

Six-Packs for Subdivisions:  
The Cumulative Effects of Washington's Domestic Well Exemption  
Robert N. Caldwell J.D.  
Center For Environmental Law and Policy  
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## I. INTRODUCTION \*

Do not let your chances like sunbeams pass you by

For you never miss the water till the well runs dry.

Rowland Howard (1876)

Under Washington water law, ground water cannot be withdrawn from any aquifer unless a permit is first obtained from the Department of Ecology (Ecology). The law, however, exempts from the permit requirement withdrawals of up to 5000 gallons per day for stockwatering, domestic purposes, watering a lawn or non-commercial garden up to one-half acre in area, or industrial uses. These "exempt wells" generally are considered small uses having no significant impact on ground water quantity and quality. The cumulative impact of Washington's exempt wells however, is anything but small.

Hundreds of thousands of exempt wells currently exist in Washington, with thousands of new wells being constructed each year. These wells affect resource management because the amounts of water withdrawn are unquantified and, due to their unregulated nature, create untold effects on stream flows that are hydraulically connected to ground water aquifers. Exempt wells affect public health when the water sources from which they draw are contaminated by nitrate concentrations, seawater, or agricultural pesticides and herbicides. Additionally, public health officials have identified numerous problems stemming from improper exempt well maintenance.

State agencies, local government, and private parties lack understanding concerning the proper interpretation, and thus the scope, of the exempt well statute, which has led to a proliferation of exempt wells in recent years. Land developers have seized the exemption as a tool to circumvent statutory provisions requiring a permit from Ecology prior to withdrawal of ground water. Thousands of residences that rely on exempt wells as the only source of water supply are being constructed. This paper explores the cumulative effects of exempt well proliferation in Washington on resource management, public health, and instream flows, and demonstrates that those effects are far from de minimis.

Section II explains the exempt well statute and attempts to quantify the extent of Washington's ubiquitous exempt wells. Section III explores the impacts of exempt wells on resource management, instream flows, and public health. Section IV discusses current case law from the state Pollution Control Hearings Board and a recent Attorney General's Opinion on the subject. Section V offers

measures for legislative consideration to mitigate the cumulative effects of exempt wells on resource management, public health, and instream flows.

## II. Quantification Of The Exempt Well Problem

### A. The Exempt Well Statute

In 1945 the Washington Legislature enacted Chapter 90.44 of the Revised Code of Washington as a supplement to Chapter 90.03, the Water Code, for the purpose of "extending the application of such surface water statutes to the appropriation and beneficial use of ground waters within the state."

This act created Washington's Ground Water Code. Prior to 1945, use of ground water was unregulated. Recognizing that withdrawals of ground water could impact surface water flows, the legislature declared that the Ground Water Code was not to affect surface water rights. A central element of the Ground Water Code is its legislative declaration that all ground water belongs to the public and is subject to appropriation for beneficial uses. Essentially, the legislature made the use of ground water subject to the same rules that apply to surface waters and further integrated the two by making surface water uses superior to subsequent appropriations of ground water.

Like surface water withdrawals, ground water withdrawals are prohibited unless enumerated procedures are followed and a permit is issued by Ecology. The Ground Water Code requires that ground water applicants comply with procedures established in the Surface Water Code. An application must be filed, a public notice published in a newspaper of general circulation in the county where the withdrawal is to be made, and Ecology must investigate the application. Only if it finds that there is "water available for appropriation for a beneficial use, and the application will not impair existing rights or be detrimental to the public welfare" may Ecology issue a permit for the use of public ground water. Thus both the Ground Water and Surface Water Codes have identical requirements for new appropriations of water: unless a permit is obtained from Ecology, no use of the public's water is allowed. There is one exemption from this permit requirement; however, it is found only in the Ground Water Code.

RCW 90.44.050 is Washington's "exempt well" statute. In allowing for enumerated "small withdrawals," it states:

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The exempt well statute provides a means by which landowners may access water for domestic purposes, including small scale irrigation and industrial purposes, without complying with regular procedures. The exemption saves the appropriator of "small withdrawals" the trouble and expense of applying for a permit where the impact of the withdrawal is slight, and saves the state the trouble and expense of processing applications for "small withdrawals" that would have little effect on water availability. As the Attorney General stated, "the Legislature recognized that very small withdrawals were unlikely to have a significant impact on the water system or to affect the outcome of disputes, and thus could be exempted from the permit requirement."

A key to understanding the exempt well statute is to focus on what the "small withdrawals" are exempt from, and what they are not. Small withdrawals are exempt only from the requirements that an application be made and a permit received from Ecology prior to withdrawal of public ground water. Small withdrawals are not exempt from any of the other substantive provisions of the Ground Water Code. For example, although small withdrawals are exempt from the requirements to obtain a permit, they cannot affect surface water rights, cannot be wasted without economical beneficial use, and they are subject to the same system of priorities as all other appropriators, that is, where the first right is the better right. In sum, although exempt domestic users are not subject to

procedural requirements to obtain water right permits, they are subject to the substantive provisions of the water code that regulate water allocation.

The exempt well statute includes two provisos that further narrow the scope of the exemption. The first proviso recognizes the need to quantify the amount of water withdrawn by exempt well users. Because the state needs reliable information quantifying water withdrawn from the state's aquifers to manage water resources, the legislature authorized the agency to obtain that information. Ecology is thus authorized to "require the person or agency making any such small withdrawal to furnish information as to the means for and the quantity of that withdrawal..." However, Ecology has never exercised this authority even though the cumulative affect of thousands of exempt wells continues to be adverse to ground water resources, stream flows, and public health.

The second proviso recognizes that parties making exempt withdrawals may, at their own option, file applications or declarations, and obtain permits and certificates "in the same manner and under the same requirements as is in this chapter provided in the case of withdrawals in excess of five thousand gallons a day." While the statute exempts small withdrawals from the requirement to obtain a permit and entitles those users "a right equal to that established by a permit," if such users elect to obtain a permit or file declarations for vested rights they are subject to the substantive and procedural requirements of the water code. Thus, when an exempt well user files an application for a permit, Ecology must follow the same procedures and apply the same substantive law that governs all water right applications.

The Ground Water Code requires applicants desirous of obtaining permits to appropriate ground water to comply with the statutory procedures of the Surface Water Code. Those statutes define the protocol that must be followed to obtain an appropriation of water. They also define the procedures that Ecology must follow either to approve or deny such an application. Additionally, the statutes explain the procedure that an appropriator must follow to obtain a water right certificate. Because the exempt well statute generally allows unregulated use of water, the exact number of exempt wells currently in use is unknown. What is known is that (1) the construction of exempt wells has proliferated in the past few years, (2) the amount of water currently being withdrawn from the state's aquifers is significant, and (3) with projected population increases, the reliance on exempt wells has the potential to impair existing stream flows and cause a public health and ground water management crisis.

#### B. The Number of Exempt Wells

According to the Washington Department of Health (Health), "[a]s of August 1995 there were an estimated 404,000 single family domestic wells, serving approximately one million people" in Washington. This figure contrasts with that of the National Ground Water Association which, relying on 1990 U.S. Census data, estimates the total number of household ground water wells in Washington at 263,523, serving 666,713 persons. This disparity illustrates the extent of Ecology's inability to accurately gauge the effects of exempt wells on the state's ground water resources. The exemption allows property owners to drill wells without first obtaining a permit. Because Ecology does not require submission of reports from exempt water users, the amount of water withdrawn from public ground waters is unquantified. This lack of quantification hinders the agency's ability to protect instream flows, water users who have a prior right to water, and the public interest in conserving water resources.

In 1993, Ecology began tracking the number of exempt wells by compiling the information contained in "start cards," the construction notification that well drillers must submit to Ecology before a well is constructed. Based on these start cards, between July 1993 and July 1996, Ecology reported that 23,934 exempt wells were drilled in the state.

#### C. Current Use of Exempt Well Statute

Although the 1945 legislature intended the exempt well statute to provide for "small withdrawals," small withdrawals no longer describe the primary use of the exemption. Land developers have seized upon the exemption and are using it to supply water for residential subdivisions. Instead of filing applications with Ecology and obtaining permits for public water systems, developers use the provision's "single or group domestic" allowance to drill multiple exempt wells to serve these subdivisions. In such a situation, a development comprising numerous lots obtains its water supply by drilling a well on each individual lot rather than obtaining a water right from Ecology and creating a public water system. Another practice is to create "six packs," in which the developer uses numerous exempt wells to create Group B water systems. A developer creates exempt well Group B systems by drilling a single exempt well to supply water to six residences (or three residences on the east side of the Cascade Mountains); thus the term "six-pack." For simplicity, this paper refers to all Group B exempt well public water systems as six-packs. Additionally, some developers after creating independent exempt well Group B water systems will interconnect those systems to create "multiple exempt" systems. Developers view these multiple six-pack water systems as a legal exception to the state's regulatory framework for water right permits. However, the Attorney General views them as contrary to the law requiring public water systems to obtain water right permits.

#### D. The Amount of Water From Exempt Wells

Under the exempt well statute, each well owner is entitled to withdraw up to 5000 gallons per day for household use or irrigation of a lawn or non-commercial garden up to one-half acre in size. However, quantification of actual withdrawals is impossible because Ecology does not require exempt users to report quantities of withdrawals as they are currently authorized to do under the Water Code. An accurate estimate of the total quantity of exempt withdrawals is difficult without actual measurement due to complexity and numerous variables which must be considered when determining individual water demand, including:

- climatic influences (evaporation, evapotranspiration, temperature, precipitation, wind, etc.)
- socioeconomic influences (property values, economic status, residential densities)
- degree of recreational or seasonal uses
- service water pressures
- extent of metering
- pricing schedules
- historic water uses for the development or the area
- land use and zoning capacity
- condition of the distribution system (leakage rates, corrosion problems, etc.)
- conservation practices.

Total water usage by a domestic water system is a combination of internal residential demand (e.g., cooking, bathing, drinking) and uses external to the household (e.g., garden and lawn irrigation, washing vehicles, stockwatering). When sizing public water supply systems, the Department of Health separates internal water usage from external usage, because external usage is highly dependent upon the variable factors enumerated above and is further influenced by average annual

precipitation levels and lot size. Based upon a 1993-94 survey of representative Washington utilities, the Department of Health found that average annual residential demand seldom drops below 200 gallons per day per residential unit.

Attempts to quantify exempt well water usage must also consider internal versus external usage. It is reasonable to assume that the internal residential water usage of exempt well owners is similar to that of public water supply customers--a minimum of 200 gallons per day (gpd) per residential unit. However, because exempt well external water use is dependent upon additional variables, such as lot size and annual precipitation, quantification of external water use is difficult. For example, the Department of Health acknowledges the seasonal variations through their sizing guidelines for public water supplies. The agency requires minimum production capability of 800 gallons per residential connection per day for areas west of the Cascades, and 1,500 gallons per day for equivalent residential connections east of the Cascades.

Department of Health data indicate a total of 404,000 exempt wells in Washington, but do not differentiate between the eastern or western regions of the state. However, Ecology data that is available for a limited period between July 1993 and July 1996, report that 10,774 exempt wells were constructed in regions east of the Cascades and 13,160 wells were constructed in regions west of the Cascades. Using the western Washington sizing requirement of 800 gpd/residential unit, an extremely conservative estimate of minimum annual withdrawal by exempt wells is 360,000 acre feet per year. New exempt wells are being constructed at a rate of 8500 per year. Using Ecology's regional exempt well totals and the Health Department residential water capacity requirements, calculation reveals that a total of 7600 acre feet of new water is withdrawn annually from the state's ground water by exempt wells.

### III. IMPACTS OF EXEMPT WELLS ON RESOURCE MANAGEMENT, INSTREAM FLOWS, AND PUBLIC HEALTH

In recent years, Washington State has witnessed increased dependence on exempt wells as a source of supply for land development projects. Although the impact of one exempt well may seem de minimis, hundreds of thousands of exempt wells have significant cumulative effects on water resource management, ground water supplies, instream flows, and the public health.

#### A. Effect on Resource Management

Among the Department of Ecology's most important duties is careful administration of the waters of the state. To fulfill this duty, Ecology must

- 1) inventory water resources to quantify the total amount of water available,
- 2) determine the amounts of water that should be dedicated to instream flows,
- 3) administer water allocated among the various users, and
- 4) determine if further amounts of water are available for appropriation.

One of the principal tools of water resource management that Ecology should use to make these determinations is a water budget, in which the amount of water available in a water resource inventory area (WRIA) is balanced against the amount of water withdrawn. As the following simple example shows, this quantification process is crucial to proper administration.

Assume a WRIA has ten acre-feet of water available from both surface and ground water sources. Assume also that five acre-feet of this water is required to maintain crucial instream flows, and that four acre-feet have been allocated to existing water users. Under this hypothetical situation, Ecology could properly determine that one acre-foot is available for additional withdrawals. If Ecology issued water right permits for that one acre-foot, the water budget would be in balance with ten acre-feet available and ten acre-feet allocated. However, if Ecology allocated three additional acre-feet to be withdrawn, the budget would be out of balance because more water would be allocated than was available.

The proliferation of exempt wells causes imbalance in water budgets statewide. As unquantified uses, these wells reduce the total amount of water available in the WRIA without the state's knowledge or control—water leaves the aquifer without being calculated as a component of the water budget. Although the exempt well statute authorizes Ecology to require reporting of water quantities withdrawn by exempt wells, Ecology has yet to exercise that authority. The agency has begun using a water budget approach in recent years, but the lack of exempt well usage data has made these efforts ineffective. Therefore, water budgets for WRIAs are inaccurate. As each additional exempt well is drilled, the water budget falls farther out of balance, and water quantities dedicated to aquifer recharge, instream flows, and other water use become impaired.

#### B. Effect on Instream Flows

The intent of the legislature when creating the exempt well provision in Washington's water code in 1945 was to save the appropriator the trouble and expense of applying for, and the state the trouble and expense of processing, applications for "small withdrawals" that have little impact on the total water supply available. Although the legislature believed that very small withdrawals were unlikely to have a significant effect on the water system, the cumulative impact of thousands of new wells being drilled in the state each year is anything but de minimis, and the exemption has provided a huge loophole that contributes to depletion of instream flows when those streams are in hydraulic continuity with ground water.

The relationship between ground water and surface water sources is affected by ground water pumping, which may either intercept water otherwise available to recharge a stream or capture water from the stream itself. Hundreds or thousands of small wells in aquifers that are hydraulically connected to streams can have a cumulative affect on stream flows equal to or greater than large withdrawals.

As stated earlier, the potential impact on the state's ground water caused by 8500 new exempt wells each year amounts to over 7600 acre feet per year. When combined with the potential use by existing exempt wells of at least 360,000 acre feet per year, there can be little doubt that exempt wells cause significant adverse impacts on instream flows. The Town of Quilcene, for example, in the flood plain of the Quilcene River, has more than 1000 residents relying on more than 440 exempt wells as a source of water supply. The water pumped by these exempt wells is in hydraulic continuity with the Quilcene River, which is on the state's 303(d) list for impaired stream flows. In addition, numerous as yet undeveloped lots are entitled to use exempt wells. The entire Dungeness-Quilcene Rivers region of Clallam and Jefferson Counties currently supports over 5200 exempt wells, most of which are hydraulically continuous with these rivers and thus contribute to impairment of stream flows.

In eastern Washington's Spokane County, Ecology established instream flows in 1976 for the Little Spokane River for those reaches between the headwaters and the confluence with the Spokane River. Since 1976 there has been a significant increase in the frequency of base flows below the minimum regulatory requirements; with base flows below minimum now averaging fifty-three days per year. Minimum base flows set at Elk, Washington were not met in 1987, 1988, and 1989. In addition to these already discouraging numbers, during the period 1993-1996, more exempt wells were drilled in Spokane County than any other county in the state, totaling more than 2100 in all. A watershed assessment conducted by Ecology in 1995 confirmed the hydraulic continuity between ground and surface water in the watershed concluding that a large portion (if not most) of the ground water allocated since 1975 directly affected surface water flows." The construction of exempt wells in aquifers that are in hydraulic continuity with flow impaired surface waters will directly result in further depletion of surface water flows.

The Chambers-Clover and Puyallup-White watersheds of Pierce County, in the central Puget Sound region, include areas where substantial evidence of hydraulic continuity between ground water and surface water exists. Within these watersheds, Ecology reports that 1420 exempt wells were drilled during the 1993-1996 period. A review of additional WRIs within the Puget Sound Basin reveals similar evidence of hydraulic continuity between ground water and surface water, and correspondingly high numbers of exempt wells drilled during the reporting period. It can safely be stated that, almost without exception, hydraulic continuity exists between all surface water and ground water sources within the Puget Sound Basin. Although deeper aquifers discharge to marine waters, exempt wells typically are not constructed in deep aquifers because of the expense of drilling and pumping. Ecology records reveal that 7084 exempt wells were drilled within the basin during the 1993-96 period. In fact, exempt wells continue to be used as a source of water supply in areas that have been fully or partially closed to new consumptive appropriations.

This data only samples probable impacts of exempt wells on instream flows within the state. The cumulative effect of the thousands of new wells coming on line each year, together with the recognition that the impact of these wells may occur over time as wells capture water from streams, suggests that the problem will worsen as population increases continue to rely on exempt wells for water. The ultimate impact of this proliferation is to reduce of instream flows.

### C. Affect on Public Health

Another aspect of the proliferation of exempt wells concerns public health. Studies conducted by the U.S. Geological Survey and the Department of Ecology, coupled with data from local governmental agencies, show that exempt wells are contaminated by withdrawal of water from contaminated aquifers. In regions of Washington with a high percentage of urban and/or agricultural land use, aquifers may be contaminated or face potential contamination from nitrification of ground water. Seawater intrusion, caused by ground water pumping by numerous exempt wells, is contaminating aquifers in coastal regions of Washington. Inadequate water system management and poor wellhead protection have contaminated aquifers in other regions. Health authorities have documented cases in some areas where domestic wells have contributed to contamination of aquifers. In all of these cases, the proliferation of exempt wells has either caused or greatly exacerbated the public health problem.

#### 1. Nitrification of Ground Water

Nitrification of ground water occurs when concentrations of nitrates move from the surface to underlying aquifers. Nitrate concentrations are caused by human activities such as crop fertilization

and on-site sewage disposal. Nitrogen fertilizers applied to fields, carried to the underlying aquifers by percolating irrigation water, are the primary source of nitrate in shallow ground water. In the Central Columbia Plateau, as is the case in many other agricultural areas of the state, irrigated agriculture is associated with high nitrate concentrations and high frequency of contaminated ground water. In the Puget Sound Basin, as is the case with many other urbanized areas of the state, increased nitrate concentrations are associated with both agricultural and urban land uses. Nitrate concentrations in urban areas derive from septic system effluent and fertilizers applied to lawns. High levels of nitrate in ground water can adversely impact public health by causing a fatal blood disorder called methemoglobinemia, or "blue baby disease." Methemoglobinemia can affect anyone, but children under six months of age are particularly vulnerable. Although not confirmed, some studies have suggested a possible link between nitrates and cancer and birth defects. Due to the potential health risk attributed to drinking water with high nitrate concentrations, the U.S. Environmental Protection Agency determined that nitrate levels in drinking water must not exceed ten milligrams per liter.

Nitrate may be the most ubiquitous ground water contaminant in the world. Land use has the greatest effect on nitrate concentrations because nitrates (often from fertilizers) migrate from the land surface to the underlying aquifers. Thus, nitrate concentrations generally are greater at shallow depths.

The Central Columbia Plateau and Puget Sound Basin are two regions currently experiencing high concentrations of nitrates or areas of ground water vulnerability to high nitrate concentrations. For example, in 1995 the Quincy-Pasco sub-unit of the Central Columbia Plateau, including Moses Lake, reported that 29% of the domestic and public supply wells had nitrate concentrations exceeding the EPA maximum contaminant level (MCL) for nitrates. In Douglas County, 30% of the domestic and public supply wells exceeded the MCL. In the Puget Sound Basin, the U.S. Geological Survey's National Water-Quality Assessment Program identified numerous areas—generally associated with high agricultural activity or population centers dependent upon domestic onsite sewage disposal—that are particularly vulnerable to nitrate contamination. Areas of particular vulnerability are the Lower Nooksack River near Bellingham, Mount Vernon, Arlington, Bothell, Bellevue, the Tacoma region, and Olympia-Lacey.

The U.S. Geological Survey also reports a relationship between well depth and the potential for a contaminated water supply. These studies show a higher probability of nitrate concentrations in ground water withdrawn from fifteen meter wells than from seventy meter wells, indicating a higher probability of nitrate concentrations in shallow aquifers. It is these shallow aquifers that most typically supply water to exempt wells.

Because exempt wells are restricted to 5000 gallons per day and deep wells are not necessary to develop this quantity of water, they are generally drilled into the shallow depths of upper aquifers, where nitrates are most heavily concentrated. Thus, in aquifers where concentrations of nitrates are elevated, exempt wells carry a higher probability of adverse effects on public health.

## 2. Seawater Intrusion

Seawater intrusion in coastal regions is a common problem in Washington state. This occurs when the hydraulic head of fresh ground water that is in hydraulic continuity with the sea is reduced relative to that of seawater. This reduction in hydraulic head is usually caused by human activity, specifically well pumping:

When seawater intrudes into an aquifer, wells withdrawing from it become contaminated with high chloride concentrations. Excessive chloride in drinking water causes unpalatable taste, physiological effects, corrosion of pipes and pumping equipment, and increased cost of water treatment. Controlling seawater that has intruded into freshwater aquifers is difficult and expensive—and in some cases, impossible.

In a survey of seawater intrusion into coastal aquifers, the U.S. Geological Survey reported that many counties in the Puget Sound and coastal regions of western Washington—including Clallam, Jefferson, Pierce, Thurston, and Whatcom—suffer from areas of localized but severe intrusion. Additionally, the report showed that areas with rapid ground water development and already detected intrusion are likely to experience increased intrusion in the future. The Geological Survey has also determined that Island and San Juan Counties, which are islands in the Puget Sound, "are being affected by saline-water intrusion, which is expected to worsen with continued groundwater use. Increased chloride concentrations, some in excess of 500 milligrams per liter, have been detected in water from 10 to 15 percent of the nearly 300 wells sampled..." Saline-water intrusion also occurs on other major islands. Marrowstone Island, also within the Puget Sound near Port Townsend, for example, was recently the subject of an intensive study by Ecology to assess the extent of seawater intrusion. That study determined that 24% of the wells sampled had chloride concentrations in excess of the MCL of 250 mg/l, and 46% of those wells had concentrations in excess of the chloride concentration threshold of 100 mg/l, indicating sea-water intrusion.

Exempt wells both affect and are affected by sea-water intrusion. Because sea water intrusion in coastal areas is caused by wells that pump ground water in hydraulic contact with sea water, a proliferation of exempt wells in areas already experiencing sea water intrusion will exacerbate the intrusion. The proliferation of exempt wells in aquifers that are not yet contaminated by sea water can increase the probability of future intrusion. Population increases along coastal areas will increase demand for the development of fresh water sources—demand that, if current trends continue, will be met in large part by exempt wells, thus, again, exacerbating intrusion problems.

### 3. Pesticides in Ground Water

In 1996, the U.S. Geological Survey reported on pesticides in public supply wells and ground water of the Central Columbia Plateau. The report disclosed concentrations of pesticides in 45% of the 138 public supply wells sampled in the study region. Additionally, the report revealed the presence of agricultural pesticides in 68% of forty wells tested in the ground water of the Quincy and Pasco Basins. A striking finding in this series of studies is the disclosure of disproportionate effects on exempt wells (similar to that disclosed in the nitrification studies). That finding shows that shallow wells are more likely to contain pesticides than deep wells:

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The report concluded that 63% of wells less than 125 feet deep contained pesticides. It is these shallow aquifers that exempt wells rely upon for a source of water supply, and it is these aquifers that have the highest potential to cause impacts to public health if exempt well use continues to grow.

### 4. Lack of Professional Maintenance

Another public health problem that arises from the use of exempt wells stems from the lack of professional maintenance. This problem affects both individual domestic wells and Group B water systems. For example, a Thurston County Environmental Health Division official stated that of the

756 Group B public water systems in Thurston County, approximately 50% are not properly maintained. The following are specific examples of problems with Group B exempt well water systems:

- Health officials from other counties agree that the lack of professional management of exempt wells poses a threat to public health: An Environmental Health Specialist in Island County stated that "[t]he proliferation of exempt wells results in the establishment of potable water supplies that are not subject to professional management and operations. Small water systems and individual well owners generally lack the knowledge and professional expertise to analyze quality and quantity issues as they arise.

King County Health officials explain that long-term management problems associated with exempt well usage develop when individual wells begin to mine aquifers and well levels decline in volume or run dry. Individual equipment replacement costs and maintenance upkeep become too expensive for the owners. Additionally, the proliferation of exempt wells increases the chances of aquifer contamination:

- The North Snohomish County Water Utility Coordinating Committee likewise expressed its concern about the impact of exempt wells within development proposals:

- David Clark, the former director of the Drinking Water Division, State Department of Health, in a response to Mr. Hancock, acknowledged the problems related to public health. "We share your concern that the acceptance of this approach (using Group B exempt wells for development purposes) will continue to create problems related to public health, customer service, reliability and water resource protection." Mr. Clark fatalistically noted that "[w]hile most individuals and organizations familiar with the 'small systems issue' share this view, the state as a whole has been unable to resolve these concerns."

In its response to Mr. Hancock, the Department of Ecology recognized its inability to control the now apparent threat to public health: "We concur that we should be discouraging the proliferation of these small systems.... As you know, this is a state wide issue that may not be resolved at the state level without legislative code changes.... We also agree that based on our basin assessment when we determine water is not available in a basin, a request for a new water system exempt from requiring a water right, should be denied by the county.... Unless the county has the ability to deny these exempt systems, this looks like another grouping of exempt systems. This is not good water management-not what the developer wanted, nor what anyone else wanted but a way to work the system."

Local governmental entities acknowledge that exempt wells create problems related to public health, and they look to state agencies for assistance to resolve these problems. State agencies deny the authority to act. Meanwhile, exempt wells, six-packs, multiple six-packs and exempt well water systems continue to proliferate with continuing threats to resource management, ground water supplies, instream flows, and the public health.

#### IV. Case Law, Attorney General's Opinion, And Regulations Relating To Exempt Wells

##### A. Case Law Defining the Exempt Well Statute

Despite being in existence for more than a half century, Washington courts have yet to interpret the exempt well statute. The Pollution Control Hearings Board (PCHB), however, has construed the exemption in considering water right appeals in three recent cases.

In 1992, in *Green v. Ecology*, applicants applied for and were denied water right permits for ground water within the Duck Lake Ground Water Management Area in Okanogan County. This water management area is officially over-appropriated, and ground water mining is occurring as consumptive use of water exceeds nature's ability to replace it. The PCHB ruled that Ecology was correct in denying the applications because there was no public ground water available for the applicant's proposed uses, but concluded that the applicants were still entitled to one 5000 gallon per day appropriation under the statutory well exemption. Further, the Board interpreted the statute to entitle the appellants to receive permits and certificates memorializing their exempt well entitlement if they applied specifically for an exempt well permit.

On motion by Ecology for clarification, the PCHB later explained its curious interpretation of the statute to mean that Ecology did not have the discretion to deny a permit for an exemption granted by statute. Although Ecology argued that the statute confers both the right and the responsibility to apply the four statutory tests for a water right (i.e., water availability, impairment, beneficial use and public welfare), the PCHB interpreted the statute to provide an absolute right to exempt right holders, requiring Ecology to provide written evidence of that right. An additional noteworthy holding in the *Green* case was the PCHB's rejection of the Greens' argument that they were entitled to multiple exemptions based upon filing successive applications or transferring property and water rights to another party. The PCHB concluded that the statute did not allow multiplication of the exemption, and that therefore the Greens were entitled to only one 5000 gallon per day withdrawal. The PCHB addressed the issue of transferability of domestic water rights in the 1995 case of *Knight v. Ecology*. The case involved an application by a developer to transfer irrigation, stockwatering, and domestic water rights from several water sources, including an exempt well, to facilitate a recreational development known as the Wilson Ranch near the confluence of Early Winters Creek and the Methow River. The PCHB held that a domestic water right cannot be transferred, regardless of perfection. Holding that exempt uses are illusory for transfer purposes, the Board rationalized that changing the place of use of domestic permits would accomplish nothing more than transferring a use without affecting the water rights appurtenant to the existing place of use. In other words, the right to an exempt withdrawal would not be expunged on the original property following the transfer. The statute contains no pre-conditions to the exercise of the exemption other than the limitations on quantity. Domestic users can establish their exemption by drilling a well, withdrawing water, and using it beneficially. In simple terms, if landowner A transfers his exemption to landowner B, the exempt well statute would give land owner A the right to develop a new exemption, and thus, the original exemption is really not transferred.

In 1996, in *Schrum v. Ecology*, the PCHB again addressed the domestic use exemption in a case involving issues strikingly similar to *Green*. Ecology denied Schrum a permit to take water for multiple domestic supply from an existing well that was hydraulically connected to Clover Creek in Pierce County. Schrum's well lies within the Chamber-Clover Water Resource Inventory Area which is closed to further surface water appropriations. Ecology has a statutory duty to consider the interrelationship of surface and ground water before issuing permits and to deny permits where hydraulic continuity exists between the ground water and closed surface waters. While the Board affirmed Ecology's denial of Schrum's application for water due to its potential impact on instream flows, it noted in dicta that Schrum could circumvent its decision by submitting an application to

Ecology for an exempt well serving multiple domestic purposes. The Board then declared that the statutory exemption "allows users to apply for a permit and requires Ecology to issue such permits where the applicant establishes that the exemption fully applies."

The PCHB's opinions in *Green* and *Schrum* indicate that, when Ecology is presented with an application for an exemption, it has no discretion to deny that application. This result conflicts with Ecology's statutory obligation to administer the state's ground and surface water in a manner to protect senior water users and instream flows. When called upon to issue a right to use the public's water, Ecology must protect senior water rights, instream flows, and the public interest by determining not only that water is available, but also that the proposed use is beneficial, that it will not impair existing rights to the water, and that the use will not be detrimental to the public welfare. The PCHB's rulings that Ecology must ignore the cumulative effect of thousands of exempt wells despite harms to these vital interests, appear to ignore the requirements of the Water Code. Notwithstanding these decisions, the exempt well statute requires individual users to follow the substantive and procedural provisions of the water code if they choose to apply for a permit. While *Green* and *Schrum* appear to be inconsistent with the water code, the PCHB's holding in *Knight*, relative to the non-transferability of exempt rights, is laudable. The holding by the PCHB that exempt rights cannot be transferred helps define the nature of the water right obtained through an exempt withdrawal. The exemption is a right equal to that established by a permit; a permit is an inchoate right, one that comes into being "while the application of the water in question to a beneficial use is being prosecuted with reasonable diligence...." The Water Code contains provisions protecting inchoate rights to use and divert water. Thus, as long as it is being used, an exempt withdrawal remains protected by the water code yet cannot be transferred to another property. Substantial questions remain unanswered concerning the scope of the domestic well exemption. In *Green*, the PCHB essentially assigned Ecology a perfunctory duty to issue domestic permits memorializing any domestic use. The water code assigns Ecology a higher duty--to protect Washington's precious water resources. The Water Code allows Ecology to issue a permit only if the four tests of beneficial use, non-impairment, water availability, and public interest are met. The PCHB ruling in *Green* leaves unanswered the question how Ecology should proceed when an exempt user requests a memorializing permit and any number of the four tests cannot be met. The PCHB seems to say, "ignore them."

*Schrum* is a dichotomy. On one hand, the PCHB properly held that Ecology must deny permits, even for multiple domestic purposes, whenever withdrawals from ground water threaten to impair hydraulically connected waters. On the other hand, PCHB went out of its way to point out, in spite of its own holding affirming potential impairment to stream flows, that Ecology would be compelled to issue a permit for any use that falls within the 5000 gallon per day exemption. The intent of the PCHB's recommendation may have been to encourage use of the exemption, but the effect is to harm stream flows and undermine the Water Code by encouraging its circumvention.

Because of the lack of legislative history and court decisions, state agencies, local governments, and private individuals have been increasingly uncertain about the extent to which exempt wells may be used as a source of water supply. In response to a request from the Directors of Ecology and Health, the Attorney General attempted to answer some of those questions in an advisory opinion issued in October 1997.

## B. Attorney General's Opinion on Exempt Wells

After observing the tendency of land developers to construct multiple small public water systems utilizing the ground water exemption, and as a result of inconsistent interpretations of the exemption by Ecology, Health, local government, and private parties, the Attorney General was asked to address the exemption in a formal advising opinion. The questions posed to the Attorney General concerned the meaning of the exemption, whether Ecology could be compelled to issue permits for exempt uses, and the limits on the quantities of water allowed to be withdrawn under the exemption. The opinion, released in October 1997, also addressed the use of exempt wells for subdivision development, interties of exempt well Group B water systems, and procedural and substantive questions relating to the issuance and transfer of exempt wells.

### 1. Exempt Well Subdivisions

Land developers wishing to subdivide tracts of land into multiple residential parcels have contributed substantially to the proliferation of exempt wells by using the exemption to supply water to residential developments. One practice involves drilling an exempt well on each individual lot rather than constructing a single public water supply system. Developers also service six residences from a single well, known as a six-pack, or intertie multiple six-packs to create a multi-well public water system. All of these situations are termed exempt well subdivisions. In each case, each individual well pumps no more than 5000 gallons of water per day. Cumulatively, however, the total amount of water withdrawn from the aquifer to serve the subdivision will obviously significantly exceed 5000 gallons per day.

In reviewing the legality of these practices, the Attorney General's Opinion adopted an integrated view of the Water Code. The opinion stated that the purpose of the Water Code is to provide a complete system for the regulation and distribution of the state's water, and that the purpose of the exempt well provision is to provide an expedient method to allow small withdrawals that are "unlikely to have a significant impact on the water system or to affect the outcome of disputes and thus could be safely exempted from the permit requirement." The Opinion further stated:

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The opinion analogized the exempt well subdivision development practices to the case law developed under the State Environmental Policy Act which requires government agencies to consider the cumulative effects of a project as a whole and forbids a major project from being broken into smaller parts to escape full environmental review. The opinion concluded:

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The Attorney General's Opinion thus determined that the current practice of multiple six-pack and exempt well subdivision developments do not qualify for an exemption under the Water Code. Developers must first obtain a water right permit from Ecology before making any ground water withdrawals.

Another current development scheme is to interconnect several exempt wells that have been constructed independently and at different times. The purpose is to allow exchange or delivery of water between systems. When used in the context of exempt wells, this practice effectively circumvents the Water Code by exceeding the 5000 gallon per day limit on withdrawals under the exemption.

The Attorney General concluded that the statutes do not allow an "intertie" or interconnection of exempt withdrawals. In order to qualify as an "intertie" under the Water Code, the system must first qualify as a public water system, and must have an existing water right permit or certificate. To be eligible for transfer via intertie, the exempt withdrawal must first be codified by permit.

Alternatively, the exempt withdrawal could consolidate the exempt right with an existing public water system under the terms and conditions of the 1997 Consolidation Act. Thus, according to the Attorney General, the statutory exemption does not confer authority to interconnect multiple exempt withdrawals.

## 2. Questions Relating to the Issuance of Permits for and Transfer of Exempt Wells.

The Departments of Ecology and Health are increasingly confronted with development and irrigation proposals based upon the use of the exempt well statute. In March 1997, These agencies formally requested that the Attorney General interpret the statement in the Water Code that a use established under the exemption, if regularly used beneficially, "shall be entitled to a right equal to that established by a permit issued under the provisions of this chapter." Specifically, the agencies asked whether:

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The Attorney General concluded that, when a property owner applies for a permit for a small withdrawal meeting the terms of the exempt well statute, the applicant is entitled to a water right only on the same basis as other parties when applying for permits (in other words, those parties making non-exempt withdrawals). The opinion noted that the statute requires Ecology to find that (1) water is available for appropriation (2) the proposed use is for a beneficial purpose (3) the proposed use will not impair existing rights and (4) it will not be detrimental to the public welfare. Thus, although exempt withdrawals have a right equal to a permit and are not subject to the four tests, once a permit is sought, Ecology must apply the same statutory tests as required before granting non-exempt requests for water rights.

A question that begs an answer is why a person would apply for a permit for a domestic right when that use is exempt from the Water Code's requirement to obtain a permit. The reasonableness of any decision to apply for such a permit seems questionable because the statutory procedures to obtain a permit for ground water domestic purposes are substantial, and if the four tests of the Water Code are not met, Ecology cannot issue a permit. Two reasons for seeking such a permit stand out. First, an individual may want to document their right to the exempt withdrawal. This may become important when property is transferred to a new owner and verification of the domestic right is a condition of the transfer. This condition would most likely occur in a WRIA where Ecology has restricted new exempt wells. Second, a party may want a water right that is transferable. This scenario may also develop where Ecology restricts exempt withdrawals.

As to whether Ecology could be compelled to issue a certificate for exempt withdrawals, the Attorney General concluded that the statute does not require such action. The opinion concluded that Ecology is required only to issue certificates to holders of a permit "upon a showing to the department that construction has been completed in compliance with the terms of any permit issued under the provisions of this chapter...." Because parties making exempt withdrawals have not been issued permits, the provisions of the Water Code that relate to the issuance of certificates do not apply.

The Attorney General also reviewed the statutory provisions governing issuance of certificates to parties claiming vested rights for exempt withdrawals. The opinion concluded that this statute applies only to those rights perfected within three years after June 6, 1945; uses perfected after that time are not automatically entitled to a certificate.

In answering the question whether rights under an exempt withdrawal may be transferred to other land, to a different point of diversion, or to a new purpose, the Attorney General referred to statutes governing the amendment (or transfer) of permits and certificates for ground water rights. The

opinion concluded that the legislature intended the statute to apply only to the "holder of a valid permit or certificate of ground water right." Because an exempt withdrawal is a right equal to that established by a permit, but is not itself a "valid permit or certificate," the provisions of the Water Code applicable to the amendment (or transfer) of permits and certificates do not apply to exempt wells.

The Attorney General also recognized that processing a request for transfer of an exemption would be a meaningless process: "because the original withdrawal was exempt from permitting, there is no obvious way to prevent its continued use after the 'change' is processed." In other words, if an exempt withdrawal is transferred to another parcel of land, another exempt right could rise to take the place of the right transferred; thus the transfer would become a meaningless act. This opinion is consistent with the PCHB's decision in the Knight case and with the exempt well statute.

An example where the transfer of an exempt right would not be a meaningless act would be in a case where Ecology prohibited new exempt withdrawals. In that situation, transfer of an exempt withdrawal would not be meaningless because the right to make exempt withdrawals would be limited, and a new exempt withdrawal would be allowed only if an existing exempt right was transferred from a property that already had an exempt right; then the property from which the exemption was transferred would, by operation of regulations prohibiting new exempt withdrawals, forfeit its right to an exempt withdrawal.

In sum, the Attorney General concluded : exempt withdrawals have a water right on the same basis as non-exempt withdrawals; the permitting process for exempt withdrawals is subject to the same substantive and procedural requirements as other permits; there is no statutory provision for issuance of a certificate for exempt withdrawals unless a permit is first granted within the statutory framework; and, the statutory transfer procedure does not apply to exempt withdrawals.

The Attorney General's Opinion recognized that the Water Code establishes a comprehensive approach to water management and allocation and that the exempt withdrawal provision must be considered within the context of the Water Code. For example, the Opinion recognizes that if a group of wells is drilled by the same entity at or about the same time in the same area for the same purpose or project, and exceeds a total withdrawal of 5000 gallons per day, that project constitutes a single withdrawal and must comply with permitting provisions of the Water Code.

The Attorney General's Opinion also recognizes that small water systems, which are individually exempt from the permit requirements but which are later interconnected, are illegal unless they first obtain a permit under the appropriate statutory provision. If a party making an exempt withdrawal chooses to apply for a non-exempt permit, the opinion states that the statutory provisions relating to appropriation procedures govern that application. If a party wishes to transfer an exempt right, the opinion recognizes that the Water Code's provisions relating to amendments of permits apply and, because no permit has been issued, there can be no transfer.

It becomes obvious after reviewing the Attorney General's Opinion that determining the extent of the exempt well provision requires examining the entire Water Code's statutory framework. Focusing on the exempt well statute without placing it in the context of the entire Water Code within which it operates is akin to examining a single tree to try to explain the content of a forest. The Attorney General's Opinion conflicts with the holding of the PCHB in both Green and Schrum. The Attorney General opines that the permitting process for exempt withdrawals is subject to the same Water Code requirements as any other water right application under which Ecology must apply the four tests prior to issuing a water right permit. In contrast, the PCHB held that

Ecology perfunctorily issues permits for domestic exempt use. Proper resolution of the issue should focus on the objectives of the Water Code: to protect public health, instream flows and rationally manage the resource. If exempt wells can impact these objectives, the Attorney General has the better argument as an integrated view of the exemption written within the code assures protection of those interests.

### 3. The Attorney General's Opinion and Growth Planning

The Attorney General's Opinion does not, of course, bind judicial interpretations of the exempt well statute. It is, however, given considerable weight by courts, and it controls the Departments of Ecology and Health in their administrative activities. The Attorney General's Opinion also has significant effects on local government activities, and can influence local governments to deny permits to developers based on lack of compliance with the Water Code. An understanding of the effect of the Attorney General's Opinion requires a description of the interaction between the state's land use and water supply statutes.

The Growth Management Act (GMA) is a statewide planning law enacted in 1990, which requires counties with large growth projections to designate land use in a manner that reduces sprawl and protects natural resources. The Act covers farmland, forests, and "critical areas" such as riparian and aquifer recharge zones. These goals are accomplished, in part, by designations of "urban growth areas," which in turn require local government to develop infrastructure for growth including roads, utilities and schools. But the GMA contains no provisions to ensure adequate water supply, although local building permit authorities must eventually make a determination of water adequacy for new projects.

This statutory omission contributes to a water supply vacuum into which the statutory well exemption has neatly expanded. A number of urban growth areas are designated for which there is inadequate water supply, leading to building moratoria and general frustration on the part of planning authorities. In some areas, exempt wells continue to supply water for growth, notwithstanding conflicts with municipal water supply and public health objectives.

As described in Section I above, local authorities have routinely approved proposals for residential subdivisions, for which water supply is based on the use of multiple exempt wells. These subdivisions can be located either inside or outside of urban growth boundaries. The Department of Health is responsible for approving public water supply plans for these projects based upon their design and public health specifications. If, however, the local building authorities issue a certification of water adequacy for the project, the Department of Health makes no further inquiry regarding the validity of water rights for the project. Because Ecology has no duties under the GMA and lacks permitting authority for exempt wells, that agency is "out of the loop" with respect to subdivision water supply proposals.

It was this problem in particular--the fact that Ecology and Health were both "out of the loop" with respect to water for development projects--that caused the Departments of Health and Ecology to seek an interpretation of the statutory exemption from the Attorney General. Thus, the Attorney General's Opinion not only will affect the administration of the Water Code, but will influence growth planning and public water supply activities. Not surprisingly, local governments and developers are concerned about the constraints on growth caused by the Attorney General's interpretation of the statute.

Subsequent to the issuance of the Attorney General's Opinion, the Departments of Ecology and Health formulated comments based on implications of the Opinion. The Building Industry Association, Drilling and Ground Water Association, and Association of Realtors issued a memorandum encouraging attorneys for local governments to ignore the implications of the opinion. In addition, the Attorney General's Opinion generated dissent from a delegation of legislators who wrote a letter to the Attorney General critical of her opinion.

a. Department of Ecology and Health Comments on the Implications of the Attorney General's Opinion

Gregg Gruenfelder of the Department Health and Keith Phillips from Ecology stated in a letter to an attorney representing the Chelan-Douglas Health district that the agencies intended to use the Attorney General's Opinion as a guide to resolving development issues based upon the domestic well exemption. They explained:

They have no plans to take unilateral action to enforce against any existing nonexpanding developments for lack of adequate water rights for the water currently being used if that use is in conflict with the interpretation of the AGO. If existing developments come to their attention in the normal course of business, they will inform the water system owner of the legal interpretation, and will assist in finding a solution on a case by case basis.

For developments that are in the "pipeline" (with pending application), they have formed a working group to develop an approach that they can collectively implement. The developments that are in the "pipeline" are those that have received some form of preliminary approval from the local government prior to the issuance of the AGO.

Health will require evidence of a water right permit when application is made for review and approval of a submittal or submittals that are all part of the same project when the total water use will exceed 5,000 gallons per day.

Ecology will consider whether a development is all or part of a project requiring total water use exceeding 5,000 gallons per day. Ecology's review will include analyzing any documents received by local governments as part of the local governments SEPA process for application for plat approval. If the development is a "project" a water permit will be required prior to construction of the wells if the total amount to be withdrawn exceeds 5,000 gallons per day. "Project" is defined to include the development described in the application for the plat approval, which the local government will be reviewing to determine whether there is adequate potable water supply

Building Industry Association, Drilling and Ground Water Association & Association of Realtors Memorandum

If anyone's ox has been gored by the Attorney General's Opinion, the Building Industry's, Well Drillers' and Realtors' believe theirs has. These commercial interest groups believe that their interests are harmed when multiple lot developments are required to comply with the Water Code's permit requirements. The groups issued a joint memorandum urging attorneys representing counties and health districts to decline to follow the Attorney General's Opinion. The recommendation is based upon an interpretation of the exempt well statute that places multiple lot developments within the exemption. Additionally, the memorandum argued that: (1) exempt wells are very safe and highly regulated, and they use a minuscule fraction of the water used in the state; and (2) the drilling of exempt wells is actually decreasing.

### c. Letter to Attorney General from a Group of Legislators Concerning Her Opinion

A Group of Washington legislators took exception to the Attorney General's Opinion on exempt wells and sent a letter informing her of their interpretation of the intent of the exemption statute. This interpretation repeated several of the commercial interest group arguments cited above, but added that the issuance of the opinion resulted in a de facto building moratorium in many rural areas of the state. The members added that the domestic well exemption serves the legislative intent to relieve citizens of the burden of the impossibility of obtaining water rights.

The approach outlined by Gruenfelder and Phillips will enable Ecology to consider water resource management, public health, and instream flows when confronted with developments based upon use of the domestic well exemption. Water resource management will be considered because water is to be allocated for development only if Ecology finds that the four tests of the Water Code are met (water availability, beneficial use, non-impairment, and public interest). Public health will be protected because Health and Ecology can consider water quality issues such as nitrification, seawater intrusion, and pesticides in ground water when making water allocation decisions. Instream flows will also be protected because Ecology will determine the extent of hydraulic conductivity between ground and surface water before real estate developments are allowed permits for withdrawal of public groundwater.

## V. RECOMMENDATIONS

Because of the increased dependence on exempt wells in Washington, the legislature and Departments of Ecology and Health should consider the following measures to mitigate the cumulative effects of exempt wells on resource management, public health, and instream flows. Ecology should be given direct authority to close ground water basins to future exempt well construction in order to protect instream flows. To date, Ecology has restricted the construction of exempt wells only through the use of well drilling regulations. As discussed above in Section III, withdrawal of ground water from aquifers which are in hydraulic continuity with surface flows is equivalent to a direct withdrawal of water from those streams. In their recent work on stream and aquifer interactions, Professors Glennon and Maddock recognize this problem and recommend that:

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The legislature should recognize the scientific fact of stream and aquifer interactions, and that withdrawal of ground water by exempt wells in hydraulic continuity with surface waters will affect instream flows. The legislature should require Ecology to determine when instream flows will be impaired by exempt withdrawals under the Water Code and, when impairment is found, to close ground water basins to exempt withdrawals.

Public health issues relative to water quality must be considered by Ecology when deciding to close ground water basins. The presence of sea water, nitrates, and pesticides in ground water have a direct effect upon public health. If ground water basins contain these contaminants, local health departments should be required to report those conditions to the Department of Health. Health, in turn, should then investigate the extent of the contamination and coordinate with Ecology and local health departments to close contaminated ground water basins to exempt withdrawals.

Currently, exempt wells are invisible when Ecology conducts ground water assessments, largely because the exact number and extent of the withdrawals by exempt users are unknown. As discussed in Section II above, the cumulative effect of the multitude of exempt withdrawals is significant. When Ecology conducts basin assessments to determine base flows for streams and water availability for new appropriations, the legislature should require Ecology to consider and quantify

the water consumed by exempt withdrawals. In conjunction with this recommendation, the legislature should direct Ecology to include within the well drilling regulations of the Washington Administrative Code a requirement that all domestic wells be equipped with totalizing water meters. This provision would enable Ecology to accurately determine water quantities withdrawn and would aid the agency in conducting basin assessments and water budgets.

Washington's exempt well statute contains a provision authorizing Ecology to require exempt users to report quantities of water withdrawn under the exemption. This authority is unexercised by Ecology. Because reliance on exempt wells most likely will increase, Not only should Ecology immediately begin collecting data on the numbers of exempt wells in the state, but it should require those users to install water meters and report their annual usage to Ecology. The legislature should direct Ecology to require reports of all exempt withdrawals.

The legislature should reduce the quantity of the statutory exemption from 5000 gallons per day for residential uses to an amount consistent with reasonable residential use. As described in Section II above, the Department of Health has determined the minimum production capability requirement for public water supply systems to be 800 gallons per day west of the Cascades and 1500 gallons per day east of the cascades. At a minimum, the exempt well statute should be amended by the legislature to adopt these quantities for residential purposes. If water is necessary for any other purpose or beyond those amounts, a permit must be obtained.

Finally, the legislature should allocate sufficient funds to the Departments of Ecology and Health to effect these recommendations.

## VI. Conclusion

The cumulative impact of Washington's exempt wells has a major adverse effect on water resource management in the state. What was intended by the legislature in 1945 as a means for households far from public water supplies to obtain access to domestic water supply, has now become a major loophole in the law facilitating rampant development of residential subdivisions in or near urban growth areas. Thousands of new wells are being added yearly to the state's unquantified multitude of existing exempt wells, cumulatively withdrawing unquantified hundreds of thousands of acre feet of water annually from ground water aquifers. The effects on surface water flows caused by these wells includes impairment to both senior water users and the ecological integrity of streams.

Exempt wells also threaten public health because they rely on shallow aquifers which are vulnerable to nitrification, seawater intrusion, and pesticide and herbicide contamination. Public health officials recognize that exempt wells are generally poorly maintained; examples of mismanagement are rife. Although there is substantial confusion among state and local government agencies over the interpretation of the exempt well statute, the recent Attorney General's Opinion clarified the exemption and has appropriately limited the extent of its application. Substantial challenges exist in managing water resources in Washington; managing the cumulative effect of exempt wells is one of the most significant of those challenges.