

Catholic University Law Review

Volume 60
Issue 2 *Winter 2011*

Article 7

2011

Trawling for Meaning: A New Standard for "Best Scientific Information Available" in the Magnuson-Stevens Fisheries Conservation Act

James William Merrill

Follow this and additional works at: <https://scholarship.law.edu/lawreview>

Recommended Citation

James W. Merrill, *Trawling for Meaning: A New Standard for "Best Scientific Information Available" in the Magnuson-Stevens Fisheries Conservation Act*, 60 Cath. U. L. Rev. 475 (2011).

Available at: <https://scholarship.law.edu/lawreview/vol60/iss2/7>

This Comments is brought to you for free and open access by CUA Law Scholarship Repository. It has been accepted for inclusion in Catholic University Law Review by an authorized editor of CUA Law Scholarship Repository. For more information, please contact edinger@law.edu.

TRAWLING FOR MEANING: A NEW STANDARD FOR “BEST SCIENTIFIC INFORMATION AVAILABLE” IN THE MAGNUSON-STEVENSON FISHERIES CONSERVATION ACT

James William Merrill⁺

“He was an old man who fished alone in a skiff in the Gulf Stream and he had gone eighty-four days now without taking a fish.”¹ Every fisherman can relate to the “*salao*”² luck and lousy fishing endured by Santiago in Hemingway’s *The Old Man and the Sea*. Santiago’s story is a reminder, however, that no matter how bad the luck, a run of prosperity is close at hand. The fishing industry has enjoyed a longstanding and romantic tradition in the United States,³ which continues today and is illustrated by the recent popularity of the Discovery Channel television show *Deadliest Catch*.⁴

Despite this romantic view, decades of overfishing,⁵ missteps in

⁺ J.D. Candidate, May 2011, The Catholic University of America, Columbus School of Law; B.A., *magna cum laude*, 2008, Southern New Hampshire University. First, the author would like to thank Professor Amanda Cohen Leiter for her invaluable support, guidance, and expertise throughout the writing of this Comment, as well as in general throughout his legal education. Next, he would like to thank Mr. Jon Monger and all the other individuals who made the publication of this Comment possible. Last, but certainly not least, he wishes to thank his family, whose love and support have helped him throughout his academic career.

1. ERNEST HEMINGWAY, *THE OLD MAN AND THE SEA* 9 (1952).

2. *Id.* (“[T]he boy’s parents had told him that [Santiago] was now definitely and finally *salao*, which is the worst form of unlucky . . .”).

3. See PAUL MOLYNEAUX, *THE DORYMAN’S REFLECTION: A FISHERMAN’S LIFE* 13 n.1 (2005) (“[Following the American Revolution, [t]he new United States government valued the fishing fleet, which provided a lookout off America’s shores and trained potential sailors for the navy. . . . During World War II the U.S. Coast Guard equipped fishermen with VHF radios and instructions on how to identify German U-boats.”); see generally RUDYARD KIPLING, *CAPTAINS COURAGEOUS* (1896) (telling the story of New England fishermen at the turn of the twentieth century) (Doubleday & Co., Inc. 1964); HERMAN MELVILLE, *MOBY-DICK* 13–15 (W.W. Norton & Co., Inc. 1967) (1851) (describing the serenity of water and the honor of boarding a fishing boat as a “simple sailor”).

4. *Deadliest Catch* (Discovery Channel) (capturing the story of a number of the fishermen who endure the brutal Alaskan King and Opilio crab seasons); see also Charles McGrath, *Commercial Fishermen, Battling the Elements Between Commercials*, N.Y. TIMES, Apr. 6, 2008, at C1 (discussing the popularity of the hit television show *Deadliest Catch*).

5. See RICHARD ELLIS, *THE EMPTY OCEAN* 12–13 (2003) (discussing the declining marine life biomasses and fisheries due to overfishing).

management,⁶ inequitable enforcement,⁷ and infighting between the federal government and fishermen⁸ have created distrust between the government and

6. See *infra* Part I.C.2 (discussing a sample of the management mistakes). Management of New England fisheries, specifically the multi-species groundfishing and scallop fisheries, provide prime examples of this general disagreement. See Richard Gaines, *Reps Raise Red Flags on Catch Shares: Conference Hears of Successes, and Dire Community Impacts*, GLOUCESTER TIMES, Oct. 21, 2009, available at <http://www.gloucestertimes.com/fishing/x546179417/Reps-raise-red-flags-on-catch-shares>. In the latest attempt to stabilize the fisheries, the National Oceanic and Atmospheric Administration (NOAA)'s National Marine Fisheries Service (NMFS) introduced individual fishing quotas ("IFQs" or "catch shares") in various parts of the country. Nick Walter, *Catch Shares Welcomed by Most*, BRADENTON HERALD, Sept. 2, 2009, available at <http://www.bradenton.com/2009/09/02/1679001/catch-shares-welcomed-by-most.html> (discussing catch shares on commercial grouper and tilefish in the Gulf of Mexico); see also NOAA Announces New Catch Share Program in Gulf of Mexico, NOAA (Aug. 31, 2009), http://www.noaanews.noaa.gov/stories2009/20090831_tilefish.html. This measure turns the regulated fisheries into commodities where the poundage allowed for each licensed fisherman acts as a tradable commodity. See Gaines, *supra*.

Although many applaud the drastic change in fisheries policy, others—including many local fishermen and some environmentalists—believe that the new regulations will do little more than consolidate and privatize a once inclusive industry. Compare John Lee, *Tumult in Region's Fishing Industry: Federal Push to Manage Fisheries in Sectors Stirs Concern*, PROVIDENCE BUS. NEWS, Aug. 24, 2009, available at http://www.pbn.com/detail/44412.html?sub_id=44412#print=1 (explaining the concerns of New England fishermen that the regulations will drive small-boat operators out of the market), and Becky W. Evans, *Fishermen to Enroll in Sectors Tuesday*, STANDARD-TIMES, Aug. 31, 2009, available at <http://www.southcoasttoday.com/apps/pbcs.dll/article?AID=20090831/NEWS/908310333> ("[S]ome fishermen fear that sectors could result in an unfair distribution of fishing quotas and eventual consolidation of the industry."), with Walter, *supra* ("The overwhelming majority of Florida fishermen are from the recreational sector, so any regulations or quotas put on the commercial sector are typically welcome from the recreational side."). This change in policy makes it imperative that the science used in promulgating rules is correct and, as a result, brings to the forefront one of the problems that has plagued fisheries management since the enactment of the Magnuson-Fisheries Conservation Act in 1976. See Fishery Conservation and Management Act of 1976, Pub. L. No. 94-265, 90 Stat. 331 (codified as amended at 16 U.S.C. §§ 1801–1884 (2006)).

7. See U.S. DEP'T OF COMMERCE, OFFICE OF INSPECTOR GEN., NAT'L OCEANIC & ATMOSPHERIC ADMIN., FINAL REP. NO. OIG019887, REVIEW OF NOAA FISHERIES ENFORCEMENT PROGRAMS AND OPERATIONS 7, 10 (2010) (finding a disturbing trend of inequitable penalties levied against violators of fisheries regulations, particularly violators in the New England Fisheries management area, that led to a deterioration in relations between NMFS and fishermen and caused a breakdown in the fisheries management).

8. See, e.g., *Don't Let Groundfish Action Unravel Industry*, COMMERCIAL FISHERIES NEWS (Feb. 2009), http://www.fish-news.com/cfn/editorial/editorial_2_09/editorial_2_09.html. Interestingly, the disagreement rests not on whether to conserve, but on what measures should be taken to conserve the fisheries effectively while also maintaining the communities that are economically dependent on the fisheries. See Russell Drumm, *Fishermen Cry Foul: Industry Worries about New Members of Council*, EAST HAMPTON STAR, Aug. 6, 2009, available at <http://www.easthamptonstar.com/dnn/Home/News/FishermanCryFoul/tabid/9660/Default.aspx> ("Now it's the commercial industry . . . people who make their living on the water, versus the environmental industry." (quoting Tony Dileria, commercial fisherman, former Mid-Atlantic Fishery Management Council delegate)); Richard Gaines, *New Take on Past Fishing Science?*, GLOUCESTER TIMES, Aug. 24, 2009, available at <http://www.gloucestertimes.com/fishing/x189>

the fishermen that threatens the existence of the nation's fisheries and the communities that rely on them.⁹ The central disagreement rests on the seemingly simple task of determining how many fish are in the water.¹⁰

Accurate estimates of fish stocks have proved evasive, making the determinations highly contested by fishing communities and environmentalists alike.¹¹ As a result, doubt shrouds the scientific data regarding these fish

6342843/New-take-on-past-fishing-science/print (criticizing continued reliance on the debunked fisheries impact study claiming that commercial fish stocks would be obliterated by 2048); Christine Kearney, "Deadliest Catch" Seamen Say Fishermen not Greedy, REUTERS, July 28, 2009, available at <http://www.reuters.com/article/idUSTRE56R66S20090728> ("When things go wrong, the fishermen get blamed, but the truth is we are only fishing what [NMFS] tell[s] us we can fish" (quoting boat captain Phil Harris, star of "Deadliest Catch"))).

9. See DAVID DOBBS, *THE GREAT GULF: FISHERMEN, SCIENTISTS, AND THE STRUGGLE TO REVIVE THE WORLD'S GREATEST FISHERY* 5 (2000) ("[T]he rift between fishermen and NMFS scientists over how to look at the ocean and think about fish fostered a level of discord, doubt, and mistrust that made it almost impossible to convince fishermen and regulators to curb overfishing."); Josh Eagle, *Domestic Fishery Management*, in *OCEAN AND COASTAL LAW AND POLICY* 275, 282 (Donald C. Bauer, Tim Eichenberg & Michael Sutton eds. 2007); PETER MANSO, *PTOWN: ART, SEX, AND MONEY ON THE OUTER CAPE* 212–13 (2002) ("The fishermen as a political bloc are almost insignificant, . . . and [the government] will push them right into the water. They'll treat them like trash. . . . Once they get fishing out of here, they'll never allow it back in again." (alteration in original) (quoting George Bryant, Province town historian)); MOLYNEAUX, *supra* note 3, at 230 (explaining a commercial fisherman's disagreement with a statement that scientists believed that there were an abundance of herring on Georges Bank); CHARLES PELUSO & SANDY MACFARLANE, *TIGGIE: THE LURE AND LORE OF COMMERCIAL FISHING IN NEW ENGLAND* 4 (2007) ("I had been on the job as shellfish biologist for 'only' six years, and I had never fished commercially. Those two facts, plus being . . . a college graduate, meant I knew nothing, according to [the shellfisherman] Tiggie."); SUSAN R. PLAYFAIR, *VANISHING SPECIES: SAVING THE FISH, SACRIFICING THE FISHERMAN* 100 (2003) ("[Some] think[] the Department of Commerce is trying to circumvent the provisions of the Magnuson-Stevens Act by making conditions so bad that fishermen leave the industry voluntarily."); *Fishing Council's Decks Are Stacked*, NEWBURYPORT NEWS, Aug. 18, 2009, available at <http://www.newburyportnews.com/opinion/x1896343777/Fishing-councils-decks-are-stacked?keyword=topstory> (accusing the new head of NOAA of stacking regional councils with "environmental activists").

10. See DOBBS, *supra* note 9, at 3 ("[There exists] a squabble [between NMFS and fishermen] that [takes] its most visible form in a disagreement, by orders of magnitude, over how many fish were in [Georges Bank].").

11. See MICHAEL L. WEBER, *FROM ABUNDANCE TO SCARCITY: A HISTORY OF U.S. MARINE FISHERIES POLICY* 12 (2002). As one commentator has noted,

The fishermen and NMFS scientists of the New England fishery, our country's oldest, most important, and most thoroughly studied, argued about the health of the cod and haddock stocks of Georges Bank for over a decade until those stocks collapsed in 1992, and ever since then they had been arguing about the cod population of the inner Gulf of Maine

DOBBS, *supra* note 9, at 3; see also Susan Young, *Fishermen Condemn Federal Regulations: Lack of Trust Notable in Rockport Meeting*, BANGOR DAILY NEWS, Mar. 6, 2000, at B1 ("[F]ishermen don't trust [NMFS]." (quoting Rob Wells, a marine insurance agent)); Beth Daley, *From Trawling to Trawlgate: Controversial Fishing Research Vessel Ends 45-Year Run*, GREEN BLOG (Nov. 25, 2008, 1:59 PM), http://www.boston.com/lifestyle/green/greenblog/2008/11/from_trawling_to_trawlgate_con_1.html ("Fishermen and scientists are trying to

stocks, as well as the fishery management plans that are based on this data. Collaboration between scientists and fishermen is essential for successful fisheries management.¹² Each side possesses unique experience¹³ and has the desire to ensure a future for the nation's fisheries.¹⁴ Collaboration, however, has been replaced by quarrel when determining the nation's fishery management schemes. The distrust by fishermen stems in part from a belief that the National Marine Fisheries Service (NMFS)'s scientific conclusions are based on faulty data collection.¹⁵ The fishermen believe that the federal government desires to consolidate the fishing industry, thereby pushing the everyday fisherman out of business.¹⁶ Scientists distrust fishermen because they believe that fishermen have an incentive to exploit the resource as quickly

collaborate more. But there remains a deep mistrust between the two groups on a public resource that pays for so many individual paychecks.”).

12. See DOBBS, *supra* note 9, at 8 (discussing the unprecedented “comprehensive knowledge” that was gained when scientists and fishermen came together to explore the Gulf of Maine).

13. See *id.*, at 4–5. As Dobbs noted,

NMFS, dropping its sampling nets all over the Gulf of Maine and Georges Bank twice yearly, has a better view of the big picture than most fishermen do, while the fishermen, out on the ocean every day, know any given piece of water in far more detail and under many more conditions and circumstances.

Id.; see also Zeke Grader & Natasha Benjamin, *The Essential Collaboration: Protecting Stocks and Our Industry Means Greater Cooperation Between Fishermen and Scientists*, PAC. COAST FED’N OF FISHERMEN’S ASS’NS (Jan. 2001), <http://www.pcffa.org/fn-jan01.htm> (“One of the ways to effect cost savings in fishery research is to utilize fishermen, individuals who are constantly on the water and know the fishing grounds.”). Fishermen have a historical advantage because their experiences and insights go back farther than most of the data that is currently being used in scientific research, but scientists have a biological background, and through sample tows have developed a solid understanding of the general lay of the fisheries, which is essential in determining the proper conservation methods. Dobbs explained,

Fishermen had been working the Gulf [of Maine] for four centuries when Bigelow [an oceanographer] declared it unexamined, and the best of them knew the water intimately and in detail. . . . Unlike scientists, the fishermen did not quantify and categorize this information into any sort of shareable database. They added it a drop at a time to pools of knowledge

DOBBS, *supra* note 9, at 13–14.

14. Although it may seem counterintuitive that fishermen desire to conserve the fisheries, the majority of fishermen are multi-generational fishermen who want to see the fisheries sustained so that they can continue to make a living in the near future and, more importantly, so that their children and grandchildren will have the choice to continue the fishing tradition. PLAYFAIR, *supra* note 9, at 92 (“[T]here [are fishermen] who are willing to make a living and [fishermen] who want to make a killing. . . . Unfortunately, . . . [t]oo many people view the fishing industry as a group of people who want to make a killing.”).

15. *Id.* at 221–22 (“[T]he science being used [by NMFS] is ‘just too light on data points.’” (quoting fisherman Frank Mirarchi)).

16. *Id.* at 94 (“Many fishermen suspect that some members of the U.S. Congress want to get rid of the fishing industry as it exists today.”).

as possible and will overstate the biomasses in order to obtain higher quotas,¹⁷ creating a “tragedy of the commons.”¹⁸

Over the past decade and a half, many of the legal battles among environmentalists, NMFS, and fishermen have focused on the use of scientific data in promulgating regulations. The Magnuson-Stevens Fisheries Conservation Act (Magnuson-Stevens Act) requires that NMFS use the “best scientific information available” (also known as “National Standard 2” or “best available science”) when crafting fishery regulations.¹⁹ NMFS interprets this provision, correctly, to allow plans to be created with incomplete research,²⁰ and courts, not as correctly, have held that NMFS need only rely on data and research that is immediately at hand when creating a plan.²¹

This Comment focuses primarily on the interpretation of National Standard 2 and argues that it implicitly requires NMFS to use the best available research methods when developing the scientific conclusions used to create fishery management plans. The courts, by failing to interpret National Standard 2 to include this requirement, effectively cripple challenges to the scientific method employed by the government when obtaining data for fishery management

17. See Will Walsh, *Fishy Business*, 59 ALA. L. REV. 1661, 1663 (2008) (explaining that fishermen often exceed quotas and attempt to catch as many fish as fast as possible). One need look no farther than the exchange in *Jaws* between the shark fisherman Captain Quint and Woods Hole scientist Matt Hooper to understand the current relationship between fishermen and scientists:

Quint: You have city hands, Mr. Hooper, you been countin’ money all your life.

Hooper: Alright, alright . . . I don’t need this working-class-hero crap.

JAWS (Universal Pictures 1975); see also PELUSO & MACFARLANE, *supra* note 9, at 3–4 (highlighting fishermen’s general distrust of marine science and scientists).

18. Garrett Hardin, *The Tragedy of the Commons*, 162 SCI. 1243, 1244 (1968). A tragedy of the commons occurs when

[e]ach man is locked into a system that compels him to increase his herd without limit—in a world that is limited. Ruin is the destination toward which all men rush, each pursuing his own best interest in a society that believes in the freedom of the commons. Freedom in a commons brings ruin to all.

Id.

19. 16 U.S.C. § 1851(a)(2) (2006). The Magnuson-Stevens Act was originally enacted in 1976. Fishery Conservation and Management Act of 1976, Pub. L. No. 94-265, 90 Stat. 331 (codified as amended at 16 U.S.C. §§ 1801–1884 (2006)). Subsequently, the Act has been revised twice, first by the Sustainable Fisheries Act of 1996, and then by the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006. Sustainable Fisheries Act, Pub. L. No. 104-297, 110 Stat. 3559; Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, Pub. L. No. 109-479, 120 Stat. 3575 (2007). Any mention of the “Magnuson-Stevens Act” refers to the three enactments as a whole unless otherwise noted.

20. 50 C.F.R. § 600.315(b) (2009).

21. See, e.g., *Massachusetts v. Daley*, 10 F. Supp. 2d 74, 77 (D. Mass. 1998), *aff’d*, 170 F.3d 23 (1st Cir. 1999). Courts have refused to look at a best available science claim unless the plaintiff produces better alternative science; in such a case, the court will defer to the judgment of the agency unless the plaintiff shows that the agency’s use of science, in light of the alternative science presented, was arbitrary or capricious. *Id.* at 78.

plans. This incubates the festering distrust between fishing communities and NMFS and frustrates congressional intent.

Part I of this Comment sets the historical background for the current state of federal fisheries management by focusing on the Magnuson-Stevens Fisheries Conservation Act and its two major revisions. This Comment then describes the origins of the best available science standard and highlights the litigation that has revolved around National Standard 2. Part II of this Comment identifies issues that have arisen from continued deference by the courts broadly defining “best available science.” It then develops a proper interpretation of National Standard 2. Finally, Part III acknowledges certain measures that NMFS has taken to clarify the best available science standard and suggests areas in which improvements can be made, including a new regulatory definition and a regulatory solution.

I. HOW WE GOT HERE: THE LONG AND WINDING ROAD THAT IS FEDERAL FISHERIES MANAGEMENT

Believing that ocean resources were inexhaustible, nations initially declined to restrict foreign fishermen from taking resources, leading to the “freedom of the seas” doctrine, which called for little or no restrictions on the taking of seafood from the oceans.²² Georges Bank and the Grand Bank are very fertile fishing grounds and were valuable locations for the salted fish industries of France, Spain, and England dating back to the sixteenth century.²³ By the late-nineteenth century, however, fisheries showed signs of exhaustion, and nations became more protective of their fishing resources.²⁴ Over the past century, foreign fishing has remained an issue for countries attempting to protect their respective resources.²⁵

International treaty negotiations over fisheries resources have long been a point of contention.²⁶ The United States initially resisted the idea of restricted fisheries, but during the early 1900s, the federal government negotiated several treaties to manage sensitive fisheries in a uniform multilateral manner.²⁷

A. Congress Takes Action: Regulation Begins

Congress became involved in fishery management in 1872 when, in an effort to appease feuding New England trappers²⁸ and long

22. WEBER, *supra* note 11, at 59. For centuries, fishing areas like Georges Bank in the northwestern Atlantic validated this belief in inexhaustible resources. *Id.*

23. *Id.*

24. *Id.* at 59–69.

25. *Id.*

26. *Id.* at 64–69.

27. *Id.* at 59–61.

28. A trapper is a fisherman who uses traps composed of wooden slates or wire mesh to catch fish. RICHARD ADAMS CAREY, *AGAINST THE TIDE: THE FATE OF THE NEW ENGLAND FISHERMAN* 21–22 (First Mariner Books 2000) (1999).

liners²⁹—a feud fueled by a “lack of knowledge about fish off New England”³⁰—Congress created the United States Fish and Fishery Commission.³¹ The Commission was created to identify underutilized fisheries that could benefit fishing communities.³²

By the middle of the twentieth century, the waters surrounding the United States began to show signs of severe depletion.³³ International treaties proved ineffective, and the federal government left regulation to the coastal states, each of which, in general, had jurisdictional power only over the waters within three nautical miles of its shores.³⁴ This made the states incapable of protecting the United States’ most fertile fishing grounds—which are located more than three miles from shore—from both foreign factory fishing fleets and domestic fishing fleets.³⁵

29. A long liner is a fisherman who uses a type of fishing gear referred to as a long line. *Id.* at 368. Generally, it is a length of line that is hundreds of yards long with hooks attached every four to five feet. *Id.* Each hook is baited and set and after a time, hauled back in order to harvest its catch. *Id.* Long liners were fed up with fish traps and accused the trappers of “robbing [long liners] of their catch and threatening their future.” WEBER, *supra* note 11, at 3. The Massachusetts legislature refused to become involved in the feud, but the Rhode Island legislature considered banning the use of fish traps off of its coast. *Id.* Using this controversy as a platform, an enterprising Smithsonian scientist, Spencer Fullerton Baird, convinced the federal government to commit to “investigating marine life off New England.” *Id.*

30. WEBER, *supra* note 11, at 3.

31. *Id.* Baird, the first Commissioner and sole member of the Commission, was so adamant that the Commission be free of political influence that he insisted that the position be unpaid. *Id.* at 4. Congress created Commission in order to determine “whether any . . . diminution in the number of the foodfishes of the coast and the lakes of the United States ha[d] taken place; and, if so, to what causes the same [wa]s due; and also whether any and what protective, prohibitory, or precautionary measures should [have] be[en] adopted.” *Id.* (quoting CONG. GLOBE, 41st Cong., 3d Sess. 683 (1871)). Congress believed that this process would take, at most, a few years; therefore, many resources, such as office space, were not provided, and Baird worked out of his home. *Id.* It soon became clear, however, that the task was far loftier than had been previously thought. *Id.* at 4–5. Baird used a combination of federal and private funds to construct permanent scientific research centers, the first in Woods Hole, Massachusetts, in 1885. *Id.* at 6. Over the nearly seventy-year period of its existence, the Commission was responsible for some of the greatest advancements in marine biological understanding in modern history. *See id.* at 5–7.

32. *Id.* at 4. Until Congress passed the Fishery Conservation and Management Act of 1976, the federal government played only a small role in fishery regulation. *Id.* at 153. The Commission served only to advance scientific understanding and offer advice on the most effective way to harvest the resources. *Id.* at 4, 153.

33. *See* Paul R. Bagley, Note, *Don’t Forget About the Fishermen: In the Battle over Fisheries Conservation and Management a Conservation Ethic Has Trumped Economic Concerns of the Community—or Has It?*, 36 SUFFOLK U. L. REV. 765, 768 (2003). Although the industrial revolution came late to the fishing industry, by the mid 1960s, Japanese and Russian fish processing ships were traversing the globe. MANSO, *supra* note 9, at 159. These ships had the ability not only to catch fish, but also to clean and package the seafood, allowing for incredibly long storage times. CAREY, *supra* note 28, at 41–42.

34. WEBER, *supra* note 11, at 65.

35. *Id.* The foreign fishing fleet was worrisome from a national-security standpoint as well. *Id.* at 64. As the Cold War arguably reached its hottest point in the early 1960s, “61 Russian

In response to declining fish stocks, the United States enacted the Bartlett Act in 1966.³⁶ The Act created a twelve-mile exclusive fishing zone for United States vessels.³⁷ This twelve-mile limit proved ineffective, however, as many of the country's fertile fishing grounds lay beyond that limit.³⁸

Until the enactment of the Fishery Conservation and Management Act in 1976, the only real restrictions placed on foreign fleets fishing off the coast of the eastern U.S., aside from the Bartlett Act's twelve-mile limit, came from the International Convention for the Northwest Atlantic Fisheries.³⁹ This treaty, not surprisingly, proved ineffective because of "the difficulty of achieving agreement on meaningful conservation measures among nations with different views, conflicting goals of development and conservation, risk-prone decision making, fishing by nonmembers, resistance to effective enforcement, the failure to support or act on scientific analysis, inadequate funding, and the lack of effective monitoring programs."⁴⁰ While these international efforts to create uniform fishery regulations failed to coalesce,⁴¹ in 1976, Congress enacted unparalleled legislation that radically and permanently altered the management process of for U.S. fisheries.⁴²

1. *The Fishery Conservation and Management Act of 1976*

The Fishery Conservation and Management Act created a federal fisheries conservation zone between three and two hundred nautical miles off the coast of the United States.⁴³ The main purpose of the legislation was to protect and

trawlers on Nantucket Shoals off Massachusetts sent shockwaves through New England's struggling fishing communities." *Id.* The Soviet factory trawlers could go anywhere in the world, and the U.S. domestic fleet, built mostly before World War II, paled in comparison to the state-of-the-art Soviet ships. *Id.* Soon after, U.S. haddock catches sank from the 62,000 metric-ton average between 1950 and 1966 to a historic low of 3731 metric tons in 1974. *Id.* Soviet ships, by comparison, landed 128,800 metric tons in 1965 (more than double the average U.S. catch) and 23,240 metric tons in 1974 (over five times more than U.S. catches). *Id.*

36. Bartlett Act, Pub. L. 89-658, 80 Stat. 908 (1966) (repealed 1976).

37. *Id.*

38. See, e.g., George Carroll Curtis, *The Fishing Banks off Our Atlantic Coast*, 45 BULL. AM. GEO. SOC'Y 413, 413-14 (1913).

39. WEBER, *supra* note 11, at 64-65, 70.

40. *Id.* at 61.

41. See *id.* at 64-66.

42. See Eagle, *supra* note 9, at 276.

43. Fishery Conservation and Management Act of 1976, Pub. L. No. 94-265, § 101, 90 Stat. 331, 336 (codified as amended at 16 U.S.C. § 1811 (2006)). The governing statute, which has come to be known simply as the "two-hundred mile limit," states:

There is established a zone contiguous to the territorial sea of the United States to be known as the fishery conservation zone. The inner boundary of the fishery conservation zone is a line coterminous with the seaward boundary of each of the coastal States, and the outer boundary of such zone is a line drawn in such a manner that each point on it is 200 nautical miles from the baseline from which the territorial sea is measured.

promote U.S. commercial fishing resources from international exploitation.⁴⁴ The Act granted the Secretary of Commerce regulatory power over fisheries in the waters between three and two hundred miles from shore.⁴⁵ The findings of the Act were clear.⁴⁶ First, Congress found that fisheries serve an essential function to the nation's "food supply, economy, and health."⁴⁷ Second, Congress found that certain fish stocks had been overfished to dangerously low levels, and international fishing regulations had failed to alleviate the problem.⁴⁸ Finally, Congress asserted that "[t]he collection of reliable data is essential to the effective conservation, management, and scientific understanding of the fishery resources of the United States."⁴⁹

Id. In 1986, 16 U.S.C. § 1811 was amended to incorporate Proclamation Number 5030, which established an "exclusive economic zone" of two hundred nautical miles around the United States, but the amendment had no practical effect on the protected fishery area. Act of Nov. 14, 1986, Pub. L. No. 99-659, § 101(a)(6), 100 Stat. 3706, 3706; Exclusive Economic Zone of the United States, 48 Fed. Reg. 10,605 (Mar. 14, 1983) ("This Proclamation does not change existing United States policies concerning . . . fisheries."); see Bagley, *supra* note 33, at 768.

44. 16 U.S.C. § 1801(b)(3) ("It is therefore declared to be the purposes of the Congress in this [Act] . . . to promote domestic commercial and recreational fishing under sound conservation and management principles, including the promotion of catch and release programs in recreational fishing . . .").

45. See *Id.* § 1802(39) ("The term 'Secretary' means the Secretary of Commerce or his designee."); *id.* § 1803 (providing appropriations to the Secretary to carry out the provisions of the Act); *id.* § 1811(a) ("[T]he United States claims, and will exercise in the manner provided for in this [Act], sovereign rights and exclusive fishery management authority over all fish, and all Continental Shelf fishery resources, within the exclusive economic zone."). The Secretary of Commerce delegated the administration of this Act to the newly created NMFS. See *About National Marine Fisheries Service*, NAT'L OCEANIC & ATMOSPHERIC ADMIN., <http://www.nmfs.noaa.gov/aboutus.htm> (last visited Jan. 6, 2011).

46. See 16 U.S.C. § 1801(a) (describing the findings of Congress's investigation and the need for legislation).

47. *Id.* § 1801(a)(1), (3) (acknowledging that the nation's fisheries provide "recreational opportunities"). It is important to note that although commercial fishing gains the bulk of the attention in fishery management and overutilization, recreational fishing, particularly in certain fisheries, accounts for as many, if not more, of the annual takings than those accumulated by commercial fishermen. See *Gulf of Mexico Greater Amberjack Fishery 2010 Recreational Quota Closure: Frequently Asked Questions*, NAT'L OCEANIC & ATMOSPHERIC ADMIN. (June 2010), http://sero.nmfs.noaa.gov/sf/pdfs/Greater_AJ_FAQS_June_2010.pdf (explaining the need for both recreational and commercial quotas to regulate overfishing, and showing that in 2010, the greater amberjack quota was two times higher for recreational fishing than for commercial fishing).

48. 16 U.S.C. § 1801(a)(2) ("Certain stocks of fish have declined to the point where their survival is threatened."); *id.* § 1801(a)(4) ("International fishery agreements have not been effective in preventing or terminating the overfishing of these valuable fishery resources.").

49. *Id.* § 1801(a)(8). Congress also found that (1) "[f]ishery resources are finite but renewable," *id.* § 1801(a)(5); (2) "[a] national program for the conservation and management of the fishery resources of the United States is necessary to prevent overfishing, to rebuild overfished stocks, to insure conservation, to facilitate long-term protection of essential fish habitats, and to realize the full potential of the Nation's fishery resources," *id.* § 1801(a)(6); and (3) "[i]nternational cooperation is necessary to address illegal, unreported, and unregulated

The purposes of the Act were equally straightforward. Congress intended “to take immediate action to conserve and manage the fishery resources found off the coasts of the United States”⁵⁰ by promoting “domestic commercial and recreational fishing under sound conservation and management principles”⁵¹ while implementing, “in accordance with national standards, . . . fishery management plans which will achieve and maintain, on a continuing basis, the optimum yield from each fishery.”⁵²

Regional councils were created and charged with regulating the fisheries through fishery management plans.⁵³ After a regional council creates a fishery management plan, it is sent to NMFS for approval.⁵⁴ The Magnuson-Stevens Act requires NMFS to review the plans to determine whether they meet the national standards⁵⁵ prescribed by

fishing and other fishing practices which may harm the sustainability of living marine resources and disadvantage the United States fishing industry.” *Id.* § 1801(a)(12).

50. *Id.* § 1801(b)(1).

51. *Id.* § 1801(b)(3).

52. *Id.* § 1801(b)(4). Initially, the Magnuson-Stevens Act did a lot of good for both the fisheries and fishing communities. Bagley, *supra* note 33, at 768. Within ten years, the unauthorized foreign fishing presence had been all but eliminated within the two-hundred-mile limit, allowing American fishermen to regain their fishing grounds. *Id.* However, problems began anew when the tax credits and low interest loans that had been provided to fishermen in tandem with the Magnuson-Stevens Act led to an influx of participants in the industry. *Id.* at 768–69; see NAT’L OCEANIC & ATMOSPHERIC ADMIN. OFFICE OF SUSTAINABLE FED. FISHERIES, INVESTMENT TASK FORCE REPORT TO CONGRESS 27–44 (1999), available at <http://www.nmfs.noaa.gov/sfa/ITF.html> (discussing the potential effects that subsidies can have on the fishing industry). The economic incentives were designed to encourage the development of the U.S. fishing industry. See 16 U.S.C. § 1801(b)(6) (“It is . . . the purpose[] of the Congress . . . to encourage the development by the United States fishing industry of fisheries which are currently underutilized or not utilized by United States fishermen.”). The influx of funds and bigger fishing companies led to fishing vessel and equipment innovation, and soon the U.S. fleet was as destructive and efficient as the foreign fleets that had been cast out. Bagley, *supra* note 33, at 768–69. Giant groundfishing nets entered the industry and allowed fishermen to fish in areas that had been too risky to fish previously. PLAYFAIR, *supra* note 9, at 95. Some of this equipment increased the catch efficiency of each vessel, but it also led to the destruction of bottom structures used by fish as habitats and spawning grounds. *Id.* The regional councils were slow to respond to environmental concerns regarding the use of this new equipment. *Id.*

53. See 16 U.S.C. §§ 1852–1853 (detailing the duties of the regional councils and the requirements for fishery management plans).

54. *Id.* § 1854(a)(1)(A) (“Upon transmittal by the Council to the Secretary of a fishery management plan or plan amendment, the Secretary shall . . . immediately commence a review of the plan or amendment to determine whether it is consistent with the national standards . . . and any other applicable law . . .”).

55. National Standard 1 mandates that a fishery management plan must prevent overfishing while allowing the optimum yield to be taken for the benefit of fishing communities. *Id.* § 1851(a)(1) (“Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.”). National Standard 2, the focus of this Comment, mandates that the “[c]onservation and management measures shall be based on the best scientific information available.” *Id.* § 1851(a)(2). National Standard 3 mandates that fish stocks and similar fish species be managed as

Congress.⁵⁶ Although conservation was a factor in the 1976 Act, Congress was more concerned with the effect of foreign fishing practices on local fishing communities.⁵⁷

2. *The 1996 Amendment's Focus on Conservation*

In 1996, Congress enacted the Sustainable Fisheries Act that sought, among other things, to clarify and balance the National Standards used when creating fishery management plans.⁵⁸ Congress also charged:

Upon determining that a fishery is overfished, the NMFS must immediately notify the appropriate council and request the implementation of conservation and management measures to rebuild affected fish stocks. Once notified, the council then has one year to prepare [a fishery management plan] to prevent overfishing.

completely and broadly as is practicable, *id.* § 1851(a)(3), and National Standard 4 requires that fishery management plans not “discriminate between residents of different [s]tates” unless absolutely necessary. *Id.* § 1851(a)(4). If it is necessary to limit the fishery, the plan must promote conservation, be “fair and equitable” among fishermen, and be implemented so that no one person or entity receives an excessive share of fishing rights. *Id.* National Standard 5 requires that a council, “where practicable, consider efficiency in the utilization of fishery resources” when instituting conservation plans. *Id.* § 1851(a)(5). National Standard 6 requires that each plan be tailored to the specific fishery and take into account a variety of factors, which allows regional councils to restrict fisheries inconsistently from one region to the next, if necessary. *Id.* § 1851(a)(6). National Standard 7 mandates that fishery management plans, “where practicable, minimize costs and avoid unnecessary duplication.” *Id.* § 1851(a)(7).

The 1996 amendment to the Magnuson-Stevens Act added three standards to be considered during the creation of a fishery management plan. Sustainable Fisheries Act of 1996, Pub. L. No. 104-297, § 106(d), 110 Stat. 3559, 3570. The first of these, National Standard 8, mandates that plans comply with the conservation goals set forth in the Act and “take into account the importance of fishery resources to fishing communities.” 16 U.S.C. § 1851(a)(8). National Standard 9 requires plans, if practicable, to avoid bycatch and, when unavoidable, to limit the mortality of bycatch. *Id.* § 1851(a)(9). “Bycatch” refers to fish caught in addition to the targeted species, including species that are not the intended catch and members of the targeted species that are ineligible for reasons such as size or sex. *Id.* § 1802(2). Finally, National Standard 10 requires that each plan take into account the “safety of human life at sea.” *Id.* § 1851(a)(10).

56. 16 U.S.C. § 1854(a)(1).

57. Bagley, *supra* note 33, at 768. Skepticism and distrust of the Act existed in fishing communities from the beginning, and the only senator from New England to vote for the Act was Senator Ted Kennedy (D-MA). Richard Gaines, *News Analysis: 'With Fisheries, the First Number You'd Dial Was Kennedy's': Champion's Loss Could Hurt Industry as It Moves to Catch Shares*, GLOUCESTER TIMES, Aug. 28, 2009, available at <http://www.gloucestertimes.com/fishing/x46885098/News-analysis-With-fisheries-the-first-number-you-d-dial-was-Kennedys>.

58. S. REP. NO. 104-276, at 13 (1996). The Senate Committee on Commerce, Science, and Transportation observed,

Section 107(a) would amend national standard five to require conservation and management measures, where practicable, to “consider” efficiency, rather than “promote” efficiency. . . . The goal of this amendment is not to eliminate efficiency as a consideration in the development of plans and regulations, but rather to ensure that it is balanced with the requirements of other national standards.

Id.

The crux of the [plan] is to develop measures that allow the fishery to produce the maximum sustainable yield . . . on a continuous basis.⁵⁹

The Act also required the plan to restore the overfished resource within ten years of its identification.⁶⁰ The ten National Standards are meant to guide each regional council in balancing conservation and the social and economic effects that each regulation has on fishing communities.⁶¹

Eleven years later, in 2007, Congress reauthorized the Magnuson-Stevens Act.⁶² The reauthorization did not amend the National Standards, but Congress expressly authorized and encouraged the use of limited-access fishery plans.⁶³ The Act now requires annual catch limits for all managed fisheries.⁶⁴ In addition, the Act attempted to improve the science used in decisions by creating both a peer-review process and a stronger role for the Science and Statistical Committees of the regional councils.⁶⁵

59. Bagley, *supra* note 33, at 770.

60. 16 U.S.C. § 1854(e)(4)(A)(ii). The ten-year requirement is currently a particular point of contention in Congress. See Press Release, U.S. Congressman Barney Frank, Frank and Snowe Call on NOAA to Re-examine Timeline for Rebuilding Fish Stocks (Feb. 17, 2010), available at <http://www.house.gov/frank/pressreleases/2010/02-17-10-lubchenko-letter-rebuilding-fish-stocks.html>. A contingent led by Representative Barney Frank (D-MA) has urged that there is no reason to place a ten-year requirement on the rebuilding stocks because it imposes unreasonable and substantial economic burdens on local fishing communities. *Id.*; see also Flexibility in Rebuilding American Fisheries Act of 2009, H.R. 1584, 111th Cong. (2009) (stating that the purpose of the bill was “[t]o amend the [Act] to extend the authorized time period for rebuilding of certain overfished fisheries”).

61. See 16 U.S.C. § 1853(a)(14).

62. Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, Pub. L. No. 109-479, 120 Stat. 3575 (2007).

63. 16 U.S.C. § 1853a(a) (2006) (“[A] Council may submit, and the Secretary may approve, for a fishery that is managed under a limited access system, a limited access privilege program to harvest fish if the program meets the requirements of this section.”). Just before Congress passed the 2007 Act was passed, a scientific study by Boris Worm claimed that, at the then-current harvesting rates, the oceans would become a barren wasteland by 2048. See Boris Worm et al., *Impacts of Biodiversity Loss on Ocean Ecosystem Services*, 314 SCI. 787, 790 (2006). The urgency that such a study created could have spurred the passage of the 2007 Act. Worm has since revised his prediction drastically and has concluded that the future of the world’s oceans is promising. Boris Worm et al., *Rebuilding Global Fisheries*, 325 SCI. 578, 584 (2009).

64. 16 U.S.C. § 1853(a)(15) (“[F]ishery management plan[s] . . . shall . . . establish a mechanism for specifying annual catch limits in the plan (including a multiyear plan), implementing regulations, or annual specifications, at a level such that overfishing does not occur in the fishery, including measures to ensure accountability.”).

65. *Id.* § 1852(g)(1)(A).

B. The Origins and Uses of the “Best Available Science” Standard

Congress first enacted a “best available science” standard in the Marine Mammal Protection Act of 1972.⁶⁶ The provision allows the Secretary of Commerce, after consulting the Marine Mammal Commission, to lift the general moratorium on “takings” of marine mammals when warranted by the best available scientific information.⁶⁷ Congress also used a “best available science” provision a year later in the Endangered Species Act of 1973.⁶⁸

In 1976, Congress employed “best available science” terminology in the Magnuson-Stevens Act.⁶⁹ Leading up to enactment, there was discussion in Congress as to the meaning of the “best available science” provision.⁷⁰ A Senate Committee on Commerce, Science, and Transportation report described National Standard 2 as “an important adjunct of National Standard 1” and stated that fishery management plans should allow for harvest of the maximum sustainable yield.⁷¹ National Standard 2 also served as a protective measure, allowing NMFS to adjust its regulations as new and more accurate scientific research became available.⁷² The Committee, however, did not intend National Standard 2 to allow NMFS to impede research unreasonably:

[A] basic management objective is to harvest a stock of fish at the level of optimum utilization. If little is known about the size of the stock or environmental effects on other stocks or similar relationships, however, even the best management scheme will fail.⁷³

The Committee interpreted the best available science standard to compel NMFS to seek better scientific data when creating fishery management plans.⁷⁴

In 2004, NMFS commissioned an independent study to report on its use of National Standard 2.⁷⁵ The Committee on Defining Best Scientific Information Available for Fisheries Management (Committee on Best Science) concluded that “[t]he practical consequence of the congressional intent in using the phrase ‘achieve the best available scientific information’ is that [NMFS] . . . *ha[s] the responsibility to improve scientific information for*

66. Marine Mammal Protection Act of 1972, Pub. L. No. 92-522, § 101(a)(3)(A), 86 Stat. 1027, 1030; COMM. ON DEFINING THE BEST SCIENTIFIC INFORMATION AVAILABLE FOR FISHERIES MANAGEMENT, NAT’L RESEARCH COUNCIL, IMPROVING THE USE OF THE “BEST SCIENTIFIC INFORMATION AVAILABLE” STANDARD IN FISHERIES MANAGEMENT 17 (2004) [hereinafter COMM. ON BEST SCIENCE].

67. COMM. ON BEST SCIENCE, *supra* note 66.

68. *See id.*

69. 16 U.S.C. § 1851(a)(2) (“Conservation and management measures shall be based upon the best scientific information available.”).

70. COMM. ON BEST SCIENCE, *supra* note 66, at 18.

71. *Id.*

72. *Id.*

73. S. REP. NO. 94-416, at 30 (1975).

74. *See* COMM. ON BEST SCIENCE, *supra* note 66, at 19.

75. *Id.* at vii–viii.

decisions in future years.”⁷⁶ The Committee on Best Science also observed that although the science centers that conduct the majority of the research for regional councils can have an incentive to put forth the best available science, the councils often have a greater incentive to ignore the science when it does not support a particular agenda that is being promoted.⁷⁷ These inconsistent goals result in muddled explanations of science, confusion, and distrust, prompting court challenges of council determinations by environmentalists and fishermen alike.⁷⁸

The Committee on Best Science found that within the Magnuson-Stevens Act, National Standard 2 impliedly obligates NMFS “to improve scientific information and reduce uncertainty over time,”⁷⁹ but that “decisions regarding management and conservation should be made in a timely and effective fashion with available information despite recognized information gaps.”⁸⁰ Although the Committee on Best Science expressed trepidation with the non-uniform application of National Standard 2 between regional councils, it cautioned against instituting a best available science statutory definition because of the ever-changing nature of scientific information-gathering.⁸¹ The Committee recommended that guidelines be promulgated to allow for a uniform application of National Standard 2.⁸²

The Committee on Best Science’s recommendations were practical. Its goal was to set guidelines that would “promote consistency in both the production and the use of scientific information without unduly constraining the ability of scientists to adopt new scientific protocols for data collection and analysis.”⁸³ The guidelines consisted of six criteria: relevance,⁸⁴ inclusiveness,⁸⁵

76. *Id.* at 19 (emphasis added).

77. *Id.* at 33.

78. *Id.* For an example of this disconnect, see CAREY, *supra* note 28, at 14 (describing one fisherman’s negative reaction to a scientist’s report using technical formulas to explain the effect of trap reductions).

79. COMM. ON BEST SCIENCE, *supra* note 66, at 52. The Committee on Best Science also found that “[a] better structure to conduct science in [NMFS] would improve outsiders’ perceptions of [NMFS] scientists and science. A structure that allowed scientists to operate objectively and independently of the management body (but was responsive to requests for scientific investigations) could improve both the image and the performance of [NMFS].” *Id.* (citing NAT’L RESEARCH COUNCIL, SCIENCE AND ITS ROLE IN THE NATIONAL MARINE FISHERIES SERVICE 4–5(2002)).

80. *Id.*

81. *Id.* at 53–54. The Committee on Best Science also concluded that a legislative solution would do little to alleviate the glut of litigation over the standard. *Id.* at 54.

82. *Id.* at 54.

83. *Id.*

84. *Id.* at 55. The relevance criterion requires that the data “be representative of the fish stock being managed.” *Id.*

85. *Id.* The inclusiveness criterion requires the inclusion of many scientists from an array of relevant scientific disciplines. *Id.*

objectivity,⁸⁶ transparency and openness,⁸⁷ timeliness,⁸⁸ and peer review.⁸⁹ These basic and widely accepted tenets would help, in the Committee's opinion, ensure that the science used in creating fishery management plans is sound and current.⁹⁰ Another important recommendation that the Committee on Best Science made was that "[t]he presentation of scientific information at regional fishery management council meetings should be concise and as free of scientific jargon as possible."⁹¹ This would allow for council members and stakeholders (e.g. fishermen) to understand the science better, thereby giving the council a better opportunity to make sound decisions.⁹²

Recognizing the deficiencies in the current use of National Standard 2, on December 11, 2009, NMFS proposed amended guidelines that would govern the National Standard in light of the National Research Council's 2004 report.⁹³ In the notice, NMFS proposed to accept the six tenets recommended by the Council to aid with uniform application of National Standard 2 by regional councils and laid out an extensive process for peer review of agency science.⁹⁴

C. The Government and Fishermen Bump Heads: Judicial Review of NMFS Fishery Management Plans

1. Diagramming the Chevron Two-Step When Challenging an Agency's Statutory Interpretation

When a court reviews an agency interpretation of a statute, the court affords the agency deference in its interpretation.⁹⁵ Courts show particular deference when the decision is of a highly scientific or technical nature.⁹⁶ Since the mid-1980s, courts have employed the two-step analysis developed by Justice John

86. *Id.* The objectivity criterion emphasizes that "[d]ata collection and analysis should be unbiased and obtained from credible sources." *Id.* at 56.

87. *Id.* at 55. The transparency-and-openness criterion seeks not only to inform the general public about new developments, but also to require decision-makers to be forthright, clear, and honest about the policies that they adopt. *Id.* at 56.

88. *Id.* at 55. The timeliness criterion has prongs: (1) sufficient time must exist between data collection and data application to ensure competent decision-making, and (2) data must be relevant to the current situation. *Id.* at 56–57.

89. *Id.* at 55. The peer-review criterion suggests that NMFS must "establish an explicit and standardized peer review process for all documents that contain scientific information used in the development of [fishery management plans]. *Id.* at 57.

90. *Id.* at 55.

91. *Id.* at 60. Scientific information often is presented in an unclear manner at regional council meetings. *See id.* at 53.

92. *Id.* at 60.

93. *See* Magnuson-Stevens Act Provisions: National Standard 2—Scientific Information, 74 Fed. Reg. 65,724, 65,725 (Dec. 11, 2009) (to be codified at 50 C.F.R. pt. 600).

94. *Id.* at 65,725–27.

95. *Chevron, U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837, 844 (1984).

96. *Zuni Pub. Sch. Dist. No. 89 v. Dep't of Educ.*, 127 S. Ct. 1534, 1540 (2007).

Paul Stevens in *Chevron, U.S.A., Inc. v. Natural Resource Defense Council, Inc.*⁹⁷ The court's first task is to determine "whether Congress has directly spoken to the precise question at issue."⁹⁸ If it has, then the analysis is over: if the agency has promulgated a regulation based on a statutory interpretation that contrary to Congress's intent, the court will strike the regulation.⁹⁹ If, however, Congress was "silent" on the issue, then "the question for the court is whether the agency's answer is based on a permissible construction of the statute."¹⁰⁰ In this case, a court will uphold the agency action unless it finds sufficient evidence that the agency's interpretation of the statute was unreasonable.¹⁰¹

2. Council Determinations

Since the inception of the Magnuson-Stevens Act in 1976, fishermen and NMFS have quarreled over the best way to manage fisheries.¹⁰² These quarrels have often resulted in challenges to National Standard 2.¹⁰³ These challenges have come from environmental organizations, fishing organizations, and coastal states representing their residents.¹⁰⁴

a. Lawmakers Take Issue with NMFS's Treatment of Best Available Science and Call for an Internal Investigation of Council Determinations

The debate over the best available science standard takes place not only in the courts, but also between lawmakers and NMFS.¹⁰⁵ On August 28, 2008, Senator Olympia J. Snowe (R-ME) sent a letter, cosigned by Senators Susan M. Collins (R-ME), Edward M. Kennedy (D-MA), and John Kerry (D-MA), to

97. *Chevron*, 467 U.S. at 842–43; see Cass R. Sunstein, *Chevron Step Zero*, 92 VA. L. REV. 187, 188, 190–91 (2006).

98. *Chevron*, at 842.

99. *Id.* at 842–43.

100. *Id.* at 843.

101. *Id.* at 843 n.11 (citing *Fed. Elections Comm'n v. Democratic Senatorial Campaign Comm.*, 454 U.S. 27, 39 (1981); *Zenith Radio Corp. v. United States*, 437 U.S. 443, 450 (1978)).

102. See, e.g., WEBER, *supra* note 11, at 154–55. As one commentator has noted,

[B]y ignoring the possibility that fishermen might have some well-founded ideas of their own about the health and the size of the stocks and giving NMFS the sole, unassisted job of assessing the fish populations *and* of advising the councils on how to achieve desirable catch levels, [the Magnuson-Stevens Act's] council system placed NMFS in an unavoidably adversarial position that produced increasingly defensive science.

DOBBS, *supra* note 9, at 91; see generally CAREY, *supra* note 28, at 55–74 (discussing the interaction between the regional councils and the regulated fishermen); PLAYFAIR, *supra* note 9, at 43–89 (describing how Gloucester fishermen have attempted to adjust to the regulations).

103. Eagle, *supra* note 9, at 287.

104. See *Or. Trollers Ass'n v. Gutierrez*, 452 F.3d 1104, 1108, 1117 (9th Cir. 2006); *Nw. Env'tl. Def. Ctr. v. Gordon*, 849 F.2d 1241, 1242–43 (9th Cir. 1988).

105. See *supra* note 8 and accompanying text.

Department of Commerce Inspector General Todd Zinser requesting a review of NMFS's compliance with National Standard 2.¹⁰⁶ The Senators were concerned that fishery management plans did not allow the New England groundfishery to take the maximum sustainable yield due to inaccurate stock assessments and exceedingly high biomass targets set by NMFS, a seeming violation of National Standard 1.¹⁰⁷

In response, the Office of the Inspector General investigated Senator Snowe's allegations that NMFS was not using the best available science.¹⁰⁸ In the Inspector General's view, although NMFS generally met the requirements of National Standard 2, the lack of trust between the agency and the fishermen, based on a lack of communication and understanding, was more alarming.¹⁰⁹

The Inspector General "found generally that the northeast region's groundfish industry lacks confidence in the fishery management process."¹¹⁰ Although the investigation uncovered that "[s]ome interviewees impugned the science," most interviewees "impugned the management decisions made with

106. Letter from Todd J. Zinser, Inspector Gen., U.S. Dep't of Commerce, to Senator Susan M. Collins (Oct. 2, 2008), *available at* http://www.oig.doc.gov/oig/reports/inprogress_reviews_of_commerce_activities/Notification%20to%20NMFS_Northeast%20Fisheries%20Science%20Center.pdf (acknowledging the Senator's letter and apprising the Senator of the issues that the Office of the Inspector General intended to investigate); Letter from Todd J. Zinser, Inspector General, U.S. Dep't of Commerce, to Sen. Edward M. Kennedy (Oct. 2, 2008), *available at* http://www.oig.doc.gov/oig/reports/inprogress_reviews_of_commerce_activities/Notification%20to%20NMFS_Northeast%20Fisheries%20Science%20Center.pdf (same); Letter from Todd J. Zinser, Inspector Gen., U.S. Dep't of Commerce, to Senator John F. Kerry (Oct. 2, 2008), *available at* http://www.oig.doc.gov/oig/reports/inprogress_reviews_of_commerce_activities/Notification%20to%20NMFS_Northeast%20Fisheries%20Science%20Center.pdf (same); Letter from Todd J. Zinser, Inspector General, U.S. Dep't of Commerce, to Senator Olympia J. Snowe (Oct. 2, 2008), *available at* http://www.oig.doc.gov/oig/reports/inprogress_reviews_of_commerce_activities/Notification%20to%20NMFS_Northeast%20Fisheries%20Science%20Center.pdf (same).

107. *See* Press Release, Senator Olympia J. Snowe, Snowe Calls for Investigation of Northeast Fisheries Science Center to Verify NMFC Fish Stock Data Accuracy (Aug. 28, 2008), *available at* http://snowe.senate.gov/public/index.cfm?FuseAction=PressRoom.PressReleases&ContentRecord_id=0afe8402-802a-23ad-47b8-8c1e9bdb220c&Region_id=&Issue_id=d6938819-e35b-b44f-421f-729717308f35; *see also* 16 U.S.C. § 1802(38) (2006) (defining optimum yield as maximum sustainable yield); *id.* § 1851(a)(1) (requiring fishery management plans to allow for the optimum yield).

108. Letter from Todd J. Zinser, Inspector Gen., U.S. Dep't of Commerce, to Senator Olympia J. Snowe, at 1 (Feb. 26, 2009), *available at* http://www.oig.doc.gov/oig/reports/correspondence/2009.02.26_IG_to_Snowe.pdf.

109. *Id.* at 2 ("Although we found merit with several of the specific allegations [laid out by Senator Snowe's letter], . . . we identified several issues with respect to the relationship between NOAA in the Northeast region and the groundfish industry . . . that NOAA should promptly address."); *see also* Richard Gaines, *Inspector: 'Trust' Gap Hurts, But Science Good*, GLOUCESTER TIMES, Mar. 11, 2009, *available at* <http://www.gloUCESTERtimes.com/fishing/x645320932/Inspector-Trust-gap-hurts-but-science-good>.

110. Letter from Todd J. Zinser to Senator Olympia Snowe, *supra* note 108, at 9.

the science.”¹¹¹ The Inspector General believed that this was caused by a long history of distrust and fighting between NMFS and the New England fisheries, particularly, the arguments with the groundfishing industry.¹¹²

Although the Inspector General found that NMFS was generally operating in compliance with National Standard 2, there were instances when questions pertaining to the quality and accuracy of the science were legitimate, and NMFS’s responses to the questions were troublesome.¹¹³ The Inspector General also found that three of the Senators’ objections had merit.¹¹⁴ Specifically, the Inspector General found validity in the objections to NMFS’s handling of yellowtail flounder and haddock management.¹¹⁵ The investigation made clear that NMFS must “more aggressively pursue ecosystem approaches to fisheries management.”¹¹⁶

b. Trawlgate

There are other more egregious examples of questionable NMFS scientific data. In 2002, NMFS revealed that for the previous two years, R/V Albatross IV, the vessel responsible for collecting the majority of data upon which northeast groundfishing regulations were based, had fished its nets improperly.¹¹⁷ The research vessel, manned not by experienced fishermen, but rather by researchers with little knowledge of commercial fishing practices, incorrectly laid the length of wire between the vessel and doors of the net, known as warps.¹¹⁸ During the two-year period, the warps were not measured

111. *Id.*

112. *Id.* (“[Distrust] is based on a long history of sparring between the groundfish industry and NOAA regulators over limits to the amount of days that fishing vessels can spend at sea, regulating certain types of gear, or closing some traditional fishing grounds to fishing.”).

113. *Id.* at 2 (finding “merit with several of the specific allegations” questioning the quality of science used by NMFS, but determining that generally, the NMFS Science Center acted in compliance with National Standard 2).

114. *Id.* at 9, 14, 19.

115. *Id.* at 19.

116. *Id.* Ecosystem impact studies provide an all-inclusive evaluation of single and multi-species and take into account environmental factors to better evaluate future fish stock tendencies. *Id.*

117. Daley, *supra* note 11.

118. Dexter Van Zile, *Trawlgate Skeptics Redeemed*, NAT’L FISHERMAN, Apr. 2003, at 24. For many years,

fishermen in New England have complained about the stock survey data compiled by the National Marine Fisheries Service. Fishermen who harvested groundfish stocks in the region routinely criticized NMFS scientists for under-counting the number of fish in the region’s waters. . . .

Scientists, regulators and environmentalists dismissed these complaints as self-serving attempts to undermine the legitimacy of the harvest restrictions forcing them off the water. . . .

Then in September, NOAA Fisheries made an astounding admission: The trawl lines on the Albatross IV were mismarked, and depending how far the lines were released, could be uneven by as much as 5 and 1/2 feet. Scientists were quick to point out they

to ensure that the two lengths of lines were equal, which led to one of the towlines being up to six feet longer than the other.¹¹⁹ This effectively led to the net being towed sideways, drastically reducing its catch efficiency.¹²⁰ Thus, the data collected from the tows likely reflected far fewer fish than it should have.¹²¹ This mishap served only to fuel fishermen's distrust of NMFS's ability to regulate fairly and effectively.¹²²

c. The Battle in the Courts: Challenging National Standard 2

Section 1855(f) gives courts the power to hear challenges to fishery management plans.¹²³ The statute provides judicial review for an action that is arbitrary and capricious, an abuse of discretion or otherwise not in accordance with law, if it is unconstitutional, if the agency exceeded its statutory authority, or if the agency failed to comply with all procedural requirements.¹²⁴

had no idea what impact, if any, the uneven trawl lines had on the survey data, but for fishermen in the region, the admission demonstrated that something was definitely wrong with the trawl data.

Id.

119. PLAYFAIR, *supra* note 9, at 235. Although there can be variations from one net to another, generally, a net used for groundfishing consists of a long conical net the narrowest part being the end (cod-end or bag) of the net and the widest part the front or "mouth." See *FishWatch—U.S. Seafood Facts*, NOAA, <http://www.nmfs.noaa.gov/fishwatch/fishinggears.htm> (last visited Jan. 6, 2011). Attached along the bottom of the mouth is a length of chain, sewn all along the bottom, that serves three purposes: (1) it helps the net sink to the bottom as it is set back, (2) it keeps the bottom of the net firmly on the ocean floor as the tow occurs, and (3) if tied correctly, it will kick up the bottom in order to herd the fish in front of the net. Along the top of the mouth are a number of small buoys that serve to keep the mouth as vertically open as possible. Leading from the mouth are four equal lengths of line, two on each side (one high, one low) that attach to two "doors," large wooden panels with lead slates on the bottom. The top and bottom lines from each side are each tied to their respective side doors that, when pulled, force the net to open horizontally. Equal lengths of wire are attached to the front of the each door and lead up to the boat.

120. Van Zile, *supra* note 118, at 25.

121. *Id.* at 24–25.

122. *Id.* As one commentator observed,

These days, NMFS' [sic] ability (or lack thereof) to accurately assess fish stocks has become a punch line. When describing the abundance of scup in the region after an astounding recovery, Jim Lovgren, a member of the Mid-Atlantic Fishery Management Council and one of the fishermen who participated on the observation cruise, said, "They're so abundant even the Albatross IV can catch them."

Id. at 25.

123. 16 U.S.C. § 1855(f)(1) (2006) ("Regulations promulgated by the Secretary under this [Act] and actions described in paragraph (2) shall be subject to judicial review to the extent authorized by, and in accordance with, chapter 7 of title 5 . . ."); *id.* § 1855(f)(2) ("The actions referred to in paragraph (1) are actions that are taken by the Secretary under regulations which implement a fishery management plan, including but not limited to actions that establish the date of closure of a fishery to commercial or recreational fishing.").

124. *Id.* § 1855(f)(1)(b) (referencing 5 U.S.C. § 706(2)(A)–(D) (2006)).

When challenging a fishery management plan, it is common for plaintiffs to challenge the regulation as violating National Standard 2 by arguing that the plan is not based on the best available science.¹²⁵ Courts are particularly reluctant, however, to overturn an agency determination when the decision involves scientific or highly technical research.¹²⁶ As a result, courts have granted great deference to NMFS in its determinations of what is the best available science.¹²⁷ In general, courts have accepted a best available science argument only when the agency bases its decision entirely on something other than science.¹²⁸

A 2002 Ninth Circuit case illustrates this scientific deficit. In *Midwater Trawlers Cooperative v. Department of Commerce*, the Ninth Circuit observed that “the best available politics does not equate to the best available science” and struck a fishery management plan that allocated a certain percentage of whiting quota to American Indian tribes that had traditionally fished for whiting.¹²⁹ The court reasoned that, although it was proper for NMFS to allocate a particular percentage of the quota to the tribes, the negotiated allocation “was a product of pure political compromise, not reasoned scientific endeavor.”¹³⁰

On the other hand, courts have held that National Standard 2 does *not* require NMFS or the regional councils to conduct additional research when creating fishery management plans.¹³¹ In *Massachusetts v. Daley*, for instance, the Commonwealth of Massachusetts challenged a rule promulgated by NMFS that amended the method used for allocating the total quota for summer scup fishing among the states.¹³² The Commonwealth claimed that “the regulatory amendment [was] ‘arbitrary, capricious, [and] an abuse of discretion,’ in that it [was] based upon unreliable and outdated data.”¹³³

125. COMM. ON BEST SCIENCE, *supra* note at 66, at 1.

126. See *Zuni Pub. Sch. Dist. No. 89 v. Dep’t of Educ.*, 127 S. Ct. 1534, 1541 (2007).

127. See *Massachusetts v. Daley*, 10 F. Supp. 2d 74, 76–77 (D. Mass. 1998), *aff’d*, 170 F.3d 23 (1st Cir. 1999).

128. See *Midwater Trawlers Coop. v. Dep’t of Commerce*, 282 F.3d 710, 720 (9th Cir. 2002).

129. *Id.* at 719–21; see *Fund for Animals v. Williams*, 246 F. Supp. 2d 27, 41 (D.D.C. 2003) (rejecting an argument made by the challenger that a rule made under the Endangered Species Act was void due to its emergence from political negotiations (citing *Midwater Trawlers*, 282 F.3d at 720)).

130. *Midwater Trawlers*, 282 F.3d at 720. The court stated that the allocation may well have been fair, but the clear language of National Standard 2 “require[d] that it be founded on science and law, not pure diplomacy.” *Id.* at 720–21; see *Ecology Ctr., Inc. v. U.S. Forest Serv.*, 451 F.3d 1183, 1194 n.4 (10th Cir. 2006) (discussing the difficulty that courts have had when applying the best available science standard in a variety of environmental protection statutes).

131. See *Recreational Fishing Alliance v. Evans*, 172 F. Supp. 2d 35, 44 (D.D.C. 2001) (“An agency is required only to base its determinations on information available at the time of . . . implementing the regulations.”); see also *Blue Water Fishermen’s Ass’n v. Nat’l Marine Fisheries Serv.*, 226 F. Supp. 2d 330, 337 (D. Mass. 2002).

132. *Daley*, 10 F. Supp. 2d at 75.

133. *Id.* (second alteration in original).

The court started its analysis by applying the arbitrary and capricious standard.¹³⁴ It then stated that, when conducting a review of a “regulation promulgated pursuant to the Magnuson-Stevens Act . . . , a court must be particularly cognizant of the ten national standards contained in the Act.”¹³⁵ The court observed that the “premise underlying Massachusetts’ first argument is that NMFS had an ‘affirmative obligation’ [under National Standard 2] to collect landing data for scup caught in ‘inshore’ waters before setting state-by-state quotas.”¹³⁶ Ultimately, the court disagreed with the Commonwealth’s argument and rejected its definition of best available science, which encompassed an affirmative duty to research.¹³⁷

The court did not believe that National Standard 2 should be interpreted so narrowly.¹³⁸ It noted that the Magnuson-Stevens Act does not define the phrase,¹³⁹ and observed that, barring “express statutory language imposing an affirmative duty on an agency, courts have been reluctant to impose one.”¹⁴⁰ There was no affirmative language in the regulation that sought to interpret National Standard 2.¹⁴¹ The court also concluded that the language in the statute “impl[ie]d that it does not mandate any affirmative obligation on the agency’s part.”¹⁴² Finally, the court pointed to precedent that allows the agency to act “before the information on which [it] intends to rely is even ‘complete.’”¹⁴³ From this, the court concluded that the term “best scientific information available” does not impose a duty on NMFS to conduct *any* research when promulgating its rules.¹⁴⁴

Finally, a recent case that gained notoriety in the fishing industry is *Massachusetts v. Gutierrez*, in which the Commonwealth of Massachusetts and the State of New Hampshire sued NMFS, challenging an emergency rule titled Framework 42.¹⁴⁵ The rule, enacted after a determination that two of the seven

134. *Id.* at 76.

135. *Id.*

136. *Id.* at 77.

137. *Id.*

138. *Id.*

139. *Id.*

140. *Id.* (citing *Dubois v. Thomas*, 820 F.2d 943, 947 (8th Cir. 1987)).

141. *Id.* at 77 n.3 (citing 50 C.F.R. § 600.315(b)(1)–(2)).

142. *Id.* at 77 (citing *Wash. Crab Producers v. Mosbacher*, 924 F.2d 1438, 1444 (9th Cir. 1991)).

143. *Id.* (citing *Nat’l Fisheries Inst. v. Mosbacher*, 732 F. Supp. 210, 225 (D.D.C. 1990)).

144. *Id.* Although the Court rejected the National Standard 2 argument made by the Commonwealth, it struck the allocation because it determined that the Secretary knew that the data was flawed when he relied on it, which made the Secretary’s actions arbitrary and capricious. *Id.* at 78.

145. *Massachusetts v. Gutierrez*, 594 F. Supp. 2d 127, 129 (D. Mass. 2009); see *Fisheries: Federal Judge Temporarily Suspends Framework 42 but Judgment Isn’t a Total Win for Fisheries or a Total Loss for Fisheries Regulators*, CONSERVATION REPORT (Feb. 20, 2009), <http://conservationreport.com/2009/02/20/fisheries-federal-judge-temporarily-suspends->

fisheries regulated under the New England “multi-species” permit would be overfished, reduced the “days at sea” that permit holders could fish¹⁴⁶ in sensitive fishing areas.¹⁴⁷ The claimants argued that the brand of science that NMFS used to promulgate Framework 42 was not the best scientific information available.¹⁴⁸ The court again noted that when reviewing an agency action, “courts afford agencies great deference,”¹⁴⁹ and that deference is only heightened in cases in which the rulemaking requires special scientific expertise.¹⁵⁰

Reviewing the statute, the court found that deference had “found its way into the language” of National Standard 2 through the word “available,” and therefore the choice of science was more “a matter of judgment” than “a matter of absolutes.”¹⁵¹ The court continued: “Best Science has been interpreted so broadly as to allow Commerce to use incomplete information as the basis for a regulation.”¹⁵² It concluded that the plaintiffs had not established a *prima facie* case because they failed to provide an alternative form of science.¹⁵³ Accordingly, the court granted summary judgment to NMFS.¹⁵⁴

framework-42-but-judgment-isn%E2%80%99t-a-total-win-for-fishers-or-a-total-loss-for-fisheries-regulators/.

146. *Gutierrez*, 549 F. Supp. 2d at 130. Until recently, those fishermen working under a multi-species permit were limited to a certain number of days at sea, allotted to each fisherman on the basis of data recorded by the fisherman regarding how many days he used his license. See John B. Walden, *Modeling the Impact of Days at Sea Leasing in the Northeast Multispecies Fishery*, NOAA—FISHERIES, http://www.st.nmfs.noaa.gov/st5/documents/Modeling_the_impact_of_days_at_sea_leasing_in_the_Northeast_multispecies_fishery.pdf. The more he used the license, the more days he would be given. Days at sea denotes the days that one is allowed to fish under the permit. *Id.* This system arguably violated another national standard that required the fishery management plans to take into account the safety of the fishermen. See 16 U.S.C. § 1851(a)(10) (2006). The days at sea system could force fishermen to stay out in unsafe conditions or lose their day to fish.

147. *Gutierrez*, 594 F. Supp. 2d at 130.

148. *Id.* at 131.

149. *Id.* (citing *Assoc. Fisheries of Me., Inc. v. Daley*, 127 F.3d 104, 109 (1st Cir. 1997)).

150. *Id.* (citing *Balt. Gas & Elec. Co. v. Natural Res. Def. Council, Inc.*, 462 U.S. 87, 103 (1983)).

151. *Id.* at 131–32.

152. *Id.* at 132 (citing *Massachusetts v. Daley*, 10 F. Supp. 2d 74, 77 (D. Mass. 1998), *aff'd*, 170 F.3d 23 (1st Cir. 1999)).

153. *Id.*

154. *Id.* (“[A]ny party objecting to Commerce’s science as the Best Science must introduce ‘better’ science. A party cannot expect relief without providing science to counter what Commerce identifies as Best Science.” (citing *Or. Trollers Ass’n v. Gutierrez*, 452 F.3d 1104, 1120 (9th Cir. 2006); *Massachusetts v. Daley*, 170 F.3d 23, 30 (1st Cir. 1999)).

II. NMFS AND THE COURTS HAVE INCORRECTLY DEFINED “NATIONAL STANDARD 2” AS NOT INCLUDING A MANDATE TO ACHIEVE THE BEST AVAILABLE SCIENCE

Courts currently interpret National Standard 2 narrowly, allowing a challenge to continue only if the plaintiff can offer alternative science to show that NMFS’s reliance on its science was arbitrary or capricious.¹⁵⁵ This not only economically limits those who can bring a claim under the provision¹⁵⁶ because it requires additional scientific studies, but it also does not take into account when NMFS does not employ the best available scientific data collection methods for fishery plan creation.¹⁵⁷ This is due mainly to the approach exemplified in *Massachusetts v. Daley*, which found no explicit affirmative duty to research in National Standard 2.¹⁵⁸ Courts are reluctant to impose an affirmative duty on an agency absent an explicit directive by Congress.¹⁵⁹ In this case, however, the courts have granted NMFS the ability to promulgate rules with little credible scientific basis, even when credible science was reasonably obtainable had NMFS done the proper research.¹⁶⁰ This is an absurd result and contradicts Congress’s intent when it enacted the Magnuson-Stevens Act.¹⁶¹

A. Definition of “Available” Allows for an Affirmative Duty to Research

When examining the definition of “available,” Congress’s intent becomes even more apparent. *Merriam-Webster’s Collegiate Dictionary* includes multiple definitions of the term, including “present or ready for immediate use,” “accessible,” and “obtainable.”¹⁶² If the proper meaning of “available” in 16 U.S.C. § 1851(a)(2) is “present or ready for immediate use,” then National Standard 2, as courts currently hold, would not require the regional councils to obtain additional scientific research in the process of creating fishery management plans.¹⁶³ However, if the proper meaning is “accessible” or “obtainable,” it is reasonable to foresee instances when the statute would require NMFS and the regional science centers to gather obtainable science if

155. *Id.* (citing *Or. Trollers Ass’n*, 452 F.3d at 1120; *Daley*, 170 F.3d at 30).

156. See OCEAN STUDIES BOARD, NAT’L RESEARCH COUNCIL, IMPROVING THE COLLECTION, MANAGEMENT, AND USE OF MARINE FISHERIES DATA 59–60 (2000) (discussing the costs associated with fisheries studies).

157. See *supra* Part I.C.

158. *Massachusetts v. Daley*, 10 F. Supp. 2d 74, 77 (D. Mass. 1998), *aff’d*, 170 F.3d 23 (1st Cir. 1999).

159. *Id.*

160. See *supra* Part I.C.2.c.

161. See 16 U.S.C. § 1801(c)(3) (2006) (stating that one of the purposes of the Magnuson-Stevens Act is “to assure that the national fishery conservation and management program utilizes, and is based upon, the best scientific information available”).

162. MERRIAM-WEBSTER’S COLLEGIATE DICTIONARY 79 (10th ed. 1997).

163. See *supra* Part I.C.2.c.

it would yield more accurate results and lead to more effective fishery management plans.

B. Statutory Construction Supports an Affirmative Duty to Research

The Magnuson-Stevens Act, as a whole, suggests that NMFS has a duty to research.¹⁶⁴ National Standard 1 mandates that “[c]onservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.”¹⁶⁵ This charges the regional councils to create plans that will produce the “maximum sustainable yield.”¹⁶⁶ In order to determine the “maximum sustainable yield” on a continuing basis, exact scientific data on the various populations in a fish stock is required. If the population estimate is too high, the fishery management plan will allow for overfishing of the species and will allow for a catch that is greater than the “maximum sustainable yield.”¹⁶⁷ Conversely, if the population estimate is too low, then the plan will allow fishermen to catch too few fish and lead to a catch that is less than the “maximum sustainable yield.”¹⁶⁸ Due to the inherent difficulties in developing a maximum sustainable yield estimate, it is counterintuitive that Congress would, in National Standard 2, undermine National Standard 1 by allowing NMFS Science Centers to avoid doing the requisite research to determine “maximum sustainable yield.”

Additionally, in 16 U.S.C. § 1801, Congress laid out the scope and purpose of the Magnuson-Stevens Act.¹⁶⁹ Section 1801(a)(2) states:

Certain stocks of fish have declined to the point where their survival is threatened, and other stocks of fish have been so substantially reduced in number that they could become similarly threatened as a consequence of (A) increased fishing pressure, (B) the inadequacy of fishery resource conservation and management practices and controls, or (C) direct and indirect habitat losses which have resulted in a diminished capacity to support existing fishing levels.¹⁷⁰

Section 1801(a)(3) continues:

164. See 16 U.S.C. § 1801(a)(8) (“The collection of reliable data is essential to the effective conservation, management, and scientific understanding of the fishery resources of the United States.”); *id.* § 1851(a)(8) (requiring “measures [to be] consistent with the conservation requirements of this [Act]”).

165. *Id.* § 1851(a)(1).

166. *Id.* § 1802(33) (indicating that this level shall be reduced by “any relevant social, economic, or ecological factor”); *id.* § 1851(a)(1) (setting forth the optimum yield goal for fishery conservation and management).

167. *Id.* § 1802(33)–(34).

168. See *id.* § 1802(33).

169. *Id.* § 1801.

170. *Id.* § 1801(a)(2).

Commercial and recreational fishing constitutes a major source of employment and contributes significantly to the economy of the Nation. Many coastal areas are dependent upon fishing and related activities, and their economies have been badly damaged by the overfishing of fishery resources at an ever-increasing rate over the past decade.¹⁷¹

Because the fisheries are integral to the nation's economy,¹⁷² it would be surprising for Congress not to require NMFS to obtain scientific data that is reasonably available.

C. Legislative History Suggests an Affirmative Duty to Research

Congress clearly envisioned that it would be necessary for NMFS to conduct additional research to satisfy National Standard 2.¹⁷³ The use of the term "best scientific information available" was Congress's acknowledgement of the inherent uncertainty in natural scientific research.¹⁷⁴ If Congress had instead mandated a standard such as "best science" or "best possible science," this inherent uncertainty would have inhibited NMFS from enacting any regulations because it would have lacked the proper discretion to determine the most appropriate science to use.¹⁷⁵ This does not mean, however, that Congress envisioned a regime in which NMFS had unfettered discretion in the type of science used, nor did Congress intend to give NMFS carte blanche to conduct research in haphazard or inferior ways.¹⁷⁶ Blind judicial acquiescence to the agency's scientific determinations has given NMFS greater power than Congress originally envisioned.¹⁷⁷

D. Best Available Science Requires NMFS to Obtain Science

Although judicial precedent suggests otherwise, National Standard 2's ordinary meaning and legislative history combined with the scope and context of the Magnuson-Stevens Act indicates that Congress expected NMFS to try to develop the best available science in anticipation of a fishery management plan.¹⁷⁸ This standard was not intended to relieve NMFS of its duty to research and disclose.¹⁷⁹ Congress intended for the standard to serve in two capacities: (1) to allow NMFS to regulate swiftly, with less-than-perfect science, overfished fisheries; and (2) to require NMFS to improve continually the

171. *Id.* § 1801(a)(3).

172. *See id.* § 1801(a).

173. *See supra* note 78 and accompanying text.

174. *See* COMM. ON BEST SCIENCE, *supra* note 66 (discussing congressional sensitivity to the timely availability of updated fish populations).

175. *See supra* Part II.A–B.

176. *See supra* Part II.A–B.

177. *See supra* Part I.C.2.c.

178. *See supra* Part II.A–B.

179. *See supra* Part II.A–B.

science for the inevitable adjustments to fishery management plans. By refusing to hear claims that NMFS had failed to conduct proper research before promulgating a regulation, even with a deferential standard, the courts have frustrated the congressional intent underlying the Magnuson-Stevens Act.

III. SAFEGUARDING NATIONAL STANDARD 2: PROTECTING THE BEST AVAILABLE SCIENCE

NMFS is taking significant steps to improve the interpretation and application of National Standard 2 by proposing to accept a number of the 2004 Committee on Best Science recommendations.¹⁸⁰ If NMFS makes a concerted effort to increase transparency, and the peer review system succeeds, the process of developing fishery management plans will improve. Even so, issues remain with National Standard 2, namely the overly restrictive judicial interpretation.

A. Courts Should Alter Their Interpretations of National Standard 2

The simplest way to resolve interpretation issues is for courts to recognize that the current interpretation of “best available science” is unworkable and frustrates the congressional intent underlying the Magnuson-Stevens Act.¹⁸¹ Courts should interpret the term “available” as “accessible” or “obtainable” and should recognize NMFS’s duty to collect and improve research when the current research is not the “best available.”¹⁸² Courts would still defer to NMFS’s “best available science” determination, but they would also determine whether NMFS acted arbitrarily in collecting data.¹⁸³ Currently, only NMFS’s results are scrutinized, and only when an alternative study is offered.¹⁸⁴ Changing the definition in this way would not undermine the agency’s power; rather, it would serve as a safeguard against tailored data collection and agency capture.¹⁸⁵

B. The Trouble with a Legislative Solution

Some commentators have called for greater congressional involvement in the science-gathering process in an approach called the command-and-conquer

180. See Magnuson-Stevens Act Provisions: National Standard 2—Scientific Information, 74 Fed. Reg. 65,724 (Dec. 11, 2009) (to be codified at 50 C.F.R. pt. 600); see also *supra* Part I.B.

181. See *supra* Part II.A–C.

182. MERRIAM-WEBSTER’S COLLEGIATE DICTIONARY, *supra* note 162, at 79.

183. See 5 U.S.C. § 706 (2006).

184. See *supra* Part I.C.2.

185. See 16 U.S.C. § 1851(a)(1) (2006) (requiring fishery management plans to allow for optimum yield); *Massachusetts v. Daley*, 10 F. Supp. 2d 74, 77–78 (D. Mass. 1998) (discussing a situation in which NMFS relied on what it knew to be flawed data when creating regulations), *aff’d*, 170 F.3d 23 (1st Cir. 1999).

method.¹⁸⁶ This method calls for Congress to employ a more definitive data-collection requirement.¹⁸⁷ It suggests that a scientific mandate like the one used in the International Dolphin Conservation Program Act (IDCPA),¹⁸⁸ which allows Congress to “make policy choices for itself,” is essential to maintaining scientific integrity.¹⁸⁹ Specifically, this method argues for two modifications to the science requirement in the Magnuson-Stevens Act: (1) “Congress needs to direct agencies to conduct additional scientific studies where the best science available is insufficient or ambiguous, or where the agency’s methodology is problematic”;¹⁹⁰ and (2) if “the agency is unable to make a purely scientific decision or regulation” due to “both biological and economic factors . . . be[ing] considered, . . . Congress should provide agencies with clear policy guidelines directing agencies to which side the agencies should favor.”¹⁹¹

Although initially the command-and-conquer method seems appealing, further inspection reveals serious problems with this solution. First, a stronger mandate for science could seriously impair the ability for NMFS to regulate at all.¹⁹² The IDCPA was derived from the Marine Mammal Protection Act and the International Dolphin Conservation Program.¹⁹³ The Act’s chief purpose was to reduce “dolphin mortality rates associated with purse seine fishing in the Eastern Tropical Pacific Ocean.”¹⁹⁴ Congress passed the IDCPA in 1997 to comply with the International Dolphin Conservation Program.¹⁹⁵

Concerned that purse seining “had significant, psychological stress effects” on dolphin populations that would impede recovery,¹⁹⁶ Congress restricted the practice and charged NMFS to investigate whether seining had an adverse effect on dolphin stocks.¹⁹⁷ The Act specifically charged NMFS, in consultation with other bodies, to conduct a study that would analyze the effects of purse seining on dolphin populations.¹⁹⁸ Congress’s instructions to NMFS were “exceptionally specific” and required particular studies to be

186. See Mariyetta Meyers, Comment, *Maximizing Scientific Integrity in Environmental Regulations: The Need For Congress to Provide Guidance When Scientific Methods are Inadequate or When Data Is Inconclusive*, 12 ANIMAL L. 99, 105–06 (2005).

187. *Id.*

188. International Dolphin Conservation Program Act, Pub. L. No. 105-42, 111 Stat. 1122 (1997) (codified as amended at 16 U.S.C. §§ 1411–1418).

189. Meyers, *supra* note 186, at 103–06.

190. *Id.* at 105.

191. *Id.* at 105–06.

192. See *supra* notes 173–76 and accompanying text.

193. Meyers, *supra* note 186, at 116–17.

194. *Id.* at 117 (citing 16 U.S.C. § 1411 (2006)).

195. *Id.* (citing 16 U.S.C. § 1411).

196. *Id.* (emphasis omitted) (quoting *Brower v. Daley*, 93 F. Supp. 2d 1071, 1075 (N.C. Cal. 2000), *aff’d*, *Brower v. Evans*, 257 F.3d 1058 (9th Cir. 2000)) (internal quotation marks omitted).

197. *Id.* at 117–18 (quoting 16 U.S.C. § 1414a(a)).

198. 16 U.S.C. § 1414a.

completed, such as abundance surveys and stress studies with specific start and end dates.¹⁹⁹ These specific instructions effectively enabled NOAA to study the effects of purse seining on dolphins and provided the courts with more objective guidelines to review agency decisions.²⁰⁰ Congress could have provided specificity in this statute because it addressed a particular issue in an isolated geographic location, the eastern tropical Pacific Ocean.²⁰¹

The Magnuson-Stevens Act, by contrast, governs all fisheries between three and two hundred miles off all U.S. coastlines.²⁰² The intricate system of regional councils and science centers created by Congress to manage this system reflects the complexity of the task.²⁰³ As NMFS pointed out in its notice of proposed rulemaking, “[t]he availability of scientific information to inform fisheries management varies. Ecosystems and human societies are complex, interacting, dynamic systems that are impacted by multiple factors, including those within the scope of fisheries management.”²⁰⁴ After reviewing the numerous comments received, NMFS concluded that National Standard 2 guidelines “should not prescribe a static definition of [best available science] because of the dynamic developments inherent in making improvements in scientific information for fishery management.”²⁰⁵ It is untenable for Congress to make policy decisions about specific scientific data collection methods for each fishery regulated under the Magnuson-Stevens Act on a regular basis. Congress already made a policy decision: fishery management plans should be based on the “best scientific information available” as determined by the experts employed by NMFS for that purpose.²⁰⁶ When interested parties believe that NMFS is not fulfilling this mandate, they have the right to sue under the statute and challenge the agency determination.²⁰⁷ A change in the interpretation of “best scientific information available” would strengthen this ability to challenge while also ensuring that the agency maintains its necessary discretion.²⁰⁸

199. Meyers, *supra* note 186, at 118 (citing 16 U.S.C. §§ 1385(g), 1414a(a)(3)(A)–(C)).

200. *Id.* at 127–29.

201. See *The Tuna-Dolphin Issue*, SW. FISHERIES SCI. CTR., <http://swfsc.noaa.gov/textblock.aspx?Division=PRD&ParentMenuID=228&id=1408> (last visited Jan. 6, 2011).

202. 16 U.S.C. § 1811.

203. See *id.* § 1852 (2006 & Supp. II 2008); Magnuson-Stevens Act Provisions: National Standard 2—Scientific Information, 74 Fed. Reg. 65,724 (Dec. 11, 2009) (to be codified at 50 C.F.R. pt. 600).

204. Magnuson-Stevens Act Provisions: National Standard 2—Scientific Information, 74 Fed. Reg. 65,725.

205. *Id.*

206. See *supra* Part part I.A–B.

207. See 16 U.S.C. § 1855(f); Meyers, *supra* note 186, at 106–07.

208. See *supra* Part III.A; see also Meyers, *supra* note 186, at 127.

C. Threading the Needle: A Legislative Solution Nevertheless

Although a static definition employed by the legislature or through regulation would be misguided, a slight change in the statutory language could clarify the duty to obtain scientific data under National Standard 2: simply replace “best scientific information available” with “best reasonably obtainable scientific information.” This amendment would require NMFS to seek out scientific information that could be obtained during the fishery management plan process, and, most importantly, it would allow litigants to challenge the scientific data without having to produce alternate science.²⁰⁹

IV. CONCLUSION

Currently, the best scientific information available standard employed by NMFS and interpreted by the courts is broad and ambiguous. This ambiguity has caused a breakdown in trust and collaboration between fishermen, environmentalists, and NMFS. As a result, data collection has suffered and management plans have not had their intended effects. Without changing the current fisheries management process, fishing communities will not survive. There will be no more “old men of the seas,” and a storied tradition will be lost. Unfortunately, the proposals in this Comment will not solve the troublesome issue of fishery management. However, the promulgation of a new National Standard 2 regulation that employs peer review and greater transparency and makes scientific data more accessible to fishermen is progress. The next step is to strengthen the interpretation of National Standard 2 by imposing a duty to research. When this is done, NMFS can begin to reverse the “*salao*”²¹⁰ luck for itself and the fishermen, and it can maintain the current generation of fishing communities while ensuring a livelihood for future generations of fishermen.

209. See Meyers, *supra* note 186, at 128–29 (explaining how a similar standard applies to the IDCPA).

210. See HEMINGWAY, *supra* note 1.

