

December 1, 2008

Governor Chris Gregoire  
PO Box 40002  
Olympia WA 98504-0002

From: Scotty Cornelius  
452 Sand Rd  
Pullman WA 99163  
509 332 2982

Dear Governor Gregoire:

It is my understanding that for the 2009 legislative session, Washington State University will be requesting \$16 million to construct the first phase of a Water Reclamation Facility (WRF) in Pullman, regarded by many as a step toward stabilizing the rapidly declining Palouse Basin Aquifer.

While at first this may seem to be a worthwhile water conservation project, there are a number of factors I would like to bring to your attention that will illustrate why this is an inappropriate use of State funds at this time.

### **Background information**

WSU's 2002 Water Plan, updated every six years as required by State regulations, explicitly stated that the expansion of the WSU golf course was entirely dependent on the availability of reclaimed water from the City of Pullman's Waste Water Treatment Plant (WWTP). In its Water Plan, WSU was implicitly acknowledging that expansive irrigation from our limited aquifer had no place on the Palouse. But shortly after the adoption of the Water Plan, WSU began to plan for the golf course expansion, and commenced construction in 2006, disregarding its own Water Plan.

This golf course, consuming 220 acres of former research ground, will be the primary recipient of the reclaimed water. WA DOE has estimated that a maximum of 1 million gallons per day (gpd) will be available for reclamation from the WWTP. However, the irrigation engineer for the golf course estimates July golf course usage to be as much as 900,000 gpd, leaving little remaining for other irrigation needs.

### **Cost comparison of the WRF and the WSU Golf Course**

The golf course project cost an estimated \$12 million (\$8 million for the golf course and another \$4 million for the associated clubhouse). Of this \$12 million, WSU raised about \$1.25 million in donated funds, with the remainder from internal funds. These are funds that should properly have been utilized for academic purposes, such as shoring up our failing libraries, augmenting lagging faculty salaries, or improving the declining faculty-student ratio. WSU prefers to frame this use of internal funds as "financing against future revenues" (i.e. a loan), but two economic studies commissioned by WSU concluded that the golf course revenues, projected to only cover maintenance and operations, will be marginally positive at best.

Additionally, to partially compensate for the loss of research land, WSU has recently found it necessary to purchase additional land east of the golf course.

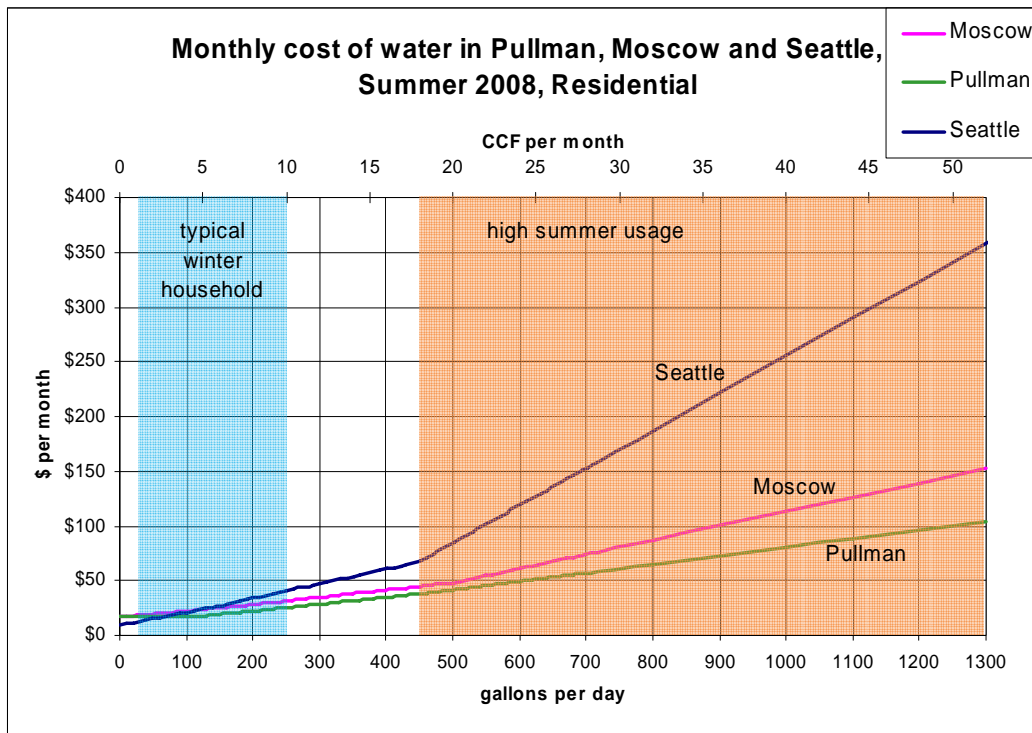
WSU is now asking you to allocate \$16 million, twice the \$8 million cost of the golf course, to help mitigate the unsustainable pumping of our precious drinking water, exacerbated by a golf course project constructed by a State agency on State land. As an earmark, this makes the Bridge to Nowhere look reasonable!

In addition to the capital funding requested at this time, you should be aware of the maintenance and operations costs. The treatment and pumping of the reclaimed water is non-trivial, and involves an impressive assemblage of pipes and pumps, and consumption of chemicals and electricity. Based on the \$61,600 per year estimated by Parametrix for 800,000 gpd in 2001, the actual cost at the commencement of operation could easily be \$200,000 per year in 2011. The cost of electrical energy, for example, used in the calculations was \$0.03/kWH, and the actual price now is about twice that amount. What will be the source of these funds?

**Lack of serious conservation now**

Why should the State fund this facility when WSU and Pullman are not now being aggressive with water conservation?

First, a look at Pullman. To illustrate the lack of serious water conservation, let's look at water rates, using the comparison chart below. This summer, 1,000 gallons per day in Seattle cost about \$260 per month, whereas in Pullman the same amount of water costs less than one-third that amount, about \$80.



Pullman's rates are obviously low and it is noteworthy that, unlike Seattle or even Moscow, Pullman's rates do not increase appreciably in the summer to provide an economic incentive to limit summer irrigation, and consequently do not encourage conservation. Rather, Pullman's rates are geared more toward maximizing revenue. Moscow does a bit better in encouraging conservation with somewhat higher water rates for higher rates of consumption. In contrast, Seattle's rates are very aggressive at conserving water. Logically, Pullman and Seattle should exchange rates because at least Seattle gets its water from a renewable source (runoff from the Cascades), whereas Pullman and WSU are consuming a non-renewable ground water supply (20,000 year old water from the Grande Ronde aquifer that is not being appreciably recharged).

But at least Pullman has water rates. WSU is a de facto and legal municipality drawing water from the Grande Ronde Aquifer. WSU has its own wells and water system, but has no rate schedule, does not charge itself for water, or for the most part even meter water use. Charging ones self for water may seem incongruous, but as an example Pullman charges its own Parks department for water, and to encourage efficient use of water, this makes sense.

With no monitoring and no public accountability, abuse at WSU can and does exist. An example of willful negligent water conservation policy is the new WSU "Championship Golf Club", a championship example of wasting the water from our aquifer. WSU has turned over management to a private, for-profit company, so that even though the golf course is on State land, it is essentially a private entrepreneurial enterprise. Yet WSU does not charge this company for water on a consumptive (volume) basis. Conservation rate structures achieve measurable water conservation by giving economic incentives for efficient water use. WSU should charge all its units for the volumes of water they use, including the golf course. If WSU charged relatively low Pullman rates for the 100 million gallons per year estimated for expansive irrigation of this golf course, the water bill would be in excess of \$250,000 per year. Why should a residential consumer bother to use a low flow shower head or install a low use toilet?

Although WSU claims that the golf course is water efficient, and extols the conservation value of using computer controlled sprinklers, the golf course by design is heavily consumptive. Let's look at a two examples of how water conservation was ignored in the design of this course. Rather than using soil for the foundation of the greens and tees on the golf course, a one foot layer of pure porous sand was used, underlain with a dense network of 8" and larger drainage pipes. Under this wasteful design, the grass is grown hydroponically, and most of the irrigation water immediately travels down through the porous sand, into the drainage pipes and out to wasteways (which the golf course proponents prefer to refer to as a wetland), and is not recovered for subsequent use. This waste of water can visually be seen by observing the dozens of ponds on the golf course.

Another example is the artificial lake from which the irrigation water is pumped. The lake, filled with 11 million gallons from our Grande Ronde aquifer, was chosen instead of an enclosed hill top tank, presumably for reasons of economics (perhaps \$2 million for a tank) and golf course esthetics. The evaporation from the pond is estimated by the golf course design engineers to be 2 million gallons per year.

Additionally, the placement of this lake, being 70 feet below the well head is also wasteful of energy. Much of the golf course is at or above the well head, and almost all of it is above the lake elevation. So in addition to the energy required to pump the water out of the well, the water must be lifted again from the lake and pressurized for the sprinkler heads. Saving energy as well as saving water should have been a stated goal of the golf course design criteria.

If WSU and Pullman really want the water reclamation facility in order to save our Grande Ronde aquifer, why are they not aggressively saving water now? And why are they not willing to offer matching funding? Why isn't the golf course offering to help? WSU continually touts how they have been exemplary in saving water, but they never itemize these savings, making it difficult to scrutinize their statements. But even if they have been exemplary in central campus, when it comes to expending a precious non-renewable resource, just because you've been a good boy in your front yard doesn't mean you are entitled to be a bad boy in your back (golf course) yard. WSU and Pullman have consistently launched PR initiatives aimed at obfuscating the reality of our aquifer issues and the absurdity of using our nonrenewable superb drinking water for expansive irrigation on an expensive, single use amenity only minimally related to WSU's mission. The golf course should be eliminated or at least re-designed to utilize quantities no greater than the original golf course.

### **Comparing the effect of conservation and the WRF**

Why does Seattle have such high water rates for summer irrigation? In part, Seattle appreciates that water is a precious and limited resource. But additionally Seattle has performed studies regarding the cost of adding water supplies and determined that costs of conservation (which in effect creates more available water) are substantially less than the costs of acquiring additional water. Seattle's total water use has steadily declined since 1975, despite an approximately 40% growth in population. This demonstrates that economic growth does not inherently require more water, as many have argued. As another example of their aggressive conservation, starting in about 2002, Seattle set a goal of further reducing water usage by 1% per year for 10 years.

Before WSU is funded for a WRF, an independent economic study should be undertaken comparing the costs of conservation with the costs of the WRF, similar to the studies Seattle did several decades ago. In 2005, WSU and Pullman consumed a total of about 500 million gallons per year for summer irrigation. At full build out, the WRF might contribute 100 million gallons per year, or 20% of the irrigation demand. With aggressive conservation, it is likely that WSU and Pullman could save much more than 20% of irrigation demand at a fraction of the cost of the WRF.

The economic study should include assessing the value of the water that is now released from Pullman's WWTP. This water presently has value and is not wasted. As it flows down the Palouse River, some of the effluent probably recharges the Wanapum (upper) aquifer. It also is an asset to fish and riparian areas, helps those with downstream water rights, and generates electricity.

In regards to the preservation of our aquifer, the foremost need for State funding is for conservation at WSU. Under the Municipal Water Law of 2003, WSU must, for example, install at least several hundred water meters, aggressively look for leaks, assure equalization of pumpage and use volumes, and institute a conservation education program. But they will need funding from Olympia to meet these goals. Why is WSU requesting funding for a WRF when they should be eliminating wasteful practices and requesting funding to meet these State mandated conservation goals?

### **Need for assured aquifer pumpage offset**

If the taxpayers are to fund the WRF, they need assurance that the WRF will truly result in a saving of groundwater. As proposed, there is no guaranteed offset of the amount reclaimed and the amount of water extracted from the Grande Ronde aquifer. Instead of the WRF serving to save groundwater, WSU or Pullman could, for example, use the WRF at some future point as a rationale for constructing another golf course, an aquiculture research facility, or a water consumptive industry. The 50,000 people relying on the Grande Ronde for their drinking water need legally binding assurance that the WRF, expensive in both terms of capital and operation, will always serve, along with aggressive conservation, to permanently reduce pumpage and thereby reduce the rate of decline of our aquifer (currently 1.5 feet/year) for the benefit of present and future generations.

### **Summary**

Although a WRF could be of future benefit in conserving our ground water, WSU and Pullman should first demonstrate a true concern for water conservation by, among many other things, acknowledging that expansive irrigation has no place on the Palouse, deconstructing or redesigning the golf course and ardently practicing conservation by, for example, raising water rates. Additionally, WSU and Pullman should be willing to substantially contribute to the WRF financing. If WSU can pull \$12 million (almost all central funds, minor donated funds) out of a hat for a golf course and clubhouse, why can't they pull an equal amount out of the same hat to help mitigate the environmental effects?

Rather than fund the WRF at this time, conservation funding should first be considered. Conservation is hands down the most cost effective initial way to deal with this limited resource. We can look to Seattle as a poster child for this, with their very aggressive summer rates, strong educational programs, and numerous incentives such as free old toilet disposal. They long ago realized that the amount of available water was limited, and asked themselves "What are we going to do about it?". Their response was exemplary, while our attitude is to continue business as usual and look to you for a hand out.

Sadly, WSU and Pullman's efforts in regard to conservation have been lackluster at best, and their posturing to acquire a taxpayer funded WRF smack of only paying lip service to the ethical and practical need to conserve our water resources. Where have they exhibited the passion for conservation and the sustainability ethic?

We somehow think money from the Sate will solve our problems. Honestly, it's embarrassing. We need to change our mindset.

Water is the single most important sustainable use concern on the Palouse and we owe it to future generations that they be able to enjoy this special water, an ancient water virtually uncontaminated by the activities of humans.

Sincerely yours,

Scotty Cornelius