INTRO TO SUBBASINS- WRIA 7

Streamflow Restoration

Water Resources Program
Washington State Department of Ecology

Why do we need subbasins for this process?

- In RCW 90.94.030: 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.
- Population projection scenarios
- Project identification and development

Timeline for Decision

May, 2019

Actions

DECISION on growth projection scenarios
DECISION on initial subbasin delineation

Presentations

Water for water OR nonwater projects

- **February-April 2019**: Discussion with committee to identify options and seek input
- **February-May 2019**: Workgroup discusses subbasins and proposes options and recommendations
- **May 2019**: Committee decision on initial subbasins
- **Fall 2019-Spring 2020**: Revisit initial subbasin delineation to revise as necessary to align with project proposals

Options and Recommendations

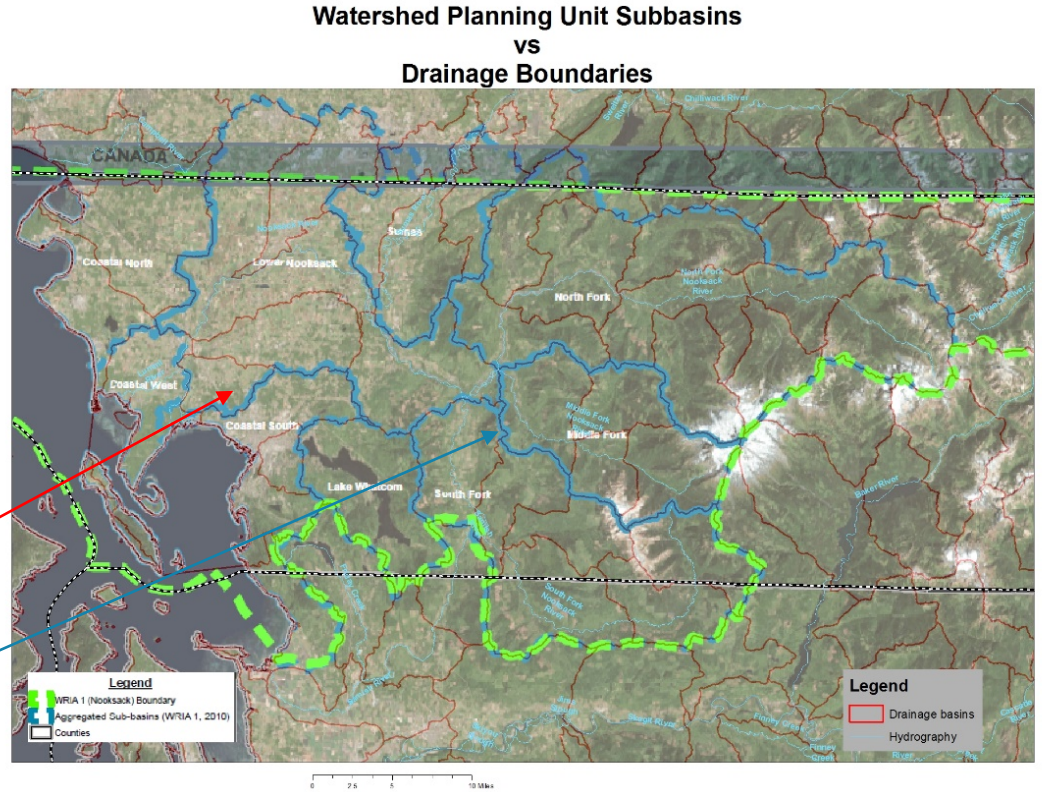
- Develop initial subbasin delineation now (as begin growth projections)
- Revisit as we develop projects to refine as necessary
- Identify a manageable number of subbasins
- Support from technical consultant, ECY technical staff, workgroup
- No right answer

Introduction to Subbasin Delineation for Watershed Restoration and Enhancement Plans

- Planning groups must delineate subbasins within WRIAs, and these must be suitably sized to allow meaningful determinations of whether offset projects are in-time and in same subbasin, without being so small that they are unwieldly.

- In some instances, subbasins may not correspond with hydrologic basin delineations (i.e. watershed divides).

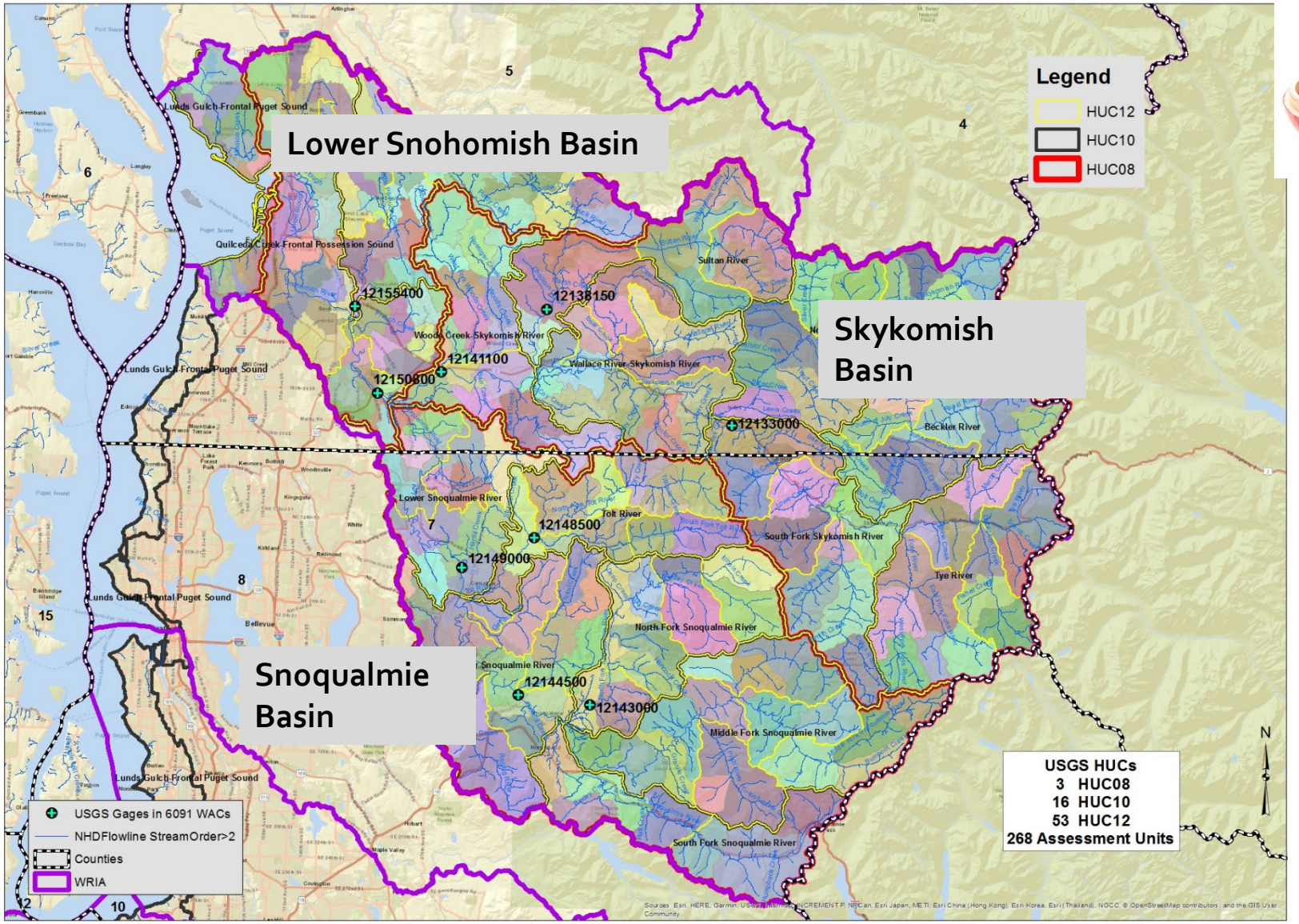
WRIA 01 has 49 USGS HUC12 subwatersheds and 9 Planning Unit subbasins



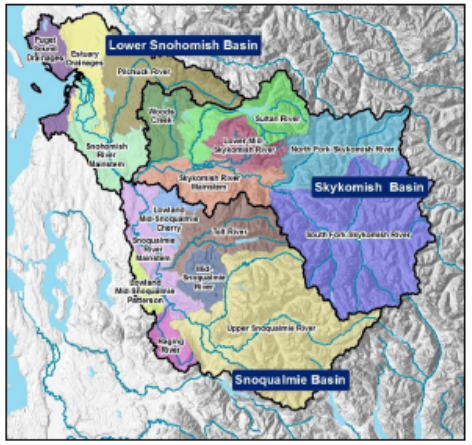
Subbasin Delineations by Hydrologic Unit Code (HUC) and Assessment Units

Too few of subbasins reduces our understanding of the relationships between where pumping effects will be and where benefits of offset projects will occur.

Too many subbasins can make it unwieldly to evaluate all of the offset projects needed to achieve a net ecological benefit for the WRIA.



Salmon Recovery Forum Subbasin Delineations



Watershed Characterization for WRIA 7

Assessment and Recommendations for Protection of Water Flow Processes

March 2015
Publication No. 15-06-009

DEPARTMENT OF ECOLOGY
State of Washington

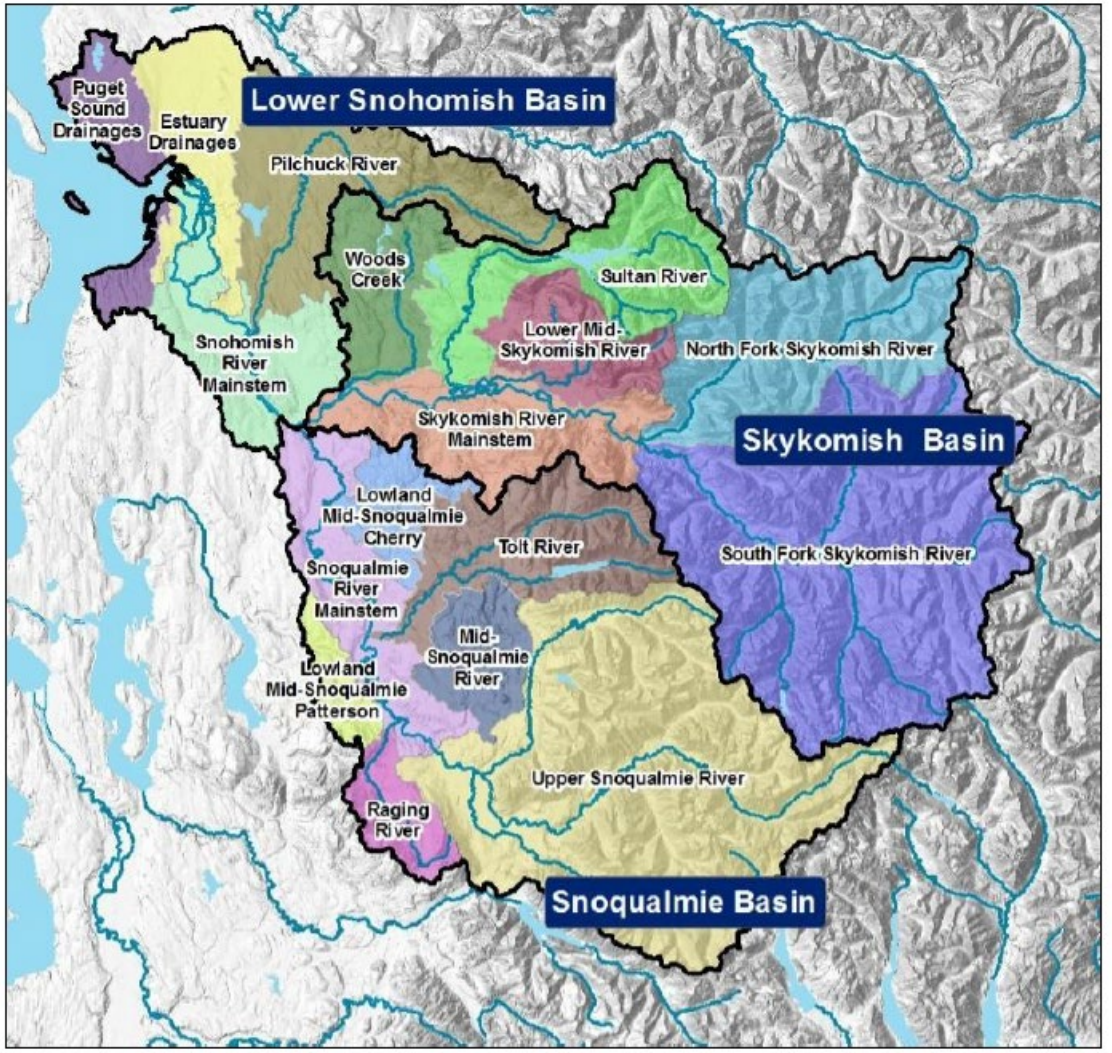


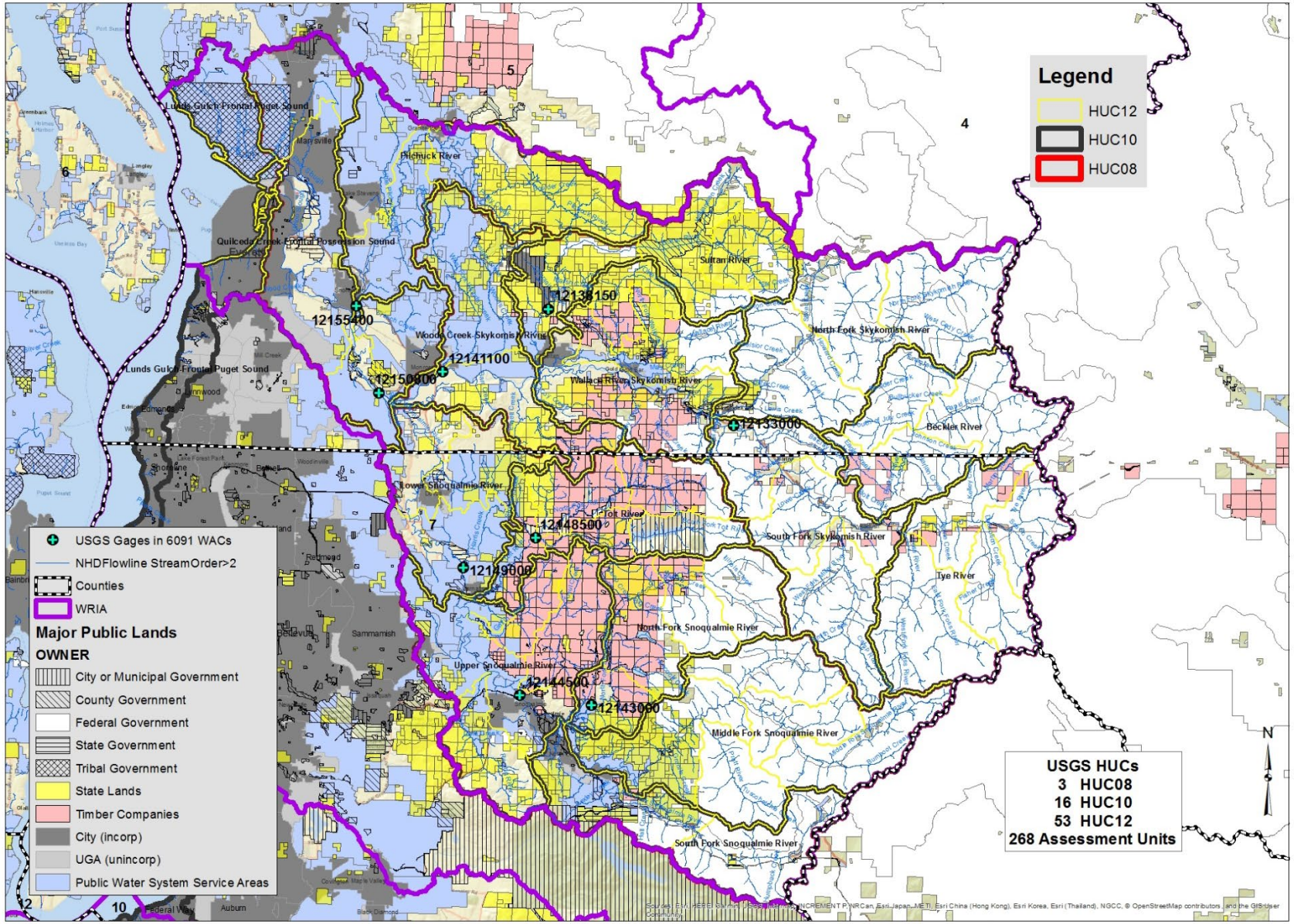
Figure 15. Water Resouces Invintory Area (WRIA) 7, the three major basins, and planning units used in the assessment.

2015 Work broke the basin into 17 subbasins

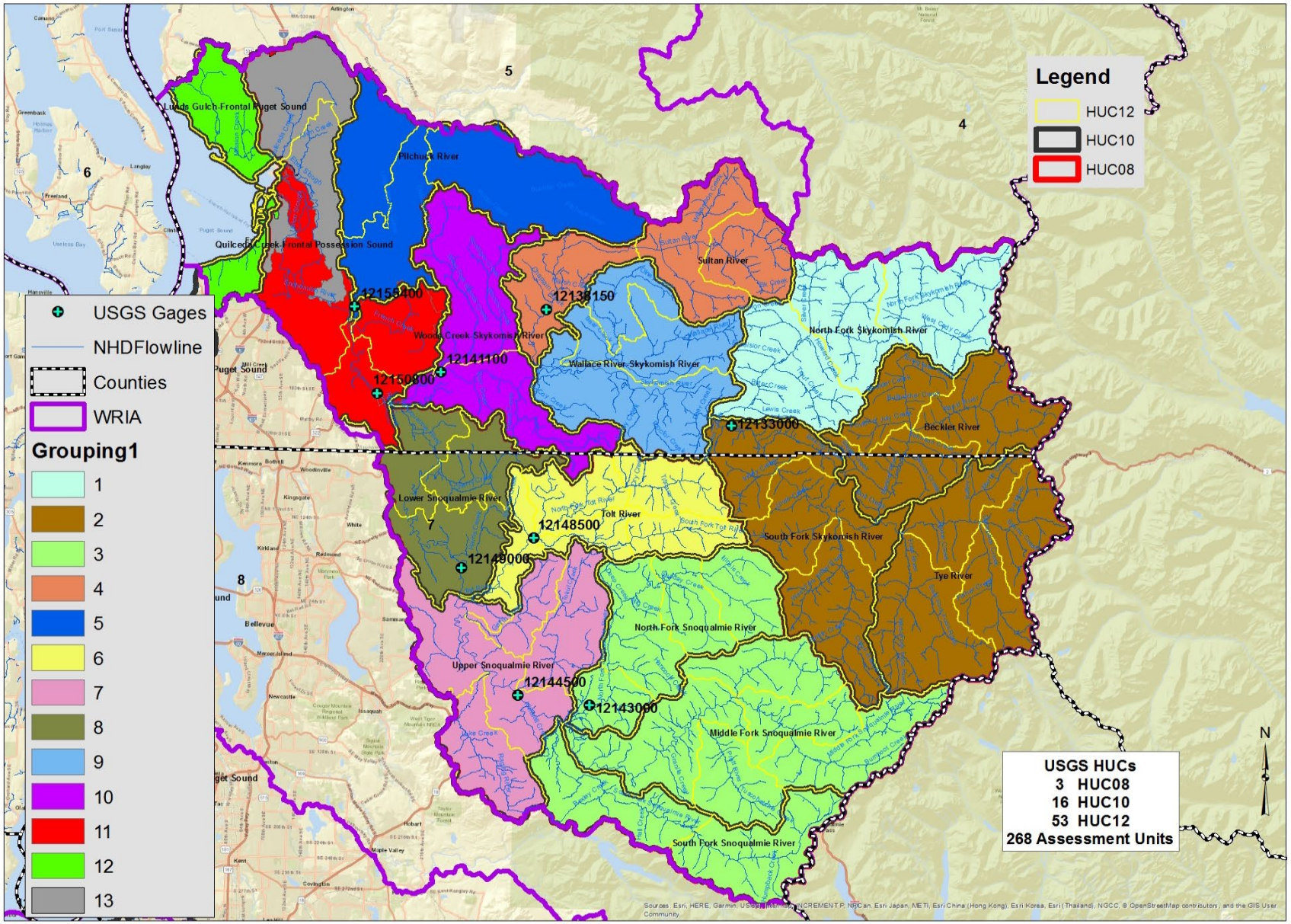
Source: https://fortress.wa.gov/ecy/publications/documents/1506009.pdf

Location of New Domestic Exempt Wells Considerations

Where can new domestic exempt wells be drilled in the WRIA?

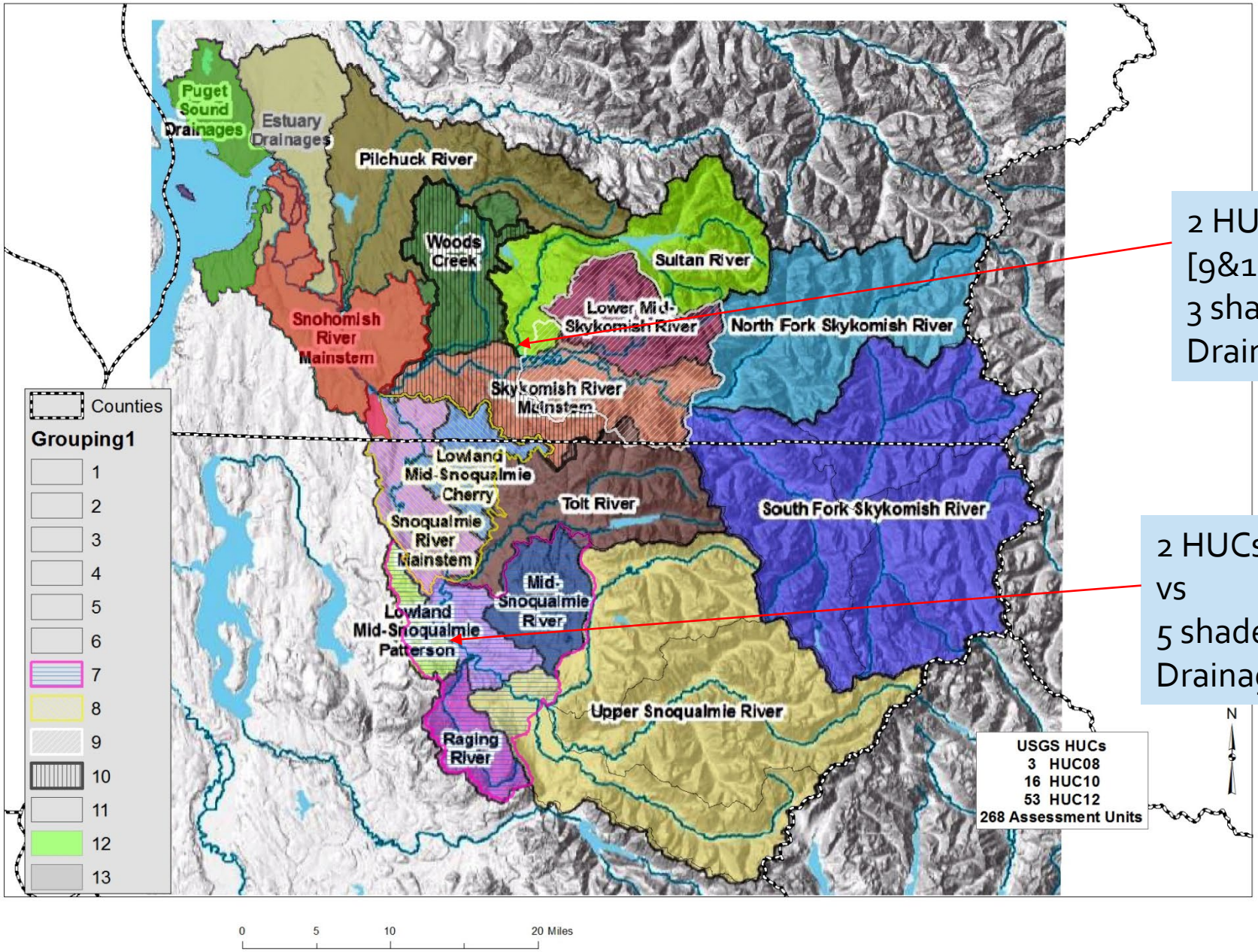


Example Subbasin Delineations by HUC Groupings



I ended up with 13 subbasins

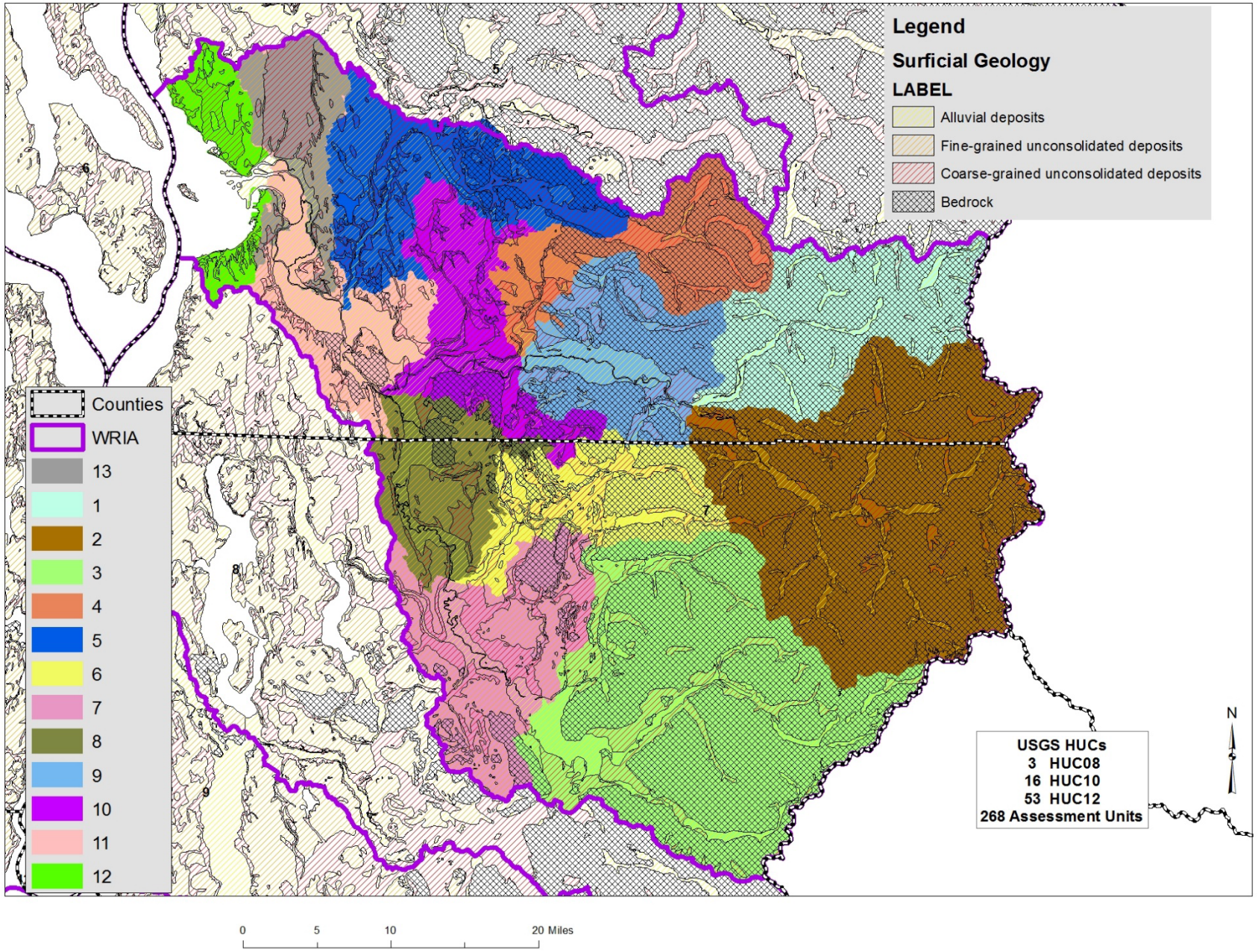
Comparison: Salmon Recovery Subbasins and Example HUC Groupings



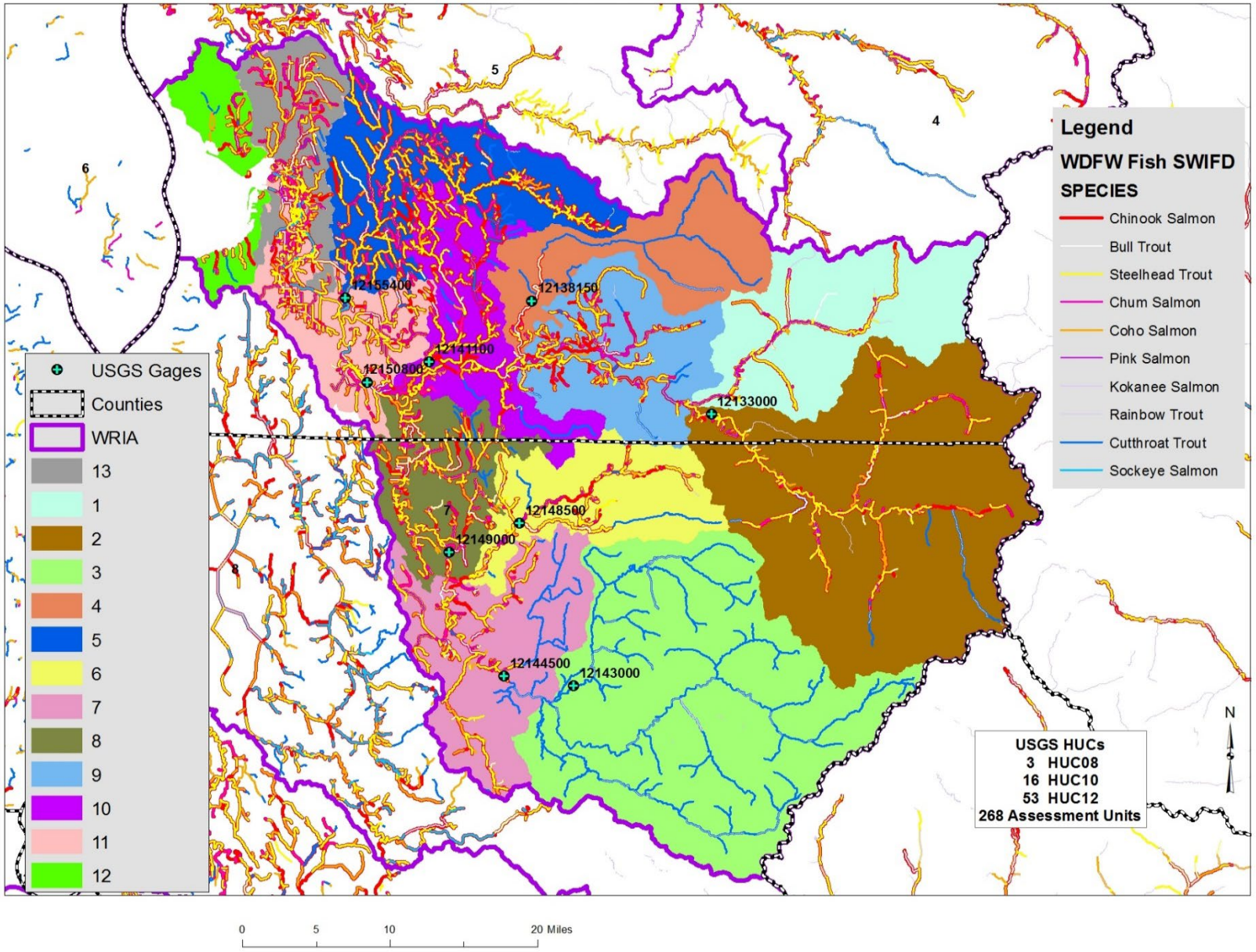
2 HUCs [9&10] vs 3 shaded Drainages

2 HUCs [7&8] vs 5 shaded Drainages

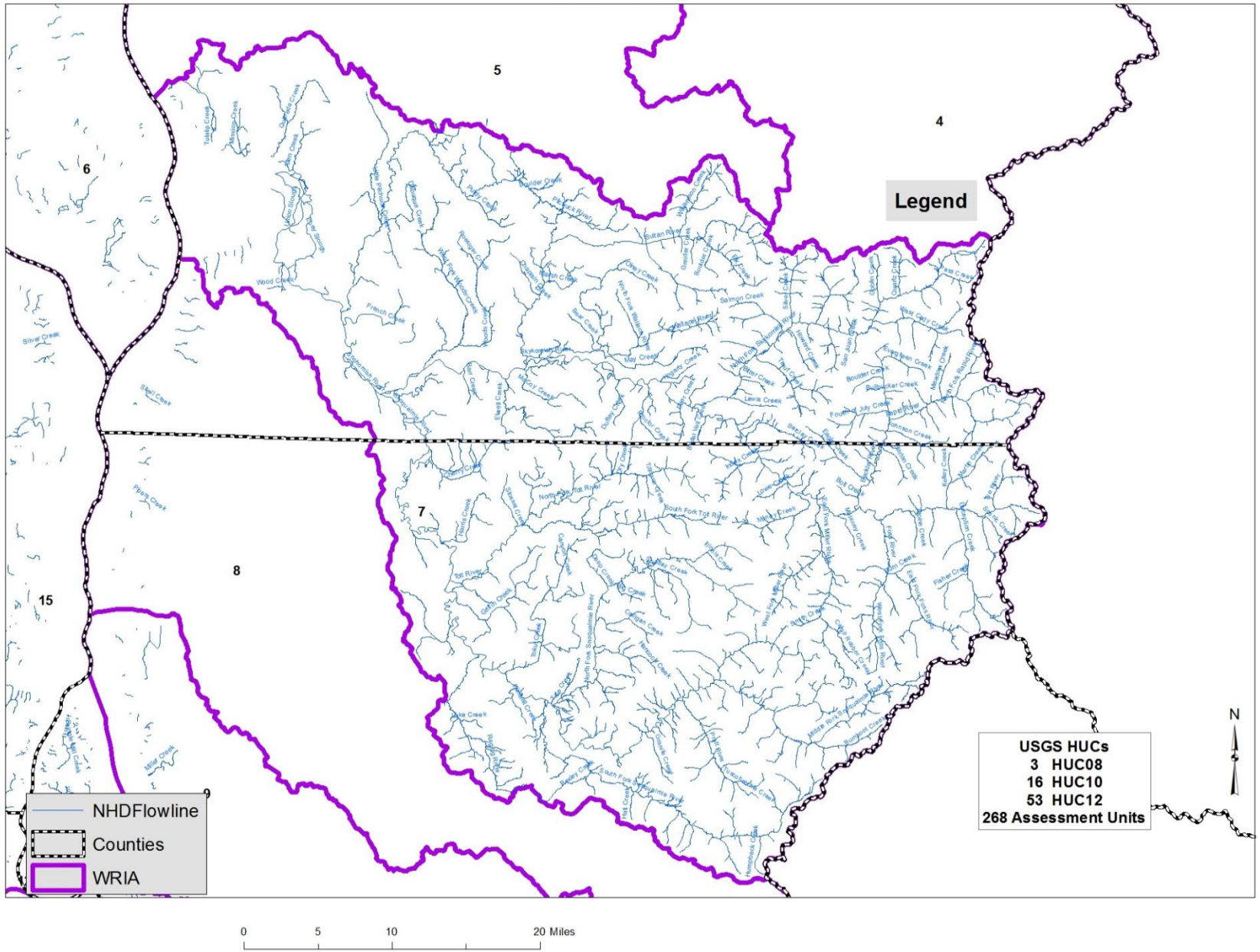
Hydrogeology Considerations



Salmon Distribution Considerations



Source: https://gispublic.dfw.wa.gov/arcgis/rest/services/MapServices/SWIFD/MapServer


Legend
NHDFlowline
Counties
WRIA
USGS HUCs
3 HUC08
16 HUC10
53 HUC12
268 Assessment Units
N
0
5
10
20 Miles

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