Discussion Guide

**Growth Projections**

**WRIA 10 Watershed Restoration and Enhancement**

**Committee Meeting**

May 1, 2019

# Purpose of Discussion

The purpose of the initial discussion is to educate the Committee on how growth projections will be used in this planning process, review possible methodologies, and discuss what direction the committee would like to give to the technical staff and consultants on how to proceed.

# Background and Context

## Why we need growth projections:

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

*(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*](http://app.leg.wa.gov/RCW/default.aspx?cite=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*](http://app.leg.wa.gov/RCW/default.aspx?cite=90.44.050)*.*

The WRIA 10 plan must estimate growth projections for the watershed for January 2018 through January 2038 (at a minimum). Based on the projected growth, the plan will estimate the amount of rural growth and associated new permit exempt wells.

# Options for Committee Consideration

1. Conduct a Geographic Information System (GIS) analysis of county building permits, zoning, and parcel information.
   1. Segregate data into WRIAs or sub-basins.
   2. Estimate number of single-family building permits issued over some previous time period (e.g. past 10 years)
   3. Use results to predict permit-exempt domestic wells over subsequent 20- year period.
      1. Assumptions: rate of increase for new building permits, number/% of permits that rely on wells, zoning restrictions, undeveloped parcels, etc.
2. Population forecasts (upon request, OFM can prepare 2000-2017 small area estimates for basin or sub-basin).
   1. Use population estimates for two different years (e.g. 2008 and 2018), then use that rate of increase to predict future populations.
      1. Assumptions: current population estimates, rate of increase, % of population using municipal/ community water system, average number of people per household, etc.
   2. Use current population estimates for a given sub-basin or WRIA as a base, then increase that number based on county population projections.
      1. Assumptions: current population estimates, rate of increase, population per basin/sub-basins that span county boundaries, population using municipal/community water system, average number of people per household, etc.
      2. This method requires looking at projections for multiple counties, then inferring a reasonable assumptions for each sub-basin or WRIA.
   3. Use growth projections from County Comprehensive Plans.
      1. Assumptions: rate of increase, population per basin/sub-basins that span jurisdiction boundaries, population using municipal/community water system, average number of people per household, targeted growth, etc.
3. Use TPCHD well data of wells drilled in the past 15-20 years to predict the rate of well increase in the next 20 years of wells.
   1. Segregate data into sub-basins, and inside water system areas and outside of water system areas.
   2. Use past rate to estimate future rate of wells in each sub-basin.
   3. This data set is only available in the Pierce County portion of the watershed.
      1. Assumptions: steady rate of increase, water system coverage areas.
4. Developable lands (similar to the King County study).
   1. Use GIS data to identify buildable/developable land.
   2. Overlay zoning information to capture residential density potential.
   3. Remove areas with municipal/community water systems.
   4. Determine likelihood of development in the next 20 years based on growth rates (see options 1 and 2).
      1. Assumptions: 20-year rate of development, parcels to exclude, connections in water service areas, additional assumptions related to population forecasts or building permit methods, etc.

# Questions for Committee Discussion

* What questions do you have about the methods discussed above?
* What do you think are the pros and cons of each method?
* What approach do we recommend to our consultants for developing population estimates?
  + Do we want to consider multiple approaches?
* Do we want to consider a range for projected growth?
* Is there key data not identified above that we want to ensure is considered?
* Are there other assumptions associated with these methods that we should consider?
* How do we want to account for the recession and immediate impact of Hirst decision in the last 10 years of data?