

4 HABITAT AND PRODUCTION

Any fishery management plan . . . shall . . . protect, restore, and promote the long-term health and stability of the fishery.

Magnuson-Stevens Act, §302(a)(1)

The Council will be guided by the principle that there should be no net loss of the productive capacity of marine estuarine and freshwater habitats which sustain commercial, recreational, and tribal salmon fisheries beneficial to the nation. Within this policy, the Council will assume an aggressive role in the protection and enhancement of anadromous fish habitat, especially essential fish habitat.

4.1 ESSENTIAL FISH HABITAT

Describe and identify essential fish habitat for the fishery . . . minimize to the extent practicable adverse effects on such habitat caused by fishing, and identify other actions to encourage the conservation and enhancement of such habitat.

Magnuson-Stevens Act, §302(a)(7)

Protecting, restoring, and enhancing the natural productivity of salmon habitat, especially the estuarine and freshwater areas, is an extremely difficult challenge which must be achieved if salmon fisheries are to remain healthy for future generations. Section 3(10) of the Magnuson-Stevens Act defines essential fish habitat (EFH) as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. The following interpretations have been made by NMFS to clarify this definition: "waters include aquatic areas and their associated physical, chemical, and biological properties that are used by fish, and may include historic areas if appropriate; 'substrate' includes sediment, hard bottom, structures underlying the waters, and associated biological communities; 'necessary' means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem; and 'spawning, breeding, feeding, or growth to maturity' covers a species' full life cycle.

4.1.1 Identification and Description

Appendix A to the Pacific Coast Salmon Plan contains the Council's complete identification and description of Pacific coast salmon fishery EFH, along with a detailed assessment of adverse impacts and actions to encourage conservation and enhancement of EFH. The Pacific coast salmon fishery EFH includes those waters and substrate necessary for salmon production needed to support a long-term sustainable salmon fishery and salmon contributions to a healthy ecosystem. In the estuarine and marine areas, salmon EFH extends from the nearshore and tidal submerged environments within state territorial waters out to the full extent of the exclusive economic zone (200 nautical miles) offshore of Washington, Oregon, and California north of Point Conception. Foreign waters off Canada, while still salmon habitat, are not included in salmon EFH, because they are outside U.S. jurisdiction. The Pacific coast salmon fishery EFH also includes the marine areas of Alaska designated as salmon EFH by the North Pacific Fishery Management Council. In freshwater, the salmon fishery EFH includes all those streams, lakes, ponds, wetlands, and other currently viable water bodies and most of the habitat historically accessible to salmon (except above certain impassable natural barriers) in Washington, Oregon, Idaho, and California as identified in Table 1-1 of Appendix A. Salmon EFH includes aquatic areas above all artificial barriers except the impassable barriers (dams) listed in Table A.2 of Appendix A. However, activities occurring above impassable barriers that are likely to adversely affect EFH below impassable barriers are subject to the consultation provisions of the Magnuson-Stevens Act. The identification and description of EFH may be modified in the future through salmon FMP amendments as new or better information becomes available.

4.1.2 Adverse Effects of Fishing on Essential Fish Habitat

To the extent practicable, the Council must minimize adverse impacts of fishing activities on salmon EFH. Fishing activities may adversely affect EFH if the activities cause physical, chemical, or biological alterations of the substrate, and loss of or injury to benthic organisms, prey species, and their habitat, and other components of the ecosystem. The marine activities under Council management authority or influence that

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may impact EFH are effects of fishing gear, prey removal by other fisheries, and the effect of salmon fishing on the reduction of stream nutrients due to fewer salmon carcasses on the spawning grounds. Within its fishery management authority, the Council may use fishing gear restrictions, time and area closures, or harvest limits to reduce negative impacts on EFH. Section 3.1 of Appendix A provides a description of the potential impacts on EFH from fishing activities and measures to assess or reduce those impacts. The description and measures includes both fisheries within Council management authority and those under other management jurisdictions.

In determining actions to take to minimize any adverse effects from fishing, the Council will consider the nature and extent of the impact and the practicality and effectiveness of management measures to reduce or eliminate the impact. The consideration will include long- and short-term costs and benefits to the fishery and EFH along with other appropriate factors consistent with National Standard 7 ("Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.")

4.1.3 Adverse Effects of Non-Fishing Activities on Essential Fish Habitat

Each Council shall comment on and make recommendations to the Secretary and any Federal or State agency concerning any such activity (authorized, funded, or undertaken) or proposed to be undertaken by any Federal or State agency that, in the view of the Council, is likely to substantially affect the habitat, including essential fish habitat, of an anadromous fishery resource under its authority . . . Within 30 days . . . a Federal agency shall provide a detailed response in writing . . .

Magnuson-Stevens Act, §302(a)

The Council will strive to assist all agencies involved in the protection of salmon habitat. This assistance will generally occur in the form of Council comments endorsing protection, restoration, or enhancement programs, requesting information on and justification for actions which may adversely impact salmon production, and in promoting salmon fisheries needs among competing uses for the limited aquatic environment. In commenting on actions which may affect salmon habitat, the Council will seek to ensure implementation of consistent and effective habitat policies with other agencies having environmental control and resource management responsibilities over production and harvest in inside marine and fresh waters.

Specific recommendations for conservation and enhancement measures for EFH are listed in Appendix A. In implementing its habitat mandates, the Council will seek to achieve the following overall objectives:

1. Work to assure that Pacific salmon, along with other fish and wildlife resources, receive equal treatment with other purposes of water and land resource development.
2. Support efforts to restore Pacific salmon stocks and their habitat through vigorous implementation of Federal and state programs.
3. Work with fishery agencies, tribes, land management agencies, and water management agencies to assess habitat conditions and develop comprehensive restoration plans.
4. Support diligent application and enforcement of regulations governing ocean oil exploration and development, timber harvest, mining, water withdrawals, agriculture, or other stream corridor uses by local, state, and federal authorities. If its Council policy that approved and permitted activities employ the best management practices available to protect salmon and their habitat from adverse effects of contamination from domestic and industrial wastes, pesticides, dredged material disposal, and radioactive wastes.
5. Promote agreements between fisheries agencies and land and water management agencies for the benefit of fishery resources and to preserve biological diversity.

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6. Strive to ensure that the standard operation of existing hydropower and water diversion projects will not substantially reduce salmon productivity.
7. Support efforts to identify and avoid cumulative or synergistic impacts in drainages where Pacific salmon spawn and rear. The Council will assist in the coordination and accomplishment of comprehensive plans to provide basinwide review of proposed hydropower development and other water use projects. The Council encourages the identification of no-impact alternatives for all water resource development.
8. Support and encourage efforts to determine the net economic value of conservation by identifying the economic value of fish production under present habitat conditions and expected economic value under improved habitat conditions.

4.2 COMPENSATION FOR NATURAL PRODUCTION LOSSES

Whenever unavoidable fish population losses occur as a result of various development programs or other action, the Council will recommend compensatory measures that, to the extent practicable, meet the following guidelines:

1. Replacement of losses will be by an equivalent number of fish of the appropriate stock of the same fish species or by habitat capable of producing the equivalent number of fish of the same species that suffered the loss.
2. Mitigation or compensation programs will be located in the immediate area of loss.
3. In addition to direct losses of fish production, compensation programs will include consideration of the opportunity to fish and potential unrealized production at the time of the project.
4. Measures for replacement of runs lost due to construction of water control projects should be completed in advance of, or concurrent with, completion of the project.

4.3 ARTIFICIAL PRODUCTION

Artificial production programs can be an important component of healthy salmon fisheries. They may fall under one of four general categories: fishery enhancement, natural stock recovery, coded-wire tag indicator stock, or mitigation. To assure the effectiveness and maximize the benefits of artificial production programs, the Council recommends meeting the following objectives:

1. Maximize the continued production of hatchery stocks consistent with harvest management and stock conservation objectives.
2. Ensure that mitigation and enhancement programs, with a primary objective of producing hatchery origin salmon for harvest, minimize adverse ecological and genetic impacts to naturally producing populations (e.g., straying and mixing on the spawning grounds, unbalanced exploitation rates, loss of genetic diversity). Further, the methods employed to produce salmon for harvest should ensure high survival and high contribution rates to the fisheries targeting the enhanced stock while meeting natural stock objectives.
3. Ensure that artificial production programs designed to perpetuate and/or rebuild depressed natural populations are designed to be short-term in duration, boost the abundance of targeted natural populations over a few generations, and terminate when the population is able to sustain itself naturally.
4. Support efforts to continually review and improve the effectiveness of artificial propagation.

Fort Bragg season slashed and catch reduced by 93% in 1990's
 but yields NO INCREASE in Klamath run

	A	B	C	D
1		MONTHS	TOTAL CATCH	TOTAL RUN
2		FISHED	IN THOUSANDS	SIZE
3		FORT BRAGG	FORT BRAGG	KLAMATH
4	YEAR			
5				
6	1981	5	116.6	80.1
7	1982	5	177.2	66.5
8	1983	5	55.9	57.5
9	1984	5	49.8	47.1
10	1985	5	149.6	64.4
11	1986	5	272.4	194.8
12	1987	5	341.2	208.8
13	1988	5	424.7	191.3
14	1989	5	144.2	124
15	1990	5	79.6	35.8
16				
17	TEN YR TOTAL		1811.2	1070.3
18	YEARLY AVERAGE		181.12	107.03
19				
20	1991	2	35.6	32.6
21	1992	0	0	26.7
22	1993	2	19.9	57.2
23	1994	1	5.2	63.9
24	1995	1	8.7	222.7
25	1996	2	22.9	175.7
26	1997	1	3.8	83.7
27	1998	1	2.9	90.06
28	1999	1	2.3	51
29	2000	1	30.8	218
30				
31	TEN YR. TOTAL		132.1	1022.1
32	YEARLY AVERAGE		13.21	102.21
33				
34				
35	2001	1	14.9	187.3
36	2002	2	65.3	160.7
37	2003	4	248.8	191.9
38	2004	3	107.2	79.1
39	2005	1	45.7	65.2
40				
41	FIVE YR TOTAL		481.9	684.2
42	FIVE YR AVERAGE		96.4	136.8
43				
44				
45				

PROOF THAT
 FISHING NOT
 THE PROBLEM

Compiled from:

"Review of 1990 Ocean Salmon Fisheries", Table A-2; "Review of 1998 Ocean Salmon Fisheries", Table A-3, Table B-4; "Review of 2005 Ocean Salmon fisheries", Table A-3, Table B-4; published by the Pacific Fisheries Management Council, 7700 NE Ambassador Place, Ste. 200, Portland, OR 97220, (503) 820-2280; (See Appendix attached)