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Reach-scale planning in Snohomish County: a foundation for collaborative farm-fish-flood integrated planning and project delivery

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Donald "Kit" Crump, Erik Stockdale, Snohomish County Surface Water Management

Purpose of Reach Scale Plans

- **Identify a coordinated set of multi-benefit projects that will, when complete, improve the natural functions within the reach while generating a net gain for farm, fish and flood (F3) management interests**

Potential Collaborative Outcomes

Net Gain for Agriculture

- Enhanced agricultural productivity and economic viability
- Flood damage reduction
- Ag resilience plan (climate change)
- Farmland protection & preservation (PDR, TDR)
  - Protect large blocks of contiguous ag land
- Regulatory certainty
- Infrastructure support

Net Gain for Fish/Environment

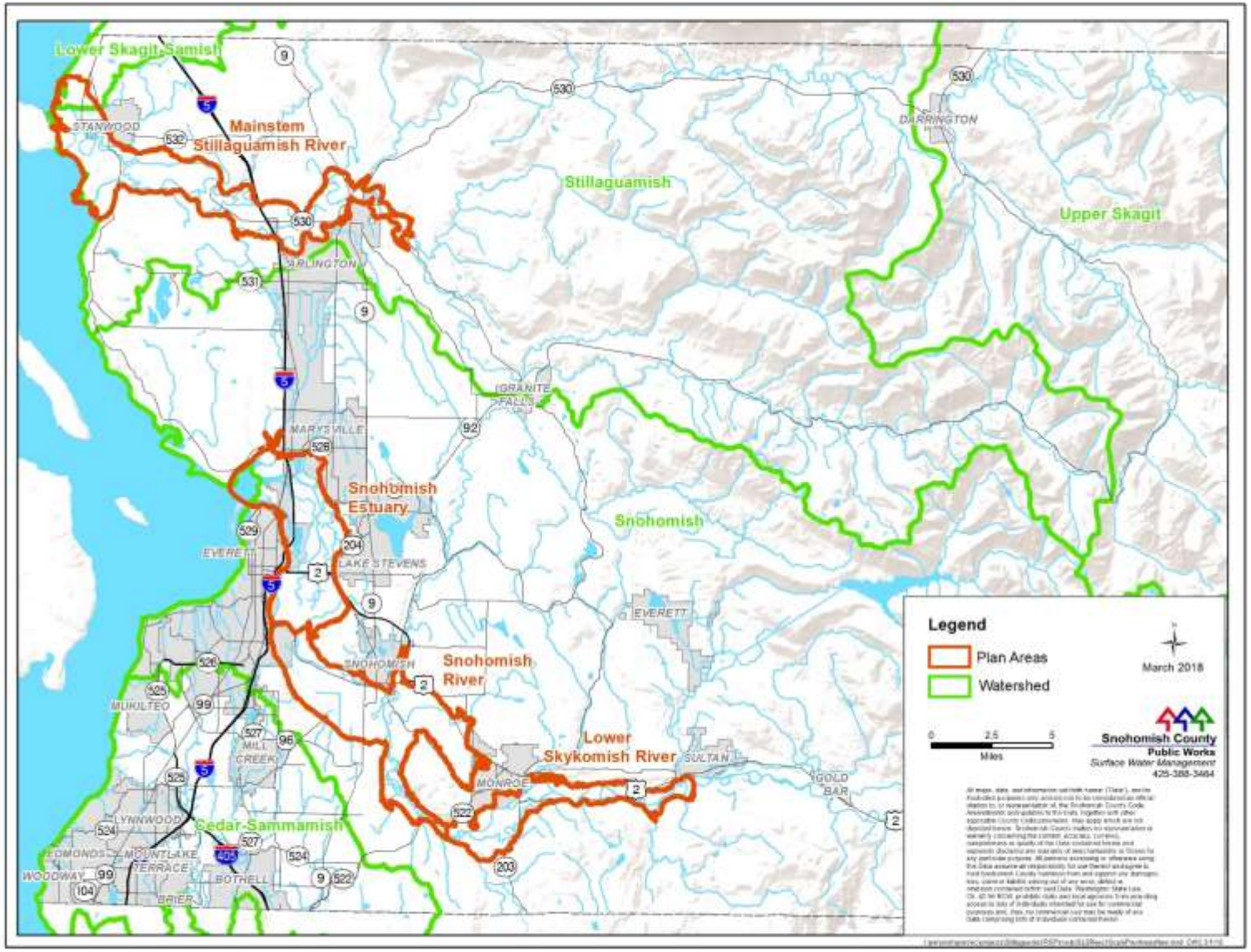
- Continued progress toward Salmon Plan targets
- Improvements in water quality, habitat
- Broad based community support for actions

Net Gain for Flood Risk Reduction

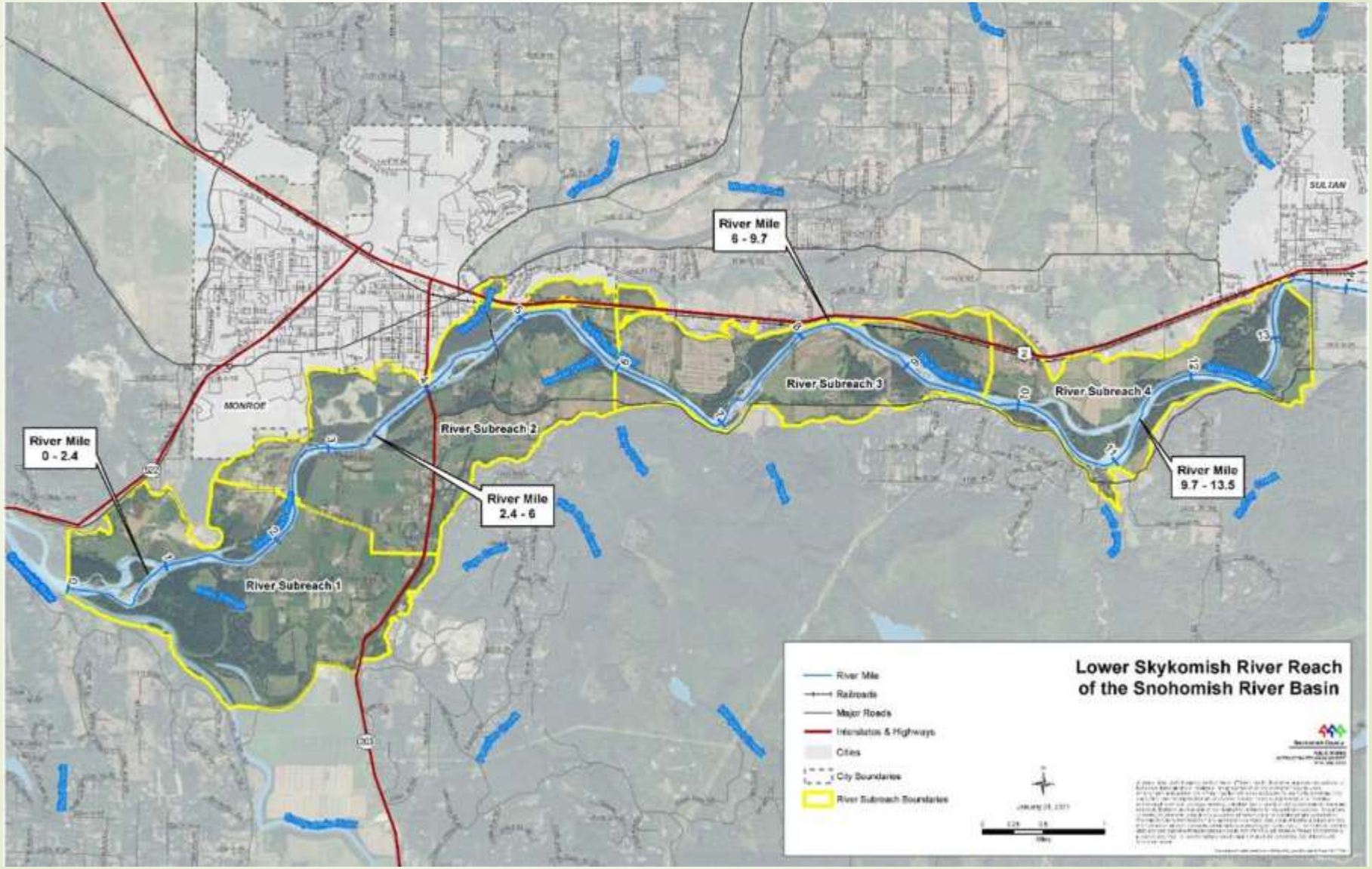
- Reduced flood risk for farms, residences and infrastructure in the floodplain

Landscape Scale

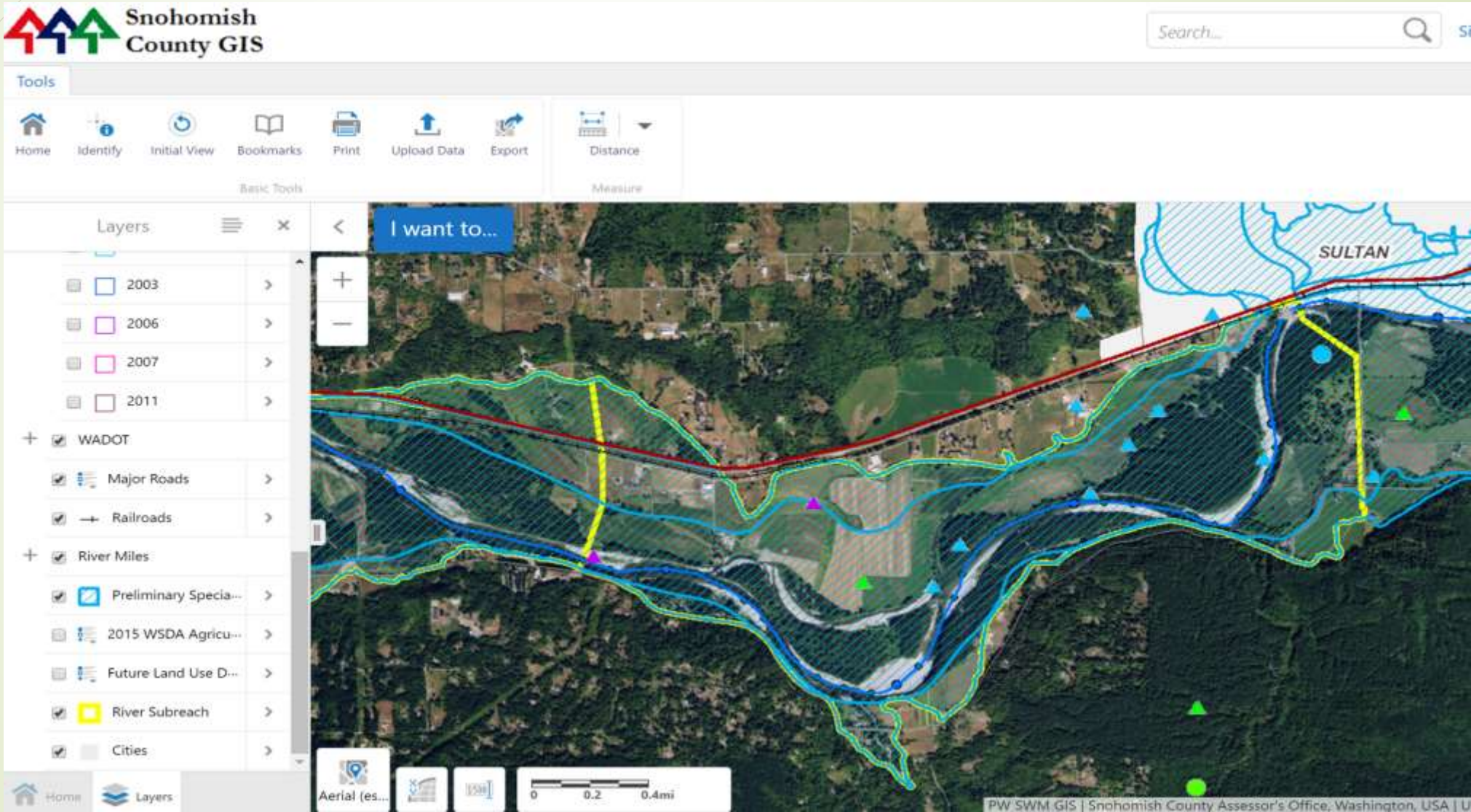
Reach Scale Planning Areas



Planning Reach



Reach Scale Plan Web Map



Structure of the plans

- Chapter 1: **Goals and Background of the Plan**
- Chapter 2: **Conditions in the Reach**
- Chapter 3: **Farm, fish and flood considerations**
- Chapter 4: **Projects to address farm, fish and flood risk reduction**
- Chapter 5: **Measuring Success**
- Chapter 6: **Progress Reporting & Next Steps**

Influencing Factors

- **Land Use Intensity (Agriculture versus Urban)**
  - Intensity correlated with the significance of social systems
- **Estuary (landscape type) versus River (gradient)**
  - Drowned Valley (Snohomish) versus Post-Glacial River Valley (Stillaguamish)
  - River Gradient
    - Estuary (Stilly/Snohomish)>>mainstem river(Stilly/Snohomish)>>river tributary (Skykomish)
    - High water energy and smaller river corridors constrain options

Influencing Factors

- **Balance of Land Use Needs and Opportunities**
  - Driven by stakeholder desires and/or by environmental factors (current and future)?
    - Historical Land Use
    - Current and Desired Future Land Use
    - Current Flooding, Erosion, River Dynamics, Sediment Deposition, Salt Water Intrusion, etc…

Influencing Factors

- **Changing Climate**
  - Increased magnitude of peak winter flows
  - Reduction in Summer Low Flows
  - Sea Level Rise

- All of these affect Flooding, Erosion, River Dynamics, Sediment Deposition, Salt Water Intrusion, etc…

Plan Approach

- **Prescriptive**
  - Designed and then conveyed to stakeholders
- **Responsive**
  - Change is created by a group (experts and stakeholders) from the very beginning

- **Complex Landscapes and Social Systems Require Innovative Approaches!**

Plan Schedule

- **Lower Skykomish Reach Scale Plan**
  - September 2017
- **Mainstem Stillaguamish Reach Scale Plan**
  - ~May 2018
- **Snohomish River and Estuary Reach Scale Plan**
  - ~October 2018

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