

## Appendix D – Groundwater Management

With respect to the groundwater resource of the basin, the goals of the Planning Unit are to: (i) encourage ground water management that anticipates and meets the needs of a growing community; (ii) be mindful and protective of in-stream values; and (iii) be consistent with previous planning processes (Snake River Salmon Recovery and Subbasin Plans) and with current Water and Case Law.

The Planning Unit recognizes that hydraulic connectivity between ground and surface water has the ability to impair stream flows. Especially sensitive to this impairment would be withdrawal of groundwater during low flow months around many smaller Snake River tributaries. These sensitive areas include streams that have: (i) naturally limited (in some cases intermittent) summer/fall flows; (ii) future development/growth potential (with associated permit exempt wells); and (iii) critical salmonid habitat. Small streams are especially vulnerable to impacts associated with ground water withdrawals because even small withdrawals in summer flows can have major impacts. In other words a 1/10 cfs reduction in a stream with a ½ cfs flow has a much greater negative impact to available habitat than a 1/10 cfs reduction on a stream with a 10 cfs flow. This is important when considering the impacts of permit exempt wells that are in continuity with these small stream systems. WDFW would like to see restrictions on exempt wells that are in continuity with such streams, especially when those streams support ESA listed species.

Based on assistance of Ecology, WDFW, Nez Perce Tribe, Asotin, Columbia and Pomeroy Conservation Districts, and in cooperation with land owners, the Planning Unit has identified and outlined these sensitive areas and proposes the following management actions to be implemented during Phase IV Implementation:

- GWM1: Monitor and evaluate the surface/ground water connectivity in these sensitive areas in the near term to better understand the impact of new withdrawals.
- GWM2: Restrict any new groundwater withdrawals in the sensitive areas with the exception of permit exempt wells, during monitoring period (or as necessary to define resource impacts).
- GWM3: In the longer term, conduct necessary studies to better understand surface and ground water relationships in the deeper basalt aquifers. This information could serve as guidance for further groundwater actions and decisions outside the sensitive areas outlined by the Planning Unit.

Phase IV Implementation would include further characterization of the ground and surface water relationship. This characterization will aid the Planning Unit in evaluating and recommending future management of the ground water resources in the watershed.

### Monitoring and Future Studies

With respect to GWM1 and GWM3, the following steps need to be implemented:

- Develop a scope of work for each sub-basin for groundwater level monitoring. The scope of work will include identifying appropriate existing wells and installation of existing data loggers and identifying sites for new monitoring wells.
- Identify data and analyses gaps for Hydrogeologic Study and identify assessment funds to complete the study. The groundwater studies will be directed at determining availability of basalt groundwater. This recommendation could help jurisdictions direct future growth into appropriate areas under the Growth Management Act or other planning processes.

### **Recommended Use of Permit Exempt Wells**

With respect to GWM2, the following allowances on use of permit exempt wells in WRIA 35 are recommended by the Planning Unit:

- Exempt well and self-supplied systems would be allowed to support domestic and livestock purposes consistent with the current statute up to 5,000 gallons per day in the basalt aquifer. These wells must be cased and sealed through the gravel aquifer.
- County land use planning and associated zoning provides the basis for the density development in these rural areas and it is recommended that the counties consider water availability and fish habitat conditions in establishing and updating zoning densities in rural areas.
- Permit exempt wells shall be consistent with current Washington state water law<sup>1</sup>, pending future recommendations from the Planning Unit on groundwater management strategies that may result from groundwater data collection and analysis.

### **Basis for Exempt Well Usage**

To support the Planning Unit's decision to gather groundwater data, conduct further studies and not make specific recommendations regarding the active management of groundwater, an informal assessment of rural population change in Asotin, Garfield and Columbia Counties was conducted. Census data in the 2005 Data Book of the Office of Financial Management of the State of Washington was reviewed. The years 1900 and 2000 were used for Garfield and Columbia counties and 1910 and 2006 were used for Asotin County. Total water usage is determined by taking the numbers of people, livestock and acres irrigated times the amount of usage by each.

The populations of the incorporated areas were subtracted from entire population for Garfield and Columbia counties to determine the rural residents who would be on exempt wells. The residents in Starbuck were not subtracted in 1910 because they had no municipal system until 1962. In Asotin County, the 2006 population was used because the PUD has a record of people on their system as of that time. For Asotin, the population connected to the municipal PUD and

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<sup>1</sup> Washington State Department of Ecology regards Washington water law to include case law and regulation.

the people in the Town of Asotin were subtracted from the county population to determine the population on exempt wells. Each household was assumed to have four residents as average size. A summary of the final assessment is shown below:

<b>Table D-1. Summary of Rural Population Assessment for Exempt Well Usage</b>		
<b>Population by Year</b>	<b>1900</b>	<b>2000</b>
<b>Columbia County</b>	7,128	4,064
Starbuck	0	-130
Dayton	-2,216	-2,655
Rural Population	4,912	1,279
Divided by 4 (Ave. family size) Equals Number of Exempt wells	<b>1,228</b>	<b>320</b>
<b>Garfield County</b>	3,918	3,383
Pomeroy	-953	-1,517
Rural Population	2,965	1,866
Divided by 4 (Ave. family size) Equals Number of Exempt wells	<b>741</b>	<b>467</b>
	<b>1910</b>	<b>2006</b>
<b>Asotin County</b>	5831	21,100
Asotin	-820	-1,095
PUD Service Area (Clarkston)	-1,257	-19,200*
Rural Population	3,754	805
Divided by 4 (Ave. family size) Equals Number of Exempt wells	<b>938</b>	<b>201</b>
<b>TOTAL EXEMPT WELLS</b>	<b>2,907</b>	<b>988</b>

\*People on P.U.D. System

In addition, the Planning Unit received information for State Certified Special Census for Asotin, Garfield and Columbia Counties. The populations are listed below for the three counties in WRIA 35:

<b>Table D-2. State Certified Special Census for Asotin, Garfield and Columbia Counties</b>			
	<b>1968</b>	<b>2000</b>	<b>2006</b>
<b>Asotin Co</b>	13,600	20,551	21,100
<b>Unincorporated</b>	6,440	12,119	12,660
<b>Incorporated</b>	7,160	8,432	8,440
<b>Asotin</b>	660	1,095	1,165
<b>Clarkston</b>	6,500	7,337	7,275
<b>Columbia Co.</b>	4,700	4,064	4,100
<b>Unincorporated</b>	1,005	1,279	1,250
<b>Incorporated</b>	3,695	2,785	2,850
<b>Dayton</b>	3,100	2,655	2,720
<b>Starbuck</b>	595	130	130
<b>Garfield Co.</b>	2,900	2,397	2,400
<b>Unincorporated</b>	640	880	875
<b>Incorporated</b>	2,260	1,520	1,525
<b>Pomeroy</b>	2,260	1,520	1,525

In both of these assessments, the trend shows a stable or decreasing rural population for permit exempt well usage in the counties within WRIA 35.