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THE FISHERY CONSERVATION AND MANAGEMENT ACT OF 1976: MANAGEMENT OBJECTIVES AND THE DISTRIBUTION OF BENEFITS AND COSTS

Francis T. Christy, Jr.*

The Fishery Conservation and Management Act of 1976 (FCMA)¹ has fundamentally changed the opportunities and responsibilities for domestic management of fisheries. It provides, for the first time, sufficient authority to permit the adoption of effective management measures. It is not clear, however, that the Act will be implemented in such a way as to achieve effective management. The Act's most serious deficiency lies in the lack of a satisfactory statement of management objectives and adequate guidelines for decisionmaking. It is not unreasonable to expect that the resulting inconsistency and confusion will lead to litigation in the courts and an early reappraisal of the Act by Congress.

The purpose of this article is to raise some questions concerning the appropriate objectives for fishery management. Management objectives are evaluated by examining the implications of different policies regarding the distribution of benefits and costs among the many and varied interests involved. Part I of the article begins with a discussion of the failure of the Act and its legislative history to provide satisfactory objectives. Part II identifies some of the interests related to the use of fishery resources, and Part III examines the likely effects on these interests of policy choices in three issue areas—the adoption of entry limits (including the technique of user taxes or fees), the investment of public funds, and the allocation of yields. In the process, an attempt to illustrate the importance of clearly defining management objectives is made.

I. MANAGEMENT OBJECTIVES

Domestic management objectives are found in those sections of the

* Resources for the Future, Washington, D.C.

1. Pub. L. No. 94-265, 90 Stat. 331 (codified at 16 U.S.C.A. §§ 1801-1882. (West Supp. 1977)) [hereinafter cited as FCMA].

Act dealing with purposes and policies,² definitions,³ and national standards.⁴ The Act defines a major policy objective to be the realization of an "optimum yield" from each fishery.⁵ As used, "optimum" means the following:

[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.⁶

The nebulous nature of this standard, however, renders it ineffective in providing a basis for decisionmaking. "Optimum yield" becomes merely a "best" yield, to be defined on an ad hoc basis by decision-makers. Thus, in view of the current dominance of industry representatives on the Regional Fishery Management Councils,⁷ "optimum" is likely to be interpreted as that yield best for industry, while other valid interests are deemphasized or even ignored.

Various other statements of the Act can be distilled into a handful of simpler, although not necessarily more helpful, objectives. One goal is that of promoting commercial and recreational fishing.⁸ However, no clues are given as to how much promotion is desirable, the means that might be used to promote fishing, the kinds of benefits that might accrue to society, or the amount of costs that might be incurred and who is to bear them. Nor is it clear where the responsibility should lie for the implementation of this objective. Is it a function of the Regional Councils and, if so, what means are available to them for fulfilling the function? Or is it the responsibility of the Secretary of Commerce? These and other problems associated with this objective are discussed more fully below in Part III—B. In addition,

2. Fishery Conservation and Management Act (FCMA) § 2, 16 U.S.C.A. § 1801 (West Supp. 1977).

3. *Id.* § 3, 16 U.S.C.A. § 1802.

4. *Id.* § 301, 16 U.S.C.A. § 1851.

5. *Id.* § 301(1), 16 U.S.C.A. § 1851(1).

6. *Id.* § 3(18), 16 U.S.C.A. § 1802(18). The concept of optimum yield goes a step beyond its forerunner, maximum sustainable yield, which is a purely physical concept with no relationship to social interests.

7. See Pontecorvo, *Fishery Management and the General Welfare: Implications of the New Structure*, 52 WASH. L. REV. 641 (1977).

8. FCMA § 2(b)(3), 16 U.S.C.A. § 1801(b)(3) (West Supp. 1977).

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Part II illustrates the internal conflict in this objective—that is, that the promotion of commercial fishing may sometimes be in conflict with the promotion of recreational fishing.

A second objective—that of minimizing the costs of conservation and management measures—is both laudable and clear.⁹ In the past, such costs have seldom been given satisfactory consideration. Except possibly for the Office of Management and Budget, no agency has included such costs in calculations of the overall contributions of fisheries to the national economy. If a management measure is proposed that would carry high costs of implementation or enforcement, it may be possible to reject that measure and require the adoption of a less costly one.¹⁰

Third, there is an explicit objective that management measures should be designed to assure “a multiplicity of options available with respect to future uses of these [fishery] resources.”¹¹ In addition, it is stated that such measures shall be carried out “in such manner that no particular individual, corporation, or other entity acquires an excessive share of [fishing] privileges.”¹² While desirable, these are relatively unimportant goals at the present time.

Finally, there is an explicit goal of achieving efficiency in the utilization of fishery resources.¹³ It seems clear from the words of the Act and from the discussion of this provision in the interim regulations¹⁴ that the objective refers to economic efficiency rather than technologic-

9. *Id.* § 301(a)(7), 16 U.S.C.A. § 1851(a)(7).

10. In passing, it might be noted that it would be desirable to broaden the interpretation of this objective to include the costs incurred by the fishermen in abiding by the management measures; that is, some measures may require the fishermen to incur greater direct or indirect costs than others. For example, a prohibition against a technological innovation is likely to lead to higher costs in the catching of fish than other measures that would permit innovation.

11. FCMA § 3(2)(B)(iii), 16 U.S.C.A. § 1802(2)(B)(iii) (West Supp. 1977).

12. *Id.* § 301(a)(4)(c), 16 U.S.C.A. § 1851(a)(4)(c). *See also id.* § 2(b)(6), 16 U.S.C.A. § 1801(b)(6) (encouraging development of underutilized species); *id.* § 3(2)(B)(i), 16 U.S.C.A. § 1802(2)(B)(i) (encouraging plans that assure a supply of food and recreational benefits).

13. It is a stated policy of Congress “to assure that the national fishery conservation and management program utilizes, and is based upon, the best scientific information available; involves, and is responsive to the needs of interested and affected States and citizens; promotes efficiency; draws upon Federal, State, and academic capabilities . . . and is workable and effective . . .” *Id.* § 2(c)(3), 16 U.S.C.A. § 1801(c)(3). More specifically, one of the stated national standards is that “[c]onservation and management measures shall, where practicable, promote efficiency in the utilization of fishery resources; except that no such measure shall have economic allocation as its sole purpose.” *Id.* § 301(a)(5), 16 U.S.C.A. § 1851(a)(5).

14. 41 Fed. Reg. 39,436, 39,443 (1976).

ical efficiency. But although economic efficiency is a relatively clear-cut guide for decisionmaking, the use of the phrase "where practicable" and the interpretation of the objective presented by the National Oceanic and Atmospheric Administration (NOAA) in the regulations significantly undermine its value. The regulations state:

Economic efficiency should be regarded as a subset of a larger framework for fishery management choices involving other decisions about the distribution of costs and benefits, provision of employment opportunities, changes in the rate and composition of regional economic development, environmental effects, etc. To follow efficiency principles exclusively may not provide the greatest overall benefits to the nation or necessarily reduce costs to the consumer. Accordingly, both the advantages and disadvantages of "efficiency" will have to be carefully weighted in the context of the objectives for the particular fishery involved.¹⁵

(One might ask, "What objectives?") Although the points raised by NOAA are not necessarily invalid, they do not assist the decision-maker, who must weigh and select from among objectives and courses of action.

It should be noted that there are several other possible goals for fisheries management that are either not mentioned or only implied in the Act. For example, it is surprising that the goal of maintaining employment opportunities for fishermen, an objective that has often dominated decisions in the past,¹⁶ is absent from the Act.

The goals of consumers and taxpayers are mentioned only indirectly in the Act. For example, although it is a stated objective that fisheries should be managed to assure a supply of food,¹⁷ it is not stated that the quality should be high, that prices should be low, and that supplies should be secure. The Committee of Conference explained the Act's national standards:

15. *Id.* at 39,443.

16. Anthony D. Scott has stated:

To limit the freedom of fishermen to adopt the catching methods they prefer is probably at once the oldest objective and method of regulation It must be admitted that some types of gear have tremendous technical efficiency, so that the sponsors of gear regulation have convinced themselves that their objective has been to save the fish; whereas, since the alternative was to drop the number of fishermen to a level compatible with the new efficiency, their implicit motive was to save themselves from the competitive struggle.

Scott, *The Economics of Regulating Fisheries*, in *ECONOMIC EFFECTS OF FISHERY REGULATION* (R. Hamlich ed. 1962) (U.N. Food & Agricultural Organization).

17. FCMA § 3(2)(B)(i), 16 U.S.C.A. § 1802(2)(B)(i) (West Supp. 1977).

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These standards, or basic objectives for a viable conservation and management program for the Nation's fishery resources, are designed to assure that management plans and regulations take into account the variability of fish resources, the individuality of fishermen, the needs of consumers, and the obligations to the general public, now and in generations to come.¹⁸

However, there is no reference whatsoever to consumers in the national standards section of the Act¹⁹ and nothing with regard to obligations to the general public, except the standard of minimizing the costs of management measures.

In short, there is a significant inadequacy in the Act's stated management objectives.²⁰ In the preparation of management plans, the Regional Councils will be left to their own devices, resolving policy issues on an ad hoc basis in the context of the objectives for the particular fishery involved. As the individual Councils prepare their management plans, they may turn to the Secretary of Commerce, who is required to "establish guidelines, based on the national standards, to assist in the development of fishery management plans."²¹ But, as suggested above, the standards provide little basis for the preparation of guidelines, and if NOAA's contribution as evidenced by the interim regulations is any indication, the Secretary may pass the buck back to the Councils. Eventually the courts may be called upon to set management objectives—a not unfamiliar phenomenon these days.

II. FISHERY INTERESTS

The process of determining management goals can be greatly aided

18. S. REP. NO. 94-711, 94th Cong., 2d Sess. 50 (1976).

19. See FCMA § 301, 16 U.S.C.A. § 1851 (West Supp. 1977).

20. It must be admitted that there is considerable difficulty in providing clear-cut goals for fisheries management. This is due to several factors—the various and often competitive interests in a fishery, the treatment of fisheries as common property natural resources, the disparate uses of the resources, and their hitherto international character. The common property condition has led to the employment of excessive numbers of fishermen in most of our fisheries. In this situation, the objective of *maximizing* employment opportunities is directly in conflict with the objective of *maximizing* net economic revenues, because—in order to achieve the latter—some of the fishermen will have to be displaced from the industry. Thus, it is not popular for legislators to choose either of these goals in absolute terms. However, goals could be stated in terms of *improving* net economic benefits, subject to certain constraints such as the avoidance of undue hardship to present fishermen, the protection of employment opportunities for subsistence fishermen, and the prevention of the extinction of species.

21. FCMA § 301(b), 16 U.S.C.A. § 1851(b) (West Supp. 1977).

by the identification and definition of the many and varied interests in fishery resources²² and by an examination of how these interests are likely to be affected by different policy alternatives.

As stated above,²³ one of the more potent political influences is the protection of employment opportunities for the fisherman. From a fisherman's perspective, however, this interest contains a number of varied elements, some of which may conflict with one another. First, the interests of full-time fishermen may differ from those of part-time fishermen and also from those of potential fishermen wishing to preserve the opportunity to fish at some future time. This interest may also be variably affected by whether the fishermen are boatowners and by the size of their investments in their boats. Second, the question arises whether the interest is in maintaining employment opportunities at the same level of earnings or at an increased level. Third, there is the question whether the employment is satisfactory on any terms or only with regard to certain attributes such as freedom, independence, risk taking, and natural surroundings. Finally, there is the question whether the fishermen are subsistence or other fishermen without alternative opportunities for employment or are commercial fishermen in large cities. Each of these elements may be affected in significantly different ways by a policy decision.

A second set of interests are those of the fish processors. This group generally seeks maximum access to low cost materials from any source, domestic or foreign, and may wish to limit fishermen's access to foreign processors.²⁴ But their views on different policies are likely

22. The identification of the interests that can have an influence on, or be affected by, decisions is not a simple task with regard to fishery resources. The nature of these resources and their use is such that noneconomic motivations are particularly important and may lead to actions that contradict expectations. Some fishermen, for example, may feel that they receive greater benefits from freedom from regulations than they might from regulations that would increase their earnings. Where such motivations exist, social-psychological studies are of critical importance if administrators are to make effective decisions. Such studies will be helpful in knowing (a) what measures are likely to be opposed to an extent that will lead to excessive enforcement costs, and (b) how measures and plans may be presented to achieve the greatest cooperation.

23. See note 16 and accompanying text *supra*.

24. A move to prevent United States fishermen from selling their catch to foreign processing ships may already be underway:

Korea Marine Development Corp., for example, recently asked Oral Burch, a shipowner in Alaska, to sign up 30 shrimp boats for catching pollock and delivering the raw fish to a Korean "factory ship" in the 200-mile conservation zone. . . . But New England Fish Co. claims the Korean plan would "circumvent" the 200-mile law, invite the very overfishing that the conservation zone is

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to be affected by other considerations as well, such as the degree to which they own or control fishing vessels, the amount and kind of fish they export, and the kind of access they may have to foreign supplies.

A variety of other private interests can be identified. Recreational fishing interests are clearly important, but also immensely varied, ranging from "chicken-neckers" fishing from bridges and piers to deep sea fishermen seeking trophies. Owners of party and charter boats and manufacturers of sports craft and equipment are other important interests. Consumers wish a wide range of high quality products at low prices, whether from foreign or domestic sources. Their interests, however, may be colored by other factors such as nationalism (giving preference to domestically caught products) and environmentalism (boycotting offenders of environmental policy). Taxpayers wish to be assured that satisfactory benefits are received from the use of public funds. In some situations native Americans have special interests or rights that can seriously affect policy decisions.²⁵ Fishery administrators, fishery scientists, boatbuilders, fishing gear manufacturers, maritime shipping firms, oil producers, municipalities wishing to dispose of wastes at sea, and land developers in estuaries also have identifiable interests that may be affected to a greater or lesser degree by policies adopted for the management of fisheries.

Finally, various general societal interests can also be depicted. Because fishery resources are public property, society may wish to receive some direct benefits from those who use the public resources. If use rights become exclusive through limited entry systems, then society may wish to receive some rents from the users similar to the rents paid by oil companies for exclusive rights to the Outer Continental Shelf. Society may also be opposed to "windfall" gains that might accrue to fishermen under various kinds of management systems. There may also be a general interest in ensuring that fisheries management provides for the efficient allocation of capital and labor. Finally, certain interests may value their perception of the fisherman's "way of life."

supposed to prevent, *stunt development of the U.S. industry on shore and imperil the company's long-standing plan to expand its processing plant on Kodiak Island in Alaska.*

Wall Street J., Apr. 20, 1977, at 4, col. 2 (emphasis added).

25. See, e.g., Comment, *Indian Treaty Analysis and Off-Reservation Fishing Rights: A Case Study*, 51 WASH. L. REV. 61 (1975).

Where the effects of policy decisions are specific and substantial, one may expect an affected interest group to express its views fully and forcibly. In some cases, however, the effects may be persuasive, but not so large for any individual as to motivate or provoke action by an individual within the group. This will generally be true for consumers, taxpayers, and other societal interests. It should be noted in this regard that the Act serves special interests much better than general ones. The fishing industry dominates the nongovernmental membership on the Regional Councils;²⁶ and, although there are provisions for public hearings, these are mandatory only at the regional level,²⁷ thereby limiting the expression of overall national interests.

III. POLICY ISSUES

The Regional Councils and the Secretary of Commerce face a large number of difficult issues requiring decisions. Three of these issues are discussed below in terms of their likely effect on different fishery interests. The first issue discussed is that of the adoption of limited entry systems. This includes a discussion of user fees and taxes, not only because it is an important form of limiting entry, but also because of its significance for general societal interests. The second issue, also related to the imposition of user fees or taxes, concerns the determination of the appropriate level and kind of public investment in fisheries management and development. The third issue deals with the difficulties of allocating yields between recreational and commercial fishermen.

A. *Limited Entry Systems*

Initially it is necessary to point out that if limited entry systems are not adopted, there is no chance of achieving economic efficiency in the fish catching part of the industry. As has been amply demonstrated, under the conditions of common property, total costs tend to

26. See Pontecorvo, *supra* note 7.

27. See Comment, *Judicial Review of Fishery Management Regulations Under the Fishery Conservation and Management Act of 1976*, 52 WASH. L. REV. 599, 614 (1977).

rise to meet total revenues, the fishery attracts excessive amounts of capital and labor, and economic returns tend to become depressed.²⁸

Maintaining this condition by refusing to adopt limited entry systems would produce losses of several kinds. First, there would be a misallocation of capital and labor that could be used for other more productive forms of enterprise. Second, economic rents would continue to be dissipated. Third, the costs of research, development, management, and enforcement would continue to be borne fully by the taxpayer.²⁹ Fourth, the fishermen would tend to suffer depressed incomes, because entry would continue to be easier than exit from the fishery and fishermen attracted to enter in good years would remain to depress the incomes for all in bad years. Finally, in order to preserve the resource under open access, it would be necessary to adopt increasingly stringent controls over the fishermen. Although these last two effects might be postponed by the Act's provisions allowing for the displacement of foreign fishermen,³⁰ they would be inevitable in the long run.³¹

On the positive side, benefits from the failure to adopt limited entry systems would occur primarily in the form of enlarged employment opportunities, although at low income levels. These benefits would not accrue to those presently fishing but to newcomers.³²

If limited entry systems are adopted, the distributive effects on various interests will depend upon the characteristics of the system adopted and the way in which it is implemented. There are essentially three kinds of systems—the use of taxes or license fees as a disincentive, a limit on the number of inputs, and the creation of a form of

28. See F. CHRISTY & A. SCOTT, *THE COMMON WEALTH IN OCEAN FISHERIES* (1965); U.N. FOOD & AGRICULTURAL ORGANIZATION, *THE ECONOMICS OF FISHERIES* (R. Turvey & J. Wisemen eds. 1957); Gordon, *The Economic Theory of a Common-Property Resource: The Fishery*, 62 J. POL. ECON. 124 (1954); Scott, *The Fishery: The Objectives of Sole Ownership*, 63 J. POL. ECON. 116 (1955); Turvey, *Optimization and Suboptimization in Fishery Regulation*, 54 AM. ECON. REV. 64 (1964).

29. As noted in Part III-A-1 *infra*, license fees or taxes, imposed at a sufficiently high rate to cover a large share of these costs, would constitute a form of limited entry.

30. FCMA § 201(d), 16 U.S.C.A. § 1821(d) (West Supp. 1977).

31. It should be pointed out that in some fisheries the costs and difficulties of establishing and enforcing a limited entry system may be greater than the benefits that could be obtained. Where this is the case, there is no rationale for public investment in management of the fishery except possibly as a public welfare measure.

32. There may also be some benefits to society in maintaining the tradition of free and open access and the resultant independent, individualistic, risk-taking way of life (or what is perceived to be such). It is quite likely that a limited entry system, if effective, will attract "big business" and destroy these attributes.

property rights in the resource through a technique such as fisherman quotas.³³ The effectiveness of the different systems will depend upon the characteristics of the fishery; but, as will be seen, a combination of systems probably would be desirable in most cases.

1. *Limited entry based upon taxes and fees*

The first system—that of user fees or taxes—limits entry by increasing the costs of fishing, thereby removing those fishermen who are unwilling or unable to pay the fees. Under the FCMA, it appears that Congress has established a policy regarding the imposition of user fees or taxes on domestic fishermen. The Act provides for the use of permits, but limits fees for permits to the administrative costs incurred in issuing them.³⁴ It is clear, however, that this policy should be reeval-

33. See Christy, *Alternative Entry Controls for Fisheries*, in *LIMITED ENTRY INTO THE COMMERCIAL FISHERIES* 86 (J. C. Mundt ed., Institute for Marine Studies, University of Washington 1974).

34. The Act states that "the Secretary shall by regulation establish the level of any fees which are authorized to be charged pursuant to section 303(b)(1). Such level shall not exceed the administrative costs incurred by the Secretary in issuing such permits." FCMA § 304(d), 16 U.S.C.A. § 1854(d) (West Supp. 1977). Section 303(b)(1) is a discretionary provision, permitting the requirement of a permit "with respect to any fishing vessel of the United States fishing, or wishing to fish, in the fishery conservation zone . . ." 16 U.S.C.A. § 1853(b)(1) (West Supp. 1977).

Although these provisions might be interpreted as not prohibiting the imposition of taxes or fees for special kinds of permits, this view is not shared by the author. It should be noted that the bill passed by the Senate stated that fees, if imposed, should be "appropriate to the value of the fishing license or permit." S. 961, 94th Cong., 1st Sess. § 203(b)(5) (1975). One can infer a similar view in the House version from the provision that the amount of fees can "vary . . . between different categories of domestic fishermen." H.R. 200, 94th Cong., 1st Sess. § 304(b)(3)(E) (1975). Because both of these versions were struck by the Committee of Conference, the logical inference is that Congress decided to restrict the level of fees to that of the costs incurred in issuing the permits. Elsewhere in this symposium, Professor William T. Burke argues that this is not a correct interpretation of the Act and that the recovery of economic rent from the fishery is possible. See Burke, *Recapture of Economic Rent Under the FCMA: Sections 303-304 on Permits and Fees*, 52 WASH. L. REV. 681 (1977).

If this interpretation is correct, it would appear from an internal regulation that the Department of Commerce will be required to submit a legislative proposal for the establishment of "user charges," if limited entry systems are adopted. Bureau of the Budget Circular No. A-25, Sept. 23, 1959, states that "[i]n cases where collection of fees and charges for services or property . . . is limited or restricted by provisions of existing law, the agencies concerned will submit appropriate remedial legislative proposals to the Bureau of the Budget . . ." The services and property referred to include "all Federal activities which convey special benefits to recipients above and beyond those accruing to the public at large," such as certain water resource projects, crop insurance, or licenses to carry on a specific business. It would seem clear that a limited entry system conveys a special benefit to fishermen above and beyond those accruing to the public at large. (I am indebted to Fred L. Olson, National Marine Fisheries Service, for bringing this to my attention.)

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uated.³⁵ If a limited entry system is not adopted and taxes or fees are negligible, conditions will remain economically poor.³⁶

Under present conditions the imposition of fees or taxes alone would constitute a hardship for fishermen; but this hardship might prove to be transitional. If the fees or taxes were large enough, they would serve as an entry limit because some of the fishermen would be deterred from remaining in the fishery. The total allowable catch would then be shared by fewer fishermen, and each would receive a greater catch.³⁷ Thus, the chief beneficiaries of a no-fee, no-limited-entry system are likely to be the casual and potential fishermen rather than the full-time fishermen.

With either of the other two kinds of limited entry systems—a limit on inputs or the establishment of individual fishermen quotas—the privilege to fish would acquire value.³⁸ In the absence of significant taxes or fees, the value would accrue entirely to the privileged fishermen. If the privilege is nontransferable, the value would be reflected in higher earnings as prices increase and as some of the license holders or vessels retire from the fishery. If the privilege is transferable, the value would appear in the sale price of the privilege. The benefits thus would go to those fishermen able to obtain licenses at the initial allocation.³⁹ The amount of the rents would depend upon the effective-

35. Christy, *Limited Access Systems Under the Fishery Conservation and Management Act of 1976*, in *ECONOMIC IMPACTS OF EXTENDED FISHERIES JURISDICTIONS* 141 (L. Anderson ed. 1977). See also Anderson & Wilson, *Economic Dimensions of Fees and Access Controls Under the Fishery Conservation and Management Act of 1976*, 52 WASH. L. REV. 701 (1977).

36. See notes 28–31 and accompanying text *supra*.

37. In Ohio full-time fishermen found it desirable to go along with an increase in a gear fee from \$8 to \$800 because it effectively removed a large number of casual fishermen. See *LIMITED ENTRY INTO THE COMMERCIAL FISHERIES*, *supra* note 33, at 23–24 (statement of Russell Scholl), 38–42 (statement of Ray Full).

38. The author has previously made a rough estimate that for United States fisheries as a whole the value of the privilege to fish may be as high as \$5 billion. Christy, *supra* note 35, at 146. This is based on the assumption that under the present condition of free and open access the same total catch and same gross revenue might be achieved with one third less capital and labor than currently is being used. If it is assumed that total costs are roughly equal to total revenues, there would be an unusual waste on the order of \$300 million. At six percent, the capitalized value of this waste would equal \$5 billion. Although this is a speculative figure and it is unlikely that such high economic rents could be produced under the best of systems, it does provide a rough indication of the significance of the value of the privilege to fish.

39. In British Columbia, where there is a limit on the total tonnage of vessels fishing for salmon, the open market price for a license has been as high as \$6000 per vessel ton. See *LIMITED ENTRY INTO THE COMMERCIAL FISHERIES*, *supra* note 33, at 29–30 (statement of Maury P. Houghton). In Alaska, within less than a year of the

ness of the limited entry system and the prices for the products. Potential and casual fishermen unable to acquire licenses would not receive benefits because they would be required to buy out license holders if they wished to fish.⁴⁰

If the Act permitted the imposition of taxes or fees, society could share in these "windfall" gains. The choice of the amount of the share—the level of the tax—could be made on the basis of various different interests, the two most important being the taxpayer and society as the "owner" of the resources. As to the taxpayer, the administration of the Act will require the use of fairly sizeable public funds for research, regulation, and enforcement and may lead to demands for the use of public funds for development. If only a small share of the available economic rents is captured by society in the form of taxes or fees, then the taxpayer will be the chief loser. However, the fishermen may also suffer over the long run, because there will be little justification for the use of public funds to support the industry.⁴¹

A separate issue is raised with regard to the resource "owners." Fishery resources are part of the public domain, similar to wildlife stocks, public grazing lands, timber lands, oil on the Outer Continental Shelf, and national parks. In some of these cases, exclusive use rights are made available to those who are willing to pay rents to the resource "owner"—society. For example, in the case of Outer Continental Shelf oil, the rents are expressed in terms of bonus payments and royalties. The bidding mechanism results in rents paid that roughly reflect the value of the exclusive right of access. They are extremely high simply because the value of the oil is so high.

If open access for commercial fisheries is continued, allowing anyone to enter a fishery, it would be inappropriate to charge rents for the use of the resource (although fees to help cover the costs of management, research, and development might still be desirable). However, if entry into the fishery is limited through controls on inputs or fisherman quotas, then a form of exclusive right accrues to a class of users. In this situation, a decision not to require payments for the priv-

establishment of the salmon limited entry program, prices have risen to more than \$10,000 per license. See [1975] ALAS. COMMERCIAL FISHERIES ENTRY COMM'N ANN. REP. 3.

40. This should not be particularly distressing, however, because it would not be much different from potential farmers having to buy or lease land in order to farm.

41. See Part III-B *infra*.

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ileges would constitute a loss to the resource owner (society) and a transfer of income to the privileged fishermen.

Although it is not necessarily harmful to society that such a transfer of income take place—we have lived with grosser kinds of inequities in the allocation of natural resources⁴²—the extraction of economic rents from the fishermen enjoying a limited entry privilege can be achieved without causing hardship. If, for example, the Senate version of the Act had been allowed to stand, the taxes or fees would have been “appropriate to the value of the fishing license or permit”;⁴³ that is, the fishermen would not have been asked to pay anything more than the extra returns that they would have been receiving from the limited entry system. Their only loss would have been a potential “windfall” gain.

In sum, the use of taxes or fees as the *sole* means for limiting entry would produce severe (though transitional) hardships on present fishermen. If other limited entry techniques are adopted without imposing taxes or fees, they may produce significant initial benefits to the fishermen acquiring fishing privileges under the system. Losses will be borne by the casual and potential fishermen who are not able to acquire fishing privileges, because both groups will have to pay for something they presently can receive for free. Members of society will also suffer losses, both as taxpayers and as the “owners” of the resources. In the long run, it is quite likely that the fishermen will also suffer because of the difficulty of justifying the use of public funds to support services for such an industry.

If taxes or license fees appropriate to the value of the fishing privileges are imposed, then society will achieve some gains. The full-time fishermen will be no worse off than at present (perhaps better off because full rents may not be extracted and support for services will be easier to achieve). Casual and potential fishermen, under limited entry systems, would be adversely affected whether or not taxes are imposed.

The likely effect of taxes or fees on consumer interests is not clear. If the taxes simply remove the extra return resulting from limited en-

42. The Mining Act of 1866, ch. 262, 14 Stat. 251, and the Taylor Grazing Act of 1934, ch. 865, 48 Stat. 1269 (codified in scattered sections of 43 U.S.C.), are examples of federal statutes giving public resources to special interests at little or no cost to those interests.

43. See note 34 *supra*.

try, there is no reason to believe that prices would increase. Prices would be more significantly affected by changes in the structure of the industry, bargaining power of fishermen, and other factors, the net effect of which cannot be anticipated.

2. *Limited entry based upon restrictions on inputs*

The second technique—that of placing a limit on the number of inputs—is the one generally considered in discussions on limited entry. This system imposes a limit on one or more inputs into the fishery, such as the number of fishermen, vessels, tons of vessels, and pots. In order to avoid transitional hardship, this system presumably would provide licenses to all fishermen with a bona fide claim to having been participants in the fishery. The licenses obtained for the inputs would probably have to be transferable in order to meet constitutional requirements.⁴⁴ Thus, in order to reduce the number of inputs in a

44. Knight and Lambert, in a study of several cases involving limited entry in fisheries, point out that nontransferability is often a cause for judicial concern:

The provision [for entry permits] must not create a closed class nor may the classification system be arbitrary. The equal protection clause demands that the class be reasonably constituted and relatively accessible to new entrants. The use of freely transferable entry permits appears to be a significant factor in "opening" otherwise closed classes.

H.G. Knight & J. Lambert, *Legal Aspects of Limited Entry for Commercial Marine Fisheries* 117 (Oct. 15, 1975) (prepared for the National Marine Fisheries Service). Furthermore, transferability was deliberately included in the Alaskan law on limited entry in salmon fisheries in order to meet state (if not federal) constitutional requirements. According to the acting chairman of the Alaska Commercial Fisheries Entry Commission.

[t]he issue of transferability of the permanent entry permits was the biggest stumbling block in getting the legislation enacted. . . . Our legal advisors told us that the element of free transferability was essential if the permits were to be transferable at all.

The problem was one of not creating a closed class of fishermen to which there was no means of entry. Free transferability is a means of allowing that class to stay open so that anyone who wants to go fishing can buy a permit from someone else and enter the fishery. . . . We couldn't create a closed class and expect the Act to survive a constitutional challenge in the courts.

LIMITED ENTRY INTO THE COMMERCIAL FISHERIES, *supra* note 33, at 9 (statement of Roy A. Rickey). It should be noted that Ohio adopted legislation that severely circumscribes transferability of permits. OHIO REV. CODE ANN. § 1533.342 (Page Supp. 1976). Under this Act annual licenses are issued only to those fishermen who had a license in the previous year, unless it has been decided that additional licenses are made available. In such case the applicants must satisfy the following qualifications: "[N]inety days Ohio residency immediately preceding application; two years commercial fishing gear experience, or holder of an Ohio commercial license of another gear; posting of a one thousand dollar performance bond or cash deposit in a like amount." *Id.*

According to Knight and Lambert, however, this system is unconstitutional on two grounds: First, "[i]t is clear that limited entry systems which are designed to or have

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fishery that is already overcapitalized, the superfluous fishermen or vessels would have to be bought out.

Politically this may be the easiest system to adopt because of its familiarity and because, by "grandfathering," transitional hardships may be minimized. However, the long run effects (the long run may be only a few years) are likely to be quite damaging to most interests, including those of the fishermen, due to the ease with which one input may be substituted for another in most fisheries.⁴⁵ The fishermen will always have a profit incentive for substitution, thus leading to further investments and a continued dissipation of net economic revenues as total costs rise to reach total revenues.

Administrators can respond in only one of two ways—by prohibiting the substitutions or by buying out more licenses as the substitutions take place. Unless funds for buying out the superfluous inputs are available, the first technique will be followed. Eventually this will

the effect of restricting entry on the basis of state citizenship are unconstitutional because of the equal protection and interstate commerce clauses of the United States Constitution," Knight & Lambert, *supra*, at 74; and second,

[t]his system of subsequent entry envisions apprentices qualifying for available permits through work on vessels owned or operated by permit holders. The obvious legal defect is that it perpetuates a closed class because the permit holders are the ultimate arbiters of who may or may not become an apprentice. This sort of arrangement would likely not survive an equal protection challenge.

Id. at 82.

[*Editor's Note:* If the above argument is meant to suggest that a fishery management authority cannot limit the alienability of permits or licenses, its accuracy is highly questionable. So long as the allocation of licenses is nondiscriminatory and in conformance with equal protection criteria, restrictions on alienation, such as those designed to prevent the license holder from capitalizing on the value of his privilege through sale, should be constitutionally valid. There should be no due process obstacle to such restrictions, so long as they are based on a legitimate objective and the means chosen are reasonable. *Cf., e.g.,* *Corsa v. Tawes*, 149 F. Supp. 771 (D. Md.), *aff'd per curiam* 355 U.S. 37 (1957) (gear restriction on purse nets valid even though it eliminated the commercial menhaden fishery). *See also* Note, *Legal Dimensions of Entry Fishery Management*, 17 WM. & MARY L. REV. 757 (1976). Nontransferable licenses are presently used in several fishery management schemes. For example, California's statute for the management of herring provides as follows: Herring may be taken for commercial purposes only under a revocable, non-transferable permit The commission may, whenever necessary to prevent overutilization [or] to insure efficient and economic operation of the fishery . . . limit the total number of permits which are granted and the amount which may be taken under such permits.

CAL. FISH & GAME CODE § 8550 (West Supp. 1977).]

45. For example, in the British Columbia experience, an initial limit was placed on the number of vessels. This promptly induced fishermen to trade in their small vessels for much larger ones. In response, the administrators then limited the total tonnage of the salmon fleet. The fishermen, in turn, then shifted from gill nets to purse seines and drum seines. *See* LIMITED ENTRY INTO THE COMMERCIAL FISHERIES, *supra* note 33, at 27, 30 (statement of Maury P. Houghton).

lead to a highly circumscribed fishery in which all inputs are dictated by the administrators. A system of rigidly fixed inputs will likely result in consumers paying higher prices than under systems that would permit orderly technological innovations. Increased prices due to rising demand will produce economic rents which will be captured by the fishermen rather than by society unless taxes and fees are adjusted.

A modification of this system would permit the administrators to buy out the superfluous effort. As the individual units of effort increase their efficiency by innovation or substitution, the total number of units could be decreased if the administering agency were able to purchase some of them and retire them from the fishery. This could reduce the total costs of fishing units and produce surplus net economic revenues. This modification would permit increased economic efficiency and better allocation of capital and labor; but, in the absence of adequate taxes or fees, the fishermen would share the net economic revenues among themselves, while society would bear the costs of buying out the superfluous inputs—a direct transfer of income from the taxpayers to the fishermen.

Finally, even if nontransferable permits were permissible,⁴⁶ there is serious question whether they would be economically desirable. Theoretically, it might appear desirable to provide nontransferable licenses to all present fishermen or fishing vessels and then let natural attrition remove the superfluous effort. But as vessels sink or fishermen retire or die, the remaining license holders would begin to acquire surplus returns, or what might be called “survivor rents.” The older they become, the more incentive they would have to continue fishing. Eventually, the fishery would be marked by “ancient mariners” or by superannuated (and probably unsafe) vessels.

Furthermore, when the appropriate amount of fishing effort has been removed, the problem of allowing for new entrants to maintain the appropriate level emerges. If transferability is prohibited at this point, there would be no market mechanism for allocating fishing privileges and permitting efficient producers to flow into the fishery. Instead, new entrants would have to be selected by lottery, on a first-come-first-served basis or according to arbitrary criteria such as need or experience. These consequences might be avoided by providing the management agency with the right to buy and sell fishing privileges,

46. See note 44 and accompanying text *supra*.

but it can be argued that this would constitute a form of transferability.

3. *Limited entry based upon fisherman quotas*

The third system—fisherman quotas⁴⁷—provides a form of property right in the resource by allocating to the fisherman a share of the total allowable catch. The allocation, expressed as a percentage of annual yield, might be based on the past record of catch. Fishermen would be free to lease or sell their quotas and free to take their shares in any way they wished, provided their techniques were not destructive of the resource. The rationale for proposing such a system is that it would permit an orderly rate of technological innovation to take place. The chief disadvantage would be the difficulty of determining the initial allocation of quotas, particularly if it were necessary to decrease the total allowable catch in order to improve future yields.

Fishermen acquiring quota rights would benefit from an absence of stringent regulations;⁴⁸ and, if taxes or fees are not imposed, they would also benefit from the potential of acquiring “windfall” gains when they sell or lease their quotas. However, if adequate taxes or fees are not levied, society would incur the same losses as those for other limited entry systems, although consumers would probably benefit from improved technological efficiency through lower prices. (However, it may be necessary to place a limit on the amount of quotas that any one fisherman could own in order to prevent a monopoly.)

In sum, the choice to reject limited entry systems produces few benefits for any of the various interests involved, satisfying only potential fishermen who desire free access to the resources and those elements of society that enjoy the preservation of anachronisms. The net effect of adopting limited entry depends in part upon the system that is used and in part upon whether adequate taxes or fees can and will be imposed.

47. See F. Christy, *Fisherman Quotas: A Tentative Suggestion for Domestic Management* (1973) (Occasional Paper No. 19, Law of the Sea Institute, University of Rhode Island).

48. They might, however, incur psychological loss in that they could no longer take pride in being known as “high liners,” the fishermen who make greater catches than their colleagues.

B. *Investment of Public Funds*

The objective of promoting commercial and recreational fishing may be accomplished in numerous ways, including the enhancement of the resource, the removal of institutional impediments to efficient use, the adoption and implementation of effective management measures, and the provision of direct or indirect subsidies. The first two approaches are facilitated by the Act⁴⁹ and, except for mariculture, generally do not require significant investment of public funds. The other two approaches do. The three major functions of management—research; formulation, adoption and implementation of regulations; and enforcement—are appropriately the function of public agencies; and subsidy, by definition, involves direct or indirect use of public funds. Ensuring that the public's funds are used to the best advantage involves an examination of how the various affected interests are benefited or damaged by programs designed to promote fishing.

In the following discussion, it is assumed that benefits of management and subsidy accrue to the fishermen, even though it is recognized that various elements of the fishermen's interest are affected in different ways by different programs. The discussion focuses on the benefits and losses from certain kinds of programs that are likely to affect the interests of various segments of society—the consumer, the taxpayer, and society itself as the “owner” of the resource.⁵⁰ Although a variety of questions can be raised, three are particularly important: Is the program desirable for the particular interest? If so, does the program justify the use of public, rather than private, funds? If public funds are appropriate, will the benefits to society be greater than from other uses of the scarce funds?

49. Enhancement of the resource has been accomplished to a large extent by the extension of jurisdiction to 200 nautical miles. This provides the United States the opportunity to develop fisheries that are currently underutilized or not utilized by domestic fishermen. *See* FCMA § 2(b)(6), 16 U.S.C.A. § 1801 (b)(6) (West Supp. 1977). Mariculture is another means of enhancing the resource, although limited to a few highly valued species and requiring public investment.

The removal of institutional impediments is also facilitated by the 200-mile limit. In particular, it has become much easier to deal with the problem of common property and adopt limited entry systems that can improve the efficiency in the allocation of capital and labor.

50. Society, as the “owner” of the resource, has a number of interests in a fishery's use. That of acquiring some rents from the users has already been discussed. *See* Part II *supra*. It also has an interest in preserving a multiplicity of options and in ensuring that the resource is not abused. FCMA § 3(2)(B)(iii), 16 U.S.C.A. § 1802 (2)(B)(iii) (West Supp 1977).

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In most cases where natural resources are privately owned, a large portion of the management activities are undertaken by the owner.⁵¹ But where resources are publicly owned, particularly where they are treated as common property, several of these functions must be fulfilled by public agencies. This is not only because society has the right to prevent abuse of its resources, but also because external forces prevent private operators from supplying management services. For example, there is no incentive for an individual fisherman or fishing company to invest in research or enforcement, because the benefits will be available to all fishermen for free and the investor will be unable to recover costs. Nor is there incentive for a person to voluntarily restrain his catch in the interest of future returns, because anything that he leaves in the sea for tomorrow will be taken by others today.

Management costs, however, are part of the cost of doing business, and they should properly be included in any calculations concerning the contribution of fisheries to the economy. In such calculations, one must deduct from gross revenues not only the costs of the fishing operations, but also many of the costs of research, administration, and enforcement.

Although it is fully appropriate for public agencies to fulfill most of these functions of management, it is not at all clear that the costs of doing so should be borne entirely by the public. For example, in those situations where it is desirable to buy out superfluous licenses, society receives some general benefits in increased efficiency, but the fishermen receive specific and direct benefits from the sale of their privilege or from decreased competition. It would not be unreasonable for society to demand that the fishing industry bear these kinds of costs or at least contribute commensurate funds through taxes or fees to the public treasury.

A fundamental issue underlying the use of public funds is how much society is willing to pay to protect the resource. If a species is likely to be extinguished under conditions of nonmanagement, then the taxpayer may be willing to bear fairly high costs to ensure that this does not happen. But if extinction or irreversible modification of the

51. For example, many lumber companies with large timberlands undertake their own research, administer their lands, regulate their operations to achieve long-term yields, and invest in disease and predation control. These activities are internal to the firm and are considered an ordinary part of doing business.

environment is not a likely possibility, then the taxpayer's willingness to pay high management costs may be greatly diminished.

For example, the prevention of a depletion of a particular stock may require a high public investment in research, regulation, and enforcement. If the benefits from preventing depletion (for instance, the contributions to the economy of the added yield and the preservation of employment opportunities) are less than the costs, then it may be preferable to adopt the concept of "pulse" fishing. A management program based on this concept would allow the stock to be fished down to the point where economic returns are unsatisfactory, then would close the fishery and require fishermen to catch other stocks until the original one replenishes itself. Of course, numerous factors would have to be taken into consideration before deciding to implement such a program; the point remains, however, that simply because a stock exists and is of some interest to fishermen, the prevention of depletion does not justify the expenditure of public funds greater than the sum of the benefits that can be achieved.

The consumers' interest in a stable supply of low-priced, high-quality products can be affected by a wide range of governmental management activities. Where commercial fishing is promoted by management activities that improve efficiency and competition, the interest of consumers will generally be satisfied. But if the goal of promoting the industry is approached by activities designed to protect fishermen from competition, such as tariffs on imported fish products, then consumers may incur losses through higher prices. Decreasing foreign access to domestic stocks that foreigners can catch, process, and place in the United States market at lower prices than domestic fishermen would also be damaging to the consumer. Such activities cannot be justified unless it is clearly demonstrated that there are sufficient benefits to other national interests.

More complicated questions are raised when the promotional activity would clearly produce benefits to the consumer but at costs to the taxpayer. An example is the possible use of public funds to develop an improved technology for the processing of bottom fish. Generally, processing technology should be left in the hands of private entrepreneurs. There are, however, certain conditions that may warrant the investment of public funds. If, for example, private development would lead to monopsonistic conditions so that there were only one buyer for the fishermen's catches, public investment might be jus-

tified. Or the time between the initiation of research and the operation of a technology may appear too long and too costly to attract private investment. In such circumstances, if the long-term payoff to society is high enough, public investment through incentives or subsidies might be justified. However, as in all cases where the use of public funds is being considered, it must be shown that the benefits from that use are greater than those from other possible uses.

Other kinds of subsidies are likely to be sought by fishing interests. In some regions fishermen may request support for the construction of newer and larger vessels in order to increase capacity and thereby increase their ability to claim larger shares of the total allowable catch.⁵² There may also be demands for public investment in the promotion of markets for presently underutilized species, for the development of improved gear, and for reimbursement of fees paid by United States fishermen fishing in foreign zones.

All such subsidies carry costs for the economy, whether direct or indirect. Although subsidies have become a way of life for certain industries in the United States, this does not justify uncritical adoption of subsidies for the fishing industry. Subsidies are not only costly to the economy, but in some cases they also tend to perpetuate inefficiency and impede desirable developments. It is therefore necessary to examine carefully the rationale for public support and the distribution of benefits and costs before undertaking subsidized programs.

C. Allocation of Yields Between Commercial and Recreational Fishermen

The problems of allocating yields between commercial and recreational fishermen are more purely distributional in nature than those discussed above. There are few, if any, other natural resources where conflict between different users is so direct. For example, in water resources, techniques are available for restoring quality after use so that different users may enjoy the same water, provided they pay the costs of cleaning it. But in fisheries a fish taken for one purpose becomes

52. It may seem that there is a contradiction between demands to increase capacity, on the one hand, and the desirability of buying out superfluous capacity, on the other hand. To be sure, in some cases vessels may be sufficiently adaptable to move easily from an overcrowded fishery into an uncrowded one. In other cases, however, mobility may be severely limited so that overcapitalization may persist even though other nearby stocks are underutilized.

unavailable for another, and the issue is not one of distributing monetary costs but of distributing the resource directly.

There are three different techniques for dealing with the problems of allocation between commercial and recreational fishermen—administrative, market, and legislative. The Act has chosen the first course, but in future revisions it may be desirable to investigate the other two. Under the administrative technique, decisions of allocation are made by an agency (the Regional Councils or the Department of Commerce under the FCMA) presumed capable of determining who should get what share of the yield. But, in general, there are no satisfactory criteria for making such a determination in this case. Concepts such as equity and need will be raised but cannot be satisfactorily defined. The administrators may attempt to use measures such as contribution to the economy or amount of employment, but the choice of the measure itself is likely to have a determining effect on the distribution and will thereby become a source of dispute. In addition, any basis for distribution that may become acceptable in one Council could be challenged in another.

Instead of pursuing a course that will be fraught with persistent conflict, it may be desirable to explore the other techniques for making allocation decisions. One of these would be to put the resources on a market basis, awarding access to the user paying the highest price. This would greatly simplify the process of allocation and considerably diminish the negotiating or transaction costs. However, as noted above, the decision itself would have a distributive effect, and all parties (both commercial and recreational) would be required to pay for something they now receive free. Eventually, as limited entry systems become more widely adopted and fishermen come to accept the fact that fishing privileges have value, a market approach might be adopted.

The other approach would be to determine the allocation of yields on the basis of votes within some kind of legislative framework.⁵³ This might initially be done through special referenda within states where there are particularly difficult conflicts. Or it might be desirable to have Council members elected rather than appointed, using special districts for this purpose. Such a move, however, would require a

53. See E. HAEFELE, REPRESENTATIVE GOVERNMENT AND ENVIRONMENTAL MANAGEMENT (1973).

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drastic revision of the Act, if not totally new legislation, and would require careful study of all its ramifications.

As the Act now stands, the Regional Councils and the Secretary of Commerce will be faced with difficult and painful decisions on the distribution of yields between commercial and recreational fishermen. They have no guidelines for the decisions, nor are they likely to develop guidelines that are satisfactory. Although there are only a few fisheries at present where such decisions are necessary, these tend to be highly valued and their number will increase in the future. In short, the problems will become increasingly severe and will necessitate resolution by the courts or the adoption of new techniques for determining who gets what.

IV. CONCLUSION

The passage of the Fishery Conservation and Management Act of 1976 may be considered simply the first stage in a major transition from the era of free fishing to an era of national jurisdiction. In this context, one should not expect the Act to resolve all of the difficult problems of fisheries management. And indeed, it has not. It has provided dramatic new opportunities for effective management of fisheries, but it has failed to ensure that the opportunities will be taken.

In large part, this is due to the failure of the Act to set satisfactory objectives for management. This means that there are few guidelines for the complex decisions that will have to be made by the Regional Councils and the Secretary of Commerce. The result is likely to be inconsistency in the decisions made by the different Councils and conflicts among the various interests affected by the decisions.

Eventually these conflicts may lead to improved definitions of management objectives, but the process may be long and costly. It could involve actions by the courts and the Office of Management and Budget that would seriously delay the adoption and implementation of management plans and leave fisheries management in a state of confusion for several years.

In order to help reduce the severity of these consequences, early efforts should be made to improve the statements of management objectives. These efforts should be made by both the Department of Commerce and the Congress. They should include careful definition

of the many and varied interests affected by management decisions, with particular regard to society's interests as "owner," the consumer's interests, and the taxpayer's interests. They should examine the consequences of different decisions on these interests and, through this process, work out a set of management goals that will serve as useful guides for decisions.