Drawing lines on Ag land for a Green Infrastructure Plan

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NACD Urban & Community Conservation Webinar

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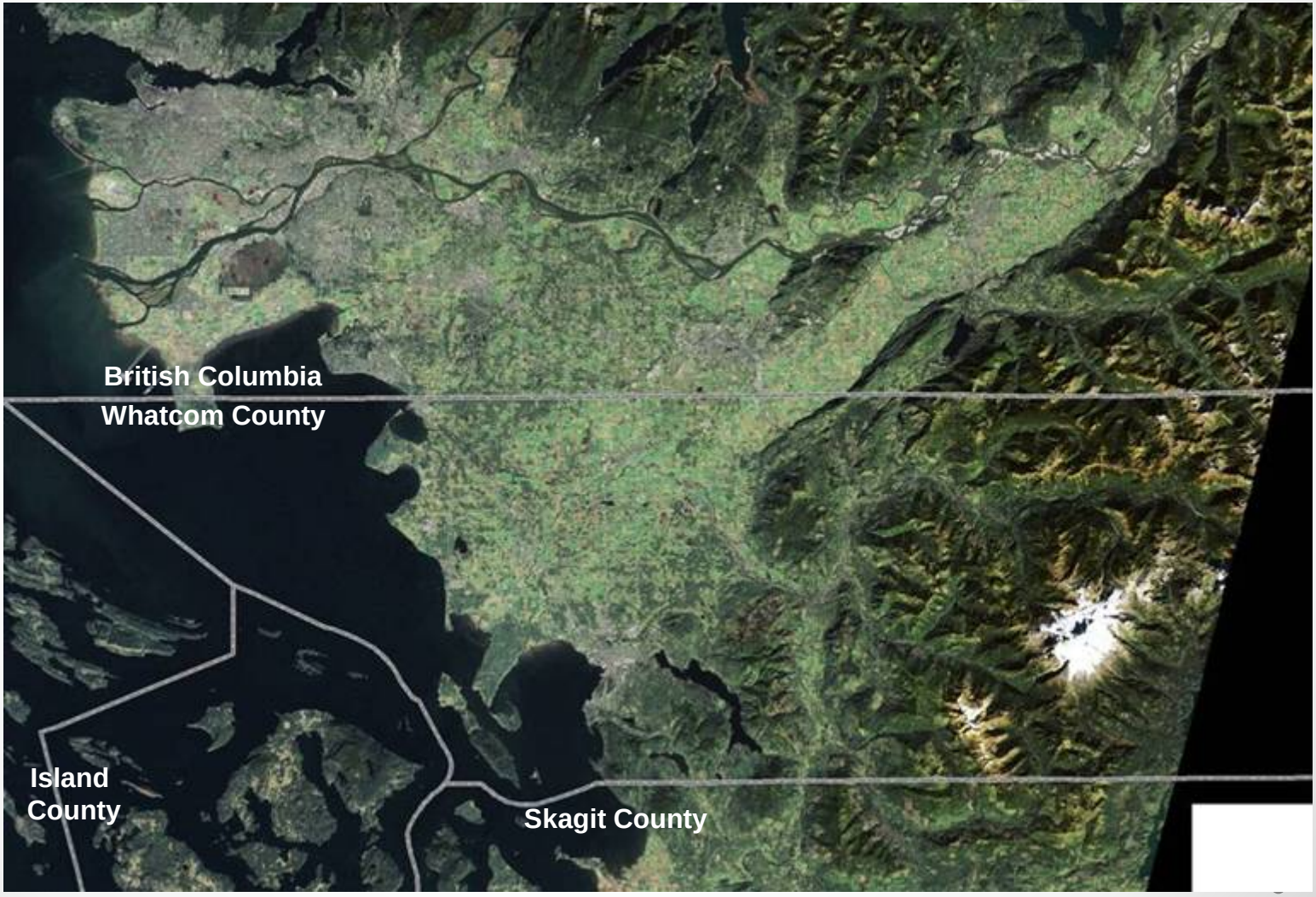
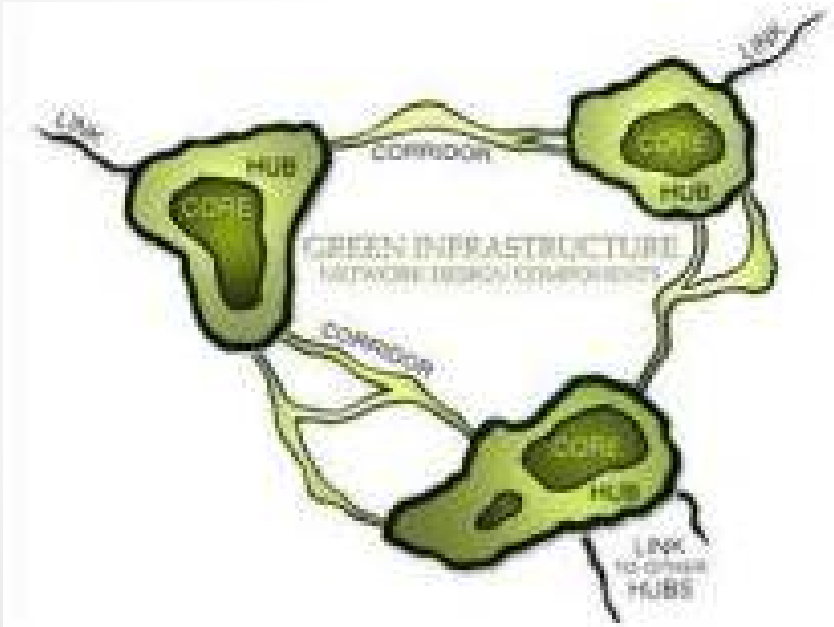
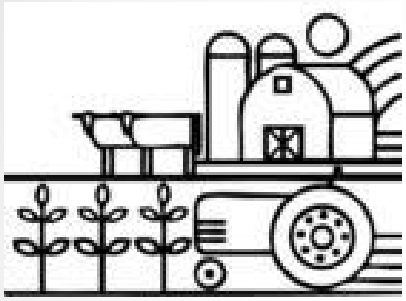
About our County



Basic Question: How to reconcile seemingly competing uses?



Look for mutual benefit



Priority agriculture services

Priority watershed services

Enhancement Targets for Agriculture, watersheds & opportunities for mutual gain

Characterization & Mapping : *WHAT*

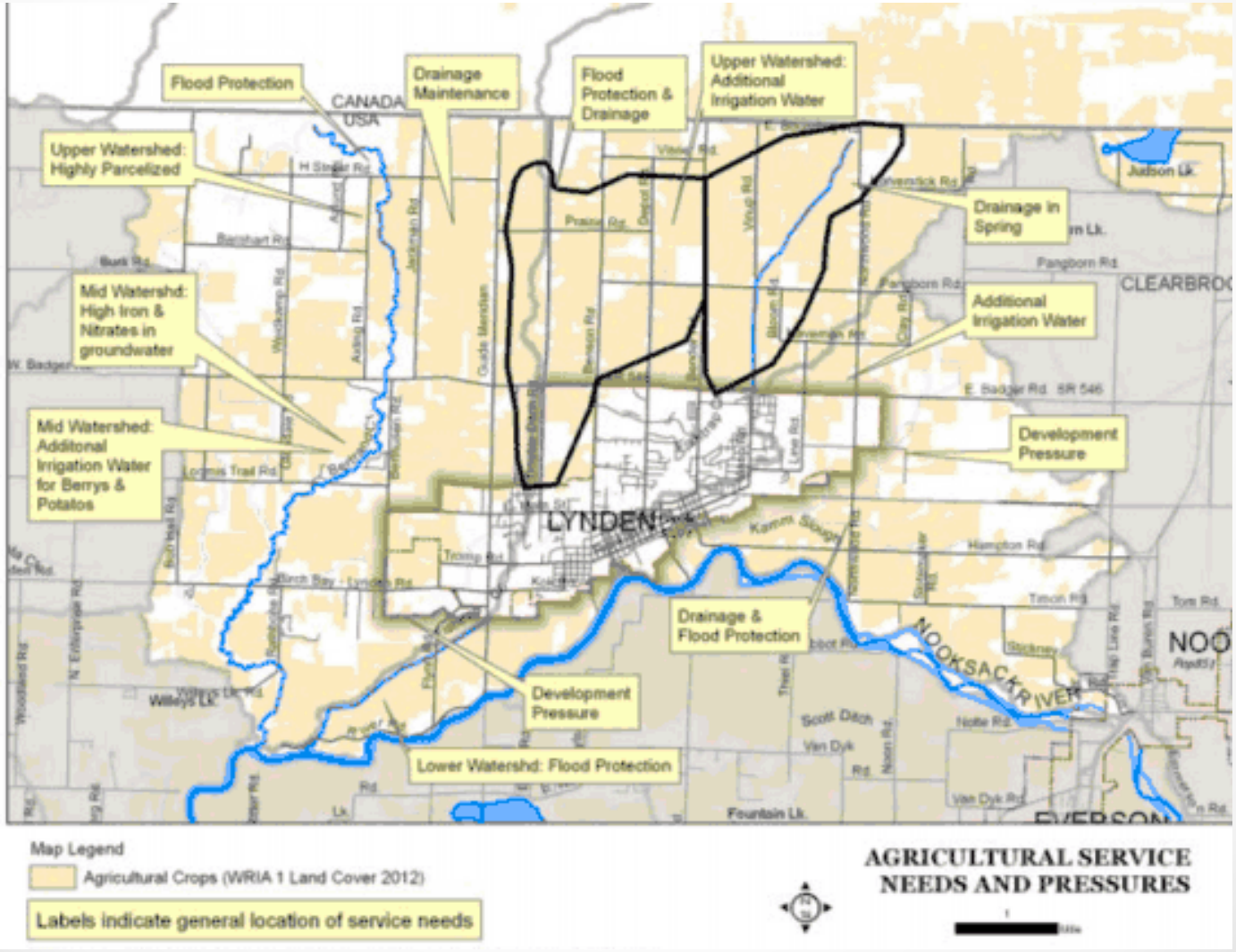
Ag protection targets

- Water quantity (out of stream)
- Drainage of ag fields
- Flood protection
- Ag land protection (from development pressure)
- Buffers (from other land uses)
- Pollination

Watershed enhancement targets

- Water Quality
  - Nutrients N & P
  - Bacteria
  - Water temperature
  - Sediment
  - Dissolved Oxygen
  - Toxic algae
- Habitat
  - Chinook Spawning
  - Anadromous fish (other)
  - Wildlife
- Water Quantity
  - Aquifer recharge
  - Wetland storage
  - In-steam flows

Characterizing & Mapping: *WHERE*



Characterizing & Mapping: WHERE

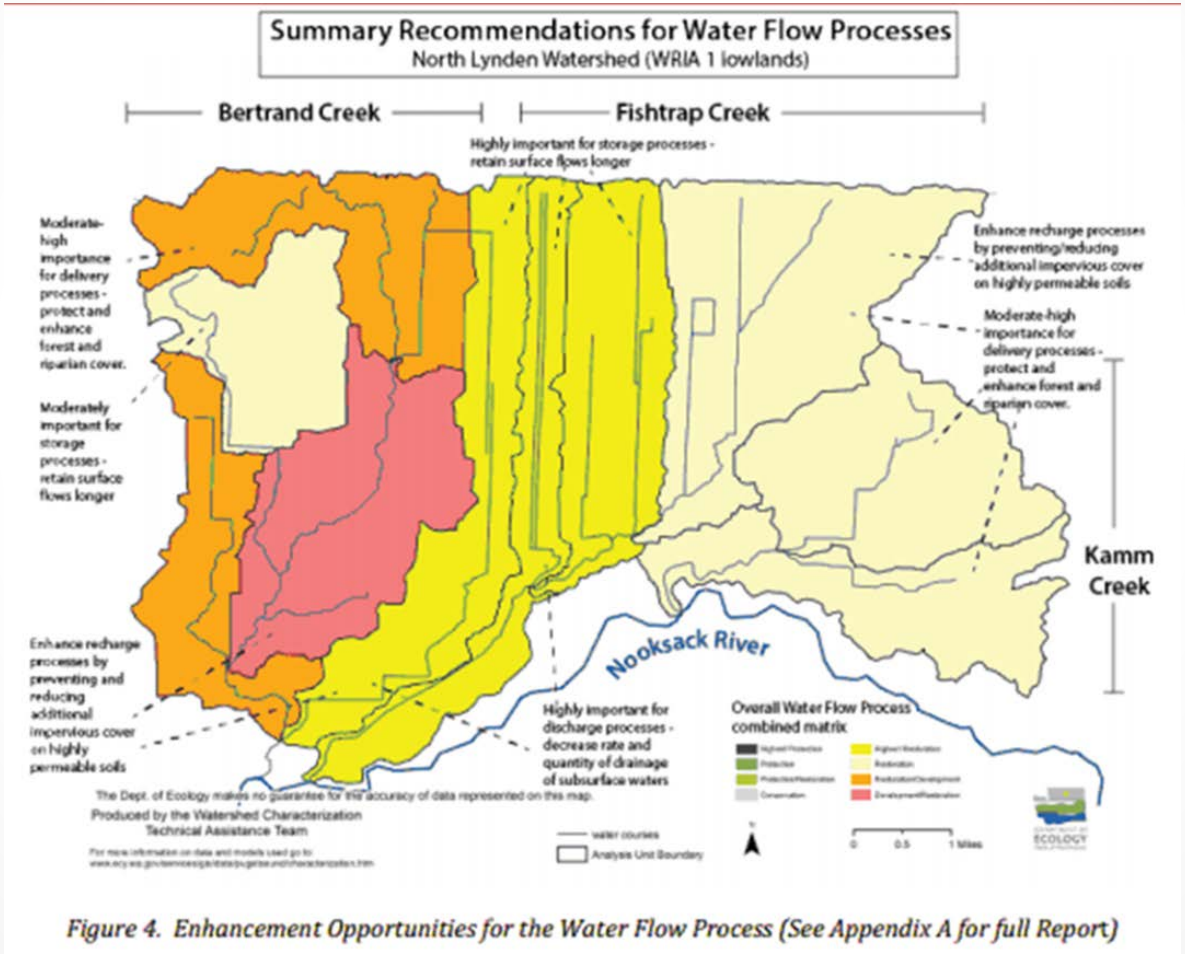


Figure 4. Enhancement Opportunities for the Water Flow Process (See Appendix A for full Report)

Strategic location of protection/enhancement sites

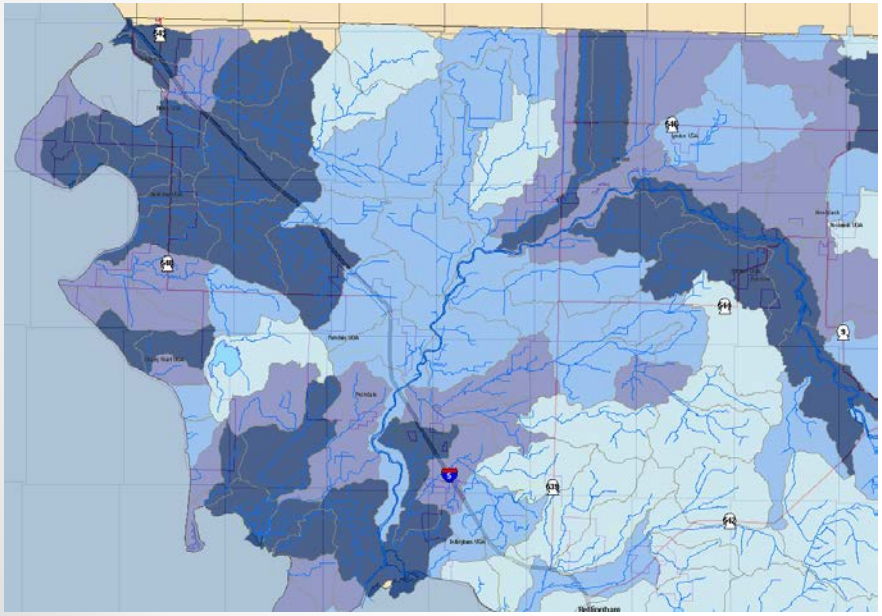
- Water Flow Model Results
  - Protection
  - Restoration
  - Less Impact to Processes

Model 1

Overall Results for Water Flow Process

Importance Map

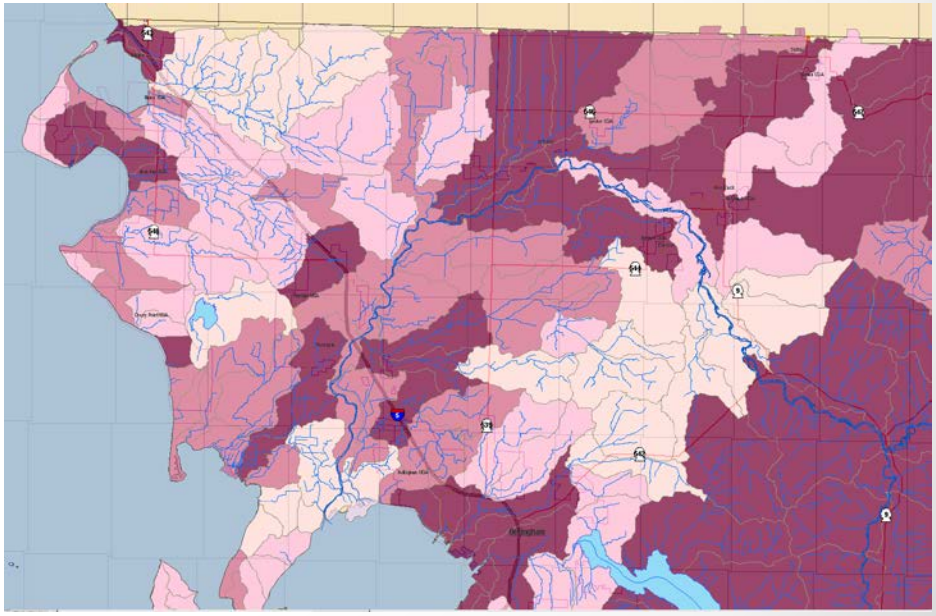
Based on precipitation type and quantity, and area contributing to storage, recharge, and discharge processes



Darker Blue = Higher Importance to Water Flow Process

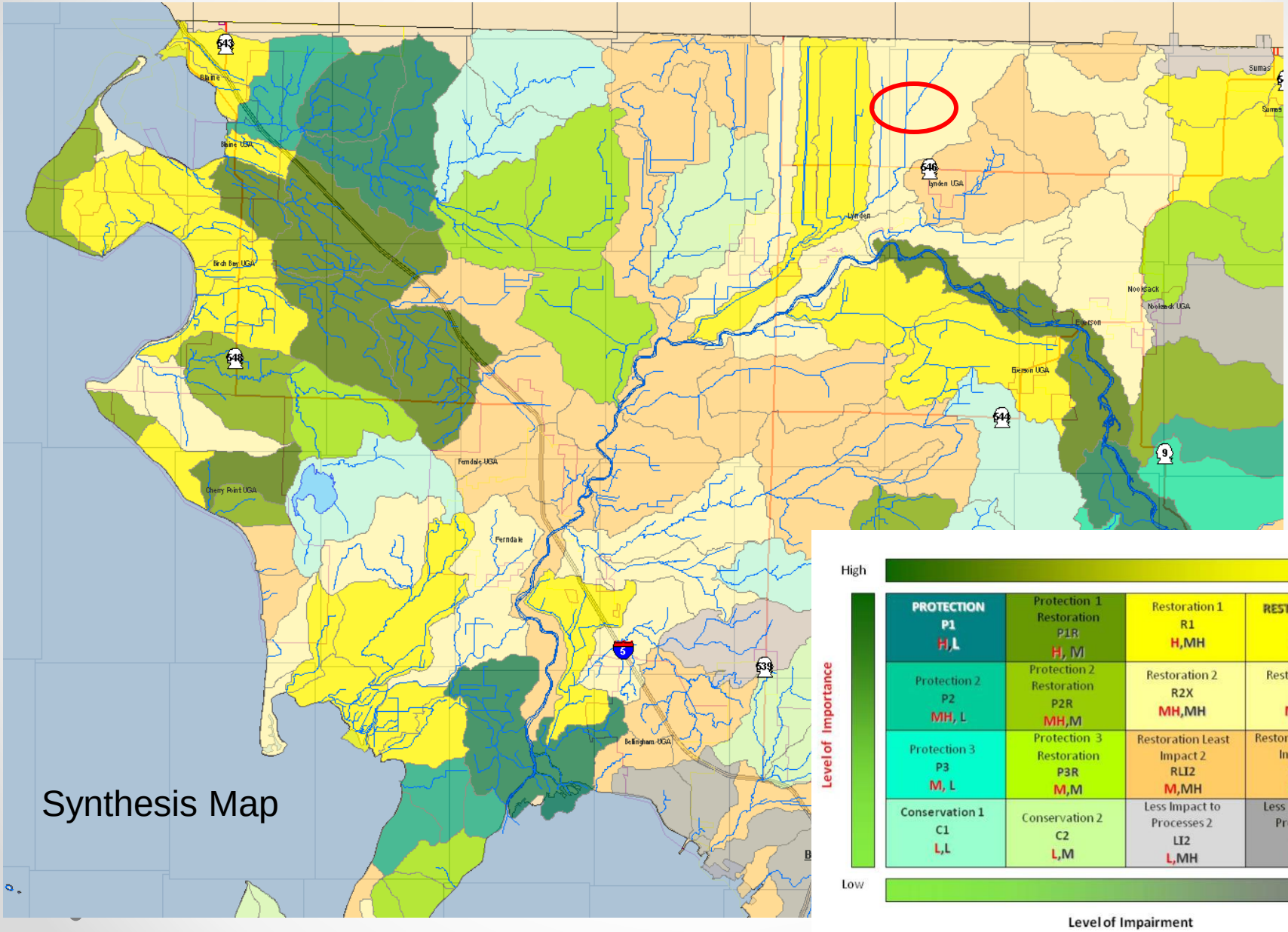
Impairment Map

Based on loss of forest , reduction in storage, recharge, and discharge and increase in impervious cover



Darker Red = Greater Impairment to Water Flow Process

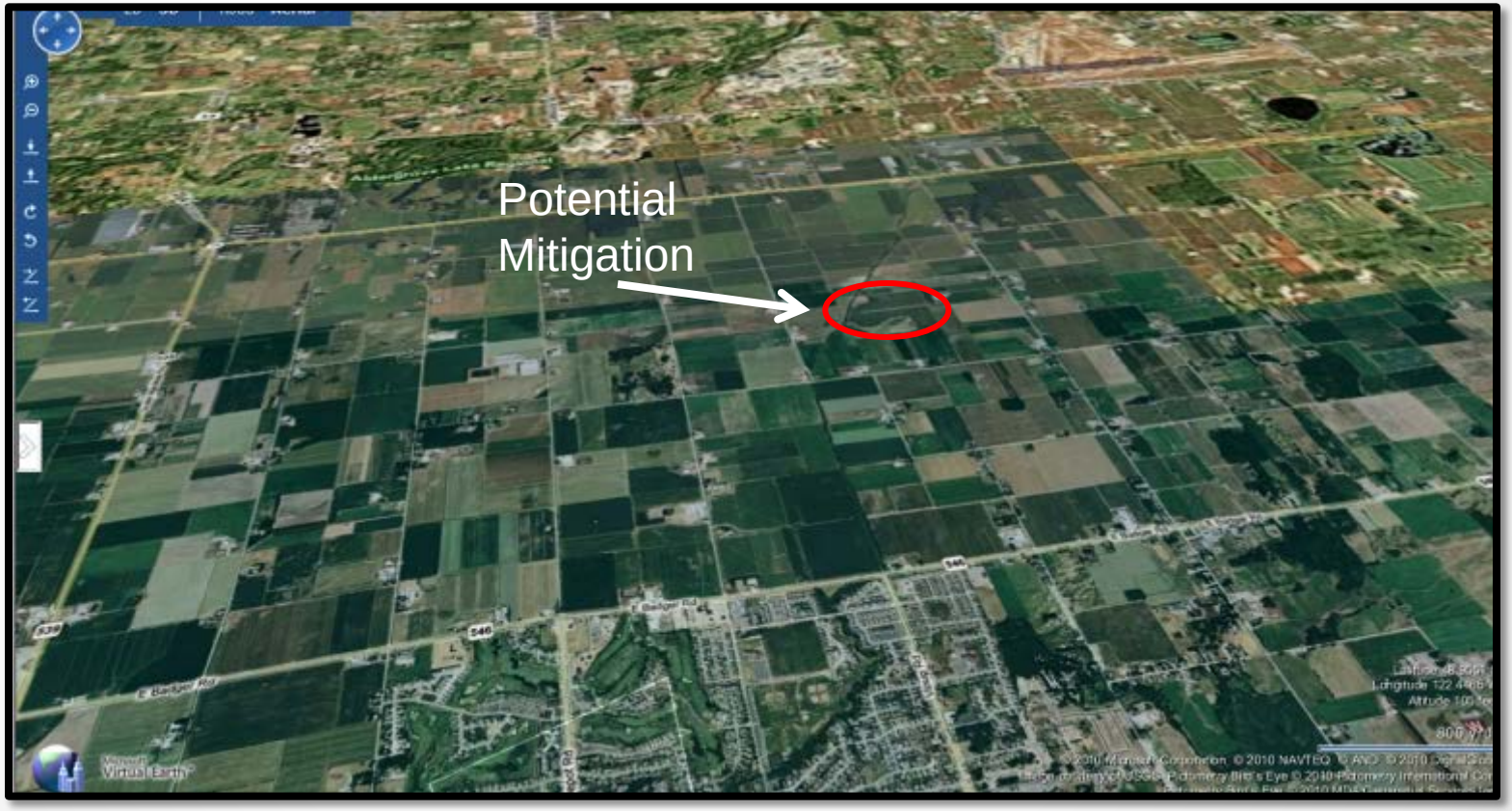
Overall Results for Water Flow Process



Ecosystem wide characterization – Fishtrap Creek

Ecosystem Issue **Fishtrap Creek and Tributaries**	**How have ecosystem processes been changed relative to issue?**	**Solution**	**Actions: Recommended protection & restoration measures and environment designations**
Low Dissolved Oxygen. On 303 (d) list.	Delivery, storage and discharge processes have been impaired. These processes govern denitrification and removal of sediment and phosphorous. Impaired delivery results in greater movement of sediment and phosphorous into aquatic systems. Impaired storage and discharge reduces denitrification processes	Restore depressional wetland areas downstream of agricultural lands.	Develop mitigation bank run by agricultural community. Proceeds from sale of credits would be used to retire development rights in agricultural lands at highest risk of development.

Potential Restoration Area Fishtrap Creek



Potential Restoration Area Fishtrap Creek

GI Process will help us:

- Better identify and protect our working lands and the physical infrastructure they need;
- Strategically locate lands to produce environmental services our community needs for a healthy watershed;
- Facilitate an environmental market place to provide more income to farmers;
- Reduce conflict among farmers, environmentalists, developers, tribes and community members;
- Deliver certainty that we will make wise use of resources for present and future generations.

Credits/Resources

- Whatcom Co Ag-Watershed Project Website: http://www.whatcomcounty.us/pds/plan/lr/projects/projects/agprogram/index.jsp
  - FHB Consulting (Heather MacKay, mackayh@gmail.com)
  - Whatcom County (Karin Wessman, KWessman@co.whatcom.wa.us)
- Puget Sound Watershed Characterization Website: http://www.ecy.wa.gov/services/gis/data/pugetsound/characterization.htm
  - Washington Dept. of Ecology (Stephen Stanley, SSTA461@ECY.WA.GOV)
- Farm Friends: http://www.wcfarmfriends.com/go/site/1579/