

### **4.3 Overview of Fishery Management Plan Components and Qualitative Analysis Papers**

As introduced in Section 4.1, each of the 11 FMP components in the analytical framework is analyzed in relative isolation of other components. The analysis is intended to provide insight into the range of management tools and measures that can be used to address individual or multiple policy objectives, as well as to address the specific management measures that are included in the example FMPs. Each FMP component paper presents an illustration of how the measures could work and what the environmental consequences would be, based on a review of the scientific literature and past management experience in Alaska and elsewhere. These qualitative analysis papers serve to describe the historical use of the component and provide details on the impacts of the measures themselves. Because each FMP component is analyzed in isolation of the others, however, the papers by themselves do not predict impacts at the alternative level, as they do not take into account the accumulated changes (for example, Steller sea lion protection measures are applied in combination with the creation of MPAs or the reduction in catch limits). The alternatives as a whole are analyzed later in this chapter.

This section contains the abstracts of the 11 qualitative analysis papers prepared for each of the FMP components in the analytical framework. The full text of the papers can be found in Appendix F.

#### **4.3.1 The Total Allowable Catch-Setting Process**

The different policy alternatives bear numerous implications for the annual process of setting TAC for the groundfish fisheries. The qualitative analysis paper examines how various constraints on harvest compare between the alternatives. Five aspects of the TAC-setting process are reviewed: 1) the structure and composition of groundfish management categories such as target fish; 2) the setting of OFLs and ABC; 3) the setting of OY and TAC; 4) the MSST required by the National Standards Guidelines for implementing National Standard 1 of the MSA, but which is not currently operative for certain groundfish fisheries in the BSAI and GOA; and 5) the ecosystem implications of the TAC-setting process. Under Alternative 1, existing constraints would be retained in their present configuration. The more aggressive harvest strategies proposed under Alternative 2 could lead to the relaxing of certain constraints. Conversely, the increasingly precautionary and risk-averse policies of Alternatives 3 and 4 would lead to a tightening of those constraints. For further detail on this FMP component and its likely environmental consequences, see Appendix F-1.

#### **4.3.2 Spatial/Temporal Management of Total Allowable Catch**

The times at which the groundfish fisheries may be open to allow fishing, and the areas that may be fished provide crucial variables for fisheries managers, who allocate the TACs by spatial/temporal determinations appropriate to various biological, environmental, and economic concerns. This qualitative analysis paper provides a broad overview of the current rationale for spatial/temporal management of the target fish TACs and examines how the measures identified in the alternatives and their FMP bookends would impact the spatial/temporal management of the target groundfish TACs. Potential changes would occur under Alternatives 3 and 4, where measures would be taken to manage all species on smaller spatial/temporal scales. For further detail on this FMP component and its likely environmental consequences, see Appendix F-2.

### **4.3.3 Marine Protected Areas and Essential Fish Habitat**

Protection of marine habitats is an integral component of the groundfish FMPs for the BSAI and GOA. This qualitative analysis paper provides a review of proposed closure areas under the four policy alternatives and their direct/indirect effects on EFH and other aspects of the biological, physical, social, and economic environments. Beyond the continuation of the present risk-averse policy under Alternative 1, the more aggressive harvest policy of Alternative 2 assumes that present policy is overly conservative and may allow the opening of certain areas presently closed with the exception of Steller Sea Lion Protection Measures. Alternatives 3 and 4 represent increasingly risk-averse policies that would increase habitat protections and reduce fisheries impacts on habitat. For further detail on this FMP component and its likely environmental consequences, see Appendix F-3.

### **4.3.4 Steller Sea Lion Measures**

Protection of Steller sea lions from potentially adverse impacts by the BSAI and GOA groundfish fisheries has been a component of the FMPs since 1990, when Steller sea lions were listed under the ESA. After a review of background information available on the decline of Steller sea lions and hypotheses for the decline, this qualitative analysis paper describes the current protection measures in place and evaluates the qualitative impacts of the four alternatives, as represented by their respective FMP bookends, on Steller sea lions. The present Steller sea lion protection measures, described in Alternative 1, are also included in the policies of Alternatives 2 and 3. Alternative 2, however, proposes a less precautionary approach that views additional regulatory safeguards as unwarranted. Alternative 3 assumes a greater impact on a number of environmental factors and consequently places more emphasis on research and on improving monitoring and enforcement of fishing restrictions within Steller sea lion critical habitat. Alternative 4 substantially increases protections for Steller sea lions by providing for a more conservative, risk-averse approach than the first three alternatives. Under Alternative 4, uncertainty about impacts and the shifting of the burden of proof would lead to significant reductions in current TACs and the establishment of larger buffer zones to further separate the groundfish fisheries from Steller sea lion critical habitat. The NPFMC could choose to suspend all fishing entirely until each fishery could be reviewed and certified as resulting in no significant adverse impacts. Certified fisheries would be subjected to more scrupulous monitoring and enforcement to ensure compliance with restrictions. A key component of all four alternatives is the requirement to remain in compliance with the ESA, and any changes that substantially alter the underlying requirements would require further Section 7 consultations under ESA. For further detail on this FMP component or its likely environmental consequences, see Appendix F-4.

### **4.3.5 Bycatch and Incidental Catch Restrictions**

Bycatch is defined in the MSA as fish that are harvested in a fishery, but which are not sold or kept for personal use. This includes the portion of catch that is discarded back into the sea, and unobserved mortality due to a direct encounter with fishing gear that does not result in the capture of that species by a fisherman. The latter includes mortality due to lost or discarded fishing gear, as well as dropoff and escapement mortality. Discards include species that must be returned to the sea by law (known as regulatory discards), and fish that are discarded at the discretion of the fisherman because they are not worth keeping (known as economic discards). This qualitative analysis paper provides a broad overview of the different bycatch species and the four proposed policy alternatives as they pertain to the regulation of bycatch in the groundfish fisheries of the BSAI and GOA. Beyond the status quo policy of Alternative 1, the more aggressive harvest

strategies of Alternative 2 could remove some of the current protections for some bycatch species. Conversely, added protections under Alternatives 3 and 4 would increase protection for at-risk bycatch species. The more restrictive bycatch limitations proposed under Alternatives 3 and 4 could place greater economic burdens on the groundfish industry. The rationalization and bycatch reduction incentive programs included in FMP 3.2 would tend to decrease the cost and increase the benefit of reducing bycatch for individual fishing operations. This would make further reductions in bycatch practicable, address the source of the problem of excess bycatch, and decrease the need for less efficient command and control solutions to the bycatch problems. For further detail on this FMP component and its likely environmental consequences, see Appendix F-5.

#### **4.3.6 Seabird Measures**

More than 70 species of seabirds occur over waters off Alaska and could potentially be affected by direct and indirect interactions with the federal groundfish fisheries off Alaska. This qualitative analysis paper compares the four policy alternatives and their respective FMP bookends specifically in regard to those management measures designed to protect seabirds. The four alternatives cover a wide range of possibilities for the evolution of seabird protection measures. Alternative 2 would require the minimum protection necessary to comply with the ESA concerning listed seabird species. Alternative 3 would place more emphasis on reducing incidental takes of all species of seabirds by improving seabird deterrent devices and avoidance techniques. Alternative 3 would also expand the Observer Program to improve the quality and amount of data collected on seabirds. Alternative 4 would seek to reduce incidental seabird take to levels approaching zero, in large part through the reduction in fishing effort until respective fisheries can be certified as having no adverse environmental impact. For further detail on this FMP component and its likely environmental consequences, see Appendix F-6.

#### **4.3.7 Gear Restrictions and Allocations**

Allocation of fishing privileges among users of different gear types is an important tool for managing the groundfish fisheries to achieve a number of biological and socioeconomic objectives. This qualitative analysis paper discusses current and proposed gear restrictions and allocations in the BSAI and GOA groundfish fisheries. The paper begins by identifying various types of management tools used to address allocation issues or implement allocation decisions, focusing particularly on gear restrictions. The paper then describes recent trends in the application of such allocation measures in the Alaska groundfish fisheries and concludes with a qualitative comparison of the impacts of the alternatives on gear restrictions. Alternative 1 would maintain current gear restrictions and allocations in the Alaska groundfish fisheries, as would FMP bookends 2.2 under Alternative 2 and 3.1 under Alternative 3. Example FMP 2.1, however, would eliminate all trawl and fixed gear restrictions, as well as trawl closure areas, with the exception of those closures implemented to protect Steller sea lions. The remaining, increasingly restrictive FMP bookends (example FMPs 3.2, 4.1, and 4.2) place greater prohibitions on the use of non-pelagic bottom trawl gear to harvest pollock in the GOA (example FMP 3.2); prohibit trawling in all fisheries that can be prosecuted with other gear types (example FMP 4.1); and prohibit all fishing for groundfish in the EEZ off Alaska (example FMP 4.2). For further detail on this FMP component and its likely environmental consequences, see Appendix F-7.

#### **4.3.8 Overcapacity**

Fishing capacity is the ability of a vessel or fleet of vessels to catch fish. Overcapacity occurs in an open access or regulated open access fishery where the race for fish induces fishermen to put increasingly more time, money, and effort into competing with other fishermen to maintain their share of the TAC. This qualitative analysis paper provides a discussion of various management systems for limiting effort and reducing excess capacity under the four policy alternatives. Alternative 1 would retain present effort limitation programs, such as the sablefish IFQ Program. Under the more aggressive harvest strategies of Alternative 2, such programs would be repealed with the exception of effort limitation measures under the AFA. The increasingly risk-averse policies represented by Alternatives 3 and 4 would either maintain or augment existing effort limitations programs. The paper speculates, however, that the extremely risk-averse policy of example FMP 4.2 would lead to extreme conditions of overcapacity. For further detail on this FMP component and its likely environmental consequences, see Appendix F-8.

#### **4.3.9 Alaska Native Issues**

Marine resources have always been an important part of the lives of Alaska Natives, both as subsistence resources and as integral parts of their different cultures. Consequently, changes in fisheries management policy proposed under the alternatives would have socioeconomic impacts on Alaska Natives. This qualitative analysis paper offers an analysis of those potential impacts, as well as the impacts that Alaska Natives themselves may have on management of the fisheries. Alaska Natives contribute to management through representation on the NPFMC and its Advisory Panel, through input into the decision-making process, and through the integration of local and Traditional Knowledge into scientific understanding of the resources and their environment. After reviewing issues of representation and input implicated by the alternatives, this paper proceeds to review impacts the alternatives may have on subsistence issues and concomitant concerns in regard to Environmental Justice for Alaska Natives. Measures contained in the FMP bookends for Alternatives 2 and 4 that would restrict or repeal the CDQ program or proscribe subsistence fishing would result in significant adverse impacts on the Native communities that rely on such fisheries. For further detail on this FMP component and its likely environmental consequences, see Appendix F-9.

#### **4.3.10 The Observer Program**

The North Pacific Groundfish Observer Program collects, maintains, and distributes data for the fisheries scientists and managers who must rely on such data to fulfill their responsibilities under the MSA. This qualitative analysis paper provides a description of the administration and operations of the Observer Program in detail and a qualitative discussion of the need for and impact on observer coverage under each of the four policy alternatives. The most drastic impacts would occur under Alternative 2. Example FMP 2.2 would leave the Observer Program essentially the same as at present, and example FMP 2.1 would virtually eliminate the Observer Program and its data collection activities. With the exception of AFA and CDQ pollock and crab fisheries, all other fisheries would cease to be monitored by observers, and the amount of data available for inseason management, as well as for scientific investigation, would be drastically reduced. Under the increasingly risk-averse policies of Alternatives 3 and 4, the Observer Program would either remain basically the same as at present (example FMP 3.1) or be modified to allow for increased observer coverage and data-collection (example FMPs 3.2, 4.1, and 4.2). For further detail on this FMP component and its likely environmental consequences, see Appendix F-10.

#### **4.3.11 Data and Reporting Requirements**

The MSA states that the collection of reliable data is essential to the effective conservation, management, and scientific understanding of the fishery resources of the United States. This qualitative analysis paper examines the effects of alternative approaches to data collection in the Alaska groundfish fisheries, focusing on the information collected from industry reporting requirements and VMS requirements for the groundfish fisheries. Alternative 1 and example FMP 2.2 would retain current reporting requirements. Example FMP 2.1 would eliminate measures requiring use of VMS and at-sea weighing of catch, except by catcher processors operating under the AFA. At present, the economic data collected on a routine basis are insufficient for a comprehensive regulatory analysis, and Alternatives 3 and 4 would create measures for the collection of economic data sufficient to give fishery managers a better understanding of socioeconomic issues. Alternatives 3 and 4 would also retain, expand, and improve upon existing reporting requirements. Example FMP 4.2, while it would effectively eliminate the need for reporting requirements, would create fishery-specific data-collection measures for those fisheries authorized to occur. For further detail on this FMP component and its likely environmental consequences, see Appendix F-11.

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