FWS 340

SHOALWATER TRIBAL SALMON FISHERY MANAGEMENT PLAN

Prepared for the Shoalwater Bay Tribe by

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I. Purpose and Scope of Plan

This plan establishes guidelines for the harvest of salmon originating in the Willapa Bay watershed by the Shoalwater Tribe. The overall goal of this plan is to afford Shoalwater Tribal fishermen the opportunity to harvest their allocation as determined in ongoing negotiations between the Tribe and the Washington State Department of Fisheries (WDF). It is also intended to achieve the tribal allocation without causing the underharvest or overharvest of any primary management unit (management unit is defined below). This plan was patterned after the Puget Sound Salmon Management Plan (PSMP) and the 1985 version of the Hood Canal Management Plan. A secondary purpose is to establish guidelines for tribal enhancement activities.

WDF and the Shoalwater Tribe are the only parties to this Plan. As a result, only those fish stocks which reproduce in the Willapa Bay watershed are addressed here. No fishery on non-local stocks of chinook occurring temporarily in Willapa Bay will be addressed here, nor is any tribal fishery on non-local chinook suggested until issues beyond the scope of this agreement are resolved. However, this plan shall be in conformance with the general Willapa watershed management plan (Comprehensive Resource Production and Management Plan, or CRPMP (pronounced "crump")) now being negotiated between the State and other parties.

This plan will be in effect from the time of approval by WDF and Tribe until modified by agreement of both parties. Modifications must be agreed to according to the timetable below.

II. Definitions

Most definitions given here are from the Puget Sound Salmon Management Plan (PSMP), Section 2.

A. Escapement goal -- For hatcheries, the total adult return required to provide the desired egg take. This means the total

escapement past the fishery must be somewhat greater, because wild spawning is significant in the Willapa Bay runs. For stocks managed for natural spawning requirements, the escapement goal is the number of adults required to provide maximum sustained harvest. Wild escapement to the spawning grounds equals escapement past the fishery.

B. Evaluation fishery -- a commercial fishery conducted for the purpose of acquiring technical or management information.

C. Management period -- the time interval during which regulatory actions are taken to meet the escapement requirements for a management unit. Management periods are specific to each management unit and to each fishing area through which the unit passes.

D. Management unit -- stock or group of stocks which are aggregated for the purpose of achieving a desired spawning escapement objective.

E. Marine areas -- WDF catch reporting areas 2G, 2H, 2K, 2J, and 2M.

F. Primary management unit -- a stock or group of stocks for which a specific spawning escapement goal is established with the intention of managing all impacting fisheries to meet that goal.

G. Region of origin -- a geographic area from which a management unit originates.

H. River areas -- WDF catch reporting areas 72A, 72J, 72K, 72M, 72N, and 72T.

I. 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 units.

J. Test fishery -- an agreed-upon fishery conducted on a limited basis for the purpose of acquiring technical or management information. Any fish taken in test fisheries may not be sold for personal profit.

III. Hatchery/Wild Management and Escapement Goals

Management for hatchery or wild production objectives in this plan is in accordance with current WDF management practice. The primary management unit for chinook salmon originating in Willapa Bay is the aggregated hatchery run to the Willapa, Nemah, and Naselle hatcheries. The wild chinook runs are considered secondary management units. The primary and secondary management units for coho salmon are defined in the same way.

The primary management unit for chum salmon in the marine areas of Willapa Bay is the total aggregate wild run returning to all Willapa Bay tributaries. In the river terminal areas, the primary management units are the individual runs returning to the major Willapa Bay tributaries. These are the North, Palix, Nemah, Naselle, and Bear rivers. The aggregate hatchery run is considered the secondary management unit.

Escapement goals will be those used by the WDF, unless tribal biological staff develop new information and propose otherwise, in which case resolution will occurr according to the proposed schedule in Section VIII of this plan. The goals and management periods for each primary management unit are shown in Tables 1 and 2, respectively. Exceptions for individual seasons may be agreed to for reasons given in PSMP Section 3.5.

IV. Hatchery Program

The Tribe will not initiate enhancement projects which conflict with current WDF management. Emphasis shall be on building of the hatchery chinook run to make a directed fishery possible. The Tribe will continue to comply with the existing WDF fish culture permit procedure. For harvest management purposes, the Tribe will specify details of any directed tribal fisheries on stocks returning to the tribal hatchery, according to the list given in PSMP Section 4.5.

V. Management Documents and Technical Reports Governing the Tribal Fishery

A. Basic Documents

The basic documents are the Tribal Fishing Ordinance and this Plan. These are expected to be more or less the same each year. The Ordinance contains general rules governing tribal fishing and law enforcement. Sections relevant to fishery management include allowable gear types and fishing locations. This Plan is subject to revision by agreement if necessary.

B. Pre-season Management Reports

Pre-season management plans provide detail on the harvest and assessment of each run based on information on the status of all management units. Information on the long-term status of the Willapa Bay runs is available from the FWS (Hiss and Boomer 1985). Annual data is now gathered and analyzed by WDF fishery managers. Reliance on WDF analysis will continue until a tribal biological staff is capable of reviewing WDF management plans and procedures. Usually a report is prepared for each species, recommending that season's management period, predicting the allowable harvest from run size estimates and escapement requirements, making recommendations for harvest management.

Table 1. Willapa Bay escapements required for primary management units by WDF in 1985.

Management unit	Fall Chinook	Coho	Chum
NATURAL PRODUCTION			
Bear River	--	--	13.638
Nemah, all branches	--	--	6.266-10.891
Naselle	--	--	3.232- 7.837
Palix	--	--	3.460
North River	--	--	2.152
Willapa, South Fork	--	--	1.244
North Fork	--	--	392
HATCHERY PRODUCTION			
Combined rack return	4.680	8.610	--

Table 2. Suggested management periods, by statistical week.

Area	Chinook	Coho	Chum
Marine areas	31-38	39-41	41-44
River areas	33-39	40	41-47

describing expected test fisheries, stating hatchery broodstock requirements, and describing methods for in-season run size updates. Example outlines of pre-season management plans for each Willapa Bay salmon species are presented in the Appendix to this plan.

C. Post-season Reports

Post-season evaluation reports assess accomplishment of agreed-upon goals in terms of escapement, enhancement, harvest, and allocation. In the case of Willapa Bay, such reports might discuss the tribal versus non-tribal effort levels and fishing success (catch per unit of effort) by area and subarea. They might also discuss the relative fishing success in in-common versus exclusive Tribal fisheries, and the catch timing in newly-opened river areas. As a result of post-season evaluation, the following year's management techniques can be refined, and the basic documents can be revised if necessary. The post-season evaluations will be prepared initially by WDF but in the coming years they may be prepared cooperatively by WDF and the tribe.

VI. Gear Types

Tribal fishing gear may include gillnet, hook and line, beach seine, or reef net. However, for the immediate future, only gillnets are anticipated in the Tribe's commercial fishery. Only drift gillnets will be used in the marine areas, but both set and drift nets may be used in the river areas. This flexibility is necessary to adequately exploit the individual characteristics of each river and the fishable reaches in each. A maximum mesh size of 6 1/2" may be required during periods when it is necessary to protect chinook from overharvest. Mesh size restriction may not be needed after the chinook run has been built up to the desired level. As stated in the ordinance, a set gillnet may not be set to block the entire migration route of the run at any time.

VII. Areas to be Fished

Tribal fishing is anticipated in all marine and river areas of the Willapa Bay system. The marine areas consist of WDF catch reporting areas 2G, 2H, 2K, 2M, and 2J. The river areas consist of the North River and its estuary (that is, Area 72M), the north and south forks of the Willapa (Area 72T), the Palix (Area 72N), the north and middle Neman and its estuary (Area 72K), the Naselle and its estuary (Area 72J), and the Bear River and its estuary (Area 72A). Regulating setnet fishing in the Neman and Bear rivers may be difficult because they are narrow and it is very easy to block the entire stream.

Target species in the respective river fisheries will vary according to their relative abundance and timing. For example, the North, Palix, and Bear rivers are expected to support primarily a chum fishery, although the North and Palix rivers are thought to support natural spawning populations of chinook and coho. The Willapa River fishery will be predominantly for hatchery coho. On the Neman and Naselle rivers both coho and chum runs are relatively strong.

VIII. Reporting and Management Schedules

Schedules for producing annual management documents and arriving at agreements are specified, for the most part, in the proposed WDF/Tribal settlement. The following is a list that also incorporates items from the Puget Sound and Hood Canal plans.

A. Basic tribal resource management documents are finalized between parties for all species on November 1.

B. Tribe requests eggs for tribal hatchery by January 15, after agreeing with WDF on species and number.

C. Tribe gives WDF list of tribal boats and/or licensed tribal members on April 1.

D. Tribe reviews WDF pre-season run status reports (as described above), according to the following schedule:

1. Chinook -- April 1
2. Coho -- May 1
3. Chum -- June 1

E. Parties exchange proposed harvest regulations

1. Chinook -- April 15
2. Coho -- May 15
3. Chum -- June 15

F. Pre-season disputes are resolved. Dispute resolution will be as specified in cooperative agreement. If there is doubt in the details of its interpretation, the PSMP will serve as a model.

1. Chinook -- May 1
2. Coho -- June 1
3. Chum -- July 1

H. Final decisions are made regarding disputes

1. Chinook -- May 15
1. Coho -- June 15
2. Chum -- July 15

I. Tribe shall exchange expected effort information with WDF at least 10 days prior to fishing. Will include number of set and drift nets expected by area and time.

J. Parties exchange in-season catch data three days after data becomes available. Tribe provides scale samples, recovered tags, and biological data from the catch to WDF during the season if possible. Tribe will set up a catch sampling procedure to collect this basic data. Details are given in Section XIII of this Plan.

K. Parties will exchange final catch data four weeks after closure of the respective fisheries. This will require the Tribe to develop a fish ticket reconciliation procedure.

IX. Management Periods

Appropriate management periods for marine areas have been established by WDF using historic catch and timing information. Regarding the local chinook stock, management in Area 25 theoretically could begin about August 1, since the non-local stocks have essentially cleared the area by this date. However, no directed fishery has been allowed in recent years because of increased local hatchery requirements. For this reason, all the available surplus has been taken incidentally to the coho fishery. This fishery is usually scheduled to open in the last week of September, but the opening is frequently a few days earlier to harvest any available chinook incidentally to the effort on coho. Other areas of the bay are opened as chinook clear them. Our analysis of catch records indicates this occurs

Table 3. Timing of Willapa Bay catch and hatchery rack returns. Statistical weeks within which 80% of commercial catch or returns have been reported. All data are from WDF files.

General area	Species	Location	First week	Last week
Willapa River	Chinook	2H(a)	34	40
		Willapa H. (b)	40	45
	Coho	2H	38	43
		Willapa H. (b)	42	47
Lower Willapa Bay	Chinook	2J+2M	33	40
		Neman H. (b)	41	44
		Naselle H. (c)	38	43
	Coho	2J+2M	37	44
		Nemah H. (b)	43	47
		Naselle H. (c)	40	46
	Chum	2J+2M	41	44
		Nemah H. (b)	43	46
		Naselle H. (d)	45	47

(a) All catch data is based on mean daily timing over a 14-year period beginning 1970.
(b) Based on mean weekly timing over a 7-year period beginning 1977.
(c) Based on mean weekly timing over a 4-year period beginning 1980.
(d) Based on weekly timing for 1983.

about a week to ten days after chinook have cleared Bay. Management for coho ends when chum become a significant portion of the catch, usually in mid-October. The chum management period lasts until this run has cleared the bay, but early closure is not unusual for conservation reasons.

Management periods for river areas are difficult to assign because commercial fisheries have not occurred in these areas. We examined timing in both the marine areas immediately downstream of the respective river areas as well as total adult returns to the Willapa, Nemah, and Naselle hatcheries to establish a range around the possible timing of each run. Based on this information, the suggested periods (Table 3) were set to protect the chinook and chum from overharvest by a directed coho fishery. Consequently, the periods for chinook and chum are relatively large compared to coho. A longer coho period may be possible in the coming years if the river area fisheries operate consistently for a sufficient number of weeks to define a timing pattern for the respective runs.

Some overlap of weaker chinook and chum runs with hatchery coho in both marine and river areas is anticipated and will be specified in the Appendix. Means of selective harvest include gear restriction to partially protect chinook, and area and time restrictions to protect chinook and chum.

X. Test and Evaluation Fisheries

Test and evaluation fisheries are conducted in Willapa Bay to maintain a consistent database for information on gear selectivity, species composition, hatchery/wild composition of a run, or conduct an in-season run size update. These test and evaluation fisheries will be continued as specified by WDF in the marine areas and will guide management in the river areas whenever practical. Evaluation fisheries involving the Tribe may prove to be important in achieving the tribal allocation. However, before a test or evaluation fishery may be held, certain criteria must be met. There must be a definite need for the information. There must not be a great danger of adverse impact on the escapement. And, the nature of the test or evaluation fishery must be adequate to get the required information.

Details of individual test and evaluation fisheries are outlined in the Tribal Fishing Ordinance and will be presented in the annual pre-season reports. The exact location, dates, time, and gear will be specified to produce meaningful results. In the case of test fisheries, the Tribe will specify how the catch will be distributed.

XI. Harvest Rates

Harvest levels will be set so that the weakest primary management unit will be protected. The maximum permitted combined tribal and non-Indian harvest rate in each marine area will be determined by the method now used by WDF, as described in the Finfish Status Report (Hiss and Boomer 1985). Catch reporting areas will continue to be combined or subdivided as required to achieve harvest management goals.

XII. Allocation of Harvest

The tribal allocation of the available harvest shall be that determined by the WDF/tribal agreement. At present, allocation shall apply to Willapa-origin salmon stocks only. Sport catch shall be figured in the non-Indian share. Actual catches will be calculated by both parties and compared after the WDF post season report.

At the present small tribal fleet size, achieving the tribal allocation will require the maximum number of tribal fishing days whenever a fishery has been opened. For this reason, the Tribe should be allowed to fish 7 days a week wherever there is an opening. After the projected tribal catch has been discounted from the available harvest, non-Indian fishing days should be set to harvest the remaining harvestable surplus.

Ultimately, the tribal fleet is expected to grow and increase its capability to harvest its allocation. At such a point, the

equitable adjustment procedures as described in PSMP 10 may be invoked.

Surplus hatchery coho jacks and adults should be made available to the Tribe. The Tribe will agree with WDF whether these fish will be counted against the tribal allocation.

XIII. Coordinated Information Systems

Coordinated information systems will be developed between WDF and the Tribe. Categories of data to be covered include basic resource data such as catch (ceremonial and subsistence as well as commercial), effort, hatchery production, and emergency fishing regulations. Also, methods of recording the data should be exchanged. Finally, biological data on the catch, and mark sampling information should be included in the system.

Information systems should be well-documented to define the data being entered, timely enough for in-season adjustments, equally accessible to Tribal and WDF personnel, and should remain the exclusive property of the two parties.

The catch reporting system should include both hard data (confirmed after the season) and soft data (in-season catch estimates based on unconfirmed data). The Tribe should be included in both systems. To make the system operational, buyers must submit fish tickets to Tribe and State daily. The Tribe will collect data and correct errors under an agreement with WDF. Tribe will do as much of their own data entry as possible. The system should reflect subdivisions of Area 2G used for selective coho harvest in recent years.

XIV. Fishing Regulations

The Fishing Ordinance provides the basic framework for setting fishing regulations. To keep consistent records of these regulations, the Tribe will set up a system with WDF for transmitting regulations, indexing, and storing them. The promulgation procedure should use the PSMP Section 12.3 references as a model procedure, or use a simplified plan, in view of the currently small fleet.

REFERENCES

Anon. 1985. Puget Sound salmon management plan. Drafted 5/15/85.

Anon. Hood Canal salmon management plan.

Hiss, J.M. and R.S. Boomer. 1985. Status of finfish resources of interest to the Shoalwater Tribe. Fisheries Assistance Office, U.S. Fish and Wildlife Service, Olympia, Washington.

APPENDIX: SUGGESTED OUTLINE OF SALMON MANAGEMENT ACTIVITIES

I. Chinook Management

A. Management period for local stock is based on timing data presented in Table 3 of the text.

1. Management period for marine areas is based on clearance of dip-ins as indicated by test fisheries.

2. Management period for river areas is based on the range between marine area catch and hatchery rack return timing.

B. Pre-season forecast is made by WDF; methods are described by FWS (Hiss and Boomer 1985).

C. Escapement goal is given by WDF.

D. Predicted harvestable surplus in Willapa Bay is calculated as pre-season forecast minus escapement goal.

E. Harvest management recommendations

1. Assuming run sizes are comparable to previous years, only incidental catch is allowable.

2. Conduct an evaluation fishery which determines when chinook have cleared 2G, based on species composition.

3. Allowable chinook catch is best taken during coho period. Additional days will be added on according to projected impact on chinook. Reasons for this strategy:

a. Avoid adding to risk of underharvesting coho.

b. Harvest chinook while fish are in good condition for marketing.

4. If there is an unharvested surplus after chinook have cleared the marine area fisheries, the coho fishery in the Willapa River (Area 2H or 72T) may be opened early enough to catch the expected surplus.

F. Overlap with coho is handled by:

1. Maximum mesh size to selectively catch coho

2. Progressive openings in 2G and other areas as chinook clear.

II. Coho Management

A. Management Period

1. Marine areas

a. Openings

1.) Pre-season opening date is based on WDF or FWS timing data. In recent years, coho management date has been moved ahead a few days to allow incidental chinook harvest; continuation of this practice will depend on pre-season prediction of chinook run strength.

2.) Actual opening is confirmed by evaluation fishery.

b. Closure or reduction in non-Indian effort is based on incidence of chum in commercial catch. (WDF and Tribe will agree on ratio.)

2. River areas will be opened based on evaluation fishery to determine if chinook have cleared. Evaluation fishery will begin on Statistical Week 40. Regulation of fishing effort to protect chum may occur as early as Week 41, but will depend on composition of catch.

B. Pre-season forecast will be provided by WDF; methods detailed by FWS.

C. Escapement goal will be given by WDF.

D. Predicted harvestable surplus in Willapa Bay will be equal to pre-season forecast minus escapement goal; ocean interception level is estimated by WDF model.

E. Harvest management recommendations

1. Catch all available coho because of chronic hatchery surplus.

a. Exact in-season updates have not been necessary and no change is seen.

b. Effort is curttailed when chum show up in sufficient numbers.

c. Regarding allocation, at the current fleet size, the Tribe should be able to fish all waters, all days when presence of non-native chinook is not an issue.

2. Means of accomplishing harvest goals

a. in-common fishery with NI fleet

b. exclusive areas in rivers.

3. Areas to be fished will be based on efficient harvest of hatchery fish.

a. All marine areas that chinook have cleared will be open to tribal fishing

b. Willapa River, North Neman River, and Naselle River will have fisheries directed on coho.

F. Overlap with other runs

1. with chinook handled by:

a. maximum mesh size to selectively catch coho.

b. progressive opening dates of catch areas.

1.) outer subareas of Area 2G

2.) inner subareas of Area 2G (Note: subareas of 2G are not the same from year to year, but consistency is desirable to develop a database for the respective subareas.)

3.) Areas 2H, 2K, 2J, and 2M

4.) river areas

2. with chum handled by:

a. reduction of non-Indian days fished per week

b. area closures where chum runs are low.

c. If the chum run in the in North Fork Willapa is declared nonviable, it will be possible to allow fishing there through the entire coho run.

III. Chum Management

A. Management period

1. Marine areas

a. Opening is based on WDF timing data.

b. Closure is based on catch meeting allowable harvest.

2. Entry into river areas could begin as early as week 41.

B. Pre-season forecast is given by WDF; methods have been detailed by FWS.

C. Escapement goal is given by WDF.

D. Predicted harvestable surplus in Willapa Bay is equal to pre-season forecast minus escapement goal. Harvest available in individual rivers will equal updated run size minus that portion of the Willapa Bay catch attributable to that river plus that river's escapement goal.

E. Harvest management recommendations

1. Allow a special tribal effort by

a. continuous fishing in marine areas

b. exclusive areas in rivers.

1.) Manage river areas for chum beginning Week 41.

2.) Allocate river area effort proportionally to expected escapement to respective rivers and accounting for differences in gear efficiency due to river size.

2. Areas to be fished

a. Marine areas, in order of priority

1.) 2M

2.) 2J

3.) 2G

b. River areas, in order of priority

1.) Bear

2.) Nemah, both North and Middle

3.) Palix

4.) Naselle

5.) North River

6.) South Fork Willapa

3. One in-season marine area test fishery will be conducted by WDF with the methods detailed in the FWS report (Hiss and Boomer 1985). Results of this fishery determine whether fishing will be continued, reduced, or discontinued in the marine areas.

a. The balance of the marine/river area catch will be unforeseeable since the fishing power of the river area fleet is unknown. The fishing power in 2H may be an approximation.

b. In the absence of reliable data in this regard, and in the event of a harvestable surplus, a reasonable number of fishing days per week, for instance two, should be considered for the non-Indian fleet, to allow the tribe an opportunity to catch their allocation, while at the same time attempting to avoid underfishing.

4. In regard to allocation, the Tribe should be able to fish all marine and freshwater areas specified above during the chum management period. WDF shall determine harvestable surplus, the tribal fishing power, and calculate the number of days the non-Indian fleet should fish.

F. Evaluation fisheries will determine abundance of chum.

1. Marine areas

a. Full fleet will be used

b. Data will be from Area 2G only

c. Fishery will occur in the first week in October for 4-5 days.

2. The Bear, Nemah, and Naselle River areas will also be evaluated. Effort here should be consistent over time during Week 41 and following weeks so timing of chum can be evaluated.

G. Overlap with coho will require:

1. reduction of non-Indian chum fishing days per week

2. closures of both tribal and non-Indian fisheries in those years and areas where chum runs are low.