

EXCERPT FROM THE PACIFIC COAST SALMON PLAN

**3.2 OVERFISHING CRITERIA**

*“Any fishery management plan . . . shall . . . specify objective and measurable criteria for identifying when the fishery . . . is overfished . . . and, . . . contain conservation and management measures to prevent overfishing or end overfishing and rebuild the fishery;”*  
*Magnuson-Stevens Act, § 303(a)(10)*

*“The terms overfishing and overfished mean a rate or level of fishing mortality that jeopardizes the capacity of a fishery to produce the maximum sustainable yield on a continuing basis.”*

*Magnuson-Stevens Act, § 3(29)*

In applying the Magnuson-Stevens Act definition of overfishing to salmon fisheries and establishing criteria by which to identify it, the Council must consider the uncertainty and theoretical aspects of MSY as well as the complexity and variability unique to naturally producing salmon populations. These unique aspects include the interaction of a short-lived species with frequent, sometimes protracted, and often major variations in both the freshwater and marine environments. These variations may act in unison or in opposition to affect salmon productivity in both positive and negative ways. In addition, variations in natural populations may sometimes be difficult to measure due to masking by artificially produced salmon.

**3.2.1 General Application to Salmon Fisheries**

In setting criteria from which to judge the conservation status of salmon stocks, the unique life history of salmon must be considered. Chinook, coho, and pink salmon are short-lived species (generally two to six years) that reproduce only once shortly before dying. Spawning escapements of coho and pink salmon are dominated by a single-year class and chinook spawning escapements may be dominated by no more than one or two-year classes. The abundance of year classes can fluctuate dramatically with combinations of natural and human-caused environmental variation. Therefore, it is not unusual for a healthy and relatively abundant salmon stock to produce occasional spawning escapements which, even with little or no fishing impacts, may be significantly below the long-term average associated with the production of MSY. This phenomenon has been observed in recent years for numerous salmon stocks, including Klamath River fall chinook and several Washington coho stocks.

Numerous West Coast salmon stocks have suffered, and continue to suffer, from an onslaught of nonfishing activities that severely reduce natural survival by such actions as the elimination or degradation of freshwater spawning and rearing habitat. The consequence of this man-caused, habitat-based variation is two fold. First, these habitat changes increase large scale variations in stock productivity and associated stock abundances, which in turn complicate the overall determination of MSY and the specific assessment of whether a stock is producing at or below that level. Secondly, as the productivity of the freshwater habitat is diminished, the benefit of

further reductions in fishing mortality to improve stock abundance decreases. Clearly, the failure of several stocks managed under this FMP to produce at an historic or consistent MSY level has little to do with current fishing impacts and often cannot be rectified with the cessation of all fishing.

To address the requirements of the Magnuson-Stevens Act to clearly identify when a stock may be approaching an overfished condition or is overfished, the Council has established two separate criteria based on a stock's failure to meet its conservation objective. These criteria are denoted as a "conservation alert" and an "overfishing concern". The criteria for these two categories are based on the unique life history of salmon and the large variations in annual stock abundance due to numerous environmental variables. They also take into account the uncertainty and imprecision surrounding many estimates of MSY, fishery impacts, and spawner escapements. In recognition of the unique salmon life history, the criteria differ somewhat from the general guidance in the National Standard Guidelines (§ 600.310), but equal or exceed them in addressing the overfishing issue as it relates to salmon.

### **3.2.2 Conservation Alert**

*"A fishery shall be classified as approaching a condition of being overfished if, based on trends in fishing effort, fishery resource size, and other appropriate factors, the Secretary estimates that the fishery will become overfished within two years."*

*Magnuson-Stevens Act, § 304(e)(1)*

To anticipate and react to potential stock declines which might lead to overfishing, the Council has established a conservation alert process with criteria and actions as described below.

#### **3.2.2.1 Criteria**

A conservation alert is triggered during the annual preseason process (Chapter 9) if a natural stock or stock complex, listed in Table 3-1, is projected to fall short of its conservation objective (MSY, MSY proxy, MSP, or floor in the case of some harvest rate objectives [e.g., 35,000 natural Klamath River fall chinook spawners]). While a projected one-year shortfall may be of little biological concern, it may also represent the beginning of production problems and is worthy of note to help prevent future stock decline.

#### **3.2.2.2 Council Action**

For all natural stocks which meet the conservation alert criteria, the Council will notify pertinent fishery and habitat managers, advising that the stock may be temporarily depressed or approaching an overfishing concern (depending on its recent conservation status), and request that state and tribal fishery managers identify the probable causes, if known. If the stock in question has not met its conservation objective in the previous two years, the Council will request the pertinent state and tribal managers to do a formal assessment of the primary factors leading to the shortfalls and report their conclusions and recommendations to the Council no later than the March meeting prior to the next salmon season.

The Council will take the following actions for stocks which trigger a conservation alert that do not qualify as exceptions under Section 3.2.4 (see Table 3-1):

1. Close salmon fisheries within Council jurisdiction that impact the stock.
2. In the case of Washington coastal and Puget Sound salmon stocks and fisheries managed under U.S. District Court orders, the Council may allow fisheries which meet annual spawner targets developed through relevant U.S. v. Washington, Hoh v. Baldrige, and subsequent U.S. District Court ordered processes and plans, which may vary from the MSY or MSP conservation objectives. Other than the exceptions noted above, the Council may not recommend ocean salmon fisheries which are expected to trigger a conservation alert.

If postseason estimates confirm that a stock conservation objective is not met, a rebuilding program for the following year is implicit in the conservation objective since it is based on annually meeting MSY or MSP. In addition, the Council reviews stock status annually and, where needed, identifies actions required to improve estimation procedures and correct biases. Such improvements provide greater assurance that objectives will be achieved in future seasons. Consequently, a remedial response is built into the preseason planning process to address excessive fishing mortality levels relative to the conservation objective of a stock.

The Council does not believe that a one year departure from the MSY/MSP spawner objective for salmon affects the capacity of a stock to produce MSY over the long-term (i.e., does not constitute overfishing as defined by the Magnuson-Stevens Act). However, the Council's use of a conservation alert and the rebuilding effect of the conservation objectives provides for sound resource management and responds to the concept in the National Standard Guidelines for action to address overfishing concerns in any one year. The Council's conservation objectives which are used to trigger a conservation alert are generally based on MSY or MSP rather than a minimum stock size threshold. In this respect, the Council's management approach is more conservative than recommended by the National Standard Guidelines.

### **3.2.3 Overfishing Concern**

*“For a fishery that is overfished, any fishery management plan, amendment, or proposed regulations . . . for such fishery shall—(A) specify a time period for ending overfishing and rebuilding the fishery that shall—(i) be as short as possible, taking into account the status and biology of any overfished stocks of fish, the needs of the fishing communities, recommendations by international organizations in which the United States participates, and the interaction of the overfished stock within the marine ecosystem; and (ii) not exceed 10 years, except in cases where the biology of the stock of fish, other environmental conditions, or management measures under an international agreement in which the United States participates dictate otherwise. . . .”*

*Magnuson-Stevens Act, § 304(e)(4)*

The Magnuson-Stevens Act requires overfishing be ended and stocks rebuilt in as short a period as possible and, depending on other factors, no longer than ten years. For healthy salmon stocks which may experience a sudden reduction in production and/or spawner escapement, the limitation on fishing impacts provided by the Council's MSY or MSY proxy conservation objectives provide a stock rebuilding plan that should be effective within a single salmon

generation (two years for pinks, three years for coho, and three to five years for chinook). However, additional actions may be necessary to prevent overfishing of stocks suffering from chronic depression due to fishery impacts outside Council authority, or from habitat degradation or long-term environmental fluctuations. Such stocks may meet the criteria invoking the Council's overfishing concern.

### **3.2.3.1 Criteria**

The Council's criteria for an overfishing concern are met if, in three consecutive years, the postseason estimates indicate a natural stock has fallen short of its conservation objective (MSY, MSP, or spawner floor as noted for some harvest rate objectives) in Table 3-1. It is possible that this situation could represent normal variation, as has been seen in the past for several previously referenced salmon stocks which were reviewed under the Council's former overfishing definition. However, the occurrence of three consecutive years of reduced stock size or spawner escapements, depending on the magnitude of the short-fall, could signal the beginning of a critical downward trend (e.g., Oregon coastal coho) which may result in fishing that jeopardizes the capacity of the stock to produce MSY over the long term if appropriate actions are not taken to ensure the automatic rebuilding feature of the conservation objectives is achieved.

### **3.2.4 Exceptions**

*“Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.”*

*Magnuson-Stevens Act, National Standard 6*

This plan contains three exceptions to the application of overfishing criteria and subsequent Council actions for stocks or stock complexes with conservation objectives in Table 3-1: (1) hatchery stocks, (2) stocks for which Council management actions have inconsequential impacts, and (3) stocks listed under the ESA.

#### **3.2.4.2 Natural Stocks with Minimal Harvest Impacts in Council-Managed Fisheries**

Several natural stock components identified within this FMP are subject to minimal harvest impacts in Council fisheries because of migration timing and/or distribution. As a result, the Council's ability to affect the overall trend in the abundance of these components through harvest restrictions is virtually nil. Components in this category are identified by a cumulative adult equivalent exploitation rate of less than five percent in ocean fisheries under Council jurisdiction during base periods utilized by the fishery regulation assessment models (1979-1982 for chinook and 1979-1981 for coho). Council action for these components, when a conservation alert or an overfishing concern are triggered, will consist of confirming negligible impacts of proposed Council fisheries, identifying factors which have led to the decline or low abundance (e.g., fishery impacts outside Council jurisdiction, or degradation or loss of essential fish habitat), and monitoring of abundance trends and total harvest impact levels. Council action will focus on advocating measures to improve stock productivity, such as reduced interceptions in non-Council-managed fisheries, and improvements in spawning and rearing habitat, fish passage, flows, and other factors affecting overall stock survival.