AGENDA

WRIA 15 Watershed Restoration and Enhancement Committee Meeting

December 5, 2019 | 9:30a.m.-1:15 p.m. | WRIA 15 Committee Webpage

Location
Kitsap County Commissioners Chambers
619 Division St
Port Orchard, WA

Committee Chair
Stacy Vynne
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Handouts
- Agenda
- Project Screening Criteria Discussion Guide
- Growth Projection Discussion Guide
- Consumptive Use Discussion Guide
- WRIA 15 Committee Brochure

Welcome

9:30 a.m. | 5 minutes | Susan Gulick

Meeting Agenda and Meeting Summary

9:35 a.m. | 5 minutes | Susan Gulick

Updates and Announcements

9:40 a.m. | 20 minutes | Stacy Vynne, All
- Hydrology workshop and upcoming workgroup meetings
- WRIA 15 Region Delineation
- No meeting in January
- Other Announcements

Considerations for Beaver Projects

10:00 a.m. | 60 minutes | Brittany Gordon, WDFW and Michael Pollock, NOAA | Presentation, Questions
- Opportunities and challenges with beaver projects
- What success and lessons learned do we have from projects around the Northwest?
- What are specific considerations for projects in WRIA 15?

Project Screening Criteria

11:00 a.m. | 20 minutes | Stacy Vynne, All | Discussion and Interim Agreement
- Update from project workgroup
- Discussion of workgroup recommendations and consider interim agreement on fatal flaws considerations

BREAK |11:20 a.m. | 15 minutes | Move your car if you parked in 2-hour parking space!

Permit Exempt Well Projections Based on Growth

11:35 a.m. | 45 minutes | Stacy Vynne, KPUD, Kitsap County, All | Discussion and Interim Agreement
- Update from technical workgroup
- Discussion of workgroup recommendations
- Consider interim decision for King, Pierce and Mason county
- Update and discussion on Kitsap County projections

Consumptive Use Update

12:20 p.m. | 30 minutes | Stacy Vynne, All | Discussion and Interim Agreement
- Update from technical workgroup
- Discussion of workgroup recommendations on outdoor irrigation analysis and consider interim agreement
- Next steps

Letters of Support for Competitive Grant Applications

12:50 p.m. | 15 minutes | Stacy Vynne, All | Discussion

Public Comment

1:05 p.m. | 5 minutes | Susan Gulick

Next Steps and Action Items

1:10 p.m. | 5 minutes | Susan Gulick, Stacy Vynne

- Next meeting—Thursday, February 6, 2020, 9:30 a.m., Kitsap County Commissioner's Chambers, Port Orchard
- WRIA 15 Upcoming Meetings: https://ecy.box.com/v/WRIA15UpcomingMtgs

Discussion Guide: Recommendations from WRIA 15 Project Workgroup on Initial Project Screening Criteria

Version 25 November 2019

Purpose of Discussion

On November 18, the WRIA 15 Project Workgroup and Technical Workgroup both met. This memo summarizes the key recommendations coming out of the project workgroup meeting. Ecology will post detailed notes from the workgroup meetings on the committee webpage (https://www.ezview.wa.gov/site/alias__1962/37327/watershed_restoration_and_enhancement_-_wria_15.aspx). The workgroup will meet January 8, 2020 to continue conversations on project screening considerations and project ideas. At the December 5 Committee meeting, we seek feedback on a recommendation for fatal flaws screening criteria for projects.

Background

The technical consultants supporting the watershed restoration and enhancement committees developed initial project screening criteria for consideration as the committee identifies, develops and reviews projects. The draft criteria provided by the technical consultants are for committee consideration to begin the discussion on projects to include in the watershed restoration and enhancement plan. The committee can shape the criteria to meet their needs and the needs of the local watershed. The draft criteria provide a tiered approach for review:

1. "Fatal flaws" review to quickly identify which projects may or may not be on the table for further discussion and development.
2. Tier 1 review that assesses the offset and habitat contributions as well as feasibility and implementation.
3. Tier 2 review, which the consultants will use for the NEB evaluation.

The project workgroup provided feedback on the "fatal flaws" considerations during the October 30 and November 18 workgroup meetings. Each project would be reviewed for a yes/no against the fatal flaws. Projects that contain a fatal flaw would remain on the project list for the time being (in case we later determine a fatal flaw can be overcome). However, a "yes" to a fatal flaw would likely mean that the workgroup and committee would not spend much time further developing the project, and focus instead on other projects.

Project Workgroup Recommendation

The project workgroup recommends to the committee the following considerations for the fatal flaws review. We request the committee's input and agreement on an initial set of fatal flaws criteria.

- Project provides no reliable benefits to streamflow or habitat.
    - The project should provide protected long term benefits, beyond 20 years.
- Project is already required by regulatory obligation (i.e. double counting). Examples may include:
    - Required by local, state or federal law. For example, state owned culvert replacement, county stormwater requirements, etc.
    - Required as part of a permit obligation, e.g. water rights mitigation.
    - Chapter 90.03 RCW, Water Code
    - Chapter 90.58 RCW, Shoreline Management Act

    - Chapter 90.94 RCW, Streamflow Restoration
    - Chapter 173-201A WAC, Surface Water Quality Standards
    - Chapter 173-200 WAC, Water Quality Standards
    - Chapter 173-218 WAC, Underground Injection Control Program
    - Chapter 220-660 WAC, Hydraulic Code Rules
    - Critical Areas Regulations – Pertinent Cities and Counties
    - Stormwater Management Manual for Western Washington
    - NPDES Requirements/Obligations
    - Consideration for TMDL Requirements (may be gray area; consider on a case by case)
    - Consideration for culvert requirements (state, local, federal; consider on a case by case)
- Project is inconsistent with existing law or policy.
- Project may result in substantive conflict with another watershed plan (e.g. salmon recovery plans, ecosystem recovery plans, watershed plans, etc).
- Project was implemented prior to January 2018.

Question for the Committee

- **Does the committee support the recommendation from the project workgroup on the fatal flaws criteria, or would the committee like to propose further refinement?**

Next Steps

The project workgroup will continue to discuss the Tier 1 criteria on January 8, 2020. The workgroup expects to bring recommendations for Tier 1 criteria to the February or March committee meeting. The most up to date document, with comments from the workgroup, is available on Box.
https://ecy.box.com/v/WRIA15projectscreening

Discussion Guide:

I. Recommendations from WRIA 15 Technical Workgroup on Permit Exempt Well Projections (based on growth) for Mason, King and Pierce Counties; and

II. Kitsap County Updated Projections and Proposal Based on Historical Wells

Version 25 November 2019

Purpose of Discussion

At its November 18 meeting, the Technical Committee developed some recommendations regarding the number of permit exempt wells expected in the next 20 years, based on growth projections. The purpose of today's discussion is:

1. To brief the committee on the workgroup's recommendation for, and hear committee input and feedback, on projections for Mason, King and Pierce counties.
2. To update the committee on the status of Kitsap County's projections.

I. Permit Exempt Well Projections for Mason, King and Pierce Counties

Background

At the November 18 workgroup meeting, the technical workgroup discussed the current projections for new permit exempt wells (note that we use "wells" as shorthand for "connections to permit exempt wells". Permit exempt wells do allow for multiple connections as long as they are within the legal limits of the water allowance). In WRIA 15, there are four counties with varying historical data and building permit information, resulting in four different possible methods for calculating well projections. Despite the complexity created by having four different methods, the WRIA 15 committee deferred to the expertise of each county's staff to identify the best approach for estimating future growth and associated new permit exempt wells. This approach also allows counties that participate in multiple committee processes to consistently apply their approach. Below is a brief summary on each county's approach for growth projections and well projections (more details are available in the HDR memo on growth projections).

Mason County

1. Import Mason County Comprehensive Plan 2036 population projection data.
2. Interpolate 2018–2038 data for population, housing, and land area:
   a. Straight-line interpolations for Shelton Urban Growth Area (UGA), Allyn UGA, Belfair UGA, and Rural County.
3. Compare 2038 additional population and housing to buildout capacity to ensure that buildout is not exceeded.
4. Calculate zoning percent allocation for each area:
   a. Based on buildout capacity of units by zoning for each area.
5. Allocate additional housing since 2018 to zoning categories based on percent allocation.
6. Spatially apply growth projections to parcels available for development.
7. Remove growth unlikely to rely on a permit-exempt well.
8. Remove assumption that no permit-exempt wells will go within water service areas.

King County

1. Use centroid of parcel data to determine location information: WRIA/water district service areas.
2. Use County parcel data for water service attribute data to determine public versus private.
3. Link building permit data and parcel data.
4. Determine the number of building permits that are:
    a. Public water.
    b. Private water (aka permit-exempt well).
    c. Other (unknown/null) to estimate the percentage error.
5. Calculate the percentage of each type of building permit.
6. Use the annual (projected) number of permits per year multiplied by the percentage of permits on private water to determine a projected number of permit-exempt wells per year.
7. Multiply the number of permit-exempt/year by 20 for the estimated total of permit-exempt wells over a 20-year period.
8. Apply projections to subbasin.

Pierce County

1. Map parcels that are unlikely to have a new permit-exempt well:
    a. Define parcels that could accommodate development of a domestic, single-family connection to a permit-exempt well.
    b. Project permit-exempt well connection growth over 20 years, and allocate growth spatially to parcels defined in step a above.
2. The result is a map of parcels that are potentially developable:
    a. Summarize by subbasin.
3. Permit-exempt well forecast methodology:
    a. Obtain TPCHD well database.
    b. Apply growth forecasts based on historical rates of permit-exempt well installations projected forward 20 years for domestic single-family connections.
    c. Analyze trends in permit-exempt wells by time and location (by subbasin).
    d. Estimate growth of permit-exempt well connections for 20-year period.

At the September and October committee meetings, we discussed “ranges” or scenarios that the counties were comfortable applying to their projections. Below is a summary of the ranges for each county.

- Mason County: No range or scenario.
- King County: No range or scenario.
- Pierce County: High scenario based on higher range of historical trends; low scenarios based on lower range of historical trends.

Question for the committee

The workgroup recommends the following projections for new permit exempt wells in three of the counties (Pierce, Mason and King).

	Low Range	Medium Range	High Range
Pierce	624	978	1,416
Mason	1,301	1,301	1,301
King	368	368	368

1. **Does the committee support the interim well projections as presented in the tables above for the three counties, or are further refinements proposed?**

II. Kitsap County Projection Update and Proposal from KPUD

Background

Kitsap County previously presented projects to the committee that were based on a land capacity analysis for the OFM medium growth range. The projections were based on the anticipated amount of growth in the rural areas and a 0.75 acre minimum parcel size and a 0.20 acre minimum parcel size, and a 200' buffer to water lines. Kitsap County has revised their data and projections based on additional water and sewer lines. The county provides an update on their method, results and outstanding questions below. Kitsap PUD proposes using a projection based on historical wells. Kitsap PUD presents their proposal and supporting information below.

Kitsap County Revised Method and Projections for New Connections to Permit Exempt Wells

The language below is provided by Kitsap County.

Rural Kitsap County

Kitsap County developed a rural growth projection target based on the Kitsap Regional Coordinating Council growth projections: 14,475. Based on an assumption of 2.5 people per residence, the county estimates 5,752 rural single-family residences (SFRs).

We have water systems in the rural areas that tend to service legal, "non-conforming" lots of a smaller size. *In this exercise, we limit our selection to those vacant and underutilized parcels within 200 feet of an existing water line and over 0.15 acres. Likely these lots are generally designed to be 0.2 to 0.25 acres in size, but reductions occur based on right-of-way considerations, AutoCAD drawing errors (often based upon original CAD drawing date and software package used). This size also removes the numerous "sliver" polygons associated with the same factors.*

When we include the parcels within 200 ft of a waterline that are large enough for a single-family residence (down to 0.15 acres), we have 3,361 vacant and underutilized parcels along water lines. These vacant parcels account for 3,675 single-family residences.

We can use this size, which is smaller than the 1 acre minimum, because there is no need for a well and associated setback on a parcel that will connect to public water lines.

This means that:

- 5,752 SFRs (based on the growth target) – 3,675 (the number of SFRs assumed to connect to public water using the 0.15 acre minimum) = **2,077 SFRs forecasted to connect to permit exempt wells.**
- We do not assume that the forecasted number of SFRs equals the forecasted number of permit exempt wells because some wells may have multiple SFR connections. This reduction assumes growth will occur in part along the waterline areas first, on small legacy lots that do not require wells but are vacant and able to accept a substantial portion of the growth projection for rural Kitsap County.

We can then divide the forecasted number of SFR connections based on past building permits.

Hood Canal	27%	➔	27% x 2,077	= 561 SFRs
South Hood Canal	2%	➔	2% x 2,077	= 42 SFRs
South Sound	16%	➔	16% x 2,077	= 332 SFRs
West Sound	55%	➔	55% x 2,077	= 1,142 SFRs
	100%			2,077 SFRs

What changed from the previous calculations?

We identified more water line data, so this increased the area covered by the "200-foot service area" and subsequently increased the number of vacant and underutilized parcels that could presumably hook up to public water.

We also used sewer line data as a proxy for waterline infrastructure, with the assumption that residences on public sewer are also likely to be connected to a public water supply. This change also acted, as described above, to reduce the amount of growth assumed for non-serviced areas. This accounted for only a small change.

Earlier numbers were based upon a 0.75 acre minimum across both the water-served areas and the unserved areas.

Using 0.75 acres as a minimum lot size removed 1,650 SFRs from the area serviced by waterlines, and effectively placed that growth in non-served areas. So, our 2,077 is increased by 1,650 = 3,727.

Original estimate using 0.75-acre:	3,991 SFRs
Change based on method:	1,650 SFRs
Change based on new data (estimated):	264 SFRs
Current estimate using 0.15/1-acre split:	2,077 SFRs

City of Bainbridge Island

Recommended Method:

- Previous numbers were derived from the spreadsheet, but it contained an error that had the effect of almost doubling the number of residences on exempt wells on Bainbridge Island. Our

latest number increased from 387 to **803**. *This is an area where it may be advantageous to apply an "expansion / safety factor" to the current number of water lines and use it to reduce the number of new connections.*

- There are 2,202 dwelling units present outside of water availability areas.
- Following the method used on the spreadsheet, which divides growth into residences / waterlines based upon the distribution of the current available lands, we get 803 residences on exempt wells. This change comes directly from the error on the spreadsheet in columns E26 and E27.
- This method distributes the full amount of growth across the landscape in what may be a more equitable manner within the City, which will likely grow in a different manner than rural areas.

Alternative 1:

Following the method used above for the rural areas:

- The Bainbridge Island growth projection is 4,335 people.
- 4,335 / 2.5 per unit = 1,734 city residences.
- We have vacant parcels adjacent to water lines for a maximum capacity of 2,555 residences (on 1,243 parcels). This means we have enough vacant land adjacent to waterlines on Bainbridge Island to accommodate the future predicted growth. This assumes that land near water lines will be the first to be developed, which is not necessarily true.
- 1,734 – 2,555 = **No new well connections**

Alternative 2:

Even if we assume 1 residence per parcel, regardless of size, then 1734 – 1243 = **491 residences on exempt wells.** Again, this assumes that land near water lines will be the first to be developed, which is not necessarily true.

Once the total number is determined, the county is comfortable apply a +/- 5% to result in a range.

Proposal for Additional Well Projection from KPUD

The language below is provided by KPUD.

Kitsap PUD proposes an additional projection of future permit exempt wells (PEWs) for Kitsap County that is based on historical trends for wells drilled. The proposal is based on an average of 146 new wells/year drilled in Kitsap County over the last 16 years (County records for 2003-2018). From 2003 to 2008, the average was 242 wells/year and from 2009-2018, the average was 89 wells/year (see data table and stats below). PEWs at a rate of 146 wells/year equates to 2,920 PEWs over 20 years. Note that the data is for all water-supply wells drilled, not just PEWs. Therefore, we believe that the historical rate of 146 PEWs/year represents a "conservative" rate. For example, according to KPUD records, there have been 22 wells drilled for our water systems alone in the last 20 years. That is about 1 percent of the total wells drilled in the county.

Year	PEWs from County Records	Year	PEWs from County Records
2018	117	2010	73
2017	119	2009	74
2016	110	2008	120
2015	124	2007	191
2014	84	2006	254
2013	70	2005	279
2012	56	2004	316
2011	61	2003	292

Stats:

Average for 2003-2018 = 146 wells/year

Minimum for 2003-2018 = 56 wells in 2012

Maximum for 2003-2018 = 316 wells in 2004

Average for 2003-2008 = 242 wells/year

Average for 2009-2018 = 89 wells/year

Projected new wells through the year 2038 based on historic average of 146 wells/year = 2920 new wells

Question for the Committee

- **Does the committee have questions or need additional information on Kitsap County or KPUD proposals?**
- **Does the committee want to use the Kitsap County projection of 2077 as the new medium growth projection (not including Bainbridge)?**
    - **If the 2,077 projection is used, which of the City of Bainbridge Island projections should be used (803, 491 or zero)?**
    - **Does the committee want to apply a +/- 5% to the total number to result in a high and low range for Kitsap County?**
- **Does the committee want to use the KPUD proposal of 2920 new wells as an additional projection for Kitsap County?**

Next Steps

Ecology will post detailed notes from the workgroup meetings on the committee webpage (https://www.ezview.wa.gov/site/alias__1962/37327/watershed_restoration_and_enhancement_-_wria_15.aspx). The workgroup will meet January 14, 2020 to continue conversations on consumptive use. The committee will further discuss the projections, as needed, at the February committee meeting.

Discussion Guide: Recommendations from WRIA 15 Technical Workgroup on Consumptive Use

Version 25 November 2019

Purpose of Discussion

The technical workgroup has developed a recommendation for addressing consumptive use from outdoor irrigation and would like the committee's input and feedback.

Background

Calculating the consumptive use from new permit exempt wells is a critical component of our work as it will determine how much water, at a minimum, we need to offset with projects and actions. The workgroup and committee have discussed looking at three different methods to compare the results as described below. Note that Ecology's NEB Guidance recommends looking at both the metered data and the outdoor irrigation approach, as well as any available local studies:

1. Metered Data: Use data from Group A and Group B systems to identify consumptive use for indoor and outdoor use. (Currently just using data from KPUD so current data is based on Kitsap PUD service areas.)
2. USGS Model: Use assumptions and data from the USGS Kitsap Groundwater model to estimate indoor and outdoor consumptive use.
3. Outdoor Irrigation Analysis: Use assumptions, as presented in the NEB guidance, for indoor consumptive use and complete a GIS analysis of outdoor watering.

The committee will ultimately need to select a number that we want to use for our offset number, but we will continue to explore the various methods and compare their results.

The different methods for calculating consumptive use are presented in a consumptive use calculator, which also accounts for WRIA 15 "regions" and low, medium and high ranges for growth projections. While we recognize that the consumptive use estimates cannot be determined until growth projections are finalized, the workgroup has been discussing three key items associated with consumptive use:

1. How much outdoor watering occurs in WRIA 15? The workgroup is reviewing the results of HDR's GIS exercise to measure a sample of parcels for outdoor irrigation.
2. Are there assumptions around consumptive rates and irrigation requirements that we can adjust based on local data or justification?
3. Are there safety factors we may want to consider applying overall to the consumptive use estimate to account for climate change, uncertainty or other factors?

The workgroup is continuing to discuss questions 2 and 3 above and will focus on these items at their January 14, 2020 meeting. Updates and any recommendations on consumptive use assumptions will be shared at the February 2020 committee meeting.

The workgroup further discussed the results of the outdoor irrigation analysis completed by HDR, continuing conversations that began at the October 30 workgroup meeting. HDR looked at 80 parcels across WRIA 15 and measured areas that were clearly watered (see detailed methodology memo). HDR identified an **average acreage for outdoor irrigation in WRIA 15 as 0.08 acres**. Note that the analysis found many parcels that did not appear to use outdoor irrigation, which brought the average down.

A few notes on the current status of the outdoor irrigation analysis process:

- At the workgroup meeting, Ecology shared that HDR and GeoEngineers (the technical consultant for WRIAs 7, 8, and 9) are doing QA/QC on their parcel analysis as there were some discrepancies identified during the blind parcel swap.
- WDFW has raised concern regarding the small parcel set; 1000 additional parcels were identified for workgroup members with expertise to analyze to compare to the HDR results.
- HDR presented a statistical analysis of the results from the 80 parcels, which was shared and discussed at the October 30 workgroup meeting.
- John O'Leary from the Suquamish Tribe and Joel Purdy from KPUD did an independent analysis of the same 80 parcels analyzed by HDR.

Work Group Recommendation

Following discussion of the pending QA/QC between the consultant firms, the analysis of additional parcels, and the statistical analysis of the current 80 parcels, the workgroup recommends the following:

- **Use a 0.1 acre average for the outdoor irrigation for WRIA 15. Under the outdoor irrigation method for consumptive use, this assumes that all future permit exempt wells will irrigate/water outdoors for up to 0.1 acre.** This number is based on a 0.08 average of the 80 parcel analysis by HDR, adjusted to 0.1 acre by using a minimum irrigated area of 0.03 acre for parcels on which no irrigated area was measured. The 0.03 acre minimum was based on the 95% confidence interval for 80 parcels. (see statistical analysis from HDR).

The members of the workgroup that participated on November 18th did not feel that additional consultant analysis was needed on outdoor irrigation. They felt that 0.1 acre would cover uncertainty as well as account for those that water at a much higher rate balanced with those that water at a much lower rate.

Question for the Committee

- **Does the committee support moving forward with 0.1 acre for the outdoor irrigation analysis method, or are there proposals for refinement?**
- **Does the committee have input on considerations for consumptive use assumptions or safety factors they'd like the workgroup to explore at the January meeting?**

Next Steps

Ecology will post detailed notes from the workgroup meetings on the committee webpage (https://www.ezview.wa.gov/site/alias__1962/37327/watershed_restoration_and_enhancement_-_wria_15.aspx). The workgroup will meet again on December 11th for a special meeting on hydrology and hydrogeology in WRIA 15. The workgroup will meet January 14, 2020 to continue conversations on consumptive use.