

HOOD CANAL SALMON MANAGEMENT PLAN

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1.0 Preamble

- 1.1 This plan is the result of a series of discussions and negotiations between policy makers and the technical staffs of the parties with the intent of establishing a long-range management plan for salmon in Hood Canal. This plan is intended to comply with and address all regional issues required by the Puget Sound Salmon Management Plan and meet the guidelines for regional plans as suggested by the Salmon and Steelhead Conservation and Enhancement Act. This plan supersedes the previous Hood Canal Plan (signed December 30, 1980).
- 1.2 This plan recognizes that a detailed watershed management planning process is beginning for all of the Puget Sound sub-regions. It is understood that the Hood Canal Salmon Management Plan is one component in the development of an overall Puget Sound Regional Plan. It is also understood that tribal and state representatives who participated in developing the Hood Canal Plan will also be involved in the reconciliation process that is necessary between sub-regional plans and eventually regional plans; i.e., Puget Sound, Coast and Columbia River.
- 1.3 The purpose of this plan is to establish guidelines for the harvest, protection, rehabilitation and enhancement of salmon resources originating from or passing through Hood Canal waters from the mouth of Hood Canal southward.
- 1.4 This plan shall remain in effect from the date of the order approving it until modified by agreement of the parties or order of the Court.
- 1.5 This plan is intended to implement the decisions of the court in United States v. Washington, 384 F. Supp. 312, aff'd 520 F.2d 676 (9th Cir. 1975), cert. denied 423 U.S. 1086, aff'd sub nom, Washington v. Washington State Commercial Passenger Fishing Vessel Ass'n, 443 U.S. 658 (1979) and other orders under the court's continuing jurisdiction, including in particular the Puget Sound Salmon Management Plan order.

2.0 Statement of Goals

The primary goal of this plan is to maximize the long term net benefits from the salmon resource, in a manner that provides clear policy and technical guidelines, minimizes disagreements, and improves coordination between the parties. The plan will form the framework for protection of natural stocks, provide guidance for programming existing salmon enhancement and rehabilitation facilities and the basis for review, implementation, and operation of future enhancement projects. It is also to serve as the basic guideline for implementation of the annual pre- and in-season management plans by the parties.

Consistent with the primary goal, three policy guidelines will be used when evaluating alternative management or enhancement programs. The technical staffs of each party shall seek to:

1. Minimize the need for intensive, limited area fisheries by enhancement of production in diverse areas;
2. Avoid over dependence of the fleet on any one species of salmon by providing a balanced approach to salmon production;
3. Maximize the stability of the fisheries from year to year.

This salmon management plan provides direct and indirect benefits to Treaty and non-Treaty commercial and recreational fishermen in Hood Canal. It is intended to ensure management in accordance with established Treaty rights and sound conservation principles, and to reflect the biological and economic policies of the management entities. Nothing in this plan is intended to preclude additional enhancement of the resource in Hood Canal in the future if additional facilities or funding should become available and such enhancement is consistent with the primary goals of this plan and is agreed to by the parties.

3.0 Definitions

Required (MSH) Escapement

An estimate of the required escapement to natural spawning areas to provide maximum sustainable harvest (MSH) to Washington fisheries. At hatcheries, the escapement needed to meet the equilibrium brood program production level. Fisheries may or may not be managed to meet required escapements in accordance with the provisions of Section 3.5 of the Puget Sound Salmon Management Plan.

Equilibrium Brood Program

The standard mode of operation for existing facilities/functions, associated with intervention in one or more of a salmon's life history phases.

Management Unit

A stock or group of stocks which are aggregated for the purpose of achieving a desired spawning escapement.

Parties

The Washington Department of Fisheries (WDF), the United States Fish and Wildlife Service (USFWS), and the Tribes (the Jamestown Klallam, Lower Elwha Klallam, Port Gamble Klallam, and Skokomish) make up the parties to this plan.

Primary Management Unit

A stock or group of stocks for which a specific spawning escapement goal is established with the intention of managing all intercepting fisheries to meet that goal.

Puget Sound Plan

The Puget Sound Salmon Management Plan, as agreed to between the parties and adopted by the U.S. District Court in 1985.

Secondary Management Unit

A stock or group of stocks for which escapement is that which occurs primarily as a result of not being caught in fisheries directed at commingled primary management units.

Technical Team

Representatives of the technical staffs of each party.

4.0 Habitat Management Policy

The parties believe that maintaining the integrity of habitat in both the marine and freshwater areas of Hood Canal is of the utmost importance in developing a dependable, stable, and economically viable fishery resource. The preservation, and where feasible, the rehabilitation and enhancement of fish habitat currently used or having the potential to be used by anadromous stocks is an integral part of this plan. The joint and cooperative efforts of the parties (including the maintenance and exchange of habitat information) will be needed to effectively monitor proposed activities with the potential to adversely affect habitat in Hood Canal. The parties also agree to encourage coordinated activities designed to improve the salmonid habitat. A habitat management data base will be assembled and it shall contain all available information related to salmonid habitats in Hood Canal, focusing on physical and biological descriptions. This data base will permit more specific identification of problems as well as available opportunities for needed rehabilitation of salmonid stocks in this area.

The classification within this plan of certain stocks as secondary for harvest management purposes should in no way be construed to mean that the habitat which is used by those stocks is of secondary importance. All habitat in Hood Canal will be utilized to the optimum extent for the production of salmonids. In addition, the management regime presented in this plan is flexible, and alterations in the management status of the stocks (primary or secondary) may occur. Recognizing these facts, the parties reaffirm their commitment to protect the fisheries' habitat from environmental degradation.

5.0 Chinook Salmon Management and Enhancement

The equilibrium brood program, required escapement levels, run timing in each management area, and the management regime for chinook salmon are summarized in Appendix Tables 1-3 and in Appendix Figure 1.

5.1 Spring Chinook

The parties believe that an overall strategy for managing spring chinook in Puget Sound is needed as mandated in existing court orders. Despite the present lack of a Puget Sound wide plan, it is evident that the protection and restoration of spring chinook in Hood Canal is both desirable and feasible. The on-going restoration program at the Quilcene National Fish Hatchery provides a unique opportunity to rebuild natural stocks in Hood Canal. The long term goal of this program will be production of smolts at a level which provides adult returns at levels surplus to hatchery brood stock needs. This surplus production will initially be stocked only in the Skokomish River and other tributaries to Hood Canal in an effort to rebuild natural stocks and provide for recreational and commercial harvests. Planting of Quilcene Hatchery stock into Strait of Juan de Fuca tributaries may occur if restoration using local stocks is unsuccessful or not feasible and the parties agree to the proposed project.

Prior to completion of this rebuilding process, the following management units are recognized:

<u>Management Unit</u>	<u>Status</u>
Skokomish River (Natural)	Secondary
Quilcene National Fish Hatchery	Secondary

No commercial net or sport fisheries directed at spring chinook in Hood Canal are anticipated at this time. To protect spring chinook from a directed harvest, Quilcene Bay (north and west of a line drawn from Pt. Whitney to Fishermen's Point) and the Skokomish River will remain closed during the spring chinook management period if the returning runs are below escapement needs. Additional restrictions in fisheries will be considered if sampling information indicates that fisheries are targeting on spring chinook in Hood Canal. The parties agree to the long term objective of rebuilding the Skokomish River and Quilcene Hatchery spring chinook stocks, by utilizing the Quilcene Hatchery spring chinook program, so that these stocks may produce harvestable fish and be designated as primary stocks in the future. For the

Skokomish River, this long term objective is dependent upon adequate protection of the remaining spring chinook habitat.

5.2 Summer/Fall Chinook

Summer/fall chinook salmon returning to Hood Canal will be managed to achieve the desired aggregate escapement at the George Adams/McKernan/Hoodsport complex. Management units and their status (primary or secondary) are listed below:

<u>Management Unit</u>	<u>Status</u>
George Adams/McKernan Hatchery	Primary
Hoodsport Hatchery	Primary
Enetai Hatchery	Secondary
Skokomish River (Natural Augmented)	Secondary
Tributaries to Area 12B (Natural Augmented)	Secondary
Tributaries to Area 12D (Natural Augmented)	Secondary

The maximum production capability of the marine waters of Hood Canal has not been quantified. In the absence of conclusive information, a probing approach to chinook production is needed to determine if production greater than the equilibrium brood program described in this Plan will affect the survival of chinook fingerlings released from hatcheries in Hood Canal. The approach to be used to resolve this issue is presented in Appendix 1. Agreed to variations in chinook production will be needed during the probing period and several potential options consistent with the probing methods exist:

- 1) Use the space (or a portion of it) currently used for the production of fish destined for South Sound for production of fish for release in Hood Canal. The parties agree that any increase in the production of chinook from facilities in South Sound beyond the current production of 31,540,000 fingerlings and 1,820,000 yearlings will result in a concomitant reduction in the production in Hood Canal of chinook destined for South Sound;
- 2) Rear fish destined for South Sound at stations outside of both South Sound and Hood Canal, and use the space thus vacated to produce additional fish for Hood Canal;

- 3) Convert some of the current chum production at State, Tribal or U.S. facilities in Hood Canal to chinook production;
- 4) Produce yearling chinook from net pens in Hood Canal;
- 5) Improve existing and/or construct additional facilities.

The need or desirability for implementing these or other options will be evaluated during the annual plan review process. Any decisions made affecting South Sound management or production will be made in consultation with the Sound Sound Tribes and in a manner consistent with the Puget Sound Plan.

Chinook production in Hood Canal may also be increased by outplanting chinook fry in the major tributaries. However, the effectiveness of outplanting is unknown at this time, and a cooperative study should be undertaken before expansion of the current program.

6.0 Pink Salmon Management and Enhancement

The equilibrium brood program, required escapement levels, run timing in each management area, and the management regime for pink salmon are summarized in Appendix Tables 1-3 and in Appendix Figure 1.

Management units for pink salmon returning to Hood Canal and their status are listed below:

<u>Management Unit</u>	<u>Status</u>
Tribs. to Area 12B (Natural)	Primary
Hoodsport Hatchery	Secondary (See Sect. 7.1)

It is recognized that significant numbers of Hood Canal pink salmon may be intercepted by fisheries directed at Canadian stocks. Restrictions to protect weak Hood Canal natural stocks after separation from Canadian stocks may include area and gear restrictions which would provide satisfactory levels of protection without inordinate restrictions on the harvest of chinook salmon. The parties agree to evaluate alternative methods of accomplishing this protection.

7.0 Coho Salmon Management and Enhancement

The equilibrium brood program, required escapement levels, run timing in each management area, and the management regime for coho salmon are summarized in Appendix Tables 1-3 and in Appendix Figure 1.

7.1 Early Coho

A pilot project to assess the feasibility of establishing an early coho run on Hood Canal is currently underway. During the evaluation phase, three early coho stocks (Soleduck, Baker, and Capilano) have been scheduled for release over a 6 year period commencing with the 1979 brood. Preliminary analysis of the project will be conducted in April of each year by the technical team to assess the viability of the project and determine escapement needs. A decision regarding the scope of the early coho enhancement project will occur in April of 1988 when results from the entire 6 year evaluation period are available.

To the extent that this enhancement planning decision may affect other parties by changing the escapement requirements of salmon stocks outside Hood Canal, those affected parties shall be consulted.

During the evaluation period early coho will be managed as a secondary stock with the harvest rate equal to that appropriate for summer/fall chinook (in areas 12, 12B, 12C) normal coho (in areas 12, 12B, and 12C) and pink salmon (in areas 12, 12B) during their respective management periods. Any unharvestable surplus shall not be included in the calculation of shares.

7.2 Normal Coho

Normal timed coho salmon will be managed to achieve the desired level of escapement to the natural spawning areas of Hood Canal except in Area 12A and in Area 9A. Management units and their status (primary or secondary) are listed below:

<u>Management Unit</u>	<u>Status</u>
Tribs. to Area 12 (Natural)	Primary
Tribs. to Area 12B (Natural)	Primary
Tribs. to Area 12C (Natural)	Primary

Tribs. to Area 12D (Natural)	Primary
Skokomish River (Natural)	Primary
George Adams Hatchery	Secondary
Quilcene National Fish Hatchery	Secondary (except in Area 12A)
Area 9A Pens	Secondary
Tribs. to Area 9A (Natural)	Secondary
Area 12A Pens	Secondary
Tribs. to Area 12A (Natural)	Secondary

Fisheries in Area 12A and the Quilcene River will be managed to achieve the desired escapement at the Quilcene National Fish Hatchery; the fishery in Area 9A will be managed to achieve the complete harvest of coho in that area. An unharvestable surplus will occur at George Adams hatchery. These fish shall not be included in the calculation of shares except as may be agreed to by the parties.

The pen rearing projects in Area 12A and in Area 9A are cooperative programs between the WDF and the Tribes. The purpose of these programs is not only to provide additional harvest, but to also provide a better distribution of harvest among areas. It will be the responsibility of the Tribes to provide the labor and materials to maintain these facilities, while the Washington Department of Fisheries will provide the smolts and fish food.

Consistent with the primary goals of this plan, the parties have considered several alternative management and enhancement measures designed to maintain and increase the harvest of coho salmon in Hood Canal. Some of the measures considered are:

1. Increasing annual production from the Area 12A pens beyond the currently scheduled .25 million smolts.
2. Changing the status of the Skokomish natural stock to a secondary stock, increasing production from the George Adams Hatchery, and managing the Skokomish River fishery to achieve the desired escapement at the George Adams Hatchery;

3. Outplanting coho fry in natural production areas which are underseeded.
4. Implementation of the equilibrium brood program described in the Plan.

Because of concerns and/or present uncertainties over natural stocks, interspecific interactions, habitat carrying capacities, and the level of potential impacts to the areal distribution of harvests, the parties have agreed to initially implement the management and enhancement programs outlined herein and to reassess each of these options, and others which may arise, during the annual technical review process.

8.0 Chum Salmon Management and Enhancement

The equilibrium brood program, required escapement levels, run timing in each management area, and the management regime for chum salmon are summarized in Appendix Tables 1-3 and in Appendix Figure 1.

8.1 Early Chum

Early timed chum salmon in Hood Canal will be managed as secondary stocks. Harvest will occur at the rate appropriate for chinook salmon during the chinook management period and at the rate appropriate for coho during the coho management period.

<u>Management Unit</u>	<u>Status</u>
Tribs. to Area 12A (Natural)	Secondary
Tribs. to Area 12B (Natural)	Secondary
Tribs. to Area 12C (Natural)	Secondary
Tribs. to Area 12D (Natural)	Secondary

8.2 Hoodsport Hatchery Timed Chum (Early-Normal Chum)

Chum salmon returning during the same time period as the Hoodsport Hatchery timed stocks shall be managed to achieve the desired aggregate escapement at the Hoodsport/George Adams/McKernan complex. Management units and their status (primary or secondary) are listed below:

<u>Management Unit</u>	<u>Status</u>
Hoodsport Hatchery	Primary
George Adams/McKernan Hatchery	Primary
Skokomish River (Natural)	Secondary
Tribs. to Area 12 (Natural)	Secondary
Tribs. to Area 12A (Natural)	Secondary
Tribs. to Area 12B (Natural Augmented)	Secondary
Tribs. to Area 12C (Natural Augmented)	Secondary

Tribs. to Area 12D (Natural Augmented)	Secondary
Little Boston Hatchery	Secondary
Quilcene National Fish Hatchery	Secondary
Enetai Hatchery	Secondary

It is recognized by the parties that not all chum returning to Hood Canal have similar timing. For this reason, only the proportion of the management unit entering Hood Canal during the hatchery management period (Appendix Table 2) shall be considered harvestable at the rate appropriate for the primary management units. Although the initial portion of the late-normal run will be harvested at a hatchery rate, it is the intent of the parties to achieve, to the extent possible, the biologically required escapements for these stocks by appropriate management actions after the end of the early-normal management period. The parties shall determine the feasibility of accomplishing this after further analysis of the entry timing difference between the Hoodsport and late-normal stocks.

To protect natural stocks in the Skokomish River, the original Hood Canal Plan called for the transfer of 50% of the production from the hatcheries located on the Skokomish River to other areas in Hood Canal. It appears that the timing overlap of hatchery and natural stocks in the Skokomish River may not now require that hatchery fry be transported out of the Skokomish system. However, the potential exists that a shift in the preponderance of production from the Hoodsport Hatchery to stations on the Skokomish River could result in a large number of harvestable fish in the Skokomish River. This would alter the areal distribution of harvest and would be detrimental to the Tribes' marine area fisheries. The parties agree to limit the transfer of production from Skokomish River hatcheries to 50% of the George Adams hatchery only, beginning with the 1985 brood year, and to assess the transfer program with respect to 1) the beneficial/harmful effects on the return rate caused by the transfer of the fish, 2) the protection afforded to natural stocks in the Skokomish River, and 3) shifts in the areal distribution of harvest.

Future decisions concerning the transfer program shall be based on the results of these assessments.

The WDF and the Tribes have cooperated in the operation of an egg box program designed to mitigate for the effects of hatchery harvest rates. The effectiveness of this program is presently unknown; therefore the parties have agreed to reassess the program and recommend modification, improvement, or discontinuance, as appropriate.

8.3 Late-Normal Chum

Chum salmon returning after the hatchery chum management period will be harvested at a rate appropriate for natural stocks, except in Area 12A and in Area 9A. Management units and their status (primary or secondary) are listed below:

<u>Management Unit</u>	<u>Status</u>
Skokomish River (Natural)	Primary
Tribs. to Area 12A (Natural)	Secondary
Tribs. to Area 12B (Natural)	Primary
Little Boston Hatchery	Secondary
Enetai Hatchery	Secondary
Quilcene National Fish Hatchery	Secondary (except in Area 12A)

9.0 Implementation Procedures

9.1 Escapement

In order to establish the levels of required escapements for the various management units and stocks in Hood Canal, the parties shall follow the procedures outlined in Section 3 of the Puget Sound Plan.

9.2 Management Reports and Documents

The parties recognize that long term as well as annual management planning processes depend on timely exchange of resource management information and management planning recommendations. These will be prepared by the parties as follows:

9.2.1

Basic resource management documents shall be prepared in accordance with this Plan's goals and in a manner outlined in Section 5 of the Puget Sound Plan. Initially, Appendix Tables 1 and 2 of this Plan shall be considered the basis for such resource documents.

9.2.2

Annual preseason and post season management reports shall be prepared by the parties in accordance with Section 5 of the Puget Sound Plan. In addition to the requirements of the Puget Sound Plan regarding post-season audit reports, and in the same time frame, the parties shall prepare annually a report outlining the progress toward implementation of this Plan's primary goals as well as any recommendations for amendments to this Plan.

9.3 Schedules

The parties to this Plan shall undertake to complete annual reporting and agreement tasks in accordance with the annual Schedule found in Section 6 of the Puget Sound Plan. Additional deadlines required by this Plan are:

Plan progress report available:	3/15
Agreement on proposed activities and amendments:	4/15

9.4 Allocation

Allocation and equitable adjustment procedures for each Hood Canal allocation unit shall be as outlined in Section 10 of the Puget Sound Plan.

9.5 Plan Review and Amendment

The parties recognize that this plan cannot possibly address all potential concerns regarding the management of salmon in the Hood Canal region. For this reason, it is imperative that an annual review process occur to evaluate the performance of the plan and to provide for necessary modifications. This review shall occur in accordance with the schedule in section 9.3. Any amendment of the plan shall be by agreement of the parties.

9.5.1

In the event of budget reductions affecting WDF, USFWS or Tribal production programs, high priority will be given to maintaining the programs in Hood Canal, but in no case will the loss of production in Hood Canal be disproportionate to the overall cutback in the aggregate of the WDF, USFWS or Tribal facilities. The parties shall be apprised of the situation, consulted, and given an opportunity to ameliorate the effects of the budget cuts.

9.5.2

Changes to this plan may be agreed to by a signed stipulation filed with the court or entered as a court order by June 1 in order to become effective the following year. Changes may be implemented in the same year by agreement of the parties.

9.5.3

The parties to this plan recognize that many of the benefits of this plan depend upon the sharing of hatchery production. Therefore, if the United States Supreme Court makes any decision which changes or leads to a change in the tribes' right to share all hatchery fish on the same basis as naturally produced fish, any one of the parties may at their sole option elect to terminate this plan. Provided that, prior to such termination, the parties shall make every effort to agree on modifications to this plan to fit new circumstances.

9.6 Dispute resolution

The parties to this Plan recognize the value of voluntary, informal settlement of disputes and shall make every effort to resolve disputes through a cooperative planning and management process.

9.6.1

Disputes which may arise regarding the implementation and/or amendments to this Plan shall be submitted to the Dispute Resolution Process outlined in Section 14 of the Puget Sound Plan.

9.6.2

In the event a disagreement over the interpretation, implementation or enforcement of this plan is not resolved through the dispute resolution process required by Section 9.6.1, any dissatisfied party may seek a determination in federal district court. The court shall remain the ultimate arbiter of this plan's interpretation, implementation and enforcement.

Ronald A. Chase

Chairman,
Point No Point Treaty Council

Bill Wilber

Director
Washington Dept. of Fisheries

Richard Myshak

Regional Director
U.S. Fish and Wildlife Service

Appendix 1.

Procedure and Schedule for Analyzing Chinook Enhancement Programs

The time schedule and procedure which will be used to analyze chinook enhancement programs in Hood Canal is presented below.

<u>Time Period</u>	<u>Task</u>
5-6/85	1. Determine needed improvements in the lower earthen pond at the George Adams Hatchery.
6/85	2. Decision regarding the production of chinook from the lower earthen pond at the George Adams Hatchery.
3/86	3. Evaluate the desirability of increasing chinook production from the Enetai Hatchery.
4/86	4. Decision regarding increasing the production of chinook from the Enetai Hatchery.
4/86	5. Tag chinook fingerling at the Hoodsport Hatchery for evaluation of the equilibrium enhancement level.
4/86	6. Tag chinook fingerling at the Enetai Hatchery for production evaluation.
4/86	7. Tag chinook fingerlings in the lower earthen pond at the George Adams Hatchery for production evaluation.
4/87	8. Tag chinook fingerlings at the Hoodsport Hatchery for evaluation of the equilibrium enhancement level.
4/87	9. Tag chinook at the Enetai Hatchery for production evaluation.
4/87	10. Tag chinook fingerlings in the lower earthen pond at the George Adams Hatchery for production evaluation.
4/88	11. Review baseline tag data available; determine future course of Hood Canal smolt capacity experiment.

Tasks 5, 8, and 11 will be undertaken as one component of a program to evaluate the juvenile rearing capacity of Hood Canal. To prevent confounding of the results of this experiment, sources of variability such as inconsistent rearing and release strategies will need to be minimized. Chinook fingerling from the Hoodsport Hatchery were chosen for the experiment as a more complete coded wire tag data base is available than for the George Adams Hatchery. In addition, unlike the George Adams Hatchery stock, the Hoodsport Hatchery stock has been relatively free from supplementation from stocks from outside Hood Canal. Coded wire tag data applicable to Hoodsport Hatchery fingerling production and expected to be available at the next decision point in the experiment (4/88) are listed below.

<u>Brood Year</u>	<u>Date Available</u>	<u>Tag¹ Codes</u>	<u>Fingerling Pounds Planted in Hood Canal</u>
71	Currently	15-01-03, 15-01-12	54,917
72	Currently	15-05-12	70,314
78	Currently	63-19-15	9,639
79	86	63-21-09	15,381
80	87	63-21-61	34,203
81	88	63-23-31	40,049
85	92	-	55,000-68,000 (projected)
86	93	-	55,000-68,000 (projected)

¹ Additional tag groups may be included, as appropriate, by agreement of the parties.

Appendix Table 1. Equilibrium brood program.

The equilibrium brood program described below represents production programs and volumes of production agreed to between the parties during formulation of this plan. Numbers of "fish released" may vary within $\pm 10\%$ because of management and production imprecision.

Additional information concerning these programs may be found in the Puget Sound Equilibrium Brood Program Report mandated by the Puget Sound Plan. That information includes egg requirements, broodstock use priorities and outlines of contingency action for each project.

Facility	Stock	Source	Fish (millions)	Size (fish/lb)	Transfer/Release Location	Transfer/Release Date
<u>SPPING CHINOOK SALMON</u> - Production for release in the Hood Canal region.						
Quilcane National Fish Hatchery	Quilcane	Quilcane	.40	15	Quilcane River	May
Quilcane National Fish Hatchery	Quilcane	Quilcane	.20	65	Quilcane River	June
<u>SUMMER/FALL CHINOOK SALMON</u> - Production for release in the Hood Canal region.						
George Adams Hatchery	George Adams (Hoodsport)	George Adams (Hoodsport)	3.70 ⁴	100	Purdy Creek	May, June
George Adams Hatchery	George Adams (Hoodsport)	George Adams (Hoodsport)	.50 ³	500	Hood Canal streams	March
McKernan Hatchery	George Adams (Hoodsport)	George Adams (Hoodsport)	.60	100	Weaver Creek	May, June
Hoodsport Hatchery	Hoodsport (George Adams)	Hoodsport (George Adams)	1.20	100	Finch Creek	May, June
Hoodsport Hatchery	Hoodsport	Hoodsport	.15	10	Finch Creek	March
Enetai Hatchery	Enetai (Hoodsport)	Enetai (Hoodsport)	.27 ⁵	100	Enetai Creek	June
Enetai Hatchery	Enetai (Hoodsport)	Enetai (Hoodsport)	.30	400	Skokomish River	March
<u>SUMMER/FALL CHINOOK SALMON</u> - Production for release outside the Hood Canal region.						
George Adams Hatchery	Deschutes	Deschutes	.60	25	Percival Cove	January
McKernan Hatchery	Deschutes	Deschutes	.60	25	Percival Cove	January

Appendix Table 1. Equilibrium brood program (continued).

Facility	Stock	Source	Fish (millions)	Size (fish/lb)	Transfer/Release Location	Transfer/Release Date
<u>PINK SALMON</u> - Production for release in the Hood Canal region.						
Hoodsport Hatchery	Hoodsport	Hoodsport	1.00	1,000	Finch Creek	March
<u>COHO SALMON</u> - Production for release in the Hood Canal region.						
George Adams Hatchery	George Adams	George Adams	.25 ³	1,000	Hood Canal streams	March
George Adams Hatchery	George Adams	George Adams	.30	17	Purdy Creek	May
Hoodsport Hatchery	Soleduck, Baker, Capilano	Dungeness	.25	15	Finch Creek	June
Area 12A Pens	Dungeness	Dungeness	.25	12	Area 12A	July
Port Garble Pens	Dungeness	Dungeness	.40	12	Area 9A	July
Quilcene National Fish Hatchery	Quilcene	Quilcene	.25	450-800	Area 12A Tribs.	February, March
Quilcene National Fish Hatchery	Quilcene	Quilcene	.25	18	Quilcene River	May
<u>COHO SALMON</u> - Production for release outside the Hood Canal region.						
George Adams Hatchery	George Adams	George Adams	.25 ³	1,000	South Sound streams	April
George Adams Hatchery	George Adams	George Adams	.50	30	South Sound pens	February
Hoodsport Hatchery	Minter Creek	Minter Creek	.40	35	Lake Sequelitchew	November
<u>CHUM SALMON</u> - Production for release in the Hood Canal region.						
George Adams Hatchery	George Adams (Hoodsport)	George Adams (Hoodsport)	5.00	450-800	Purdy Creek	March, April, May
George Adams Hatchery	George Adams (Hoodsport)	George Adams (Hoodsport)	5.00	450	Hoodsport Hatchery	April, May
McKernan Hatchery	McKernan (Hoodsport)	McKernan (Hoodsport)	10.00	550	Weaver Creek	Feb., March, April

Appendix Table 1. Equilibrium brood program (continued).

Facility	Stock	Source	Fish (millions)	Size (fish/lb)	Transfer/Release Location	Transfer/Release Date
<u>CHUM SALMON</u> - Production for release in the Hood Canal region (continued).						
Hoodspont Hatchery	George Adams	George Adams	5.00	385	Finch Creek	March, April, May, June
Hoodspont Hatchery	Hoodspont	Hoodspont	10.00	385	Finch Creek	March, April, May, June
Enetai Hatchery	Enetai	Enetai	1.00	1,100	Enetai Creek	March
Enetai Hatchery	Enetai	Enetai	1.50	400	Enetai Creek	May
Little Boston Hatchery	George Adams (Hoodspont)	George Adams (Hoodspont)	.95	400	Little Boston Creek	May
Port Gamble Pens	Hoodspont (George Adams)	Hoodspont (George Adams)	1.80	400	Area 9A	May
Quilcane National Fish Hatchery	Quilcane	Quilcane	2.20	550	Big Quilcane River ¹	April
Egg Boxes	Hoodspont (George Adams)	Hoodspont (George Adams)	1.50	1250	Tahuya R. ²	March
			0.15	1250	Anderson Crk. ²	March
			0.15	1250	Caldervin Crk. ²	March
			0.15	1250	Stinson Cgk. ²	March
			0.15	1250	Union R. ²	March
			0.15	1250	Twanoth Crk. ²	March
			1.00	1250	Johnson Crk. ²	March
			0.50	1250	Fulton Crk. ²	March
			2.00	1250	Eagle Crk. ²	March
			0.50	1250	John Crk. ²	March
0.50	1250	L. Lilliwaup R. ²	March			
<u>CHUM SALMON</u> - Production for release outside the Hood Canal region.						
Quilcane National Fish Hatchery	Quilcane	Quilcane (Walcott)	2.20	Eggs	Makah NFH	March

¹ 25% of the production will be released in Walcott Slough in 1986 and 1987.

² Egg box program

³ Actual distribution to be established annually.

⁴ The equilibrium brood includes .5 million (@ 100/lb) to be reared at the George Adams lower earthen pond. The parties agree that this component may be increased to 1 million or eliminated based on the results of technical analysis which would weigh long term benefits vs. potential losses due to flooding.

⁵ The parties agree that a modification of the Enetai program to increase production of chinook fingerlings by .36 million at the expense of chum production is desirable if technical analysis indicates that the program has been successful at its current production level.

Appendix Table 2. Hood Canal escapement requirements by species and management unit.

Note: The following list of escapement requirements outlines the escapement goals used by the parties during the 1985 season. All requirements shall be reviewed and revised annually in accordance with Section 3.5 of the Puget Sound Salmon Management Plan. Any in-season changes to hatchery escapements shall be made in accordance with Section 3.11 of the Puget Sound Management Plan.

Management unit (& Prod. Units)	Spr. Chin.	S/F Chin.	Pink	Coho	Early Chum	E-Normal Chum	L-Normal Chum
<u>Natural Production</u>							
Area 9A Tribs	---	---	---	200 ²	---	---	---
Area 12 Tribs (Big Beef Creek) (Misc. Tribs.)	---	---	---	1,300	---	1,100 ²	---
Area 12A Tribs. (Big Quilcene R.) (Little Quilcene R.) (Tarboo Crk.) (Misc. Tribs.)	---	---	---	1,000 ²	2,300 ²	1,000 ³	---
Area 12B Tribs. (Dosewallips R.) (Duckabush R.) (Hamma Hamma R.) (Misc. Tribs.)	---	750 ²	1/	3,000	11,100 ²	10,100 ³	---
Area 12C Tribs. (Dewatto R.) (Misc. Tribs.)	---	---	---	2,500	3,300 ²	5,000 ²	---
Area 12D Tribs. (Tahuya R.) (Union R.) (Misc. Tribs.)	---	400 ²	---	6,400	3,300 ²	7,300 ²	---
Skokomish R.	1/ 2/	1,650 ²	---	4,250	---	7,500 ³	---

Appendix Table 2. Hood Canal escapement requirements by species and management unit (continued).

Management unit (& Prod. Units)	Spr. Chin.	S/F Chin.	Pink	Coho	Early Chum	E-Normal Chum	L-Normal Chum
<u>Artificial Production</u>							
Area 9A Pens	---	---	---	---	---	---	---
Area 12A Pens	---	---	---	---	---	---	---
Little Boston Hatchery	---	---	---	---	---	---	---
Quilcene Nat'l Fish Hatchery	500 ²	---	---	600 ²	---	---	3,100
Hoodsport Hatchery	---	2,800 ⁴	1,100 ²	0	---	22,600 ⁵	---
Enetai Hatchery	---	350 ²	---	---	---	---	1,900 ²
Geo. Adams/McKernan Hatchery	---	800 ⁴	---	1,500 ²	---	8,400 ⁵	---

¹ The parties shall assess and establish escapement requirements prior to 1987.

² Secondary management unit.

³ Present combined escapement requirement (see Sections 8.2, 8.3). The parties shall establish appropriate levels of escapement.

⁴ Total escapement need of 3,600 fish; proportion to be taken at each facility will depend upon the management objectives in each year.

⁵ Total escapement need of 31,000 fish; proportion to be taken at each facility will depend upon the management objectives in each year.

Appendix Table 3. Management periods (prior to administrative adjustment) for areas in Hood Canal (continued).

Mgmt. Area	Species						
	Spring Chinook	Summer /Fall Chinook	Pink	Coho	Early Chum	Normal Chum	Late Chum
9A	-	-	-	9/18-11/11	-	11/12-12/21	-
12	4/14- 6/29	7/17- 9/6	7/16- 8/24	9/7 -10/16	8/16- 9/22	10/17-11/20	11/21-12/7
12A	4/14- 6/29	-	-	9/1 -10/13	8/26- 9/26	10/14-11/18	11/19-12/21
12B	4/14- 6/29	7/17- 9/6	7/16- 8/24	9/7 -10/16	8/16- 9/22	10/17-11/20	11/21-12/14
12C	4/14- 6/29	7/24- 9/8	7/23- 8/31	9/9 -10/24	8/26- 9/26	10/25-11/27	11/28-12/21
12D	-	7/24- 9/8	-	9/9 -10/24	8/26- 9/26	10/25-11/27	-
Quilcene R.	4/14- 8/31	-	-	9/1 -11/9	9/8 -10/19	11/10-11/25	11/26-12/21
Dosewallips R.	-	8/6 - 9/19	9/1 -10/19	9/20-11/7	9/8 -10/19	11/8 -11/30	12/1 - 1/4
Duckabush R.	-	8/6 - 9/19	9/1 -10/19	9/20-11/7	9/8 -10/19	11/8 -11/30	12/1 - 1/4
Hamma Hamma R.	-	8/6 - 9/19	9/1 -10/19	9/20-11/7	9/8 -10/19	11/8 -11/30	12/1 - 1/4
Skokomish R.	4/14- 7/26	8/6 - 9/19	-	9/20-11/7	-	11/8 -11/30	12/1 - 1/4
Tahuya R.	-	8/6 - 9/19	-	9/20-11/7	9/8 -10/19	11/8 -11/30	-
Tributaries other than those listed above.							
9A Tribs.	-	-	-	9/18-11/7	-	11/8 -11/30	-
12 Tribs.	-	-	-	9/18-11/7	-	11/8 -11/30	-
12A Tribs.	-	-	-	9/1 -11/7	9/8 -10/19	11/8 -11/25	11/26-12/21
12B Tribs.	-	-	-	9/18-11/7	9/8 -10/19	11/8 -11/30	12/1 - 1/4
12C Tribs.	-	-	-	9/18-11/7	9/8 -10/19	11/8 -11/30	-
12D Tribs.	-	-	-	9/18-11/7	9/8 -10/19	11/8 -11/30	-

Appendix Figure 1. Summary of the management regime in each management area of Hood Canal. The management unit controlling the harvest rate is given below the management period.

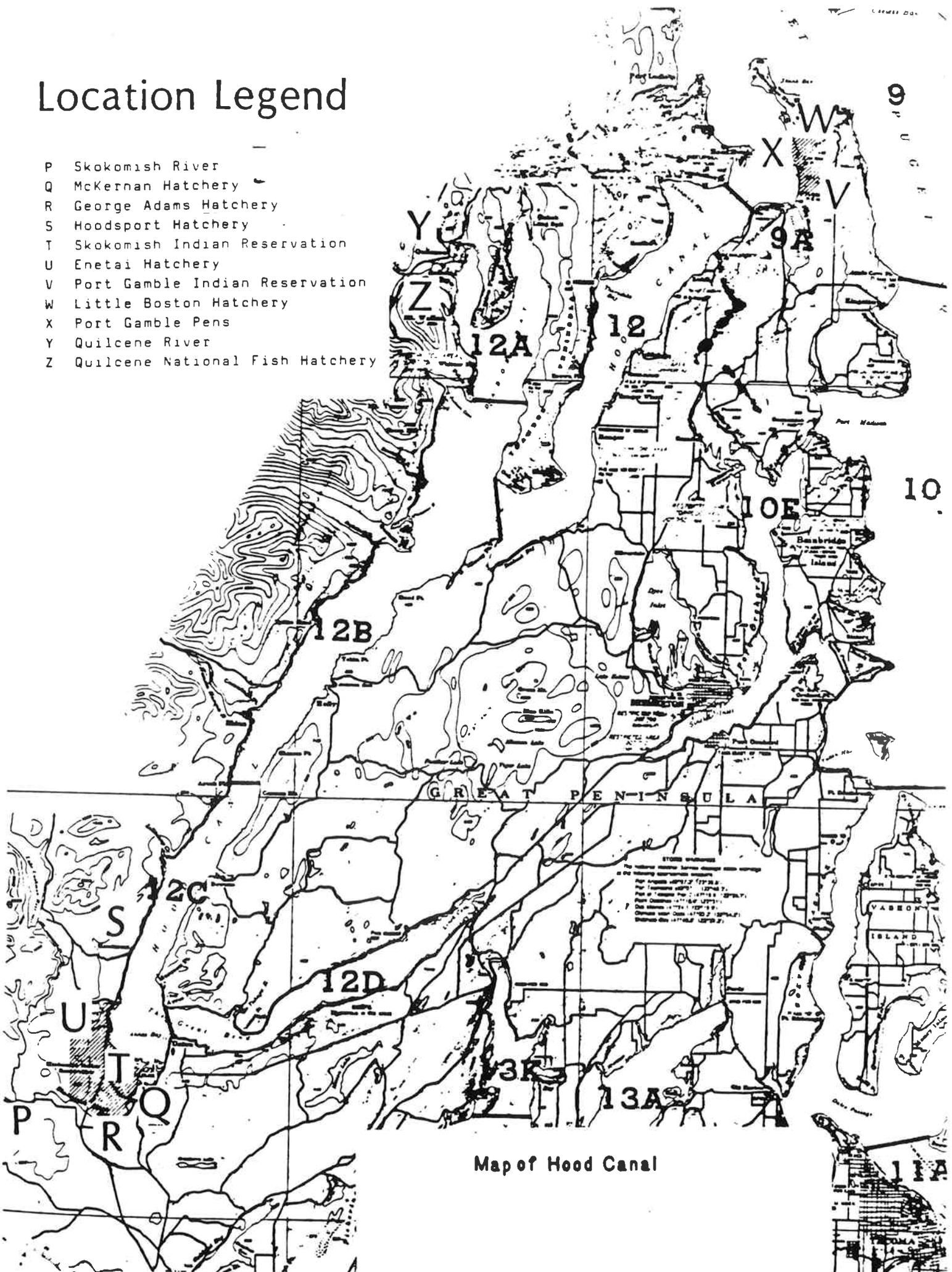
Mgmt. Area	Date								
	5/1	6/1	7/1	8/1	9/1	10/1	11/1	12/1	1/1
Area 12	Spring Chinook		Summer/Fall Chinook		Coho		Early Normal Chum	Late Nrmal Chum	W. Stlhd.
	I-----I 4/14	I-----I 6/29	I-----I 7/17	I-----I 9/6	I-----I 10/16	I-----I 11/20	I-----I 12/7		
	Skokomish River Natural		Hoodsport Hatchery (with pink restrictions)		12,12B,12C, Skok. R., or 12D natural		Hoodsport Hatchery	12,12B, or Skok. R. natural	
Area 12B	Spring Chinook		Summer/Fall Chinook		Coho		Early Normal Chum	Late Nrmal. Chum	W. Stlhd.
	I-----I 4/14	I-----I 6/29	I-----I 7/17	I-----I 9/6	I-----I 10/16	I-----I 11/20	I-----I 12/14		
	Skokomish River Natural		Hoodsport Hatchery (with pink restrictions)		12B, 12C, Skok. R., or 12D natural		Hoodsport Hatchery	12B, or Skok. R. natural	
Area 12C	Spring Chinook		Summer/Fall Chinook		Coho		Early Normal Chum	Late Nrmal. Chum	W. Stlhd.
	I-----I 4/14	I-----I 6/29	I-----I 7/24	I-----I 9/8	I-----I 10/24	I-----I 11/27	I-----I 12/21		
	Skokomish River Natural		Hoodsport Hatchery		12C, 12D, or Skok. R. natural.		Hoodsport Hatchery	Skok. R. natural	
Area 12D	Spring Chinook		Summer/Fall Chinook		Coho		Early Normal Chum	Late Normal Chum	W. Stlhd.
	I-----I 4/14	I-----I 6/29	I-----I 7/24	I-----I 9/8	I-----I 10/24	I-----I 11/27	I-----I 12/8		
	Skokomish River Natural		Hoodsport Hatchery		12D natural		12D natural		
Skokomish R.	Spring Chinook		Summer/Fall Chinook		Coho		Early Normal Chum	Late Normal Chum	W. Stlhd.
	I-----I 4/14	I-----I 6/29	I-----I 7/26	I-----I 8/6	I-----I 9/19	I-----I 11/7	I-----I 11/30	I-----I 1/4	
	Skokomish River Natural		George Adams/McKernan complex		Skok. R. natural		George Adams/McKernan complex	Skok. R. natural	

Appendix Figure 1. Summary of the management regime in each management area of Hood Canal. The management unit controlling the harvest rate is given below the management period (continued).

Mgmt. Area	Date									
	5/1	6/1	7/1	8/1	9/1	10/1	11/1	12/1	1/1	
Area 9A						9/18	11/11	12/21		
						Area 9A Pens	Little Boston Hatchery			
Area 12A	4/14	6/29			9/1	10/13	11/19	12/21		
	Quilcene National Fish Hatchery				Quilcene National Fish Hatchery	12A natural	Quilcene National Fish Hatchery			
Quilcene River	4/14				8/31		11/9	11/25	12/21	
					Quilcene National Fish Hatchery		12A natural	Q.N.F.H.		

Location Legend

- P Skokomish River
- Q McKernan Hatchery
- R George Adams Hatchery
- S Hoodsport Hatchery
- T Skokomish Indian Reservation
- U Enetai Hatchery
- V Port Gamble Indian Reservation
- W Little Boston Hatchery
- X Port Gamble Pens
- Y Quilcene River
- Z Quilcene National Fish Hatchery



Map of Hood Canal