

American Planning Association
Washington Chapter
Puget Sound Section

King County Water Resources and Water Supply Planning
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King County Water Resources and Growth Management

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Presentation Objectives

- King County Interests
- Water Resources in King County
- King County Planning Objectives
- Planning Framework
- Plan implementation and King County Code

Some Facts about King County

- 2,134 square miles
- 1.8 million residents (14th largest county in U.S.)
- 39 cities
- Farmland and the Cascade Mountains on the east side; Puget Sound and urban coastline on the west side
- Three listed fish species under ESA (chinook salmon, bull trout, steelhead)
- County govt provides local services and regional services include: regional transit, sewage treatment, solid waste disposal, flood control, regional parks, public health

King County looks like this....





And this.....

Water Interests

- Land use, permitting, water availability
- Meet GMA requirements re planning, infrastructure, and resource protection
- Storm water management
- Flood management
- Wastewater management and use
- Water quality of both fresh and salt waters
- Water quantity for lakes and streams
- Investment protection (i.e. habitat projects)

Water for local government

- Growth Management Act
 - Consistency among plans
 - Ensure adequate long-term infrastructure
 - Protect groundwater in rural areas
 - Make determinations on adequate supplies for subdivisions, individual building permits
- Public health
 - Approve new wells and small systems
 - Approve septic systems
 - Ongoing oversight over both

King County Water Resources

- Four major watersheds
 - Snoqualmie/Snohomish
 - Cedar/Lake Washington
 - Green/Duwamish
 - White/Puyallup - fed by snowpack in the Cascades
- Ground water – four ground water protection areas
- Storage of some kind (water supply; flood management; hydropower)
- All have multiple fish species, including species listed under ESA (chinook salmon, bull trout)
- Many lakes, streams that provide water supplies and fish habitat
- High flows in winter/spring, lower flows in summer/fall

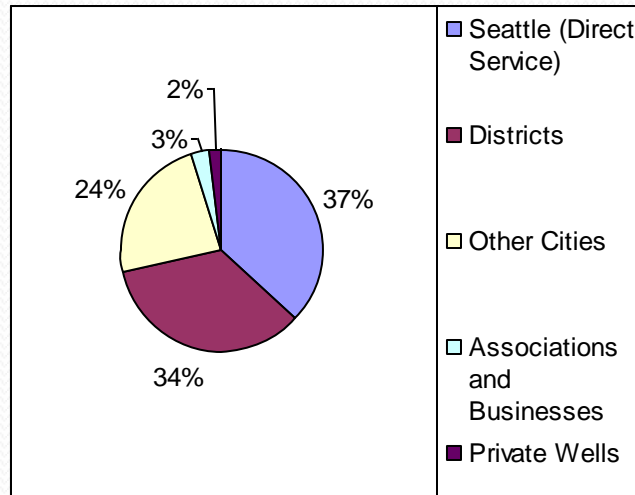
Planning Levels

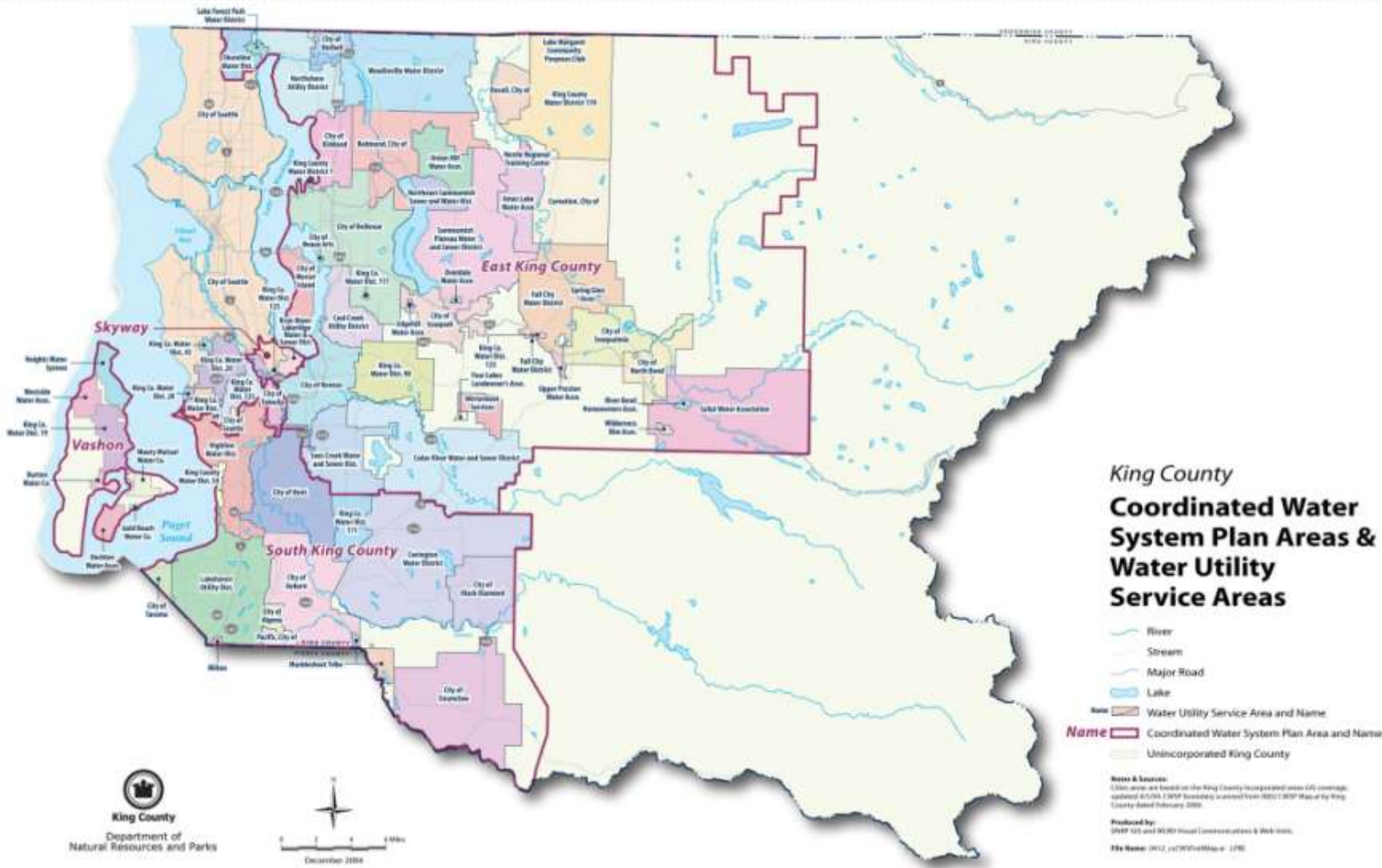
- Multi-County – Four Counties, Puget Sound Regional Council and Vision 2040
- Countywide – urban areas with the 39 cities and rural areas, regional function
- Rural areas, land use and development standards – implementation
- Resource protection with Critical Areas Ordinances

King County Water Supplies

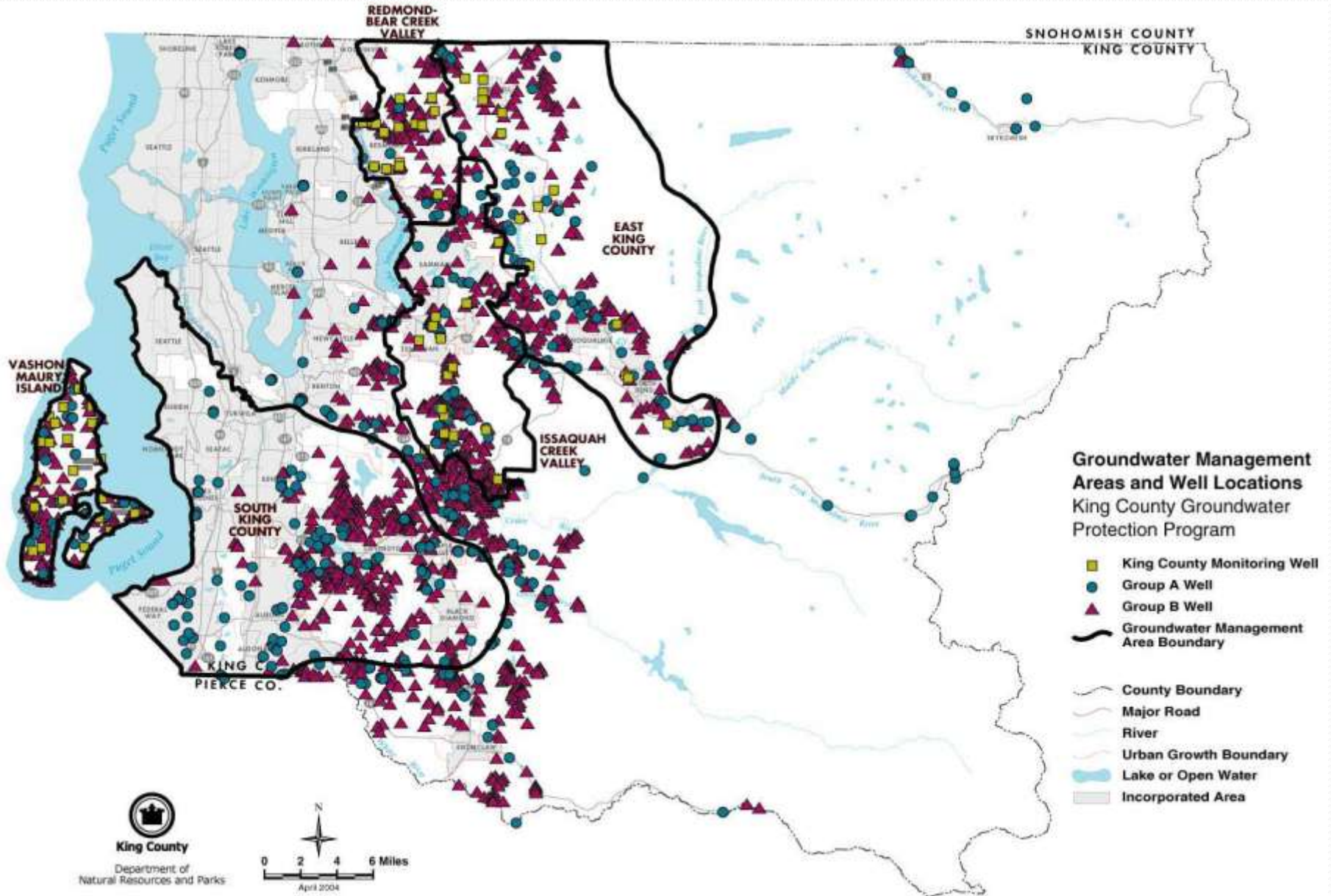
- Water is delivered in KC principally by nearly 1800 water systems of different types/sizes
- Most of the water is delivered from Seattle's two sources (Tolt and Cedar) directly or through wholesale customers
- Other larger utilities in KC have water from either other surface supplies (Green River system), or their own groundwater (e.g., Auburn, Kent, Lakehaven, Issaquah, Sammamish Plateau)
- Many small systems and private wells use groundwater exclusively
- Between 12,000 and 20,000 private drinking water wells in KC
- Ecology has records on >51,000 wells in KC (includes drinking, irrigation, investigation, etc.)

Population Served by Provider





Public Water System Wells in King County



Adequate Water Supply

- Adequate defined in code, development standard, K.C.C. 21A.28.040
- For the building permit or the subdivision
 - State code
 - K.C.C. related to right-of-way and fire flow
 - Coordinated water system plans & others
 - Board of Health rules

Water Resource Planning and Water System Plan Review

- County review of water and sewer plans if water is obtained or delivered in unincorporated King County
- Utilities Technical Review Committee (UTRC) implements King County Code 13.24
- UTRC review and recommendation to Council
- King County Council approval

Land Use Level

Critical Areas Ordinances

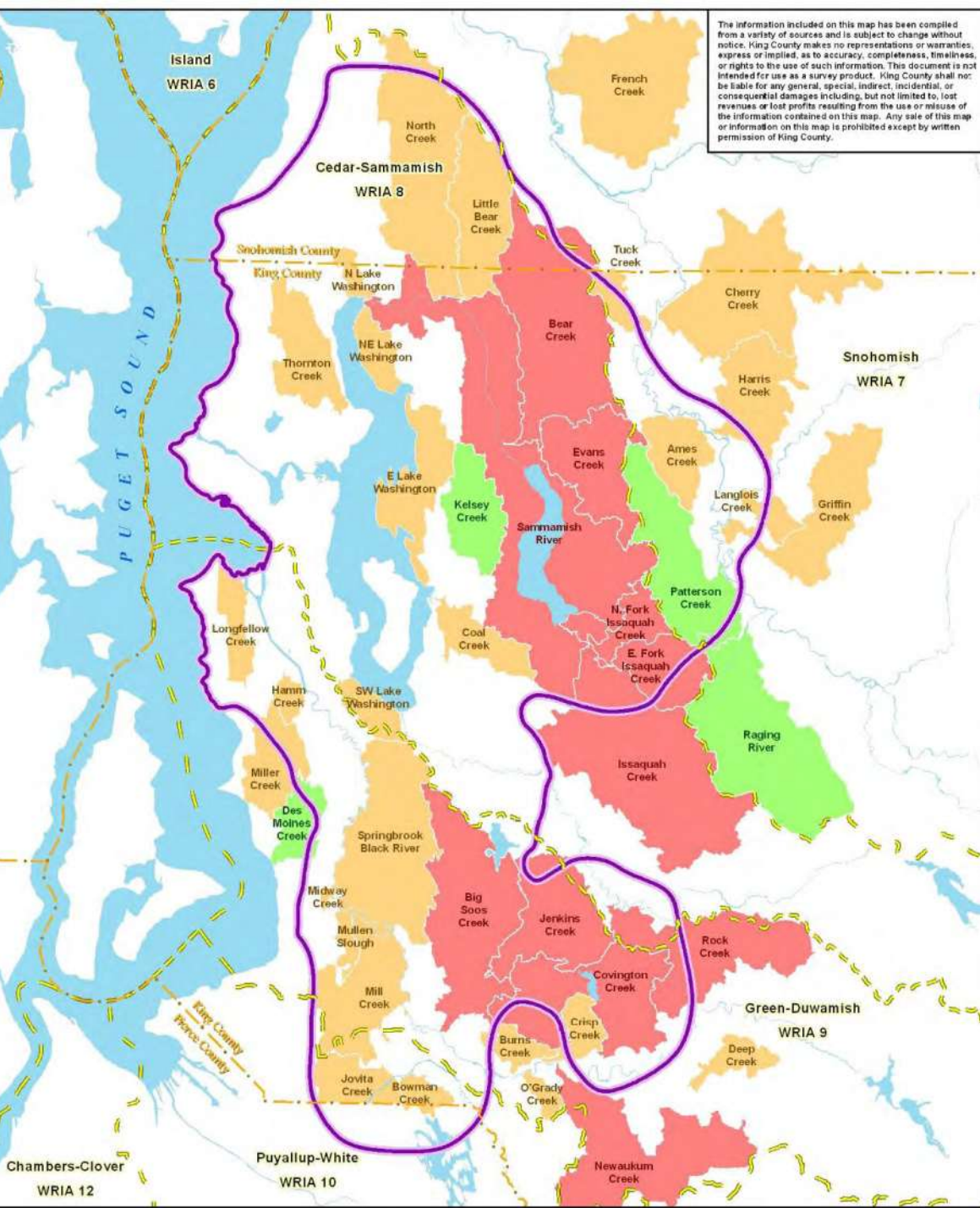
- Growth Management Act – usual goals
- Impervious areas and challenges of storm water management
- 65/35 policy and does it work?
- Developing a multi-scale spatially explicit estimator of the impacts of land cover change impacts on aquatic resources
- Benthos (BIBI), hydrology, stream geomorphology, water chemistry land cover

ESA

- Comply with ESA
- Salmon Recovery Planning and instream flows
- Water as part of Habitat

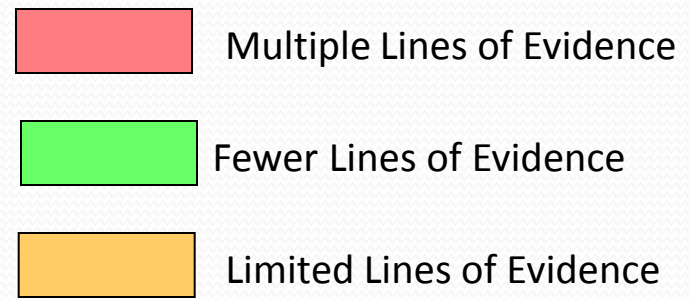
King County Stream Flows

- Ecology rules in late 1970's and 1980's: established "minimum" flows for major KC streams, or closed most basins to new withdrawals
- Old Ecology Instream Flow rules are not "best available science"
- Flows affected by diversions, land use changes, hydrologically connected GW withdrawals, precipitation, snowpack
- Basin-wide assessments by Ecology in mid-1990's documented declines in flows
- "Limiting factors" analyses for KC watersheds as part of salmon recovery identified flows as an issue



Streams Findings

- 15 basins identified with low-flow issues
- Summer flows declining over time



Tomorrow?

- Sustainability for water resources begs integration of planning at local, state level
- Better integration of water supply, stormwater management and water for habitat
- Climate change emerging as a long-term planning issue

Sustainability of Water Resources

- Wellhead protection areas incorporated into CAO, critical aquifer recharge areas
 - Understanding of ground water levels
- Efficiency of water use
- Grey water
- Reclaimed water for appropriate non-potable uses
- Rainwater use and plumbing code



Thank You

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