

Community Forum: Managing Water in Your Watershed



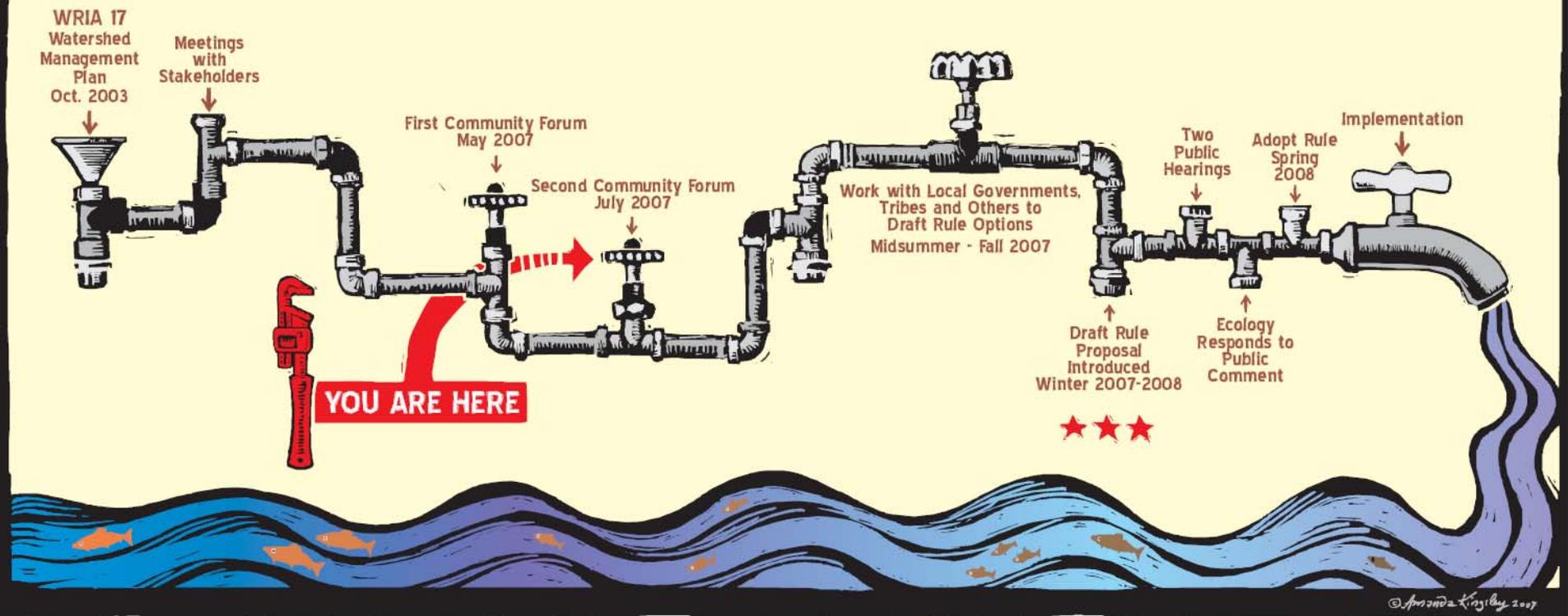
WATER for PEOPLE, FARMS & FISH

July 31, 2007

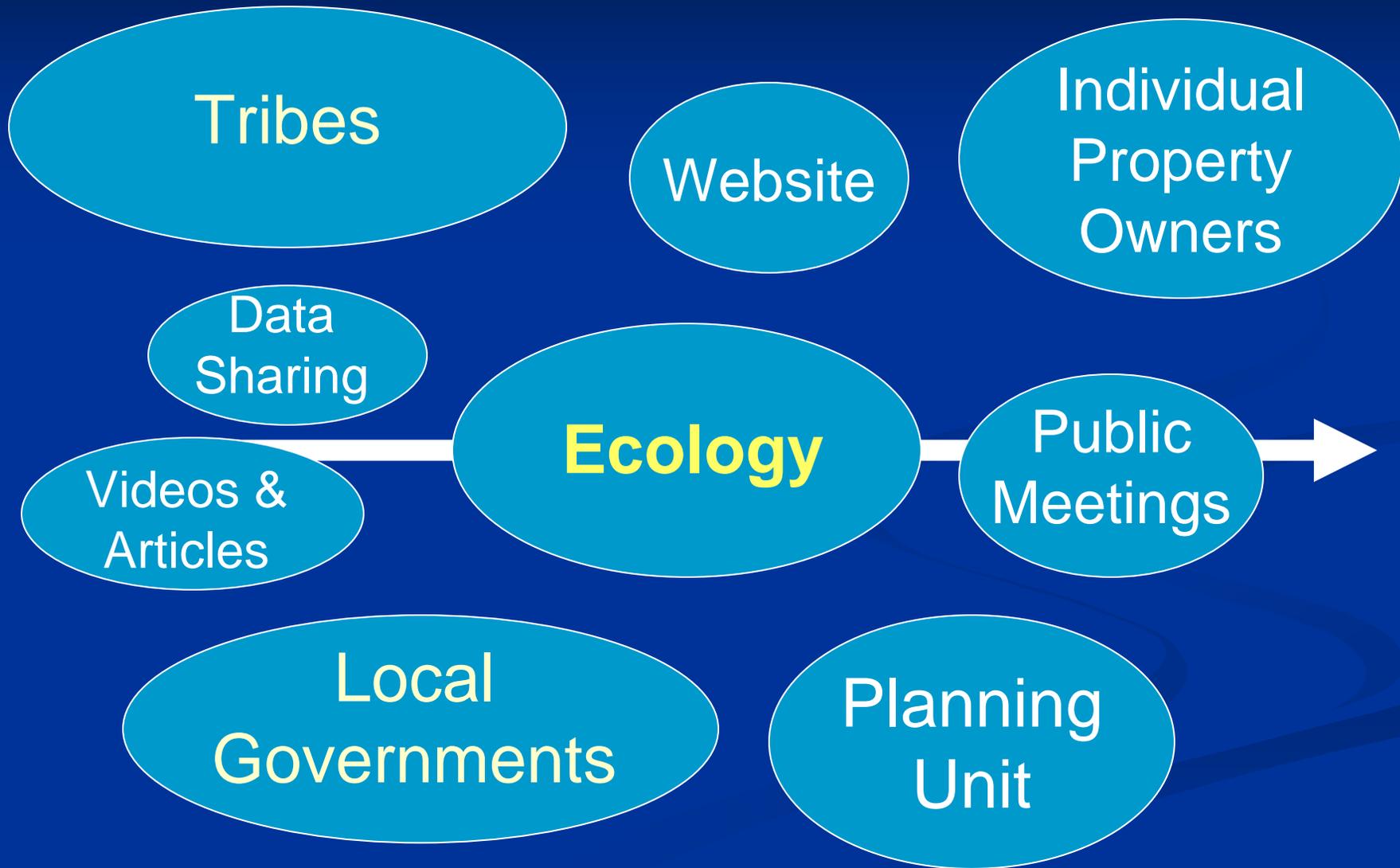
Chimacum High School
Auditorium



Public Involvement Matters: Your Opportunities for Shaping the Instream Flow Rule



Ongoing Communication



Community Forums: May 2007



What We Heard

- ★ WRIA 17 is unique
- ★ Citizens don't want a one-size-fits all approach
- ★ Citizens want decisions that protect fish and the needs of people
- ★ Questions regarding validity of existing water rights
- ★ Data used needs to be shared

Tonight's Presentation: A Response to What We've Heard

- ★ Growth data
- ★ Growth projections
- ★ Focus management areas
- ★ Streamflow data
- ★ Instream flow proposals
- ★ Water rights data
- ★ Potential management strategies

What We've Learned

- ★ Growth is concentrated
- ★ Where the growth is concentrated raises different issues
- ★ What and where those issues are leads to different potential management strategies
- ★ Management strategies must be tailored

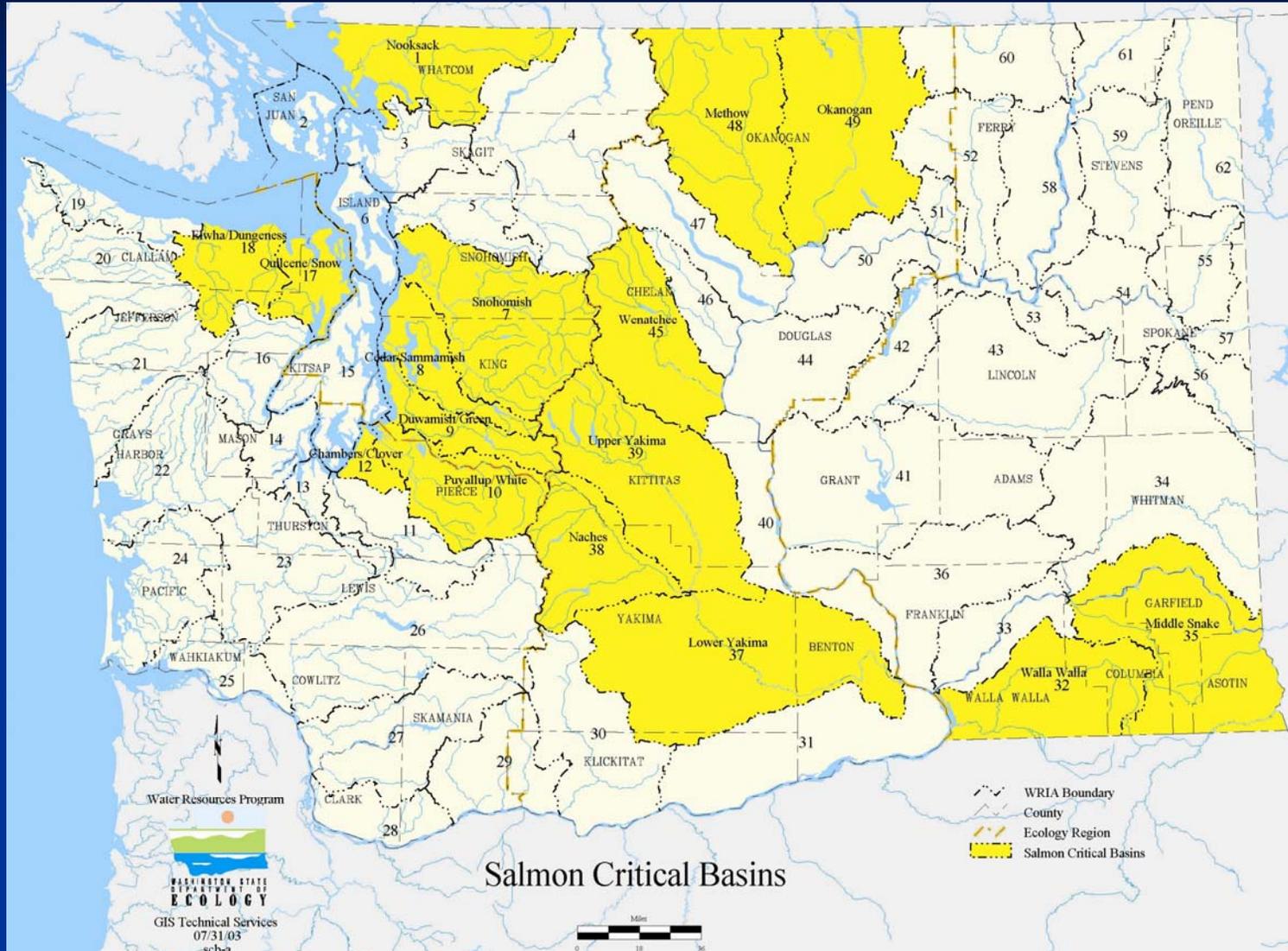
Other Questions

WRIA 17 Questions and Answers



<http://water.jefferson.wsu.edu>
Frequently Asked Questions

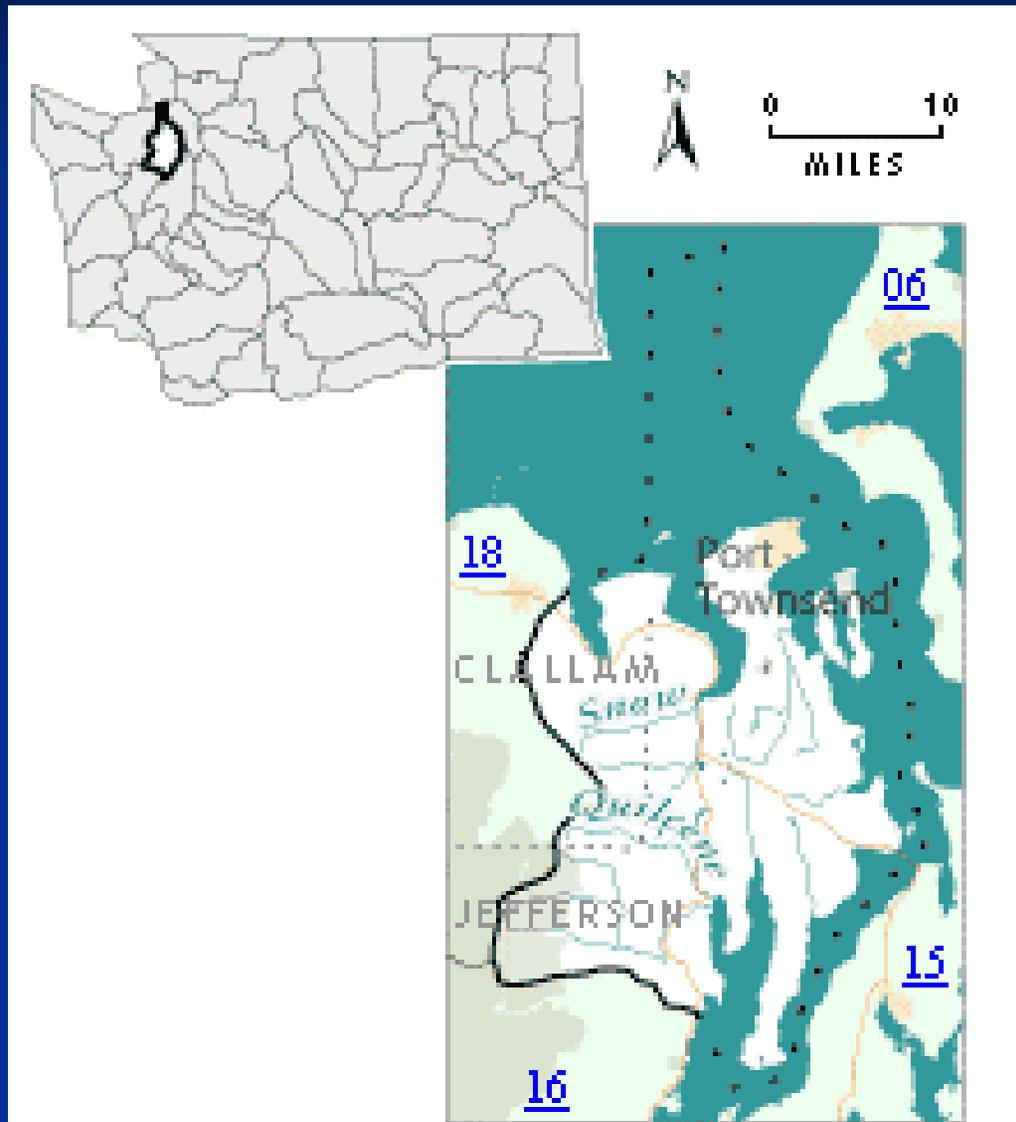
What is a WRIA?



Water Resource Inventory Area

Where is WRIA 17?

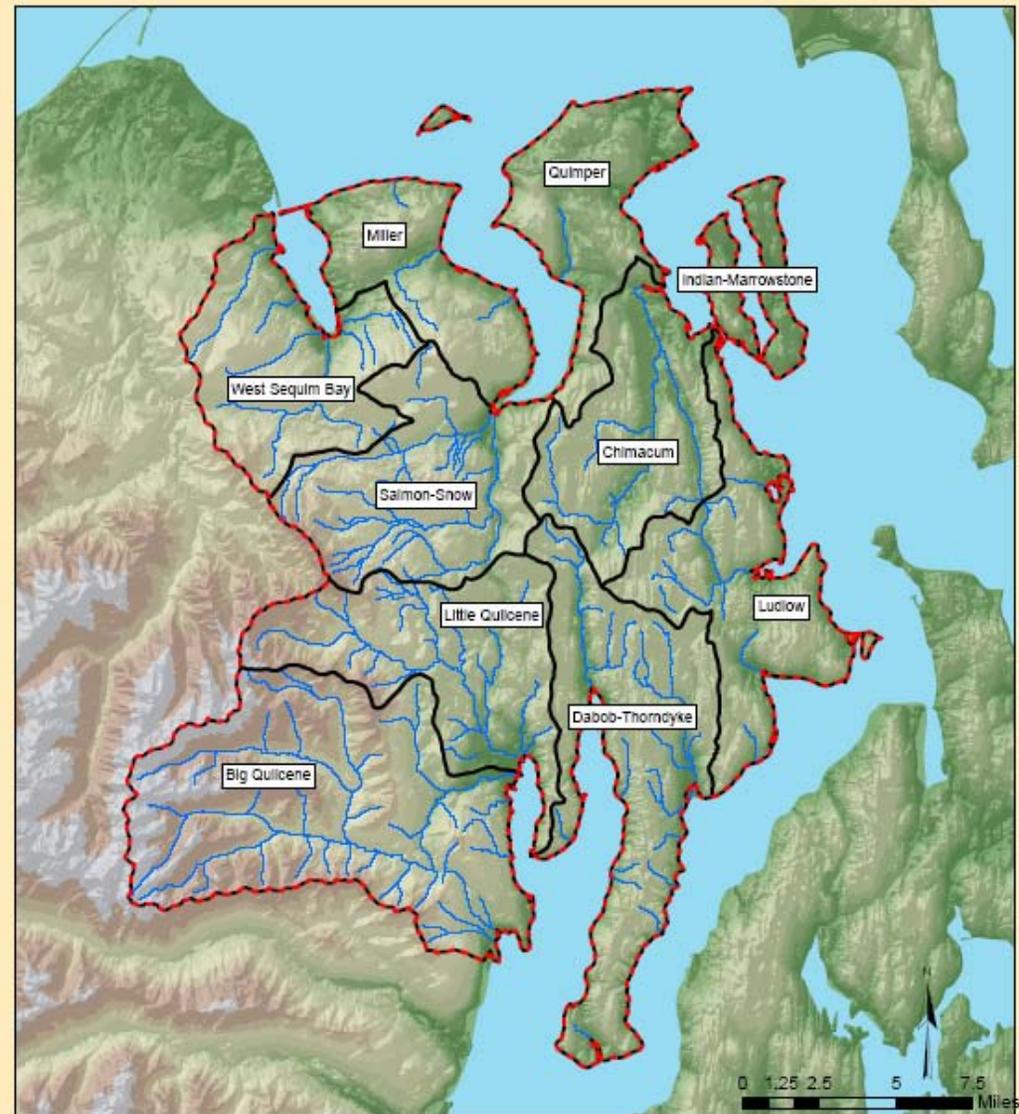
REPLACE
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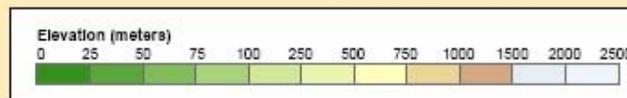
WRIA 17's

10 Sub-basins

- West Sequim Bay
- Miller
- Salmon-Snow
- Quimper
- Chimacum
- Indian-Marrowstone
- Ludlow
- Dabob-Thorndyke
- Little Quilcene
- Big Quilcene



WRIA 17 Subbasins



Map prepared by HydroLogic Services Company, December 2006

Why is a water management rule necessary?

- ★ To protect senior rights
- ★ To protect instream resources
- ★ To meet demand for new uses
- ★ To address reliability and flexibility

What are instream resources?

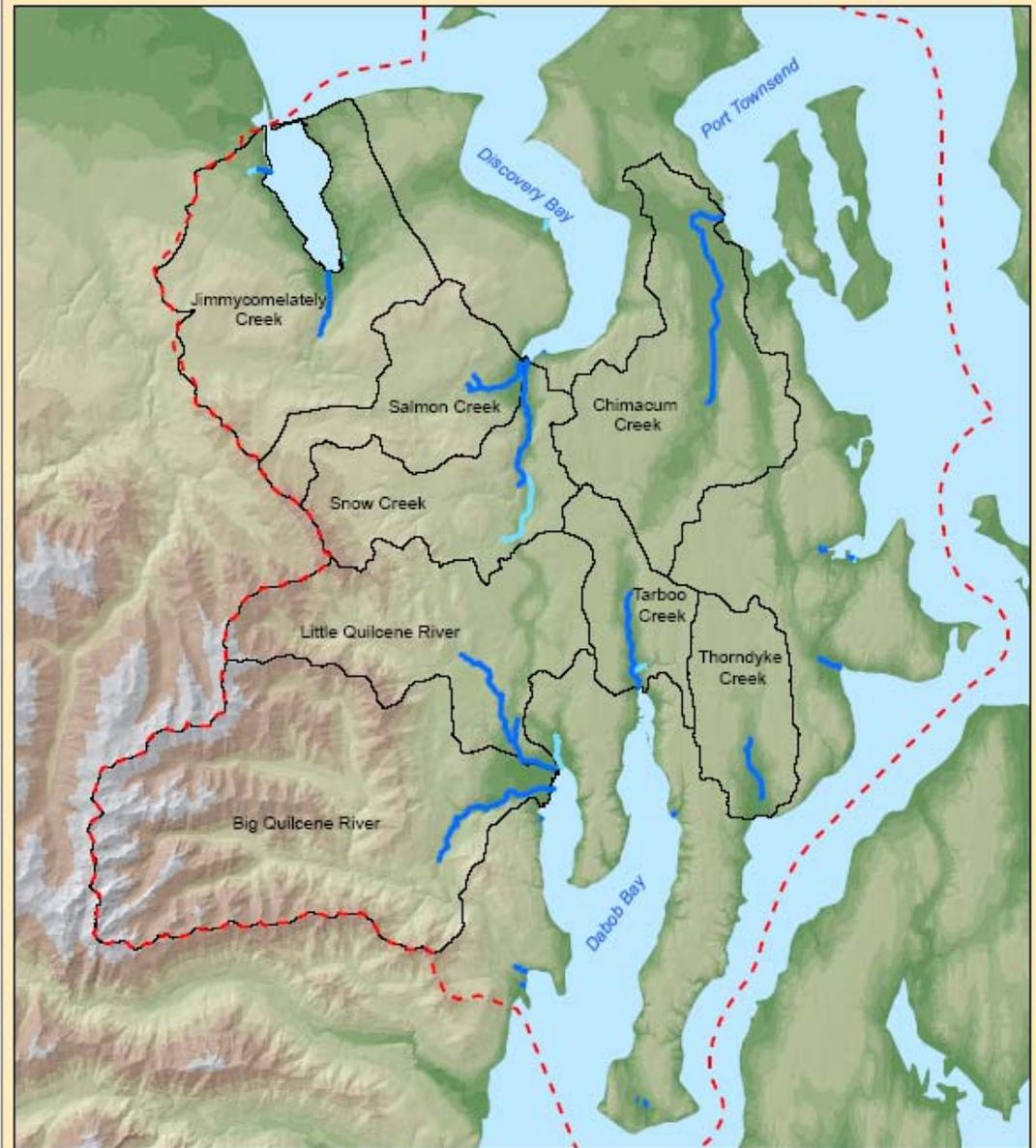


- Fish
- Wildlife
- Navigation
- Aesthetics
- Water quality
- Livestock watering

Fish populations are struggling



Threatened Chum Populations



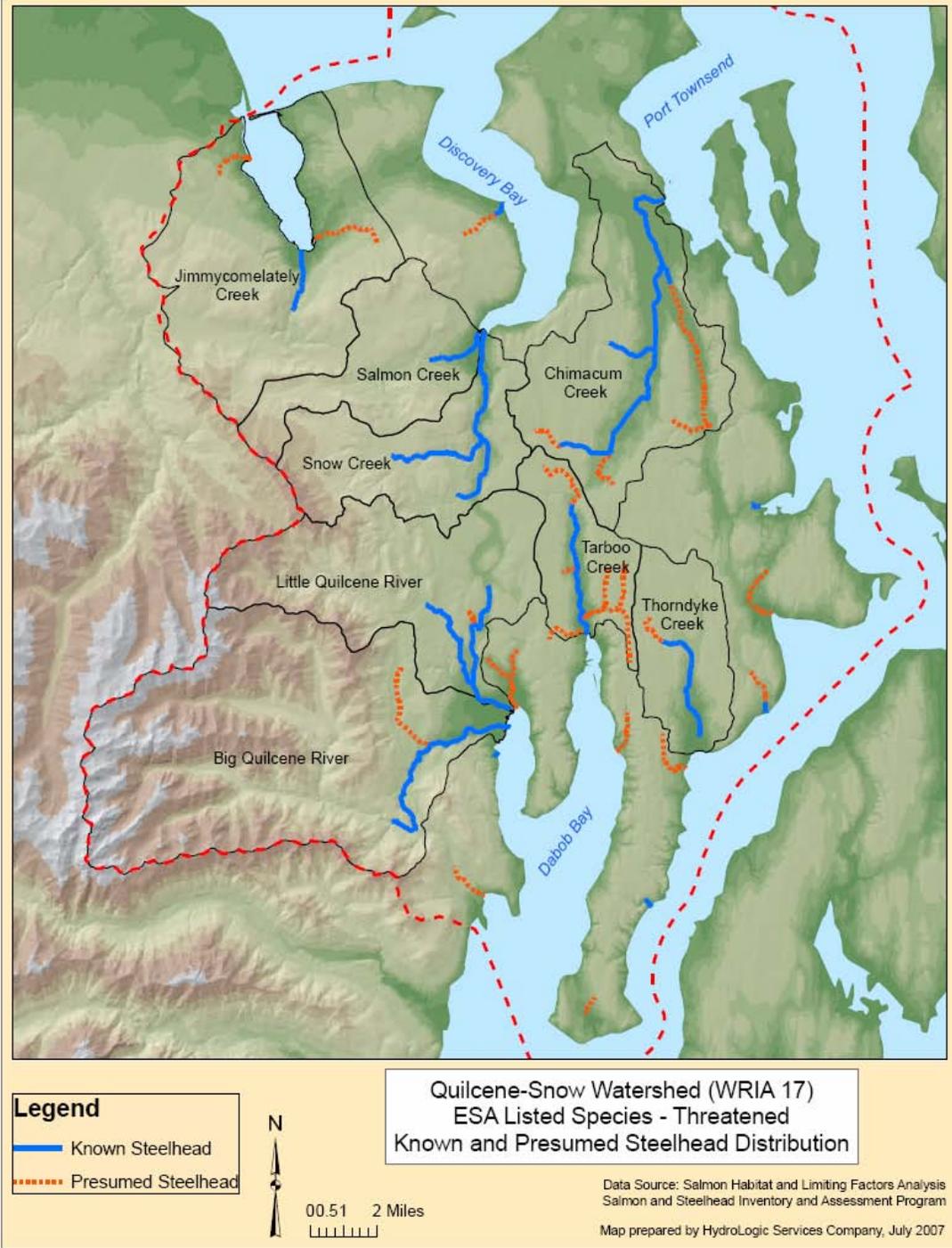
Quilcene-Snow Watershed (WRIA 17)
ESA Listed Species - Threatened
Known and Presumed Chum Salmon Distribution

Legend
— Known Chum
— Presumed Chum



Data Source: Salmon Habitat and Limiting Factors Analysis
Salmon and Steelhead Inventory and Assessment Program
Map prepared by HydroLogic Services Company, July 2007

Threatened Steelhead Populations



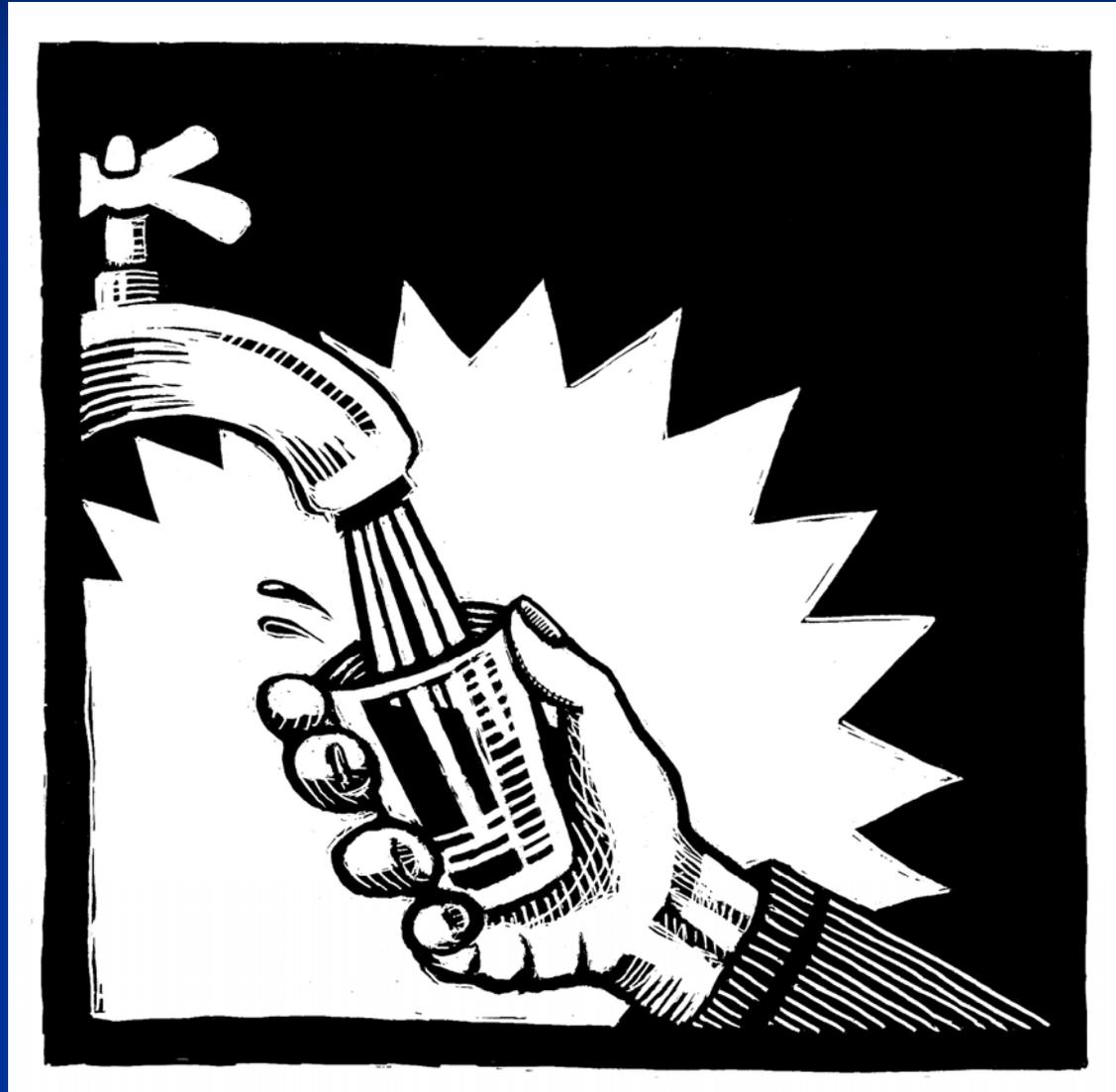
Importance of Small Streams



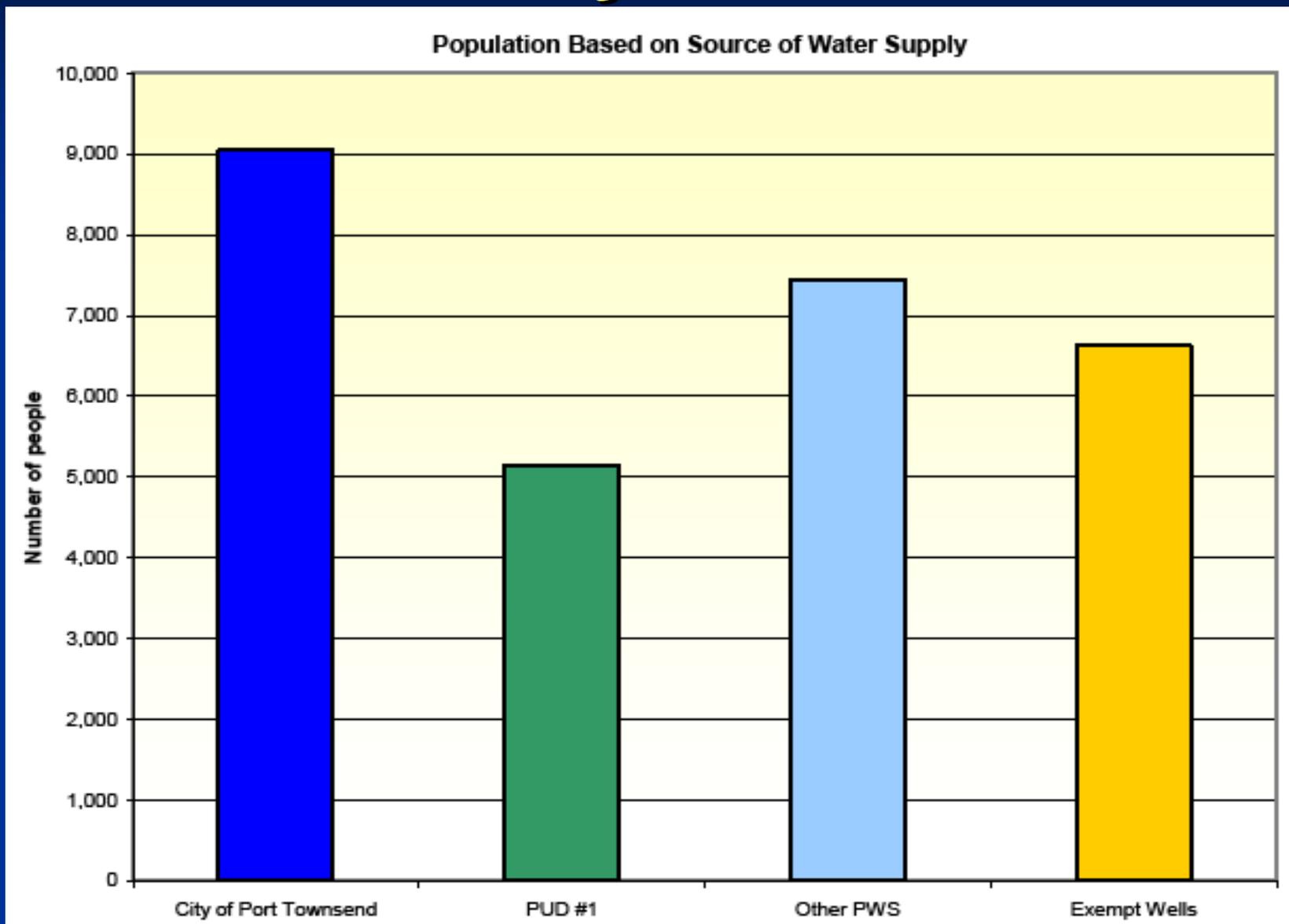
Methods of Protecting Instream Resources

- ✱ Set stream flows
- ✱ Water rights issuance
- ✱ Habitat conservation
- ✱ Habitat restoration
- ✱ Broodstock programs
- ✱ Voluntary stewardship
- ✱ Co-management with Tribes
- ✱ Local, state & federal regulation

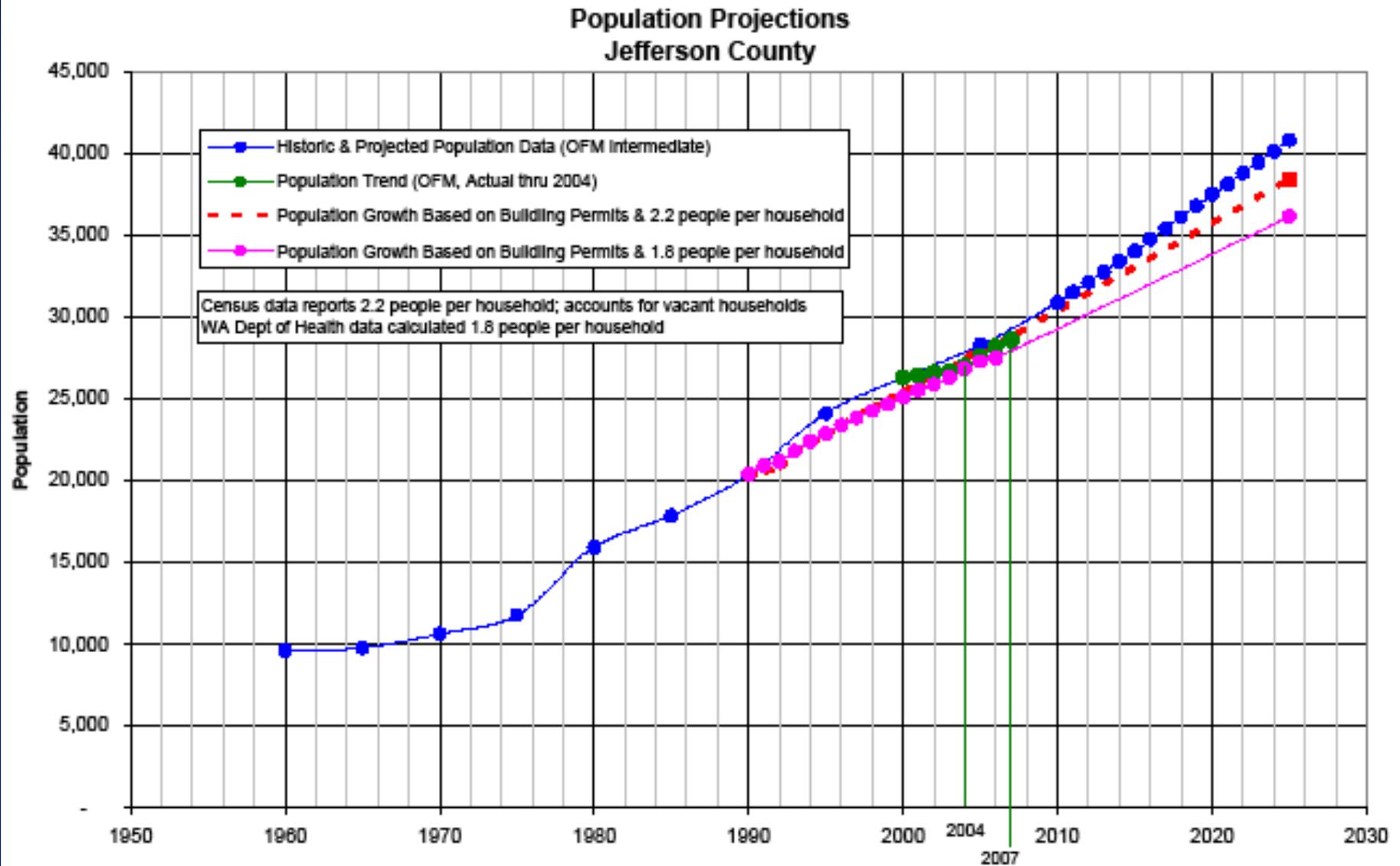
Need for Certainty of Future Water Supplies



Public Water Systems and Wells



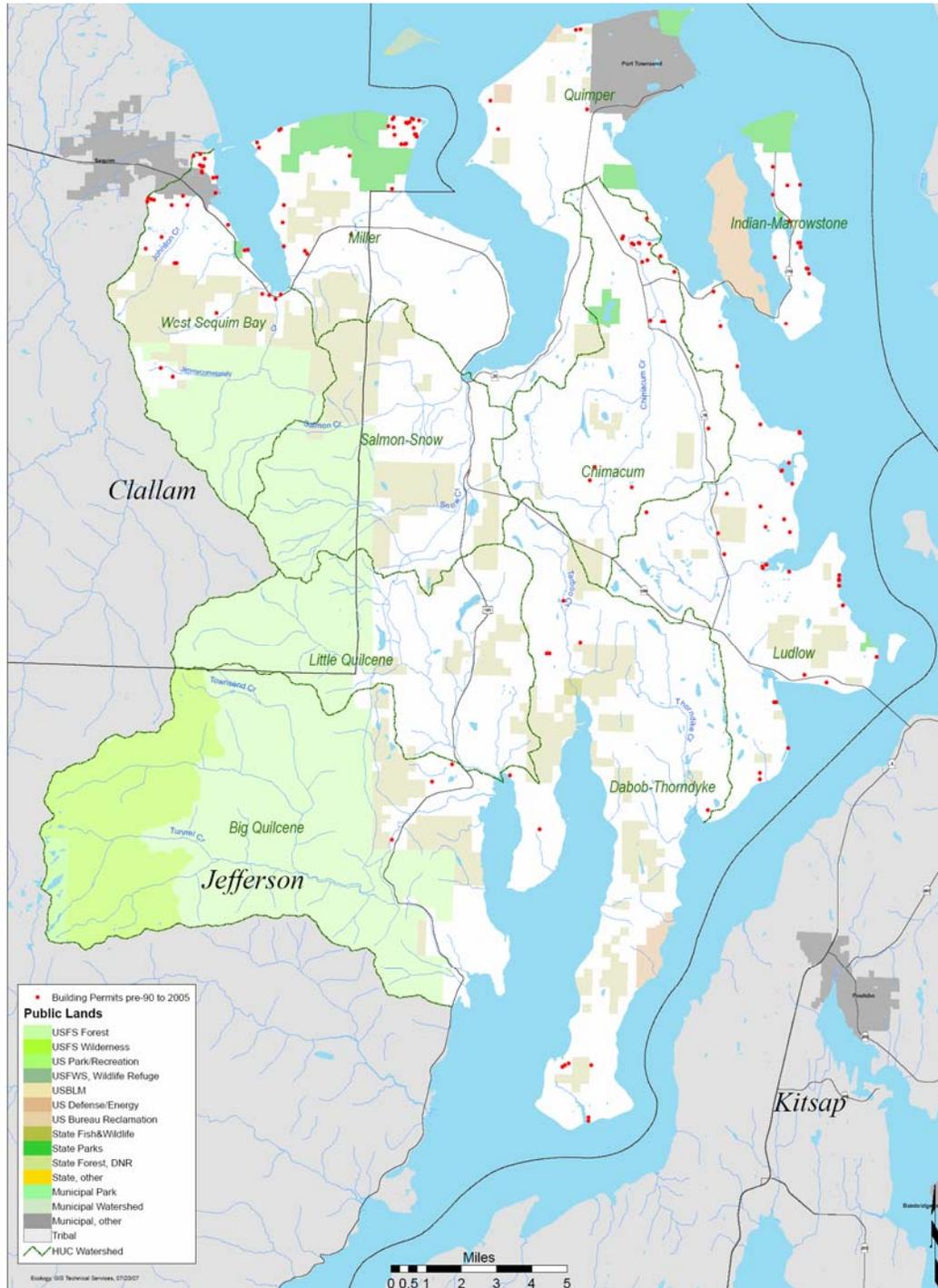
Population Growth



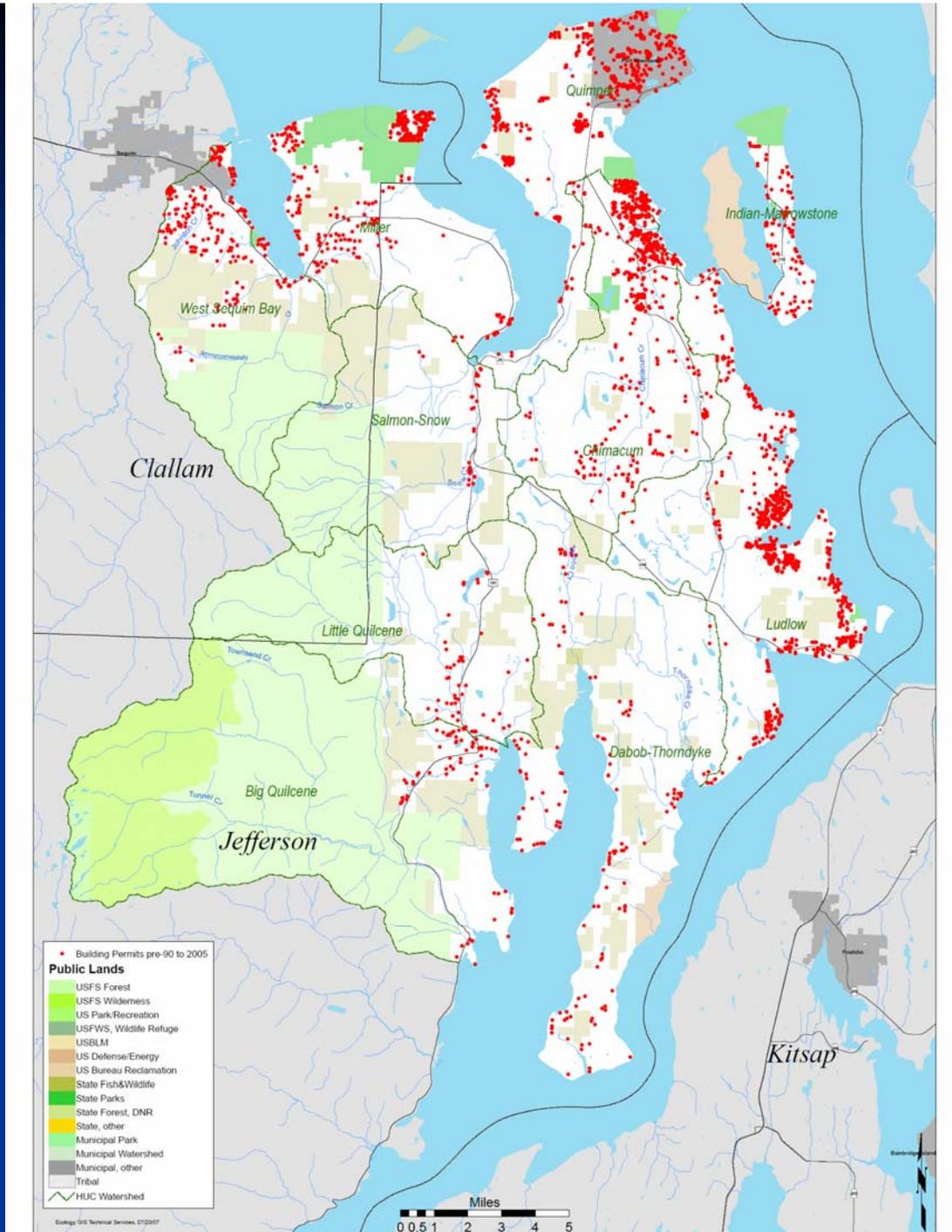
Residential building permits are indicative of growth



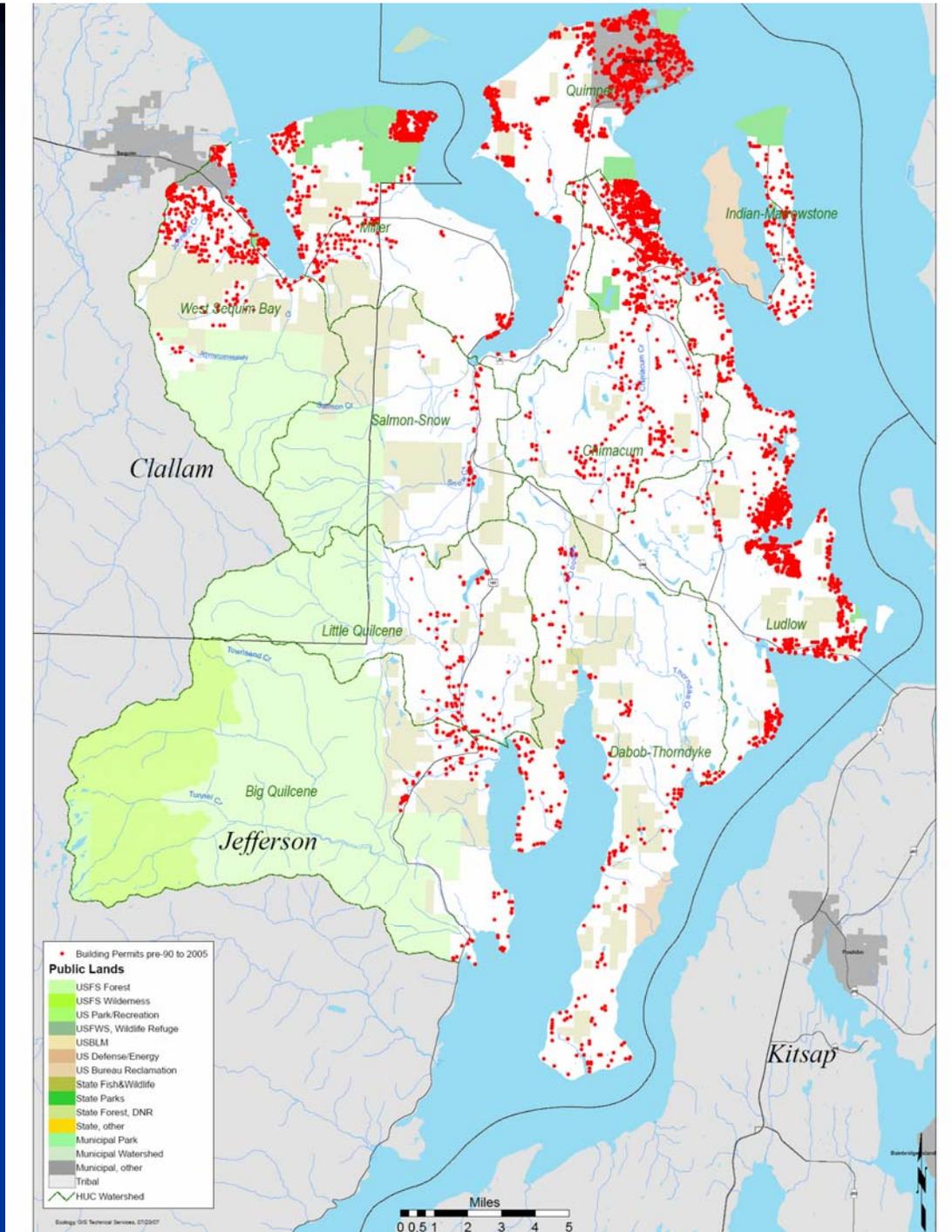
1980-
1990



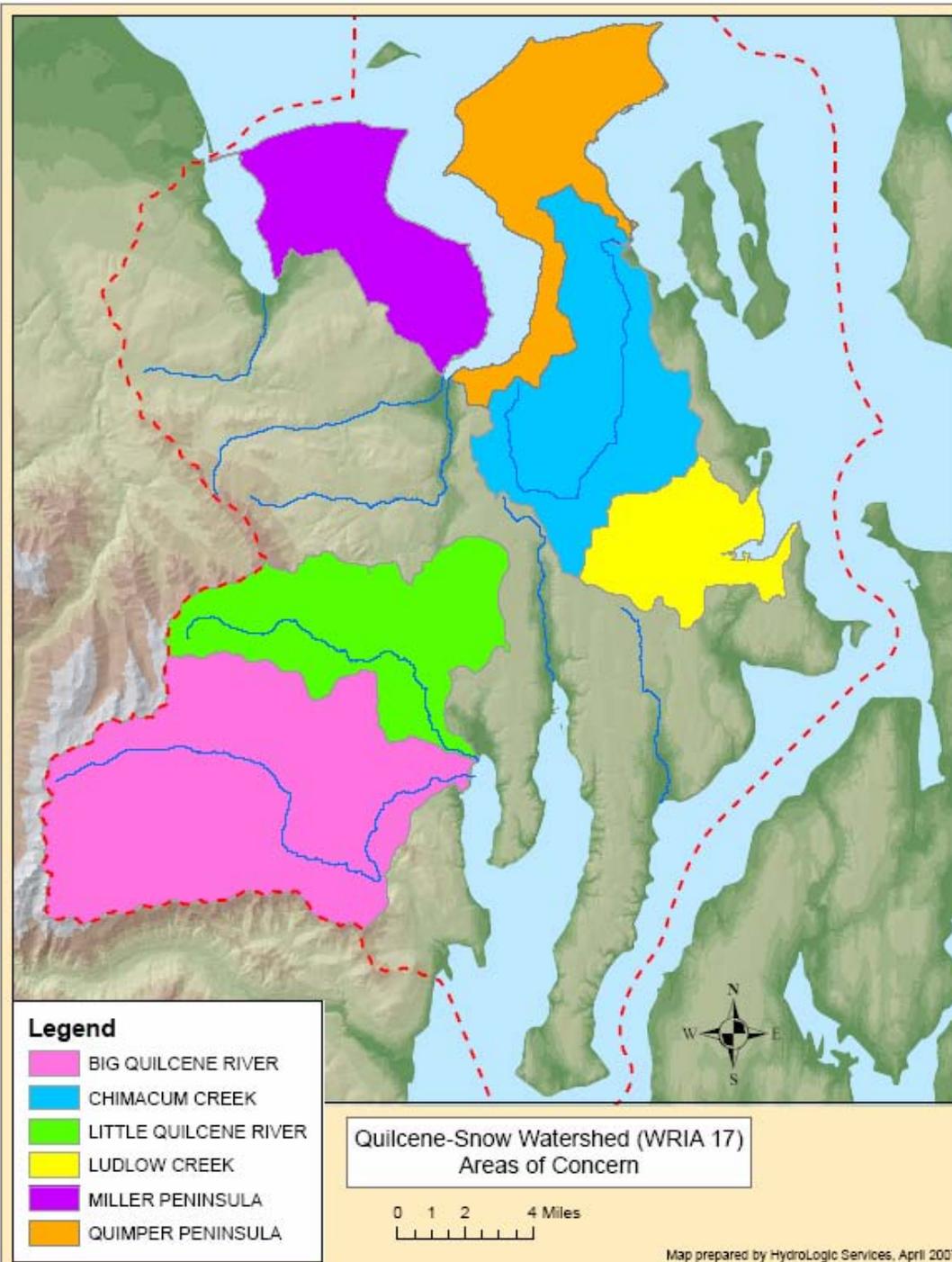
1980-
1999



1980-
2005



WRIA 17 Sub-basins of Concern

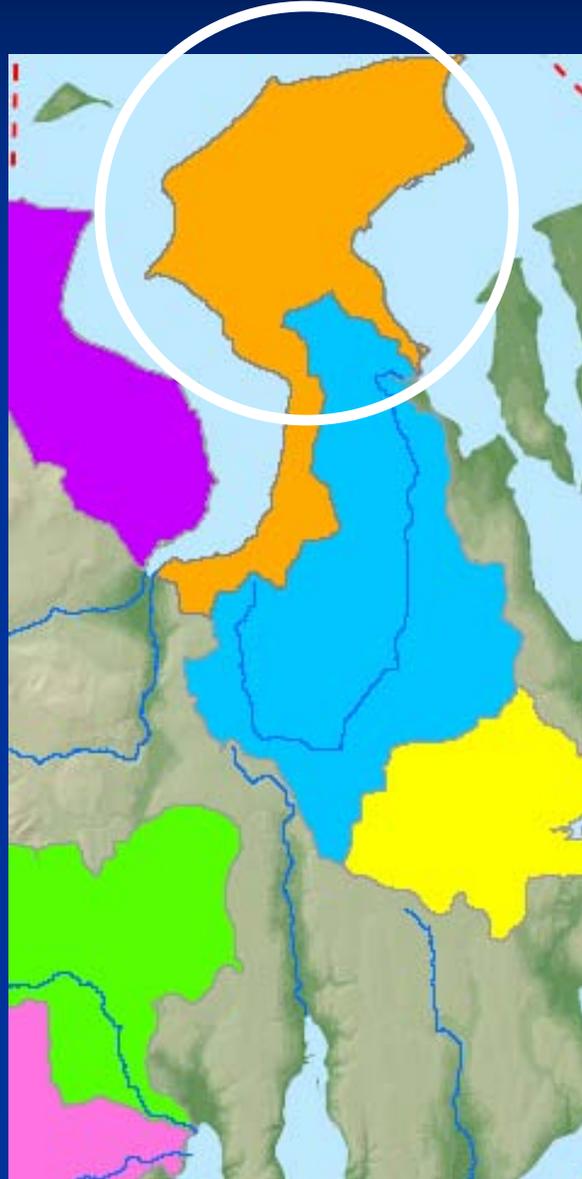


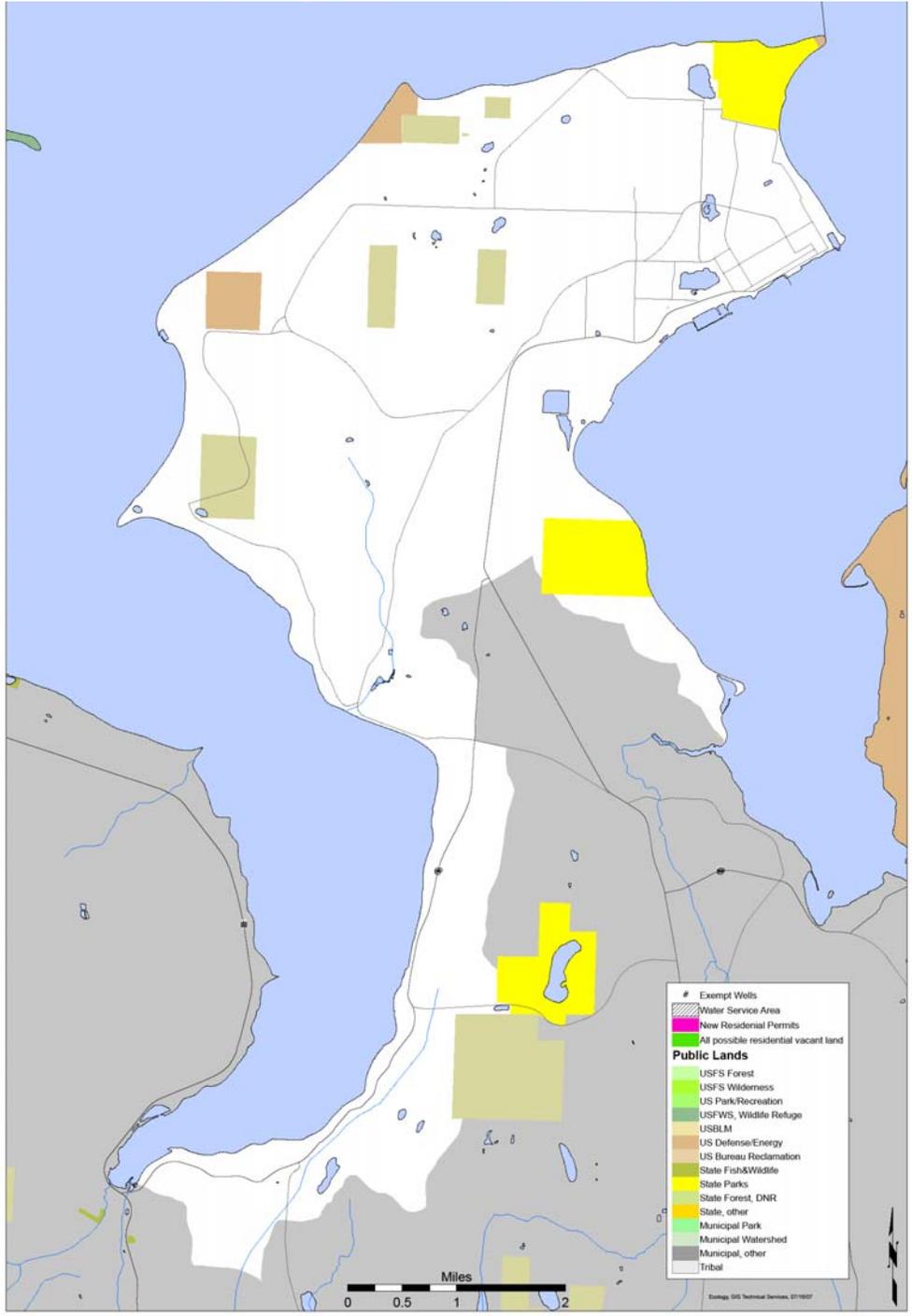
Where growth occurs raises different issues

Sample basins:

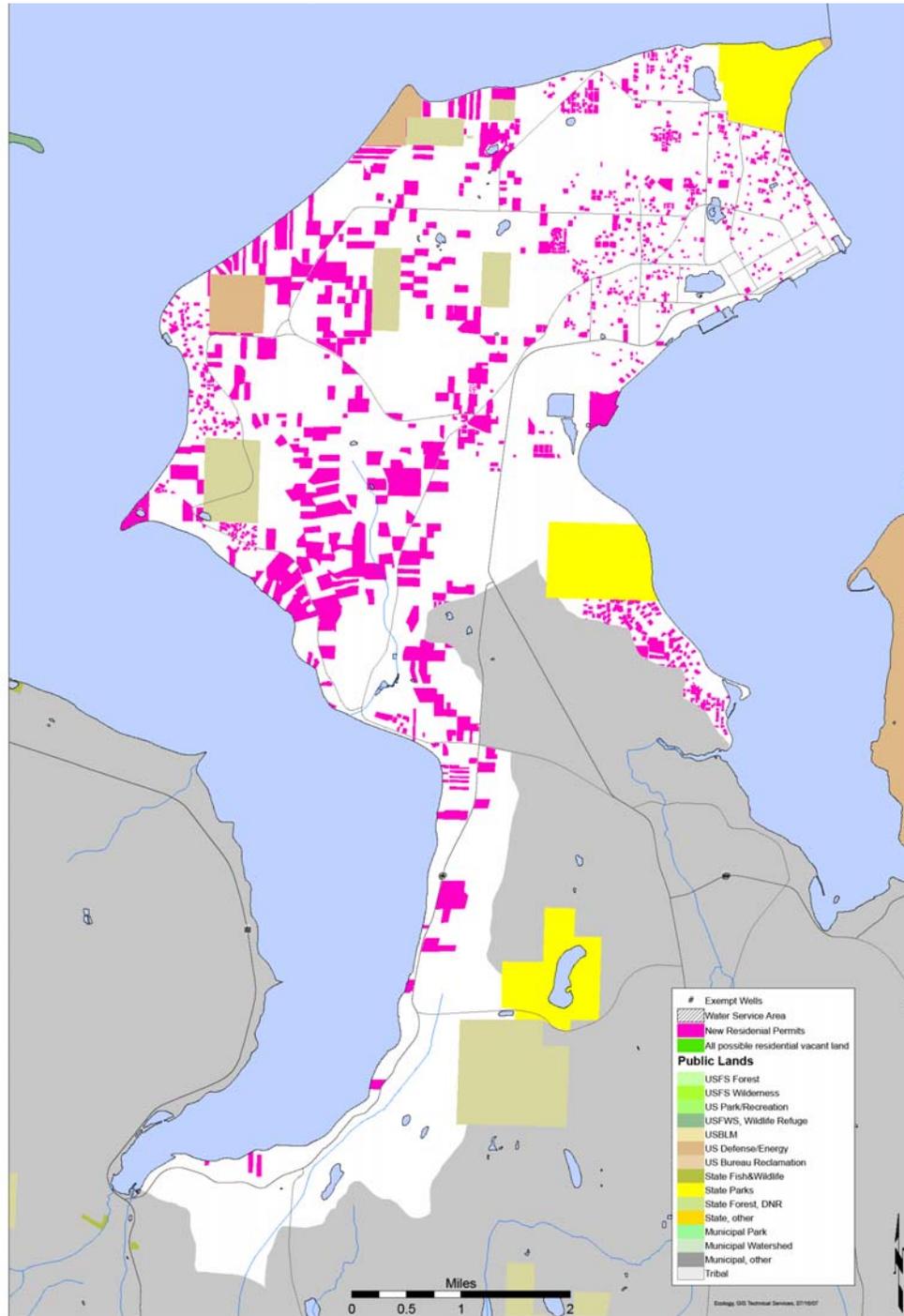
- ★ Quimper
- ★ Chimacum
- ★ Ludlow
- ★ Big & Little Quilcene (water diversion supplies Port Townsend)

Quimper Sub-Basin Overview

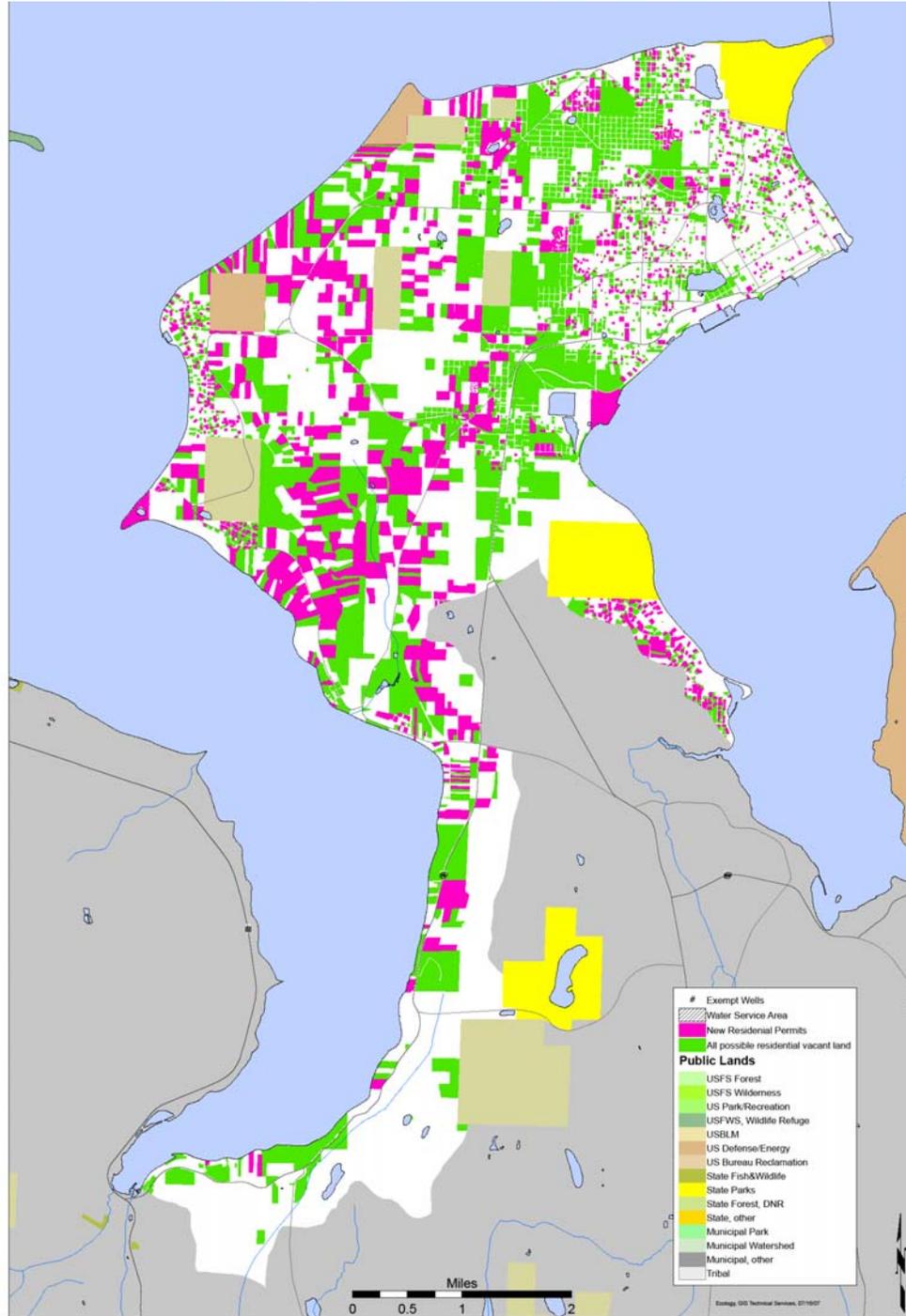




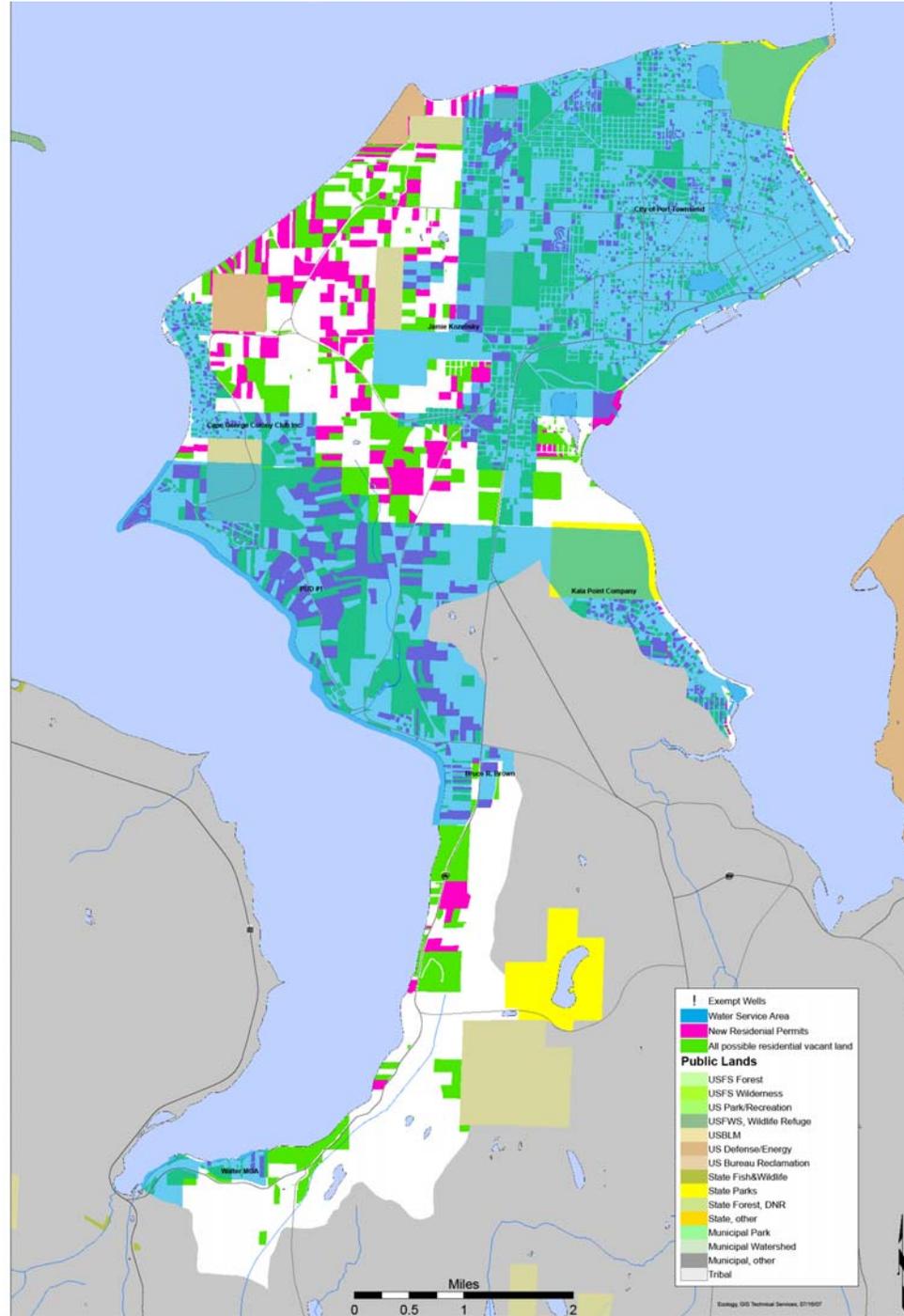
New Residences 1980- 2005



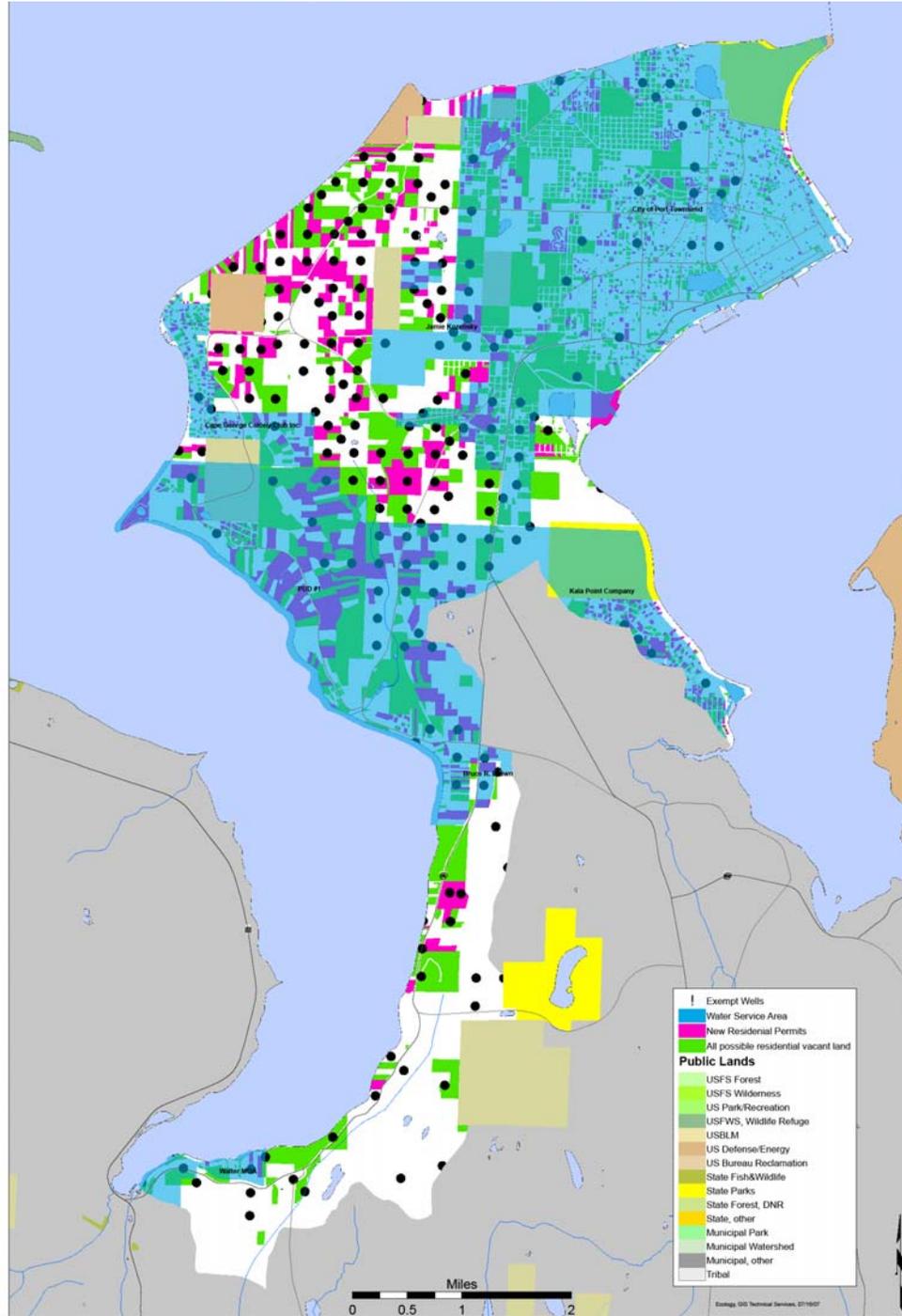
+ Vacant Lots



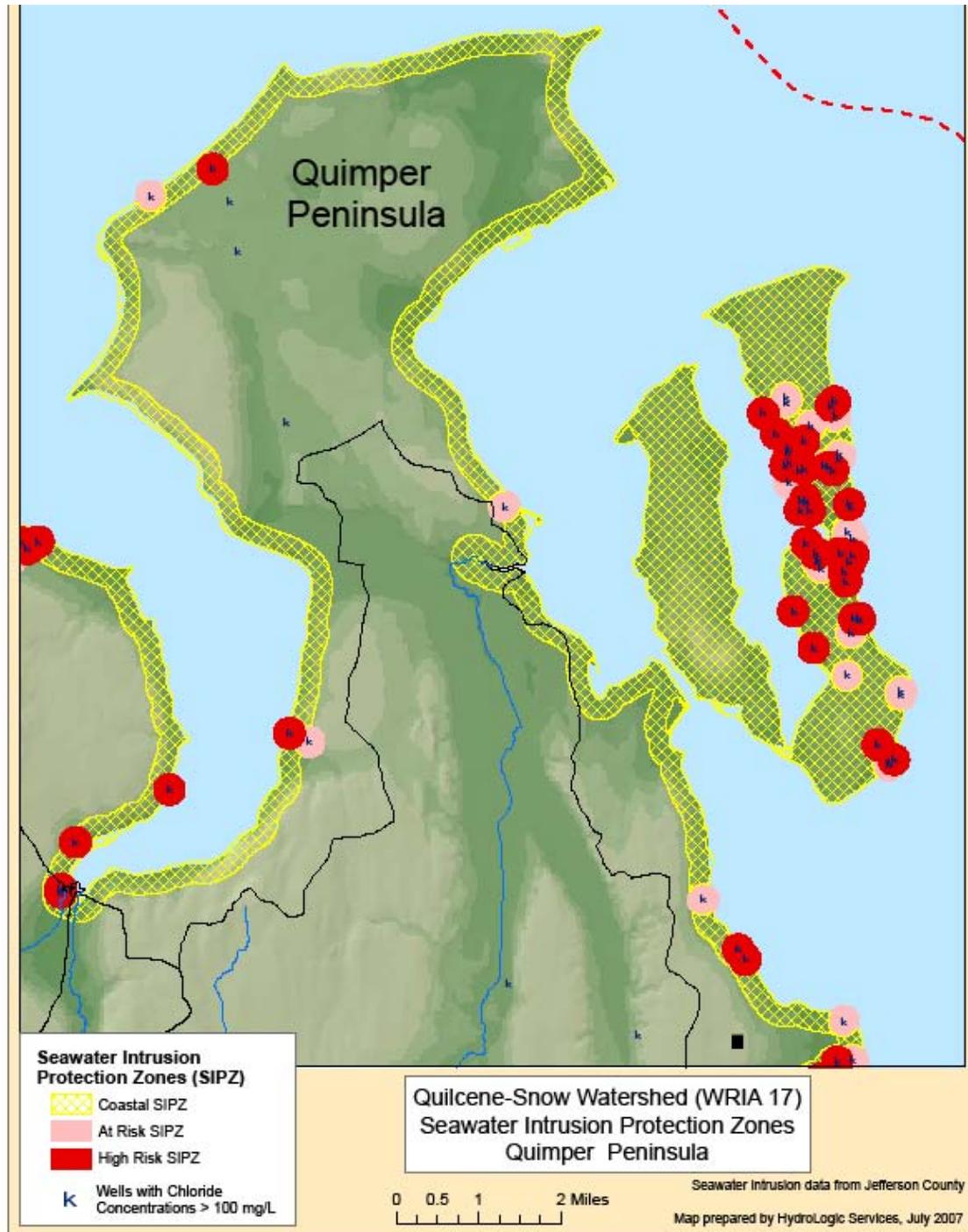
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**Water
Service
Areas**



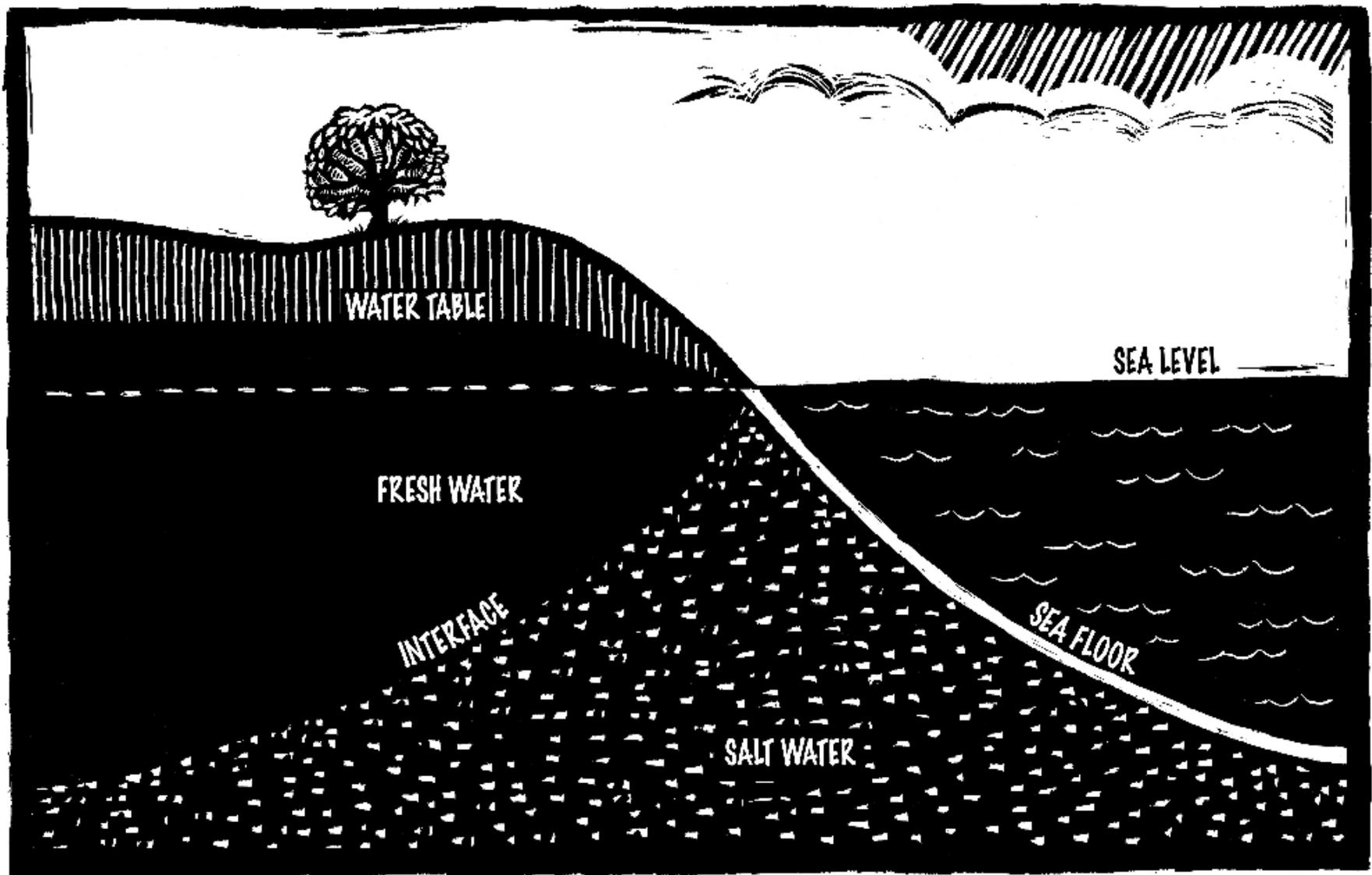
+ Exempt Wells



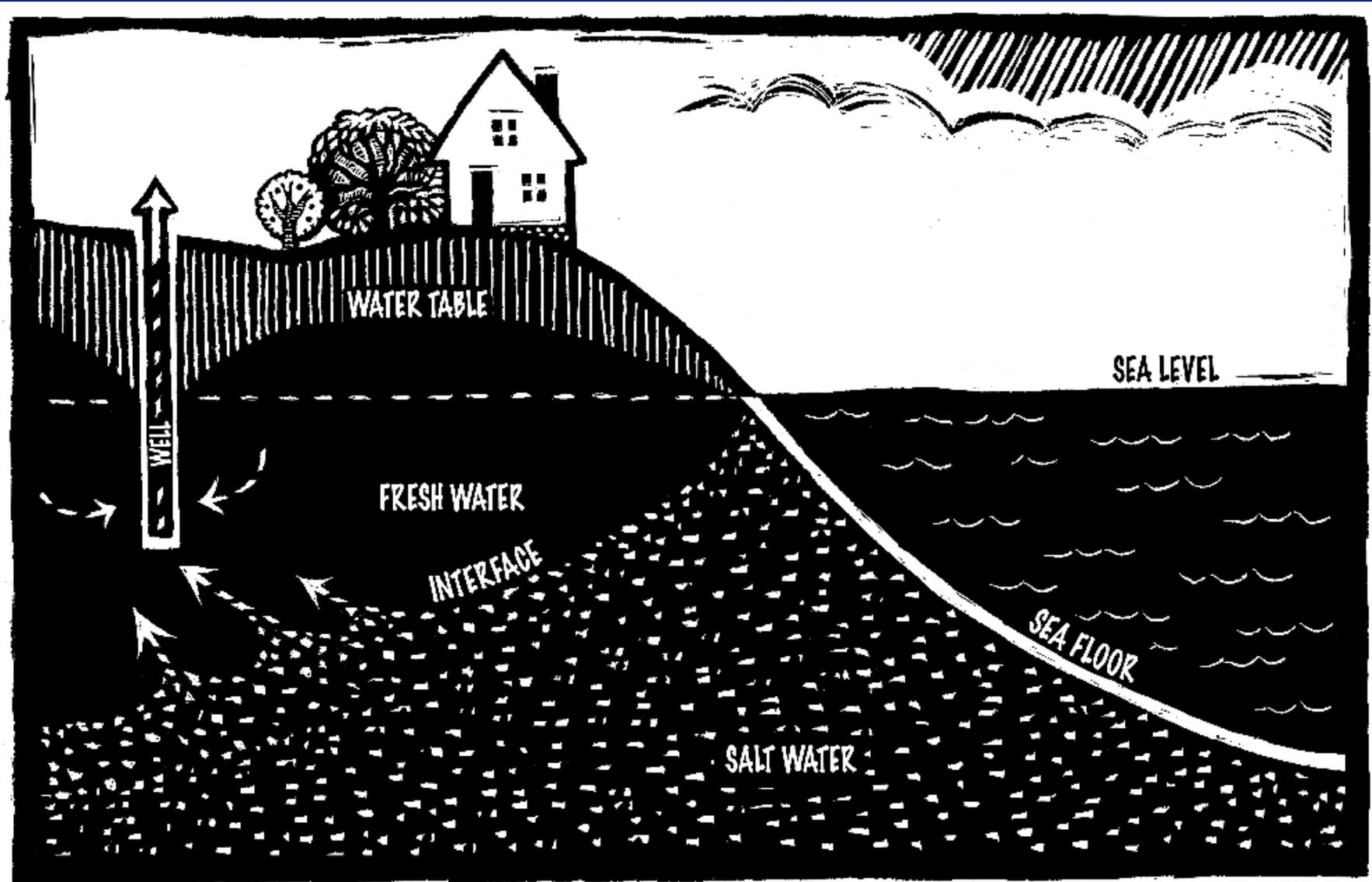
Seawater Intrusion Protection Zones



Area Susceptible to Seawater Intrusion



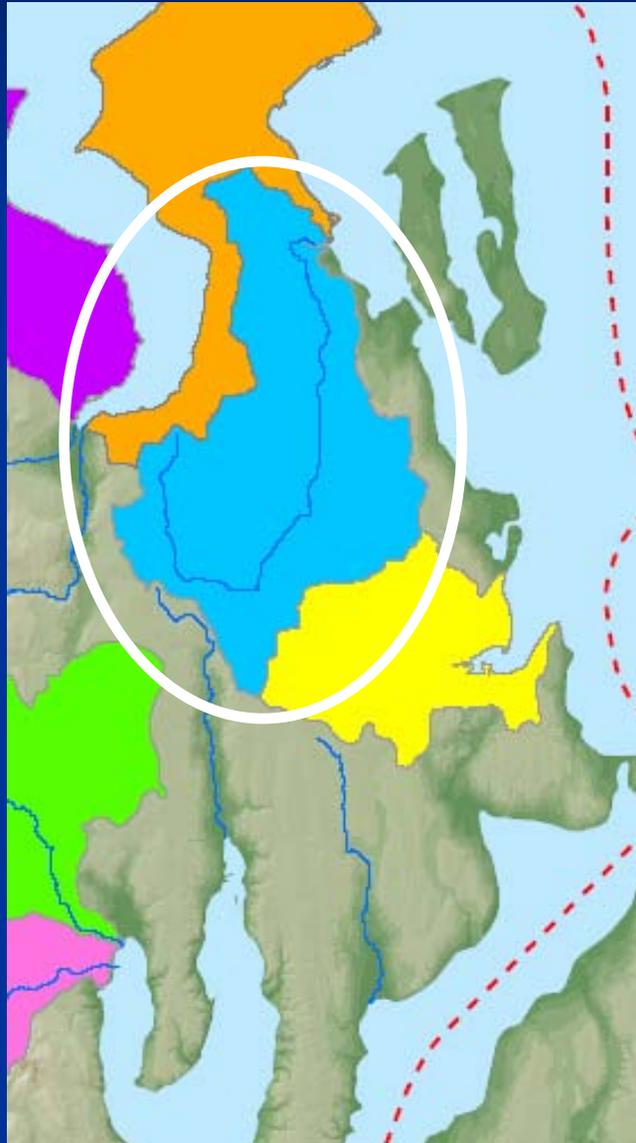
Seawater Intrusion Process



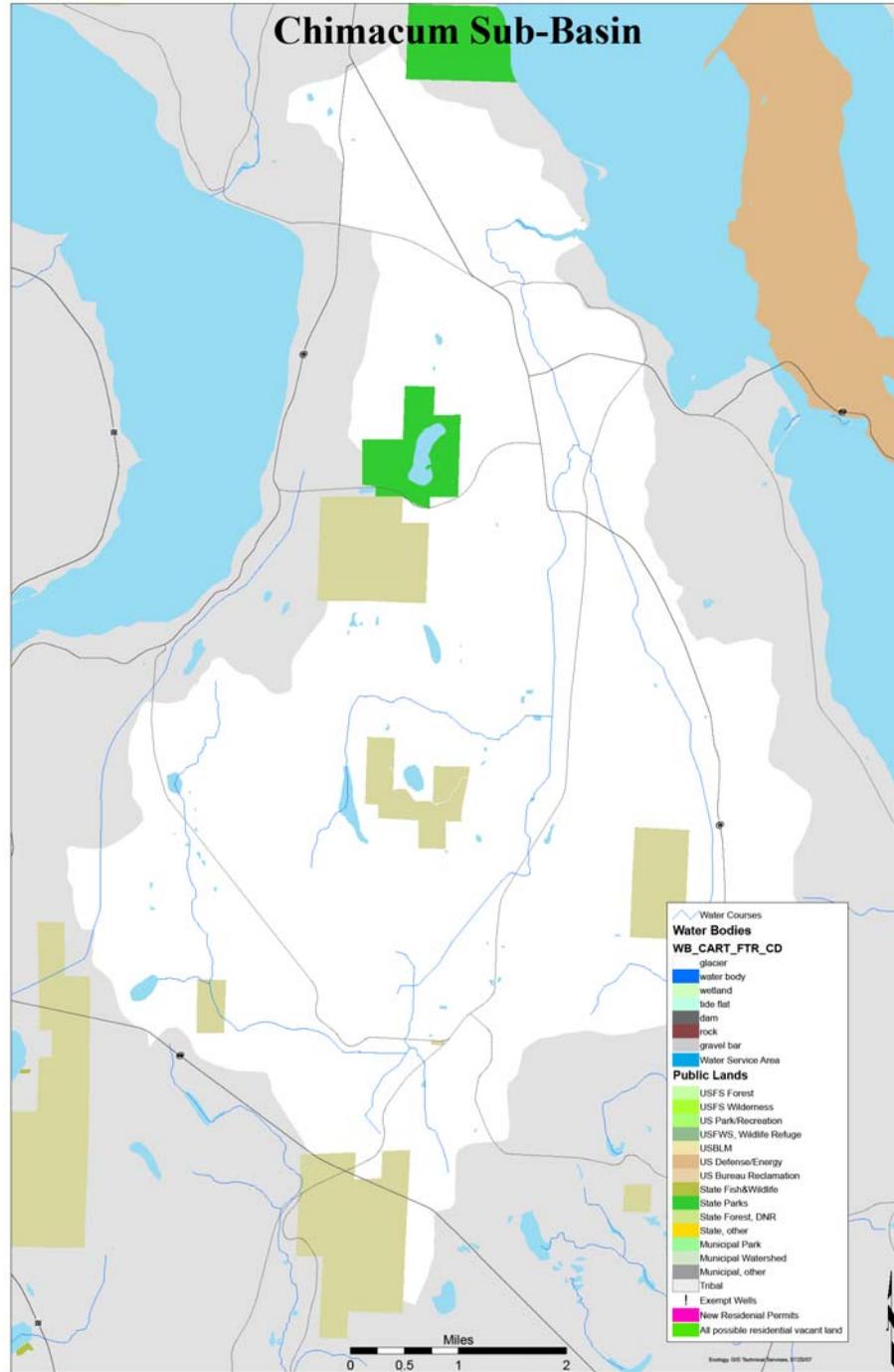
Summary of Quimper Sub-Basin Observations

- ✱ High population growth & lot capacity for future growth
- ✱ Reliance on wells outside of public water service areas
- ✱ Evidence of existing high-chloride wells & threat of further seawater intrusion
- ✱ Seawater intrusion is difficult if not impossible to correct

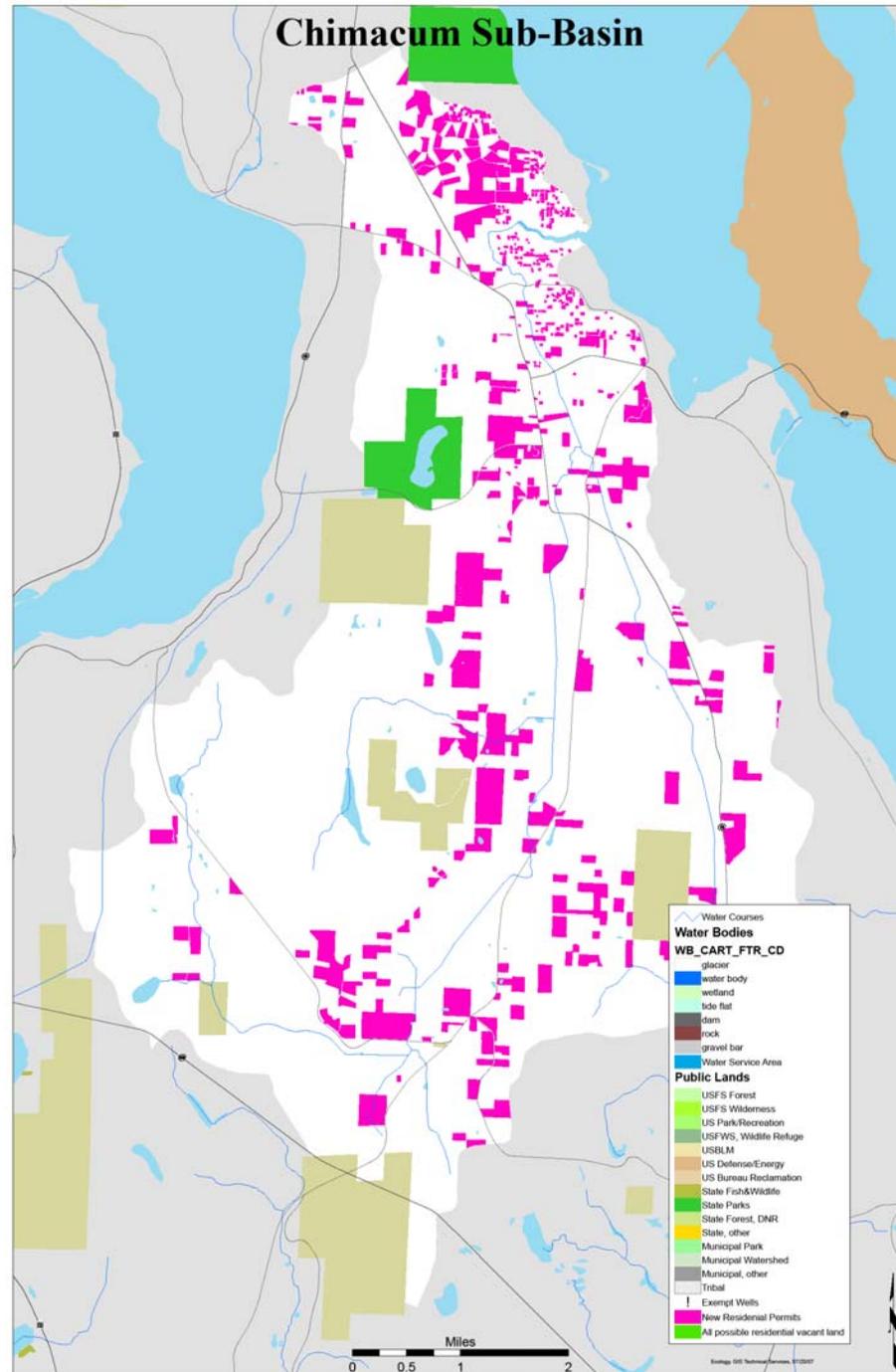
Chimacum Sub-Basin Overview



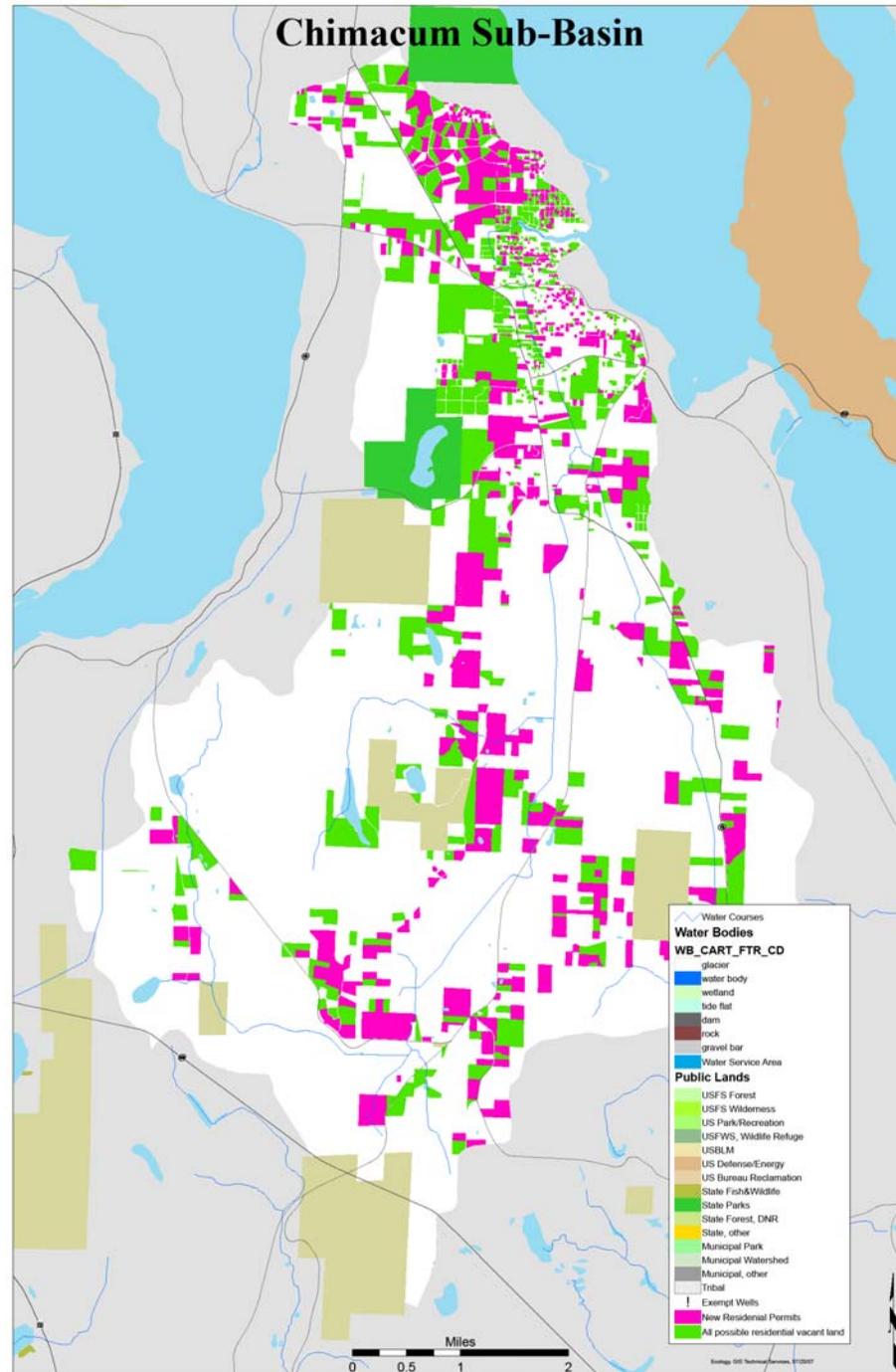
Chimacum Sub-Basin



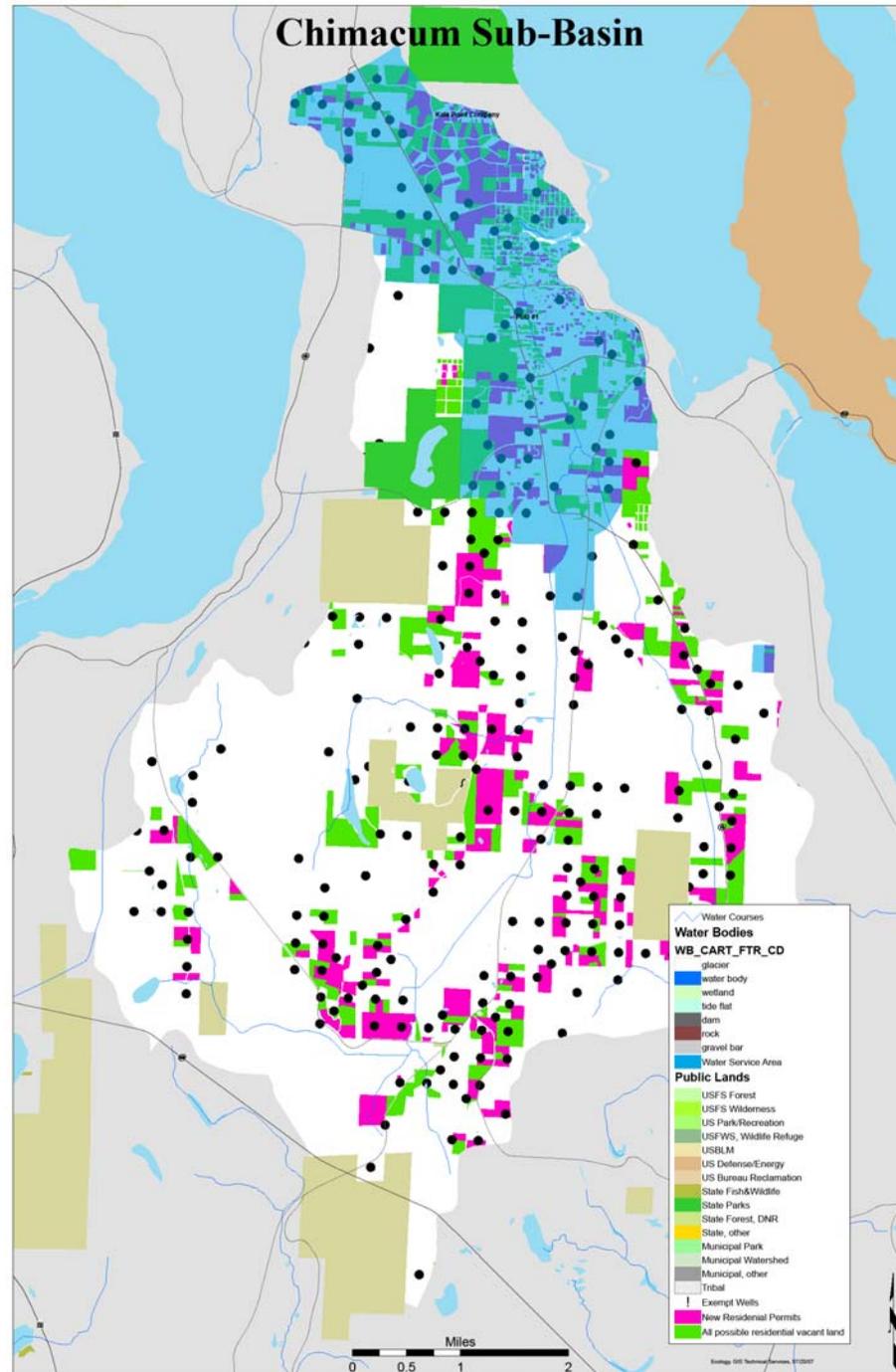
New Residences 1980- 2005



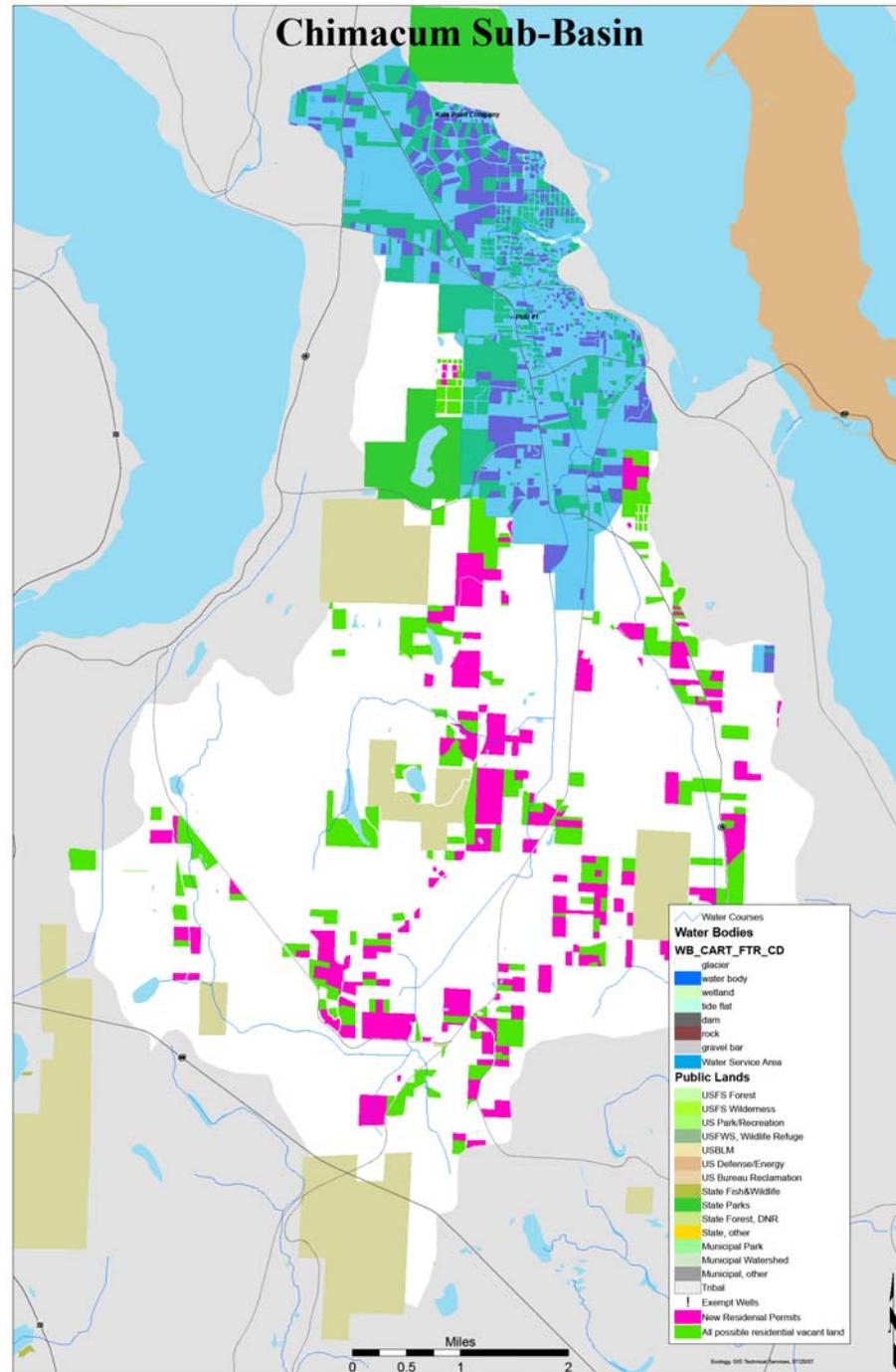
+ Vacant Lots



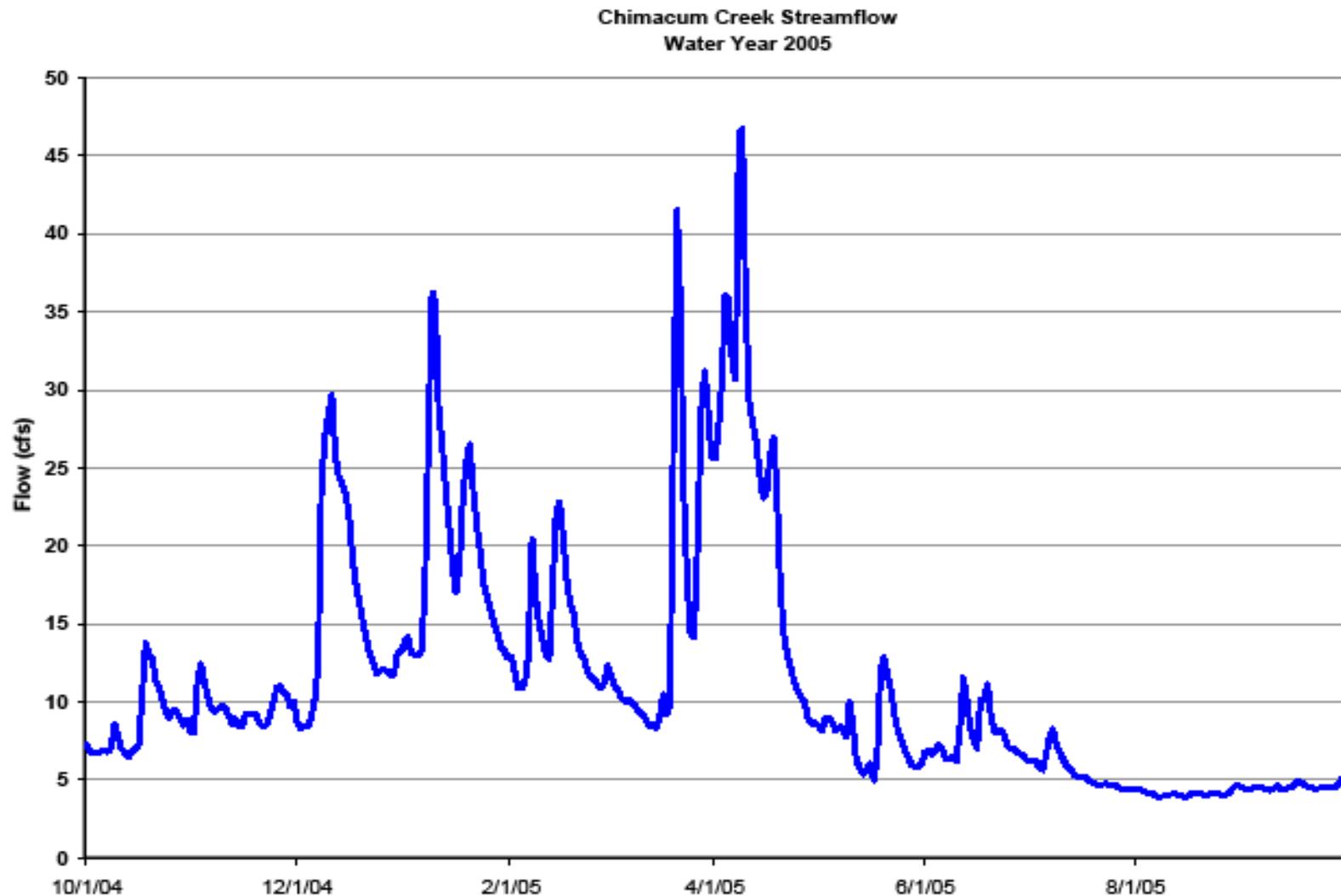
+ Exempt Wells



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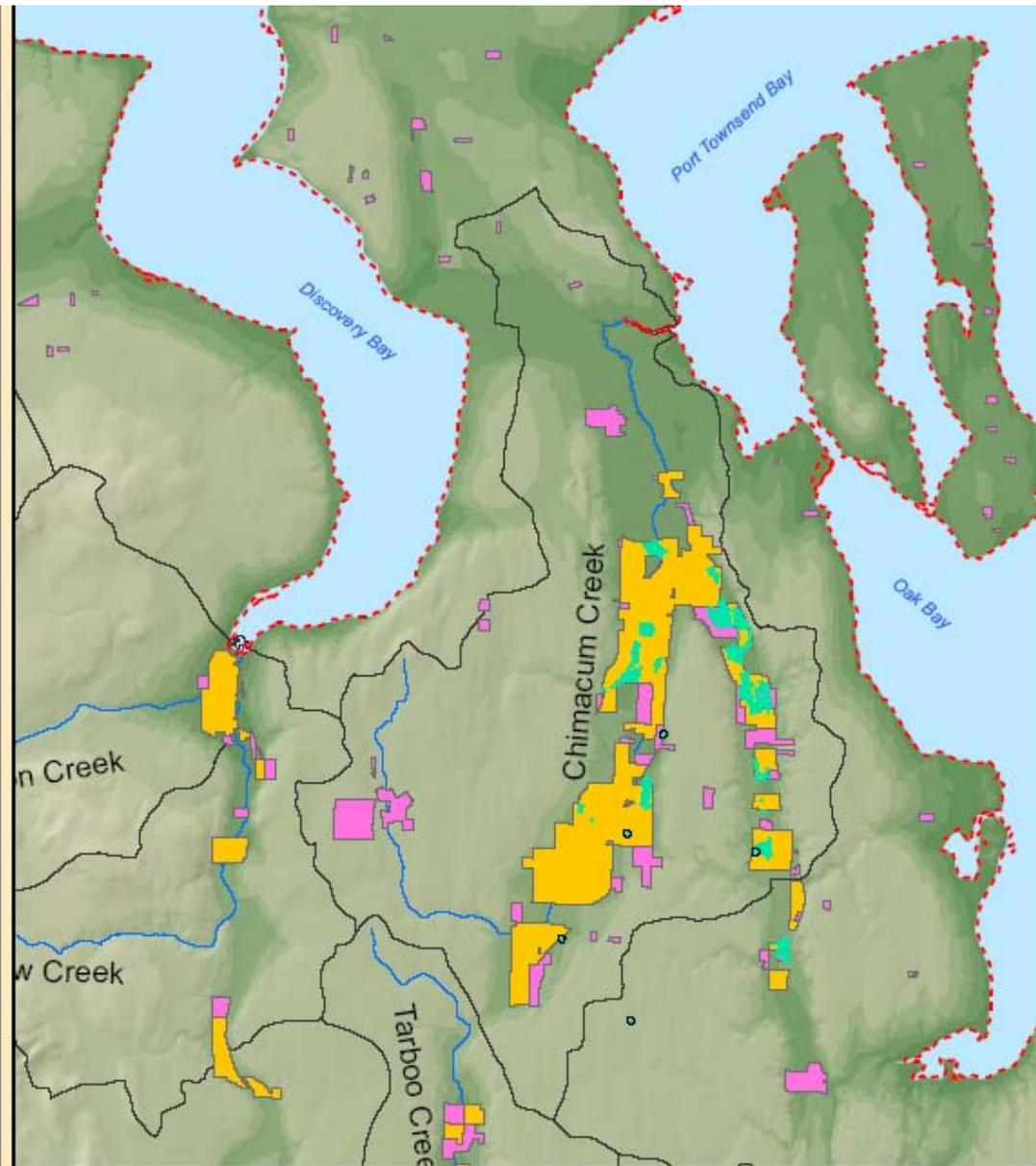
Naturally Low Flows in Chimacum Creek



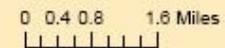
Surface and Ground Water Relationship



Ag Lands



Chimacum Creek Subbasin
Agricultural Lands



Map prepared by HydroLogic Services Company, April 2007
Zoning data from Jefferson County.

Discrepancy of Water Rights Issued vs. Used

- ★ 806 acres with water rights for irrigation
- ★ 570 acres with claims for irrigation
- ★ 300 to 400 acres estimated to be actually irrigated

Example #1 of Potential Water Right Discrepancy

Water right = 0.2 cfs for 20 acres of irrigation

Land use now shows 11 parcels

- 8 houses (non-farm)
- 1 forestland parcel
- 1 vacant parcel
- 1 parcel with shed, garage, etc

Likely not in use

Example #2 of Potential Water Right Discrepancy

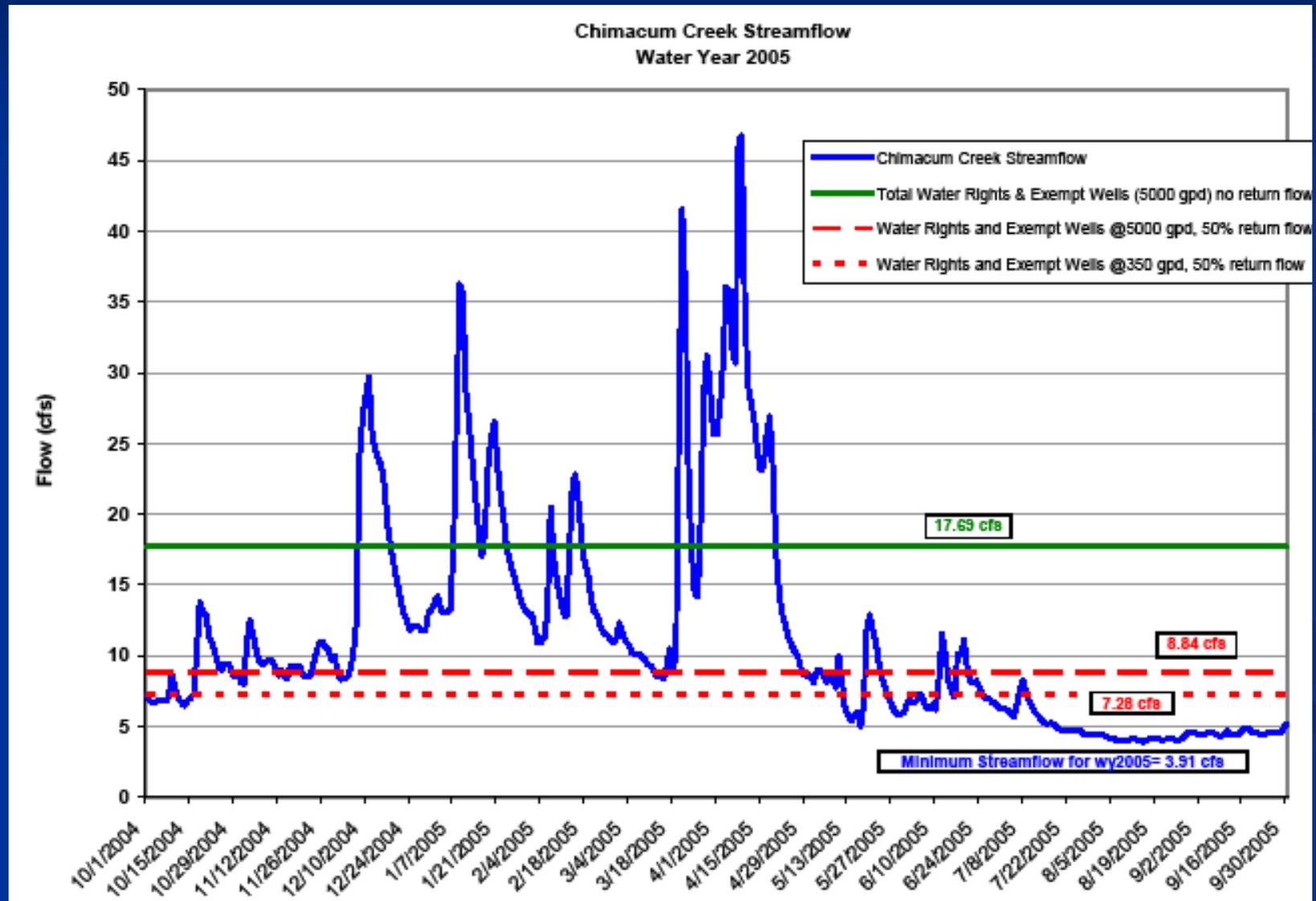
Water right = 0.5 cfs for 65 acres of irrigation

Zoning is commercial agriculture

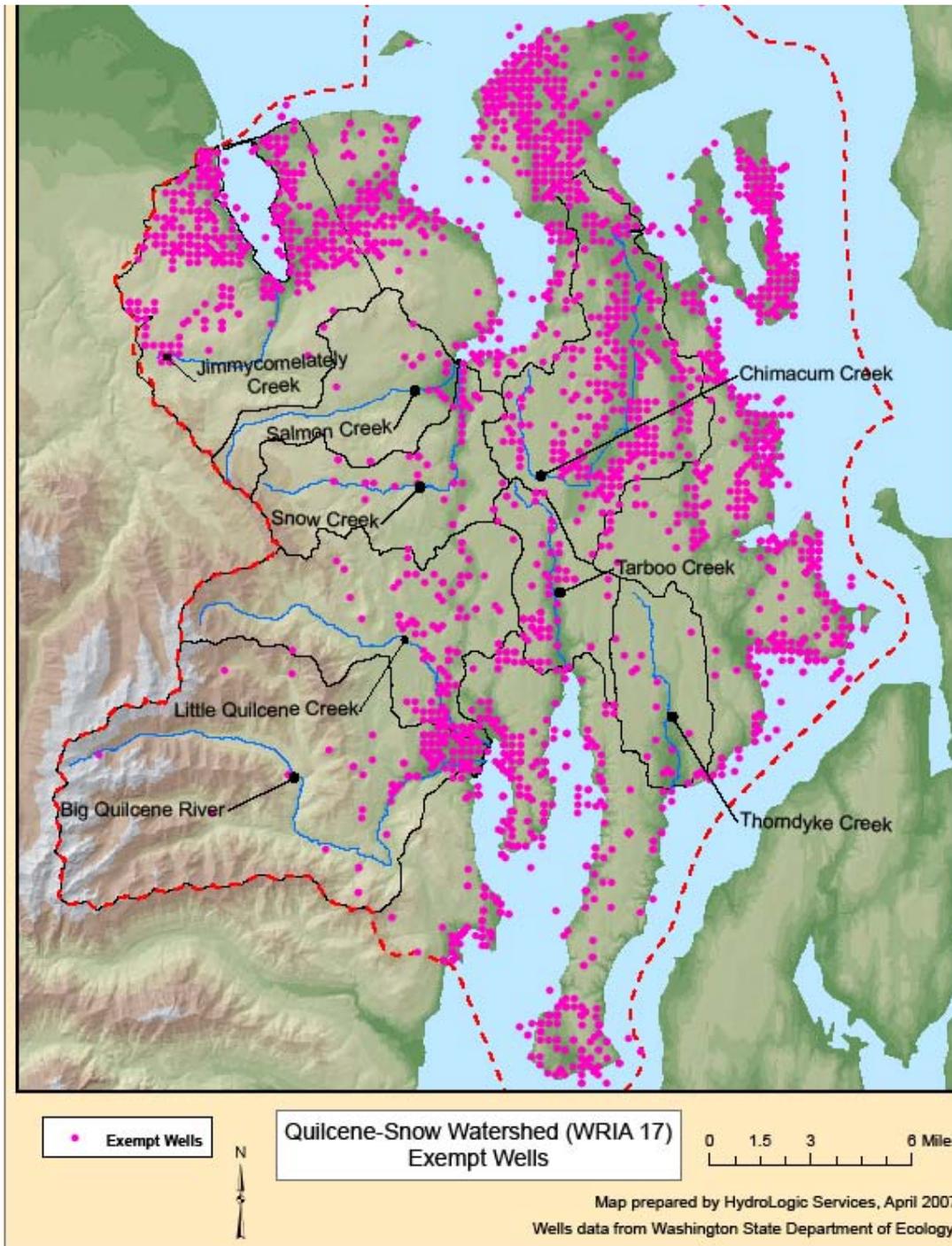
- ✦ However, parcel now appears to be only 20-25 acres
- ✦ Water use would then be only 0.15 to 0.20 cfs

Likely 0.3 cfs not being used

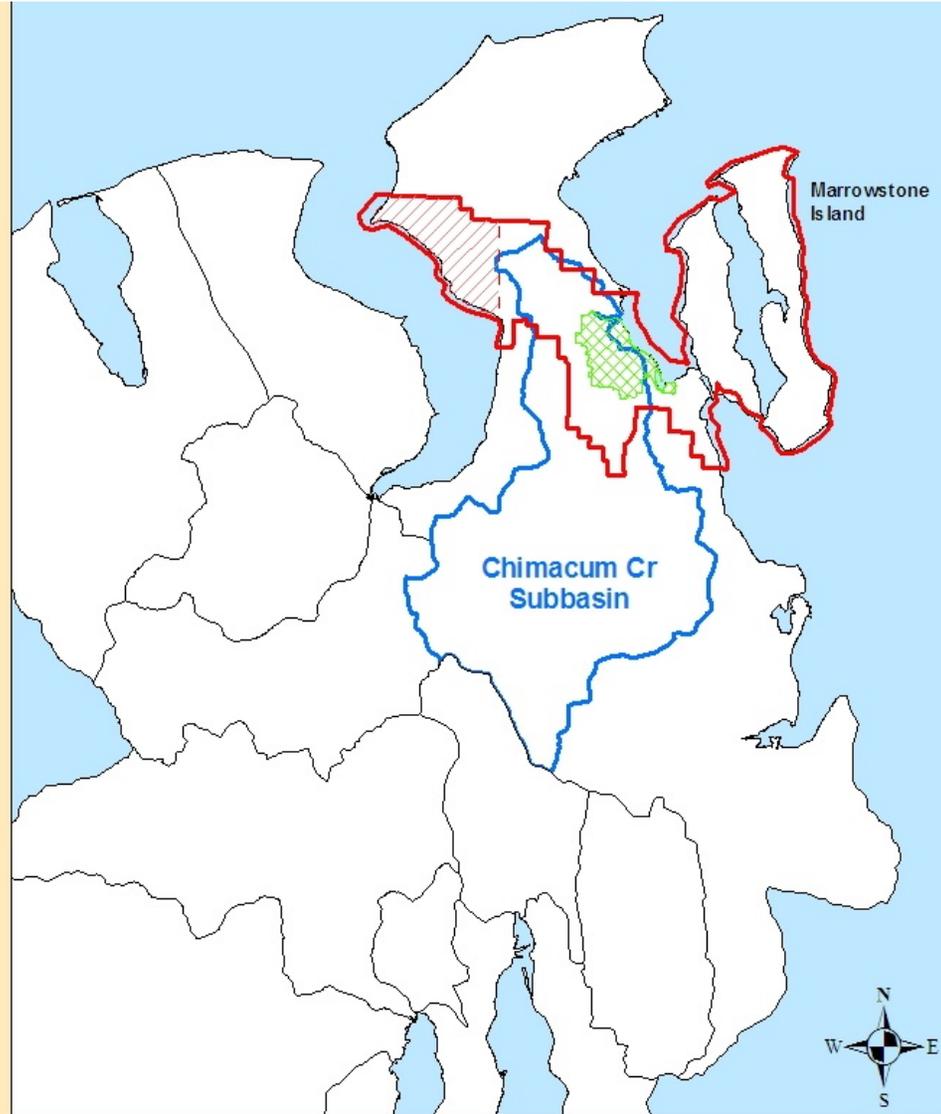
More rights are issued than there is flow



All Exempt Wells



PUD Service Area & Tri-Area UGA



Legend

-  PUD Service Area*
-  Tri-Area UGA
-  PUD Service Area Served by City of Pt. Townsend Water

PUD Service Area
and
Tri-Area Urban Growth Boundary

*Service Area as approved in Feb 2005 Water System Plan

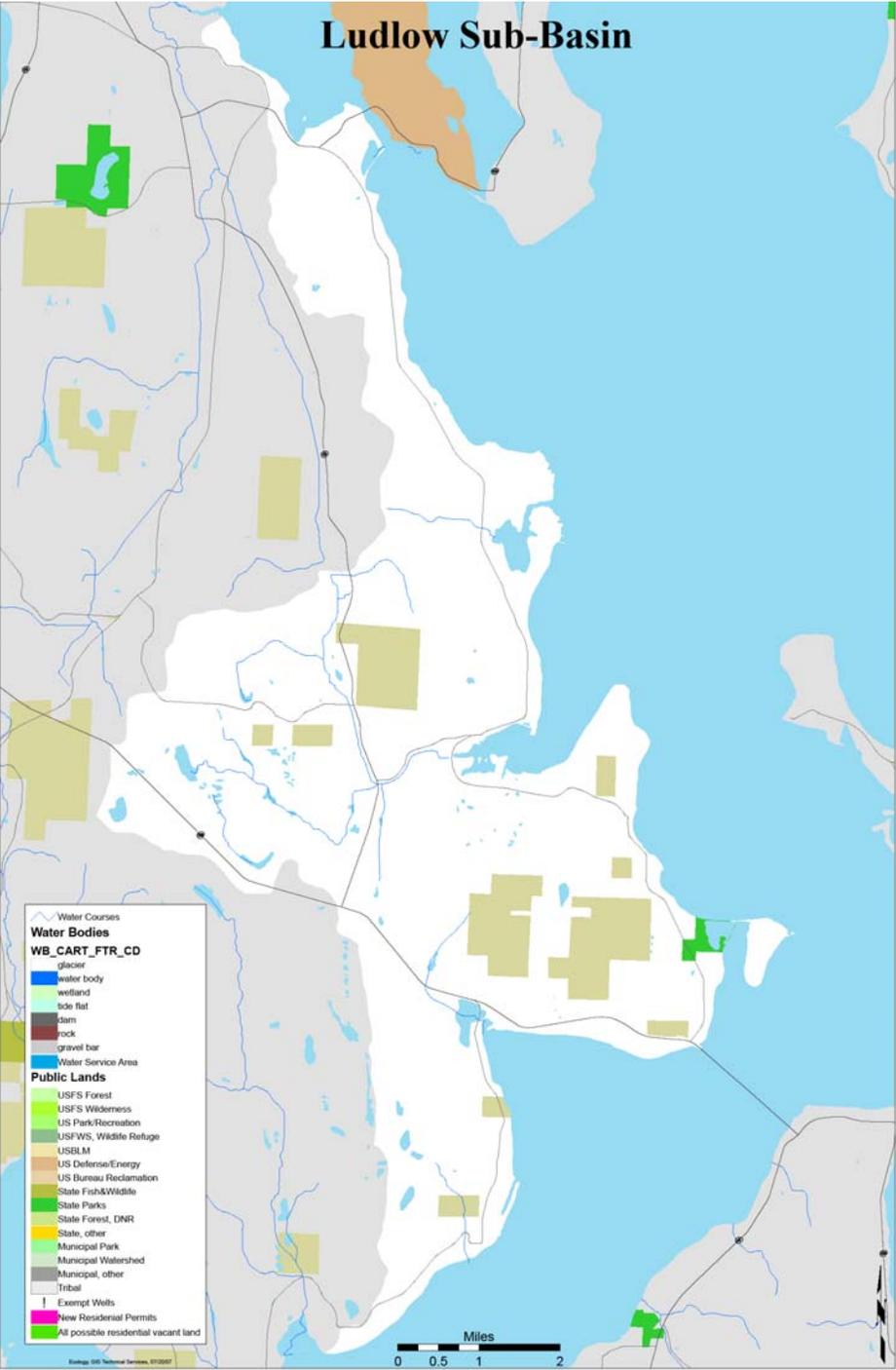
Summary of Chimacum Sub-Basin Observations

- ✱ High population growth, with more to come as growth is directed to UGA
- ✱ Naturally low flows in Chimacum Creek
- ✱ Over-allocation of water (more water rights have been issued than there is water to supply them)
- ✱ Uncertainty of water use and accuracy of documented water rights
- ✱ Public water system is groundwater-dependent
- ✱ Out-of-basin water use

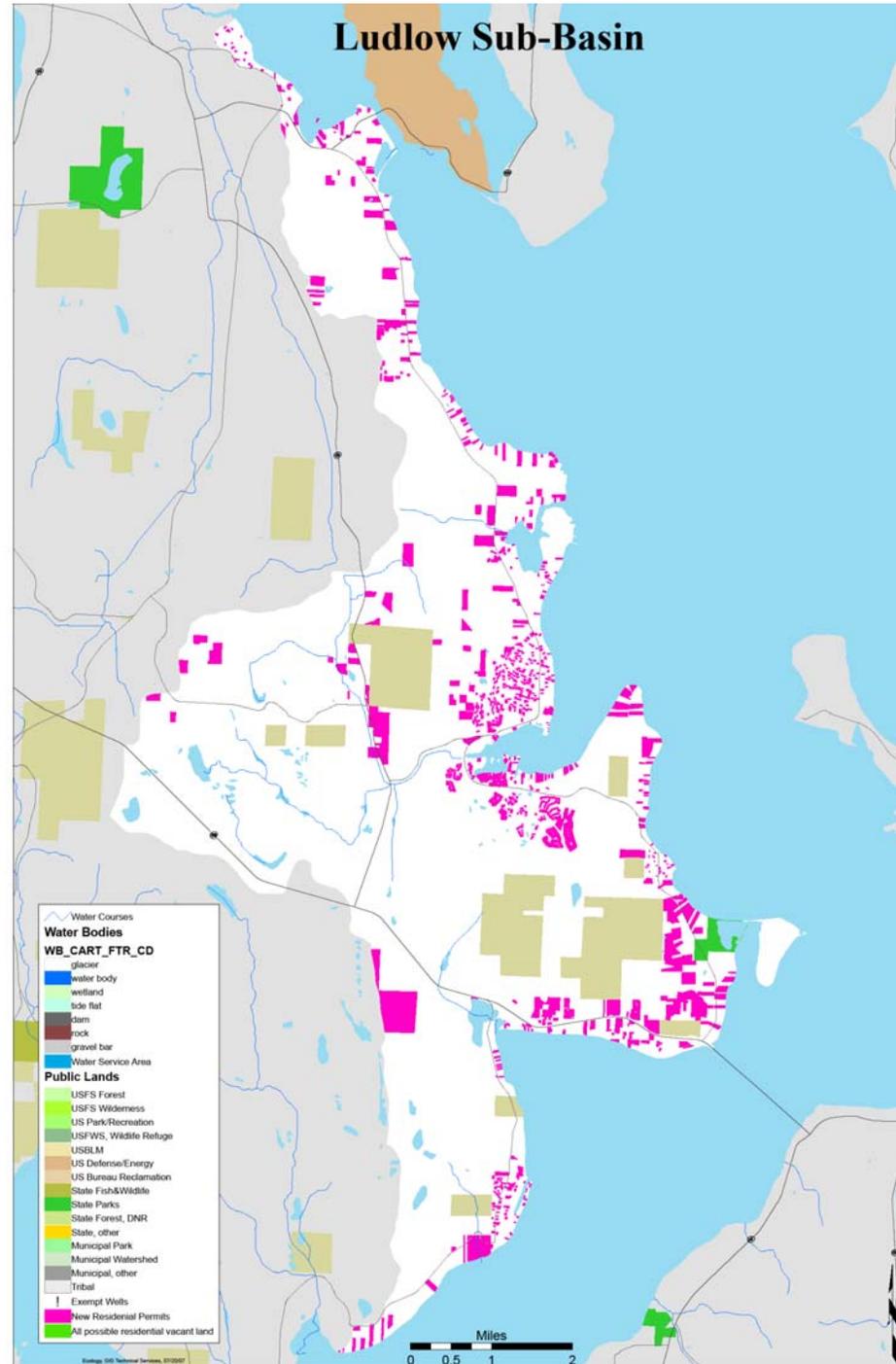
Ludlow Sub-Basin Overview



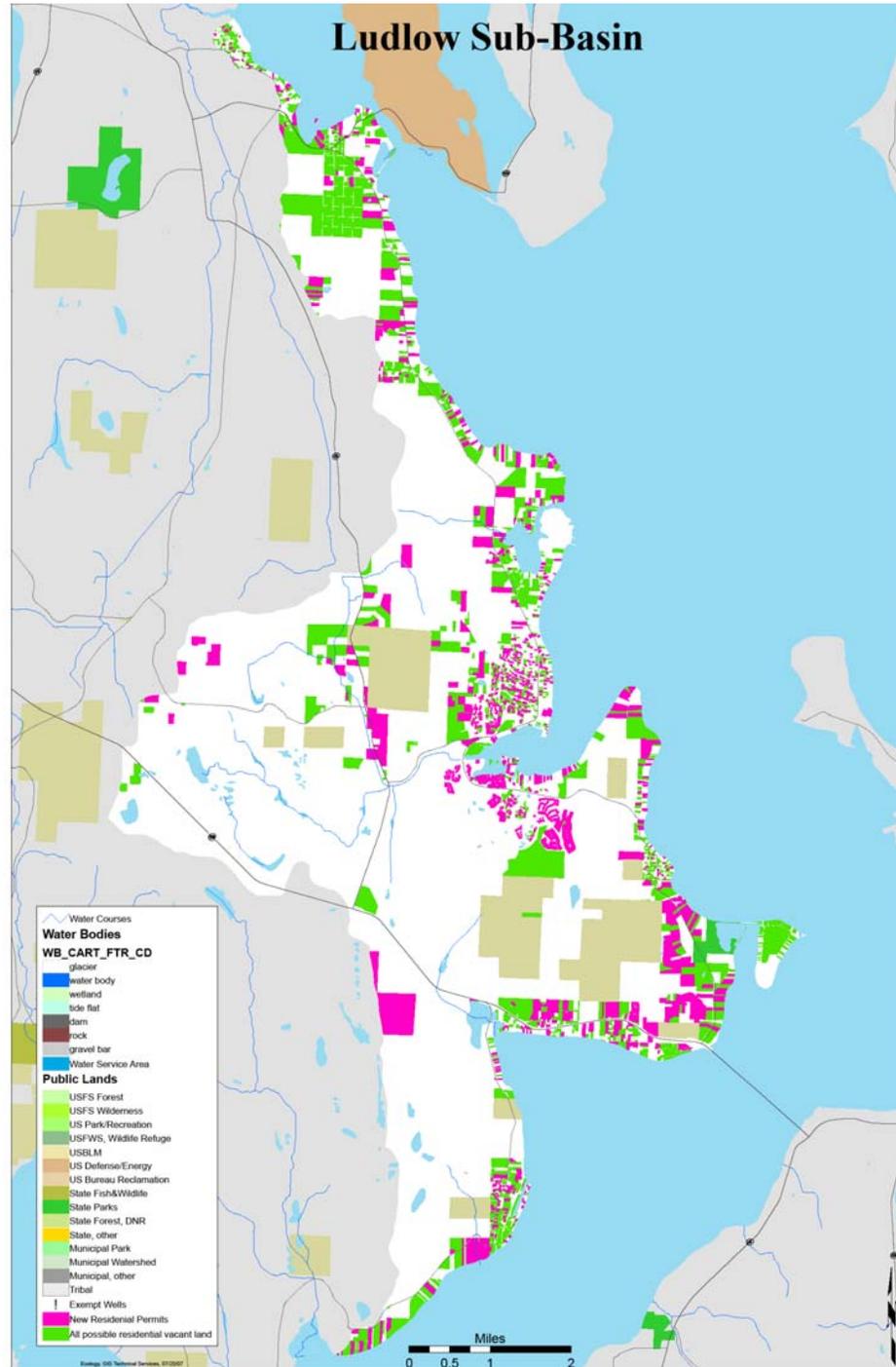
Ludlow Sub-Basin



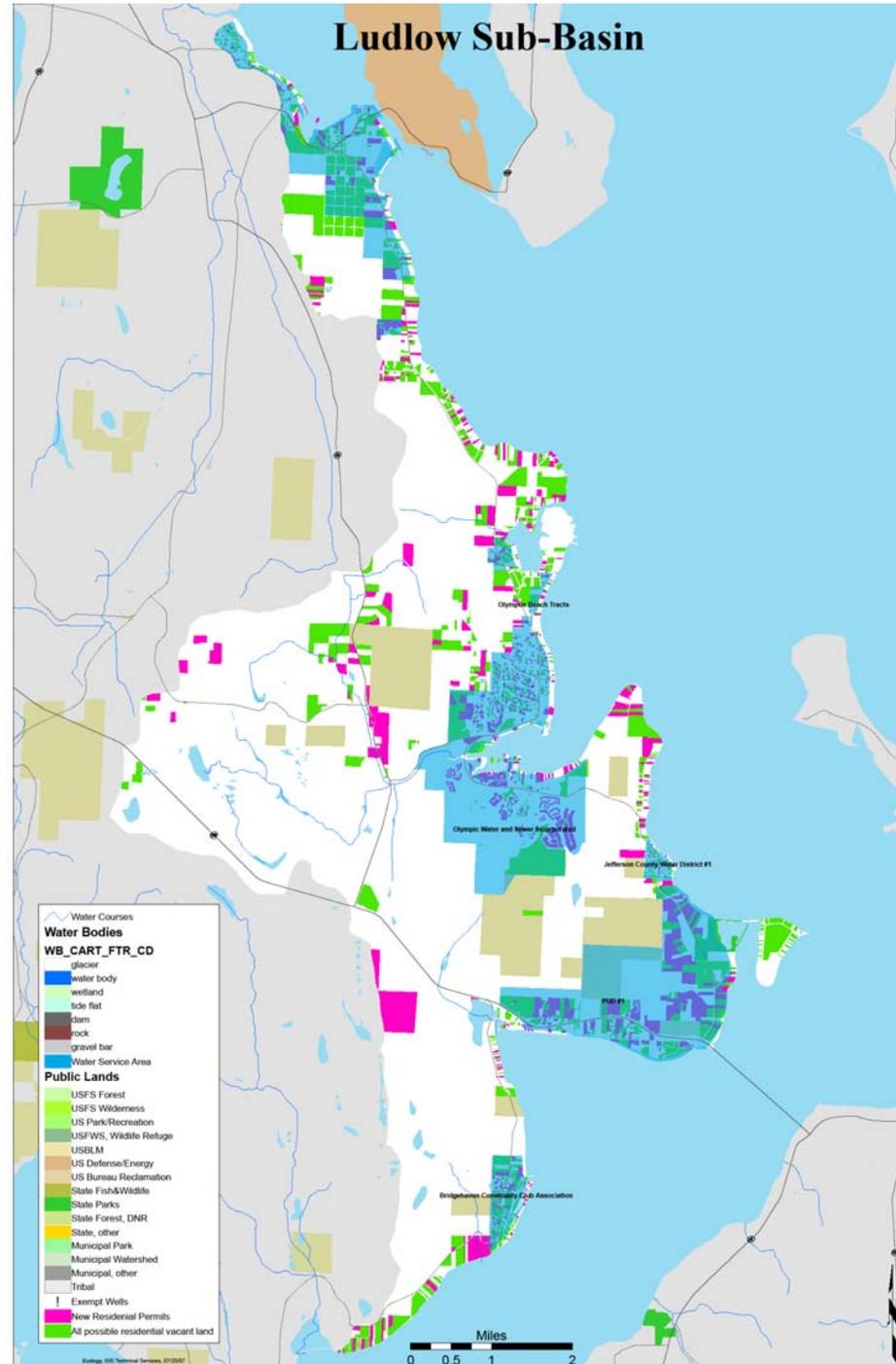
New Residences 1980- 2005



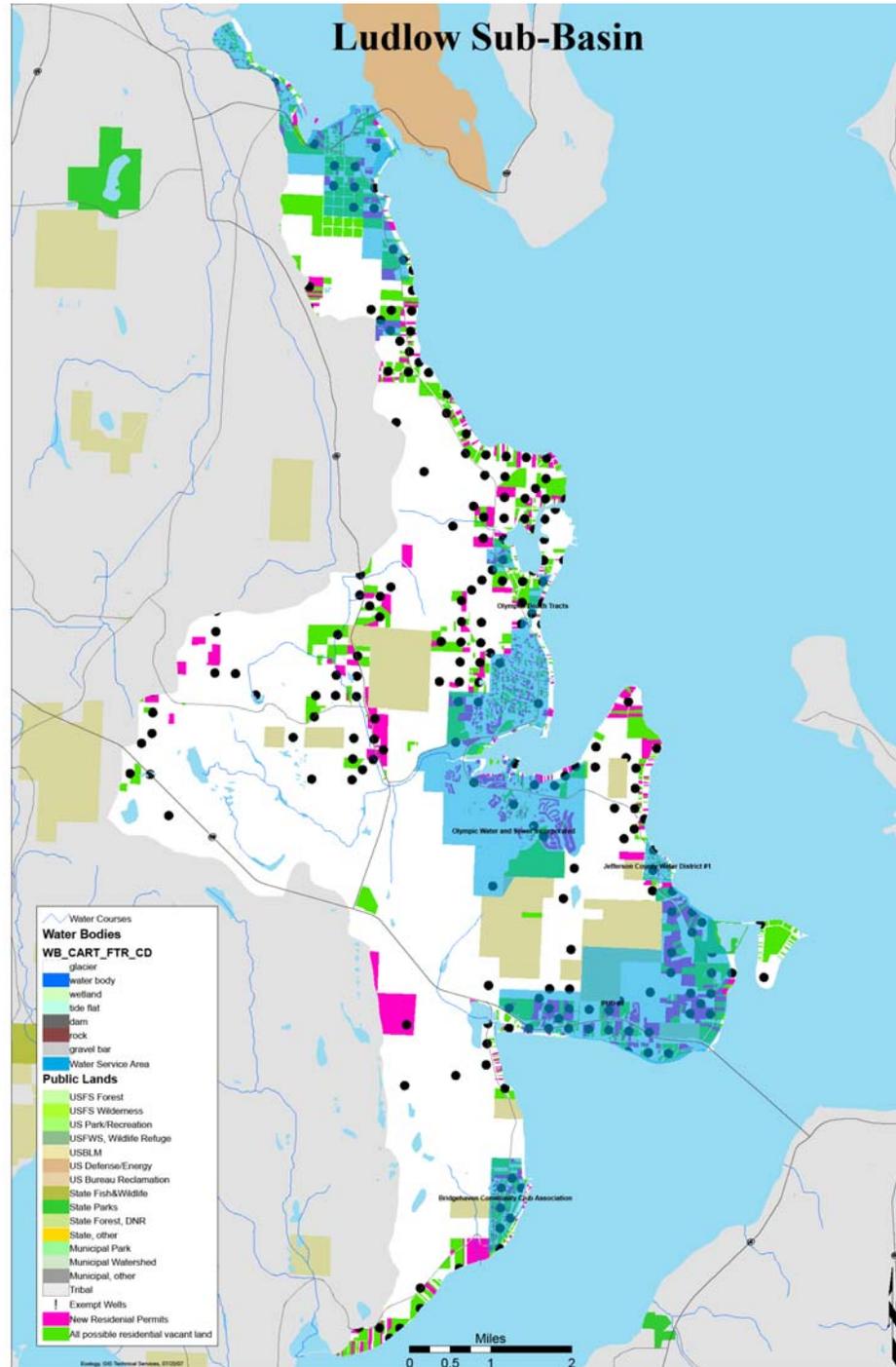
+ Vacant Lots



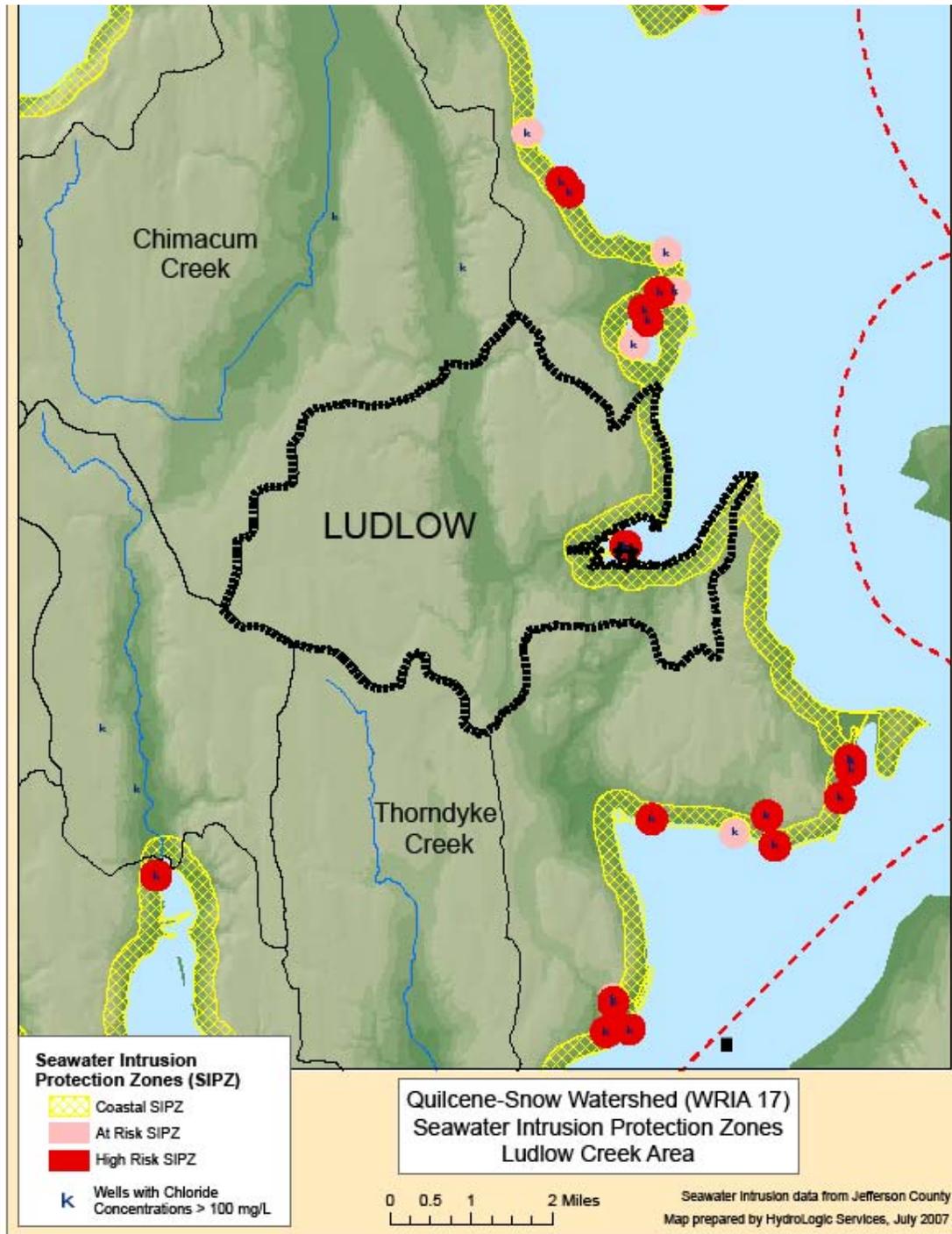
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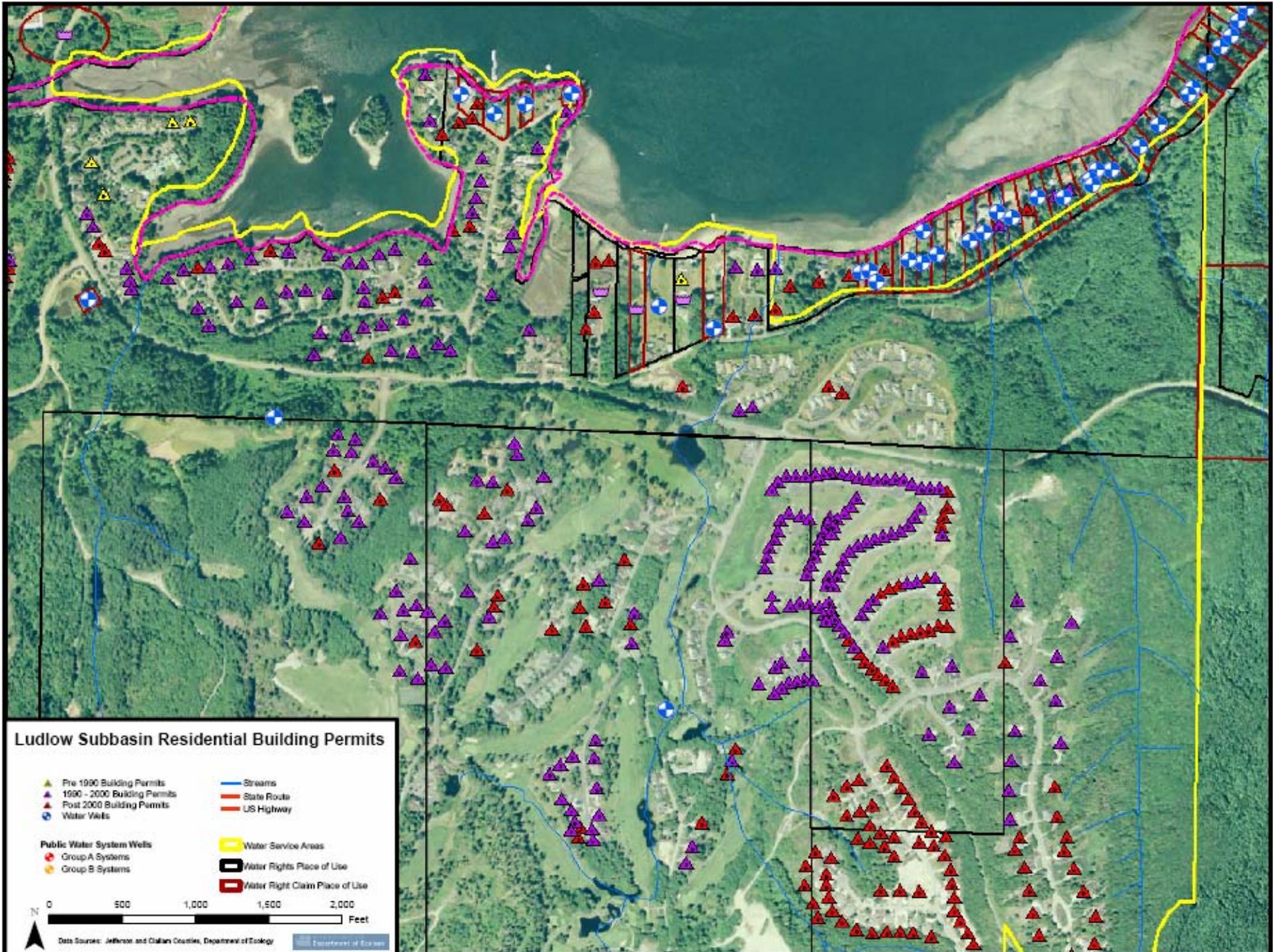


+ Exempt Wells



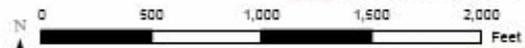
Seawater Intrusion Protection Zones





Ludlow Subbasin Residential Building Permits

- ▲ Pre 1990 Building Permits
- ▲ 1990 - 2000 Building Permits
- ▲ Post 2000 Building Permits
- Water Wells
- Streams
- State Route
- US Highway
- Public Water System Wells
- Group A Systems
- Group B Systems
- Water Service Areas
- Water Rights Place of Use
- Water Right Claim Place of Use



Data Source: Jefferson and Clatsop Counties, Department of Ecology

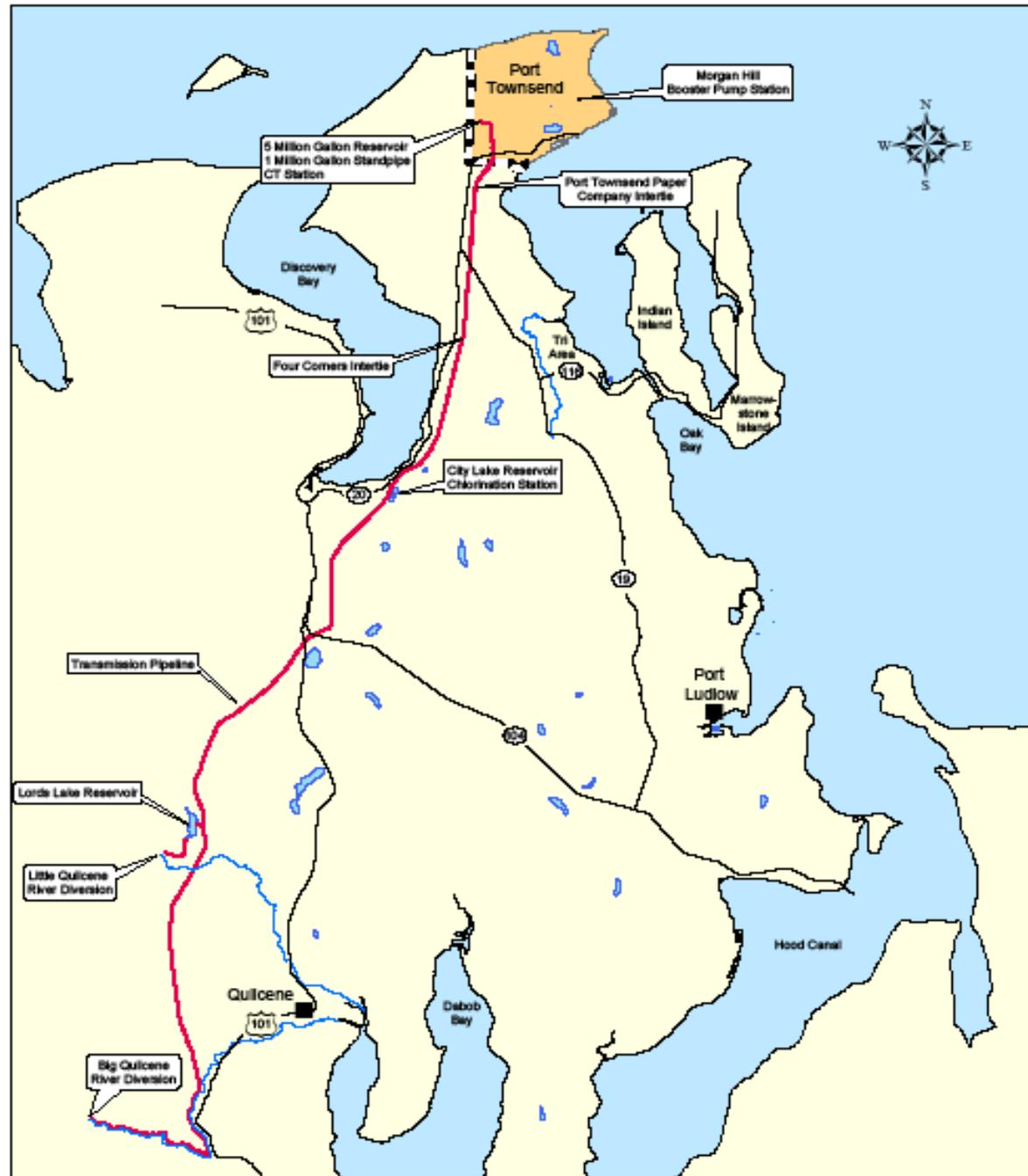
Summary of Ludlow Sub-Basin Observations

- ✱ High population growth & lot capacity for future growth
- ✱ Public water system is groundwater-dependent
- ✱ Public systems may have inadequate water rights to serve projected growth
- ✱ Coastal wells and seawater intrusion
- ✱ Junior water rights may impair senior rights

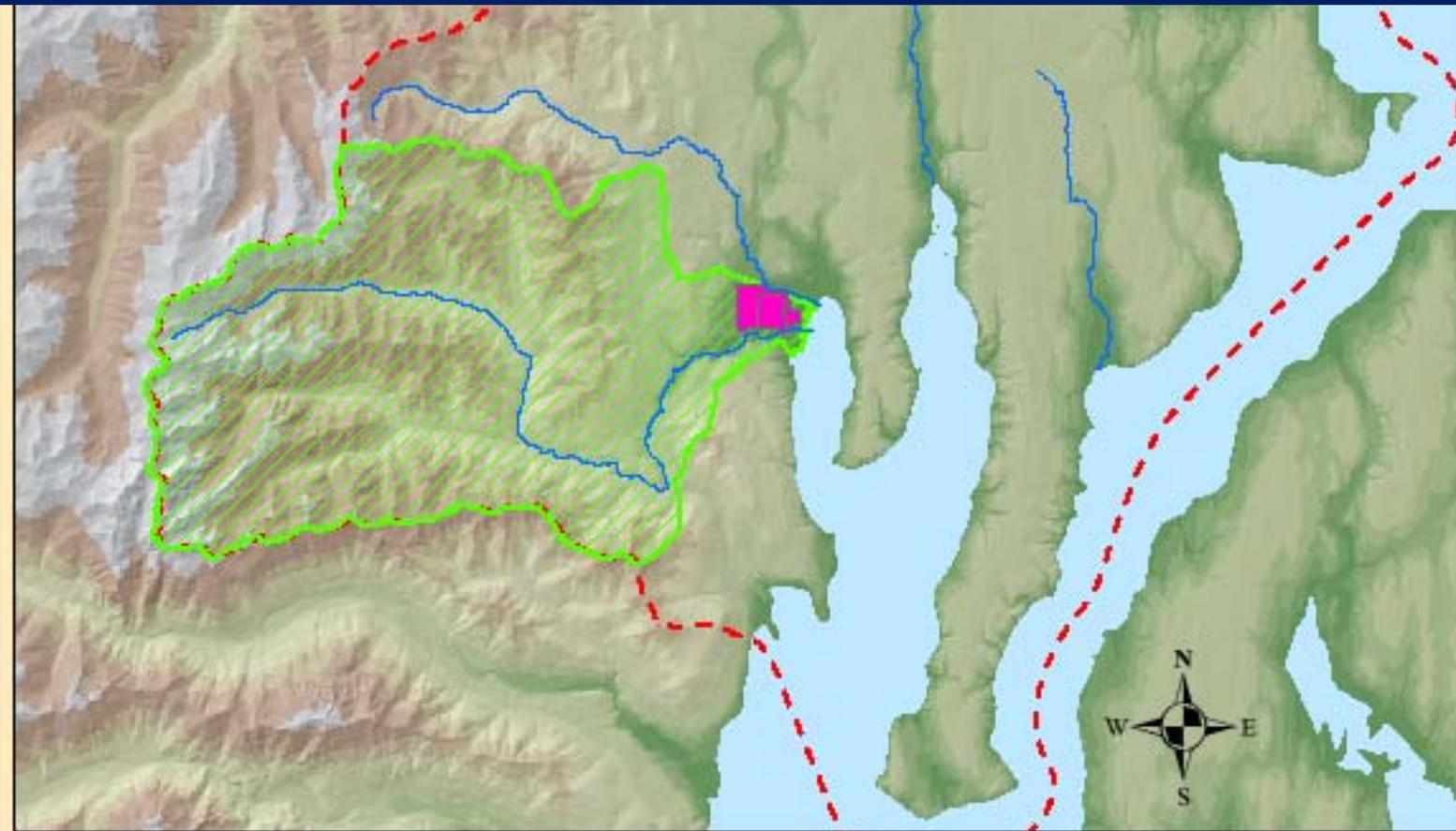
Big & Little Quilcene Sub-Basins Overview



Olympic Gravity Water System



Quilcene Water Service Area



Legend

-  Town of Quilcene Water Service Area
-  Big Quilcene R

Quilcene-Snow Watershed (WRIA 17)
Town of Quilcene Water Service Area

0 1 2 4 Miles


Map prepared by HydroLogic Services, July 2007

Summary of Big & Little Quilcene Sub-Basins Observations

- ★ Low population growth but high demand for water, due to out-of-basin diversions
- ★ Proposed Quilcene water service area and transfer of water rights
- ★ Coordination with multiple agencies and stakeholders



Summary of General Observations

- ✱ Growth has been and likely will be concentrated within certain areas of the watershed
- ✱ Potential for saltwater intrusion is cause for concern
- ✱ Stream flows are naturally low
- ✱ Many public water systems are groundwater-dependent

Preview of Potential Management Strategies

- ★ Efficiencies and behavior changes
- ★ Physical infrastructure
- ★ Water rights administration
- ★ Resource protection and enhancement
- ★ Regulatory limits

Efficiency and Behavior Changes

- ★ Efficiency in irrigation and other water use
- ★ Conservation
- ★ Water reuse/recycling

Physical Infrastructure

- ★ Surface water storage
- ★ Aquifer storage and recovery
- ★ Desalination of salt water
- ★ Reuse/recycle water

Water Right Administration

- ★ Instream flow setting
- ★ Sharing or pooling of water rights
- ★ Water trust program
- ★ Water right exchange
- ★ Voluntary relinquishment
- ★ Adjudication

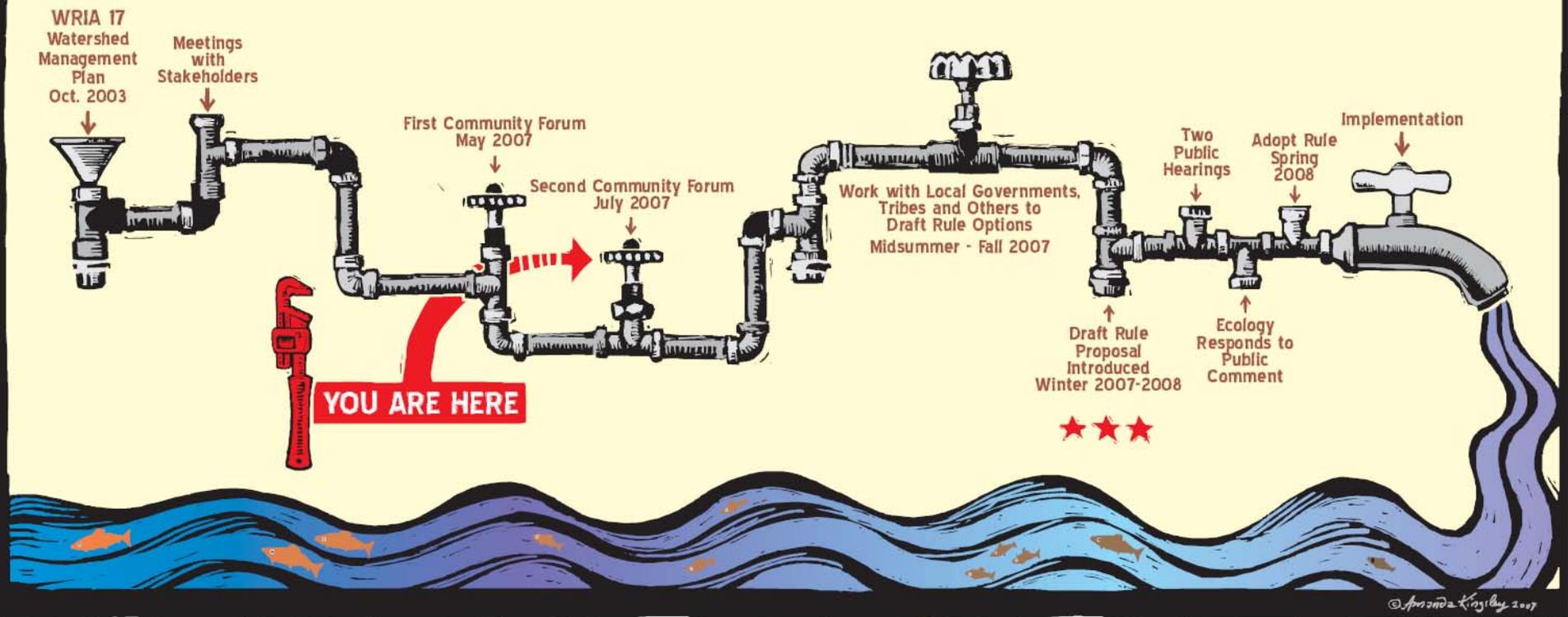
Resource Protection and Enhancement

- ★ “Non-water” management measures
 - ★ Habitat conservation
 - ★ Habitat restoration & enhancement

Regulatory Limits

- ★ Closure of access to surface water
- ★ Closure or restrictions on access to groundwater
 - ★ To protect instream flows
 - ★ To prevent saltwater intrusion
- ★ Limits on exempt well use

Public Involvement Matters: Your Opportunities for Shaping the Instream Flow Rule





“In the end, we will be best served if we can put politics aside and find common ground here. The future depends upon it.”

—Leader editorial on the water management rule-making process, May 16, 2007



WATER for PEOPLE, FARMS & FISH

<http://water.jefferson.wsu.edu>

<http://www.ecy.wa.gov/programs/wr>

