Changes to Part 4 (I) WRD Water Quantity Report

The Oregon Water Resources Department (OWRD) has reviewed comments submitted on the Oregon Coastal Coho Assessment. Changes made and clarifications provided in response to comments on the Part 4(I) OWRD Water Quantity Report and Part 3A PECE Analysis are described below.

Consumptive Use Calculations:

One commenter expressed concern regarding the consumptive use analysis in Part 4(I) Water Quantity Report (See WaterWatch Comments). Specifically, there was concern over the approach of "unnesting" polygons or areas for consumptive use calculations, but not for natural streamflow (80% exceedance flow). To clarify, this "unnested" consumptive use approach was chosen so that the consumptive use within relatively small geographic areas could be compared with the natural flow expected at that point on the stream. This approach represents a new way of using existing OWRD data, and we will continue to explore additional analytical methods of "unnesting" consumptive use estimates and exceedance flows in the future. *We have changed the Part 4(I) Water Quantity Report to clarify that this analysis is based on best available data at this time.*

Several commenters expressed concerns (e.g., see NMFS Part 1 Synthesis Report Comments, WaterWatch Comments) about the treatment of municipal use rights in the consumptive use analysis. *To clarify the treatment of municipal use rights and consumptive use, we have added the following explanation and tables to the Part 4(I) Water Quantity Report*:

> "Two different calculations of municipal consumptive use are made in the water availability database: 1) the actual use and 2) the expected demand. The actual use is used to correct gaged flows to natural flow. The expected demands are used in the water availability calculation. The expected demand may be larger than the actual use because it represents the *potential* demand under the water right.
>
> The actual consumptive use is obtained by multiplying a consumptive use coefficient by the actual diversion of the municipality. Municipalities are required to report to the WRD the amount of their diversion annually, so these data are readily available. Table 5 gives the consumptive use coefficients used in various areas around the state. These coefficients are based on actual municipal diversions and sewage outfalls.
>
> Expected demands are calculated by multiplying the full face value of the active water right for the municipality by the appropriate consumptive use coefficient from Table 5. As described above, the face value of a municipal water right may be larger than the actual diversion. There are many reasons for the discrepancy including municipal water use demand typically increases steadily over time due

to population growth and municipalities often hold multiple water rights to ensure uninterrupted service in case of shortage or emergency.

The expected demands for municipal use are based on water rights currently in use (i.e. water rights with facilities and infrastructure that would allow diversion and use). Water rights held as alternate sources are not considered in calculating expected demands. The expected demand is the consumptive part of the *active* water rights taken at their full face value (Table 6)."

Table 5. Municipal consumptive use coefficients.

	Coastal Basins	Willamette and Sandy	Rogue and Umpqua	East Side (Summer Discharge)	East Side (No Summer Discharge)
Summer	0.15	0.45	0.64	0.60	1.00
Winter	0.10	0.15	0.15	0.30	0.30

Table 6. Comparison of water rights of record, active water rights, and actual use.

Municipality	Water Rights of Record (cfs)	Water Rights in Use (cfs)	Current Actual Diversion (cfs)
Medford	203	203	30 - 40
Ashland	16.46	16.46	3.50 - 7.55
Canyon Creek	2.08	1.07	0.4 - 0.7
Eugene	300	273	35 - 75
Toledo	19.14	14.14	0.0 - 0.9

Finally, the Oregon Plan Assessment Stakeholder Team felt the consumptive use analysis of the Part 4(I) Water Quantity Report should include the impacts of ground water rights (See 9/8/04 and 9/27/04 stakeholder notes). *The Part 4(I) Water Quantity Report has been updated to clarify that consumptive use estimates used in the analysis include consumptive use from ground water rights issued since 1992 that were found to be hydraulically connected to surface water.*

Flow Restoration Watersheds

Several commenters expressed concern that the joint OWRD/Oregon Department of Fish and Wildlife (ODFW) high priority watersheds were not addressed in greater depth in the Part 4(I) Water Quantity Report and the Part 3B PECE Analysis (e.g., see NMFS Part 3B PECE Analysis Comments, Engelmeyer Comments, WaterWatch Comments).

There are 153 high priority watersheds located in the Oregon Coastal coho ESU. As described in the Part 4(I) Water Quantity Report, these watersheds represent areas with the greatest biological need for flow restoration according ODFW biologists and the greatest opportunity for flow restoration according to OWRD watermasters. These

watersheds were described in PECE analysis of the assessment because these are the priority areas where OWRD watermasters seek voluntary flow restoration opportunities, enhanced water measurement, and other Oregon Plan activities.

To address these comments, we have added the location of high priority watersheds to Figures 1 through 4 of the Part 4(I) Water Quantity Report and describe the number of high priority watersheds in each monitoring area of the ESU. There are several caveats to adding this information to the report. ODFW biologists considered *multiples* species present in a stream and did not solely consider the needs of coho when identifying and prioritizing flow restoration watersheds. Therefore, the locations of these high priority watersheds within the Oregon Coastal coho ESU include, but are not solely dependent on, the flow restoration needs of coho.

These high priority watersheds were identified as ongoing Oregon Plan conservation efforts. The high priority watersheds were not presented in the context of the consumptive use analyses or the analysis of the likelihood of additional water allocation within the ESU. While these watersheds are valuable to the Department and others in prioritizing its Oregon Plan efforts throughout the state, we feel that the results of this assessment provide a more informed assessment for focusing flow restoration efforts in the future, such as the Umpqua and Mid-South Coast monitoring areas where consumptive use in some areas is large relative to the 80% exceedance streamflow.

With respect to flow restoration that has occurred to date in the Coastal coho ESU, the locations of all flow restoration transactions (e.g., leases, instream transfers, and allocations of conserved water) with the ESU are indicated on Figures 7 and 8 of the Part 4(I) Water Quantity Report. The quantity of flow restored within the ESU is described in Table 4 of the Part 4(I) Water Quantity Report

NFMS commented that OWRD has statewide performance measures and targets that track 1) the number of high priority watersheds that have flow added through Department programs and 2) the regulatory actions taken to benefit instream water rights (See NMFS Part 3A PECE Analysis/Part 4(I) Water Quantity Report Comments). Statewide, OWRD has a goal to achieve a 2% increase per year through 2005 in the number of high priority watersheds with flows added and that 35% of all regulatory actions benefit instream water rights. *We have adjusted the Part 4(I) Water Quantity Report and Part 3A PECE Analysis to clarify that the same targets can apply on a smaller geographic scale such as the Coastal coho ESU. In the future, we can track both of these performance measures at the coho ESU scale; however, that data is not currently available. We have also added our best estimate in the Part 4(I) Water Quantity Report of regulatory activity on behalf of instream water rights for watermaster districts that include the Coastal coho ESU.*

Consumptive Use Increase and Instream Water Right Locations

One commenter felt that the location of the instream water rights (ISWRs) compared to the areas of increased consumptive use between 1997 and 2004 should be provided (See WaterWatch Comments). In the Part 4(I) Water Quantity Report, the locations of ISWRs are indicated for each monitoring area in Figures 1 through 4, and the areas with increased consumptive use between 1997 and 2004 are shown in Figures 9 through 12.

Compliance Estimates

In response to PECE question A6, we have added the following information and table on voluntary compliance for the four watermaster districts that coincide with the Oregon Coast coho ESU to the Part 4(I) Water Quantity Report:

> "Annual reports of regulatory activity by stream reach and watermaster district are provided to the Water Resources Commission and available at http://www1.wrd.state.or.us/files/Publications/staff_reports. These regulatory data are compiled at the end of each water year (October 1 through September 30).
>
> Regulatory activities by WRD watermasters include any action that causes a change in use or maintenance or a field inspection that confirms that no change is needed to comply with the water right, statute, or order of WRD. This definition of regulatory activities reflects the broad spectrum of activities conducted by watermasters.
>
> During times of water shortage, watermasters distribute water according to priority date of water rights on a stream system. Shutting off junior users is one way of "regulating" water use, but water users "regulated" in this way may still be in compliance and, in fact, usually are.
>
> Typical regulatory actions may include:
> - Where necessary, watermasters issue notices of violation to unauthorized users.
> - During the irrigation season, watermasters may contact water users in person, by telephone, or by mail to notify water users to cease diverting water because of streamflow conditions.
> - Watermasters regularly spot-check water diversions for compliance with headgate notices and other regulatory notifications.
>
> The Oregon Coastal coho ESU coincides with four watermaster districts (Districts 1, 2, 15, and 19). Average voluntary compliance in 2004 within these districts was 95%. Voluntary compliance rates from 1998 through 2004 for each of these districts are provided in Table 1. Note that these data reflect compliance within the entire watermaster district so may include areas outside of the coho ESU. For example, District 19 includes portions of the lower Rogue River drainage.
>
> Table 1. Voluntary compliance rates in watermaster districts that coincide with the Oregon Coast coho ESU.

	Percent Voluntary Compliance			
Year	**District 1**	**District 2**	**District 15**	**District 19**
1998	No data	50	98	97
1999	76	34	99	96
2000	No data	63	100	99
2001	100	70	99	100
2002	82	64	99	100
2003	80	79	100	98
2004	90	92	99	100

Thank you for the opportunity to reply to comments received on the Oregon Coastal Coho Assessment. We found the comments very useful in clarifying and improving the assessment report.