2006-2007 WINTER AND SUMMER STEELHEAD

MANAGEMENT RECOMMENDATIONS

for Tributaries to the Strait of Juan de Fuca
(other than the Elwha River)

DRAFT

Joint Report Prepared by:
Washington Department of Fish and Wildlife
Point No Point Treaty Council
Makah Tribe

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1 Management Periods

The management periods indicated in this report define the time interval during which regulatory actions are directed at meeting conservation and allocation needs of steelhead runs while taking into account catches (actual or expected) of steelhead made outside the management periods. Since many runs extend over lengthy periods of time and only a small portion of the population of each run is available at the extremes of its run timing, it is impractical to exercise directed management on these portions of runs while continuing harvests of other species.

Management periods for winter and summer steelhead in streams along the Strait of Juan de Fuca were estimated on the basis of historical harvest patterns of the recreational fishery, and cover the central 80 percent of the entry distribution. They have also been adjusted to minimize overlaps with the management periods of other species. The following management periods have been identified for each area:

**Winter Steelhead**
- Dungeness Bay: December 3, 2006 through March 31, 2007
- Dungeness River: December 10, 2006 through April 15, 2007
- Discovery Bay and Sequim Bay Tributaries: December 10, 2006 through April 30, 2007
- Hoko River and Sekiu River: December 10, 2006 through March 31, 2007
- Other Strait Tributaries: December 3, 2006 through April 15, 2007

**Summer Steelhead**
- Miscellaneous Tributaries: June 10, 2007 through September 8, 2007

Though management periods miss the extremes of entry timing, steelhead catch accounting periods are broader in an attempt to account for all catch; for all Strait of Juan de Fuca rivers and streams the catch accounting period is November 1 through April 30 for winter steelhead, and May 1 through October 31 for summer steelhead.

2. Management Recommendations

Current uncertainty regarding the abundance of steelhead runs in most Strait streams suggests that all parties maintain the recent years’ fisheries regime, with no major modifications. Prior to implementing any significant change, the parties should agree on its potential effect on the resource and on their fisheries.

The status of naturally reared (wild) winter steelhead stocks in Strait of Juan de Fuca streams is either depressed or unknown, and catches after the end of February are comprised primarily of
naturally reared steelhead. There is also some uncertainty regarding the run timing of naturally reared stocks. Limited available information indicates that catches after the end of February may be comprised primarily of naturally reared steelhead. Hence, while in most cases effort should be spread throughout the management periods to achieve escapement and catch from all segments of the run, in streams where earlier timed hatchery origin recruits may be present, harvest should be skewed towards the earlier portions of entry, in order to reduce impacts on later timed naturally spawning fish.

No escapement goals have been agreed to between WDFW and the Tribes for any natural stocks of winter or summer steelhead in the Strait of Juan de Fuca streams. Escapement criteria should be developed for these populations.

With the exception of the Hoko, abundance forecasts for Strait of Juan de Fuca streams are not available. Lack of escapement estimates and harvest related mortality for individual streams precludes producing reliable estimates of run sizes, and consequently stock productivity is not currently available. While escapement estimates are not currently available, escapement data has been collected over several years and continues to be collected from consistent index reaches in many Strait streams (Table A16).

In the Hoko River the anticipated return was estimated as the mean of the last five years’ harvest plus escapement estimates.

All steelhead reared in hatcheries should be marked with an adipose fin clip prior to release in Strait rivers and streams, unless managers agree otherwise prior to release.

2.1 Winter Steelhead

Earlier timed hatchery winter steelhead smolts were released into the Dungeness, Morse, Lyre, Pysht, Clallam, Hoko, and Sekiu rivers in 2005, and hatchery reared steelhead adults are expected to return to the these systems during the 2006-07 season. No other Strait of Juan de Fuca streams were stocked with hatchery reared steelhead.

Treaty Fisheries
In recent years, Treaty net fisheries have generally been targeted at earlier returning, often hatchery reared winter steelhead recruits which are expected to return primarily from December through February.
Treaty commercial net fishery openings shall be implemented only in the Dungeness, Morse, Lyre, Pysht, Clallam, Hoko, and Sekiu rivers and will be announced by emergency regulations based on in-season management considerations concerning the status of the steelhead stocks. Marine area commercial net fisheries will be restricted to Dungeness Bay, Pysht Bay, Neah Bay, and the Morse Creek river mouth, ending prior to March 1. In accordance with prior agreements between the Treaty Tribes and the WDFW, the Pysht Bay fishery will be limited to a maximum of 65 fish. In all other Strait of Juan de Fuca rivers, hook and line commercial and subsistence fisheries will close to treaty fisheries for winter steelhead on or before March 15.

Non-Treaty Fisheries
In order to minimize recreational fishery impacts to wild winter steelhead, wild (unmarked) steelhead release regulations have been in effect for recreational fisheries from June 1 through February 28 in the Dungeness River since the 1993-94 season, in Morse Creek since the 1994-95 season, and in the Sekiu River, Clallam River, Salt Creek, Lyre River, East Twin River, and West Twin River since the 1996-97 season. East Twin River is currently closed to winter steelhead fishing. Additionally, wild (unmarked) steelhead release regulations have been in effect since 1993 in all marine areas. The statewide wild steelhead retention rule during 2006-07 is: one wild steelhead per license year may be retained from one of twelve designated rivers. The Hoko and Pysht rivers are included in this group.

2.2 Summer Steelhead

The status of wild summer steelhead stocks in the Strait of Juan de Fuca tributaries is unknown. Hatchery summer steelhead are now planted only in the Lyre river

Treaty Fisheries
Treaty Tribes intend to exercise their opportunity to harvest the majority of their share of summer steelhead during the winter steelhead management period. Therefore no treaty fisheries directed at summer steelhead will occur in Strait of Juan de Fuca streams.

Non-Treaty Fisheries
The recreational fishing season in Strait streams will open from June 1 through October 31 for game fish, including hatchery summer steelhead. Wild steelhead release regulations have been in effect during these fisheries in all freshwater areas since 1992 and in all marine areas since 1993 to protect wild (unmarked) summer steelhead.

3. Winter Steelhead Spawner Surveys

Steelhead spawner escapements are monitored in a number of Strait of Juan de Fuca streams. WDFW steelhead spawner survey sections are listed in Appendix Table A15 by river mile. Steelhead spawner surveys and escapement estimates have been made on Snow Creek and in WDFW index sections on the Dungeness River, McDonald Creek, Morse Creek, Salt Creek plus tributaries, East Twin River, West Twin River, Deep Creek, Clallam River, Pysht River plus
South Fork Pysht River, and Hoko River plus Little Hoko River (Appendix Table A.16). Winter steelhead spawner surveys have been limited to periods after March 1 in most seasons. These streams often flood during the recommended spawner survey period and the amount of information collected will depend on suitable river conditions.
Historical Harvest, Stocking, and Escapement Data for Winter and Summer Steelhead

In Strait of Juan de Fuca Streams
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Strait of Juan de Fuca Steelhead.

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## Appendix Table A.1  Winter Steelhead Harvest, Smolts Released, and Return to Harvest in the Dungeness River.

<table>
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<th>Return Year</th>
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<sup>1</sup>Index is calculated assuming Age 3, Age 4, and Age 5 plus repeat spawner contributions of hatchery-reared fish sampled from recreational and tribal fisheries from Quillayute system (Bogachiel stock).
Appendix Table A.2 Winter Steelhead Harvest, Smolts Released, and Return to Harvest in Morse Creek.

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Appendix Table A.3 Winter Steelhead Harvest in Salt Creek.

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## Appendix Table A.4 Winter Steelhead Harvest, Smolts Released, and Return to Harvest in the Lyre River.

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Mean of 2001-02 to 2005-06 7
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Forecast Run Size (Return years 2001-02 to 2005-06) 878

Mean Exploitation Rate (Return years 1984-85 through 2005-06; exclude 1990/91) 0.3596

Total Harvestable (Run Size * Exploitation Rate) 316
### Appendix Table A.11a  Winter Steelhead Harvest, Smolts Released, and Return to Harvest in the Sekiu River.

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Mean of 2000-01 to 2004-05
### Appendix Table A.11b  Projected Harvestable Number of Winter Steelhead in the Sekiu River.

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<th>Sekiu smolt releases</th>
<th>Hoko smolt releases</th>
<th>Projected harvestable number in Sekiu River $^1$</th>
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Five year mean total harvest

|                        | 50%               |

$^1$ Methodology: Harvestable number in Sekiu River = ((Sekiu smolt release (Year X) / Hoko smolt release (Year X)) * Hoko harvest corresponding return Year Y * 0.90
Appendix Table A.12  Summer Steelhead Harvest in the Dungeness River.

<table>
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<th>Return Year</th>
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<th>Total Harvest</th>
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<td>Mean of 2001 to 2005</td>
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Appendix Table A.13  Summer Steelhead Harvest in Morse Creek.

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<th>Treaty Harvest</th>
<th>Total Harvest</th>
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## Appendix Table A.14  Summer Steelhead Harvest and Return Rates of in the Lyre River.

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<th>Treaty Harvest</th>
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<th>Age 1.2</th>
<th>Age 1.3</th>
<th>Smolt Year</th>
<th>Smolts Stocked</th>
<th>Age 1.1 Return Rate</th>
<th>Age 1.2 Return Rate</th>
<th>Age 1.3 Return Rate</th>
<th>Total Return Rate</th>
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</table>

Historical returns were broken down using the average return year age composition of Kalama River Summer Steelhead ( 1.1= 3.8%; 1.2= 78.8%; 1.3= 14.6% ). Other age groups and repeat spawners are accounted for by dividing by 0.972
### Appendix Table A 15. Steelhead Spawner Survey Index Sections by River and River Mile.

<table>
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<th>Stream name</th>
<th>WRIA number</th>
<th>WDFW Steelhead Spawner Survey Index Sections by River Mile (RM)</th>
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<td>Gray Wolf River 1/</td>
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<td>RM 0.0 to RM 2.5</td>
</tr>
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<td>18.0185</td>
<td>RM 0.0 to RM 4.7</td>
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<td>Salt Creek</td>
<td>19.0007</td>
<td>RM 1.5 to RM 6.4</td>
</tr>
<tr>
<td>Salt Creek Tributary</td>
<td>19.0014</td>
<td>RM 0.0 to RM 0.8</td>
</tr>
<tr>
<td>Salt Creek trib</td>
<td>19.0011, 19.0012</td>
<td>RM 0.0 to RM 0.3 and RM 0.0 to RM 0.4, respectively</td>
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<td>RM 0.0 to RM 2.6</td>
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<td>West Twin River</td>
<td>19.0093</td>
<td>RM 0.0 to RM 2.9</td>
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<tr>
<td>Deep Creek</td>
<td>19.0103</td>
<td>RM 0.0 to RM 4.8</td>
</tr>
<tr>
<td>Clallam River</td>
<td>19.0129</td>
<td>RM 3.6 to RM 9.5</td>
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<td>Pysht River</td>
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<td>S. Fork Pysht River</td>
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<td>RM 0.0 to RM 3.5</td>
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1/ Dungeness River and Gray Wolf River surveys are dependent upon stream flows. Many surveys are not conducted during the season due to high flows.
Table A.16  Winter Steelhead Natural Escapement Estimates in Index Sections of Streams along the Strait of Juan de Fuca.

<table>
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<th>Spawning year</th>
<th>McDonald Cr.</th>
<th>Morse Cr.</th>
<th>Salt Cr.</th>
<th>E. Twin River</th>
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