



❖ Appendices

Appendix A: Puget Sound and Coastal Stocks and the Genetic Diversity Units to Which They Belong⁶¹

Stock	GDU
Chinook	
North Fork Nooksack Chinook	North Fork Nooksack Spring Chinook
South Fork Nooksack Chinook	South Fork Nooksack Spring Chinook
Samish/Mainstem Nooksack Fall Chinook	South Puget Sound, Hood Canal and Snohomish Summer + Fall Chinook
Upper Skagit Mainstem/Tributaries Summer Chinook	Stillaguamish and Skagit Chinook
Lower Skagit Mainstem/Tributaries Fall Chinook	Stillaguamish and Skagit Chinook
Lower Sauk Summer Chinook	Stillaguamish and Skagit Chinook
Upper Sauk Spring Chinook	Stillaguamish and Skagit Chinook
Suiattle Spring Chinook	Stillaguamish and Skagit Chinook
Upper Cascade Spring Chinook	Stillaguamish and Skagit Chinook
Stillaguamish Fall Chinook	South Puget Sound, Hood Canal and Snohomish Summer + Fall Chinook
Stillaguamish Summer Chinook	Stillaguamish and Skagit Chinook
Snohomish Fall Chinook	South Puget Sound, Hood Canal and Snohomish Summer + Fall Chinook
Snohomish Summer Chinook	South Puget Sound, Hood Canal and Snohomish Summer + Fall Chinook
Bridal Veil Creek Fall Chinook	South Puget Sound, Hood Canal and Snohomish Summer + Fall Chinook
Wallace Summer/Fall Chinook	South Puget Sound, Hood Canal and Snohomish Summer + Fall Chinook
North Lake Washington Tribs Summer/Fall Chinook	South Puget Sound, Hood Canal and Snohomish Summer + Fall Chinook
Issaquah Summer/Fall Chinook	South Puget Sound, Hood Canal and Snohomish Summer + Fall Chinook
Cedar Summer/Fall Chinook	South Puget Sound, Hood Canal and Snohomish Summer + Fall Chinook
Duwamish/Green Summer/Fall Chinook	South Puget Sound, Hood Canal and Snohomish Summer + Fall Chinook
Green System (tentative) Summer/Fall Chinook	South Puget Sound, Hood Canal and Snohomish Summer + Fall Chinook
Newaukum Creek Summer/Fall Chinook	South Puget Sound, Hood Canal and Snohomish Summer + Fall Chinook
Puyallup Fall Chinook	South Puget Sound, Hood Canal and Snohomish Summer + Fall Chinook
White (Puyallup) Spring Chinook	South Puget Sound Spring Chinook
White (Puyallup) Summer/Fall Chinook	South Puget Sound, Hood Canal and Snohomish Summer + Fall Chinook
Nisqually Summer/Fall Chinook	South Puget Sound, Hood Canal and Snohomish Summer + Fall Chinook
Skokomish Summer/Fall Chinook	South Puget Sound, Hood Canal and Snohomish Summer + Fall Chinook
Hamma Hamma Summer/Fall Chinook	South Puget Sound, Hood Canal and Snohomish Summer + Fall Chinook
Duckabush Summer/Fall Chinook	South Puget Sound, Hood Canal and Snohomish Summer + Fall Chinook
Dosewallips Summer/Fall Chinook	South Puget Sound, Hood Canal and Snohomish Summer + Fall Chinook
Dungeness Spring/Summer Chinook	Eastern Strait Chinook
Elwha/Morse Creek Summer/Fall Chinook	Eastern Strait Chinook
Hoko Fall Chinook	Western Strait Chinook

⁶¹ A genetic diversity unit (GDU) is a group of genetically similar stocks that is genetically distinct from other such groups. The stocks typically exhibit similar life histories and occupy ecologically, geographically, and geologically similar habitats. No GDUs exist for coho, cutthroat or dolly varden. Information provided by Washington State Department of Fish and Wildlife staff; GDU information is based on Busack, C. and J. B. Shaklee. 1995. Genetic Diversity Units and Major Ancestral Lineages of Salmonid Fishes in Washington. Washington State Department of Fish and Wildlife, Technical Report No. RAD 95-02.

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Sooes Fall Chinook	North Coast Fall Chinook
Sol Duc Fall Chinook	North Coast Fall Chinook
Sol Duc Spring Chinook	North Coast Spring Chinook
Sol Duc Summer Chinook	North Coast Spring Chinook
Quillayute/Bogachiel Fall Chinook	North Coast Fall Chinook
Quillayute/Bogachiel Summer Chinook	North Coast Spring Chinook
Dickey Fall Chinook	North Coast Fall Chinook
Calawah Fall Chinook	North Coast Fall Chinook
Calawah Summer Chinook	North Coast Spring Chinook
Hoh Fall Chinook	North Coast Fall Chinook
Hoh Spring/Summer Chinook	North Coast Spring Chinook
Queets Fall Chinook	North Coast Fall Chinook
Queets Spring/Summer Chinook	North Coast Spring Chinook
Clearwater Fall Chinook	North Coast Fall Chinook
Clearwater Spring/Summer Chinook	North Coast Spring Chinook
Raft Fall Chinook	North Coast Fall Chinook
Quinault Fall Chinook	North Coast Fall Chinook
Quinault Spring/Summer Chinook	North Coast Spring Chinook
Cook Creek Fall Chinook	North Coast Fall Chinook
Moclips Fall Chinook	North Coast Fall Chinook
Copalis Fall Chinook	North Coast Fall Chinook
Humtulpis Fall Chinook	South Coast Fall Chinook
Hoquiam Fall Chinook	South Coast Fall Chinook
Chehalis Fall Chinook	South Coast Fall Chinook
Chehalis Spring Chinook	Chehalis Spring Chinook
Wishkah Fall Chinook	South Coast Fall Chinook
Wynoochee Fall Chinook	South Coast Fall Chinook
Satsop Fall Chinook	South Coast Fall Chinook
Satsop Summer Chinook	Chehalis Spring Chinook
Johns/Elk and South Bay Tributaries Fall Chinook	South Coast Fall Chinook
Fall River Early (North River) Fall Chinook	South Coast Fall Chinook
Willapa Bay Fall Chinook	South Coast Fall Chinook
Hood Canal Sum/Fall Chinook	South Puget Sound, Hood Canal and Snohomish Summer + Fall Chinook
South Sound Tributaries Summer/Fall Chinook	South Puget Sound, Hood Canal and Snohomish Summer + Fall Chinook
Sockeye	
Baker Sockeye	Baker Sockeye
Lake Washington/Sammamish Tributaries Sockeye	Lake Washington River Spawners Sockeye
Lake Washington Beach Spawning Sockeye	Lake Washington Beach Spawners Sockeye
Cedar Sockeye	Cedar Sockeye
Ozette Sockeye	Ozette Sockeye
Lake Pleasant Sockeye	Lake Pleasant Sockeye
Quinault Sockeye	Quinault Sockeye
Wenatchee Sockeye	Wenatchee Sockeye
Okanogan Sockeye	Okanogan Sockeye

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Chum	
North Fork Nooksack Fall Chum	Northern Puget Sound Fall Chum
Mainstem/South Fork Nooksack Fall Chum	Northern Puget Sound Fall Chum
Samish/Independents Fall Chum	Northern Puget Sound Fall Chum
Mainstem Skagit Fall Chum	Northern Puget Sound Fall Chum
Lower Skagit Tributaries Fall Chum	Northern Puget Sound Fall Chum
Sauk Fall Chum	Northern Puget Sound Fall Chum
North Fork Stillaguamish Fall Chum	Northern Puget Sound Fall Chum
South Fork Stillaguamish Fall Chum	Northern Puget Sound Fall Chum
Skykomish Fall Chum	Northern Puget Sound Fall Chum
Snoqualmie Fall Chum	Northern Puget Sound Fall Chum
Wallace Fall Chum	Northern Puget Sound Fall Chum
Duwamish/Green Fall Chum	Central/South Puget Sound Fall Chum
Crisp Creek Fall Chum	Central/South Puget Sound Fall Chum
Hylebos Creek Fall Chum	Central/South Puget Sound Fall Chum
Fennel Creek Fall Chum	Central/South Puget Sound Fall Chum
Puyallup/Carbon Fall Chum	Central/South Puget Sound Fall Chum
Nisqually Winter Chum	South Puget Sound Winter Chum
Chambers Creek Summer Chum	South Puget Sound Summer Chum
Chambers Creek Winter Chum	South Puget Sound Winter Chum
Skookum Inlet Fall Chum	Central/South Puget Sound Fall Chum
Upper Skookum Creek Fall Chum	Central/South Puget Sound Fall Chum
Johns/Mill Creeks Fall Chum	Central/South Puget Sound Fall Chum
Gig Harbor/Ollala Creek Fall Chum	Central/South Puget Sound Fall Chum
Blackjack Creek Summer Chum	Central/South Puget Sound Fall Chum
Dyes Inlet/Liberty Bay Fall Chum	Central/South Puget Sound Fall Chum
Big Beef Creek Summer Chum	Hood Canal Summer Chum
Anderson Creek Summer Chum	Hood Canal Summer Chum
Dewatto Fall Chum	Central/South Puget Sound Fall Chum
Dewatto Summer Chum	Hood Canal Summer Chum
Tahuya Summer Chum	Hood Canal Summer Chum
Union Summer Chum	Hood Canal Summer Chum
Sinclair Inlet Fall Chum	Central/South Puget Sound Fall Chum
Skokomish Summer Chum	Hood Canal Summer Chum
Upper Skokomish Late Fall Chum	Hood Canal Fall Chum
Lower Skokomish Fall Chum	Hood Canal Fall Chum
Finch Creek Summer Chum	Hood Canal Summer Chum
Lilliwaup Creek Summer Chum	Hood Canal Summer Chum
Hamma Hamma Summer Chum	Hood Canal Summer Chum
Hamma Hamma Late Fall Chum	Hood Canal Fall Chum
Duckabush Late Fall Chum	Hood Canal Fall Chum
Duckabush Summer Chum	Hood Canal Summer Chum
Dosewallips Summer Chum	Hood Canal Summer Chum
Dosewallips Late Fall Chum	Hood Canal Fall Chum
Quilcene Late Fall Chum	Hood Canal Fall Chum

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Quilcene Summer Chum	Hood Canal Summer Chum
Big Quilcene Summer Chum	Hood Canal Summer Chum
Little Quilcene Summer Chum	Hood Canal Summer Chum
Chimacum Creek Summer Chum	Discovery Bay and Sequim Bay Summer Chum
Dungeness Summer Chum	Strait of Juan de Fuca Summer Chum
Dungeness/East Strait Tributaries Fall Chum	Strait of Juan de Fuca Fall Chum
Elwha Fall Chum	Strait of Juan de Fuca Fall Chum
Lyre Fall Chum	Strait of Juan de Fuca Fall Chum
Pysht Fall Chum	Strait of Juan de Fuca Fall Chum
Hoko/Clallam/Seiku Fall Chum	Strait of Juan de Fuca Fall Chum
Sooes Fall Chum	North Coast Washington Fall Chum
Ozette Fall Chum	North Coast Washington Fall Chum
Quillayute Fall Chum	North Coast Washington Fall Chum
Hoh Fall Chum	North Coast Washington Fall Chum
Queets Fall Chum	North Coast Washington Fall Chum
Quinault Fall Chum	North Coast Washington Fall Chum
Humtulsips Fall Chum	South Coast Washington Fall Chum
Chehalis Fall Chum	South Coast Washington Fall Chum
North River Fall Chum	South Coast Washington Fall Chum
Willapa Fall Chum	South Coast Washington Fall Chum
Palix Fall Chum	South Coast Washington Fall Chum
Nemah Fall Chum	South Coast Washington Fall Chum
Naselle Fall Chum	South Coast Washington Fall Chum
Bear Fall Chum	South Coast Washington Fall Chum
Case Inlet Fall Chum	Central/South Puget Sound Fall Chum
Case Inlet Summer Chum	South Puget Sound Summer Chum
Deep Creek/East Twin/West Twin Fall Chum	Strait of Juan de Fuca Fall Chum
Snow Creek/Salmon Creek Summer Chum	Discovery Bay and Sequim Bay Summer Chum
Eld Inlet Fall Chum	Central/South Puget Sound Fall Chum
Goldsborough Creek/Shelton Creek Fall Chum	Central/South Puget Sound Fall Chum
Hammersley Inlet Summer Chum	South Puget Sound Summer Chum
Henderson Inlet Fall Chum	Central/South Puget Sound Fall Chum
Hood Canal Summer Chum	Hood Canal Summer Chum
West Hood Canal Fall Chum	Hood Canal Fall Chum
Northeast Hood Canal Fall Chum	Hood Canal Fall Chum
Southeast Hood Canal Fall Chum	Hood Canal Fall Chum
Jimmycomelately Summer Chum	Discovery Bay and Sequim Bay Summer Chum
Totten Inlet Fall Chum	Central/South Puget Sound Fall Chum
Pink	
South Fork Nooksack Pink	Nooksack Pink
North Fork/Middle Fork Nooksack Pink	Nooksack Pink
Skagit Pink	North Puget Sound Pink
North Fork Stillaguamish Pink	North Puget Sound Pink
South Fork Stillaguamish Pink	North Puget Sound Pink

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Snohomish Even-Year Pink	Snohomish Even-year Pink
Snohomish Odd-Year Pink	North Puget Sound Pink
Puyallup Pink	Puyallup Pink
Nisqually Pink	Nisqually Pink
Hamma Hamma Pink	Hood Canal Pink
Duckabush Pink	Hood Canal Pink
Dosewallips Pink	Hood Canal Pink
Upper Dungeness Pink	Upper Dungeness Summer Pink
Lower Dungeness Pink	Lower Dungeness Fall Pink
Elwha Pink	Lower Dungeness Fall Pink
Steelhead	
Dakota Creek Winter Steelhead	North Puget Sound Steelhead
Mainstem/North Fork Nooksack Winter Steelhead	North Puget Sound Steelhead
South Fork Nooksack Summer Steelhead	North Puget Sound Steelhead
South Fork Nooksack Winter Steelhead	North Puget Sound Steelhead
Middle Fork Nooksack Winter Steelhead	North Puget Sound Steelhead
Samish Winter Steelhead	North Puget Sound Steelhead
Mainstem Skagit/ Tributaries Winter Steelhead	North Puget Sound Steelhead
Finney Creek Summer Steelhead	North Puget Sound Steelhead
Sauk Summer Steelhead	North Puget Sound Steelhead
Sauk Winter Steelhead	North Puget Sound Steelhead
Cascade Summer Steelhead	North Puget Sound Steelhead
Cascade Winter Steelhead	North Puget Sound Steelhead
Stillaguamish Winter Steelhead	North Puget Sound Steelhead
South Fork Stillaguamish Summer Steelhead	North Puget Sound Steelhead
Deer Creek Summer Steelhead	North Puget Sound Steelhead
Canyon Creek (Stillaguamish) Summer Steelhead	North Puget Sound Steelhead
North Fork Skykomish Summer Steelhead	North Puget Sound Steelhead
Snohomish/Skykomish Winter Steelhead	North Puget Sound Steelhead
South Fork Skykomish Summer Steelhead	North Puget Sound Steelhead
Pilchuck Winter Steelhead	North Puget Sound Steelhead
Snoqualmie Winter Steelhead	North Puget Sound Steelhead
Tolt Summer Steelhead	North Puget Sound Steelhead
Lake Washington Winter Steelhead	South Puget Sound Steelhead
Green (Duwamish) Summer Steelhead	South Puget Sound Steelhead
Green (Duwamish) Winter Steelhead	South Puget Sound Steelhead
Mainstem Puyallup Winter Steelhead	South Puget Sound Steelhead
White (Puyallup) Winter Steelhead	South Puget Sound Steelhead
Carbon Winter Steelhead	South Puget Sound Steelhead
Nisqually Winter Steelhead	South Puget Sound Steelhead
Deschutes Winter Steelhead	South Puget Sound Steelhead
Dewatto Winter Steelhead	South Puget Sound Steelhead
Tahuya Winter Steelhead	South Puget Sound Steelhead
Union Winter Steelhead	South Puget Sound Steelhead
Skokomish Summer Steelhead	South Puget Sound Steelhead

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Skokomish Winter Steelhead	South Puget Sound Steelhead
Hamma Hamma Winter Steelhead	South Puget Sound Steelhead
Duckabush Summer Steelhead	South Puget Sound Steelhead
Duckabush Winter Steelhead	South Puget Sound Steelhead
Dosewallips Summer Steelhead	South Puget Sound Steelhead
Dosewallips Winter Steelhead	South Puget Sound Steelhead
Quilcene/Dabob Bays Winter Steelhead	South Puget Sound Steelhead
Dungeness Summer Steelhead	South Puget Sound Steelhead
Dungeness Winter Steelhead	South Puget Sound Steelhead
Morse Creek/Independents Winter Steelhead	South Puget Sound Steelhead
Elwha Summer Steelhead	North Coast Steelhead
Elwha Winter Steelhead	North Coast Steelhead
Salt Creek/Independents Winter Steelhead	North Coast Steelhead
Lyre Winter Steelhead	North Coast Steelhead
Pysht/Independents Winter Steelhead	North Coast Steelhead
Clallam Winter Steelhead	North Coast Steelhead
Hoko Winter Steelhead	North Coast Steelhead
Seiku Winter Steelhead	North Coast Steelhead
Sail Winter Steelhead	North Coast Steelhead
Sooes/Waatch Winter Steelhead	North Coast Steelhead
Ozette Winter Steelhead	North Coast Steelhead
Sol Duc Summer Steelhead	North Coast Steelhead
Sol Duc Winter Steelhead	North Coast Steelhead
Quillayute/Bogachiel Winter Steelhead	North Coast Steelhead
Dickey Winter Steelhead	North Coast Steelhead
Bogachiel Summer Steelhead	North Coast Steelhead
Calawah Summer Steelhead	North Coast Steelhead
Calawah Winter Steelhead	North Coast Steelhead
Mosquito Creek Winter Steelhead	North Coast Steelhead
Goodman Creek Winter Steelhead	North Coast Steelhead
Hoh Summer Steelhead	North Coast Steelhead
Hoh Winter Steelhead	North Coast Steelhead
Kalaloch Creek Winter Steelhead	North Coast Steelhead
Queets Summer Steelhead	North Coast Steelhead
Queets Winter Steelhead	North Coast Steelhead
Clearwater Summer Steelhead	North Coast Steelhead
Clearwater Winter Steelhead	North Coast Steelhead
Raft Winter Steelhead	North Coast Steelhead
Quinault Summer Steelhead	North Coast Steelhead
Quinault Winter Steelhead	North Coast Steelhead
Quinault/Lake Quinault Winter Steelhead	North Coast Steelhead
Moclips Winter Steelhead	North Coast Steelhead
Copalis Winter Steelhead	North Coast Steelhead
Humptulips Summer Steelhead	Southwest Washington Coast Steelhead

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Humptulips Winter Steelhead	Southwest Washington Coast Steelhead
Hoquiam Winter Steelhead	Southwest Washington Coast Steelhead
Chehalis Summer Steelhead	Southwest Washington Coast Steelhead
Chehalis Winter Steelhead	Southwest Washington Coast Steelhead
Wishkah Winter Steelhead	Southwest Washington Coast Steelhead
Wynoochee Winter Steelhead	Southwest Washington Coast Steelhead
Satsop Winter Steelhead	Southwest Washington Coast Steelhead
South Harbor Winter Steelhead	Southwest Washington Coast Steelhead
Skookumchuck/Newaukum Winter Steelhead	Southwest Washington Coast Steelhead
North/Smith Creek Winter Steelhead	Southwest Washington Coast Steelhead
Willapa Winter Steelhead	Southwest Washington Coast Steelhead
Palix Winter Steelhead	Southwest Washington Coast Steelhead
Nemah Winter Steelhead	Southwest Washington Coast Steelhead
Naselle Winter Steelhead	Southwest Washington Coast Steelhead
Bear Winter Steelhead	Southwest Washington Coast Steelhead
Grays Winter Steelhead	Southwest Washington Coast Steelhead
Skamokawa Creek Winter Steelhead	Southwest Washington Coast Steelhead
Elochoman Winter Steelhead	Southwest Washington Coast Steelhead
Mill Creek Winter Steelhead	Southwest Washington Coast Steelhead
Abernathy Creek Winter Steelhead	Southwest Washington Coast Steelhead
Germany Creek Winter Steelhead	Southwest Washington Coast Steelhead
Case/Carr Inlets Winter Steelhead	South Puget Sound Steelhead
Discovery Bay Winter Steelhead	South Puget Sound Steelhead
Eld Inlet Winter Steelhead	South Puget Sound Steelhead
Hammersley Inlet Winter Steelhead	South Puget Sound Steelhead
Sequim Bay Winter Steelhead	South Puget Sound Steelhead
Totten Inlet Winter Steelhead	South Puget Sound Steelhead
East Kitsap Winter Steelhead	South Puget Sound Steelhead



Appendix B: US Fish and Wildlife Service Response to HSRG Recommendations



United States Department of the Interior
FISH AND WILDLIFE SERVICE
911 NE 11th Avenue
Portland, Oregon 97232-4181

February 19, 2004

Lars Mobrand
Chair, Hatchery Scientific Review Group
Michael Kern, c/o Long Live the Kings
1305 Fourth Avenue
Seattle, Washington 98101

Dear Dr. Mobrand:

We have received and reviewed the Hatchery Scientific Review Group's (HSRG) Hatchery Reform Recommendations, Hood Canal, Willapa Bay, North Coast, and Grays Harbor, dated November 2003. The Fish and Wildlife Service operates three national fish hatcheries (NFH) within the Hood Canal and North Coast areas and welcomes this opportunity to respond to the recommendations contained in the report.

We commend the HSRG for the large volume of data that was summarized and interpreted that led to the development of the recommendations. The scope and depth of the review were impressive.

Our comments to the recommendations are presented below, first from a general or overall focus and then from a recommendation-specific focus.

Generally, we find the presentation of regional steelhead management confusing since the regional recommendation is reiterated for each individual steelhead program. We would suggest that the regional steelhead recommendation be stated once, and that specific programs be cross-referenced to the regional recommendation where appropriate.

We agree with the area-wide recommendations of sizing programs appropriately for the physical capabilities of the facility and minimizing negative ecological interactions with wild fish. However, we feel that sizing programs to match conditions of changing ocean productivity is



unrealistic. It presupposes that we are able to predict ocean productivity three to five years into the future.

We support the recommendations to increase the spawning of coho jacks to 10 percent of the male spawning population.

Recommendations to incorporate volitional releases will require significant funding to reconstruct existing rearing pond outlets.

Big Quilcene Hatchery Coho (Quilcene NFH)

The use of the term “stray rates” concerns us. In the briefing book, reference was made to the incidence of Quilcene Bay netpen fish in the Quilcene hatchery rack return as indicative of local stray rates to other streams. Since Quilcene Bay netpen coho are raised to the pre-smolt phase at Quilcene NFH and transferred to the netpens in February of their second year, they have an imprinting history that includes Quilcene NFH. The tendency of these fish to return to the NFH is indicative of homing, not straying. We suggest that funds be made available to more accurately document and define the incidence of stray hatchery and netpen-origin coho in northern Hood Canal streams.

We believe the suggestion that Big Beef Creek stock be used to replace the Quilcene stock is premature. Coded-wire-tag recovery records indicate that a significant number of stray coho from the Agate Pass netpens have been present in the Big Beef Creek escapement. The stocks of fish used in this program have been Minter Creek (South Puget Sound) and Wallace River (Skykomish), neither of which are representative of Hood Canal stocks. Before 1994, Dungeness (Strait of Juan de Fuca) stock was used in northern Hood Canal netpen programs, and that stock comprised a large proportion of the strays into Big Beef Creek. In order to accept Big Beef Creek stock as a replacement, there should be some evidence that the stock is not composed of out-of-basin stocks, or has a smaller composition of non-local stocks than other potential replacement stocks. Choice and development of a replacement stock will have impacts to the current netpen programs in Quilcene Bay and Port Gamble Bay.

We suggest that funds be made available to examine the genetic profiles of all northern Hood Canal coho stocks. If a more suitable native stock or a stock that is less influenced by non-local stocks is present, that stock would be a more logical choice for use as a replacement. In the interim, while stock profiles are generated, we will develop a plan to restore the Quilcene coho stock to a later, more natural, return timing. A later return timing would reduce the degree of overlap in summer chum and coho returns in September.

We have developed a plan to reduce Quilcene NFH on-station coho production by approximately 10 percent to address rearing environment concerns. Acceptance by the co-managers is required before the plan can be implemented. The HSRG recommendation for Quilcene NFH to raise coho for the Port Gamble netpens would require a significant reduction in the netpen program, as



Quilcene NFH does not have the capacity to raise 450,000 pre-smolts. Our current netpen pre-smolt rearing capacity is limited to 200,000 fish.

Big Quilcene fall chum (Quilcene NFH)

We agree with the recommendation, and with the consent of the co-managers, we have ended this production program. The last brood with hatchery production is 2002.

Little Quilcene/Big Quilcene summer chum (Quilcene NFH)

We agree that the program should be ended and have completed final supplementation activities for the 2003 brood at reduced production levels, consistent with the National Oceanic Atmospheric Administration Fisheries Biological Opinion and consistent with the co-manager-developed Summer Chum Salmon Conservation Initiative.

Quinault River fall Chinook (Quinault NFH)

No changes recommended.

Quinault River hatchery chum (Quinault NFH)

Monitoring of this stock, as recommended by the HSRG, will require marking of chum fry. This may be accomplished by thermally marking otoliths in the isolated incubation system, which is currently under construction. Marking, mark recovery, and analysis will require significant additional funding.

Quinault River hatchery coho (Quinault NFH)

We will work with the co-managers to keep hatchery production consistent with the goals developed for coho within the Quinault River system.

The hatchery coho are mass-marked, and contain representative double-index tag groups.

Quinault River hatchery winter steelhead – Hoh transfer/release (Quinault NFH)

We have been working with, and will continue to work with, the co-managers to develop alternatives to the current out-of-basin transfer and release.

Sooes River fall Chinook (Makah NFH)

We have developed a revised production plan that will reduce on-station releases to 2.1 million fish (33 percent reduction) to address limitations of the hatchery rearing environment. Tribal acceptance is required before it can be implemented. Due to poor eye-up, production for the



2003 brood will approach this revised production level. We now dispose of raceway mortalities by burial, to reduce disease risk.

Sooes River hatchery winter steelhead (Makah NFH)

Steelhead in the Sooes River system are not managed by fin mark. Previous fin marking confirmed the strong temporal separation between the hatchery stock and the natural stock. Run timing is used effectively to manage the harvests of the two stocks. We now dispose of raceway mortalities by burial, to reduce disease risk.

Sooes River coho (Makah NFH)

We will work with the Makah Tribe to develop a basin plan addressing the hatchery role in supporting harvest and maintaining a viable natural coho population in the upper Sooes River. We now dispose of raceway mortalities by burial, to reduce disease risk.

Thanks for the opportunity to review the HSRG Recommendations. Should you wish to discuss further our comments please feel free to contact Mr. Bob Wunderlich at the Western Washington Fish and Wildlife Office in Lacey, Washington at (360) 753-9509.

Sincerely,

Daniel H. Diggs
Assistant Regional Director
Fishery Resources