WRIA 15 Watershed Restoration and Enhancement Committee Workgroup
April 4, 2019 Agenda and Notes

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1. Review role of workgroup, meeting objectives, relationship with technical consultants and committee (see slides)
2. Discussion and working session on subbasins (see discussion guide below)
    a. *The workgroup brainstormed the following items as potential considerations:*
        i. *Use HUCs as a basis, e.g. 12, 14. Some want consistency with other subbasin delineations, others are worried might be too complicated and want more lumping or splitting.*
        ii. *Would like to group basins by similar recharge, watershed characterization units and closed and partially closed basins*
        iii. *Consider fish distribution, shared aquifers*
        iv. *Want to see a GIS package of the Assessment Units (from Watershed characterization). Includes surface storage, some unknowns but has some possible utility.*
        v. *Don't go smaller than the HUC level as may have different runs of fish, timing, very unique streams that may need offsets*
        vi. *Need to consider where most wells will go in; consider pooling of resources and having less restrictions when it comes to projects to ensure we can have big impacts*
        vii. *Want to ensure we have subbasins that allow for projects that make a difference, public appreciation*
        viii. *Where is the water use going to occur*
        ix. *Big picture support for municipal water rights and allow for subbasins that identify projects that municipalities could consider for mitigation*
        x. *Would like to see nesting of subbasins e.g. have a subbasin level by which we must require offset projects; a level by which they are preferred, etc.*
        xi. *Salmon recovery project will focus on important streams; need to focus on the hydrogeology.*
        xii. *We may prioritize some projects over another an may want to prioritize within the subbasin (if large and many streams)*
        xiii. *Want to ensure that subbasins and projects are meaningful and allow for offsets to be in time and in place*
        xiv. *Need to make the case each time to step up a subbasin level for projects out of place*
        xv. *Need to ensure subbasins are not too small that they don't capture growth*
        xvi. *Question on whether Kitsap has HUC 12s (counties are developing)*
        xvii. *Don't want subbasins to dictate or restrict our projects – still may need more refined projects depending on growth.*
        xviii. *Summary of considerations and needs:*
            1. *Considerations/possible approaches:*

a. *Vashon-Maury is one subbasin*
b. *Bainbridge Is is one subbasin*
c. *3 larger watershed/drainage considerations include Hood Canal, Puget Sound, South Puget Sound*
d. *Gig Harbor – group into 2 HUCs*
e. *Key Peninsula – group into 2 HUCs*
f. *Layering of subbasins – e.g. HUC 10 → 12 → drainage; projects out of place must justify if they are in the next layer of subbasin; doesn't necessarily reflect the priority of the project (e.g. project out of place may be higher priority)*

2. *Needs:*
    a. *Map of salmon recovery management areas*
    b. *Aquifer layers from USGS*
    c. *Recharge maps from John O*
    d. *WAC Control Points*
    e. *Critical in place mitigation for fisheries (ask from all tribes)*
    f. *County management – what level makes sense*
    g. *Assessment Units from watershed characterization*
    h. *Water purveyor service areas with wells (from KPUD)*

3. Guidance for technical consultant on growth projections and permit exempt well estimates (see discussion guide below)
    a. *Mason Co growth projections are pretty straightforward as just completed comprehensive plan. Used OFM mid-range for the update*
    b. *Need to know where wells are expected, who serve – Mason Co accounted for this in their rural projections.*
    c. *King Co presentation – good estimates, but a lot of assumptions*
    d. *Need to understand the difference between allocation (anticipates changing policies, what Puget Sound Regional Council provides) and projections (assumes existing policies).*
    e. *Helpful to look at a range because it may account for adaptive management.*
    f. *Like to see projection based off trends plus allocation if we were to see policy change*
    g. *Don't want to embrace projections if they are not compliant with GMA*
    h. *GMA- some feel we need a more robust conversation about*
    i. *Counties want consistencies across the watersheds where they participate; does not mean that all counties within a watershed need to use a consistent approach.*
    j. *Trends- historic wells could help identify future wells*
    k. *By increasing our assumptions, we are increasing our margin of error*

4. Next Steps and Action Items
    a. *Post March workgroup notes on committee webpage*
    b. *Post discussion guide*
    c. *Post April workgroup notes on committee webpage*
    d. *Keep April 17th Webex as a check in*
    e. *Schedule May 2nd in person meeting for the afternoon following committee meeting*

f. *Keep calendar invites as placeholder and decide as get closer if needed*
g. *Schedule meetings in person as much as possible*
h. *Scan and send the basin closures map*
i. *Send map of coordinated water system plan (PUD)*

Sub-basin Discussion Guide

Why we need sub-basins:

RCW 90.94.030(3)(b) says plans must include actions to offset new consumptive use impacts associated with permit-exempt domestic water use. RCW 90.94.030(3)(b) states "The highest priority recommendations must include replacing the quantity of consumptive water use during the same time as the impact and in the same basin or tributary."

Our task:

Planning groups must delineate suitably sized sub-basins within WRIAs. Sub-basins might not necessarily correspond with hydrologic basin delineations (i.e. watershed divides).
The role of the sub-basin workgroup is to consider options for WRIA 15 sub-basins, bring those options to the committee for discussion/decision, and refine selected sub-basin as needed. The full committee is expected to make a decision at our June meeting.

Basic considerations:

- Areas of anticipated rural growth.
- Areas where little rural growth is expected.
- Surface hydrology and/or hydrogeology.
- Rainfall patterns.
- Isolated areas for offsets (e.g. islands).

Other considerations:

- Too few sub-basins reduces understanding of relationships between where pumping effects will be and where benefits of offset projects will occur.
- Too many sub-basins can make it unwieldly to evaluate all of the offset projects needed to achieve a net ecological benefit for the WRIA.
- Existing or concurrent planning efforts may have already delineated sub-basins.
- Hydrogeological sub-basins (based on groundwater instead of surface water flows) can be more complex to delineate, since water in different aquifer levels can travel in different directions, and we don't have all the information on the hydrogeology.
- Priority areas for salmon recovery.

Questions for discussion:

- Are there planning efforts that you are familiar with that might have sub-basin delineations already in place that would be adequate for our needs?
- What are the key considerations or factors you recommend as a starting point for developing subbasins?
- What recommendations or guidance do you have to the consultants for drafting subbasins?

Growth Projections Discussion Guide

Why we need growth projections:

RCW 90.94.030(3)(b) says plans must include actions to offset new consumptive use impacts associated with permit-exempt domestic water use.

(c) Prior to adoption of the watershed restoration and enhancement plan, the department must determine that actions identified in the plan, **after accounting for new projected uses of water over the subsequent twenty years,** will result in a net ecological benefit to instream resources within the water resource inventory area.

(d) The watershed restoration and enhancement plan must include an evaluation or estimation of the cost of offsetting **new domestic water uses over the subsequent twenty years, including withdrawals exempt from permitting under RCW 90.44.050.**

(e) The watershed restoration and enhancement plan must **include estimates of the cumulative consumptive water use impacts over the subsequent twenty years, including withdrawals exempt from permitting under RCW 90.44.050.**

Our task:

Planning groups shall estimate growth projections for the WRIA for January 2018 through January 2038 (at a minimum). Based on the projected growth, planning groups shall estimate the amount of rural growth and associated new permit exempt wells.

Basic considerations – per publication 18-11-007 Recommendations for Water Use Estimates:

(see full document in committee binders)
https://fortress.wa.gov/ecy/publications/documents/1811007.pdf
Plans and plan updates must describe the consumptive use of permit-exempt domestic wells over the next 20 years. There are numerous ways to make such predictions for WRIAs or subbasins. The first two methods described below rely on building permit data and population data, and both of these tend to provide fairly robust results. Ideally, both of these methods will be applied or some hybrid of the two, and the results compared. The third method mentioned is an analysis of Ecology's well log data, however, results relying on those data tend to be less reliable. One method for predicting future permit-exempt domestic wells involves conducting a Geographic Information System (GIS) analysis of county building permits, zoning, and parcel information. Once these data have been segregated into WRIAs or subbasins, single-family building permit data can be evaluated to determine the number of building permits issued over some previous time period (e.g. the past 10 years). Those results can then be used to project permit-exempt domestic wells over the subsequent 20- year period, based on assumptions regarding how many of those building permits translate into permit- exempt domestic wells, zoning restrictions, information on undeveloped parcels, etc. Another method of predicting future permit-exempt domestic wells relies on population data. The Washington State Office of Financial Management (OFM) website provides estimates of past and current populations by WRIA, and projected future household populations on a county basis. One way to predict future populations is to look at populations for two different years (e.g. 2007 and 2017), then use that rate of increase to

predict future populations. Upon request, OFM can also prepare 2000-2017 small area estimates. Therefore planning groups can provide OFM GIS shapefiles for their subbasins, then a similar method can be used to predict future populations for individual subbasins. An alternate method of using the OFM data is to use current populations for a given subbasin or WRIA as a base, then increase that number based on county population projections. This latter method requires subjectivity, however, since all of the WRIAs span two or more counties, and this method requires looking at projections for multiple counties, then inferring a reasonable assumptions for each subbasin or WRIA.

• OFM population by WRIA 2000 through 2017 is available at: https://www.ofm.wa.gov/washington-data-research/population-demographics/populationestimates/small-area-estimates-program

• OFM projected growth rate by county 2010–2050 by one-year intervals is available at: https://ofm.wa.gov/sites/default/files/public/dataresearch/pop/GMA/projections17/gma_2017_1yr_2050.xlsx

Once future WRIA populations have been estimated, those populations that will be served by community water systems and municipalities must be removed. This can be done relying on available information on the distribution/growth rate patterns of populations served by water systems. Finally, future populations that will be served by permit-exempt domestic wells can be divided by the average number of people per household currently (U.S. Census Bureau Quick Facts) to estimate the number of future permit-exempt domestic wells. A third potential method relies on spatial data for well reports (logs) available from Ecology (https://ecology.wa.gov/Research-Data/Data-resources/Geographic-Information-Systems-GIS/GISdata). Wells in this data set with a "W" in the Well type field correspond with water supply wells. Those data can be analyzed using GIS to determine the number of recorded water supply wells for two past years (e.g. 2007 and 2017), then those data can be used to predict the rate of well increase into the future. However, the reliability of estimates for future wells using this method will likely be less reliable.

Questions for discussion:

- What approach do we recommend to our consultants for developing population estimates?
- Do we want to consider a range for projected growth?
- Is there key data not identified above that we want to ensure is considered?
- How do we want to display/present the information in the most meaningful way to the committee?
- How do we want to coordinate the subbasin delineation with the growth projections?