2011) stock assessment showing continued dusky shark overfishing, NOAA Fisheries acknowledged the need to reduce fishing mortality on dusky and other sharks. See Am. 5b Predraft at 1-9. Based on comments related to certain fishing restrictions, however, the agency delayed measures to protect dusky sharks. See *id.* at 1-10. While measures to protect other species took effect in July 2014, measures aimed at reducing dusky shark mortality specifically still have not been issued even in draft, despite statutory requirements to end overfishing and make necessary revisions to ineffective rebuilding plans “immediately,” see 16 U.S.C. § 1854(e)(3)(A), (e)(7).

C. Amendment 5b must evaluate adequate alternatives to end overfishing and achieve rebuilding

The agency has much to accomplish in Amendment 5b. As described above, and acknowledged in the predraft itself, the amendment must “develop and implement management measures that would end overfishing of dusky sharks and rebuild the dusky shark stock in conformance with applicable requirements under the Magnuson-Stevens Act.” Predraft 5b at 1-

13. Conformance with MSA requirements also will require the establishment of ACLs and accountability measures to ensure that those limits are not exceeded. In addition, the National Environmental Policy Act requires the agency to review reasonable alternatives to accomplish the purpose and need for the action under consideration. 40 C.F.R. § 1502.14. In order to determine which alternatives can accomplish the conservation objectives of the action while minimizing the impact to fishing communities as required by National Standard 8, see *NRDC v. Daley*, 209 F.3d 747,753 (D.C. Cir. 2000), the agency must similarly ensure an adequate range of alternatives and their socioeconomic consequences are evaluated.

II. Rights-based and cooperative management measures could achieve the objectives of Amendment 5b while minimizing economic impact

A. Proposed measures are limited and vague

The management history of dusky sharks vividly illustrates that simply prohibiting retention does not adequately protect this vulnerable animal. Some additional protections set forth in the predraft would help to conserve dusky sharks, but likely at significant, potentially crippling, economic costs. ***Fishing mortality on this currently prohibited species must be cut by more than half.*** The predraft does not explain which of the proposed measures can accomplish some or all of this sizable reduction, preventing reviewers from being able to meaningfully comment on the conventional measures outlined in the draft. How large will closed areas need to be, how long will they need to last, how many hooks will commercial fishermen be allowed to use, what minimum size will apply to recreational anglers? These key questions are left to be explored in later analyses, but we suspect that the answers to these questions are, respectively, large, a long time, few, and long, if dusky sharks are truly to be protected via conventional methods.

B. Rights-based measures and cooperative management offer better solutions

Using rights-based measures and cooperative fisheries management can protect dusky sharks with fewer economic impacts if developed in conjunction with the fishing industry.

Establishing science-based catch limits is key to both approaches. The 2011 stock assessment indicates that a fishing mortality rate of .023 to .027 – much lower than the current amount of fishing mortality that is occurring despite dusky sharks’s prohibited status – will permit the species to rebuild within the legally required time frame. SEDAR 21 at 62. Thus some amount of allowable catch can be calculated and an ACL set. The MSA then requires establishing accountability measures to constrain catch within that limit.

1. Rights-based management excels at reducing bycatch while permitting landing targeted species

Experience has shown that where overfished species caught primarily as bycatch require very low ACLs, rights-based methods such as transferrable fishing/bycatch quotas can result in avoidance of the constraining bycatch species and maximize economic return from target species. The fundamental economic principles underlying transferable fishing quotas in target

commercial fisheries extend to management of non-commercial bycatch species, including prohibited fish species and megafauna.²

Simply imposing a bycatch cap at the fleet level could accomplish bycatch reduction goals, but at high cost to the fishery. Assuming bycatch quota would be scarce, a common pool bycatch quota, like any fleet-level quota, will encourage a race to fish until that quota is reached, shutting down fishing for target species for the remainder of the season.³ Research on this issue suggests common pool bycatch quotas lead to short seasons, high discards, and foregone target species landings.⁴

Instead, we recommend that NOAA Fisheries consider managing dusky shark bycatch through individual bycatch quotas (IBQs), enforcing accountability at the individual level instead of closing the fishery for all whenever an aggregate bycatch quota is reached before target quotas are fully utilized. Transferable IBQs would minimize economic losses from limiting bycatch, providing incentives for fishermen to cost-effectively avoid bycatch species.⁵ By creating a market for bycatch, fishermen will have incentive to reduce their own bycatch and trade units to fishermen less able to avoid bycatch interactions. This fosters innovation in avoidance methods and potentially provides more fishing opportunities for target species.

For constraining species such as dusky sharks, where fishery interactions may be rare, variable, but occasionally inevitable because fishing gear is imperfectly selective, risk pools could be crucial to effective management. Risk pools are an important element of financially viable bycatch management when bycatch quota allocations are dispersed, quota markets are thin, and quota markets may not function efficiently.⁶ Integrated with multispecies rights-based management, risk pools can promote information sharing and best practices for bycatch avoidance while providing an opportunity for members to insure against the risk of prohibited species interactions better than IBQs alone, meeting fishery conservation goals while substantially reducing fishermen's variability in income.⁷

Pacific groundfish fishermen confronted a situation similar to that faced by HMS fishery participants when quotas for extremely overfished species were set as part of the rationalization of the fishery in 2011. ACLs for some species of rockfish – which, like sharks, are long-lived and have lengthy rebuilding timeframes – were so low that some fishermen were allocated zero or a few pounds of fish per year. Participants in the fishing industry adapted by forming risk

² Pascoe, S., J. Innes, D. Holland, M. Fina, O. Thebaud, R. Townsend, J. Sanchirico, R. Arnason, C. Wilcox, and T. Hutton. 2010. "Use of incentive-based management systems to limit bycatch and discarding." *International Review of Environmental and Resource Economics*, 2010: 123-161.

³ Boyce, J.R. 1996. "An economic analysis of the fisheries bycatch problem." *Journal of Environmental Economics and Management* 31: 314-336.

⁴ Abbott, J.K. and J.E. Wilen. 2009. "Regulation of fisheries bycatch with common-pool output quotas." *Journal of Environmental Economics and Management* 57: 195-204.

⁵ Hannesson, R. 2006. "ITQs for bycatches: lessons for the tuna-dolphin issue." Paper given at a workshop organized by the Inter-American Tropical Tuna Commission, Oct 10-12, 2006.

⁶ Holland, D.S. 2010. "Markets, pooling and insurance for managing bycatch in fisheries." *Ecological Economics* 70: 122-133.

⁷ Holland, D.S., and J.E. Jannot. 2012. "Bycatch risk pools for the US West Coast groundfish fishery." *Ecological Economics* 78: 132-147.

pools, sharing information, altering gear, avoiding bycatch hotspots, and otherwise changing their fishing behavior to keep within the strict limits. These efforts, facilitated by the agency and other stakeholders, have resulted in staying within the bycatch quotas while maximizing catches of target stocks and increasing the value of fish landed.

NOAA Fisheries recently established individual bluefin quotas in the longline category of the fishery as a means to control total fishing mortality. See, *e.g.*, Final Amendment 7 to the 2006 Consolidated Atlantic Highly Migratory Species Fishery Management Plan (“Am. 7”) at 58 (August 2014). In order to ensure compliance with this and other measures implemented by Amendment 7, the amendment requires the use of electronic monitoring by all longline vessels, *id.* at 95. One-hundred percent monitoring by observer coverage or video monitoring is now required to ensure compliance with this and other measures implemented by Amendment 7. We applaud the agency for taking these steps to control mortality of this important species.

A similar approach to dusky sharks may well maximize both conservation and economic benefits and should be evaluated carefully in close coordination with fishing industry participants. Catches made by many vessels that catch dusky sharks will already be carefully monitored via video camera as a result of Amendment 7’s measures to control bluefin mortality. Expanding that program to better control mortality of dusky sharks is a reasonable alternative that could accomplish the purpose and need of Amendment 5b that the agency must consider. See 40 C.F.R. § 1502.14.

2. Cooperative management has also resulted in bycatch avoidance and improved economic performance

Cooperative management, in which government integrates user groups and other third parties (such as universities) into fishery management, has been shown to leverage the expertise of fishermen to minimize the constraints associated with low bycatch limits in order to maximize catches of target stocks. A recent letter to NOAA Fisheries, attached, identifies a number of cooperative management efforts that have had this effect. Although they apply to different species (such as rockfish, yellowtail flounder, and salmon), the basic principles apply to sharks as well: fishermen have the expertise to best avoid bycatch species. Rather than enacting command-and-control regulations that micromanage how people fish, setting clear and enforceable bycatch limits, requiring monitoring to ensure accountability, and encouraging any creative solutions that non-governmental parties seek to establish can accomplish conservation goals more effectively and efficiently.

Cooperative efforts have already begun in the shark fishery to some extent. A group of Gulf of Mexico bottom longline fishermen is developing a research partnership with Mote Marine Laboratory that will use video monitoring to characterize catch composition and evaluate commercially viable methods to reduce or eliminate shark interactions in this fishery. Especially in light of the success of the SMAST program with scallop vessels, described in the attached letter and academic paper, we hope the agency agrees that expanding cooperative work through Mote or other institutions could improve economic returns for fishermen impacted by dusky shark bycatch limits.

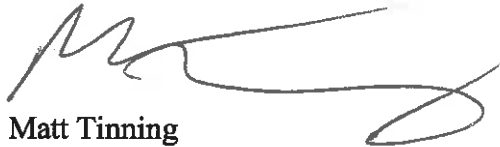
III. Prompt action is required to protect this vulnerable species

Although further alternatives must be considered, the agency should devote adequate resources to the task to ensure that dusky sharks obtain the protections they need and the law requires as soon as possible. Overfishing is continuing; the deadline for setting ACLs is long past; and protections for other sharks went into effect last year. The existing management measures for dusky sharks do not meet legal requirements and must be replaced as quickly as possible in a manner that minimizes economic impact on affected fishing communities.

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In sum, the agency faces a difficult challenge in reducing fishing mortality on a species whose catch has been prohibited for more than a decade. We applaud the use of rights-based measures and electronic monitoring in the pelagic longline fishery and believe these tools merit consideration for application to dusky sharks. Thank you for the opportunity to comment and we look forward to working with you on this important issue.

Very truly yours,

A handwritten signature in black ink, appearing to read "Matt Tinning", written over a light blue horizontal line.

Matt Tinning
Senior Director, U.S. Oceans Program