

Protecting the Dusky Shark Starts with Accurate Bycatch Reporting

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Photograph: Richard Ling

Introduction

The dusky shark lives in warm coastal waters from the Gulf of Mexico, to the Brazilian coast, over to Africa, and even to Australian and Japanese shores. Most recently, however, it made an appearance in court. This shark is 12 feet long, weighs 400 pounds, and grows slowly, taking up to 20 years or longer to mature. In U.S. waters, it travels from the coast of Massachusetts to the border of Texas and Mexico, making it a highly migratory species (HMS). Despite its size and range, the dusky shark has faced population decline for many years. In the 20th century, fishers once caught them commercially, partly for their valuable fins. Today, longline fishing for other species unintentionally plays a role in their decline. In longline fishing,

boats tow a line up to 40 miles long, dotted with hooks. Fishers do not intend to catch dusky sharks, but by luring snapper, grouper and other fish, they also hook dusky sharks that try to steal bait. The sharks are tossed back into the water where, if not already dead, they often die shortly thereafter.

Bycatch is the term for all animals, like dusky sharks, that fishers accidentally catch but do not want or are not allowed to keep. This includes not only fish but also the 720,000 birds and 650,000 marine mammals (like whales, dolphins, and seals) that die each year as bycatch.¹ As these figures suggest, bycatch is a problem for both fishers and marine ecosystems. For example, in 2015 shrimp trawlers in the Gulf caught 250 million pounds of bycatch of fish

for just 125 million pounds of shrimp.² Globally, one study conservatively estimated that every year fisheries discarded 38.5 million tons of bycatch, which equaled 40% of total landings.³ These deaths from bycatch can imperil a population.

Legal Background

In order to protect species like the dusky shark, the government can regulate where, when, how, and how many a fisher can catch. Specifically, the National Marine Fisheries Service (NMFS), a part of the National Oceanic and Atmospheric Administration (NOAA), approves fishery management plans (FMPs) that address these issues. These plans establish accountability measures by regulation aimed at conserving species. These measures vary based on bycatch data. Where data show a lot of bycatch, NMFS can change fishing practices to help the species.

Recently, the environmental organization Oceana sued NMFS, which issued a dusky shark FMP in 2017. Oceana had two main arguments: first, NMFS used inaccurate bycatch data, and second, NMFS did not do enough to protect the dusky shark. This past March, the federal district court for the District of Columbia ruled for Oceana.⁴ It found that NMFS ignored certain bycatch data, resulting in an inaccurate FMP. As a result, NMFS must now reanalyze the FMP's protective measures aimed at helping the dusky shark.

This was not the first time NMFS tried protecting the dusky shark. In 2000, it banned catching or possessing dusky sharks as part of an FMP that applied to all highly migratory species. The FMP classified the dusky shark as a prohibited species, meaning that fishers were not allowed to catch one and had to pay increased penalties if they did so. Anyone guilty of a prohibited act, like catching a dusky shark, may have to pay a civil penalty.⁵ The penalty amounts depend on the size of the offense; a regional penalty schedule is set for breaking regulations,⁶ and for larger violations, NOAA uses a national schedule to determine an appropriate penalty based on the defendant's culpability and violation history.⁷ Accordingly, possessing a dusky shark, and not just accidentally catching and releasing one, can result in a written warning and up to a \$24,000 fine, depending on the number of dusky sharks caught and if they were intentionally caught. If fishers target dusky sharks specifically for fins, this fine could increase to \$72,000.

In 2006, NMFS conducted a stock assessment and found that simply prohibiting possession of the dusky shark did not help increase its numbers. Bycatch still reduced populations. In 2011, a new stock assessment showed that the dusky shark's population shrank by 80% from 1960 counts, according to the court in the *Oceana* case. As a result, NMFS revised the HMS FMP, with an entire section focused on the dusky shark.

Every FMP must follow the Magnuson-Stevens Fishery Conservation and Management Act (MSA), and abide by the ten National Standards set forth within the act. Of great importance to the dusky shark is National Standard 2, which requires that all FMPs use "the best scientific information available."⁸ *Oceana's* first argument against NMFS focused on this standard. According to *Oceana*, NMFS did not use the best scientific information available, primarily in how it calculated bycatch amounts.

Bycatch Reporting

NMFS records bycatch with two main types of data: observer and logbook. For observer data, NMFS employees stand aboard fishing boats and report bycatch by weight and species. These observers receive training and sometimes have additional duties such as monitoring gear or safety equipment. It is expensive for NOAA to employ observers, however, which limits how many are used. For logbook data, fishers themselves record values into logbooks and report this back to NMFS. This is inexpensive and widespread, but fishers might misreport numbers or misidentify species. Fishers must maintain accurate reports and not obstruct observers in order to avoid fines. Penalties for submitting inaccurate data can vary. Under the national schedule, a fisher may be cited for unintentional reporting errors, while intentionally falsifying information can result in a \$48,000 fine. While both methods of data gathering should in theory yield similar results, observer and logbook data for the dusky shark differ greatly.

Fishers accidentally catch dusky sharks in both non-HMS and HMS fisheries. In non-HMS Gulf fisheries, such as snapper and grouper, observers were on 5%-10% of boats, according to the *Oceana* court. They recorded dusky shark bycatch "in the single digits." The court contrasted this with logbook data, which covered about 20% of boats but showed 3,800 dusky sharks in bycatch per year. Thus, manually recorded logbook data showed

many more dusky sharks caught as bycatch per boat than when observers were on board – essentially less than one shark caught per percent of boats when observers were on board, versus 190 sharks per percent of boats when logbooks were used. A definitive explanation for this difference does not exist; however, it could be attributed to fishers acting differently when observers are onboard, and/or fishers misidentifying species in logbook data.

The disparity also occurred in HMS fisheries. For HMS fisheries where boats target tuna, swordfish, billfish, and non-threatened shark species like the Atlantic sharpnose shark, the court noted how observers were on 5%-10% of boats and recorded 32 dusky sharks in bycatch per year. The court contrasted this with logbook data, which covered 100% of boats and showed 550 dusky sharks in bycatch per year. Although the difference was not as significant as for non-HMS fisheries, logbook data for HMS fisheries still showed potentially hundreds more dusky sharks in bycatch than what observer data indicated. Despite the great disparity between observed bycatch and logged bycatch, when deciding how to protect the dusky shark, NMFS considered almost exclusively observer data. Oceana argued that NMFS did not use “the best scientific information available” by ignoring the logbook data.

In the past, NMFS did use logbook data to calculate bycatch. Because the agency stopped using that method in 2017, the court pointed out a “sharp break from past practice” saying NMFS “has essentially done a one-eighty on the issue.” NMFS argued that it left out the non-HMS Gulf logbook data because that information was from only 20% of boats, which is small coverage. The court found this argument unconvincing because NMFS relied instead on the observer data, which had even smaller coverage of just 5%-10% of fishing vessels. Additionally, the court wondered why NMFS used these figures as if they represented every dusky shark caught instead of using them to estimate dusky shark bycatch for the other 90%-95% of boats not being observed. Without a reasonable explanation why it left out logbook data, according to the court, NMFS should have used that information to either supplement observer data’s small vessel coverage or to estimate more accurate findings. Consequently, the court ruled that the dusky shark’s FMP did not use the best scientific information available. Because the FMP was inadequate, NMFS also had to reanalyze its measures aimed at protecting the dusky shark.

Accountability Measures

Oceana’s second argument focused on NMFS not doing enough to protect the dusky shark in both HMS and non-HMS fisheries. The MSA authorizes NMFS to regulate highly migratory and non-highly migratory fisheries differently.

For HMS fisheries only, NMFS’ accountability measures, or changes in fishing practices, included requiring that fishers learn proper dusky shark identification and safe handling when unhooking and releasing. They also included increasing communication among boats so that fishers would not catch in areas with a lot of dusky sharks present. Fishers also needed to use circle hooks. These hooks curve inward and reduce deaths by hooking onto a shark’s mouth instead of going deeper and possibly puncturing organs like the common J hooks can. In the Gulf of Mexico, not using circle hooks when required can result in a \$250 fine for the first offense and \$500 thereafter if a small infraction. If a more serious violation, then the national schedule for fishing with non-compliant gear authorizes fines of \$2,500 to \$48,000, with a possible \$120,000 fine if fishers do not minimize catching prohibited species like the dusky shark.

NMFS published these specific regulations only for HMS fisheries, however. For non-HMS fisheries, NMFS did not impose additional requirements for dusky shark protection because the observer data showed such small numbers of bycatch. Instead, NMFS found it enough that the dusky shark was already a prohibited species with a catch limit of zero. A zero catch limit means that no dusky sharks may be caught in a season. Fishers who exceed individual catch limits can sometimes pay up to a \$48,000 fine. If the fishery as a whole exceeds its catch limit, then NMFS can reduce the next year’s limit by the amount overfished or just close the fishery. For the dusky shark, Oceana reasoned that if just one shark were found in bycatch, then this would exceed the annual catch limit. Therefore, Oceana argued that NMFS had to issue measures that ensured that no dusky sharks were caught, even if accidentally, in a season.

The court disagreed with Oceana. It cited an MSA provision instructing that NMFS does not need any new measures “if only small amounts of [bycatch] occur” and the annual catch limit is already zero. The dusky shark’s catch limit was already zero, and for non-HMS fisheries, NMFS’ observer data showed small amounts of bycatch

(“in the single digits”). Accordingly, the court held that under the MSA, NMFS did not need additional measures for non-HMS fisheries. However, the court already decided that NMFS did not base these measures on the best scientific information available. Therefore, even though additional measures were not required, NMFS must reanalyze its existing accountability measures after properly considering all the available data.

Conclusion

Preserving dusky sharks is not easy, partly because estimating and recording bycatch is difficult. Dusky shark populations continue to decline despite past attempts to protect them; therefore, continued and increased conservation measures are necessary to ensure this species’s survival. Because the dusky shark is a prohibited species and fishers cannot catch any, continued protective measures could focus on reducing dusky shark bycatch. One NMFS model calculated a coin-flip chance of dusky shark recovery by 2107 if bycatch deaths went down by 24% to 80%, while the court pointed to another study finding that population recovery could take up to 400 years.¹⁰ The MSA requires that NMFS uses the best scientific information available.

Developing accountability measures that change fishing practices based on these data is the first step to ensuring dusky shark recovery and keeping these sharks off fishers’ lines. 🐟

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Endnotes

1. Richard Harris, *Whales, Dolphins Are Collateral Damage In Our Taste For Seafood* (Jan. 8, 2014); David A. Wiedenfeld, *Seabird bycatch solutions for fishery sustainability* (2016), American Bird Conservancy.
2. NOAA Fisheries, *Southeast Region Fish Bycatch by Fishery, Table 4.4.2a* (2015).
3. R.W.D. Davies, et al., *Defining and estimating global marine fisheries bycatch* (2009).
4. *Oceana, Inc. v. Ross*, 363 F. Supp. 3d 67 (D.D.C. 2019).
5. 16 U.S.C. § 1858(a).
6. NOAA Office of General Counsel, *Southeast Region Summary Settlement & Fix-It Schedule* (June 27, 2019).
7. NOAA Office of General Counsel, *Policy for the Assessment of Civil Administrative Penalties and Permit Sanctions* (June 24, 2019).
8. 16 U.S.C § 1851(a)(2).
9. *Oceana, Inc.*, 363 F. Supp. 3d at 82 n. 14 - 83.
10. *82 Fed. Reg. 16478*, at 16479 (Apr. 4, 2017).



IN SUM.

A Summation of the Facts and Figures of Interest in this Edition

★ Fish, mammals, and birds caught as bycatch annually, in tons:	38.5 million
★ Percentage of annual marine catch that is tossed as bycatch:	40
★ UN limit on length of driftnets:	1.5 miles
★ Gulf shrimpers that voluntarily use bycatch reduction devices:	89%