

DEPARTMENT OF COMMERCE**National Oceanic and Atmospheric Administration****50 CFR Part 602****Guidelines for Fishery Management Plans**

AGENCY: National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Proposed rule.

SUMMARY: NOAA proposes to revise the national standard guidelines for fishery conservation and management issued in July 1977 under the Magnuson Fishery Conservation and Management Act (the Act). The seven national standards of the Act represent statutory criteria and principles with which all fishery management plans (FMPs) must be judged consistent by the Secretary of Commerce. The Act requires the Secretary to issue guidelines based on the national standards to assist in the development and review of FMPs, their amendments, and regulations. Review and revision of the 1977 guidelines was needed to update and codify them to reflect current Secretarial interpretations and several years of operational experience in resolving fishery management issues. The proposed guidelines are designed to improve the quality of FMPs by providing clearer, more comprehensive guidance and to result in a more uniform understanding of the Secretary's basis for FMP review and implementation.

DATE: Comments must be submitted on or before August 23, 1982.

ADDRESS: Comments should be addressed to the Assistant Administrator for Fisheries, NOAA, National Marine Fisheries Service, Washington, D.C. 20235. Please write "National Standards Comments" on the envelope.

FOR FURTHER INFORMATION CONTACT: Daphne White, Office of Resource Conservation and Management, NMFS, 3300 Whitehaven Street, NW., Washington, D.C. 20235, Telephone: (202) 634-7218.

SUPPLEMENTARY INFORMATION:**Background**

The guidelines NOAA proposes to revise are currently found at 50 CFR 602.2, published on July 5, 1977, at 42 FR 34458. The Environmental Defense Fund (EDF) petitioned the National Marine Fisheries Service (NMFS) in October 1979 to initiate review and revision of all of Part 602. On February 8, 1980, NMFS granted the petition, in part, and issued an Advance Notice of Proposed Rulemaking (ANPR). The ANPR

solicited comments on only those portions of the petition related to the national standards (§ 602.2), and on certain other national standard issues not addressed in the petition for which public comment was also deemed advisable. The ANPR was published at 45 FR 8686.

Granting the petition and undertaking the review and revision were based on the following considerations: (1) The need to update the national standard guidelines to reflect and codify current policy interpretations; (2) the need to clarify meanings and simplify language; (3) the need to bring the perspective of several years of experience to bear on fishery management issues unforeseen when the 1977 guidelines were published; (4) the need to respond to changes occurring in the Nation's priorities and economic circumstances, and, in particular, to the forces for change within the fishing industry; and (5) the need to improve the quality of FMPs by providing clearer and more comprehensive guidance.

Early in 1981, action on the proposed guidelines was suspended for six months when the regulatory calendar was frozen. Work on the guidelines resumed in August; a series of four regional workshops was held in September 1981 with Council and agency personnel, to examine guideline feasibility and to discuss rationale directly with those to be affected. The proposed guidelines therefore also address the concerns expressed at the workshops and in the written followup comments.

Overview of Issues and Rationale

The major issues identified by the 45 commenters on the ANPR as needing policy clarification include establishment of fishery management objectives and consideration of short vs. long-term effects of management regimes, and arise from the full range of the national standards, as follows:

Standard 1: definition of overfishing and determination of optimum yield;

Standard 2: identification of available data and research needs;

Standard 3: management throughout the range of individual stock(s);

Standard 4: allocation of fishing privileges;

Standard 5: definition of efficiency and its application;

Standard 6: habitat protection and identification of ecological relationships; biological, ecological, economic, and social contingencies, and the use of a buffer or a reserve; and

Standard 7: cost/benefit application to management regimes.

Thirty-two comments were received from outside NOAA: seven Regional Fishery Management Councils (Councils), six commercial fishing interest associations, three recreational fishing interest organizations, two environmental groups, five Federal agencies, seven State Marine Resource divisions, and two individuals.

Responses from each category were not uniform, although certain cautious generalizations can be made about approach. Many commenters addressed the substance of the EDF proposals rather than the existing guidelines. From an institutional perspective, the evolving policy of NOAA has been to give Councils the greatest degree of flexibility possible within the law, and in accordance with Congressional intent. Industry generally supports this flexibility and policy of decentralizing fishery management decisions. Environmentalists, on the other hand, tend to push for firmer, more centralized direction, as a protection from special interest domination of management decisions; some commented that membership of the Councils appeared disproportionately weighted towards an exploitative point of view. From a resource perspective, commercial fishing interests emphasize the economic and social factors used in setting OY to justify "full utilization" of the fishery stock. Recreational fishing interests and environmentalists support "ecological reserve" concepts inferred from the words "prevent overfishing." NOAA has tried to balance the points of view between both perspectives.

The proposed guidelines allow for innovative policy evolution in response to new social or economic circumstances, and set out as clearly as possible the benchmarks of current fishery management policy under the Act.

With responsible management of a valued national resource as the goal, NOAA believes the guidelines must also supply the Councils, as fishery management planners, a better yardstick to assess their own work in developing and documenting their decisions. To that end, sections of the guidelines specifically address requirements and options for contents of an FMP, supplementing and drawing into sharper focus provisions of § 602.3, currently in effect. This type of section is usually signaled by the paragraph heading "analysis," within which is given more detailed guidance as to the kind of discussion and examination on FMP should contain to demonstrate consistency with the standard in question. Words within these sections

were carefully chosen to convey levels of effort and information commensurate with need, e.g., "consider," "take into account," "explain," "discuss," "examine," "analyze," "identify."

Fishery management choices affect the fishing industry, the government, and the individual taxpayer/consumer. Members of industry, citizens, and those responsible for implementing a management regime all need to know the reasons for decisions that affect them, particularly if controversial. Thus it is important that certain issues undergo enough examination and discussion to illuminate the options, demonstrate the rationales, and justify the final choices. That principle of accountability corresponds with the Secretary's statutory responsibility to make informed judgments regarding an FMP's consistency with the national standards. The principle coincidentally parallels the philosophies of the National Environmental Policy Act (NEPA), the Regulatory Flexibility Act, and E.O. 12291, which seek accountability in regulatory action.

To make these consistency judgments the Secretary must have enough information; without it the review process is delayed or stopped. That is why the guidelines are directed more to the adequacy of rationale than to the substance of a decision. NOAA is aware that the Councils and their advisory groups, staffs, and drafting teams have labored and debated management alternatives at length in developing FMPs; all too often, however, this fact is not adequately reflected in the FMP document itself. The analysis sections pinpoint what kind and level of information are particularly important to include in presenting the supporting rationales.

EDF premised its proposals on assertions that the existing guidelines fail to give Councils adequate guidance on establishing fishery management objectives, identifying long-range strategies for rebuilding and maintaining fish stocks, and more specifically, on Standards 1, 2, 3, and 6. The EDF petition did not propose changes in Standards 4, 5, and 7, perhaps because these standards do not directly address environmental concerns. However, the creative tension established by the human versus resource needs has been a continuing consideration in the revision of the guidelines.

NoAA carefully considered each of the EDF proposals, added a new section on management objectives, provided more explicit guidance with regard to overfishing that encompasses discussion of rebuilding and maintaining stocks, defined factors underlying "best

available information," refined the description of scope and composition of a management unit, suggested specific methods of allowing for variations and contingencies, and revised and reorganized the guidelines for every standard. Specific NOAA responses to EDF proposals and other ANPR issues and the rationale for the proposed revisions are presented below in the discussion of guidelines for each standard.

Section 602.2 includes a style guide, which explains the use of specific words to distinguish the advisory, explanatory, or obligatory nature of the guideline language. Section 602.10 makes it clear that FMPs in substantial compliance with the guidelines, the Act, and other applicable law must be approved. The guidelines are meant as a protection for everyone in the FMP system. They are an aggregation of policies developed through creative Council responses to regional fishery management problems—a way of sharing the empirical knowledge gained over the life of the Act. Their acceptance and use are a matter of practical utility for the Councils and of public commitment of the agency to consistent application of the policies stated.

The statutory language of each standard is presented as paragraph (a) under the appropriate section of the proposed guidelines.

ANPR Issues and Rationale for Each Standard

Standard 1—Overfishing

1. *ANPR Issues.* EDF proposed to amend the definition of overfishing to read as follows: "Overfishing is a level of fishing that results in (i) a reduction in the capacity of the management unit to produce maximum biological yield on a sustained basis of specified *reasonably foreseeable* habitat and environmental conditions or (ii) *significant adverse impacts on other species or stocks not included in the management unit.*"

NoAA felt that "reasonably foreseeable" was not a useful addition to the definition, and that the thought is already covered under Section 303(a)(3) of the Act. However, the revised definition substitutes the word "prevailing" for "specified," which suggests the longer perspective sought by the petitioner. NOAA rejected the EDF language regarding adverse impacts on species not in the management unit as being impracticable in the overfishing context. While these considerations are listed as examples of ecological factors in specifying OY and in Standard 6, the data and sophisticated techniques needed for ecosystem management are

probably not yet at the stage of practical application.

2. *Rationale.* Overfishing is a relative term; it cannot be defined in isolation from its biological, economic, or ecological consequences, nor from its relationship to given management objectives. NOAA believes that Standard 1's phrase "shall prevent overfishing" is the strongest protectionist statement in the Act; it is supported by the language in the Findings, Purposes, and Policy section of the Act, and in the legislative history. The prevention of overfishing has as its goal the protection of a stock's general reproductive capacity and its productivity in terms of maintaining an adequate supply of catchable fish.

The guidelines state that significant downward trends in spawning stock size and in average annual recruitment to the fishery may signal that overfishing is occurring. Ascertaining when these downward trends have been established is a judgment based on information gained over time from scientific stock assessment, from harvesters and processors (through logbooks, catch samples, interviews, weigh-out slips, etc.), and from other sources such as aerial surveys or hydroacoustic data.

NoAA recognizes that a decline in stock size or abundance may occur independent of fishing pressure and that adverse changes in essential habitat may increase the risk that fishing effort will contribute to a stock collapse. The more effective management response under the Act is to reduce fishing mortality. Management measures must be applied so that there is a reduction in numbers of fish caught. Controls might include, for example, establishment of catch quotas, closed seasons, closed areas, limits on mesh size, limited vessel days, and limits on vessels entering the fishery.

The guidelines specify that an FMP should explain how its conservation and management measures will prevent overfishing, including a program for rebuilding the stock if it has been diminished below a desired level. FMPs containing measures that are designed specifically to prevent overfishing include the northern anchovy, stone crab, and the two salmon FMPs. In the northern anchovy fishery, abundance varies substantially from year to year due to natural fluctuations in the survival of juveniles and in recruitment year class strength. The FMP relates the harvest directly to the size of the spawning biomass. Under the stone crab FMP, productivity is protected by seasons that prevent harvest until

spawning has occurred. Salmon FMPs have always included spawning escapement objectives that relate to rebuilding the strength of the stocks.

The relationship of OY to overfishing is stated at both § 602.11(b) and (f). Overfishing is a limitation on the OY specification, which is itself a target or goal. Exceeding OY does not necessarily constitute overfishing. Other types of "overfishing" are mentioned to acknowledge that fishing can produce a variety of effects on local and stockwide abundance, availability, size, and composition without causing irreversible harm. Conservation and management measures may be adopted to prevent or permit these conditions, if rationally related to FMP objectives.

As management regimes become more comprehensive, the interrelationships of fishing pressure on target and nontarget (both major and minor) species will have to be addressed. NOAA believes that rational management of any multispecies fishery includes acknowledging the fact that overharvesting minor subcomponents may be unavoidable. For example, in a groundfish fishery, minor components of the stocks may have to be consciously overfished in order to harvest the major components or target species at an optimum level. A Council may decide to permit this type of overharvest if the benefits are adequately identified, and if the Council's action will not cause any stock component to require protection under the Endangered Species Act (ESA). Guideline § 602.11(d)(1) was designed to balance the requirements of the ESA—and concern for individual populations within a management unit—with the inevitable results of biomass management.

Whether to allow *any* type of overfishing will continue to be argued among economists, biologists, industry representatives, and environmentalists. The policy question centers on whether the primary responsibility under the Act is to the resource or to the users of the resource, on the "wise use"/preservation dichotomy inherent in the word "conservation," and on the tension between risk and predictability. NOAA believes that the proposed sections regarding overfishing are responsive to the findings of the Act and the protectionist thrust of the EDF petition, particularly when read in conjunction with the standard 6 guideline provisions for buffers, reserves, and framework plan flexibility. They demonstrate a reasoned exercise of responsibility in that they are resilient enough to allow "wide use" and precise enough to permit preservation of the stocks "before

overfishing has caused irreversible harm."

Optimum Yield

1. *ANPR Issues.* The EDF petition proposed a lengthy and major change in the definition of the term MSY without suggesting any specific changes in the OY section, although the overall tenor of the petition text makes it clear that EDF favors long-term stability and conservative decisions when scientific understanding is uncertain.

NOAA has concluded that the specific EDF proposals on MSY are unacceptable. The minimum population argument is similar in concept to that underlying the Marine Mammal Protection Act (MMPA), but it is clear that the Magnuson Act's emphasis on achieving OY precludes the exclusively protectionist view that forms the basis of the MMPA. The choice of OY is dependent on the level of knowledge concerning the resource, and on economic, social, and ecological factors as well as on the condition of the resource. NOAA believes that the new definition of overfishing, supported by more specific guidance under standards 3 and 6, is responsive to the petitioner's point and to the approach advocated by the petitioner's supporters.

2. *Rationale.* Past controversy concerning MSY has related to its adequacy as a goal to be achieved by management. As used in the Act, MSY is a baseline tool in the determination of OY. In recognizing that MSY represents the underlying biological rationale upon which most determinations of OY rest, the proposed guidelines set forth a more flexible framework for its specification. Recognition of the need for flexibility in approaching MSY and OY has come as a result of plan review experience and Council innovation in adapting these concepts to the characteristics of different fisheries.

The proposed guidelines permit adjustment of MSY prior to determining OY under certain conditions, provided that the adjustment is fully justified in terms of environmental, ecological, or biological data available for the management unit under consideration. One type of adjustment is best illustrated by the concept of Acceptable Biological Catch (ABC), used by the North Pacific Council and others. Following from the guideline definition of MSY as a long-term average, ABC is an *annually* determined catch that may differ from MSY for biological reasons—lower or higher in some years for species with fluctuating recruitment. It may be set lower than MSY to rebuild overfished stocks, or to compensate for lack of stock assessment data. For

example, in the Gulf of Alaska groundfish FMP, two of the eleven species supporting the fishery were found to be incapable of producing MSY at the time. OY for these species was accordingly based on an ABC lower than MSY to avoid risk of overexploitation, and to allow for rebuilding.

Other types of adjustment to MSY have been made to allow for the influence of environmental factors. The Gulf of Mexico shrimp MSY is adjusted through the use of an environmental calculation involving water flow and temperature characteristics. This fishery also illustrates that the biological resiliency and high fecundity of some stocks may allow OY to become a descriptive statement, equivalent—for all practical purposes—to MSY. OY in the Gulf shrimp FMP is equal to everything harvested under the FMP's management measures. Another instance where stock characteristics influence the determination of OY directly (making a numerical calculation of MSY nearly irrelevant) is the stone crab FMP, in which OY is all the stone crab caught with a minimum claw size. (Descriptive OYs must, however, be capable of numerical estimation for purposes of deriving TALFF, and for other reasons.) In cases where specification of MSY may not be possible because of lack of assessment data—such as might occur in an unutilized resource for which a fishery suddenly develops or in species that are minor components of mixed species fisheries—the OY still must be derived from biological information, as for example, the proportional abundance of associated species.

The Act does require the MSY specification; every attempt should therefore be made to specify it. The proposed guidelines acknowledge that MSY may be derived from a number of formulas or models (depending on the level and type of information available), that the use of a range for MSY is satisfactory and that in some fisheries a numerical MSY is not always essential in establishing an appropriate underlying biological basis for OY. NOAA believes that Congressional intent is served if OY rests, even in these cases, on the best directly relevant biological information available.

The two values specified in paragraph (A) of the Act's definition of OY are not discussed in the existing guidelines. This omission was an unfortunate oversight; consideration of these values highlights national interest in consumer concerns and the export of fishery products, and acknowledges the contribution of

recreational fishing to the national, regional, and local economies.

The proposed revision also encompasses a number of additional aspects of OY determination and expression that have evolved since 1977 as a result of the Councils' and NOAA's experience in implementing the Act, and passage of the two amendments. These include: (1) The concept that specification of OY in an FMP is not a quota, per se; (2) the recognition that OY amalgamates management objectives and instructs the management measures; (3) the exception to annual achievement of OY allowed through deferring until the following year the allocation to foreign fishing of some or all of the "surplus" not harvested by vessels of the U.S.; (4) the establishment of a reserve within OY for reallocation to foreign fishing to allow for uncertainties in estimates of domestic harvest and full utilization of OY; and (5) the provision that permits transfer at sea of the surplus of domestic harvest exceeding domestic processing capacity to foreign processor vessels.

Standard 2

1. *ANPR Issue.* Based on its concern that the present national standard guidelines fail to address the operative consequences of serious inadequacies in the biological data base, and fail to specify a minimum quantum of information upon which an approvable plan must rest, EDF proposed that FMPs incorporate measures designed to generate the information needed to assure an improved scientific basis for the plans, and that a suitable buffer in favor of conservation should be provided. In addition, EDF proposed that Councils should identify all significant information gaps and should indicate the manner in which such additional information should be acquired.

NOAA feels that it would be reasonable, and consistent with current practice, to expect Councils to prepare a management strategy to compensate for weaknesses in the information base; however, to require a plan to specify the manner of acquisition is unnecessary and inappropriate since this responsibility falls to the Secretary (Section 304(e) of the Act). The buffer concept is implicit in the concept of adjusting MSY (as in the ABC example), and is, in addition, retained as a provision under standard 6 to compensate for possible variations and contingencies.

2. *Rationale.* Application of this standard affects the operation of all the other standards. The level of information influences the establishment of MSY, OY, and

management unit composition; it underlies determinations of allocations, judgments of efficiency, adjustments for variations and contingencies, and evaluations of costs and benefits. The proposed revision strengthens the language regarding the needed information base, and is cross-referenced to two other standards.

The proposed guidelines retain the idea expressed in the current guideline that lack of complete data concerning a fishery does not prevent the preparation and implementation of an FMP. The language has been modified to acknowledge that "complete" scientific information is not attainable in the absolute sense. NOAA believes that, although collection of data about a fishery is a legitimate FMP objective, the need to collect information is not, *by itself*, adequate justification for preparation of a plan, and so states in the standard 7 guidelines. The standard 3 guidelines permit a management unit to contain related species or stocks of fish for which there are inadequate data to specify MSY or determine OY, and to gather data on those species or stocks under the FMP.

The proposed revision directly addresses the question of timeliness, opposing bodies of opinion, and practical utility of the information specified. It emphasizes the continuing need for information for monitoring and in-season adjustment decisions. A voluntary system of data collection is permissible, but requires a justification under the Paperwork Reduction Act, and is not covered under the Act's confidentiality provision. (Under the NOAA data security system, all individually collected fisheries data are treated internally with the same degree of protection.) It is all right to collect data within State boundaries when needed for proper implementation of an FMP. There will always be a degree of controversy regarding the qualitative word "best," in "best scientific information available." Successful data collection depends on the protection of confidential data, the public trust in that protection, and the public perception of the valid uses of those data. The validity of the entire process may hinge on the cooperative attitudes of constituents, the research community, and the relevant governmental institutions.

Standard 3

1. *ANPR Issues.* EDF cites failure of the guidelines to explain the relationship between the standard 3 directive to manage a fish stock throughout its range and the Act's provisions relating to jurisdiction within territorial waters as the basis for the following proposed

language: "Where management units cross Federal-State boundaries, Councils shall identify those conservation and management measures most appropriate for the conservation and management of the entire resource and shall include all such measures in their fishery management plans, leaving to the Secretary the determination whether actions of relevant State authorities substantially and adversely affect the carrying out of such plans." Another proposal that dealt with recommendations concerning habitat is discussed under Standard 6.

NOAA supports EDF's comprehensive approach but believes the EDF solution to be inappropriate. Councils are already analyzing relevant State regulations, soliciting State cooperation, or incorporating State regulations as appropriate.

2. *Rationale.* Standard 3's principle of comprehensive management works well with standard 7's principle of avoiding duplication. The emphasis in the proposed revision is on the scope, composition, and unity of the management unit, and on coordination and cooperation rather than on potential jurisdictional tension.

The proposed revision strengthens guidance on how to handle FMPs for stocks ranging across international and State-FCZ boundaries. NOAA believes that range-wide planning should encourage active State participation in the planning process, and that such planning will provide clear direction to the States as to what is needed to implement the proposed management regime effectively. This is consistent with Council practice and compatible with the comprehensive approach sought by the petitioner. The result should be greater compatibility between Federal and State management measures. Ongoing cooperative arrangements should not be disturbed by the proposed revision.

Because the potential for incompatibility does exist, however, the guidelines require an FMP to discuss the interrelationship between State management activities and the proposed Federal regime. Federal regulations supersede any conflicting State regulations of FCZ fishing (*F/V American Eagle v. Alaska*, No. 2227 (Alaska, Nov. 21, 1980)). State landing laws and other forms of indirect regulation of FCZ fishing may be affected by implementing an FMP. The required analysis focuses attention on these impacts and on the effect of inconsistent State action on attaining the objectives of the FMP. This latter discussion will assist in determining

Secretarial responsibilities under section 306(b) of the Act.

Standard 3 calls for management of a "stock" throughout its range. NOAA feels that the use of the words "stock," "fishery," and "management unit" is significant, and has endeavored to use the appropriate term in the guidelines. A stock may be larger than the fishery, as is the case when only a portion of the stock is actively fished. A fishery may be larger than a stock, when more than one stock is fished together. The management unit may ignore a portion of a fishery or stock when it includes a transboundary fishery or when a minor portion of the unit is fished within the jurisdiction of another Council. The guidelines define "management unit" as a fishery or that portion of a fishery identified in an FMP as relevant to the FMP's management objectives. Examples are given of the perspectives around which a management unit may be organized.

Standard 4

1. *ANPR Issues.* The ANPR question related to standard 4 was designed to give NOAA some understanding of how the term "allocation" is perceived, and how "fair and equitable" fits into the perception. NOAA was seeking assistance in addressing the definitions not elucidated by the existing guidelines.

Commenters were conscious of the need for public involvement in resolving allocation questions. Many urged flexibility, and pointed out that allocation schemes must follow from the objectives of a given plan and that problems of allocation are peculiar to each fishery. The following factors affecting allocation decisions were mentioned: consumer costs, community structure, income produced, jobs created, needs of subsistence fishermen, traditional harvest levels of each group, potential for expansion, economic efficiency of gear, incidental catch risks, economic dislocation caused by new fishing patterns, and opportunities in other fisheries.

2. *Rationale.* The proposed revision provides a more precise expression of agency policy and legal interpretation than was attempted or possible in 1977. To assist Councils in making what are usually the most controversial decisions within an FMP, NOAA has tried to confront the human issues surrounding fishery management directly, consistent with its increased concern for the economic and social consequences of regulation.

The guidelines address the "discrimination among residents of different States" issue as an extension

of the Federal "privilege and immunities" clause of the U.S. Constitution, which means that Councils may not rely on, nor incorporate within an FMP, a State law that discriminates against residents of a different State. The guidelines also acknowledged that management measures may have different effects on persons in different locations without discriminating among residents of different States.

These questions were at issue in the Gulf of Mexico shrimp FMP, which proposed to extend a Texas law by closing the FCZ off Texas to shrimping for a 45-day period to allow for growth that would increase the weight and value of the harvest. Fishermen in four public hearings in Louisiana expressed their fear that additional out-of-State vessels would fish off Louisiana during the Texas closure, which would result in greater competition for shrimp and shore facilities; they argued discrimination. The agency found the FMP consistent with standard 4, however, because "the measure does not allocate or assign fishing privileges to residents of any State. Even if one could consider the Texas closure to be an allocation of fishing privileges, residents of both Texas and Louisiana as well as other States are equally prohibited from fishing in the FCZ off Texas during the closure and have equal opportunity under the FMP to fish in the FCZ after the closure ends. The operator of a small vessel has fewer opportunities to fish than the operator of a large vessel, regardless of the State of residence. The large mobile shrimp vessels traditionally seek shrimp fishing opportunities off coasts of other States or even off foreign countries. Thus, mobility or lack of mobility is a function of each vessel rather than the proposed regulatory measure. The Texas closure will enhance the overall utilization of the resources by allowing for a larger harvest."

Resource management is essentially a series of allocations among present users, between present and future users, between public and private interests. The guidelines define "allocation" for purposes of the standards as a direct and deliberate distribution of the opportunity to participate in a fishery among identifiable, discrete groups of fishermen. Because only measures that meet the definition will be judged against the standard, this is a critical and sensitive delineation.

Many management measures may have an *incidental* effect on the fishing privileges enjoyed by different groups of U.S. fishermen. Any quota has a distributive effect on present and future users through its impact on stock

maintenance or rebuilding. Area closures may cause practical difficulties for smaller vessels or those located far from open areas. Seasonal quotas create difficulties for those whose economics of operation do not permit a long period of inactivity.

Direct allocations, by contrast, have been made by the several Councils in a variety of FMPs: quotas by classes of vessels (Atlantic groundfish), quotas for commercial and recreational fishermen (Atlantic mackerel), different fishing seasons for recreational and commercial fishermen (salmon), assignment of ocean areas to different gears (stone crab), and limiting permits to present users (surf clam). These direct allocations were approved under standard 4 because the Councils complied with the three statutory criteria of the standard in constructing their allocation schemes.

The guideline's definition is an attempted middle ground between all measures affecting fishing practices and measures designated as allocations in a plan. The distribution must be direct and deliberate, but a Council could not disclaim an intent to allocate through a measure that had obvious and inevitable allocative effects.

NOAA believes that the required analysis of allocations and alternative schemes considered—including the status quo—will help to focus attention on the existing distribution of privileges and the alteration of that distribution that Federal management will impose. Each FMP should contain the Council's judgment on fairness and equity, conservation aspects, and possible monopolistic effects of the proposed allocations. NOAA feels that the analysis poses no extra burden in that it is similar to the sort of analysis necessary under E.O. 12291.

The guidelines link "fairness" with FMP objectives and OY and acknowledge that fishing rights of treaty Indians and aboriginal Americans should be factored into Council judgments. Rational use of the resource (as in the case of the Gulf of Mexico shrimp) is suggested as one way an allocation scheme may promote conservation. A more visible conservation purpose is illustrated by the moratorium on entry of new vessels into the surf clam fishery, initiated to mitigate a resource crisis in some stocks.

The guideline lists examples of other factors to consider in making allocations, when they are relevant to FMP objectives.

Standard 5

1. *ANPR Issues.* Response was not heavy to the ANPR question regarding

factors to consider in promoting efficiency for full utilization of fishery resources. However, it demonstrated that efficiency like overfishing, is a concept that cannot be defined or applied in absolute terms—in isolation from its biological, economic, and ecological consequences and its relationship to given management objectives. Without specifying whether the comments pertained to commercial or recreational fishing, commenters appeared to define efficiency as either (1) the attainment of the greatest benefits through the least cost to society, or (2) the attainment of the greatest benefits through the least cost to the individual fisherman. The first approach assumes that the most efficient way to achieve a desired goal is by using the fewest resources; the second, that the most efficient way to attain a goal or objective is by imposing the minimum amount of burdens on individuals or industry.

2. *Rationale.* NOAA believes that, for purposes of standard 5, efficiency can be defined as the ability to produce a desired effect or product (or achieve an objective) with a minimum of effort, cost, or misuse of valuable biological and economic resources. In other words, Councils should choose management measures that achieve the FMP's objectives with minimum cost and burdens on society—in effect, additional practical application of judgments necessary under standards 4 and 7, E.O. 12291, the Paperwork Reduction Act, and the Regulatory Flexibility Act. The guidelines also recognize the difficulty inherent in reconciling particular economic and social needs of industry participants and consumers with this goal of efficiency. For example, maximizing employment opportunities by allowing continued overcapitalization instead of reducing effort might be considered inefficient in terms of an economic goal, but not necessarily in terms of a social goal. Or, when it is necessary to preserve a subsistence way of life or enjoyment of recreational fishing, application of the efficiency standard may not be appropriate. Councils thus may have to choose between—or rank—competing objectives.

NoAA believes that an FMP should not restrict the use of productive and cost-effective techniques of harvesting, processing, or marketing, unless such restriction is necessary to achieve the conservation or social objectives of the FMP. For example, the Pacific salmon FMP provides for use of a barbless hook to decrease mortality of sublegal coho and chinook. The high seas salmon FMP

requires "heads on" landing for fin-clipped coho and chinook to insure recovery of coded wire tags used to establish a needed distribution data base. In both cases, reduction in efficiency was outweighed by the conservation benefit.

Administrative efficiency can be a factor in choosing between alternatives within management regimes, as well. The Gulf of Mexico shrimp FMP's cooperative Texas closure, for example, increased the effectiveness and efficiency of enforcement.

NoAA chose to address the questions surrounding "limited access" in the context of standard 5 rather than in standard 4, even though limited access, by its nature, is an allocative measure. In fact, the guidelines caution that any limited access system must be consistent with section 303(b)(6) of the Act and the standard 4 guidelines. NoAA believes that placement within standard 5 puts the emphasis more appropriately on concepts of economic efficiency in achieving OY rather than on the contentious issues of right of entry, or limit on effort, per se. The placement of limited access under the aegis of standard 5 does not imply, however, that efficiency is always attained by limited access, nor that it is the most desirable method. It is one tool among many.

Economic waste occurs because individual fishermen have little incentive to take account of the effects of their fishing activities on present or future fishing yields, due to the "common property" nature of the resource. One method of combating this is to reduce units of effort. The guideline enumerates different forms of limited access. The guideline accepts the view of most legal analysts that section 304(d) of the Act prohibits imposition of any sort of fee designed to recover economic rent from U.S. fishermen.

Another purpose of limited access may be to encourage development of an unutilized or under-utilized fishery, in furtherance of the goal of developing these fisheries.

NoAA believes that an FMP should include a discussion of the extent to which overcapitalization, congestion, economic waste, and technically inefficient techniques in the fishery reduce the net benefits derived from the management unit and prevent the attainment and appropriate allocation of OY. If during FMP development the Council considered imposing a limited entry system, its decision to recommend or reject limited access should be discussed. Analysis is needed because efficiency is an increasingly important

way of measuring benefits to the Nation; it should be considered and balanced in a manner that allows comparison with the other ways of measuring benefits available under the other standards.

Standard 6

1. *ANPR Issues.* EDF expressed concern that the existing standard 6 guidelines "do little to translate this standard into pure scientific directives," and called for greater specificity to ensure compliance. It proposed to expand the "buffer" concept to require a buffer "whenever information on potential variations is unavailable." In addition, it proposed to require FMPs to include "mechanisms for the automatic adjustment of the conservation and management measures * * *"

NoAA does not believe that the "specificity" called for by the petitioner is necessary, nor any guarantee that the purpose of the standard will be accomplished. The proposal itself does not illuminate the buffer concept. NoAA has retained the original "suitable buffer in favor of conservation" language, but without EDF's additional cautionary requirement. It should be noted that EDF's concern on this point has been, in fact, addressed under standard 1 through the provision allowing for the adjustment of MSY prior to determining OY.

NoAA, which has long sought and supported mechanisms to increase administrative flexibility, recognizes the need for adapting the regulatory process to the everchanging conditions in a fishery. Such mechanisms have been developed and have been in practice for some time through collaborative Council/NoAA efforts. The guidelines reflect a range of administrative options; Councils may respond to the relative volatility of the resource in a variety of ways that appear to fall within the purpose of the petitioner's proposal.

2. *Rationale.* NoAA recognizes that each fishery exhibits unique uncertainties, and that the unpredictable nature of the fishery resource caused by vulnerability to changing conditions and unforeseeable events makes long-term planning difficult. Long-term objectives are more easily attainable in the more stable fisheries. The proposed guidelines clarify that it is possible to compensate for variations by establishing buffers; protection against contingencies is urged through use of flexibility in the regulatory process.

The current guidelines speak of variations in terms of biology, environment, and fishing practices. NoAA believes that economic and social variations have an equally

important effect; the proposed guidelines expand the coverage of variations appropriately. The reserve concept, developed since publication of the present guidelines, allows for establishment of buffers to alleviate these variations. The reserve concept is incorporated in the proposed guidelines under both standards 1 and 6, and is exemplified by the Gulf of Alaska groundfish FMP wherein a reserve is used to compensate for uncertainties in estimating DAH.

The tanner crab FMP also illustrates the principle of administrative flexibility, in that resource-related criteria trigger authority for mid-season adjustments of opening and closing dates. Similar provisions can be found in the two salmon FMPs.

The proposed guidelines remove the comparatively weak reference to habitat protection in the existing guidelines under standard 3, and place an expanded section under standard 6 where it has greater strength.

NOAA believes that the proposed standard 6 guidelines illustrate "wise use" management to achieve a conservation purpose.

Standard 7

1. *ANPR Issues.* There was no specific question in the ANPR addressed to "costs and benefits" or duplication, per se. However, issues of cost and benefit permeate application of all the standards.

2. *Rationale.* The principles of standard 7 coincide with many earnest and recently intense efforts of NOAA and the Councils to streamline the FMP process—an effort touched on, in part, under standard 6. As more and more FMPs have come on line, the costs of enforcement and of collecting data for monitoring, while reduced per FMP, have increased in total. The rising costs of fishing, due to dependence on petroleum-based products, has intensified the need to consider the impact of potentially burdensome regulations. Thus, it has become necessary to be more precise in evaluating the costs to industry and to government, to support comprehensive management, and to work toward a flexible regulatory structure.

NOAA believes that the requirements of E.O. 12291 focus attention quite appropriately on the threshold question of the actual need for management. Even when a Council believes there is an advantage to managing a fishery, growing public concern over excessive Federal regulation of private activities and over the need to reduce the cost of government emphasizes the responsibility to ensure that FMPs are

developed only for those fisheries where the need for Federal regulation can be clearly demonstrated. For these reasons, the guidelines propose criteria to assist in making these threshold decisions.

NOAA recognizes that the wide diversity of fisheries and of management objectives increases the difficulties of devising a quantitative cost/benefit analysis for fishery management measures. However, under the proposed guidelines, the types of analyses suggested under standards 4 and 5 would be the first steps in evaluating relative distribution of gains and burdens produced by each alternative set of management measures. While weight of intangibles such as recreational enjoyment, habitat protection, or social dislocation often cannot be expressed in dollar terms, NOAA believes they should be considered and described as explicitly as possible.

The guidelines do not prescribe that the lowest cost alternative be selected. NOAA urges, however, that selection be assisted by an analysis of costs relative to the value attributed to achievement of FMP objectives and OY, as prescribed by E.O. 12291.

Classification

The amendments to the national standard guidelines are issued in conformity with E.O. 12291. Because they produce no direct regulatory impact on the public, the Department of Commerce Office of General Counsel has certified that the proposed guidelines will not have a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act. The proposed guidelines impose no information collection requests nor paperwork burden on the public under the Paperwork Reduction Act.

Environmental Impact Statement

The term "significance" under the National Environmental Policy Act relates to impact on the human environment. Section 1508.14 of the Council on Environmental Quality regulations interprets "human environment" to include "the natural and physical environment and the relationship of people with that environment. This means that economic and social effects are not intended by themselves to require preparation of an environmental impact statement." Amendments to the national standard guidelines do not in themselves affect the human environment. The effect of the guideline amendments on the contents of FMPs is addressed through the requirement for environmental

impact statements (EISs) for new FMPs and supplemental EISs for significant amendments. The consequences of specific management measures are addressed in those documents. For these reasons, NOAA determined on July 7, 1980, that an environmental assessment or an EIS is not required for the proposed revision of the national standard guidelines.

Explanation of Restructuring

NOAA proposes to restructure Part 602 by designating subparts to differentiate the subject matter of the guidelines and by renumbering the sections to make them easier to follow. The first phase of this restructuring is a part of this amendment.

List of Subjects in 50 CFR Part 602

Fish, Fisheries, Fishing.

Date: June 9, 1982.

William H. Stevenson,
Deputy Assistant Administrator, National Marine Fisheries Service.

For the reasons set out in the preamble, 50 CFR Part 602 is proposed to be amended as follows:

1. The authority citation for Part 602 reads as follows:

Authority.—16 U.S.C. 1851 and 1855.

2. The Part heading for Part 602 is revised; §§ 602.1–602.6 are designated as Subpart A; §§ 602.1 and 602.2 are revised; Subpart B (§§ 602.10–602.17) is added, as set forth below:

PART 602—GUIDELINES FOR FISHERY MANAGEMENT PLANS

Subpart A—General

Sec.
602.1 Purpose and scope.
602.2 Style guide.

* * * * *

Subpart B—National Standards

602.10 General.
602.11 National Standard 1—Overfishing and OY.
602.12 National Standard 2—Scientific Information.
602.13 National Standard 3—Management Units.
602.14 National Standard 4—Allocations.
602.15 National Standard 5—Efficiency.
602.16 National Standard 6—Variations and Contingencies.
602.17 National Standard 7—Costs and Benefits.

Subpart A—General

§ 602.1 Purpose and scope.

The Act requires that any fishery management plan or amendment prepared by either the Regional Fishery Management Councils or the Secretary

of Commerce, and any regulations issued to implement a fishery management plan or amendment, shall be consistent with seven national standards, the other provisions of the Act, and any other applicable law. Part 602 implements those portions of the Act that pertain to the development, content, submission, amendment, review, and implementation of fishery management plans, and establishes guidelines to assist in achieving the required consistency.

§ 602.2 Style guide.

(a) *Definitions.* The terms used in these guidelines have the meanings that are prescribed in section 3 of the Act. In addition, the following definitions apply:

The Act—the Magnuson Fishery Conservation and Management Act, as amended (U.S.C. 1801 *et seq.*), also known as the FCMA, or the Magnuson Act.

Council—Regional Fishery Management Council, as established by the Act.

Secretary—Secretary of Commerce.

(b) *Abbreviations.*

ABC—acceptable biological catch.

DAH—estimated domestic annual harvest.

DAP—estimated domestic annual processing.

EY—equilibrium yield.

FCZ—fishery conservation zone.

FMP—fishery management plan.

JVP—joint venture processing.

MSY—maximum sustainable yield.

OY—optimum yield.

PMP—preliminary fishery management plan.

TAC—total allowable catch.

TALFF—total allowable level of foreign fishing.

(c) *Word usage*—*Must* is used to denote an obligation to act; it is used primarily when referring to requirements of the Act, the logical extension thereof, or of other applicable law or national policy.

Should is used to indicate that an action or consideration is strongly recommended to fulfill the Secretary's interpretation of the Act, and is a factor reviewers will look for in evaluating an FMP.

May used in a permissive sense.

May not is proscriptive; it has the same force as *must not*.

Will is used descriptively.

Shall is not used at all, except when quoting the statutory language of each standard. "Must" is used instead of "shall" to avoid confusion with the future tense.

Could is used when giving examples, in a hypothetical, permissive sense.

Can is used to mean "is able to," as distinguished from "may."

Examples are given by way of illustration and further explanation. They are not inclusive lists; they do not limit options.

Analysis, as a paragraph heading, signals more detailed guidance as to the type of discussion and examination an FMP should contain to demonstrate compliance with the standard in question.

Determine is used when referring to OY.

Adjust is used when establishing a deviation from MSY for biological reasons, such as in establishing ABC, TAC, or EY.

Modify is used when the deviation from MSY is for the purpose of determining OY, in accord with relevant economic, social, or ecological factors.

* * * * *

Subpart B—National Standards

§ 602.10 General.

(a) *Purpose.* (1) This subpart establishes guidelines, based on the national standards, to assist in the development and review of FMPs, amendments, and regulations prepared by the Councils and the Secretary.

(2) In developing FMPs, the Councils have the initial authority to ascertain factual circumstances, to establish management objectives, and to propose management measures that will achieve the objectives. The Secretary will determine whether the proposed management objectives and measures are consistent with the national standards, other provisions of the Act, and other applicable law. The Secretary has an obligation under section 301(b) of the Act to inform the Councils of the Secretary's interpretation of the national standards so that they will have an understanding of the basis on which FMPs will be reviewed.

(3) The national standards are statutory principles that must be followed in any FMP. The guidelines summarize Secretarial interpretations that have been, and will be, applied under these principles. The guidelines are intended as aids to decisionmaking; FMPs formulated according to the guidelines will have a better chance for expeditious Secretarial review, approval, and implementation. FMPs that are in substantial compliance with the guidelines, the Act, and other applicable law must be approved.

(b) *Fishery management objectives.*

(1) Each FMP, whether prepared by a Council or by the Secretary, should identify what the FMP is designed to accomplish, i.e. the management

objectives to be attained in regulating the fishery under consideration. In establishing objectives, Councils balance biological imperatives with human needs, reconcile present and future costs and benefits, and integrate the diversity of public and private interests. If objectives are in conflict, priorities should be established among them.

(2) How objectives are defined is important to the management process. Objectives should address the problems of a particular fishery. The objectives should be clearly stated, practicably attainable, framed in terms of definable events and measurable benefits, and based upon a comprehensive rather than a fragmentary approach to the problems addressed. An FMP should make a clear distinction between objectives and the management measures chosen to achieve them. The objectives of each FMP provide the context within which the Secretary will judge the consistency of an FMP's conservation and management measures with the national standards.

§ 602.11 National Standard 1—Optimum Yield.

(a) *Standard 1.* Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery.

(b) *General.* The determination of OY is a decisional mechanism for resolving the Act's multiple purposes and policies, for implementing an FMP's objectives, and for balancing the various interests that comprise the national welfare. OY is based on MSY, or on MSY as it may be adjusted under paragraph (c)(4) of this section. The most important limitation on the specification of OY is that the choice of OY—and the conservation and management measures proposed to achieve it—must prevent overfishing.

(c) *MSY.* (1) MSY, a theoretical concept, is the largest average annual catch or yield that can be taken over a period of time from a stock under prevailing ecological and environmental conditions. It may be presented as a range of values. Since MSY is a long-term average, it need not be specified annually.

(2) In an-unexploited stock of fish, the natural mortality rate is balanced by growth and recruitment rates on average. Once fishing pressure is applied, the balance of mortality, growth, and recruitment is altered, and the average value of these rates and the average population size changes. As the population size changes, a new balance

of rates is achieved. The interrelationship between these rates and population size provides the basis for specifying the MSY of a stock. Techniques for estimating MSY depend on the scientific information available. The MSY may be derived from average past catches, stock production models, yield per recruit or dynamic pool models, spawner/recruit relationships, total biomass estimates and estimates of natural mortality, biomass estimates from ecosystem models, or other valid methods.

(3) The determination of OY requires a specification of MSY. However, where sufficient scientific data as to the biological characteristics of the stock do not exist, or the period of exploitation or investigation has not been long enough for adequate understanding of stock dynamics, or where frequent large-scale fluctuations in stock size make this concept of limited value, the OY should be based not on a fabricated MSY but on the best scientific information available.

(4) MSY may be only the starting point in providing a realistic biological description of allowable fishery removals. MSY may need to be adjusted because of environmental factors, stock peculiarities, or other biological variables, prior to the determination of OY. Examples are ABC, TAC, and EY. Such adjustments are valid, provided that they are explained and justified.

(d) *Overfishing.* (1) Overfishing is a level of fishing mortality that jeopardizes the capacity of a stock(s) to maintain or recover to a level at which it can produce maximum biological yield or economic value on a long-term basis under prevailing biological and environmental conditions. An FMP must prevent overfishing, except in certain situations. For example, harvesting the major component of a mixed fishery at its optimum level may result in the overharvest of a minor (smaller or less valuable) stock component. In another case, solving a particular problem may necessitate pruning larger fish from the population. A Council may decide to permit this type of overharvest if the analysis (paragraph (e)(5) of this section) identifies the benefits from such overfishing, and if the Council's action will not cause any stock component to require protection under the Endangered Species Act.

(2) Significant downward trends in spawning stock sizes and in average annual recruitment over a period of several years may signal that overfishing is occurring. These downward trends usually are preceded or accompanied by increased variability in annual recruitment and by major

shifts to younger fish and fewer year classes in the spawning stock. If fishing continues at a rate that perpetuates the downward trends, the spawning stock eventually may be incapable of significant reproduction and may be irreversibly damaged.

(3) Declines in stock size may occur independent of fishing pressure, caused by a combination of factors such as natural fluctuations in the environment and man-made changes in essential habitat. Significant adverse alterations in the environment increase the possibility that fishing effort will contribute to a stock collapse. Decisions about the allowable level of fishing mortality will vary according to the conditions of the fishery and the amount of risk associated with different harvest rates.

(4) Since changes in environment/habitat conditions can produce the appearance of overfishing (as can new fishing pressure on an underutilized stock), care should be taken to identify the cause of the downward trends. Whether the trends in spawning stock size and in average recruitment are caused by environmental changes or by fishing effort, the most effective management response under the Act is to propose management measures to reduce fishing mortality. Unless it can be shown that reduced fishing pressure would not alleviate the problem, the FMP must include measures to reduce fishing mortality. If environmental changes are the primary cause of the downward trends, Councils may recommend restoration of habitat and other ameliorative programs.

(5) Fishing can produce a variety of effects on local and stockwide abundance, availability, size, and composition. Some of these effects have been called "overfishing"—with or without qualifiers such as growth, localized, pulse, and economic. These effects are not "overfishing" under standard 1, a Council may recommend conservation and management measures to prevent or permit these effects, depending on the objectives of a particular FMP.

(e) *Specification of OY.*—(1) *OY and management objectives.* Ideally, the process of determining OY and the resulting specification integrate the various objectives of the FMP. Relative weighting of the elements of the OY determination will be influenced both by regional objectives and by national considerations. Rarely will a fishery be managed to meet a single objective. Objectives may conflict. Consequently, priority decisions should be made in developing objectives, the timing of their achievement, and the management

measures to achieve them. (See § 602.10.)

(2) *Values in determining OY.* In determining the greatest benefit to the Nation, two values that should be weighed are food production and recreational opportunities (section 3(18)(A) of the Act). They should receive attention as measures of benefit when considering the economic, ecological, or social factors used in modifying MSY to obtain OY.

(i) "Food production" encompasses the goals of providing seafood to U.S. consumers at reasonable prices, maintaining an economically viable fishery and utilizing the capacity of U.S. fishery resources to meet world-wide nutritional needs.

(ii) "Recreational opportunities" includes recognition of the importance of the quality of the recreational fishing experience, and of the contribution of recreational fishing to the national, regional, and local economies and food supplies.

(3) *Factors relevant to OY.* The Act's definition of OY identifies three categories of factors to be used in modifying MSY to arrive at OY: economic, social, and ecological (section 3(18)(B)). Examples are given below. Not every factor will be relevant in every fishery; for instance, there may be no Indian treaty rights. For some fisheries, insufficient information may be available with respect to some factors to provide a basis for corresponding modifications to MSY.

(i) *Economic factors.* Examples are promotion of domestic fishing, development of unutilized or underutilized fisheries, satisfaction of consumer and recreational needs, encouragement of domestic and export markets for U.S. harvested fish, and improvement in the U.S. balance of trade. Some other factors that may be considered are the value of industrial fisheries, the level of capitalization, alternate employment opportunities, and economies of coastal areas.

(ii) *Social factors.* Examples are enjoyment gained from recreational fishing, avoidance of gear conflicts and resulting disputes, preservation of a way of life for fishermen and their families, and dependence of local communities on a fishery. Among other factors that may be considered are the cultural place of subsistence fishing, obligations under Indian treaties, and world-wide nutritional needs.

(iii) *Ecological factors.* Examples are the nature of a mixed-species fishery, predator-prey relationships, and dependence of marine mammals and birds or endangered species on a stock

of fish. Equally important are environmental conditions that stress marine organisms, such as natural and man-made changes in wetlands or nursery grounds, and effects on habitat of pollutants.

(4) *Form of OY specification.* (i) The "amount of fish" that constitutes the OY need not be expressed in terms of numbers or weight of fish. The economic, social, or ecological modifications to MSY may be expressed by describing fish having common characteristics, the harvest of which provides the greatest overall benefit to the Nation. For instance, OY may be expressed as a formula that converts periodic stock assessments into quotas or guideline harvest levels for recreational, commercial, and other fishing. OY may be defined in terms of an annual harvest of fish or shellfish having a minimum weight, length, or other measurement. OY may also be expressed as an amount of fish taken only in certain areas, or in certain seasons, or with particular gear, or by a specified amount of fishing effort, or, in the case of incidental species, as a function of the directed catch.

(ii) If a numerical OY is chosen, a range or average may be specified.

(iii) In a fishery where there is a significant discard component, the OY may either include or exclude discards.

(iv) The OY specification, however, must be capable of conversion into an annual numerical estimate that can be used to establish the TALFF and to analyze impacts of the management regime. There should be a mechanism in a multi-year plan for periodic reassessment of the OY specification, so that it is responsive to changing circumstances in the fishery.

(5) *Analysis.* An FMP must contain an analysis of how its OY specification was determined (section 303(a)(3) of the Act). It should relate the explanation of overfishing in paragraph (d) of this section to conditions in the particular fishery, and explain how its choice of OY and conservation and management measures will prevent overfishing in that fishery. If overfishing is allowed (see paragraph (d)(1) of this section), the analysis must contain a justification in terms of overall benefits and the likelihood of the species reaching a "threatened" or "endangered" status. If the stock has been diminished below a desired level, the analysis should include a program for rebuilding the stock. A Council must identify those economic, social, and ecological factors relevant to management of a particular fishery, then evaluate and weigh them to arrive at the modification (if any) of MSY. The choice of a particular OY

must be carefully defined and documented to show that the OY selected will produce the greatest benefit to the Nation.

(f) *OY as a target.* (1) The specification of OY in an FMP is not automatically a quota or ceiling, although quotas may be derived from the OY where appropriate. OY is a target or goal; an FMP must contain conservation and management measures, and provisions for information collection, that are designed to achieve it. These measures should allow for practical and effective implementation and enforcement of the management regime, so that the harvest is allowed to reach but not to exceed OY by a substantial amount. The Secretary then has the obligation to implement and enforce the FMP so that OY is achieved. If management measures prove unenforceable—or too restrictive or not rigorous enough to realize OY—they should be modified; an alternative is to reexamine the adequacy of the OY specification.

(2) Exceeding OY does not necessarily constitute overfishing, although they might coincide. Even if no overfishing resulted, continual harvest at a level above a fixed-value OY would violate national standard 1 because OY was exceeded (not achieved) on a continuing basis.

(g) *OY and foreign fishing.* Section 201(d) of the Act provides that fishing by foreign nations is limited to that portion of the OY that will not be harvested by vessels of the United States. The achievement of OY under national standard 1 requires that foreign fishing vessels be given reasonable opportunity to harvest such "surplus." The exception is where an annual fishing level is certified under section 201(d)(2)(B). The annual fishing level amount is allocated to foreign fishing, as is the remainder of the "surplus" (OY minus DAH); if the determinations under section 201(d)(4) are made, however, allocation of all or part of that remainder may be deferred until the next harvesting season.

(1) *DAH.* Councils must consider the capacity of, and the extent to which, U.S. vessels will harvest the OY on an annual basis. Estimating the amount that U.S. fishing vessels will actually harvest is required to determine the surplus.

(2) *Reserves.* Part of the OY may be held as a reserve to allow for uncertainties in estimates of stock size and of DAH. If an OY reserve is established, an adequate mechanism should be included in the FMP to permit timely release of the reserve to foreign fishermen, if necessary, so that full utilization of the OY may be achieved.

An FMP may also provide for a direct transfer of a portion of DAH to TALFF.

(3) *DAP.* (i) Each FMP must identify the capacity of U.S. processors and also the amount of domestic annual processed fish (DAP). DAP is the sum of two estimates:

(A) The amount of U.S. harvest that domestic processors will process. This estimate may be based on historical performance and on surveys of the expressed intention of manufacturers to process, supported by evidence of contracts, plant expansion, or other relevant information; and

(B) The amount of fish that will be harvested but not processed (e.g., marketed as fresh whole fish, used for private consumption, or used for bait).

(ii) When DAH exceeds DAP, the surplus should be designated as available for JVP. JVP is a part of DAH.

§ 602.12 National Standard 2—Scientific Information.

(a) *Standard 2.* Conservation and management measures shall be based upon the best scientific information available.

(b) *FMP development.* The fact that scientific information concerning a fishery is incomplete does not prevent the preparation and implementation of an FMP (see related §§ 602.13(d)(2) and 602.17(b)).

(1) Scientific information includes, but is not limited to, information of a biological, ecological, economic, or social nature. Successful fishery management depends, in part, on the timely availability, quality, and quantity of scientific information, as well as on the thorough analysis of this information, and the extent to which the information is applied. If there are conflicting facts or opinions relevant to a particular point, a Council may choose among them, but must justify the choice.

(2) FMPs must take into account the best scientific information available at the time of preparation. Between the initial drafting of an FMP and its submission for final review, new information often becomes available. This new information should be incorporated into the final FMP where practicable; but it is unnecessary to start the FMP process over again unless the information indicates that drastic changes have occurred in the fishery that might require revision of the management objectives or measures.

(c) *FMP implementation.* (1) An FMP must specify whatever information fishermen and processors will be required or requested to submit to the Secretary. Information about harvest within State boundaries, as well as in

the FCZ, may be collected if it is needed for proper implementation of the FMP. The FMP should explain the practical utility of the information specified in monitoring the fishery, in facilitating inseason management decisions, and in judging the performance of the management regime; it should also consider the effort, cost, or social impact of obtaining it.

(2) An FMP should identify scientific information needed from other sources to improve understanding and management of the resource and the fishery.

(3) The information submitted by various data suppliers about the stock(s) throughout its range or about the fishery should be comparable and compatible, to the maximum extent possible.

(d) *FMP amendment.* FMPs should be amended on a timely basis, as new information indicates the necessity for change in objectives or management measures.

§ 602.13 National Standard 3—Management Units.

(a) *Standard 3.* To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.

(b) *General.* The purpose of this standard is to encourage a comprehensive approach to fishery management. The geographic scope of the fishery, for planning purposes, should cover the entire range of the stock(s) of fish, and not be overly constrained by political boundaries. Wherever practicable, an FMP should seek to manage interrelated stocks of fish.

(c) *Unity of management.* Cooperation and understanding among entities concerned with the fishery (e.g., Councils, States, Federal government, foreign nations) are vital to effective management. Where management of a fishery involves multiple jurisdictions, coordination among the several entities should be sought in the development of an FMP. Where a range overlaps Council areas, one FMP to cover the entire range is preferred. The Secretary designates which Council or Councils will prepare the FMP, under section 304(f) of the Act.

(d) *Management unit.* The term "management unit" means a fishery or that portion of a fishery identified in an FMP as relevant to the FMP's management objectives.

(1) *Basis.* The choice of a management unit depends on the focus of the FMP's objectives, and may be organized around biological, geographic, economic,

technical, social, or ecological perspectives. For example:

(i) *Biological*—could be based on a stock(s) throughout its range.

(ii) *Geographic*—could be an area.

(iii) *Economic*—could be based on a fishery supplying specific product forms.

(iv) *Technical*—could be based on a fishery utilizing a specific gear type or similar fishing practices.

(v) *Social*—could be based on fishermen as the unifying element, such as when the fishermen pursue different species in a regular pattern throughout the year.

(vi) *Ecological*—could be based on species that are associated in the ecosystem or are dependent on a particular habitat.

(2) *Conservation and management measures.* FMPs should include conservation and management measures for that part of the management unit within U.S. waters, although the Secretary can ordinarily implement them only within the FCZ. The measures need not be identical for each geographic area within the management units, if the FMP justifies the differences. A management unit may contain, in addition to regulated species, stocks of fish for which there is not enough information available to specify MSY and OY or to establish management measures, so that data on these species may be collected under the FMP.

(e) *Analysis.* To document that an FMP is as comprehensive as practicable, it should include discussions of the following:

(1) The range and distribution of the stocks, as well as the patterns of fishing effort and harvest.

(2) Alternative management units and reasons for selecting a particular one. A less-than-comprehensive management unit may be justified if, for example, complementary management exists or is planned for a separate geographic area or for a distinct use of the stocks, or if the unmanaged portion of the resource is immaterial to proper management.

(3) Management activities and habitat programs of adjacent States and their effects on the FMP's objectives and management measures. Where State action is necessary to implement measures within territorial and internal waters to achieve FMP objectives, the FMP should identify what State action is necessary, discuss the consequences of State inaction or contrary action, and make appropriate recommendations. The FMP should also discuss the impact that Federal regulations will have on State management activities.

(4) Management activities of other countries having an impact on the fishery, and how the FMP's management

measures are designed to take into account these impacts. International boundaries may be dealt with in several ways.

For example:

(i) By limiting the management unit's scope to that portion of the stock found in U.S. waters;

(ii) By estimating MSY for the entire stock and then basing the determination of OY for the U.S. fishery on the portion of the stock within U.S. waters; or

(iii) By referring to treaties or cooperative agreements.

§ 602.14 National Standard 4—Allocations.

(a) *Standard 4.* Conservation and management measures shall not discriminate between residents of different States. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (1) fair and equitable to all such fishermen; (2) reasonably calculated to promote conservation; and (3) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

(b) *Discrimination among residents of different States.* An FMP may not differentiate among U.S. citizens, nationals, resident aliens, or corporations on the basis of their State of residence. An FMP may not incorporate or rely on a State statute or regulation that discriminates against residents of another State. Conservation and management measures that have different effects on persons in various geographic locations are permissible, if they satisfy the other guidelines under standard 4. Examples are:

(1) An FMP that restricted fishing in the FCZ to those holding a permit from State X would violate standard 4 if State X issued permits only to its own citizens.

(2) An FMP that closed a spawning ground might disadvantage fishermen living in the State closest to it, because they would have to travel farther to an open area, but the closure could be justified under standard 4 as a conservation measure with no discriminatory intent.

(c) *Allocation of fishing privileges.* An FMP may contain management measures that allocate fishing privileges if such measures are necessary or helpful in furthering legitimate objectives or in achieving the OY, and if the measures conform with paragraph (c)(3)(i) through (iii) of this section.

(1) *Definition.* An "allocation" or "assignment" of fishing privileges is a direct and deliberate distribution of the opportunity to participate in a fishery

among identifiable, discrete user groups or individuals. Any management measure (or lack of management) has incidental allocative effects, but only those measures that result in direct distributions of fishing privileges will be judged against the allocation requirements of standard 4. Adoption of an FMP that merely perpetuates existing fishing practices may result in an allocation, if those practices directly distribute the opportunity to participate in the fishery. Allocations of fishing privileges include, for example, per-vessel catch limits, quotas by vessel class and gear type, different quotas or fishing seasons for recreational and commercial fishermen, assignment of ocean areas to different gear users, and limitation of permits to a certain number of vessels or fishermen.

(2) *Analysis of allocations.* Each FMP must contain a description and analysis of the allocations existing in the fishery and of those made in the FMP. The effects of eliminating an existing allocation system should be examined. Allocation schemes considered but rejected by the Council should be included in the discussion. The analysis should relate the recommended allocations to the FMP's objectives and OY specification, and discuss the factors listed in paragraph (c)(3) of this section.

(3) *Factors in making allocations.* An allocation of fishing privileges must be fair and equitable, must be reasonably calculated to promote conservation, and must avoid excessive shares. These tests are explained in paragraphs (c)(3)(i) through (iii) of this section:

(i) *Fairness and equity.* (A) An allocation of fishing privileges must be rationally connected with the achievement or OY or with the furtherance of a legitimate FMP objective. Inherent in an allocation is the advantaging of one group to the detriment of another. The motive for making a particular allocation must be justified in terms of the objectives of the FMP; otherwise, the disadvantaged user groups or individuals would suffer without cause. For instance, an FMP objective to preserve the economic status quo cannot be achieved by excluding a group of long-time participants in the fishery. On the other hand, there is a rational connection between an objective of harvesting shrimp at their maximum size and closing a nursery area to trawling.

(B) An allocation of fishing privileges may impose a hardship on one group if it is outweighed by the total benefits received by another group or groups. An allocation need not preserve the status quo in the fishery to qualify as "fair and equitable," if a restructuring of fishing

privileges would maximize overall benefits. The Council should make an initial estimate of the relative benefits and hardships imposed by the allocation, and compare its consequences with those of alternative allocation schemes, including the status quo. Where relevant, judicial guidance and government policy concerning the rights of treaty Indians and aboriginal Americans must be considered in determining whether an allocation is fair and equitable.

(ii) *Promotion of conservation.* An allocation of fishing privileges is considered a "conservation and management measure" under section 303(b) of the Act. An allocation scheme may promote conservation by encouraging a rational, more easily managed use of the resource. Or it may promote conservation (in the sense of wise use) by optimizing the yield, in terms of size, value, market mix, price, or economic or social benefit of the product.

(iii) *Avoidance of excessive shares.* An allocation scheme must be designed to deter any person or other entity from acquiring an excessive share of fishing privileges and to avoid creating conditions under which a single buyer or seller will be able to acquire a markedly disproportionate control of the fishery.

(iv) *Other factors.* In designing an allocation scheme, a Council should consider other factors relevant to the FMP's objectives. Examples are economic and social consequences of the scheme, food production, consumer interests, dependence on the fishery by present participants and coastal communities, efficiency of various types of gear used in the fishery, transferability of effort to and impact on other fisheries, opportunity for new participants to enter the fishery, and enhancement of opportunities for recreational fishing.

§ 602.15 National Standard 5—Efficiency.

(a) *Standard 5.* Conservation 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.

(b) *Efficiency in the utilization of resources.*—(1) *General.* The term "utilization" encompasses harvesting, processing, and marketing, since management decisions affect all three sectors of the industry. The goal of promoting efficient utilization of fishery resources may conflict with other legitimate social or biological objectives of fishery management. In encouraging efficient utilization of fishery resources, this standard highlights one way that a

fishery can contribute to the Nation's benefit with the least cost to society: given a set of objectives for the fishery, an FMP should contain management measures that result in as efficient a fishery as is practicable.

(2) *Efficiency.* In theory, an efficient fishery would harvest the OY with the minimum use of economic inputs such as labor, capital, interest, and fuel. Efficiency in terms of aggregate costs then becomes a conservation objective, where "conservation" constitutes wise use of all resources involved in the fishery, not just fish stocks.

(i) In an FMP, management measures may be proposed that allocate fish among different groups of individuals or establish a system of property rights. Alternative measures examined in searching for an efficient outcome will result in different distributions of gains and burdens among identifiable user groups. An FMP should demonstrate that management measures aimed at efficiency do not simply redistribute gains and burdens without an increase in efficiency.

(ii) Management regimes that allow a fishery to operate at the lowest possible cost (e.g., fishing effort, administration, and enforcement) for a particular level of catch and initial stock size are considered efficient. Restrictive measures that unnecessarily raise any of those costs move the regime toward inefficiency. Unless the use of inefficient techniques or the creation of redundant fishing capacity contributes to the attainment of other social or biological objectives, an FMP may not contain management measures that impede the use of cost-effective techniques of harvesting, processing, or marketing, and should avoid creating strong incentives for excessive investment in private sector fishing capital and labor.

(c) *Limited access.* A "system for limiting access," which is an optional measure under section 303(b) of the Act, is a type of allocation of fishing privileges that may be used to promote economic efficiency. For example, limited access may be used to combat overfishing, overcrowding, or overcapitalization in a fishery to achieve OY. In an unutilized or underutilized fishery, it may be used to reduce the chance that these conditions will adversely affect the fishery in the future, or to provide adequate economic return to pioneers in a new fishery.

(1) *Definition.* Limited access (or limited entry) is a management technique that attempts to limit units of effort in a fishery, usually for the purpose of reducing economic waste, improving net economic return to the

fishermen, or capturing economic rent for the benefit of the taxpayer or the consumer. Common forms of limited access are licensing of vessels, gear, or fishermen to reduce the number of units of effort, and dividing the total allowable catch into fishermen's quotas (a stock-certificate system). Two forms (e.g., taxation, Federal sale of licenses) are not permitted under the Act.

(2) *Factors to consider.* The Act ties the use of limited access to the achievement of optimum yield. An FMP that proposes a limited access system must consider the factors listed in section 303(b)(6) of the Act in § 602.14(c)(3) of these guidelines. In addition, it should consider the criteria for qualifying for a permit, the nature of the interest created, whether to make the permit transferable, and the Act's limitation on returning economic rent to the public under section 304(d)(1). The FMP should also discuss the costs of achieving an appropriate distribution of fishing privileges.

(d) *Analysis.* An FMP should discuss the extent to which overcapitalization, congestion, economic waste, and inefficient techniques in the fishery reduce the net benefits derived from the management unit and prevent the attainment and appropriate allocation of OY. It should also explain in terms of the FMP's objectives any restriction placed on the use of efficient techniques of harvesting, processing, or marketing. If during FMP development the Council considered imposing a limited-entry system, the FMP should analyze the Council's decision to recommend or reject limited access as a technique to achieve efficient utilization of the resources of the fishing industry.

(e) *Economic allocation.* This standard prohibits only those measures that distribute fishery resources among U.S. fishermen on the basis of economic factors alone, and that have economic allocation as their only purpose. Where conservation and management measures are recommended that would change the economic structure of the industry or the economic conditions under which the industry operates, the need for such measures must be justified in light of the biological, ecological, and social objectives of the FMP as well as the economic objectives.

§ 602.16 National Standard 6—Variations and Contingencies.

(a) *Standard 6.* Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.

(b) *Conservation and management.* Each fishery exhibits unique

uncertainties. The phrase "conservation and management" implies the wise use of fishery resources through a management regime that includes some protection against these uncertainties. The particular regime chosen must be flexible enough to allow timely responses to resource, industry, and other national and regional needs. Continual data acquisition and analysis will help the development of management measures to compensate for variations and to reduce the need for substantial buffers. Flexibility in the management regime and the regulatory process will aid in responding to contingencies.

(c) *Variations.* (1) In fishery management terms, variations arise from biological, social, and economic occurrences, as well as from fishing practices. Biological uncertainties and lack of knowledge can hamper attempts to estimate stock size and strength, stock location in time and space, environmental/habitat changes, and ecological interactions. Economic uncertainty may involve changes in foreign or domestic market conditions, changes in operating costs, drifts toward overcapitalization, and economic perturbations caused by changed fishing patterns. Changes in fishing practices, such as the introduction of new gear, rapid increases or decreases in harvest effort, new fishing strategies, and the effects of new management techniques, may also create uncertainties. Social changes could involve increases or decreases in recreational fishing, or the movement of people into or out of fishing activities due to such factors as age or educational opportunities.

(2) Every effort should be made to develop FMPs that discuss and take into account these vicissitudes. To the extent practicable, FMPs should provide a suitable buffer in favor of conservation. Allowances for uncertainties may be factored into the various elements of an FMP. Examples are:

(i) Reduce OY. Lack of scientific knowledge about the condition of a stock(s) could be a reason to reduce OY.

(ii) Establish a reserve. Creation of a reserve may compensate for uncertainties in estimating domestic harvest, stock conditions, or environmental factors.

(iii) Adjust management techniques. In the absence of adequate data to predict the effects of a new regime, and to avoid creating unwanted variations, a Council could guard against producing drastic changes in fishing patterns, allocations, or practices.

(iv) Highlight habitat conditions. FMPs may address the impact of pollution and the effects of wetland and estuarine

degradation on the stocks of fish; identify causes of pollution and habitat degradation and the authorities having jurisdiction to regulate or influence such activities; propose recommendations that the Secretary will convey to those authorities to alleviate such problems; and state the views of the Council on unresolved or anticipated issues.

(d) *Contingencies.* Unpredictable events—such as unexpected resources surges or failures, fishing effort greater than anticipated, disruptive gear conflicts, climatic conditions, or environmental catastrophes—are best handled by establishing a flexible management regime that contains a range of management options through which it is possible to act quickly without amending the FMP or even its regulations.

(1) FMPs should include criteria for the selection of management measures, directions for their application, and mechanisms for timely adjustment of management measures comprising the regime. For example, an FMP could include criteria that allow the Secretary to open and close seasons, close fishing grounds, or make other adjustments in management measures.

(2) Amendment of a flexible FMP would be necessary when circumstances in the fishery change substantially, or when a Council adopts a different management philosophy and objectives.

§ 602.17 National Standard 7—Costs and Benefits.

(a) *Standard 7.* Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

(b) *Necessity of Federal management.*—(1) *General.* The principle that not every fishery needs regulation is implicit in this standard. The Act does not require Councils to prepare FMPs for each and every fishery—only for those where regulation would serve some useful purpose and where the present or future benefits of regulation would justify the costs. For example, the need to collect data about a fishery is not, by itself, adequate justification for preparation of an FMP, since there are less costly ways to gather the data (see Section 602.13(d)(2)). In some cases, the FMP preparation process itself, even if it does not culminate in a document approved by the Secretary, can be useful in supplying a basis for management by one or more coastal States.

(2) *Criteria.* In deciding whether a fishery needs management through regulations implementing an FMP, the

following general factors should be considered, among others:

(i) The importance of the fishery to the Nation and to the regional economy.

(ii) The condition of the stock or stocks of fish and whether an FMP can improve or maintain that condition.

(iii) The extent to which the fishery could be or is already adequately managed by States, by State/Federal programs, by Federal regulations pursuant to PMPs or international commissions, or by industry self-regulation, consistent with the policies and standards of the Act.

(iv) The need to resolve competing interests and conflicts among user groups and whether an FMP can further that resolution.

(v) The economic condition of a fishery and whether an FMP can produce more efficient utilization.

(vi) The needs of a developing fishery, and whether an FMP can foster orderly growth.

(vii) The costs associated with an FMP, balanced against the benefits (see paragraph (d) of this section as a guide).

(c) *Alternative management measures.* Management measures should not impose unnecessary burdens on the economy on individuals, on private or public organizations, or on

Federal, State, or local governments. Factors such as fuel costs, enforcement costs, or the burdens of collecting data may well suggest a preferred alternative.

(d) *Analysis.* The supporting analyses for FMPs should demonstrate that the benefits of fishery regulation are real and substantial relative to the added research, administrative, and enforcement costs, as well as costs to the industry of compliance. In determining the benefits and costs of management measures, each management strategy considered and its impacts on different user groups in the fishery should be evaluated. This requirement need not produce an elaborate, formalistic cost-benefit analysis. Rather, an evaluation of effects and costs, especially of differences among workable alternatives including the status quo, is adequate. If quantitative estimates are not possible, qualitative estimates will suffice.

(1) *Burdens.* Management measures should be designed to give fishermen the greatest possible freedom of action in conducting business and pursuing recreational opportunities that are consistent with ensuring wise use of the resource and reducing conflict in the fishery. The type and level of burden placed on user groups by the regulations

need to be identified. Such an examination should include, for example: capital outlays; operating and maintenance costs; reporting costs; administrative, enforcement, and information costs; and prices to consumers. Management measures may shift costs from one level of government to another, from one part of the private sector to another, or from the government to the private sector. Redistribution of costs through regulations is likely to generate controversy. A discussion of these and any other burdens placed on the public through FMP regulations should be a part of the FMP's supporting analyses.

(2) *Gains.* The relative distribution of gains may change as a result of instituting different sets of alternatives, as may the specific type of gain. The analysis of benefits should focus on the specific gains produced by each alternative set of management measures, including the status quo. The benefits to society that result from the alternative management measures should be identified, and the level of gain assessed.

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