

1997

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Recommended Citation

Philip L. Curcio, *Fishermen's Dock Coop., Inc. v. Brown: Judicial Review Of Optimum Yield Determinations*, 3 *Ocean & Coastal L.J.* (1997). Available at: <http://digitalcommons.maine.gov/oclj/vol3/iss1/8>

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FISHERMEN'S DOCK COOPERATIVE, INC. V. BROWN:
JUDICIAL REVIEW OF OPTIMUM YIELD
DETERMINATIONS

*Philip L. Curcio**

I. INTRODUCTION

The Fishery Conservation and Management Act of 1976 (Magnuson Act or Act)¹ was enacted by Congress to conserve U.S. coastal fishery resources and to maximize the economic and social utility of those resources for U.S. citizens.² The Act has a fisheries management goal of providing the "optimum yield" of all managed species,³ a concept which is based on the statistically derived quantity of "maximum sustainable yield" as modified "by any relevant economic, social, or ecological factor."⁴ The mandatory consideration of these three factors, coupled with the inherent uncertainty of fish stock assessment techniques, effectively places broad discretionary power in the Secretary of Commerce (Secretary) when promulgating yearly catch quotas.⁵ Considerable controversy has developed over the scope of this discretion. Consequently the question of whether the Secretary may protect the long-term viability of

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1. Pub. L. 94-265, 90 Stat. 331 (1976) (codified as amended at 16 U.S.C.A. §§ 1801-1883 (West 1985 & Supp. 1997)).

2. See S. REP. No. 94-711 at 37 (1976), reprinted in 1976 U.S.C.C.A.N. 660-61; H. R. REP. 94-445 at 45-46 (1976), reprinted in 1976 U.S.C.C.A.N. 593, 613-14. See also 16 U.S.C.A. § 1801 (West 1985 & Supp. 1997).

3. 16 U.S.C.A. § 1801(b)(4) (West 1985 & Supp. 1997).

4. *Id.* § 1802(21)(B).

5. The Magnuson Act places coastal fishery management authority in the Secretary of Commerce. *Id.* §§ 1802 (23), 1855(d). The duty of recommending specific quotas is delegated to the Regional Fishery Management Councils (RFMCs), who develop and submit management plans to the Secretary for approval and promulgation in the form of regulations. *Id.* §§ 1852, 1853(a), (b), 1854. See *infra* note 24 for a more detailed discussion of the RFMCs.

fish stocks to the economic detriment of commercial fishers has been examined by several federal courts.

In one recent decision, *Fishermen's Dock Cooperative, Inc. v. Brown*,⁶ the Court of Appeals for the Fourth Circuit joined the weight of judicial authority by deferring to the technical expertise of the Mid-Atlantic Fishery Management Council (Council)⁷ in setting the annual fishery quota for the summer flounder fishery.⁸ Relying on a strong line of case law favoring broad agency discretion with regard to technical matters, the court of appeals unanimously upheld the Secretary's acceptance of the Council's recommendations, ruling that the quota determination was not arbitrary and capricious.⁹

In its ruling upholding the conservative quota, the court acknowledged the Secretary's mandated duty to protect the long-term viability of coastal fisheries resources.¹⁰ Moreover, the court recognized the discretionary power vested in the Council to determine which scientific methods meet the statutory standard of "best scientific information."¹¹ By extending judicial approval to methods which tend to conserve resources rather than maximize short-term economic gains, the court recognized a functional approach for arriving at optimum yield where data and analyses suggest a heavily pressured and possibly overexploited fishery. This Note argues that such discretionary judgments should *always* favor the long-term conservation of fisheries, by employing methods and judgments which are *risk-averse* rather than risk-prone.

6. 75 F.3d 164 (4th Cir. 1996).

7. The Fourth Circuit reversed a district court decision, *Fishermen's Dock Coop., Inc. v. Brown*, 867 F. Supp. 385 (E.D. Va. 1994).

8. The quota appears at 59 Fed. Reg. 10,586, 10,587 (1994) (codified at 50 C.F.R. pt. 625 (1996)). The taxonomic name for summer flounder is *Paralichthys dentatus*.

9. *Fishermen's Dock Coop., Inc. v. Brown*, 75 F.3d at 173.

10. *Id.* at 169. The court stated that the act mandates:

[A]ny fishery management plan prepared, and any regulation promulgated to implement any such plan, pursuant to this subchapter shall be consistent with the following national standards for fishery conservation and management: (1) [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. . . .

Id. (citing 16 U.S.C. § 1851(a) (1994)) (emphasis added).

11. *Fishermen's Dock Coop., Inc. v. Brown*, 75 F.3d at 170.

II. STATUTORY BASIS AND CASE LAW SURROUNDING FISHERY QUOTAS

A. *The Fisheries Conservation and Management Act of 1976*

Prior to the passage of the Magnuson Act in 1976, coastal fisheries regulation was primarily the domain of state law.¹² The Act federalized coastal fisheries management by vesting regulatory authority in the Secretary of Commerce.¹³ More importantly, the Magnuson Act asserted United States sovereign rights over all fisheries resources found within the 200 mile wide Exclusive Economic Zone (EEZ),¹⁴ giving U.S. fishers priority in the harvest of such resources.

Congress declared several reasons for asserting regulatory authority over coastal fisheries resources.¹⁵ Such resources are "valuable and renewable,"¹⁶ the harvest of which "contributes significantly to the economy of the Nation."¹⁷ Congress recognized that fish are a finite resource and that many coastal stocks were already overfished or nearly so,¹⁸ but that if these stocks were properly managed they could provide continuing "optimum yields."¹⁹ For these and other reasons,²⁰ Congress determined the need for a national fisheries management program which would prevent overfishing, rebuild overfished stocks, ensure conservation and realize the full potential of the resource.²¹ Based on this determination, the Magnuson Act aims to effect: (1) the preparation and implemen-

12. See Catherine E. Decker, Note, *Issues in the Reauthorization of the Magnuson Fishery Conservation and Management Act*, 1 OCEAN & COASTAL L.J. 323, 325 (1995).

13. 16 U.S.C.A. § 1855(d) (West 1985 & Supp. 1997).

14. *Id.* § 1811(a). The EEZ is a 200-nautical mile band of ocean running contiguous to the entire U.S. coast. The Act originally declared U.S. jurisdiction over this area for the purpose of fishery management. This "exclusive fishery zone" was later renamed the Exclusive Economic Zone in 1983 when President Reagan proclaimed exclusive U.S. jurisdiction over all economic resources in the zone. Proclamation No. 5030, 48 Fed. Reg 10,605 (1983). See also 16 U.S.C.A. § 1802(6) (West 1985 & Supp. 1997).

15. 16 U.S.C. § 1801(a) (West 1985 & Supp. 1997).

16. *Id.* § 1801(a)(1).

17. *Id.* § 1801(a)(3).

18. *Id.* § 1801(a)(3), 1801(a)(5).

19. *Id.* § 1801(a)(5).

20. *Id.* § 1801(a)(3), 1801(a)(4) (unregulated foreign fishing pressures); *Id.* § 1851(a)(3) (biological need to manage a stock of fish consistently over its entire geographical range).

21. *Id.* § 1801(a)(6).

tation of fishery management plans (FMPs) in accordance with National Standards; and (2) the establishment of Regional Fishery Management Councils (RFMCs) to develop such plans under principles of "sound judgment in the stewardship of fishery resources."²²

The RFMCs are the most unusual and innovative features of the Magnuson Act. Each of the eight RFMCs is charged with developing FMPs for all commercially exploited marine fisheries found within its respective regional jurisdiction.²³ Members are chosen for their expertise and professional experience in fisheries science, management, and harvest.²⁴ The overriding goal of the RFMCs is to insure that all FMPs are consistent with the National Standards,²⁵ a directive which invariably

22. *Id.* § 1801(b)(5). See discussion, *infra* note 25, for an elaboration on the National Standards.

23. *Id.* § 1852(h)(1).

24. *Id.* § 1852(b)(2)(A). The Mid-Atlantic Fishery Management Council has nineteen voting members, twelve of whom are appointed by the Secretary of Commerce. *Id.* § 1852(a)(2). RFMCs include voting members from each of the constituent states, from the federal government, and from the commercial and recreational fishing industries of that region. The states are represented by their respective administrative directors in charge of marine fisheries management; the federal government is represented by the Regional Director of the National Marine Fisheries Service for that region; and the fishing industry representatives are appointed by the Secretary of Commerce, drawn from a list submitted by the Governors of the various member states. *Id.* § 1852(b). A RFMC's primary function of developing and amending FMPs is accomplished through a prescribed cycle of scientific and statistical workshops, committee deliberations, and public notice and comment. 50 C.F.R. § 625.20 (1995). Note also that RFMC members are not subject to the Federal Advisory Committee Act, 5 U.S.C. app. § 1, and are therefore allowed to vote on issues in which they have a financial interest. 5 U.S.C. app. § 1 (1994); 16 U.S.C.A. § 1852(j)(1) (West 1995 & Supp. 1997).

25. 16 U.S.C. § 1853(a)(1)(C) (1994). The seven National Standards as originally stated by Congress are as follows:

Any fishery management plan . . . and any regulation promulgated to implement any such plan . . . shall be consistent with the following national standards. . . :

- (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.
- (2) . . . be based upon the best scientific information available.
- (3) . . . be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.
- (4) . . . not discriminate between residents of different States.
- (5) . . . promote efficiency in the utilization of fishery resources; except that no such measure shall have economic allocation as its sole purpose.
- (6) . . . allow for variations among, and contingencies in, fisheries, fishery resources, and catches.

involves balancing conflicting interests, uses, and management philosophies. The Secretary reviews each FMP for consistency with the National Standards.²⁶ This process transforms the FMP from an advisory document into a set of enforceable administrative rules, and culminates with the publication of the rules in the Federal Register.²⁷ The conservation and management measures recommended in the FMP must be designed to prevent overfishing and promote the long-term health and stability of the resource.²⁸ The FMP must also assess and specify the current condition of the fishery, the fishing mortality levels which will result in an "optimum yield," and the allowable harvest rates and methods.²⁹

The National Standards play a central role in the development of management programs that balance the economic needs of those who depend on the fisheries resources with the biological necessities of the resources themselves. Three Standards of particular importance to the present discussion collectively mandate that any conservation and management measures promulgated as an FMP must prevent overfishing while providing a continuing "optimum yield," must be based on the best scientific information available, and must take into account variations and contingencies in fisheries and catches.³⁰ Congress addressed the complexity of the tasks set out by the Act by creating a statutory framework that

(7) . . . where practicable, minimize costs and avoid unnecessary duplication.

16 U.S.C. 1851(a) (1994). Three more standards were added with the passage of the 1996 Amendments:

(8) Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impact on such communities.

(9) Conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.

(10) Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.

16 U.S.C.A. § 1851(a)(8), (9), (10) (West 1985 & Supp. 1997).

26. *Id.* § 1854(a)(1)(A). The promulgation process includes standard notice and comment procedures. 50 C.F.R. § 625.20(c) (1995).

27. 16 U.S.C.A. § 1854(a), (b) (West 1985 & Supp. 1997).

28. *Id.* § 1853(a)(1)(A).

29. *Id.* § 1853 (a)(3), (a)(4)(A).

30. Standards One, Two, and Six. *Id.* § 1851(a)(1), (2), (6).

provided the Secretary with an array of mechanisms for accomplishing those tasks.

B. Court Decisions Involving Council and Agency Determinations

A sizable body of federal case law has developed around the question of general agency discretion and its specific application to the Magnuson Act. As discussed in this section, courts often grant considerable deference to agency decisions which rest on complex scientific and statistical analyses, upholding them on a minimal showing by the agency that some rational basis exists for the action in question. If the agency cannot show a logical connection between mandated policy objectives and its corresponding rulemaking decision, that decision fails the "rational basis" test and is ruled "arbitrary and capricious."³¹ Courts rarely find that a rule is "arbitrary and capricious," however, and will invalidate agency rulemaking only in the most egregious circumstances.

A leading U.S. Supreme Court decision³² established specific guidelines for determining whether or not an agency action is arbitrary and capricious. Stating that a court must consider whether the agency considered all "relevant factors" before finding a "clear error in judgment,"³³ the Court explained:

[A]n agency rule would be arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.³⁴

31. The "arbitrary and capricious" standard is established in the Administrative Procedures Act, 5 U.S.C. § 706(2)(A-D) (1994). The standard is incorporated into the Magnuson Act at 16 U.S.C.A. § 1855(b)(1)(B) (West 1985 & Supp. 1997).

32. *Motor Vehicle Mfrs. Ass'n of the United States, Inc. v. State Farm Mutual Auto. Ins. Co.*, 463 U.S. 29 (1983).

33. *Id.* at 43 (citing *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 416 (1971)).

34. *Motor Vehicle Mfrs. v. State Farm*, 463 U.S. at 43.

The Court also noted that as long as an agency has examined all of the relevant data and has satisfactorily explained its action, a court may not substitute its judgment for that of the agency.³⁵

Several federal circuit courts have also ruled on the question of agency discretion. *Sierra Club v. Marsh*³⁶ aptly illustrates the infrequent case where a court has found that an agency totally disregarded relevant factors in making its decision. In that decision, the First Circuit invalidated an agency decision not to prepare an environmental impact statement (EIS) as required by the National Environmental Policy Act (NEPA).³⁷ The court ruled that not preparing an EIS was arbitrary and capricious because the administrative record clearly revealed that the proposed development project would have significant environmental impacts.³⁸

In contrast to the holding in *Sierra Club*,³⁹ other circuit courts have upheld agency determinations when the agencies have demonstrated a rational link between the relevant factors under consideration and their final rules.⁴⁰ In *Virginia Agricultural Growers Ass'n, Inc. v. Donovan*,⁴¹ the court persuasively noted that "[a]dministrative responsibility rests with those whose experience is daily and continual, not with judges whose experience is episodic and occasional."⁴² Stated from the opposite perspective, the court in *Leather Industries of America, Inc. v. EPA*⁴³ ruled

35. *Id.*

36. 769 F.2d 868 (1st Cir. 1985).

37. *Id.* See also 42 U.S.C. §§ 4321-4370 (1994). NEPA requires that an EIS be prepared whenever a "major federal action" would have significant impacts on the human environment. *Id.* § 4332(2). Where a preliminary environmental assessment yields a finding of no significant impact, no further environmental study is required before commencing the federal action. *Id.*

38. *Sierra Club v. Marsh*, 769 F.2d at 877. The decision to forego the EIS was made by the Army Corps of Engineers and the Federal Highway Commission in connection with a proposed development project at Sears Island off the coast of Maine, an undeveloped and pristine woodland area. *Id.* at 870. The proposal was objected to by several other federal agencies, including the Fish and Wildlife Service, EPA, NMFS, and the Coast Guard. *Id.* at 874-75. The court reasoned that the two lead agencies had not adequately considered all relevant factors in arriving at their decision. *Id.* at 881.

39. *Id.*

40. See, e.g., *Virginia Agric. Growers Ass'n, Inc. v. Donovan*, 774 F.2d 89 (4th Cir. 1985); *Natural Resource Defense Council v. EPA*, 16 F.3d 1395 (4th Cir. 1993).

41. 774 F.2d 89 (4th Cir. 1985).

42. *Id.* at 92-93.

43. 40 F.3d 392 (D.C. Cir. 1994).

that where an agency *cannot* show a rational connection between the relevant data and its regulatory decision, the decision is arbitrary and capricious.⁴⁴

In a decision specifically addressing fishery quota allocations under the Magnuson Act, the Court of Appeals for the Ninth Circuit recognized a presumption favoring the validity of agency rulemaking by ruling that "[the court's] only function is to determine whether the Secretary 'has considered the relevant factors and articulated a rational connection between the facts found and the choice made.'"⁴⁵ In another Ninth Circuit decision, the court ruled that the Secretary had properly exercised his discretion in selecting a particular scientific method to define the term "overfishing."⁴⁶ This decision is particularly relevant to *Fishermen's Dock* because it affirmed that the Secretary has the discretion to choose the scientific method which constitutes the "best scientific information available" under the Magnuson Act.⁴⁷

Several courts have ruled directly on questions of interpreting and applying the terms "maximum sustainable yield" and "optimum yield."⁴⁸ In 1977, the First Circuit ruled: "[t]he term 'maximum sustainable yield' . . . refers to a scientific appraisal of the safe upper limit of harvest which can be taken consistently year after year without diminishing the stock . . . so that the stock is truly inexhaustible and perpetually renewable."⁴⁹ The court in *Northwest Environmental Defense Center v.*

44. *Id.* at 405.

45. *Washington Crab Producers, Inc. v. Mosbacher*, 924 F.2d 1438, 1441 (9th Cir. 1990) (quoting *Baltimore Gas & Elec. Co. v. Natural Resources Defense Council*, 462 U.S. 87, 105 (1983)).

46. *Northwest Env'tl. Defense Ctr. v. Brennen*, 958 F.2d 930 (9th Cir. 1992). In setting quotas for coho salmon, the Secretary used an "abundance dependent method" to calculate escapement goals instead of an alternative method proposed by the plaintiffs. The court ruled that such a determination was within the Secretary's discretion and did not violate the Act's mandate to use the "best scientific information available." *Id.* at 936.

47. 16 U.S.C.A. § 1853(a)(2) (West 1995 & Supp. 1997).

48. "Optimum yield" is defined as:

[T]he amount of fish—(A) which will provide the greatest overall benefit to the Nation, with particular reference to food production and recreational opportunities; and (B) which is prescribed as such on the basis of the maximum sustainable yield from such fishery, as modified by any relevant economic, social, or ecological factor.

Id. § 1802(21).

49. *State of Maine v. Kreps*, 563 F.2d 1043, 1046 n.4 (1st Cir. 1977) (quoting H.R. REP. No. 445, at 48 (1975)).

*Brennen*⁵⁰ held that the Secretary reasonably defined "overfishing" in terms of the level of fishing mortality that would jeopardize the long-term capacity of the stock to produce maximum sustainable yields on a continuing basis. The court also noted that the Secretary had properly considered social and economic factors in arriving at his conclusions.⁵¹

More recently, a district court upheld a RFMC's decision to exclude suspect data when calculating the annual surf clam quota.⁵² The court articulated three important principles which relate directly to the subject case: (1) optimum yield (OY) is not the *same* as maximum sustainable yield (MSY); rather, OY is *based on* MSY; (2) management measures must aim to achieve OY from each fishery on a continuing basis, not merely for a single year; and (3) a plaintiff claiming the RFMC failed to use the best scientific information available must show that certain factors were excluded from the calculus, and provide reasons why the inclusion of those factors would relieve the injury claimed.⁵³

III. THE COURT'S DECISION IN *FISHERMEN'S DOCK*

The questions presented in *Fishermen's Dock Cooperative, Inc. v. Brown*⁵⁴ involve the Secretary's promulgation of the summer flounder quota for the 1994 season.⁵⁵ Using the statistical procedures specified in

50. 958 F.2d 930, 936 (9th Cir. 1992).

51. *Id.*

52. *J.H. Miles & Co., Inc. v. Brown*, 910 F. Supp. 1138, 1152 (E.D.Va. 1995).

53. *Id.* at 1148-52. Additionally, two other district court decisions directly address issues relevant to *Fishermen's Dock*. In 1990, the District Court for the District of Columbia determined that the plain language of the Magnuson Act envisions a balance between conservation and socio-economic factors, noting that "while conservation of the fishery resource is important, the Secretary may also consider other factors." *National Fisheries Inst., Inc. v. Mosbacher*, 732 F. Supp. 210, 219 (D.D.C. 1990). The same court considered a slightly different question the following year, ruling that the court must look to the National Standards when examining whether a FMP is supported by a review of the administrative record. *Southeastern Fisheries Assn. v. Mosbacher*, 773 F. Supp. 435, 439 (D.D.C. 1991).

54. *Fishermen's Dock Coop., Inc. v. Brown*, 75 F.3d 164 (4th Cir. 1996).

55. The quota was promulgated under Amendment Two of the Mid-Atlantic Summer Flounder FMP, which set a combined target fishing mortality rate of $F=0.53$ for the 1994 summer flounder season. 50 C.F.R. § 625.20(a) (1995). When setting the target fishing mortality level, mortality generated by both commercial and recreational fishing efforts is considered in the calculus. The term "F" is an index representing the fishing mortality (target or actual) of the total "spawning stock biomass." *Id.*

the FMP, the Summer Flounder Monitoring Committee⁵⁶ recommended three different commercial catch quotas for the Council to consider.⁵⁷ One proposed quota represented the geometric mean of all summer flounder recruit estimates for the previous five years, while the other two quotas were one standard deviation above and below the geometric mean.⁵⁸ In practical terms, adopting the geometric mean quota permitted a nineteen million pound harvest for the season, while the more conservative quota, one standard deviation below the mean, permitted a sixteen million pound harvest.⁵⁹

The Council recommended that the Secretary adopt the more conservative quota.⁶⁰ When the Secretary approved the quota, the plaintiffs⁶¹ brought suit, claiming that: (1) the Secretary had failed to use the "best scientific information available" in choosing to implement the lower quota; (2) the failure was an arbitrary and capricious action; and (3) the plaintiffs were deprived of the economic benefit of the additional three million pounds of summer flounder.⁶²

After three days of pretrial hearings focusing on the statistical validity of the methods used by the Summer Flounder Monitoring Committee to develop its quota recommendations,⁶³ the district judge ruled that the Secretary had failed to use the "best scientific information available" in approving the lower quota, and that this failure was arbitrary and capricious.⁶⁴ He ordered the commercial quota to be re-established at the higher nineteen million pound figure.⁶⁵

56. The Committee is a group consisting of academics and professional fishery managers, delegated by the MAFMC to gather and analyze the scientific data necessary to develop the yearly quotas and long-term management strategies for fisheries. 50 C.F.R. § 625.2 (1995).

57. *Fishermen's Dock Coop., Inc. v. Brown*, 75 F.3d at 170.

58. *Id.* at 166.

59. *Id.*

60. *Id.*

61. Plaintiffs were several east coast commercial fishing interests, including Fishermen's Dock Cooperative, Inc., Belford Seafood Cooperative, Wanchese Fish Company, and Seafarer's International Union. *Id.* at 164.

62. *Id.* at 167.

63. *Id.* Several statistical experts and Committee members testified about the mechanics of these methods and their practical implications in the quota setting process.

64. *Fishermen's Dock Coop., Inc. v. Brown*, 75 F.3d at 167.

65. *Id.* Recognizing that this remedy could not be applied retroactively because the 1994 season had passed, the Secretary ordered that 3.045 million pounds be added to the upcoming (1995) season's quota. *Id.* at 173, n.2.

The Court of Appeals for the Fourth Circuit reversed, holding that the Secretary's decision to set the quota one standard deviation below the geometric mean was properly within the scope of his discretion,⁶⁶ and that the Secretary's determination that the lower quota reflected the "best scientific information available" was also within his discretion.⁶⁷ Moreover, the Secretary's decision was not arbitrary and capricious because he "engaged in reasoned decision-making within the specific regulatory context."⁶⁸

The unanimous court rejected all of the appellee's contentions⁶⁹ and reinstated the original quota.⁷⁰ The court found that the district court had misconstrued the meaning of the term "best scientific information available," and had therefore improperly overturned the Secretary's decision.⁷¹ The Fourth Circuit implicitly found that the Secretary's published reasons⁷² for using the lower quota reflected proper consideration and

66. *Id.* at 172-73.

67. *Id.*

68. *Id.* at 172.

69. *Id.* at 173. In the defendant-appellant's brief on appeal, counsel for the Secretary presented two arguments for reversing the district court's decision. First, the judge's decision to conduct a pretrial evidentiary hearing was improper and an abuse of discretion. The court should have confined its review to the administrative record. Second, the Secretary's well-supported reasons for choosing a risk-averse quota, which were reflected in the record and published in the Federal Register along with the quota, were completely overlooked by the lower court, which should have deferred to the Secretary's decision. The appellant further argued that, even if the Secretary's actions were arbitrary and capricious, the appropriate remedy under the Act is to remand to the Council for further consideration, rather than the court itself resetting the quota. Appellants' Brief at 15-16 (No. 95-1002).

Counsel for the appellee countered by asserting that the judge had properly conducted the pretrial hearing given the complex nature of technical information involved, and had correctly found that the quota represented by the geometric mean, rather than the quota represented by one standard deviation below the mean, was the best scientific information available. Therefore, the higher court should defer to the district court decision. Final Brief of Appellees at 21-22 (No. 95-1002).

70. *Fishermen's Dock Coop., Inc. v. Brown*, 75 F.3d at 173.

71. *Id.* at 171.

72. The court noted that the Secretary had published an extensive justification for selecting the quota:

First, the summer flounder population was composed mainly of fish aged 2 and under; so an overestimate in recruitment would have great power to cause an overestimate in overall stock size and thus "would result in quotas that would exceed the target fishery mortality rate (F level)." Second, "the probability of achieving the target F level is higher at the lower harvest level" with staff estimating an 80% probability that the proposed quota would keep actual F under target F. Third, three risky assumptions—that the previous year's quota would prove to have been adhered to, that all

application of OY.⁷³ Furthermore, the court relied on the quota-setting process as described in the administrative record, giving no special deference to the district court's extra-record fact-finding efforts.⁷⁴

The Fourth Circuit ruled that the Summer Flounder Monitoring Committee's decision to recommend the lower quota was justified by the standard deviation analysis used in determining the reliability and precision of flounder recruitment estimates.⁷⁵ The analysis indicated that the higher quota carried only a fifty-nine percent chance of resulting in the target mortality rate, while the lower quota carried an eighty-one percent chance of reaching the target.⁷⁶ Citing the Secretary's reasons for choosing the lower estimate,⁷⁷ the court explained:

[T]he Council believed that the uncertainty in the recruitment estimates was so great and the long-term flounder population so fragile a resource for the fishers, especially in light of a coming reduction in the target fishing mortality rate for 1996, that a low estimate of recruitment was the prudent estimate.⁷⁸

Additionally, even though the Secretary had chosen the lower quota, that figure nonetheless reflected a twenty-eight percent *increase* over the previous year's quota,⁷⁹ and as such could not be found to have damaged the plaintiffs as claimed.

The court also stated that "the Department's mandate in setting quotas is to manage great uncertainties in the data as best it can while taking the long view of the state of the fishery and its users."⁸⁰ Thus, the Secretary had properly allowed the factor of long-term stock viability to weigh heavily in the calculus, and caution in the face of imperfect data is

landings get reported, and that discard rates would not increase—underlay the estimate of the stock size and suggested that the stock-size curve might be overly optimistic. Fourth, since the target F was scheduled to decrease dramatically for 1996, it was better to err on the safe side now so as to minimize the chances of having to reduce the 1996 quota even more than was already anticipated.

Id. at 166-67 (citing 59 Fed. Reg. 10,586-87 (1994)).

73. Fishermen's Dock Coop., Inc. v. Brown, 75 F.3d at 166.

74. *Id.* at 168.

75. *Id.* at 170.

76. *Id.*

77. *Id.* See also *supra* note 72.

78. Fishermen's Dock Coop., Inc. v. Brown, 75 F.3d at 167.

79. *Id.* at 166.

80. *Id.* at 771, n.1.

implicitly sanctioned by the Magnuson Act. The court concluded that the district court exceeded the scope of its discretion by substituting its own judgment for that of the Secretary's, in an instance where the Secretary had articulated a sufficient rational connection between the scientific analysis and the promulgated rule.⁸¹

IV. THE COURT FOLLOWS PRECEDENT AND CONGRESSIONAL INTENT OF THE ACT

The holding of the court in *Fishermen's Dock* adheres to the rulings of earlier cases involving fishery quotas, reiterates the importance of agency expertise in matters dealing with scientific interpretation of stock abundance data, and further refines the functional definition of "optimum yield."⁸² The holding recognizes a method for quantitatively estimating OY, and highlights some of the differences between OY and MSY. Moreover, it recognizes that Congress' first and foremost concern in drafting the Magnuson Act was to preserve the long-term health and sustainability of fisheries resources, a concern which justifies conservative, risk-averse decision making on the part of RFMCs when faced with imperfect or suspect information about heavily exploited stocks.

The concept of MSY is commonly based on a method of fisheries analysis known as the "surplus production model."⁸³ The model assumes that an unharvested fishery will reach a population level commensurate with the carrying capacity of its habitat, an equilibrium between the

81. *Id.* at 173.

82. See discussion, *supra* Part II.B. See also *Washington Crab Producers, Inc. v. Mosbacher*, 924 F.2d 1438 (9th Cir. 1990) (affirming lower court's deference to agency expertise); *State of Maine v. Kreps*, 563 F.2d 1043 (Me. 1977) (denial of Maine's request for injunctive relief conditioned upon Commerce Secretary's immediate supplementation of the record, so that deference to the Secretary's interpretation of optimum yield criteria would be justified); *J.H. Miles & Co. v. Brown*, 910 F. Supp. 1138 (E.D. Va. 1995) (in deferring to agency expertise, U.S. District Court noted that the "Magnuson Act envisions balancing of several interests in determining optimum yield and management measure must aim to achieve optimum yield from each fishery on continuing basis, not optimum yield in single year." *Id.* at 1148).

83. See generally Michael J. Van Den Avyle, *Dynamics of Exploited Fish Populations*, in *INLAND FISHERIES MANAGEMENT IN NORTH AMERICA* 105, 127-28 (Christopher C. Kohler & Wayne A. Hubert, eds., 1993). Two other types of models are also commonly used: the yield-per-recruit model and the age-structured model. The surplus production model is popular because its parameters can be estimated from commonly available statistics. *Id.*

species' reproductive potential and its natural mortality rate. When this natural "equilibrium" stock is harvested at a fixed annual rate, the system arrives at a new equilibrium where the number of new recruits exceeds reproductive adults.⁸⁴ The biomass equivalent of these "excess" recruits is then classified as the harvestable "surplus production" of the stock.⁸⁵ Harvesting at rates below the surplus production level has historically been thought of as "wasting" the resource.⁸⁶

After applying MSY in its pure form for several years, many managers noted distinct flaws in the underlying theory of MSY.⁸⁷ By superimposing the consideration of ecological, social and economic factors onto the results obtained by MSY analysis, the concept of OY provides a means of compensating for the flaws in the MSY paradigm.⁸⁸ By using OY, the maximum allowable harvest from a fishery can be adjusted to provide the greatest benefit to society over the long-term. Congress recognized the value of the OY concept, and mandated that OY be applied to all FMPs.⁸⁹

Unfortunately, the OY mandate has been skirted, misconstrued, manipulated, and occasionally ignored by the RFMCs and by the courts. For example, OY considerations focusing on short-term economic and social hardships have been used to justify an allowable catch of an already strained fishery in excess of MSY.⁹⁰ This approach, if utilized year after

84. *Id.*

85. *Id.*

86. See H.R. REP. NO. 94-445, *supra* note 2, at 47.

87. Three major flaws have been identified by commentators. First, MSY views each fishery stock in isolation from the ecological factors operating directly or indirectly on that stock, such as predator-prey relationships, disease, oceanographic and meteorological effects, and the like. Second, MSY does not consider by-catch of non-target species, which is often significant in multi-species fisheries. Finally, MSY fails to consider the "human" factor in that it does not account for variations in fishing effort, technological improvements, market demand, habitat degradation and pollution, and a plethora of other factors attributable to the enterprises of humanity. For these and other reasons, MSY as a management standard was a dismal failure for many fisheries. See generally Larry A. Nielsen, *History of Inland Fisheries Management in North America*, in INLAND FISHERIES MANAGEMENT IN NORTH AMERICA 3, 23-29 (Christopher C. Kohler & Wayne A. Hubert eds., 1993); P.A. Larkin, *An Epitaph for the Concept of Maximum Sustainable Yield*, TRANSACTIONS AM. FISHERIES SOC'Y. Jan. 1977, at 1.; CARL WALTERS, UNIV. OF BRITISH COLUMBIA, ADAPTIVE MANAGEMENT OF RENEWABLE RESOURCES 20-24 (1986).

88. See INLAND FISHERIES MANAGEMENT IN NORTH AMERICA, *supra* note 87, at 25.

89. 16 U.S.C.A. § 1851(a)(1) (West 1985 & Supp. 1997).

90. One example is the Georges Bank groundfish fishery. See generally Yva Momatiuk & John Eastcott, *Where Have All the Codfish Gone?* WILDLIFE CONSERVATION,

year, invariably results in a condition known as "recruitment overfishing"⁹¹ and may result in the catastrophic collapse of the fishery. Consequently, the economic and social hardships sought to be alleviated by such measures may actually come about more quickly, and with more devastating effects for those displaced.⁹² Such catastrophic collapse may be avoided if managers are encouraged to apply risk-averse measures in *all* cases of heavily exploited fisheries, and to *invariably* give more determinative weight to long-term sustainability than to short-term economic benefits.⁹³

Thus, while Congress directed the RFMCs to consider economic and social factors as part of its OY calculus, it is clear that the overarching intent of the Magnuson Act is to ensure that fish stocks are "truly inexhaustible and perpetually renewable."⁹⁴ The legislative history emphasizes conservative management as the preferred approach to OY, stating: "the resource manager [applying OY principles] may well determine that a surplus *harvest below MSY will ultimately enhance not only the specific stock under management, but also the entire biomass.*"⁹⁵ These precepts are reiterated in the Act itself, where Congress stated that a national management program is "necessary to *prevent overfishing . . . to insure conservation, and to realize the full potential* of the Nation's fishery resources,"⁹⁶ and that such programs should "achieve and *maintain, on a continuing basis, the optimum yield from each fishery.*"⁹⁷

May/June 1994, at 44; Fredric M. Serchuk & Susan E. Wigley, *Assessment and Management of the Georges Bank Cod Fishery: An Historical Review and Evaluation*, 13 J. NORTHWEST ATLANTIC FISHERY SCI. 25 (1992); SONIA V. FORDHAM, CENTER FOR MARINE CONSERVATION, NEW ENGLAND GROUND FISH: FROM GLORY TO GRIEF (1996).

91. See EDWIN S. IVERSON, UNIV. OF MIAMI, LIVING MARINE RESOURCES: THEIR UTILIZATION AND MANAGEMENT 241, 247 (1996).

92. See Yva Momatiuk & John Eastcott, *The Decline and Fall of the Northern Cod*, NATURE CAN., Winter 1994, at 17.

93. In the recent amendment to the Magnuson Act, Congress revised the definition of the term "optimum yield" to be: "the amount of fish prescribed on the basis of maximum sustainable yield 'as reduced' (rather than 'as modified') by any relevant economic, social or ecological factor. This change prevents the maximum sustainable yield of a fishery from being exceeded." 142 CONG. REC. S10900, S10907 (daily ed. Sept. 16, 1996) (emphasis added). The amending language unambiguously indicates that OY is not to exceed MSY under any circumstances. See 16 U.S.C.A. § 1802(28)(B) (West 1985 & Supp. 1997).

94. See H.R. REP. NO. 94-445, *supra* note 2, at 47.

95. *Id.* (emphasis added).

96. 16 U.S.C.A. § 1801(a)(6) (West 1985 & Supp. 1997) (emphasis added).

97. *Id.* § 1801(b)(4) (emphasis added). See *supra* note 25 for an elaboration on the

The enunciation of these principles in a statutory context represents an adoption of certain ethical norms which have been vigorously advanced by leading environmental ethicists since the turn of the century. In his review of environmental ethics and its application to fisheries management, J. Baird Callicott refers to utilitarian principles such as providing "the greatest good of the greatest number for the longest time."⁹⁸ This maxim implies a duty of stewardship—not mindless exploitation—and an obligation to future generations that the resources we utilize today will be zealously guarded for future enjoyment, social benefit and reasonable economic use. Adherence to risk-averse management policies by the RFMCs, such as those mandated by the recent amendments to the Magnuson Act,⁹⁹ will help preserve fishery resources for use by future generations. The holding in *Fishermen's Dock* reinforces this principle and further legitimizes the conservation ethic.

V. CONCLUSION

In approving the Secretary's promulgation of the summer flounder quota, the *Fishermen's Dock* holding illustrates the large degree of deference given to the RFMCs in their development and recommendation of fishery quotas. This Note supports the decision of the Court of Appeals for the Fourth Circuit with one important proviso: the discretionary balancing of the OY factors should *always* result in management measures which best ensure the long-term sustainability of the fishery. Riskier management methods adopted in pursuit of short-term economic goals should *not* be afforded deference, and should be remanded to the RFMC for reconsideration under conservative, risk-averse management principles.

National Standards.

98. J. Baird Callicott, *Conservation Ethics and Fishery Management*, FISHERIES March-April 1991, at 22, 23 (citing GIFFORD PINCHOT, *BREAKING NEW GROUND* 325-26 (1947)). Although the thrust of Callicott's argument is that this mid-twentieth century approach is obsolete and should be superseded by Aldo Leopold's "Land Ethic," he nonetheless acknowledges that resource managers and legislators are only now fully embracing the Conservation Ethic as a guiding paradigm. *Id.* at 25 (citing ALDO LEOPOLD, *A SAND COUNTY ALMANAC: AND SKETCHES HERE AND THERE* 201, 203-04 (1949)).

99. See 16 U.S.C.A. § 1802(28)(B) (West 1995 & Supp. 1997). See also *supra* note 93.