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2018 Salish Sea Ecosystem Conference
(Seattle, Wash.)

Apr 5th, 4:30 PM - 4:45 PM

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

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Crump, Donald "Kit" and Stockdale, Erik, "Reach-scale planning in Snohomish County: a foundation for collaborative farm-fish-flood integrated planning and project delivery" (2018). *Salish Sea Ecosystem Conference*. 411.

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

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

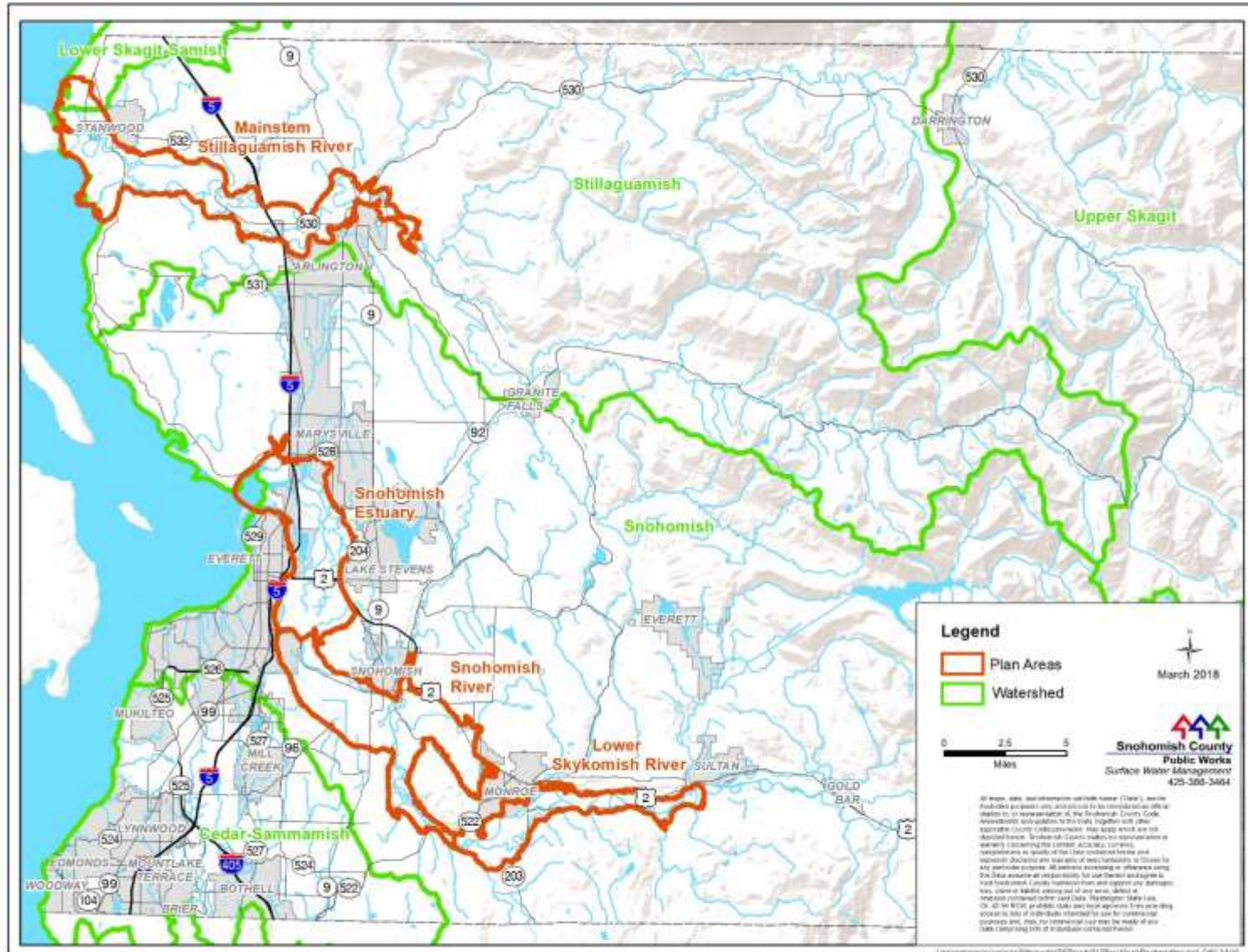


Stanwood

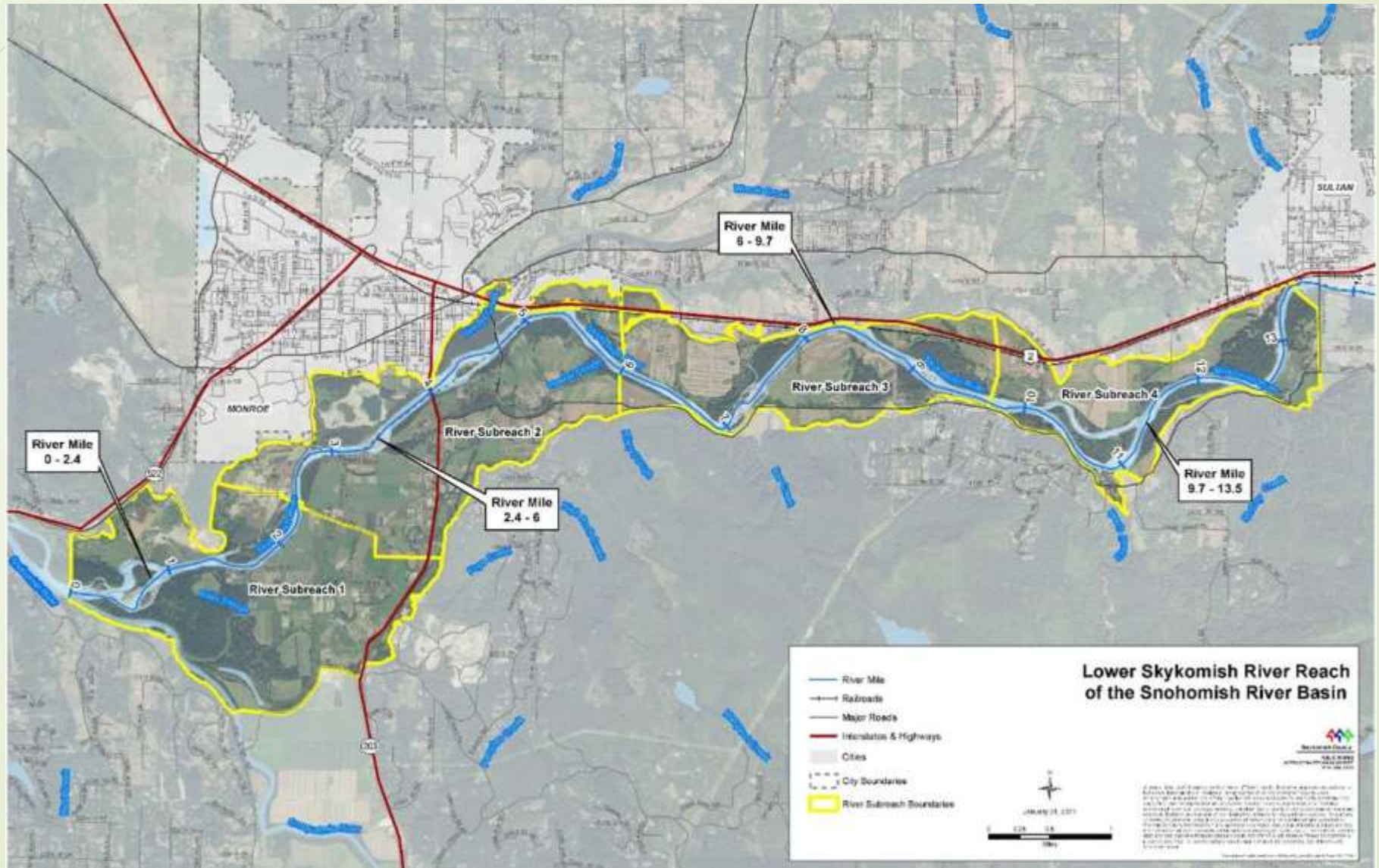
Everett

Landscape Scale

Reach Scale Planning Areas



Planning Reach



Reach Scale Plan Web Map

The screenshot displays the Snohomish County GIS web application interface. At the top left is the Snohomish County GIS logo, and at the top right is a search bar. Below the logo is a 'Tools' menu with icons for Home, Identify, Initial View, Bookmarks, Print, Upload Data, Export, and Distance. A 'Basic Tools' section includes a 'Measure' tool. On the left side, a 'Layers' panel lists various data layers: 2003, 2006, 2007, 2011, WADOT, Major Roads, Railroads, River Miles, Preliminary Specia..., 2015 WSDA Agricu..., Future Land Use D..., River Subreach, and Cities. The main map area shows an aerial view with overlaid colored lines (red, blue, green, yellow) and a blue box containing the text 'I want to...'. A scale bar at the bottom indicates 0, 0.2, and 0.4 miles. The text 'SULTAN' is visible on the right side of the map. The footer contains the text 'PW SWM GIS | Snohomish County Assessor's Office, Washington, USA'.



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



- ▶ *This project has been funded wholly or in part by the United States Environmental Protection Agency under assistance agreement PC-01J22301 through the Washington Department of Fish and Wildlife. The contents of this document do not necessarily reflect the views and policies of the Environmental Protection Agency or the Washington Department of Fish and Wildlife, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.*