

Dungeness Water Working Group

Water Management & Instream Flow Rule Meeting Notes

March 28, 2007

1:00 P.M.-5:00 P.M. Dungeness River Audubon Center/2151 West Hendrickson Rd, Sequim
Meeting notes submitted by Peter Greene

In attendance:

Clallam County: Selinda Barkhuis, Bev Cappa, Carol Creasy, Bruce Emery, Nancy Esteb, Gary Gleason, Joe Holtrop, Cathy Lear, John Miller, Donella Pratt, Mel Rudin, Ann Soule; Department of Ecology: Christine Corrigan, Phil Crane, Cynthia Nelson, Fred Rajala; Department of Health: Jozsef Bezovics, Linda Kildahl, Bonnie Waybright; WDWF: Randy Johnson; WUA: Gary Smith; PUD: Mike Kitz; Dungeness River Management Team: Tyler Ahlgren, Virginia Clark, W. Clark, Judy Larson; Well Drillers Assoc: Steve Luxton; Building Assoc.: Ben Smith; Sports Fishing: Don Hatler, Don Rapelje; Realtors: Terri Jeffreys; Sequim Gazette: Evan McLean; Resident: Dan O'Rourke; Facilitator: Penny Eckert; note-taker: Peter Greene
Also in attendance (unsigned): Andy Brastad, Shawn Hines

Meeting began at 1:06 PM

Agenda Review

- Facilitator Penny Eckert welcomed attendees and apologized for the scope of today's meeting, as the scheduled presenters would be covering the *history of water law*, what is *technically known about groundwater in the Elwha-Dungeness watershed*, and *recommendations* for the promotion of best use and most responsible stewardship of the watershed. It was decided that a comprehensive approach would yield the most effective framework in which the members could approach the upcoming rule-making process.
- Introductions were conducted around the room.
- Penny then asked attendees to review notes of meeting held 2/21/07 (for proper representations and errors) on their own, as time constraints prohibited the process at today's meeting. Please forward corrections via e-mail.
- The web page has been published-please review and submit e-mail corrections you may find. The address is: <http://www.ecy.wa.gov/programs/wr/instream-flows/dungeness.html>
- Ground rules for the working group established at meeting of 2/21/07 have been printed and are available from Penny. Of particular importance for today's meeting is the rule which states 'ten minutes of public comment/questions on issues discussed will both open and close each meeting.'
- Opening comments from the floor: none.
- Other business needing attention: none.

Presentations

Please find presentations at the Dungeness Water Working Group website, listed as the March 28, 2007 Presentations (in PDF file format). The effort here has been made to chronicle salient comments by the speakers *not included in the text of their presentations*, and questions asked by the members and attendees both during and at the close of the presentations. These have been referenced by presentation graphic cell number, where they occurred during the presentation.

History and Overview of Water Rights - Fred Rajala, Department of Ecology (ret.), opened his presentation by giving a brief list of credentials, stating many years experience with permitting, policy, planning, and adjudication of water resources, now retired, but still involved in contract work and the training of water conservancy board members

History of water right evolution. People don't own the water itself, rather are granted a right to use it. The State constitution of 1889 declared certain uses to be 'public uses,' and the Supreme Court later interpreted this as all uses to be public uses. (**slides 1-4**)

Washington state right began as 'Riparian Doctrine'-shared water by land owners whose land contained or was abutted by water sources, and the 'Prior Appropriation' doctrine based on actual use of the water, not tied to land ownership, allowing water to be conveyed across naturally arid climates (i.e. for the development of railroads) These doctrines were formalized into the Water Code (of 1917) which established a regulatory and permitting system, and the Ground Water code (of 1945) which included ground water sources. (**slides 5-8**)

Question: (slide 9) How do you know if you have a water right or just a claim?

Answer: It takes evaluation of beneficial use, knowing which laws were in effect at the time use was established, and the history of use. A claim is only an assertion. Multiple claims in a given area might need to be validated by Ecology to make a 'tentative determination' as to who should be granted the right. Final decision as to whether there is a right asserted by that claim is made by adjudication in a superior court. A right is defined by being of 'beneficial use', and the water being used to the exclusion of others.

1971's Water Resources act establishes management principles, and 1977's Family Farm Water Act establishes permitting specific to agricultural use, by nature not very applicable to WRIA 18. (**slide 10**)

Detailed description of water right and conditions relative to it (**slides 11-16**)

Permitting process, groundwater exemptions, right documentation, and adjudications
Ecology now posts draft reports of the viability of permit applications on the internet, providing another opportunity for public input. Once granted, the permit holder by *putting water to beneficial use*, establishes his water right. (**slides 17-20**)

Adjudications, water right changes. Locally, Snow Creek and Eagle Creek (**slide 21**) adjudications have been proposed as areas *to be* adjudicated-on file for some time-yet no action has been taken. The Yakima adjudication will codify five previous adjudications evaluating what has happened since that old court decree.

Question: (slide 21) Do they (adjudications) get out of date?

Answer: Yes they do get out of date-you can have *abandonment*, or *relinquishment*. Overlaying the court decree you may have *changes to water rights* that occur. Also, there is natural movement-streams don't always hold the same course, which may shift the diversion point listed in your decree.

Dungeness River Surface Water Adjudication (slide 22)

Question: (slide 22) Why seek a permit, if you already have a water right claim?

Answer: Your time would be better spent looking at the basis of your claim-when and by whom it was established, compare it to the laws in effect at the time, know how it developed-for establishing a water right claim, rather than (pursuing) the permitting process. If Ecology did issue a permit, it would have a 2007 priority date and would state that this permit is only good to the extent your existing rights aren't used instead. The single advantage to pursuing the process is that it would force Ecology to make a *tentative determination* regarding that water right claim.

Question: (slide 22) When a claim is made, under what circumstances does the date of that claim become useful in a court of adjudication?

Answer: The date *asserted* on that claim? Our water right claim form doesn't ask, 'What do you assert for priority date?' It only asks, '*When did you first use water?*' People use the date they purchased their property (as the priority date). When it comes to an adjudication, there are '*relation back*' theories...instead of looking at the priority date of your water right as when you first used it (your right)-they might look at when the *first steps were taken to put water to use*. It might be the initiation of some project, or the date when homestead papers were issued, or various things which indicate that by this date there remained a conscious effort. So, that's something the court decides. Ecology can't impair the rights of anybody-so in most of our work, the priority of a right isn't a large issue. We would define that right by looking at the history of development.

Water Right Change statutes (slide 23,24)

Change considerations, provisions. When changing a water right, the amended right must conform to today's conditions and circumstances. You cannot 'grandfather' in water rights by filing an application ahead of impending instream flow rules adoption. When the actual decision is made on the application, it's the circumstances in place at that time which will apply. (slides 25,26)

Relinquishment. Water rights may be relinquished. A determination of relinquishment may be appealed to the Pollution Control Hearings Board which will decide if the relinquishment will stand. There is no 'end run' around relinquishment-you may not preserve your right by pumping water once a year. You would only be preserving your right to pump water *once a year*-the rest of the right would relinquish. (slides 27-31)

Abandonment. An example of abandonment in our area would be Walmart. Built on former farmland, they are not using water, and paving all that land is a good indicator that there is no intent to use it in the future. (slide 32)

Wrap-Up. The system was designed to prevent speculation with water, and promote beneficial use. (slide 33)

Closing questions:

Question: You draw a distinction between relinquishment and abandonment with respect to sufficient cause. If someone had a water right to irrigation for twenty years and hasn't used it for the last ten, does that constitute relinquishment or abandonment?

Answer: Those are 'subject principles'- they could work hand in hand-you could have *both* occur. Relinquishment is statutory in that it excuses certain rights and provides some

circumstances where rights don't relinquish. Abandonment has no exception. There is no exception for the type of right it is (municipal rights could be abandoned.) It doesn't say, "it's abandonment *except* when..." it just says, "you've failed to use it and you have no further intent to use it." It's conceivable that you could have relinquished a right, yet not abandoned that right...or maybe you're abandoning a right but not relinquishing it. We have to apply them using different standards. In your example-if the water right to irrigation hasn't been used for ten years-under 'relinquishment,' we would ask, 'why hasn't it been used in ten years, and how does it fit that *sufficient cause*?' Under 'abandonment', when we know it's not been used for ten years, we have to explore, 'what is the intent to use it in the future?' People facing this will say, "Oh yeah, I intend to use it in the future." But long periods of nonuse can shift the burden from someone (from Ecology) having to prove they (the right holder) have no intention to use it, to their (the right holder) having to prove they *do* have an intention to use it.

Question: As a shareholder in an irrigation district, how do relinquishment and abandonment apply? Does the property owner or the district hold the water right?

Answer: It can vary from district to district. Ecology doesn't deal so much with the shares; I look at that as similar to owning stock in a company. Under the bylaws, they allocate the water based on the amount of stock you own. The way we look at it and the way the statute reads is, the right attaches to the land on which it's beneficially used. (Note – there are both irrigation companies and districts in the Dungeness watershed, with some differences in applicable laws.) State law grants greater authority to a district to manage water use within its boundaries than is granted to a company.

Question: What if someone is granted a permit for a water right, and they don't use that water- is there a lifetime for that permit? Say they are granted a permit in 1980, they don't get around to subdividing their land until 2000- now they want to build infrastructure and such, and they're saying, "I've got this permit that's twenty years old, and now I want to put it into use and get a certificate."

Answer: If someone were to tell us that, I'd want to double check with Ecology, because all our permits, when they issue, they have a development schedule on them. We look at the complexity of the project. We know some projects will take ten years to develop, so we'll give them a long period. If they don't start the project, complete the project, and put the water to beneficial use as proscribed by the permit, and report that the phases of the development will be completed on time, then they will have to request an extension which we can deny. In most instances, the schedule is case by case, and is spelled out in the permit.

Meeting Break

Penny Eckert introduced the next presentation by illustrating the difficulties inherent in quantifying and understanding the nature of groundwater, being that it is a moving, invisible resource. Dealing with surface water is not simple-groundwater is even harder.

Sequim-Dungeness Hydrogeology – Dave Nazy opened his presentation stating his current position with the Department of Ecology, at the headquarters section, involved in work with the water resources program, making permitting decisions, and has spent time in the clean-up program

Sequim-Dungeness Hydrogeology-water recharge cycle, groups studying, area map of WRIA 18, glaciation, surface geology, groundwater flow. Our Olympic mountain area has three main aquifers in the upper sequence of glacial material. (slides 1-9)

Question: (slide 9) Is that undifferentiated material water-bearing strata?

Answer: We don't know much about it, other than it's sediments.

How groundwater moves; aquifers. Drilling wells and pumping water lowers the water level in the aquifer (dewateres the aquifer) over time. In confined aquifers, the water level is not lowered, rather the water pressure in the aquifer is decreased. **(slides 10-18)**

Groundwater flow, groundwater/surface water interaction **(slides 19-27)**

Question: (slide 19) You said if you pump from a confined aquifer, you're not dewatering it. Why couldn't you actually mine that aquifer – if you pumped it too much, wouldn't you dewater it?

Answer: As you pump, you're going to lower the water level around the well- this is the 'cone of depression.' If you lowered it all the way below the bottom of the confining unit, you could change it into unconfined conditions and start dewatering the aquifer there. Usually what you're doing when you're pumping the confined layer, is you're lowering the pressure like a vacuum in the aquifer causing water to flow- so it's more like a pressured surface that you'd be measuring, that's reflected by the level of water in the well, rather than physically dewatering the aquifer there.

Question: (slide 23) Looking at the Dungeness groundwater gradient illustration, in this resolution of investigation, is there any indication here that the Dungeness River is either gaining or losing?

Answer: There isn't because we don't have an elevation of the river on this map. We know in some places it is gaining, and some places it is losing, and in some places it gains sometimes and loses sometimes. It all depends on which is higher- the stream or the water level, and they're both changing constantly. There are many methods to measure loss or gain and we usually use them all, hopefully finding agreement between them.

Water table, gains and loses, importance of baseflow to streamflow, wells.

If we adopt instream flow levels by rule for the Dungeness River that aren't normally met, and we know that more groundwater withdrawals are going to be taking out of base flow, there may not be water available and this is called 'impairment.' **(slides 28-36)**

Wells, Hydraulic Connection between Aquifers, Irrigation Withdrawals. **(slides 37-45)**

Question: (slide 38) When you're looking at that confined layer, and as you illustrated that under normal gradients it might take millennia for water to move through some of those confined beds, for example the earth confined bed is about 300 feet of compact silt; what would your sense be about the relative importance of the water coming from the first confined aquifer, with these types of wells, and that contribution made by the water table, in other words you're showing that well robbing water from the unconfined aquifer, but many people think that effect is quite small in Sequim-Dungeness...

Answer: The best way to evaluate that is with a groundwater model, assuming that we can construct a model that accurately represents reality out there. We have pretty high values for the conductivity of the confining units, and what we do with groundwater models is, you put in all the parameters you think are inputs and outputs and initial water levels, and you run the model and try to match it up with what you measured. That's how we try to calibrate the model, and our current calibration has pretty high values for the confining units. So, in this diagram, it could take a long time for the water particles to take that path and make it all the way back. I think the impacts of pumping-as soon as you start pumping here, you are changing the gradient between that location and wherever else-the impacts of pumping can propagate through a system much faster than how fast the water can move through the system. The model did show that pumping into the middle confined unit and the deeper confined unit did have impacts on the creek in relatively short time frame. The other thing is, water rights, once they're issued, as long as they continue to be used, we assume they will go on indefinitely. If we have a problem with streamflow now, we adopt an instream flow-it's a 'water right prevent'- it affects everything that's later than that.

Question: (slide 38) Have there been studies done-let's say you're modeling a confined aquifer, and if it had a high volume source point, to connect that with your unconfined aquifer in areas where you're dewatering the stream, couldn't you transfer that water that would otherwise bypass the whole scenario?

Answer: Have an open hole that flows between them? **(Right.)** We do have well drilling regulations which kind of frown on that type of construction. We have approved some scenarios where someone is pumping and we calculate what we think the impact would be on the creek, and we have them discharge some of the water they're pumping to the upper aquifer to try to make up for that. The jury is still out on whether that is a good approach or not. We generally discourage connecting aquifers and creating artificial avenues for water to flow.

(The main reason there is contamination?)

It's contamination, but we also had a case where a gravel mining company breached an aquifer, and drained it out and dried up a bunch of wells. So you don't want to mess too much with the natural system, although there are probably thousands of wells still in eastern Washington that have an open hole-they case the upper twenty feet and seal it off, and then it's just an open bore hole for 500 feet through the solid- so all those aquifers are intersecting and equilibrating through the bore hole. Our regulations specifically don't allow that type of construction.

Comment: (slide 38) As we're looking at all of the well logs, we're finding that it's not consistent. It isn't a nice, clean, obvious set of consolidated sediments, it's more like lenses. That is a simplified drawing, but that's not how it works in this area, as far as well water holes.

Answer: Yes, exactly. Remember one of the earlier slides showing the stream coming off the glacier? You can just imagine hundreds or thousands of years with that thing moving around, then it gets covered up with something, you are going to have those lenses, you move a little bit of a distance horizontally, and you get into some very different material. The water's going to flow the easiest route it can take and can operate with. When we make models of things, we make nice neat layers, but we're really connecting the dots between our holes,

and we know they're leaky so we account for that by decreasing the hydraulic conductivity of those layers.

Comment and question: (slide 38) You've acknowledged we have a lot of recharge-not as much as we did before, because of piping the irrigation ditches-but we still have a lot of septic systems and irrigation that help combat that pumping/sucking up type thing...the question I have is, how do you figure out how much recharge we get, not just from snow melt, but also from the glaciers. We know they're not going to be here forever, because the mountains are so short, but, they've (the glaciers) got to be contributing something-how do you figure out how much they are (contributing)?

Answer: I think they're contributing as the river's leaking into the ground as it's flowing down the valley. We can estimate that by some of those other methods, where we know it's a losing reach. The stream is so wide, and this is the conductivity, and we can measure the discharge at two points, and try to quantify it, or use all the different methods to try to add that up, and then we run the model. The model is essentially a big water balance tool, so you're counting every gallon that's coming into the model and every gallon that's coming out. We try to quantify the stream flow, how much is leaking between them (the two points), how much is being pumped out of wells, how much is evaporating. A lot of those things, you can't measure, but if you have enough measurements, and you (look at) enough wells, and you're relating everything to water elevations-your model should be able to give you reasonable estimates of all those big differences in the water balance.

Comment: (slide 38) There are very few wells that really answer that question, but there is a bedrock contribution, and it does address that which comes from above the water balance space which was established in the water model.

Comment: (slide 40) In response to the comment that the well logs don't show separation of these aquifers, when you look at these data where you have a consistent result across a large area, where the pressure difference is thirty-five feet, you're talking 15 pounds of pressure difference, or (let's say) 10 psi. Even though the logs may indicate that there's a mixture of sediments involved in creating an aquifer, I think really, the constructive thing is the difference in pressure in those aquifers, and I think there's quite a bit of evidence for 'separation.' It's very difficult to log a well sufficiently accurately enough to really indicate what's retarding the actual hydraulic conductivity.

Answer: Yes, even the fact that there is a difference in head, assuming that these wells are very close together, there's got to be something in between there that's not allowing them to get to the same level. So there is a difference in pressure between those two (wells charted in slide 40). I guess the point is, you can see the change that's happening down here propagates the effect on the water level up here.

Existing Water Wells, New Water Wells (slides 41-42)

Question: (slide 42) What percent was the average at (of the water) that recharged back?

Answer: We don't know exactly, but the best guess is about 90 percent of the indoor use would get back to the septic tank. Maybe 10 percent of the outdoor use would get back into the aquifer.

Irrigation ditch recharge, groundwater model will calculate water elevations with data from existing wells. Seawater intrusion, an issue of concern along the shoreline. (slides 46-51)

Question: (slide 51) How many parts per million of chloride is in that well that's out at the Dungeness spit?

Answer: I've heard that well is a flowing artesian well, meaning that the head of that aquifer it's tapping is above sea level, so it should be fresh water coming out of that well.

Question: (slide 51) Is there any evidence of viral intrusion?

Answer: I haven't heard that it's that big of an issue here yet. Due to the existing condition of the deeper aquifers having higher heads, it appears that there is still a pretty good freshwater head near the shoreline to keep salt water out.

Closing questions:

Question: Have you seen any evidence of sub-site compaction yet?

Answer: Sub-site? Like the land dropping down from dewatering? **(Yes.)** I don't know of anybody trying to measure that or take it into account in any way.

Question: (Concerning the pressure at the deeper aquifers) Can't they do a recharge down at that level by using some of their own Class A water via deep well injection?

Answer: We are looking into using the reuse water as a recharge source. If they're going to inject it back into the aquifer for a drinking water source, there's a real high standard to meet- they have to use reverse osmosis to treat the water.

My understanding is it's supposed to be class A water, and Jim Bay said he would drink that water.

Yes, that is a potential source of recharge water.

Meeting Break

Penny Eckert introduced the next speaker by citing the overarching critical question which ties the presentations together- 'Is water available?' The next thought process would be planning recommendations for the watershed.

Review of Watershed Planning in the Dungeness - Cynthia Nelson began by stating her considerable experience with watershed planning in the Dungeness.

She then gave a brief history of planning, which started in the early 1990s, with the Chelan Agreement and the state attempting to include all interested parties in a watershed to participate in discussions of water resources and options for future use. Issues which define the planning context are, availability of water for

newly arriving users, and the availability of streamflows to support the indigenous fish stocks. (slides 1-3)

Sixteen WRAs have been deemed 'critical' with respect to the conditions relating to these issues. WRA 18 is represented here. (slide 4)

In the Dungeness, peak demand coincides with historically low late summer flows. (slide 5)

Although a large irrigation infrastructure which diverts a substantial amount of water has developed in our area, efforts to reduce conveyance loss by the irrigation companies and districts have been fruitful. (slides 6-7)

Question: (slide 7) Is there any data on how much of this decline (in water diversion by the irrigators) is due to the decline in the farms that have traditionally used this water?

Answer: I don't believe that this (slide 7) has factored in anything about the number of farms or the changes in land use. There has been a significant change in the landscape up here, where big farming operations which were irrigating went out of business, and either the land went fallow or turned into subdivisions. There are other factors probably contributing to this trend, and there have been several million dollars spent already on improving the irrigation system through which more water has been left in the river.

Question: (slide 7) So does that mean that this water is actually staying in the river now?

Answer: It's actually in the river, a study done by the tribe showed significant reduction in water taken from the river during September several years after the improvements began. Also, there is varying opinion on whether, when you take land out of farming and put it into residential development, if that actually decreases the amount of irrigation? In some cases we know that it actually *increases* it.

Comment: (slide 7) We had a couple of comments made at DRMT the last month or two, where people in the farming community stating that the amount of farming and uses and so forth is essentially the same. It hasn't increased or decreased.

Answer: Over the last ten years, we have really good records from then on, and the amount of commercial irrigation has been fairly steady. A bit of a trend towards more residential and less commercial. That's one of the things we want to have happen- an 'ag' community here that's thriving.

There are about 70 water right applications on file awaiting development of instream flow rules. (slide 8)

Existing wells and well growth rate (slides 9-11)

Question: (slide 9) Do those water rights applications get processed before the instream flow rules or after?

Answer: They all get held until the rule is in effect. Once the rule is in place, those applications will be evaluated, and then we'll make decisions on them, and

they will be subject to the terms of the instream flow rule. They're (the applications) subject to whatever is in effect at the time we make the decision.

Groundwater modeling for full build out (slide 12)

Watershed planning under House Bill 2514- overview of the mechanics of the planning structure and process; out of this has come rule making procedure for the WRAs (slides 13-18)

Water Supply Recommendations Opt for group A systems. (slide 19)

Question: (slide 19) Can you define 'group A' and 'group B'?

Answer: Generally, 'group A', in a very rough way, is 15 or more connections.

Comment: In this county, two connection systems are considered a 'group B'.

Slides 20 through 28: focus on the effort to secure future sources and expand existing supplies of water, possibly the creation of a water bank; examine how the county may recruit volunteers willing to submit to having their personal water use monitored in order to compile good data from which to plan; give suggestions how the community at large could be enlisted to support this undertaking; and review the status of the rulemaking process

Then-"On to the Elwha!"

Due to time constraints, the material was covered rapidly-there were no questions

Penny Eckert deferred the customary question and answer portion of the meeting to next month's meeting.

Meeting adjourned at 5:10pm