



## White Paper Focusing On Instream Flows and Exempt Wells By The Washington State Groundwater Association

Watershed Planning Units face a multitude of challenges. Today, planning units are attempting to balance instream flow objectives while providing adequate water for a growing population. This is a daunting task and we applaud the efforts of all who have given of themselves in this worthy endeavor. This White Paper is intended to provide, first, a realistic perspective on the issue of “exempt wells” and their impact on instream flows and second, other facts to consider while developing instream flow regulations pertaining to minimum flows and basin closures.

**Exempt wells provide the most practical water source available to rural Washington State citizens. Water used for domestic and stock watering purposes cannot be interruptible.** It is incumbent upon policy makers to protect the exempt well option from limitations or restrictions that would render it ineffectual as a water source.

**Establishing minimum instream flows for a healthy environment while providing water for rural development is a realistic and achievable goal. The two endeavors are not incompatible.** We cannot accept a position that addresses the needs of fish but prohibits or significantly restricts rural development consistent with adopted land use plans. On the other hand we cannot accept a position that provides for rural development without addressing the needs of instream objectives.

**Good policy decisions must have a clear understanding of the technical aspects of the issue.** Questions must be answered using reliable data and sound science. This is difficult considering there is little documented data on the impact of exempt well use on instream flows and more specifically the base flow of the stream. To make matters worse, data collection is expensive and extremely time

consuming. The interaction between surface and ground water is dependent on factors such as geology, hydrology and weather. There are, however, some universal facts that can be used to direct a common sense approach for establishing good policy.

As we consider a water basin we notice that there are many water bodies contained within its boundaries. To the naked eye we see rivers, stream, lakes, ponds, bogs, wetlands and seasonal waterways. What we do not see with the naked eye is the water bodies located below the surface of the ground, the groundwater. Groundwater is located in aquifers. Aquifers are subterranean areas of porous rock or sediment that allow water to flow. The flow of water through aquifers follows a downward gradient from recharge zone(s) to discharge zone(s). Aquifers are either confined or unconfined. Groundwater in a confined aquifer becomes pressurized as it moves from the recharge zone(s) to the discharge zone(s) because of the presence of an aquitard or low permeable zone between the aquifer and the land surface. This pressure in a confined aquifer is called an artesian condition. Some artesian wells have enough pressure to flow at the wellhead. In Washington, unconfined aquifers are usually near-surface sediments and do not have an aquitard between them and land surface. In unconfined aquifers water percolates through the near-surface sediments overlaying the aquifer until it reaches the top of the water table. Water tables decline as water drains from the shallow unconfined aquifers into streams, rivers, lakes, and bays in the dryer times of the year and rises during the rainy times of the year. Unconfined aquifers are recharged primarily by local vertical movement of rainfall in the general vicinity overlaying the aquifer while confined aquifers recharge zones are generally in areas some distance from the well location. **In many parts of Washington there can be an unconfined aquifer and more than one confined aquifer located beneath a persons feet.** Confined aquifers discharge, often by upward leakage, into rivers, streams, lakes, and in Western Washington into Puget Sound, Hood Canal, or the Pacific Ocean. Unconfined aquifers discharge by gravity into rivers, streams, lakes and in Western Washington into Puget Sound, Hood Canal, and the Pacific Ocean. Generally, unconfined aquifers have a much larger seasonal impact on base flows than confined aquifers. The top of an unconfined aquifer is called the water table. **In many cases, groundwater from primarily shallow unconfined aquifers is the only water source for streams during the dry months.**

What effect does the use of exempt wells have on the shallow aquifer system? How much of the water withdrawn from an exempt well is returned to the shallow aquifer system through drainfields or irrigation return flow? Although geology, climate, and other factors vary within and across watersheds one thing remains the same. **Most water withdrawn from an exempt well for domestic purposes is returned to the shallow aquifer system through a septic system's drain field or through percolation. In fact, most exempt wells in Washington State are drilled into a confined aquifer. This means that water is being drawn from a source that provides lower seasonal recharge to stream base flows and is returned into the shallow aquifer system that has the highest contribution to stream base flow.**

According to the United States Geological Survey's "*Estimated Domestic, Irrigation, and Industrial Water Use in Washington 2000*" report, domestic water use in Washington State is approximately 674 million gallons per day. Of that total, 19 percent or 125 million gallons per day is drawn from exempt wells.

How much water is 125 million gallons? **On average, the total domestic water withdrawn per day from exempt wells for the entire State equals the amount of water the Columbia River discharges into the Pacific Ocean every sixty seven seconds.** Keep in mind that more than 70% of that water is returned to the shallow aquifer system providing a net benefit to base flows during the low-flow months.

**The use of exempt wells by rural citizens has little to no negative impact on instream flows and in some scenarios actually has a positive impact on base flows of streams during the dry late summer early fall months.**

Consider, for a moment, the alternative to exempt wells in rural settings. **Do we really want to expand urban-type infrastructure to rural settings?** The cost of expansion would be astronomical and contrary to all land use planning efforts. It is equally inappropriate to suggest that those who choose to live in rural areas should not have legal access to the water necessary to live there.

Rural Washington has suffered significant negative economic impacts over the past few decades. The decline in logging, fishing, and mining industries has had a devastating effect. Rural families, on average, earn \$10,000.00 less in annual income than urban families. Rural jobs, on average, pay \$15,000.00 less per year than urban jobs. The unemployment rate in rural counties averages 2% higher than in urban counties. These are among the highest disparities in economies in the United States. **Good policy would not favor adding expensive restrictive regulations onto depressed rural citizens when reliable data and sound science does not support the asserted benefit of the regulation.**

**We urge policy makers throughout the State to question the proposals, whether legislative or submitted by WRIA planning groups that assert that restriction of individual domestic wells will be beneficial to the base flows of streams.** Please consider the makeup of the WIRA planning groups. City Municipal Water Purveyors, Public Utility District Water Purveyors, Investor Owned Water Purveyors, Tribal Governments, planners, and others who have vested interests that are counter to the interests of rural Washington. It is these types of interests that make up the majority of the representation of the planning groups.

**We encourage policy makers to vigorously defend the Washington State exempt well law and protect the right of each citizen to construct a well on their property for lawful purposes.** Do not restrict the use of wells beyond what is justified by sound scientific truth. Do not require property owners to abandon their property for lack of access to water. Do not require property owners who live within urban growth areas or the service area of a water district that currently is unable or unwilling to provide water at a reasonable cost and in a reasonable time frame to enter into onerous agreements that reduce their investment value and obligate them to future unknown expense as a prerequisite for being allowed to construct a domestic well.

**We strongly encourage all policy makers to not restrict a citizen's right to use water located beneath their land to enhance their lives when in all probability, that use causes no harm and may even enhance the water resources that support the riparian habitat.** The right to live on ones property and the responsibility to protect the environment are not incompatible and with wise decisions from responsible policy makers, Washington State will have water enough for people, farms, and fish.