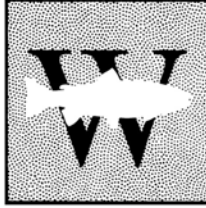


W A S H I N G T O N T R O U T



June 27, 2006

VIA Email

RE: Puget Sound Steelhead Proposed Listing (71 FR 15666)

TO: Mr. Garth Griffin
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**COMMENTS REGARDING NOAA FISHERIES *PUGET SOUND
STEELHEAD PROPOSED LISTING (71 FR 15666);***

Prepared by
Washington Trout
PO Box 402, Duvall, WA 98019
June 2006

Introduction

Washington Trout appreciates the opportunity to respond to NOAA Fisheries' March 29, 2006 request for comments regarding a proposal to list the Puget Sound steelhead Distinct Population Segment as a threatened species under the Endangered Species Act (71 FR 15666, March 29, 2006). Please accept for the record and your consideration Washington Trout's comments supporting the Puget Sound Steelhead Proposed Listing. We concur with the Biological Review Team's and NOAA's conclusion that the PS steelhead DPS is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range, and we concur with NOAA that present protective measures fail to adequately mitigate the factors currently threatening the DPS.

Washington Trout represents approximately 2000 members in the region. Many use and enjoy rivers, streams, and nearshore saltwater-bodies throughout the PS steelhead DPS for recreational, scientific, aesthetic, and commercial purposes, deriving benefits from robust wild-steelhead populations and healthy aquatic and marine habitats. Many WT members take an active role in the conservation and recovery of PS steelhead and their habitats. Washington Trout conducts recovery related research on wild-fish populations and habitats, advocates for scientifically and legally responsible wild-fish management, and develops cutting edge habitat-conservation initiatives. Public and tribal agencies, scientific institutions, the business community, the environmental community, and the news media have all recognized WT's credibility regarding wild-fish ecology and its specific experience in issues associated with PS steelhead conservation.

Washington Trout has previously responded to invitations from NOAA to participate in review-processes related to *O. mykiss* in and out of the PS steelhead DPS, from both a policy and biological perspective, most recently submitting and presenting information to the Puget Sound BRT in June 2005 (Gayeski, 2005A). Previously, Washington Trout has submitted information to NOAA Fisheries regarding: NOAA's hatchery listing policy (69 FR 31354, June 3, 2004) (Gayeski and Vanden Brulle, 2004); Critical Habitat Designations for listed populations of steelhead and salmon (Gayeski, 2005B). In addition, Washington Trout has submitted reviews to the Washington Department of Fish and Wildlife regarding WDFW steelhead-management proposals, including: WDFW's Wild Salmonid Policy; Hatchery and Genetic Management Plans prepared by WDFW for steelhead hatchery programs in Puget Sound and the Columbia River Basin (Gayeski and Vanden Brulle, 2003) and; WDFW Sportfishing Rules Proposals regarding resident-trout fisheries in the Cedar River within the PS steelhead DPS (*see* attachment A). Much of the information prepared and submitted by Washington Trout in the reviews cited above bear directly on assessments of the PS Steelhead Proposed Listing, of the extinction risk for the PS steelhead DPS, and of current and likely protective efforts for PS steelhead. Where that information directly informs this review, we may summarize but will not repeat those comments here in detail, but instead incorporate the relevant parts by reference, for inclusion in the Administrative Record and NOAA's consideration.

In that context, Washington Trout generally supports NOAA's proposal to list the PS steelhead DPS as a threatened species. However, consistent with the review submitted to NOAA by Washington Trout on the hatchery listing policy, we do not support the inclusion of the Green River natural and Hamma Hamma winter-run hatchery steelhead in the DPS or the proposal to list those hatchery populations as a threatened species along with natural origin steelhead from the PS steelhead DPS (Gayeski and Vanden Brulle, 2004; *see also* Trout Unlimited et. al., 2004; Trout Unlimited et. al. v. NOAA, No. C05-1128JCC (W.D.Wa)).

Similarly, while we concur with the Puget Sound BRT's conclusion that resident *O. mykiss* populations within the PS steelhead DPS are unlikely to significantly reduce the risk of extinction of the PS steelhead DPS, we remain concerned and unconvinced regarding NOAA's decision to exclude resident *O. mykiss* populations within the PS steelhead DPS from the proposed listing.

We appreciate and acknowledge the jurisdictional complexities of delineating DPS's and proposing listings that include both anadromous and resident life-history forms of *O. mykiss*. We further appreciate that NOAA's application of the joint DPS policy acknowledges the significant uncertainties associated with the ecological, reproductive, and evolutionary relationships between sympatric resident and anadromous *O. mykiss* populations within the PS steelhead DPS, and forestalls the potential for exploiting those uncertainties to reach an inaccurate and inappropriate conclusion that the extinction risk for PS steelhead is low. However, we believe the PS Steelhead Proposed Listing illustrates that NOAA's application of the joint DPS policy may and can fail to provide for adequate conservation of resident *O. mykiss* populations that could be essential to the recovery of a listed anadromous DPS.

The PS Steelhead Proposed Listing (71 FR, 15666), the 1996 Status Review for West Coast Steelhead (Busby et al., 1996), and the 2005 Status Review Update for Puget Sound Steelhead (NMFS, 2005) all cite evidence that we believe strongly suggests that some resident *O. mykiss* populations may be essential to the recovery of some of the most threatened anadromous populations in the PS steelhead DPS.

Washington Trout believes that NOAA should amend its application of the joint DPS policy to accommodate listing resident *O. mykiss* populations where evidence suggests those populations could be essential for the recovery of listed anadromous steelhead populations. At a minimum NOAA Fisheries should strongly consider resident *O. mykiss* and their interaction with anadromous PS steelhead, and should endeavor, through rulemaking, promulgation of protective regulations, consultation, and the designation of critical habitat, to protect and conserve essential Puget Sound resident *O. mykiss* populations with as much force of the ESA as possible. Much more research is necessary to determine the relationship between resident and anadromous *O. mykiss* within the PS steelhead DPS. Washington Trout supports efforts to identify those relationships and incorporate the findings into management actions.

Finally, Washington Trout supports NOAA's application of the Policy for Evaluating Conservation Efforts (PECE) criteria in the PS Steelhead Proposed Listing, and we generally agree with NOAA's conclusions regarding the impact of current and planned management actions. However, we do share some of the concern expressed by other conservation advocates regarding whether NOAA's application of PECE is appropriate for listing decisions (Trout Unlimited et. al. 2004). While several entities have planned and/or implemented potentially positive management actions for PS steelhead, these programs should not overcome the best scientific and commercial data that show the PS steelhead DPS to be on a trajectory to extinction. The ESA only accommodates consideration of efforts by any State or foreign nation, but many of the protective efforts analyzed in the PS Steelhead Proposed Listing are private initiatives, such as the HCPs and hydropower relicensing efforts.

In this context, our largest concern is NOAA's anticipation, expressed in the PS Steelhead Proposed Listing, to consider a pending WDFW "Puget Sound Steelhead

Management Plan” in developing NOAA’s final listing determination, even though the Proposed Listing acknowledges that “the specific reforms that WDFW intends to implement are unknown.” We appreciate that before making a final listing determination, NOAA is required to take into account efforts being made to protect a species. However, given NOAA’s application of the PECE criteria in the Puget Sound Steelhead Proposed Listing, NOAA’s findings regarding past and present WDFW management actions, and WDFW’s management record, Washington Trout believes it is unlikely that WDFW’s pending steelhead management plan will adequately ameliorate the demonstrated extinction risk for PS steelhead.

It is disconcerting that despite some significant management actions, the PS steelhead DPS has continued to decline dramatically. More disconcerting is that despite that continued dramatic decline, WDFW has failed to take other needed management actions, particularly in hatchery operations, despite long standing evidence of the negative impacts from those hatchery operations on the viability of the PS steelhead DPS, and despite the availability for several years of credible recommendations for hatchery reform. WDFW’s track record simply does not support any conclusion that its future management actions will occur or be effective at ameliorating the extinction risk for PS steelhead.

On June 16 2006, Washington Trout submitted a letter to NOAA requesting that on the release of a WDFW draft science paper (preliminary and integral to the development of the PS steelhead management plan), NOAA Fisheries publish a notice of availability and re-open (or extend) the current public-comment period for the PS Steelhead Proposed Listing for 60 days from the date of the notice of availability, so that the interested public can have an opportunity to supplement its comments re the proposed listing and the extinction risk for PS steelhead (Washington Trout, 2006). Washington Trout believes that the interested public may have a responsibility and a right to evaluate WDFW’s pending scientific framework for steelhead management, and incorporate its evaluation into comments submitted to NOAA regarding current and future extinction risks for PS steelhead, and regarding specific merits of the PS Steelhead Proposed Listing. We take this opportunity to repeat that request by reference. Further, we anticipate submitting a similar request regarding WDFW’s pending PS steelhead management plan, if and when it is released for public review and/or submitted to NOAA fisheries for consideration under the PS Steelhead Proposed Listing, and ask for the record that NOAA take this preliminary request under advisement.

Unfortunately, the biological data, an evaluation of current protective efforts, and the management record of the relevant state agencies support a conclusion that federal intervention in the form of an ESA listing is necessary to save the PS steelhead DPS from extinction.

**Biological Bases for Listing
the PS Steelhead DPS as a Threatened Species**

Based on the initial petition by Sam Wright (Wright, 2004) and the 1996 and 2005 BRT reports, there appears to be overwhelming evidence that PS steelhead are likely to

become an endangered species within the foreseeable future throughout all or a significant portion of its range. The abundance, productivity, spatial distribution and diversity of Puget Sound steelhead continue to decline precipitously. The only possibility of arresting those declines and ensuring that the PS steelhead do not become extinct or endangered in the foreseeable future, is to list them as a threatened species under the ESA.

The fundamental findings of the 2005 Status Review Update for Puget Sound Steelhead and the PS Steelhead Proposed Listing regarding the extinction risk for PS steelhead are supported by an analysis prepared by Washington Trout and submitted to the Puget Sound BRT on June 6, 2005 (Gayeski, 2005). Washington Trout prepared analyses of five major winter-run steelhead populations in the PS steelhead DPS, the Nisqually, Puyallup, Snohomish, Stillaguamish, and Skagit River populations, large populations from the north, central, and southern portions of the PS steelhead DPS, including the two largest and relatively healthiest populations, the Skagit and the Snohomish. Washington Trout evaluated stock-recruit data derived from wild run and wild escapement data provided by WDFW that cover more than 20 spawning years for the various populations.

We found significant evidence that the productivity of the Nisqually population is severely depressed, and the Puyallup population likely cannot sustain itself. The Stillaguamish population is characterized by a consistently low recruit-per-spawner ratio centered near 1.0 over 10 years; it does not appear productive enough to be self-sustaining in the near term. The Snohomish population appeared to be relatively productive. However, most strong recruitments occurred prior to 1989. In fact, all five populations show a coherent shift from predominately positive residuals (recruits higher than predicted) to negative residuals (recruits less than predicted) around 1988, 1989.

For the Skagit population, we analyzed stock-recruit data separately for the periods 1978-88 and 1989-96. We calculated spawning equilibrium values of 10,273 for 1978-88 and 5,367 for 1989-96, suggesting a clear and dramatic decline in productivity (and likely also capacity) for the Skagit population. In view of the Skagit population's historic importance, large size, and productivity, a decline of this magnitude represents an alarming threat to the viability of entire DPS.

These analyses provide strong evidence of a pronounced change for the worse in the condition governing recruitment of these populations, with all five responding in concert. The coherence in the pattern among the five populations adds credibility that measurement error in the data is likely relatively small. A high degree of measurement error would appear as random scatter rather than as a clear trend with respect to time, making it more likely that these data sets accurately reflect real underlying trends.

The preponderance of the evidence from Washington Trout's stock-recruit analysis indicates that the largest populations of winter-run steelhead in the PS steelhead DPS have experienced a period of pronounced decline in abundance, recruitment and productivity beginning around 1989 and continuing to the present. The trend has been

strongly coherent among five populations that span a large proportion of the range of the DPS, suggesting that the decline is DPS-wide or nearly so.

Viability Analysis

We support the findings of the 2005 Updated Status Review and the PS Steelhead Proposed Listing that the risk to the viability of PS steelhead due to declining abundance is high. Since the 1996 Status review, all populations in the PS steelhead DPS have experienced or continued downward trends, none of the populations meeting escapement goals in most years (NMFS, 2005). The BRT estimated the historical run size at approximately 327,000-545,000 (NMFS, 2005). Other research suggests twice that many. (Soverel, 2006). Total escapement has shrunk to 13,000 fish, approximately 1-3% of the historical run (*Id.*), despite significant and restrictions on fisheries throughout the recent past.

We support the findings of the 2005 Updated Status Review and the PS Steelhead Proposed Listing that the risk to the viability of PS steelhead due to declining productivity is high. The 2005 Updated Status Review and the PS Steelhead Proposed Listing cite a replacement rate of less than one for most populations with trends continuing downward, even for the strongest populations in the DPS. With the exception of recent data for the Tolt River, there is no information on the productivity of summer steelhead populations within the ESU, in part because the summer steelhead have been extirpated from most of their natal streams (Soverel, 2006).

Washington Trout agrees with those members of the BRT that suspect that WDFW hatchery programs have contributed to declines in PS steelhead productivity (71 FR, 15666). While the magnitude of the impact may be difficult to ascertain, there is substantial evidence to indicate that the impact is undoubtedly occurring. The PS Steelhead Proposed Listing acknowledges that “any” interbreeding that may occur between hatchery and wild steelhead is “likely” to have adverse consequences for the reproductive fitness of PS steelhead. Other independent review bodies, including the Salmon Recovery Science Review Panel, the Independent Scientific Advisory Board, and the Independent Science Review Panel have published similar findings (Review of Salmon and Steelhead Supplementation, ISAB, 2003; Report for the RSRP Meeting Held July 21-23, 2003, RSRP, 2003). Washington Trout believes that NOAA should acknowledge the adverse impacts of WDFW hatchery programs on the productivity of PS steelhead

We do not concur with the 2005 Updated Status Review and the PS Steelhead Proposed Listing that the risk to the viability of PS steelhead due to the reduced spatial complexity of and connectivity among populations is moderate; we believe that the loss of distribution and connectivity among populations poses a high risk to the viability of the DPS. The 2005 Updated Status Review and the PS Steelhead Proposed Listing acknowledge that the distribution of the DPS has been severely restricted by hydropower development, land use, and overall declining abundances and productivity, and that significant amounts of historical habitat have been permanently converted.

Few populations within the PS steelhead DPS are free of direct hatchery influence. Hatchery fish have restricted wild steelhead distribution temporally and spatially. The high presence of hatchery fish leads to competition for spawning, rearing and overwintering habitat, further restricting the amount of habitat available to wild PS steelhead. Mixed stocked fisheries for hatchery steelhead have severely shortened the early run time of wild steelhead, which was historically the peak of the returns. (Soverel, 2006).

We do not concur with the 2005 Updated Status Review and the PS Steelhead Proposed Listing that the risk to the viability of PS steelhead due to the reduced life-history diversity of populations and the potential threats posed by artificial propagation and harvest is moderate; we believe that the loss of diversity among and within populations and the impacts of hatchery and harvest management poses a high risk to the viability of the DPS.

NOAA has expressed concern since at least 1996 that past and present hatchery practices in Puget Sound pose a potential threat to the genetic integrity of PS steelhead (Busby et al, 1996). The BRT found then: that despite WDFW intentions to segregate its two highly domesticated out of basin and out of DPS hatchery stocks from wild native steelhead, harvest-rates targeting hatchery steelhead likely imposed high mortality on early returning natural PS steelhead, reducing natural diversity in spawn timing; that naturally spawning hatchery steelhead comprised a “substantial portion” of the overall steelhead spawning escapement within the DPS, and; that evidence existed for hatchery introgression in some natural PS steelhead populations (71 FR 15666).

The 2005 Updated Status Review and the PS Steelhead Proposed Listing cite risks posed the “substantial” production of out-of-DPS Skamania hatchery summer-steelhead on native summer-run populations in the Stillaguamish and South Fork Skykomish rivers. The BRT acknowledges that both Skamania summer and Chambers Creek winter hatchery programs may have adversely affected diversity in the DPS through genetic introgression and outbreeding depression, and notes that even very low levels of hatchery introgression (undoubtedly occurring within the PS steelhead DPS) can significantly reduce genetic diversity in wild steelhead populations (71 FR, 15666). Washington Trout agrees with those members of the BRT that suspect that WDFW hatchery programs have contributed to declines in PS steelhead productivity (see discussion above).

Past and present harvest and hatchery management has essentially eliminated the important early returning life-history component of wild steelhead populations in the PS steelhead DPS. Despite WDFW’s intent to temporally separate the hatchery run from the wild run, data demonstrate that hatchery males overwinter, residulize, and ultimately breed with wild females (Wright, 2004). Evidence of hybridization with *O. clarki* suggests the potential for reduced the diversity in the DPS while inflating distribution estimates (Wright, 2004).

Washington Trout shares the concern of the BRT regarding the reduction of summer-steelhead populations in the PS steelhead DPS. Although summer steelhead were never

as abundant as winter steelhead (NMFS, 2005), the persistence of both life histories is critical to the overall viability of the DPS. As noted above, out-of-DPS Skamania hatchery summer steelhead have likely reduced the diversity and productivity of native summer-steelhead populations within the PS steelhead DPS, and past harvest management may have removed a “substantial” portion of the summer steelhead component of the DPS. The loss of summer steelhead will reduce diversity, increase the risk of stochastic events, and significantly limit the ability of the Puget Sound steelhead DPS to fully recover.

Finally, the considerable uncertainty surrounding these issues should promote a conservative approach and a higher assessment of the risk to the viability of the DPS posed by the loss of diversity among and within populations and the impacts of hatchery and harvest management.

Factors Affecting the Species

In proposing or finalizing listing determinations, NOAA is required to determine if a species is threatened or endangered by any one or a combination of: habitat destruction, modification or curtailment; overutilization; disease or predation; inadequacy of existing regulatory mechanisms, and; other natural or manmade factors. Any one of the factors can be present and trigger the listing of a species; the presence of all of them is not required.

Washington Trout generally supports the PS Steelhead Proposed Listing regarding the assessment of the present or threatened destruction, modification, of curtailment of the habitat or range of PS steelhead. We agree that destruction and modification of PS steelhead habitat is likely the principal factor limiting the viability of the PS steelhead DPS.

Washington Trout does not concur with the PS Steelhead Proposed Listing regarding the assessment of the overutilization of PS steelhead for commercial, recreational, scientific or educational purposes. We believe that overutilization likely is a factor limiting the viability of the PS steelhead DPS. In the *viability analysis*, the PS Steelhead Proposed Listing acknowledges that harvest fisheries targeting hatchery steelhead have likely reduced the abundance, distribution, and diversity of PS steelhead by essentially eliminating the early returning component of wild steelhead populations within the PS steelhead DPS, and the evaluation of overutilization concedes that even current mark-selective fisheries for hatchery steelhead that require wild-fish release may continue to impose mortality impacts of early returning PS steelhead. Given the perilous state of most populations, and the undoubtedly low abundance and distribution of early returning natural steelhead within the PS steelhead DPS, it is likely that even low mortality impacts from harvest could continue to limit the viability of the DPS.

Washington Trout also believes that the PS Steelhead Proposed listing fails to adequately evaluate the association of steelhead hatchery programs with overutilization of PS steelhead. Hatchery impacts are more or less addressed in the *viability analysis*, and in the evaluations of the inadequacy of existing regulatory mechanisms and other natural or

man made factors. The evaluation of overutilization briefly notes that the impacts of harvest fisheries directed at hatchery steelhead have adversely affected natural populations of PS steelhead. However, the PS Steelhead Proposed Listing fails to consider the fundamental relationship between overutilization and hatchery operations, which contribute to, make possible, and are a direct function of any impulse to overutilize PS steelhead. Put simply, hatcheries would not exist without the impulse to overutilization, while continued hatchery production facilitates overutilization. Any evaluation of the well documented risks of adverse genetic and ecological impacts from hatchery programs on the distribution, productivity, and diversity of PS steelhead should be made in the context of that fundamental relationship between hatchery management and overutilization.

Washington Trout does not entirely concur with the PS Steelhead Proposed Listing regarding the assessment that disease and predation is not a factor limiting the viability of the PS steelhead DPS. In fact an evaluation of these factors is dominated by a high degree of uncertainty and a lack of data. Low abundances, declines in productivity, distribution, and diversity, and increased competition for limited habitat – conditions obtained in many if not most PS steelhead populations – can all encourage the potential for catastrophic disease outbreak. We recommend that NOAA Fisheries acknowledge the uncertainties associated with disease and predation impacts on the viability of PS steelhead.

Washington Trout generally supports the PS Steelhead Proposed Listing regarding the assessment of the inadequacy of existing regulatory mechanisms. We agree that the inadequacy of existing regulatory mechanisms governing potentially harmful hatchery practices and certain land-use activities is likely a factor limiting the viability of the PS steelhead DPS.

However, we do not entirely agree with NOAA's assessment of existing mechanisms for improving hatchery management to minimize adverse impacts on PS steelhead. The PS Steelhead Proposed Listing describes measures implemented by WDFW to "reduce the potential negative interactions" between hatchery and natural steelhead within the PS steelhead DPS, but acknowledges that the efficacy of these measures is so far "unclear." This characterization is overly charitable and potentially misleading. **Despite longstanding and credible evidence of the harmful genetic and ecological impacts from WDFW steelhead-hatchery programs on PS steelhead, WDFW still makes virtually no attempt to monitor the correct parameters to either identify or quantify those harmful impacts, or to determine whether any efforts being made to minimize those impacts are having any positive effect.** In 1997 WDFW developed and adopted a Wild Salmonid Policy, nominally governing the management of wild salmon and steelhead populations within Washington. The WSP includes specific, quantifiable performance standards for hatchery management, including thresholds for straying of hatchery recruits into natural spawning areas, and limits on out-of-basin transfers. Those standards and thresholds are routinely violated and/or ignored.

In 2003 Washington Trout submitted to WDFW substantive reviews of HGMPs developed by WDFW for steelhead hatchery programs in Puget Sound (Gayeski and Vanden Brulle, 2003). Washington Trout's reviews and WDFW responses are available at <http://wdfw.wa.gov/hat/hgmp/#pugetsound>.

In general, we found that the HGMPs fail to adequately describe clear program goals, justifications, performance standards and indicators, or adequately detailed monitoring and evaluation protocols or timetables. A number of erroneous and/or unsupported assumptions run throughout the HGMPs, and many contain critical deficiencies and omissions. The HGMPs consistently fail to quantify the estimated take of listed Puget Sound Chinook (as required at the time). We found that the overall size of the steelhead hatchery programs in Puget Sound are far too large with respect to any reasonable "acceptable levels" of competition, predation, and ecological impacts upon indigenous wild Chinook (and with respect to any ecological or genetic impacts to PS steelhead). Finally, the HGMPs are often in direct conflict with critical elements of WDFW's own Wild Salmonid Policy, and they fail to incorporate in any meaningful way recommendations of the HSRG or other independent review bodies. (Gayeski and Vanden Brulle, 2003)

WDFW published responses to the public comments it received regarding the Puget Sound steelhead hatchery programs (see: <http://wdfw.wa.gov/hat/hgmp/#pugetsound>). In some instances, WDFW conceded the merits of Washington Trout's comments and reviews, and pledged to make necessary revisions to the HGMPs during what it called the "iterative" ongoing development of a draft Environmental Impact Statement for Puget sound hatchery programs, due in spring 2005. To date, the iterative EIS process has not been completed, and WDFW's 2003 commitments notwithstanding, we are unaware of any meaningful revisions to the HGMPs or steelhead hatchery management in Puget Sound.

Despite credible evidence of harmful hatchery impacts, the recommendations of the HSRG and other independent bodies, public review of its hatchery management plans, its own management policy, and its own public commitments, WDFW has made virtually no significant effort during the recent past to improve its steelhead-hatchery programs within the PS steelhead DPS, or even to adequately monitor and evaluate the performance of those programs for the relevant parameters. These circumstances strongly support the finding that current regulatory mechanisms governing hatchery practices are inadequate, limiting the viability of the PS steelhead DPS.

Washington Trout generally supports the PS Steelhead Proposed Listing regarding the assessment of other natural or manmade factors affecting the continued existence of PS steelhead. We agree that potentially harmful hatchery practices may pose ecological and genetic risks to natural populations and may represent a factor limiting the viability of the PS steelhead DPS. However, we encourage NOAA to ere with those members of the BRT concerned that current hatchery operations may be contributing to the observed declines in PS steelhead populations. The acknowledgment that information is insufficient to quantify the genetic exchange between hatchery and natural steelhead (71

FR, 15666) should only raise serious alarm, particularly given the significant risks, consequences, and failures of current hatchery management acknowledged in the PS Steelhead Proposed Listing and discussed above.

Finally, we note that the potential impact of the annual release of millions hatchery salmonids of all species into Puget Sound under current conditions of declining ecological health may be a significant factor contributing to reduced survival of wild steelhead (as well as other listed salmonids) over the past 20 years, and perhaps longer. This issue was largely ignored by the BRT during the 2005 Status Review. In addition, preliminary analyses by Bill McMillan of Washington Trout show a strong negative relationship between Skagit River wild winter steelhead run size and in-basin releases of hatchery steelhead over the 40-plus year period from 1960 to the early 2000s. This issue should have been given greater attention in the 2005 Updated Status Review, and should be addressed in a substantive manner in NOAA's final listing determination, and during rulemaking, critical-habitat designation, and recovery planning for listed PS Steelhead.

Efforts Being Made to Protect PS Steelhead

We generally agree with NOAA's conclusions regarding the impact of current and planned management actions. However, NOAA's application of PECE for listing decisions is controversial (Trout Unlimited et. al. 2004). The best scientific and commercial data show the PS steelhead DPS to be on a trajectory to extinction. We do not support the application of PECE to private initiatives including HCPs and hydropower relicensing efforts. The ESA only accommodates consideration of efforts by any State or foreign nation.

Washington Trout has significant concerns regarding NOAA's anticipation, expressed in the PS Steelhead Proposed Listing, to consider a pending WDFW "Puget Sound Steelhead Management Plan" in developing NOAA's final listing determination. The PS Steelhead Proposed Listing acknowledges, "the specific reforms that WDFW intends to implement are unknown." In fact almost nothing is known about any pending WDFW steelhead management plan, and to date WDFW appears to have only begun any development of the plan. NOAA's anticipation may be inappropriately premature. Consistent with the PS Steelhead Proposed Listing, NOAA must apply the PECE criteria before it can make a determination to consider any "conservation effort" submitted by WDFW.

The PS Steelhead Proposed Listing describes in frank detail, in nearly every section, the likely adverse impacts to the viability of PS steelhead from instances of past and present management characterized by faulty assumptions, misjudgment, and inappropriate action. WDFW harvest assumptions about run timing and segregation of hatchery and natural recruits are found inaccurate and responsible for limiting PS steelhead viability and eliminating components of natural winter and summer populations in most rivers in the PS steelhead DPS; hatchery practices are found to have reduced the distribution, productivity, and diversity of PS steelhead; WDFW's attempt to segregate highly domesticated out-of-basin and out-of-DPS hatchery stocks from natural populations of PS steelhead is found to have been dominated by a high degree of uncertainty and risk,

applied with insignificant rigor, indeed unsuccessful, and responsible for seriously adverse genetic and ecological impacts to PS steelhead (71 FR, 15666).

We have discussed above several instances during the period since the 1996 Status Review of the apparent reluctance and/or inability of WDFW to respond appropriately or in any timely manner to opportunities for attempting to arrest the continuing decline of PS steelhead provided by compelling evidence, the recommendations of official independent advisory bodies, and its own policy. WDFW has announced its intention to develop a new management approach to conserving PS steelhead with input from NOAA and the interested public. The review and revision of steelhead management in Puget Sound would be an undoubtedly welcome and likely positive enterprise. However, Washington Trout believes that while it is unlikely WDFW will develop a management plan that can meet PECE criteria as they have been applied in the PS Steelhead Proposed Listing, we anticipate that NOAA will apply PECE criteria objectively and consistently in evaluating any submission or application from WDFW regarding its final listing determination.

Washington Trout believes that the interested public may have a responsibility and a right to evaluate WDFW's pending scientific framework for steelhead management and any management plans it develops, and incorporate its evaluations into comments submitted to NOAA regarding how and if that pertinent information informs any evaluation of the current and future extinction risks for PS steelhead, and regarding specific merits of the PS Steelhead Proposed Listing. On June 16 2006, Washington Trout submitted a letter to NOAA requesting that on the release of a WDFW draft science paper (preliminary and integral to the development of the PS steelhead management plan), NOAA Fisheries publish a notice of availability and re-open (or extend) the current public-comment period for the PS Steelhead Proposed Listing for 60 days from the date of the notice of availability, so that the interested public can have an opportunity to supplement its comments re the proposed listing and the extinction risk for PS steelhead (Washington Trout, 2006). We take this opportunity to repeat that request by reference. Further, we anticipate submitting a similar request regarding WDFW's pending PS steelhead management plan, if and when it is released for public review and/or submitted to NOAA fisheries for consideration under the PS Steelhead Proposed Listing, and ask for the record that NOAA take this preliminary request under advisement.

Conclusion

Washington Trout supports the Puget Sound Steelhead Proposed Listing. We agree that the PS steelhead DPS is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range, and we concur that present protective measures fail to adequately mitigate the factors currently threatening the DPS. We recommend that NOAA Fisheries finalize a determination to list the Puget Sound steelhead DPS as a threatened species under the ESA.

Washington Trout does not support inclusion in the DPS or listing of the Green River natural and Hamma Hamma winter-run hatchery steelhead. We concur that resident *O. mykiss* populations are unlikely to significantly reduce the risk of extinction of the PS

steelhead DPS. However, the PS Steelhead Proposed Listing illustrates that the joint DPS policy may and can fail to adequately conserve resident *O. mykiss* populations that could be essential to the recovery of a listed anadromous DPS. NOAA should amend its application of the joint DPS policy to accommodate listing resident *O. mykiss* populations where evidence suggests those populations could be essential for the recovery of PS steelhead populations.

NOAA must apply the PECE criteria before it can make a determination to consider any “conservation effort” submitted by WDFW. Since the 1996 Status Review WDFW has demonstrated repeated reluctance and/or inability to respond appropriately or in any timely manner to opportunities for attempting to arrest the continuing decline of PS steelhead provided by compelling evidence, official recommendations, and its own policy. While we believe it is unlikely WDFW will develop a management plan that can meet PECE criteria, we anticipate that NOAA will apply those criteria objectively and consistently in evaluating any submission or application from WDFW. The interested public may have a responsibility and a right to evaluate WDFW’s pending management plans, and incorporate its evaluations into comments submitted to NOAA regarding the extinction risks for PS steelhead and the specific merits of the PS Steelhead Proposed Listing.

Other than these and some marginal concerns discussed above, we find the 2005 Status Review Update for Puget Sound Steelhead and the PS Steelhead Proposed Listing thorough, objective, and for the most part accurate and scientifically defensible. Unfortunately, the PS Steelhead Proposed Listing makes too compelling a case that federal intervention will be required to prevent the extinction of PS steelhead, an historically important and valuable public trust, and an icon of regional ecological health.

We appreciate the opportunity to submit this information for consideration.

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ATTACHMENT A

Comments on WDFW Sportfishing Rule Proposals

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#33. Yakima River Bass Rule

Would change rule to: no daily limit, no minimum size, only three bass over 15" may be retained.

Washington Trout has suggested in the past that no conservation-limits be placed on exotic fish species where they occur with native wild fish. We have specifically suggested removing conservation limits in the Yakima River on smallmouth bass. WDFW's own "Explanation" for proposal #33 fairly accurately summarizes the rationale Washington Trout has presented for our suggestion to remove all conservation limits for smallmouth bass in the Yakima:

"Fall chinook salmon populations are declining in the Yakima River. Predation by bass on rearing and out-migrating juvenile fall chinook is a major contributor to their decline. Recent changes in fall chinook spawning distribution and smallmouth bass population structure are making the predation problems worse."

WDFW maintains confidence that the rule change will increase harvest on what it calls an "extremely dense" population of exotic smallmouth bass, a population the department acknowledges is having significant predation impacts on declining native-chinook in the basin. A goal to allow "more smaller fish to be kept" should be expanded to allow more bass of all sizes and ages to be removed from the river.

Regarding any exotic species in native-fish habitat, WDFW's highest management priority should be the control and removal of those exotic species. Any benefit derived from recreational bass angling in the Yakima River is far outweighed by the acknowledged costs to native-fish populations and habitats. There is no defensible reason to continue managing the Yakima River for the conservation of smallmouth bass.

We recommend that the proposal be amended to remove all conservation limits on smallmouth bass in the Yakima River.

#35. Canyon Creek Closed Waters

Would close to fishing the portion of Canyon Creek from its mouth to the Canyon Creek Road Bridge at RM 5.5.

Washington Trout supports this proposal. In May 2005, WT submitted a request to WDFW to consider an emergency closure on Canyon Creek during the 2004 fishing season, to reduce all fishing related mortality-impacts on a subpopulation of ESA listed Puget Sound chinook, a population already stressed by inhibited spawning opportunity caused

by the impaired fish-passage referenced in the Explanation for proposal #35. On July 7, WDFW imposed an emergency closure from the mouth of Canyon Creek to Canyon Creek Road Bridge at river mile 5.5.

Adoption of the permanent closure will contribute to the conservation of listed chinook and native char, and could create an incentive to resolve fish-passage and other habitat issues on Canyon Creek.

#36. Cedar River Fishery

Would allow (from June 1- August 31) anglers to retain two trout per day between 10 and 16 inches from the mouth (of the Cedar River) to the State Highway 18 Bridge, and allow a catch-and-release fishery from the State Highway Bridge to the Landsburg Road Bridge. Selective gear rules and a night closure would apply to each section.

Washington Trout is concerned that increasing the mortality impacts on resident rainbow trout in the Cedar River will compromise the conservation and recovery of wild Cedar River steelhead, and is inconsistent with current management practices to conserve *O. mykiss* spawning populations in other PS watersheds. We recommend that the proposal not be adopted, and that the department either develop a specific management plan to monitor the impacts from current Cedar River fishery regulations on resident *O. mykiss*, or consider a closure of the Cedar River Catch and Release Fishery.

In 2004, WDFW opened the Cedar River catch-and-release fishery in response to a proposal to open a harvest fishery in the Cedar River for resident rainbow and cutthroat trout. In the *Concise Explanatory Statement Regarding 2004-2005 Sportfishing Rule Proposals* (March, 2004), WDFW called the Cedar resident-trout population “abundant,” but expressed concern that subjecting it to a harvest-fishery would create undue risk to the anadromous component of the Cedar River *O.mykiss* population:

“Studies are on-going to learn the density of resident trout in the system as well as the interaction between the rainbow and steelhead population. Current thinking is that the two groups are just one population with fish exhibiting different life histories. At least in some parts of the species range the resident portion of the population have produce (sic) anadromous smolts. Until more is learned about this interaction, a significant reduction in the resident part of the population may create a risk to the steelhead population.”

At the time, Washington Trout expressed concern that opening a C&R fishery was inconsistent with the above statements. While WDFW acknowledged that a “significant reduction” in the resident population would impose an unacceptable risk to the anadromous population, it provided no specific management proposals to identify an impact-threshold that would risk a “significant reduction” in the resident population, or how fishery related impacts would be monitored or evaluated.

After only two fishing seasons, without identifying any impact thresholds or initiating any serious attempt to monitor or evaluate fishery impacts on resident rainbow trout in the Cedar, WDFW appears to have abandoned its concern that significant reductions in the resident trout population could impose risks on the Cedar River’s anadromous *O.mykiss* population. The Explanation for Proposal #36 only characterizes

the “trout population” as healthy; no mention is made of the relationship or interaction between the Cedar’s resident rainbow trout and anadromous steelhead. WDFW’s initial caution was provoked by uncertainty regarding the breeding interaction between resident and anadromous *O.mykiss* in the Cedar, and WDFW deferred a harvest fishery “until more is learned about this interaction.” It is particularly confusing that WDFW is now considering a harvest fishery when it has learned more, and what it has learned should actually reinforce its original caution.

Link Between Resident and Anadromous O.mykiss in the Cedar River

A Progress Report prepared by WDFW staff, *Genetic relationships among anadromous and non-anadromous Oncorhynchus mykiss in Cedar River and Lake Washington – implications for steelhead recovery planning* (Marshall, et al 2004), provides significant information supporting the hypothesis that *O. mykiss* exhibiting resident life histories in the Cedar River downstream and upstream of the fish passage barrier at Landsburg Dam contribute to the production of progeny to the anadromous life history form of *O. mykiss*. This contribution may be direct, in cases in which mating between resident or anadromous males and resident females produce progeny that become out-migrant smolts, or indirect, in cases in which mating between resident males and anadromous females produce smolts. The results of the assignment tests reported on pp. 11-12 and summarized in Table 7 (page 26) of the report are consistent with all of these scenarios.

Among other findings, Marshall et al reported that: “In smolt assignment tests we found that 25% of *O.mykiss* smolts were estimated to originate from the below-dam (resident) population. ...a smaller percentage of Ballard Locks steelhead originated from resident populations. These results indicate that resident *O.mykiss* are probably contributing to the anadromous population.”

The results presented in Marshall et al appear to provide credible information about the interaction between resident and anadromous *O. mykiss* in the watershed, presenting specific evidence to support the “current thinking” that an abundant, productive resident Cedar River rainbow population may be essential for the recovery of Cedar River steelhead. While these results are preliminary, they are nonetheless robust regarding the conservation implications for Cedar River steelhead. Uncertainties associated with the results reported by Marshall et al. provide no valid reason for discounting much less for ignoring their significant conservation implications. In fact any uncertainties associated with the suggested important relationships between resident and anadromous Cedar River *O. mykiss* should urge caution in managing mortality impacts or other angling-related stress on resident trout in the river, particularly when anadromous escapements are significantly depressed.

While the Explanation to proposal #36 makes no mention of the assertion, some proponents of proposal #36 have suggested that resident trout in the Cedar River are imposing intolerable predation impacts on anadromous *O.mykiss* juveniles. While this phenomenon has been described in other watersheds, and some level of predation from resident adults on anadromous juveniles is likely to be occurring in the Cedar, there is little evidence that the level of predation in the Cedar is significant. Certainly any predation that is occurring must be weighed against a 25% contribution from the resident population to anadromous–smolt production. Even if a reduction in predation impacts could help Cedar steelhead, WDFW and the Commission should carefully consider

whether it is appropriate to attempt to recover one component of a native wild population by risking harmful impacts to another wild native population.

Marshall et al found that: “The among-sample comparative analyses showed clearly that Cedar River resident *O.mykiss* represented a native gene pool and were not the result of exotic hatchery trout introductions.”

Risk From a Cutthroat Fishery

A significant portion of the resident trout population in the Cedar River is made up of native coastal-cutthroat trout (*Oncorhynchus clarki*). It could be suggested that a harvest fishery targeting only resident *O.clarki* could reduce predation impacts on anadromous *O.mykiss* juveniles without risking intolerable impacts on the resident *O.mykiss* population or its interactions with the anadromous population, and provide a meaningful angling opportunity. This would again beg the important question of whether it is appropriate to risk significant reductions to a native cutthroat population to conserve Cedar steelhead. But a harvest fishery targeting cutthroat would appear to also impose a high risk of mortality impacts on resident rainbows.

Marshall et al reported that of 32 fish sampled in their study and identified in the field as coastal cutthroat, only 12 were actually genetic *O.clarki*. Some of the remainder were rainbow-cutthroat hybrids, but a high percentage were genetically identified as *O.mykiss*. Marshall et al reported that investigators were “surprised by the presence of *O.mykiss* that, in the field, had enough phenotypic similarity to cutthroat that they were identified as such.” If trained field biologists cannot make accurate distinctions in the field between adult cutthroat and rainbows, it is unreasonable to expect a majority of recreational anglers to perform better. It appears likely that many resident rainbows could be harvested in a fishery targeting resident cutthroat.

Inconsistency with Current Management Priorities

A partial harvest fishery on the Cedar River would be inconsistent with other WDFW management priorities in the Puget Sound Basin (see below, re proposals # 41 and #42). The closure of catch and release fisheries targeting adult winter steelhead during March and April is intended to eliminate fishery impacts on Puget Sound steelhead populations projected to gather less than 80% of their wild escapement goal. That intention is significantly compromised by allowing even limited fishery impacts on the resident component of the Cedar River *O.mykiss* population, while spawning escapement of the anadromous component is currently about 3% of its goal.

As you are aware, the abundance of anadromous *O.mykiss* in the Cedar River has been severely depressed since the 2000 brood year with total escapements to the entire Lake Washington system of fewer than 50 individuals for all five years from 2000 to 2004 (WDFW SASSI update, 2002) considerably below the nominal escapement goal of 1600. The aggregate Lake Washington winter steelhead stock of which the Cedar River population is the dominant component is presently classified as Critical by the Department.

Many other streams and rivers in the Puget Sound region are open for resident trout fishing during the summer, some under harvest regulations, including rivers and streams closed to all steelhead angling in March and April to protect anadromous spawners. Wherever wild steelhead escapement or productivity is depressed, particularly

to levels that require steelhead-angling closures, WDFW should seriously consider implementing more conservative angling regulations relative to resident *O.mykiss* fisheries. But in this case, WDFW has specific information linking the conservation and recovery of the anadromous and resident components of the Cedar River *O.mykiss* population, and the Cedar anadromous spawning-population is at critically low levels. Anecdotal evidence suggests that angler effort for resident *O.mykiss* is significantly higher on the Cedar than on rivers like the Skykomish, mainstem Snoqualmie, Stillaguamish, or Nooksack, resulting in higher overall mortality impacts. On the Cedar, WDFW has every justification and responsibility to act as conservatively as possible.

Conclusion

Three things are clear:

- It appears likely that resident *O. mykiss* provide an increasingly important contribution to the productive capacity of the Cedar River steelhead population;
- Spawning escapements of anadromous *O. mykiss* in the Cedar are and have been critically depressed;
- Current angling activity is already imposing an unmonitored level of mortality impacts on the resident population.

Given the department's stated aversion in 2004 to a significant reduction in the resident population from fishery impacts, and its acknowledgement of the three factors listed above, it should have defined what it considered a significant reduction, set specific impact thresholds, and developed a monitoring plan adequate to evaluate the performance of the fishery relative to the thresholds, including surveys of angler effort, resident spawning activity, and resident-population size and distribution. WDFW should take seriously Marshall et al: "A tentative conclusive from our first year's work is that conservation of Cedar River resident *O.mykiss* populations is an important component of restoring the native steelhead resource."

While the Cedar River may have potential for a "quality fishery," the stakes for the native fish populations in the watershed are high; WDFW cannot afford to punt here. A partial harvest fishery for resident trout on the lower Cedar River can be expected to have a harmful impact on the survival and recovery of Cedar River steelhead. Washington Trout respectfully urges that the proposal be rejected, and that the department either develop a specific management plan to monitor and evaluate the impacts from current Cedar River fishery regulations on resident *O.mykiss*, or consider a closure of the Cedar River Catch and Release Fishery.

#41. Skykomish River Catch-and-Release Fishery

Would close the March 1- April 30 catch-and-release, selective-gear-rules fishery for game fish.

#42. NF Stillaguamish Catch-and-Release Season

Would close the March 1 – November 30 catch-and-release (up to 2 hatchery steelhead may be retained), flyfishing-only fishery for game fish from March 1 – May 31, making that fishery open from June 1 – November 30.

Washington Trout supports these proposals. We continue to support WDFW's conservative management of fisheries for wild winter steelhead in Puget Sound river systems. The closure of catch-and-release steelhead fisheries to conserve spawning populations is an appropriate if unfortunate response to chronic under-escapement in most PS steelhead populations.