

“GREEN SHEET”

Meeting dates:	June 6-7, 2008	#12
Agenda item:	Conservation Benefits of Policy C-3617	
Staff Contact:	Cindy LeFleur, Columbia River Policy Coordinator, Intergovernmental Resource Management Program	
Presenter(s):	Heather Bartlett, Fish Management Division Manager Anadromous, Fish Program Guy Norman, Regional Director – Region 5, Director’s Office	

Background:

The Commission adopted Policy C-3617 – “Mainstem Columbia River Spring Chinook Management and Allocation for Non-Indian Fisheries, 2008” in February 2008. In March, the Commission asked the Department staff to provide a briefing assessing the conservation benefits associated with the change in allocation associated with the new policy. The previous allocation of upriver spring Chinook Endangered Species Act (ESA) impacts was 57% sport and 43% commercial and the current policy includes an allocation of 61% sport and 39% commercial.

Policy issue(s) you are bringing to the Commission for consideration:

The total number of ESA-listed upriver spring Chinook that are incidentally impacted in sport and commercial fisheries in 2008 was expected to be 2% of the total ESA-listed run size. The number of ESA-listed fish associated with a 2% impact rate will not change with a change in allocation between sport and commercial fisheries.

Staff did an analysis of the difference in expected hatchery fish harvested under the two allocation scenarios, based on a number of assumptions. The difference in hatchery fish harvested under a 61% sport allocation versus a 57% sport allocation is 300 fish Table 1. If 300 fish were not harvested in the lower river sport fishery, 210 (70%) would make it past upriver fisheries and past dams, and 127 would make it to the Snake and Upper Columbia tributaries – areas that include ESA-listed. The majority of the remaining hatchery fish (83) would return to tributaries that support sport and tribal fisheries. Focusing only on the ESA-listed areas would result in an additional 113 hatchery fish returning to the Snake River basin and 14 additional hatchery fish returning to the Upper Columbia tributaries. Of the 113 returning to the Snake River basin, 79 would be returning to tributaries that have ESA-listed Chinook (Clearwater basin does not have ESA-listed fish). Of the 14 returning to the Upper Columbia tributaries, 9 would return to the Wenatchee, 1 would return to the Entiat and 4 would return to the Methow (Table 1).

Results

Snake River Basin

Most tributaries in the Snake River basin have weirs in place to separate the returning adults, and most programs include some type of supplementation. The weirs are used to separate hatchery and wild fish or fin-clipped fish from non-fin-clipped fish. Spring Chinook in the Clearwater basin are not listed under the ESA, but supplementation programs are in place that includes a mix of hatchery and natural-origin fish. Additional hatchery fish returning to the Grande Ronde River would provide a benefit, as this system is often limited by too few hatchery fish. Fewer hatchery fish returning to tributaries in the Snake basin that have sport and tribal fisheries would reduce harvest in these areas.

Upper Columbia River Tributaries

Spring Chinook return to three major tributaries in the upper Columbia River; the Wenatchee, the Entiat and the Methow rivers. The **Wenatchee River basin** spring Chinook hatchery programs include an integrated supplementation program (Chiwawa spring Chinook

supplementation program) and a captive brood program (White River Captive Brood) for ESA-listed Upper Columbia River spring Chinook, and a segregated harvest program utilizing Carson stock spring Chinook (adipose clipped) at the Leavenworth National Fish Hatchery on the Icicle River, a tributary to the Wenatchee River. The ESA-listed supplementation program in the Wenatchee Basin utilizes both ESA-listed natural and endemic hatchery-origin broodstock for production purposes with a high priority for the inclusion of natural origin spring Chinook. Natural and hatchery origin ESA-listed spring Chinook broodstock are collected in the Wenatchee River and from the Chiwawa River, a tributary to the Wenatchee River. The White River Captive brood program is supported through broodstock collection via extraction of eye-eggs from known natural origin spawners in the White River. At present both treaty Indian and non-Indian fisheries are implemented on the Icicle River targeting non-listed Carson stock spring Chinook. The addition of a few more (7 fish) non-listed spring Chinook to the Icicle River has essentially no effect on the hatchery program or Icicle River fisheries. The addition or subtraction of just a few ESA-listed hatchery origin spring Chinook to the Chiwawa supplementation program (2 fish) has essentially no effect on the Chiwawa hatchery program or the natural spawning component in the Wenatchee River Basin.

The **Entiat River basin** spring Chinook hatchery program is a segregated harvest program utilizing non-listed Cason stock spring Chinook (adipose clipped) and is being phased-out for conservation purposes. WDFW is contemplating a mark-selective fishery on the Entiat River for hatchery origin spring Chinook during 2008. The addition of more hatchery origin spring Chinook to the Entiat during 2008 (1 fish) will have no impact on the fishery.

The **Methow spring Chinook** hatchery program includes integrated supplementation programs at the Winthrop Hatchery and the Methow Hatchery and both utilize ESA-listed spring Chinook. The Winthrop program utilizes endemic ESA-listed hatchery origin spring Chinook only, while the Methow program utilizes both natural and endemic hatchery-origin ESA-listed spring Chinook. Broodstock is collected at Wells Dam, at hatchery outfalls and in tributaries to the Methow River. ESA-listed spring Chinook released from Winthrop Hatchery and Methow Hatchery are tagged (adipose present + coded-wire tag (CWT)). As with the ESA-listed program in the Wenatchee River Basin, there are currently no authorizations for removal, in the terminal area, of ESA-listed spring Chinook that are excess to broodstock or spawning escapement requirements. The addition or subtraction of just a few ESA-listed hatchery origin spring Chinook to the Methow River Basin (4 fish) has essentially no effect on the Methow Basin hatchery programs or the natural spawning component in the Methow River Basin.

WDFW and other co-managers are developing guidelines and protocols for the removal of ESA-listed hatchery origin spring Chinook in the terminal areas for consideration by the National Marine Fisheries Service (NMFS) as a strategy to address the over-escapement of ESA-listed hatchery origin spring Chinook in future years. If successful, limiting over-escapement of ESA-listed hatchery origin spring Chinook to the spawning grounds is expected to provide a conservation benefit to natural spawning populations and improve population productivity.

Conclusion

Negligible influence from additional hatchery fish returning – not detected biologically when dispersed to specific tributaries. Nearly two-thirds of the hatchery fish return to tributaries without ESA-listed fish to fuel tributary fisheries. Remaining hatchery fish return to tributaries with protocols in place to manage hatchery and wild fish.

Public involvement process used and what you learned:

NA

Action requested:

Briefing only.

Draft motion language:

Justification for Commission action:**Table 1. Estimated Distribution of Hatchery Spring Chinook by Area.**

	Estimated Additional Hatchery Fish 1/	
Snake Basin		
Salmon River Subbasin		Supplementation programs in place in most areas.
SF Salmon	27	Weir in place. Wild fish put above weir.
Sawtooth	5	Weir in place. Wild fish put above weir.
Pahsimeroi	12	Weir in place. Wild fish put above weir.
Rapid River	21	Hatchery program only. No supplementation program.
Clearwater Subbasin		
Red/Crooked River	7	Fish not listed under the ESA. Supplementation programs in place. Mix of hatchery and natural. Fish not fin-clipped.
Powell	8	Hatchery program.
Dworshak	14	Hatchery program.
Kooskia	4	Hatchery program.
Oxbow	5	Hatchery program. Releases from Rapid River Hatchery. Integrated supplementation programs. Includes captive brood program. Hatchery broodstock limited. Weirs in place.
Grande Ronde Subbasin	4	Weirs in place. Supplementation program.
Imnaha Subbasin	1	Supplementation programs in place.
Tucannon River	1	Supplementation programs in place.
Upper Columbia		
Wenatchee	2	Chiwawa integrated supplementation program (ESA listed)
Icicle River	7	Returns to Leavenworth Hatchery on Icicle Creek - tributary to Wenatchee. Segregated, non-listed population.
Entiat	1	Segregated, non-listed
Methow	4	Integrated supplementation (ESA-listed).

1/ Based on 300 fish not caught in fisheries downstream of Bonneville Dam.

Assumptions:

Upriver run size 269,300

Mark rate 75%

Sport mortality rate 10%

Commercial mortality rate 14.7%

Average conversion rates past dams

Tribal harvest rate of 10%

Used existing forecasts for tributaries when available - adjusted to river mouth if necessary

Estimated tributary returns between Bonneville and McNary based on average returns adjusted for 2008

Snake Basin tributary estimates based on 5-yr average returns and adjusted for 2008

Upper Columbia tributary estimates based on recent year average returns and adjusted for 2008