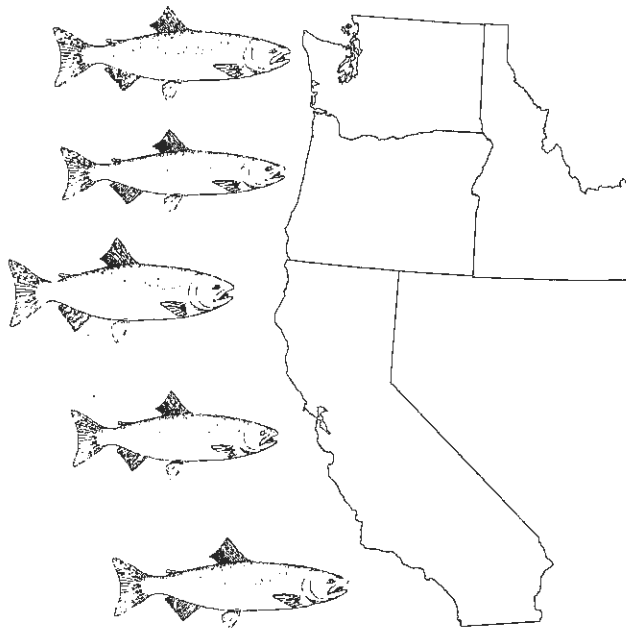


PRESEASON REPORT II

ANALYSIS OF PROPOSED REGULATORY OPTIONS
FOR 1998 OCEAN SALMON FISHERIES



PREPARED BY THE
SALMON TECHNICAL TEAM
AND
STAFF ECONOMIST

Pacific Fishery Management Council
2130 SW Fifth Avenue, Suite 224
Portland, Oregon 97201

March 1998



PUBLIC HEARINGS ON SALMON OPTIONS

All Hearings Begin at 7 p.m.

MONDAY, MARCH 30

Westport High School
High School Commons
2850 S. Montesano Street
Westport, WA

and

Pony Village Motor Inn
Ball Room
Virginia Avenue
North Bend, OR

and

Moss Landing Chamber of
Commerce
Moss Landing Road
Moss Landing, CA
(conducted by CDFG)

TUESDAY, MARCH 31

Red Lion Inn
Evergreen Room
1929 Fourth Street
Eureka, CA

and

Shilo Inn
2535 Main Street N.
Tillamook, OR

WEDNESDAY, APRIL 1

Red Lion's Sacramento Inn
1401 Arden Way
Sacramento, CA

Public comment on the options will be accepted during the April Council meeting on Tuesday afternoon, April 7, at the Doubletree Hotel Columbia River, Riverview Ballroom, 1401 North Hayden Island Drive, Portland, Oregon. **Written comments** received at the Council office **by April 1, 1998** will be copied and distributed to all Council members.



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LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|---------|--|
| CDFG | California Department of Fish and Game |
| Council | Pacific Fishery Management Council |
| CVI | Central Valley index |
| CWT | coded-wire tag |
| ESA | Endangered Species Act |
| FMP | fishery management plan |
| HRM | hook-and-release mortality |
| KMZ | Klamath River management zone (for the proposed 1997 options this would be the ocean zone between Humbug Mountain and Horse Mountain where management emphasis is on Klamath River fall chinook) |
| LRH | lower river hatchery (tule fall chinook returning to hatcheries below Bonneville Dam) |
| MCB | Mid-Columbia River brights (bright hatchery fall chinook released in the mid-Columbia River) |
| NMFS | National Marine Fisheries Service |
| ODFW | Oregon Department of Fish and Wildlife |
| OCN | Oregon coastal natural (coho) |
| SAS | Salmon Advisory Subpanel |
| SCH | Spring Creek Hatchery (tule fall chinook returning to Spring Creek Hatchery) |
| SRW | Sacramento River winter (chinook) |
| STT | Salmon Technical Team |
| TAC | total allowable catch |
| URB | upper river brights (bright fall chinook normally migrating past McNary Dam) |
| WCVI | West Coast Vancouver Island |
| WDFW | Washington Department of Fish and Wildlife |

INTRODUCTION AND CALL FOR COMMENTS

This document has been prepared by the staff of the Pacific Fishery Management Council (Council) and the Salmon Technical Team (STT) to describe the Council's proposed ocean salmon management options for 1998 and characterize their expected impacts on ocean salmon fisheries and the stocks which support them. The Council solicits public comments on the proposed management options in preparation for adopting final management recommendations on Friday, April 10, in Portland, Oregon.

Oral and written comments may be presented at public hearings at the times and locations displayed on the inside front cover of this report. Additional comment will be accepted at the April Council meeting in the Doubletree Hotel Columbia River, Portland, Oregon. Written comments received at the Council office by **April 1, 1998**, will be copied and distributed to all Council members (Council staff cannot assure distribution of comments received after April 1).

SELECTION OF FINAL MANAGEMENT MEASURES

The Council's final ocean salmon season recommendations will be based on the range of options presented in this report and guidance received through public comments. The Council's final management recommendations may vary in several respects from those in the proposed options. In particular, catch quotas are subject to change depending upon final determination of allocations between fishery participants, allowable harvest levels, and the final impact analyses completed by the STT. Elements of the options may be recombined to result in modified season patterns and changes in measures such as bag limits, days of fishing per week, special landing restrictions and in other specific regulatory details. In addition, inseason modification of management measures may be used to assure achievement of the Council's preseason management objectives.

Specific details pertaining to season structure and special regulations for the treaty Indian troll fishery north of Cape Falcon are established through tribal regulations. Chinook and coho quota levels for the treaty Indian troll fishery may be adjusted if significant changes in incidental fishing mortality result from tribal regulations.

DESCRIPTION AND OBJECTIVES OF PROPOSED OPTIONS

This report displays three standard regulatory options for 1998 commercial troll and recreational ocean salmon fisheries. Coastwide, Option I generally has seasons which are the most liberal and Option III the most conservative. However, due to multiple objectives for each option, this pattern may not be consistent for individual management areas. The options are influenced by the status of salmon stocks which are major contributors to the ocean fishery in this area and by stocks listed under the Endangered Species Act (ESA).

Complete descriptions of the commercial and recreational options are presented in Tables 1 and 2, respectively. Quotas under the various options are summarized in Table 3. A synopsis of management objectives for the 1998 options is presented below.

SOUTH OF CAPE FALCON

Oregon production index coho (including Oregon coastal natural [OCN] stocks) which are major contributors to fisheries in this area are at a near record low abundance. In addition, two coho stocks are currently listed as threatened under the ESA. While abundance of Sacramento River fall chinook, the largest single contributor to fisheries south of Cape Falcon, is expected to be high (similar to 1997), Klamath River fall chinook abundance is very low and requires special shaping of some Oregon and

California seasons. Restrictions to protect endangered Sacramento River winter chinook require additional restrictions for California fisheries south of Point Arena. Impacts on threatened Snake River fall chinook are not expected to be a limiting factor under the fisheries proposed for the Council area.

Some of the key items to note in the proposed options south of Cape Falcon include:

- As in 1997, all Oregon commercial fisheries south of Cape Falcon and the recreational fishery between Cape Falcon and Humbug Mountain will open April 15. These early openings result from inseason recommendations made by the Council during the March meeting each year.
- No retention of coho is allowed under any option.
- With regard to Klamath River fall chinook, the options explore various allocation alternatives to illustrate the impacts of different tribal, inriver sport and ocean allocation scenarios.
- Commercial seasons off California include consideration of a 27 inch minimum size limit in Options II and III after June 30. In Option II the increased minimum size limit is necessary to meet impact requirements for endangered Sacramento River winter chinook.
- The recreational options off California, south of Point Arena, contain various alternatives to reduce impacts on endangered Sacramento River winter chinook. They include a 24 inch minimum size limit or a first two fish bag limit, restrictions against mooching, and gear restrictions similar to those considered in force at the end of 1997 (circle hooks only).

Chinook Salmon Management

The key chinook salmon management objectives shaping the 1998 options are to:

1. Protect the endangered SRW chinook by meeting the terms of the National Marine Fisheries Service (NMFS) 1996 Biological Opinion, as modified by a 1997 addendum. For 1998 it does not appear that impacts on threatened Snake River fall chinook will be a key constraint.
2. With regard to Klamath River fall chinook:
 - Meet the spawner objective of 35,000 natural Klamath River fall chinook adults in all options.
 - Option I represents attainment of the usual allocation objectives for this stock with regard to tribal sharing (50%), the Klamath Management Zone (KMZ) sport share (17%), the inriver sport allocation (15%), and a 50/50 allocation for California and Oregon fisheries outside the KMZ sport fishery.
 - Option II differs from Option I in that it provides a season structure which results in a greater share of Klamath River fall chinook impacts to California fisheries (52%).
 - Option III differs from Option I by providing slightly more than 50% of the harvest to the tribes, increasing the inriver sport fishery share from 15% to 20% (the increase comes only from California ocean fisheries, resulting in a 53% share to Oregon fisheries exclusive of the KMZ sport fishery), and increasing the KMZ sport fishery allocation to 18%.
 - Consider both a quota (Option III) and a seasonal approach (Options I and II) for the KMZ recreational fishery. Option I differs from Option II in that it contains no buffer to provide a margin of error for underestimating the fishery impacts.

Coho Salmon Management

The key coho salmon management objectives shaping the 1998 options are:

1. Prohibit retention of coho in all areas which may significantly impact threatened California coastal coho and allow only incidental harvest impacts in accordance with Amendments 12 and 13 for OCN coho.
2. In Options I and II, allow no more than a 13% exploitation rate on OCN and threatened southern Oregon/northern California coho (as indicated by Rogue/Klamath hatchery coho).
3. In Option III, allow no more than a 10% impact on OCN and Rogue/Klamath coho. This option was intended to illustrate the impact of a more conservative management regime which addresses the concern that the 1998 stock abundance projections may be optimistic as they have not been adjusted to account for potentially decreased over-winter marine survival of maturing salmon due to the 1997-1998 El Niño. (It should be noted, however, that no special shaping of this option was done to specifically reduce coho impacts. The reduced coho impacts result primarily from the closed fishery north of Cape Falcon and reductions in the California troll fishery south of Point Arena to compensate for increased allocation of Klamath River fall chinook to the inriver sport fishery.)

NORTH OF CAPE FALCON

Projections of chinook and coho abundances, relevant to harvest north of Cape Falcon, are below the 1997 levels. The 1998 treaty Indian commercial salmon fishery options assume a very limited range of quotas similar to the options considered in 1997. The proposed non-Indian options off Washington and Oregon, north of Cape Falcon, are more conservative than the 1997 season. Other than 1994, when the entire non-Indian fishery was closed, the 1998 options contain the smallest quotas ever proposed for this fishery.

The commercial options include an experimental Makah tribal fishery and a proposal for a small non-Indian test fishery in Makah Bay. The recreational options contain season structures similar to those of 1997, but with later starting dates. The Neah Bay sport fishery would again be directed at chinook while the remaining ocean sport fisheries would target coho. Option I introduces the concept of limiting the catch within a calendar week (Sunday through Saturday), rather than within any seven consecutive days. The calendar week may be less confusing to anglers. Option II proposes two-day-per-week sport fisheries off Westport and the Columbia River. Option III closes all non-Indian fisheries north of Cape Falcon. Selective fisheries (harvesting only marked hatchery fish) were considered, but not recommended by the Council due to the small number of marked fish available in 1998.

Chinook Salmon Management

The key chinook salmon management objectives shaping the 1998 options are to meet spawner escapement goals for Columbia River fall chinook stocks which are major contributors to ocean fishery catches north of Cape Falcon (see Table 4), especially lower Columbia River fall chinook stocks. It does not appear that protection of endangered Snake River fall chinook under the terms of the 1996 Biological Opinion will be a key constraint in 1998.

Coho Salmon Management

The key coho salmon management objectives shaping the 1998 options are to meet annual natural spawner objectives for Washington coastal and Puget Sound coho as agreed to by Washington Department of Fish and Wildlife (WDFW) and the Northwest Indian tribes under the provisions of U.S. v. Washington and Hoh v. Baldrige. Quota levels are limited by expected low abundance of several of these stocks, especially the Strait of Juan de Fuca and Washington coastal stocks (see Table 5).

LISTED SPECIES

The following salmonid species which are present in the Council management area are listed under the Endangered Species Act (ESA):

Chinook

Sacramento River winter (endangered);
Snake River spring/summer (threatened);
Snake River fall (threatened);

Coho

Central California (threatened);
Southern Oregon/northern California (threatened);

Sockeye

Snake River (endangered);

Steelhead

Upper Columbia River (endangered);
Lower Columbia River (threatened);
Snake River Basin (threatened);
Central California coast (threatened);
South-central California coast (threatened);
Central Valley (threatened);
Southern California (endangered); and

Cutthroat

Umpqua River cutthroat (endangered).

In addition, the recovery of OCN coho is being implemented outside the ESA under the Oregon Plan. NMFS guidance requires the Council to meet the terms of this plan which are embodied in the Council's proposed Amendment 13 to the Pacific Coast Salmon Plan. NMFS has also recently proposed to list two more west coast chinook stocks as endangered and five stocks as threatened. Guidance for the management of these stocks could affect the 1999 salmon fishery.

Of the listed species, Council managed fisheries have identifiable impacts on only SRW chinook, Snake River fall chinook and the coho stocks.

Council area salmon fisheries account for a small portion of the total impact on Snake River fall chinook by all ocean salmon fisheries. Based on the 1988-1993 average, the total mortality of Snake River fall chinook due to all ocean salmon fisheries is proportioned as: 26% for the Council-area, 12% for southeast Alaska and 62% for Canada. (Further discussion of ocean fishery impacts on all listed stocks will be provided in pre-season report III.)

The NMFS 1996 Biological Opinion, and a 1997 addendum to the opinion, require the Council to meet the following objectives to avoid jeopardizing the recovery of the listed stocks:

- Sacramento River winter chinook - Achieve a 31% increase in the age-3 adult cohort replacement rate relative to the 1989-1993 mean rate.
- Snake River fall chinook - Failing agreement among the parties to the Pacific Salmon Treaty to meet conservation needs of chinook salmon, harvest impacts of ocean fisheries in the Council area and Alaska fisheries, or of all ocean fisheries, cannot exceed 50% or 70%, respectively, of the 1988-1993 average exploitation rate on age-3 and age-4 fish.

- Central California, southern Oregon/northern California and OCN coho - For 1998, limit impacts on OCN coho from Council-area fisheries to no more than 13% and prohibit retention of coho in all catch areas that significantly impact listed coho. In addition, as a surrogate for southern Oregon/northern California coho, limit impacts on Rogue/Klamath hatchery coho to no more than 13%.

IMPACT ASSESSMENT OF PROPOSED OPTIONS

Ocean chinook and coho harvest quotas are summarized in Table 3. The STT's preliminary analyses of the harvest impacts of 1998 management options, including hook-and-release mortality, and projected ocean escapements, are summarized in Table 4 and Table 5 for chinook and coho salmon, respectively. Table 6 provides a breakdown of the coho impacts by fishery. Information on the procedures and assumptions employed in making these assessments can be obtained from the STT at the April Council meeting and will be published in May.

SOUTH OF CAPE FALCON

Achievement of Stock Management Goals

Chinook Salmon

All options are expected to produce a Sacramento River fall chinook spawner escapement well above the escapement goal range (122,000 to 180,000 adult spawners). The high escapements of Sacramento River fall chinook are due primarily to constraints on ocean fisheries to reduce the harvest impacts on Klamath River fall chinook and to a lesser extent on a combination of requirements that also include increasing age-3 spawner escapement of endangered Sacramento River winter chinook and limiting coho impacts.

The estimated ocean exploitation rate for age-4 Klamath River fall chinook hovers around 9% in each option. The projected ocean escapement of Klamath River fall chinook ranges from 64,100 to 64,500 adults. After accounting for inriver fisheries and hatchery returns, an ocean escapement of about 64,100 adults is projected to result in achieving a Klamath River fall chinook spawner escapement of 49,200 adults and no fewer than 35,000 natural spawners (the floor escapement goal).

All options are expected to result in sufficient ocean escapement to meet the overall Oregon coastal spawning escapement goal of 150,000 to 200,000 chinook adults. Restrictions on ocean fisheries south of Cape Arago to limit Klamath River fall chinook impacts also should reduce impacts on Oregon coastal south/local migrating chinook stocks.

All options meet the objective for threatened Snake River fall chinook impacts of no more than 70% of the 1988-1993 average impact level for all ocean fisheries combined. Expected reductions in Canadian fisheries from the levels assumed in 1997 and very reduced fisheries in the Council area north of Cape Falcon contribute greatly to this result.

All options meet the objective of no less than a 31% increase in the cohort replacement rate for Sacramento River winter chinook relative to the 1988-1993 average. Option III results in the highest increase due to reductions in the ocean fishery to increase the allocation to the sport fishery in the Klamath River.

Coho Salmon

All options meet the coho constraints required by NMFS under ESA regulations. No retention of coho is allowed south of Cape Falcon, Oregon and the total harvest impact exploitation rate for OCN coho in all

marine and freshwater fisheries does not exceed the 13% limit, ranging from 9% to 13%. The exploitation rate for Rogue/Klamath coho (surrogate for threatened southern Oregon/northern California coho) ranges from 9% to 11% across the options (Tables 5 and 6).

Under all options, ocean escapement of Columbia River early coho is expected to be sufficient to meet the combined egg-take goal for Columbia River hatcheries, but may be insufficient to meet all individual facility egg-take goals. The Columbia River early coho stocks have been important contributors to fisheries south of Cape Falcon in previous years.

NORTH OF CAPE FALCON

Achievement of Stock Management Goals

Chinook Salmon

Ocean escapement objectives for Lewis River wild, Spring Creek hatchery (SCH), upper river bright (URB), and mid-Columbia River bright (MCB) fall chinook are expected to be met under all options. Objectives for lower Columbia River hatchery (LRH) tule fall chinook may not be met for Options I and II (Table 4). Ocean escapements of upper Columbia River summers are depressed, but are relatively insensitive to the range of options under consideration.

All options meet the objective for limiting Snake River fall chinook impacts (see discussion under South of Cape Falcon).

Coho Salmon

Ocean escapements for selected and critical coho stocks under the options are presented and compared to the 1997 observed ocean escapements in Table 5. These ocean escapement estimates do not include the impact of all inside area U.S. fisheries. Naturally spawning stocks that are not projected to meet their goals, even under the "no fishing" option (Option III north of Cape Falcon) include Queets and Grays Harbor coho. In addition, the total combined hatchery stock of Columbia River late coho is not projected to meet its egg-take goal.

SOCIOECONOMIC IMPACTS OF PROPOSED OPTIONS

The economic effects of the proposed options for non-Indian fisheries are shown in Tables 7 and 8. Table 7 shows troll impacts expressed in terms of estimates of potential exvessel value and Table 8 shows recreational impacts in terms of trips generated and coastal community personal income expected to be associated with the recreational fishery under each option. The exvessel values provided for the troll fishery options in Table 7 and income impact values provided for the recreational fishery options in Table 8 are not directly comparable.

Figures 1 and 2 show estimated coastal community income impacts for both the troll and recreational options compared to historic impacts.

TABLE 1. Commercial troll management options proposed by the Council for non-Indian ocean salmon fisheries, 1998. (Page 1 of 4)

| A. SEASON OPTION DESCRIPTIONS | | |
|--|--|--|
| OPTION I North of Cape Falcon | OPTION II North of Cape Falcon | OPTION III North of Cape Falcon |
| <p>Projections and Assumptions for Option I:</p> <ul style="list-style-type: none"> • WCVI mortality of 50,000 coho; 279,000 chinook harvest in SE Alaska; and the 1997 observed chinook harvest rate in Canadian fisheries. • 55% Snake River fall chinook index for all ocean fisheries relative to 1988-1993 average (goal \pm70%). <hr/> <ul style="list-style-type: none"> • Treaty Indian commercial troll ocean quotas: 16,400 chinook; 38,000 coho. (Experimental Makah fishery impacts included in STT analysis. Legal size fish retained in open periods to be included in the tribal quota.) <ul style="list-style-type: none"> • Overall non-Indian TAC: 12,000 chinook; 25,000 coho. <ul style="list-style-type: none"> • Non-Indian Troll TAC: 6,000 chinook; 6,250 coho. | <p>Projections and Assumptions for Option II:</p> <ul style="list-style-type: none"> • WCVI mortality of 50,000 coho; 279,000 chinook harvest in SE Alaska; and the 1997 observed chinook harvest rate in Canadian fisheries. • 52% Snake River fall chinook index for all ocean fisheries relative to 1988-1993 average (goal \pm70%). <hr/> <ul style="list-style-type: none"> • Treaty Indian commercial troll ocean quotas: 16,400 chinook; 12,500 coho (Experimental Makah fishery impacts included as in Option I.) <ul style="list-style-type: none"> • Overall non-Indian TAC: 8,000 chinook; 16,000 coho. Trade: 4,000 coho to sport for 1,000 chinook to troll. <ul style="list-style-type: none"> • Non-Indian Troll TAC: 5,000 chinook; 0 coho. | <p>Projections and Assumptions for Option III:</p> <ul style="list-style-type: none"> • WCVI mortality of 50,000 coho; 279,000 chinook harvest in SE Alaska; and the 1997 observed chinook harvest rate in Canadian fisheries. • 46% Snake River fall chinook index for all ocean fisheries relative to 1988-1993 average (goal \pm70%). <hr/> <ul style="list-style-type: none"> • Treaty Indian commercial troll ocean quotas: 7,000 chinook; 0 coho. (Open only in May and June and experimental Makah fishery impacts included as in Option I.) <ul style="list-style-type: none"> • Overall non-Indian TAC: 0 chinook; 0 coho. <ul style="list-style-type: none"> • Non-Indian Troll TAC: 0 chinook; 0 coho. |
| <p>U.S.-Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> • May 1 thru earlier of June 15 or 4,400 chinook quota. All salmon except coho. Following any closure of this fishery, vessels must land and deliver the fish within 48 hours of the closure. <ul style="list-style-type: none"> • Aug. 1 thru earliest of Aug. 31 or 1,200 chinook quota or 5,800 coho quota. All salmon. Cycle of 3 days open/4 days closed. Each vessel may possess, land and deliver no more than 10 chinook and 80 coho per open period. Vessels must land and deliver their fish within 48 hours of any closure of this fishery. Gear restricted to 6 inch or larger plugs. <p>Makah Bay Test Fishery</p> <ul style="list-style-type: none"> • Aug. 15 thru earlier of Sept. 20 or 400 chinook quota. All salmon except coho. Open only within Makah Bay inside a line from Waatch Pt. to Portage Head. (The available quota of 450 coho to be used for hook-and-release mortality while harvesting chinook.) | <p>U.S.-Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> • May 1 thru earlier of June 15 or 5,000 chinook quota. All salmon except coho. Following any closure of this fishery, vessels must land and deliver the fish within 48 hours of the closure. | <p>U.S.-Canada Border to Cape Falcon</p> <ul style="list-style-type: none"> • Closed. |

TABLE 1. Commercial troll management options proposed by the Council for non-Indian ocean salmon fisheries, 1998. (Page 2 of 4)

| A. SEASON OPTION DESCRIPTIONS | | |
|---|---|--|
| OPTION I South of Cape Falcon | OPTION II South of Cape Falcon | OPTION III South of Cape Falcon |
| <p>Projections and Assumptions for Option I: For ESA listed species:</p> <ul style="list-style-type: none"> • 10% Rogue/Klamath coho incidental marine harvest impact (goal \leq13%); • 31% increase in mean brood replacement rate for Sacramento winter chinook age-3 adult spawners (goal \geq31%); • 13% OCN coho total incidental marine and freshwater harvest impact (goal \leq10-13%). <p>For Klamath River fall chinook:</p> <ul style="list-style-type: none"> • 50% of harvest (12,100 fish) for federally recognized tribes; • 9% age-4 ocean exploitation rate; • 15% of non-Indian impacts to Klamath River sport fishery; • 50/50 sharing of age-4 ocean impacts between California and Oregon fisheries outside the KMZ sport fishery; ^{b/} • 17% of ocean impacts to KMZ ocean sport fishery. <hr/> <ul style="list-style-type: none"> • Openings prior to May 1 off Oregon set by inseason action at each Mar. Council meeting. • No study impacts are included in the analysis. | <p>Projections and Assumptions for Option II: For ESA listed species:</p> <ul style="list-style-type: none"> • 11% Rogue/Klamath coho incidental marine harvest impact (goal \leq13%). • 31% increase in mean brood replacement rate for Sacramento winter chinook age-3 adult spawners (goal \geq31%). • 13% OCN coho total incidental marine and freshwater harvest impact (goal \leq10-13%). <p>For Klamath River fall chinook:</p> <ul style="list-style-type: none"> • 50% of harvest (11,700 fish) for federally recognized tribes; • 9% age-4 ocean exploitation rate; • 15% of non-Indian impacts to Klamath River sport fishery; • 52/48 sharing of age-4 ocean impacts between California and Oregon fisheries outside the KMZ sport fishery; ^{b/} • 17% of ocean impacts to KMZ ocean sport fishery (15% of the sport allocation is modeled to escapement to help assure the actual harvest rate of Klamath River fall chinook does not exceed the preseason projection). <hr/> <ul style="list-style-type: none"> • Openings off Oregon prior to May 1 set by inseason action at each Mar. Council meeting. • No study impacts are included in the analysis. | <p>Projections and Assumptions for Option III: For ESA listed species:</p> <ul style="list-style-type: none"> • 9% Rogue/Klamath coho incidental marine harvest impact (goal \leq10%). • 34% increase in mean brood replacement rate for Sacramento winter chinook age-3 adult spawners (goal \geq31%). • 9% OCN coho total incidental marine and freshwater harvest impact (goal \leq10%). <p>For Klamath River fall chinook:</p> <ul style="list-style-type: none"> • 12,000 fish for federally recognized tribes (> 50%); ^{a/} • 9% age-4 ocean exploitation rate; • 20% of non-Indian impacts to Klamath River sport fishery; (increased impact is absorbed in California ocean fisheries); • 47/53 sharing of age-4 ocean impacts between California and Oregon fisheries outside the KMZ sport fishery; ^{b/} • 18% of ocean impacts to KMZ ocean sport fishery (under a quota). <hr/> <ul style="list-style-type: none"> • Openings off Oregon prior to May 1 set by inseason action at each Mar. Council meeting. • No study impacts are included in the analysis. |
| <p>Cape Falcon to Cape Arago</p> <ul style="list-style-type: none"> • Apr. 15 thru June 30 and Aug. 1 thru Oct. 31. All salmon except coho. See Oregon State regulations for a description of the time and area closures at the mouth of Tillamook Bay. <p>Cape Arago to the Oregon-California Border</p> <ul style="list-style-type: none"> • Apr. 15 thru earlier of May 31 or 4,400 chinook quota and Aug. 1 thru earlier of Aug. 29 or 5,300 chinook quota. All salmon except coho. If sufficient quota remains after May 31, the fishery reopens from Cape Arago to Humbug Mt. from June 1 thru earlier of June 30 or the remaining chinook quota. <p>Cape Arago to Humbug Mt.</p> <ul style="list-style-type: none"> • Sept. 1 thru earlier of Oct. 31 or 10,000 chinook quota. All salmon except coho. | <p>Cape Falcon to Cape Arago</p> <ul style="list-style-type: none"> • Same as Option I. <p>Cape Arago to the Oregon-California Border</p> <ul style="list-style-type: none"> • Apr. 15 thru earlier of May 31 or 4,300 chinook quota. All salmon except coho. If sufficient quota remains after May 31, the fishery reopens from Cape Arago to Humbug Mt. from June 1 thru the earlier of June 30 or the remaining chinook quota. <p>Cape Arago to Humbug Mt.</p> <ul style="list-style-type: none"> • Same as Option I. <p>Sisters Rocks to Mack Arch</p> <ul style="list-style-type: none"> • Aug. 1 thru earlier of Aug. 31 or 1,400 chinook quota. All salmon except coho. Season to follow a cycle of 2 days open/2 days closed (may be modified inseason). Open 0-4 nautical miles. All salmon must be landed and delivered to Gold Beach, Port Orford or Brookings within 24 hours of each closure. | <p>Cape Falcon to Cape Arago</p> <ul style="list-style-type: none"> • Same as Option I. <p>Cape Arago to the Oregon-California Border</p> <ul style="list-style-type: none"> • Same as Option I. <p>Cape Arago to Humbug Mt.</p> <ul style="list-style-type: none"> • Same as Option I. |

TABLE 1. **Commercial troll** management options proposed by the Council for non-Indian ocean salmon fisheries, 1998. (Page 3 of 4)

A. SEASON OPTION DESCRIPTIONS

| OPTION I | OPTION II | OPTION III |
|--|--|--|
| Oregon-California Border to Humboldt South Jetty • Sept. 1 thru earlier of Sept. 30 or 6,000 chinook quota. All salmon except coho. Landing limit of no more than 30 fish per day. All fish caught in this area must be landed within this area. Klamath Control Zone closed (B.7.). | Oregon-California Border to Humboldt South Jetty • Same as Option I. | Oregon-California Border to Humboldt South Jetty • Same as Option I. |
| Horse Mt. to Pt. Arena ^{cl} • Sept. 1 thru Sept. 30. All salmon except coho. | Horse Mt. to Pt. Arena • Sept. 1 thru Sept. 30. All salmon except coho. Minimum size limit 27 inches. | Horse Mt. to Pt. Arena • Sept. 1 thru Sept. 30. All salmon except coho. Minimum size limit 27 inches. |
| Pt. Arena to Pt. Reyes ^{cl} • Aug. 1 thru Sept. 30. All salmon except coho. | Pt. Arena to Pt. Reyes • Sept. 1 thru Sept. 30. All salmon except coho. Minimum size limit 27. | Pt. Arena to Pt. Reyes • Sept. 1 thru Sept. 30. All salmon except coho. Minimum size limit 27 inches. |
| Pt. Reyes to Pt. San Pedro • July 17 thru Sept. 30. All salmon except coho. | Pt. Reyes to Pt. San Pedro • July 1 thru Sept. 30. All salmon except coho. Minimum size limit 27 inches. | Pt. Reyes to Pt. San Pedro • Sept. 1 thru Sept. 30. All salmon except coho. Minimum size limit 27 inches. |
| Pt. San Pedro to Pt. Sur • May 1 thru May 31; June 19 thru Sept. 30. All salmon except coho. | Pt. San Pedro to Pt. Sur • May 1 thru May 31 and June 19 thru Sept. 30. All salmon except coho. Minimum size limit 26 inches prior to July and 27 inches thereafter. | Pt. San Pedro to Pt. Sur • June 4 thru June 30 and Sept. 1 thru Sept. 30. All salmon except coho. Except closed June 4 between Pt. San Pedro and Pigeon Pt. Minimum size limit 26 inches prior to July and 27 inches thereafter. |
| Pt. Sur to U.S.-Mexico Border • May 1 thru Sept. 30. All salmon except coho. | Pt. Sur to U.S.-Mexico Border • Same as Option I. | Pt. Sur to U.S.-Mexico Border • Same as Option I. |

B. GENERAL REQUIREMENTS, DEFINITIONS, RESTRICTIONS OR EXCEPTIONS

1. Minimum size limits in inches:

| Area (when open) | Chinook | | Coho | | Pink |
|------------------------------|--------------|----------|--------------|----------|------|
| | Total Length | Head-off | Total Length | Head-off | |
| North of Cape Falcon | 28.0 | 21.5 | 16.0 | 12.0 | None |
| Cape Falcon to OR-CA Border* | 26.0* | 19.5* | - | - | None |
| South of OR-CA Border* | 26.0** | 19.5** | - | - | None |

* Chinook not less than 26 inches (19.5 inches head-off) taken in open seasons south of Cape Falcon may be landed north of Cape Falcon only when the season is closed north of Cape Falcon.

** Except 27 inches (20.25 inches head-off) after June 30 in Options II and III.

2. Compliance with Minimum Size or Other Special Restrictions - All salmon on board a vessel must meet the minimum size or other special requirements for the area being fished and the area in which they are landed if that area is open. Salmon may be landed in an area that is closed only if they meet the minimum size or other special requirements for the area in which they were caught.
3. Transit Through Closed Areas with Salmon on Board - It is unlawful for a vessel to have troll gear in the water while transiting any area closed to salmon fishing while possessing salmon.
4. Hooks - Single point, single shank barbless hooks are required.

TABLE 1. Commercial troll management options proposed by the Council for non-Indian ocean salmon fisheries, 1998. (Page 4 of 4)

GENERAL REQUIREMENTS, DEFINITIONS, RESTRICTIONS OR EXCEPTIONS (Continued)

5. Spread - A single leader connected to an individual lure or bait.
6. Line, Spread and Gear Restrictions:
- Off **Oregon south of Cape Falcon**, no more than 4 spreads are allowed per line.
 - Off **California**, no more than 6 lines are allowed per vessel.
7. Klamath Control Zone - The ocean area at the Klamath River mouth bounded on the north by 41°38'48" N. (approximately 6 nautical miles north of the Klamath River mouth), on the west by 124°23'00" W. (approximately 12 nautical miles off shore), and on the south by 41°26'48" N (approximately 6 nautical miles south of the Klamath River mouth).
8. Notification When Unsafe Conditions Prevent Compliance with Regulations - If prevented by unsafe weather conditions or mechanical problems from meeting special management area landing restrictions, vessels must notify the U.S. Coast Guard and receive acknowledgement of such notification prior to leaving the area. This notification shall include the name of the vessel, port where delivery will be made, approximate amount of salmon (by species) on board and the estimated time of arrival. This stipulation will be implemented by state regulations as required.
9. Incidental Halibut Harvest - The operator of a vessel that has been issued an incidental halibut harvest license may retain Pacific halibut caught incidentally in Area 2A, during authorized periods, while trolling for salmon. Incidental harvest is authorized only during **May and June** troll seasons and after July 31 if quota remains.

The following **landing restrictions** govern the incidental harvest:

Option I - License holders may land no more than 1 halibut per each 10 chinook, except 1 halibut may be landed without meeting the ratio requirement, and no more than 20 halibut may be landed per trip.

Option II - License holders may land no more than 1 halibut per each 8 chinook, except 1 halibut may be landed without meeting the ratio requirement, and no more than 21 to 30 halibut (Council to determine final number at the April meeting) may be landed per trip .

Halibut retained must meet the minimum size limit of 32 inches. ODFW and WDFW will monitor landings and if they are projected to exceed the 21,635 pound preseason allocation or the Area 2A non-Indian commercial halibut TAC, NMFS will take inseason action to close the incidental halibut fishery.

License applications for incidental harvest must be obtained from the International Pacific Halibut Commission (phone 206/634-1838). Applicants must apply prior to April 1 of each year.

10. Inseason Management - In addition to standard inseason actions or inseason modifications already noted under the season description, the following inseason guidance is provided to NMFS:
- Transfers of 5,000 fish or less between subarea quotas north of Cape Falcon shall be done on a fish-for-fish basis;
 - At the March 1999 meeting, the Council will consider inseason recommendations to: open the commercial season for all salmon except coho prior to May 1 in areas off Oregon; and re-establish the trial season off California between Pt. Lopez and Pt. Mugu on a limited basis, pending more information about Sacramento River winter chinook impacts.
11. Consistent with Council management objectives, the State of Oregon may establish additional late-season, chinook-only fisheries in state waters. Check state regulations for details.
12. For the purposes of CDFG Code, Section 8232.5, the definition of the KMZ for the ocean salmon season shall be that area from Humbug Mt., Oregon to Horse Mt., California.
- Option III purposely exceeds the 50% allocation of available harvest of Klamath River fall chinook for the federally recognized tribes. The question of whether tribal ceremonial and subsistence needs may, in times of severe shortage, take priority over the privileges of other user groups has not yet been settled. The tribes assert a minimum emergency need for 1998 of 12,000 adult fall chinook. The Council does not view the presentation of this option as an endorsement of the tribal position.
 - The options presented in this document may not represent a final decision by the Council with regard to the allocation of Klamath River fall chinook between the Oregon and California salmon fisheries. Additional input and information on this issue at the public hearings and the April Council meeting will be considered by the Council in developing its final regulatory recommendations for the 1998 season.
 - Depending on impacts, in its final recommendations the Council may consider establishing limited experimental troll fisheries (1) during May within the Fort Bragg area, and (2) during July within the Bodega Bay area.

TABLE 2. **Recreational** management options proposed by the Council for ocean salmon fisheries, 1998. (Page 1 of 4)

| A. SEASON OPTION DESCRIPTIONS | | |
|---|--|---|
| OPTION I | OPTION II | OPTION III |
| <p>North of Cape Falcon</p> <p>Projections and Assumptions for Option I:</p> <ul style="list-style-type: none"> WCVI mortality of 50,000 coho; 279,000 chinook harvest in SE Alaska; and the 1997 observed chinook harvest rate in Canadian fisheries. 55% Snake River fall chinook index for all ocean fisheries relative to 1988-1993 average (goal $\leq 70\%$). | <p>North of Cape Falcon</p> <p>Projections and Assumptions for Option II:</p> <ul style="list-style-type: none"> WCVI mortality of 50,000 coho; 279,000 chinook harvest in SE Alaska; and the 1997 observed chinook harvest rate in Canadian fisheries. 52% Snake River fall chinook index for all ocean fisheries relative to 1988-1993 average (goal $\leq 70\%$). | <p>North of Cape Falcon</p> <p>Projections and Assumptions for Option III:</p> <ul style="list-style-type: none"> WCVI mortality of 50,000 coho; 279,000 chinook harvest in SE Alaska; and the 1997 observed chinook harvest rate in Canadian fisheries. 46% Snake River fall chinook index for all ocean fisheries relative to 1988-1993 average (goal $\leq 70\%$). |
| <ul style="list-style-type: none"> Neah Bay/La Push agreed coho allocation of 80%/20%. Area 4B add-on: 6,000 coho, all-salmon-except-chinook, opening the earlier of ocean closure or Aug. 29. Buoy 10 fishery opens Aug. 1 thru Sept. 30 with expected harvests of 5,600 coho in Aug. and 2,800 coho in Sept. | <ul style="list-style-type: none"> Neah Bay/La Push agreed coho allocation of 80%/20%. Area 4B add-on: 4,000 coho, all-salmon-except-chinook, opening the earlier of ocean closure or Aug. 29. Columbia River closed below the Chinook-Hammond line. | <ul style="list-style-type: none"> No Area 4B add-on. Columbia River closed below the Chinook-Hammond line. |
| <ul style="list-style-type: none"> Overall non-Indian TAC: 12,000 chinook; 25,000 coho. Recreational TAC: 6,000 chinook; 18,750 coho. | <ul style="list-style-type: none"> Overall non-Indian TAC: 8,000 chinook; 16,000 coho. Trade: 1,000 chinook to troll for 4,000 coho. Recreational TAC: 3,000 chinook ; 16,000 coho. | <ul style="list-style-type: none"> Overall non-Indian TAC: 0 chinook; 0 coho. Recreational TAC: 0 chinook; 0 coho. |
| <p>U.S.-Canada Border to Cape Alava (Neah Bay)</p> <ul style="list-style-type: none"> July 27 thru earlier of Sept. 24 or 600 chinook subarea quota. All salmon except coho (7 days per week). 2 fish per day. The 1,050 coho allocation will be utilized as hook-and-release mortality while harvesting chinook. <p>Cape Alava to Queets River (La Push)</p> <ul style="list-style-type: none"> July 27 thru earlier of Sept. 24 or 500 coho subarea quota. All salmon (7 days per week). 2 fish per day. Inseason management may be used to sustain season length and keep harvest within a guideline of 131chinook. <p>Queets River to Leadbetter Pt. (Westport)</p> <ul style="list-style-type: none"> July 27 thru earlier of Sept. 24 or 7,800 coho subarea quota. All salmon. Open Sun. thru Thurs. 2 fish per day. Either, "no more than 4 fish per calendar week (Sun. thru Sat.)" or "no more than 4 fish in 7 consecutive days" (Council to decide in Apr.). Closed 0-3 miles off shore. Inseason management may be used to sustain season length and keep harvest within a guideline of 4,179 chinook. <p>Leadbetter Pt. to Cape Falcon (Columbia River)</p> <ul style="list-style-type: none"> July 27 thru earlier of Sept. 24 or 9,400 coho subarea quota. All salmon. Open Sun. thru Thurs. 2 fish per day. Either, "no more than 4 fish per calendar week (Sun. thru Sat.)" or "no more than 4 fish in 7 consecutive days" (Council to decide in Apr.). Closed in Columbia Control Zone (B.3.). Inseason management may be used to sustain season length and keep harvest within a guideline of 1,090 chinook. | <p>U.S.-Canada Border to Cape Alava (Neah Bay)</p> <ul style="list-style-type: none"> July 27-28. All salmon except coho. 2 fish per day. Under a 500 chinook guideline and an allocation of 1,000 coho for hook-and-release mortality while harvesting chinook. <p>Cape Alava to Queets River (La Push)</p> <ul style="list-style-type: none"> Aug. 3 thru earlier of Sept. 24 or 400 coho subarea quota. All salmon (7 days per week). 2 fish per day. Inseason management may be used to sustain season length and keep harvest within a guideline of 50 chinook. <p>Queets River to Leadbetter Pt. (Westport)</p> <ul style="list-style-type: none"> Aug. 3 thru earlier of Sept. 24 or 6,600 coho subarea quota. All salmon. Open Sun. thru Mon. 2 fish per day, but no more than 1 chinook. Closed 0-3 miles off shore. Inseason management may be used to sustain season length and keep harvest within a guideline of 1,663 chinook. <p>Leadbetter Pt. to Cape Falcon (Columbia River)</p> <ul style="list-style-type: none"> Aug. 3 thru earlier of Sept. 24 or 8,000 coho subarea quota. All salmon. Open Sun. thru Mon. 2 fish per day, but no more than 1 chinook. Closed 0-3 miles off shore north of Columbia Control Zone and closed within the Zone (B.3.). Inseason management may be used to sustain season length and keep harvest within a guideline of 787 chinook. | <p>U.S.-Canada Border to Cape Alava (Neah Bay)</p> <ul style="list-style-type: none"> Closed. <p>Cape Alava to Queets River (La Push)</p> <ul style="list-style-type: none"> Closed. <p>Queets River to Leadbetter Pt. (Westport)</p> <ul style="list-style-type: none"> Closed. <p>Leadbetter Pt. to Cape Falcon (Columbia River)</p> <ul style="list-style-type: none"> Closed. |

TABLE 2. **Recreational** management options proposed by the Council for ocean salmon fisheries, 1998. (Page 2 of 4)

| A. SEASON OPTION DESCRIPTIONS | | |
|--|--|---|
| OPTION I | OPTION II | OPTION III |
| <p>South of Cape Falcon</p> | <p>South of Cape Falcon</p> | <p>South of Cape Falcon</p> |
| <p>Projections and Assumptions for Option I: For ESA listed species: • 10% Rogue/Klamath coho incidental marine harvest impact (goal \leq13%). • 31% increase in mean brood replacement rate for Sacramento winter chinook age-3 adult spawners (goal \geq31%).</p> <hr/> <p>• 13% OCN coho total incidental marine and freshwater harvest impact (goal \leq10-13%).</p> <p>For Klamath River fall chinook: • 50% of harvest (12,100 fish) to federally recognized tribes; • 9% age-4 ocean exploitation rate; • 15% of non-Indian impacts to Klamath River sport fishery;</p> <hr/> <p>• 50/50 sharing of age-4 ocean impacts between California and Oregon fisheries outside the KMZ sport fishery; ^{b/} • 17% of ocean impacts to KMZ ocean sport fishery (no buffer).</p> <hr/> <p>• Openings prior to May 1 off Oregon set by inseason action at each Mar. Council meeting. • No study impacts are included in the analysis.</p> | <p>Projections and Assumptions for Option II: For ESA listed species: • 11% Rogue/Klamath coho incidental marine harvest impact (goal \leq13%). • 31% increase in mean brood replacement rate for Sacramento winter chinook age-3 adult spawners (goal \geq31%).</p> <hr/> <p>• 13% OCN coho total incidental marine and freshwater harvest impact (goal \leq10-13%).</p> <p>For Klamath River fall chinook: • 50% of harvest (11,700 fish) to federally recognized tribes; • 9% age-4 ocean exploitation rate; • 15% of non-Indian impacts to Klamath River sport fishery;</p> <hr/> <p>• 52/48 sharing of age-4 ocean impacts between California and Oregon fisheries outside the KMZ sport fishery; ^{b/} • 17% of ocean impacts to KMZ ocean sport fishery (15% of this allocation is modeled to escapement to help assure the actual harvest rate of Klamath fall chinook in this fishery, under a season structure rather than a quota, does not exceed the preseason projection).</p> <hr/> <p>• Openings off Oregon prior to May 1 set by inseason action at each Mar. Council meeting. • No study impacts are included in the analysis.</p> | <p>Projections and Assumptions for Option III: For ESA listed species: • 9% Rogue/Klamath coho incidental marine harvest impact (goal \leq10% for this option only). • 34% increase in mean brood replacement rate for Sacramento winter chinook age-3 adult spawners (goal \geq31%).</p> <hr/> <p>• 9% OCN coho total incidental marine and freshwater harvest impact (goal \leq10% for this option only).</p> <p>For Klamath River fall chinook: • 12,000 fish for federally recognized tribes (> 50%); ^{a/} • 9% age-4 ocean exploitation rate; • 20% of non-Indian impacts to Klamath River sport fishery (the impact of increasing the inriver fishery from 15% to 20% is absorbed in California fisheries); • 47/53 sharing of age-4 ocean impacts between California and Oregon fisheries outside the KMZ sport fishery; ^{b/} • 18% of ocean impacts to KMZ ocean sport fishery (under a quota).</p> <hr/> <p>• Openings off Oregon prior to May 1 set by inseason action at each Mar. Council meeting. • No study impacts are included in the analysis.</p> |
| <p>Cape Falcon to Humbug Mt • Apr. 15 thru July 5 and Aug. 1 thru Oct. 31. All salmon except coho. 2 fish per day. No more than 6 fish in 7 consecutive days. Legal gear limited to: artificial lures, plugs or bait no less than 6 inches long (excluding hooks and swivels) with no more than 2 single point, single shank barbless hooks; divers prohibited and flashers may only be used with downriggers. See Oregon State regulations for a description of a closure at the mouth of Tillamook Bay.</p> | <p>Cape Falcon to Humbug Mt • Apr. 15 thru July 5 and Aug. 8 thru Oct. 31. All salmon except coho. 2 fish per day. No more than 6 fish in 7 consecutive days. After Apr. 30, the legal gear limitation may be changed from that used in Option I to the following - -You may fish with artificial lures and plugs; bait must be no less than 6 inches long (excluding hooks and swivels) with no more than 2 single point, single shank barbless hooks; divers and flashers are prohibited.</p> | <p>Cape Falcon to Humbug Mt • Same as Option I.</p> |
| <p>Humbug Mt. to Horse Mt. • May 23 thru June 10; June 21 thru July 5; Aug. 12 thru Sept. 13. All salmon except coho. 1 fish per day. No more than 4 fish in 7 consecutive days. Klamath Control Zone (B.6.) closed in Aug. (1 rod per angler)</p> | <p>Humbug Mt. to Horse Mt. • May 23 thru June 7; June 20 thru July 5; Aug. 20 thru Sept. 13. All salmon except coho. 1 fish per day. No more than 4 fish in 7 consecutive days. Klamath Control Zone (B.6.) closed in Aug. (1 rod per angler) This fishery contains a 15% buffer to help assure achievement of the spawner goal.</p> | <p>Humbug Mt. to Horse Mt. • May 23 thru June 7; June 18 thru July 5; and Aug. 13 thru Sept. 13. Fishery opens under a quota of 11,500 chinook for the May thru Aug. fishery and closes the earlier of each set closure or achievement of the overall quota. All salmon except coho. 1 fish per day. No more than 4 fish in 7 consecutive days. Klamath Control Zone (B.6.) closed in Aug. (1 rod per angler)</p> |

TABLE 2. **Recreational** management options proposed by the Council for ocean salmon fisheries, 1998. (Page 3 of 4)

A. SEASON OPTION DESCRIPTIONS

| OPTION I | OPTION II | OPTION III |
|--|--|---|
| <p>Horse Mt. to Pt. Arena^{c/}</p> <ul style="list-style-type: none"> Feb. 14 thru June 30 and Aug. 1 thru Nov. 15 (nearest Sun. to Nov 15). All salmon except coho. 2 fish per day. Minimum size limit 24 inches. Special gear restriction B.5. One rod per angler (B.4.). <p>In 1999, the season will open Feb. 13 (nearest Sat. to Feb. 15) for all salmon except coho, 2 fish per day, same gear and minimum size restrictions as in 1998.</p> | <p>Horse Mt. to Pt. Arena</p> <ul style="list-style-type: none"> Same as Option I. | <p>Horse Mt. to Pt. Arena</p> <ul style="list-style-type: none"> Same as Option I. |
| <p>Pt. Arena to Pigeon Pt.</p> <ul style="list-style-type: none"> Mar. 28 thru Nov. 1 (nearest Sun. to Nov. 1). All salmon except coho. 2 fish per day. Minimum size limit 24 inches. One rod per angler. Sacramento Control Zone (B.6.) closed from season opening thru Mar. 31. Prior to May 1 and after July 31, special gear restriction B.5. (circle hooks when mooching). From May 1 thru July 31, trolling only (vessel moving forward under power) and no special gear restriction. <p>In 1999, the season will open Mar. 27 (last Sat. in Mar.) with the same regulations that were in effect at the end of 1998.</p> | <p>Pt. Arena to Pigeon Pt.</p> <ul style="list-style-type: none"> Mar. 28 thru Nov. 1 (nearest Sun. to Nov. 1). All salmon except coho. 2 fish per day, minimum size limit 24 inches, except - from July 1 thru Aug. 31, the bag limit will be the first 2 fish (no size limit). One rod per angler. Sacramento Control Zone (B.6.) closed from season opening thru Mar. 31. Special gear restriction B.5. (circle hooks when mooching). <p>In 1999, the season will open Mar. 27 (last Sat. in Mar.) with the same regulations that were in effect at the end of 1998.</p> | <p>Pt. Arena to Pigeon Pt.</p> <ul style="list-style-type: none"> Mar. 28 thru Nov. 1 (nearest Sun. to Nov. 1). All salmon except coho. 2 fish per day. Minimum size limit 24 inches. One rod per angler. Sacramento Control Zone (B.6.) closed from season opening thru Mar. 31. Prior to May 1, special gear restriction B.5. (Circle hooks when mooching). After April 30, trolling only (vessel moving forward under power) and no special gear restriction. <p>In 1999, the season will open Mar. 27 (last Sat. in Mar.) with the same regulations that were in effect at the end of 1998.</p> |
| <p>Pigeon Pt. to U.S.-Mexico Border</p> <ul style="list-style-type: none"> Mar 14 thru Nov. 1 (nearest Sun. to Nov. 1). All salmon except coho. Minimum size limit 24 inches. One rod per angler north of Pt. Conception. Prior to May 1 and after July 31, special gear restriction B.5. (circle hooks when mooching). From May 1 thru July 31, trolling only (vessel moving forward under power) and no special gear restriction. <p>In 1999, the season will open Mar. 13 (nearest Sat. to Mar. 15) with the same regulations that were in effect at the end of 1998.</p> | <p>Pigeon Pt. to U.S.-Mexico Border</p> <ul style="list-style-type: none"> Mar. 14 thru Aug. 31. All salmon except coho. 2 fish per day. Minimum size limit 24 inches. One rod per angler north of Pt. Conception. Special gear restriction B.5. (circle hooks when mooching). <p>In 1999, the season will open Mar. 13 (nearest Sat. to Mar. 15) with the same regulations that were in effect at the end of 1998.</p> | <p>Pigeon Pt. to U.S.-Mexico Border</p> <ul style="list-style-type: none"> Mar. 14 thru Nov. 1 (nearest Sun. to Nov. 1). All salmon except coho. 2 fish per day. Minimum size limit 24 inches. One rod per angler north of Pt. Conception. Prior to May 1, special gear restriction B.5. (Circle hooks when mooching). After April 30, trolling only (vessel moving forward under power) and no special gear restriction. <p>In 1999, the season will open Mar. 13 (nearest Sat. to Mar. 15) with the same regulations that were in effect at the end of 1998.</p> |

B. GENERAL REQUIREMENTS, DEFINITIONS, RESTRICTIONS OR EXCEPTIONS

1. Minimum size limits (total length in inches) when areas are open:

| Area (when open) | Chinook | Coho | Pink |
|--------------------------|---------|------|--------------------------|
| North of Cape Falcon | 24.0 | 16.0 | None |
| Cape Falcon to Horse Mt. | 20.0 | - | None, except 20.0 off CA |
| South of Horse Mt.* | 24.0* | - | 20.0 |

* **Except** as noted in Option II.

2. Compliance with Minimum Size or Other Special Restrictions - All salmon on board a vessel must meet the minimum size or other special requirements for the area being fished. Salmon may be landed in an area that is closed only if they meet the minimum size or other special requirements for the area in which they were caught.

TABLE 2. Recreational management options proposed by the Council for ocean salmon fisheries, 1998. (Page 4 of 4)

B. GENERAL REQUIREMENTS, DEFINITIONS, RESTRICTIONS OR EXCEPTIONS (Continued)

3. Hooks - Single point, single shank barbless hooks are required for all fishing gear north of Pt. Conception, California. ODFW regulations in the state-water fishery off Tillamook Bay may allow the use of barbed hooks to be consistent with inside regulations.
4. Restriction on Number of Fishing Rods North of Pt. Conception, California - All persons fishing for salmon, and all persons fishing from a boat with salmon on board, may use no more than one rod per angler.
5. Special Gear Restrictions Between Horse Mt. and Pt. Conception, California when fishing with bait and any combination of weights measuring 1 pound or less:

You may not fish with more than 2 hooks per line. All hooks must be barbless "circle" hooks. A circle hook is defined as a hook with a generally circular shape and a point that turns inward to the shank at approximately a 90° angle. When fishing with 2 hooks, the distance from the top of the eye of the top hook to the inner base of the lower hook must not exceed 5 inches and the hooks must be permanently tied in place (hard tied). See "exceptions" below.

Exceptions: Hook restrictions do not apply when artificial lures are used with or without baits. Artificial lures include, but are not limited to, any lure constructed with a lead head, metal bars or spoons designed to attract fish. Artificial lures do not include "J" hooks with only beads, yarn, feathers and bait attached, including scented and flavored artificial baits.

6. Control Zone Definitions:

Columbia Control Zone - The ocean area at the Columbia River mouth bounded by a line extending for 6 nautical miles due west from North Head along 46°18'00" N to 124°13'18" W, then southerly to 46°13'24" N and 124°11'0" W (green, Columbia River Entrance Lighted Bell Buoy #1), then southerly to 46°11'06" N and 124°11'00" W (red, Columbia River Approach Lighted Whistle Buoy), then northeast along red buoy line to the tip of the south jetty.

Klamath Control Zone - The ocean area at the Klamath River mouth bounded on the north by 41°38'48" N (approximately 6 nautical miles north of the Klamath River mouth), on the west by 124°23'00" W (approximately 12 nautical miles off shore), and on the south by 41°26'48" N (approximately 6 nautical miles south of the Klamath River mouth).

Sacramento Control Zone - The ocean area bounded by a line commencing at Bolinas Pt. (Marin County, 37°54'17" N, 122°43'35" W) southerly to Duxbury Buoy to Channel Buoy 1 to Channel Buoy 2 to Pt. San Pedro (San Mateo County, 37°35'40" N, 122°31'10" W).

7. Inseason Management - Regulatory modifications may become necessary inseason to meet pre-season management objectives such as quotas, harvest guidelines and season duration. Actions could include modifications to bag limits or days open to fishing, and extensions or reductions in areas open to fishing. At the March 1999 meeting, the Council will consider an inseason recommendation to open seasons for all salmon except coho prior to May 1 in areas off Oregon.

The procedure for inseason coho transfer among recreational subareas north of Cape Falcon will be:

After conferring with representatives of the affected ports and the Salmon Advisory Subpanel recreational representatives north of Cape Falcon, NMFS may transfer coho inseason among recreational subareas to help meet the recreational season duration objectives (for each subarea). Any transfers between subarea quotas of 5,000 fish or less shall be done on a fish-for-fish basis.

8. Additional Seasons in State Territorial Waters - Consistent with Council management objectives, the states of Washington and Oregon may establish limited seasons in state waters. Oregon state-water fisheries are limited to chinook salmon. Check state regulations for details.

- a/ Option III purposely exceeds the 50% allocation of available harvest of Klamath River fall chinook for the federally recognized tribes. The question of whether tribal ceremonial and subsistence needs may, in times of severe shortage, take priority over the privileges of other user groups has not yet been settled. The tribes assert a minimum emergency need for 1998 of 12,000 adult fall chinook. The Council does not view the presentation of this option as an endorsement of the tribal position.
- b/ The options presented in this document may not represent a final decision by the Council with regard to the allocation of Klamath River fall chinook between the Oregon and California salmon fisheries. Additional input and information on this issue at the public hearings and the April Council meeting will be considered by the Council in developing its final regulatory recommendations for the 1998 season.
- c/ The Council may consider extending the first opening to July 5 (instead of June 30), depending on available impacts.

TABLE 3. Chinook and coho **harvest quotas** for 1998 ocean salmon fishery management options (thousands of fish).
(Page 1 of 1)

| Fishery or Quota Designation | Chinook for Option | | | Coho for Option | | |
|--|--------------------|--------------|-------------|-----------------|--------------|-------------|
| | I | II | III | I | II | III |
| NORTH OF CAPE FALCON | | | | | | |
| TREATY INDIAN COMMERCIAL TROLL ^{a/} | 16.40 | 16.40 | 7.00 | 38.00 | 12.50 | 0.00 |
| NON-INDIAN COMMERCIAL TROLL | | | | | | |
| Canada to Cape Falcon (May-June) | 4.40 | 5.00 | - | 0.00 | 0.00 | - |
| Canada to Cape Falcon (Aug.) | 1.20 | - | - | 5.80 | - | - |
| Makah Bay Experimental Fishery ^{b/} | 0.40 | - | - | 0.45 | - | - |
| Subtotal Non-Indian Commercial Troll | 6.00 | 5.00 | - | 6.25 | 0.00 | - |
| RECREATIONAL | | | | | | |
| U.S.-Canada Border to Cape Alava ^{c/} | 0.60 | 0.50 | - | 1.05 | 1.00 | - |
| Cape Alava to Queets River ^{d/} | 0.13 | 0.05 | - | 0.50 | 0.40 | - |
| Queets River to Leadbetter Pt. ^{d/} | 4.18 | 1.66 | - | 7.80 | 6.60 | - |
| Leadbetter Pt. to Cape Falcon ^{d/} | 1.09 | 0.79 | - | 9.40 | 8.00 | - |
| Subtotal Recreational ^{f/} | 6.00 | 3.00 | - | 18.75 | 16.00 | - |
| TOTAL NORTH OF CAPE FALCON | 28.40 | 24.40 | 7.00 | 63.00 | 28.50 | 0.00 |
| SOUTH OF CAPE FALCON | | | | | | |
| COMMERCIAL TROLL | | | | | | |
| Cape Falcon to Mexico | - | - | - | 0.0 | 0.0 | 0.0 |
| Cape Arago to OR-CA Border (Apr.-June) ^{e/} | 4.4 | 4.3 | 4.4 | - | - | - |
| Cape Arago to OR-CA Border (Aug.) | 5.3 | - | 5.3 | - | - | - |
| Cape Arago to Humbug Mt. (Sept.-Oct.) | 10.0 | 10.0 | 10.0 | - | - | - |
| Klamath Management Zone (KMZ) | | | | | | |
| Sisters Rock to Mack Arch (Aug.) | - | 1.4 | - | - | - | - |
| OR/CA border to Humboldt S. Jetty (Sept.) | 6.0 | 6.0 | 6.0 | - | - | - |
| Subtotal Troll | 25.7 | 21.7 | 25.7 | | | |
| RECREATIONAL (All except coho) | | | | | | |
| Cape Falcon to Mexico | - | - | - | 0.0 | 0.0 | 0.0 |
| KMZ (May-Aug. 31) | - | - | 11.5 | - | - | - |
| Subtotal Recreational | - | - | 11.5 | 0.0 | 0.0 | 0.0 |
| TOTAL SOUTH OF CAPE FALCON | 25.7 | 21.7 | 37.2 | 0.0 | 0.0 | 0.0 |

a/ For the Makah encounter rate study, legal sized fish retained in open periods will be included in the tribal quota.

b/ The 450 coho quota in Option I will be utilized for hook-and-release mortality.

c/ In Options I and II, the coho allocations for Neah Bay are utilized for hook-and-release mortality.

d/ The subarea chinook harvest is a guideline. The fisheries are restrained by the overall chinook quota north of Cape Falcon.

e/ Any quota remaining on June 1 is restricted to the area north of Humbug Mt.

TABLE 4. Preliminary projections of **chinook** impacts and escapements for 1998 ocean salmon fishery management options. (Page 1 of 2)

| Fishery or Stock | Option | | | 1997 Observed | |
|---|--------|-------|-------|------------------|---|
| | I | II | III | | |
| OCEAN IMPACTS^{a/} (thousands of chinook) | | | | | |
| NORTH OF CAPE FALCON^{b/} | | | | | |
| Treaty Commercial Troll | 16.5 | 16.5 | 7.4 | 13.6 | |
| Non-Indian Commercial Troll | 6.0 | 5.0 | - | 6.4 | |
| Sport | 6.0 | 3.0 | - | 4.1 | |
| Total | 28.5 | 24.5 | 7.4 | 24.1 | |
| CAPE FALCON TO HUMBUG MT. | | | | | |
| Commercial Troll | 148.1 | 144.5 | 148.1 | 147.3 | |
| Sport ^{c/} | 4.6 | 4.3 | 4.6 | 2.4 | |
| Total | 152.7 | 148.8 | 152.7 | 149.7 | |
| HUMBUG MT. TO HORSE MT. | | | | | |
| Commercial Troll | 9.0 | 7.2 | 9.0 | 5.0 | |
| Sport ^{c/} | 13.9 | 11.7 | 13.7 | 13.9 | |
| Total | 22.9 | 18.9 | 22.7 | 18.9 | |
| SOUTH OF HORSE MT. | | | | | |
| Commercial Troll | 493.3 | 539.2 | 275.0 | 486.1 | |
| Sport | 258.8 | 258.8 | 258.8 | 220.0 | |
| Total | 752.1 | 798.0 | 533.8 | 706.1 | |
| <hr/> | | | | | |
| Area 4B Add-On | 0.0 | 0.0 | 0.0 | 0.0 | |
| Buoy 10 | 4.0 | 0.0 | 0.0 | 13.2 | |
| <hr/> | | | | | |
| HARVEST INDEXES or RATES (percent) | | | | | OBJECTIVE |
| Klamath River Chinook Harvest Rate | 9.2 | 8.8 | 8.7 | 12.0 | 8-9 |
| ESA LISTED STOCKS | | | | | |
| Sacramento River Winter (SRW) Chinook | | | | | |
| CVI Exploitation Index | 71.6 | 75.9 | 50.8 | 66.0 | - |
| Increase in SRW Spawner Escapement | 31.0 | 30.7 | 34.4 | 314.0 | ≥31 ^{d/} |
| Lyons Ferry Age-3/4 Fall Chinook Index ^{e/} | | | | | |
| Council-Area Fisheries | 63.4 | 51.0 | 25.8 | f/ | - |
| All U.S. Ocean Fisheries | 86.3 | 77.9 | 60.7 | f/ | ≤50 |
| All Ocean Fisheries | 55.1 | 52.2 | 46.4 | f/ | ≤70 |
| <hr/> | | | | | |
| OCEAN ESCAPEMENT^{g/} (thousands of chinook) | | | | | SPAWNER ESCAPEMENT OBJECTIVE |
| COLUMBIA RIVER | | | | | |
| Upper River Brights | 143.0 | 143.6 | 144.4 | 167.9 | 43.5 ^{h/} |
| Mid Columbia Brights | 45.3 | 45.3 | 45.6 | 57.0 | - |
| Lower River Hatchery Tules | 22.6 | 23.0 | 24.2 | 56.7 | 14.4 ^{i/} |
| Lewis River Wild | 10.9 | 10.9 | 11.1 | 13.8 | 5.7 |
| Spring Creek Hatchery Tules | 14.2 | 14.5 | 16.0 | 25.2 | 7.0 ^{j/} |
| Upper River Summers | 11.3 | 11.3 | 11.3 | 28.0 | 80-90 |
| CALIFORNIA | | | | | |
| Klamath River | 64.1 | 64.3 | 64.5 | 64.6 | 49.2 ^{k/} |
| Sacramento Fall Run | 318.9 | 299.0 | 507.5 | 323.9 | 122-180 ^{l/} |

TABLE 4. Preliminary projections of **chinook** impacts and escapements for 1998 ocean salmon fishery management options. (Page 2 of 2)

- a/ Ocean impacts include catch and hook-and-release mortality (HRM) where applicable. Estimates of HRM are generally made for single species fisheries or those with other special restrictions not common to base year fisheries. For 1998, the only HRM impacts are those for the Makah encounter rate study within the treaty commercial fishery (100 chinook in Options I and II and 400 chinook in Option III).
- b/ Assumes a WCVI fishery mortality of 50,000 coho; 279,000 chinook harvest in SE Alaska; and the 1997 observed chinook harvest rate in Canadian fisheries. Treaty troll impacts include non-retention mortalities associated with the Makah encounter rate study.
- c/ Includes Oregon territorial water, late-season chinook fisheries.
- d/ The SRW spawner escapement objective (1997 addendum to the 1996 NMFS Biological Opinion) is a 31% increase in the adult cohort replacement rate relative to the observed 1989-1993 mean rate.
- e/ Index of adult equivalent ocean fishery exploitation rate on age-3 and age-4 Lyons Ferry fall chinook (representative stock for Snake River fall chinook) relative to the 1988-1993 average, based on a combined use of the PSC and chinook FRAM models. With no PSC agreement in 1998, the goal is either a combined goal for all U.S. ocean fisheries of no more than 50% of the 1988-1993 average adult equivalent exploitation rate, or no more than 70% of the same average for all ocean fisheries (including Canada).
- f/ Postseason estimates are not made for these values.
- g/ Ocean escapement is generally the estimated number of chinook escaping ocean fisheries and entering freshwater. For Columbia River stocks, ocean escapement is estimated prior to impacts from the Buoy 10 fishery. For Sacramento River fall chinook, this value represents estimated spawner escapement after inriver fishery impacts.
- h/ Approximately 53,900 URB fish must enter the Columbia River to meet a McNary Dam escapement goal of 43,500 adults, assuming normal distribution and no mainstem harvest.
- i/ Approximately 23,700 LRH fish (including 17,800 Washington hatchery fish) must enter the Columbia River to achieve the 14,400 hatchery return egg-take goal, assuming normal distribution and no lower river mainstem or tributary harvest.
- j/ Approximately 10,600 SCH fish must enter the Columbia River to achieve the 7,000 fish hatchery egg-take goal, assuming normal distribution and no mainstem harvest.
- k/ An ocean escapement of approximately 64,100 adult Klamath River fall chinook is projected to provide a total spawner escapement of at least 49,200 adults (after inriver fishery impacts) and no less than 35,000 natural adult spawners.
- l/ Spawning escapement, including both hatchery and natural production.

TABLE 5. Preliminary projections of **coho** impacts and escapements for 1998 ocean salmon fishery management options. (Page 1 of 1)

| Fishery or Stock | Option | | | 1997 | SPAWNER ESCAPEMENT OBJECTIVE |
|--|----------------|------|------|----------|------------------------------------|
| | I | II | III | Observed | |
| OCEAN IMPACTS^{a/} (thousands of coho) | | | | | |
| NORTH OF CAPE FALCON^{b/} | | | | | |
| Treaty Commercial Troll | 43.1 | 16.5 | 2.4 | 14.4 | |
| Non-Indian Commercial Troll | 5.9 | 0.3 | - | - | |
| Sport | 20.7 | 17.9 | - | 31.1 | |
| Total | 69.7 | 34.7 | 2.4 | 45.5 | |
| SOUTH OF CAPE FALCON | | | | | |
| Commercial Troll | (all HRM) 4.3 | 4.6 | 3.6 | 5.5 | |
| Sport | (all HRM) 6.0 | 6.6 | 6.0 | 4.8 | |
| Total | (all HRM) 10.3 | 11.2 | 9.6 | 10.3 | |
| Area 4B Add-On | | | | | |
| Area 4B Add-On | 6.3 | 4.2 | 2.1 | 2.3 | |
| Buoy 10 | 8.8 | - | - | 4.5 | |
| EXPLOITATION RATES (percent) | | | | | |
| OCN Coho (Marine and Freshwater) ^{c/} | 12.9 | 12.6 | 9.3 | NA | |
| Rogue/Klamath Coho (Marine) | 10.0 | 11.2 | 9.3 | NA | |
| OCEAN ESCAPEMENT^{d/} (thousands of coho) | | | | | |
| PUGET SOUND NATURAL COHO | | | | | |
| Skagit | 41.9 | 42.7 | 43.4 | NA | 30.0 |
| Stillaguamish | 38.7 | 39.8 | 40.5 | NA | 17.0 |
| Hood Canal | 88.8 | 91.3 | 93.0 | NA | 21.5 |
| Strait of Juan de Fuca | 12.9 | 13.2 | 13.4 | NA | 12.8 |
| COASTAL NATURAL COHO | | | | | |
| Quillayute Falls | 7.1 | 7.4 | 7.6 | 4.6 | 6.3-15.8 |
| Hoh | 3.1 | 3.2 | 3.3 | 1.6 | 2.0-5.0 |
| Queets ^{e/} | 4.3 | 4.5 | 4.6 | 3.6 | 5.8-14.5 |
| Grays Harbor | 26.2 | 27.0 | 27.6 | NA | 35.4 |
| Oregon Coast Index Adults per Mile ^{f/} | 23.1 | 23.2 | 23.9 | 14.5 | c/ |
| HATCHERY COHO STOCKS | | | | | |
| Columbia River Early | 48.5 | 53.7 | 58.8 | 103.7 | 36.3 ^{g/} |
| Columbia River Late | 18.7 | 21.4 | 23.1 | 42.9 | 30.8 ^{g/} |

a/ Ocean impacts include catch and hook-and-release mortality (HRM) where applicable. Estimates of HRM are for legal size fish which must be released in single species fisheries or those with other special restrictions not common to base year fisheries.

b/ Assumes WCVI harvest of 50,000 coho. Treaty troll impacts include nonretention mortalities associated with the Makah encounter rate study.

c/ Amendment 11 goal is 42 adults per mile on standard index surveys. However, when the predicted spawner escapement is no more than 28 coho per mile, the amendment allows an incidental exploitation rate of up to 20% that will provide only minimum incidental harvest necessary to prosecute other fisheries, and which under no circumstances will cause irreparable harm to the OCN stock. In addition, NMFS guidance for coho stocks listed under the ESA requires the Council to follow the harvest provisions of the Council's proposed Amendment 13 which allows no more than a 10% to 13% harvest impact rate for 1998.

d/ Ocean escapement is generally the estimated number of coho escaping ocean fisheries and entering freshwater. For Puget Sound stocks, ocean escapement is the estimated number of coho entering Area 4B which are available for U.S. net fisheries in Puget Sound and spawning escapement after impacts associated with the Canadian, U.S. ocean and Puget Sound troll and recreational fisheries have been deducted. For Columbia River early and late coho stocks, ocean escapement represents the number of coho after any expected Buoy 10 fishery.

e/ The ocean escapement projection for Queets natural coho includes supplemental production.

f/ Estimated spawner escapement on standard index surveys.

g/ Number of coho necessary to enter the Columbia River to achieve egg-take goals assuming expected turn-off of coho to Youngs Bay, average distribution patterns and no mainstem or tributary fisheries. The 1998 hatchery rack return goals are 19,600 and 17,200 for early and late stock adult coho, respectively.

TABLE 6. Expected coastwide Oregon coastal natural (OCN) and Rogue/Klamath (RK) coho exploitation rates by fishery under the proposed 1998 management options.

| Fishery | Exploitation Rate (Percent) | | | | | |
|-------------------------------|-----------------------------|--------------|-------------|--------------|--------------|-------------|
| | OCN | | | RK | | |
| | Option I | Option II | Option III | Option I | Option II | Option III |
| SOUTHEAST ALASKA | 0.03 | 0.03 | 0.03 | 0.00 | 0.00 | 0.00 |
| BRITISH COLUMBIA | 0.22 | 0.22 | 0.22 | 0.00 | 0.00 | 0.00 |
| PUGET SOUND/STRAITS | 0.38 | 0.38 | 0.40 | 0.00 | 0.00 | 0.00 |
| NORTH OF CAPE FALCON | | | | | | |
| Treaty Indian Troll | 0.41 | 0.15 | 0.05 | 0.00 | 0.00 | 0.00 |
| Non-Indian Troll | 0.29 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| Recreational | 1.58 | 1.23 | 0.00 | 0.06 | 0.09 | 0.00 |
| SOUTH OF CAPE FALCON | | | | | | |
| Troll: | | | | | | |
| Cape Falcon to Humbug Mt. | 1.17 | 1.16 | 1.17 | 0.07 | 0.07 | 0.07 |
| Humbug Mt. to Horse Mt. (KMZ) | 0.91 | 0.82 | 0.91 | 1.76 | 1.70 | 1.74 |
| Fort Bragg | 0.05 | 0.05 | 0.05 | 0.28 | 0.28 | 0.28 |
| South of Pt. Arena | 1.02 | 1.48 | 0.10 | 0.49 | 0.74 | 0.05 |
| Recreational: | | | | | | |
| Cape Falcon to Humbug Mt. | 1.00 | 0.84 | 1.00 | 0.12 | 0.09 | 0.12 |
| Humbug Mt. to Horse Mt. (KMZ) | 1.30 | 1.33 | 1.31 | 3.50 | 3.83 | 3.48 |
| Fort Bragg | 0.86 | 1.01 | 0.86 | 2.39 | 2.79 | 2.39 |
| South of Pt. Arena | 2.25 | 2.97 | 2.25 | 1.19 | 1.57 | 1.18 |
| BUOY 10 | 0.55 | 0.00 | 0.00 | 0.20 | 0.00 | 0.00 |
| ESTUARY/FRESHWATER | 0.85 | 0.86 | 0.92 | - | - | - |
| TOTAL | 12.87 | 12.54 | 9.27 | 10.06 | 11.16 | 9.31 |

TABLE 7. Preliminary estimates of exvessel value for non-Indian troll regulatory options. (Page 1 of 1)

| Management Area | Option | Exvessel Value (thousands of dollars) ^{a/} | | | | |
|-----------------------------------|--------|---|--------------------|--------------------------|---------------------------------|---------------------------------------|
| | | Estimated 1998 ^{b/} | 1997 ^{c/} | Percent Change from 1997 | 1976-1996 Average ^{c/} | Percent Change from 1976-1996 Average |
| North of Cape Falcon | I | 93 | 120 | -22% | 7,726 | -99% |
| | II | 78 | | -35% | | -99% |
| | III | 0 | | -100% | | -100% |
| C. Falcon to C. Arago | I | 2,121 | 2,333 | -9% | 11,722 | -82% |
| | II | 2,054 | | -12% | | -82% |
| | III | 2,121 | | -9% | | -82% |
| C. Arago to Horse Mt. | I | 71 | 117 | -39% | 5,327 | -99% |
| | II | 51 | | -56% | | -99% |
| | III | 71 | | -39% | | -99% |
| Horse Mt. to Pt. Arena | I | 174 | 61 | 186% | 4,971 | -97% |
| | II | 174 | | 186% | | -97% |
| | III | 174 | | 186% | | -97% |
| South of Pt. Arena | I | 7,416 | 7,148 | 4% | 11,869 | -38% |
| | II | 8,122 | | 14% | | -32% |
| | III | 4,062 | | -43% | | -66% |
| Total South of Cape Falcon | I | 9,781 | 9,658 | 1% | 33,889 | -71% |
| | II | 10,401 | | 8% | | -69% |
| | III | 6,427 | | -33% | | -81% |
| West Coast Total | I | 9,874 | 9,778 | 1% | 41,616 | -76% |
| | II | 10,479 | | 7% | | -75% |
| | III | 6,427 | | -34% | | -85% |

a/ Exvessel values are not comparable to the community income impacts shown in Table 8.

b/ Dollar value estimates are based on expected catches in the **management area**, 1997 exvessel prices and weights per fish.

c/ Values adjusted to 1997 dollars.

TABLE 8. Preliminary estimates of angler trips and coastal community income generated for recreational ocean salmon fishery regulatory options compared to 1997 and the 1976-1996 average. (Page 1 of 1)

| Management Area | Option | Angler Trips (thousands) | | | Coastal Community Income Impacts (thousands of dollars) ^{a/} | | | Percent Change in Income Impacts | |
|-----------------------------------|--------|--|-------|----------------|---|----------|----------------|----------------------------------|----------------------------|
| | | Estimates Based on the Options ^{b/} | 1997 | 1976-1996 Avg. | Estimates Based on the Options | 1997 | 1976-1996 Avg. | Compared to 1997 | Compared to 1976-1996 Avg. |
| North of Cape Falcon | I | 16.3 | 31.1 | 218.0 | 1,014.0 | 1,936.0 | 12,658.0 | -48% | -92% |
| | II | 13.8 | | | 859.0 | | | -56% | -93% |
| | III | 0.0 | | | 0.0 | | | -100% | -100% |
| Cape Falcon to Humbug | I | 9.9 | 10.0 | 147.6 | 503.0 | 511.0 | 7,633.0 | -1% | -93% |
| | II | 9.1 | | | 462.0 | | | -9% | -94% |
| | III | 9.1 | | | 462.0 | | | -9% | -94% |
| Humbug Mt. to Horse Mt. | I | 38.5 | 35.6 | 98.5 | 1,693.0 | 1,567.0 | 4,575.0 | 8% | -63% |
| | II | 32.8 | | | 1,446.0 | | | -8% | -68% |
| | III | 38.1 | | | 1,676.0 | | | 7% | -63% |
| Horse Mt. to Pt. Arena | I | 20.4 | 20.4 | 15.1 | 1,071.0 | 1,072.0 | 868.0 | -0% | 23% |
| | II | 17.2 | | | 906.0 | | | -16% | 4% |
| | III | 17.2 | | | 906.0 | | | -16% | 4% |
| South of Pt. Arena | I | 195.1 | 195.1 | 129.7 | 17,021.0 | 17,019.0 | 12,307.0 | 0% | 38% |
| | II | 194.6 | | | 16,973.0 | | | -0% | 38% |
| | III | 195.0 | | | 17,010.0 | | | -0% | 38% |
| Total South of Cape Falcon | I | 263.8 | 261.1 | 390.8 | 20,289.0 | 20,169.0 | 25,382.0 | 1% | -20% |
| | II | 253.7 | | | 19,787.0 | | | -2% | -22% |
| | III | 259.4 | | | 20,054.0 | | | -1% | -21% |
| West Coast | I | 280.1 | 292.2 | 608.8 | 21,303.0 | 22,105.0 | 38,040.0 | -4% | -44% |
| | II | 267.5 | | | 20,646.0 | | | -7% | -46% |
| | III | 253.7 | | | 19,787.0 | | | -10% | -0.48 |

a/ Income impacts are totals for individual communities. Impacts between communities in the management area have not been counted. Income impacts are not comparable to the exvessel values shown in Table 7. All dollar values are adjusted to 1997 real values.

b/ The estimates for the number of trips south of Cape Falcon are based on comparison of the seasons proposed under the option to those in place in 1997 and the associated effort levels. The estimates for trips north of Cape Falcon are based on 1997 season success rates and the subarea quotas proposed under each option.

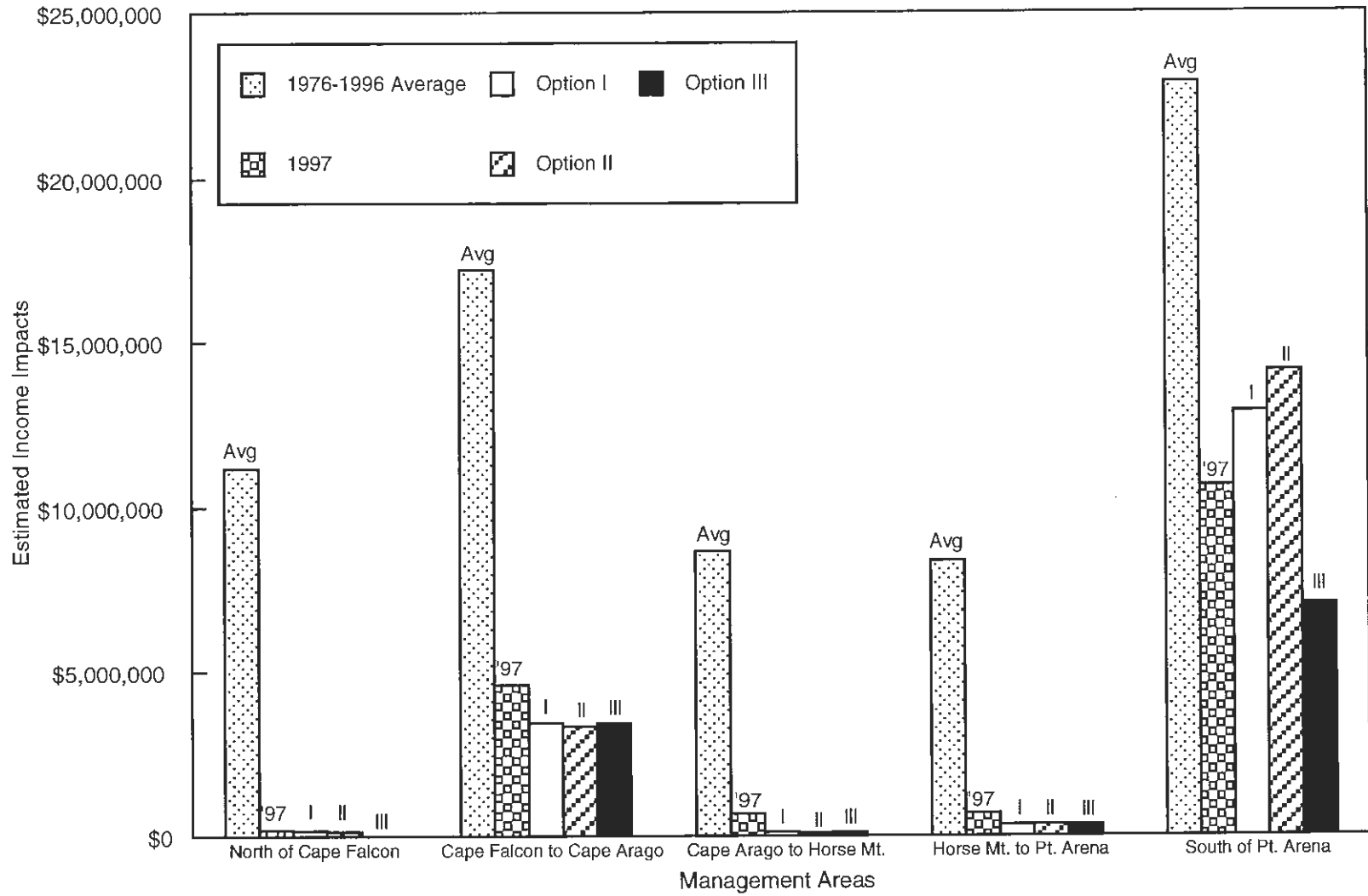


FIGURE 1. Estimated coastal community income impacts associated with the commercial fishery under Options I, II and III; 1997, and 1976-1996 average.