

VSP 2015

RIPARIAN CONDITIONS USING AERIAL PHOTOS

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Skagit County GIS

GOALS

2008 Study

Salmon Policy Resolution directed the county's Geographic Information Systems (GIS) department to undertake a large-scale mapping project of riparian areas

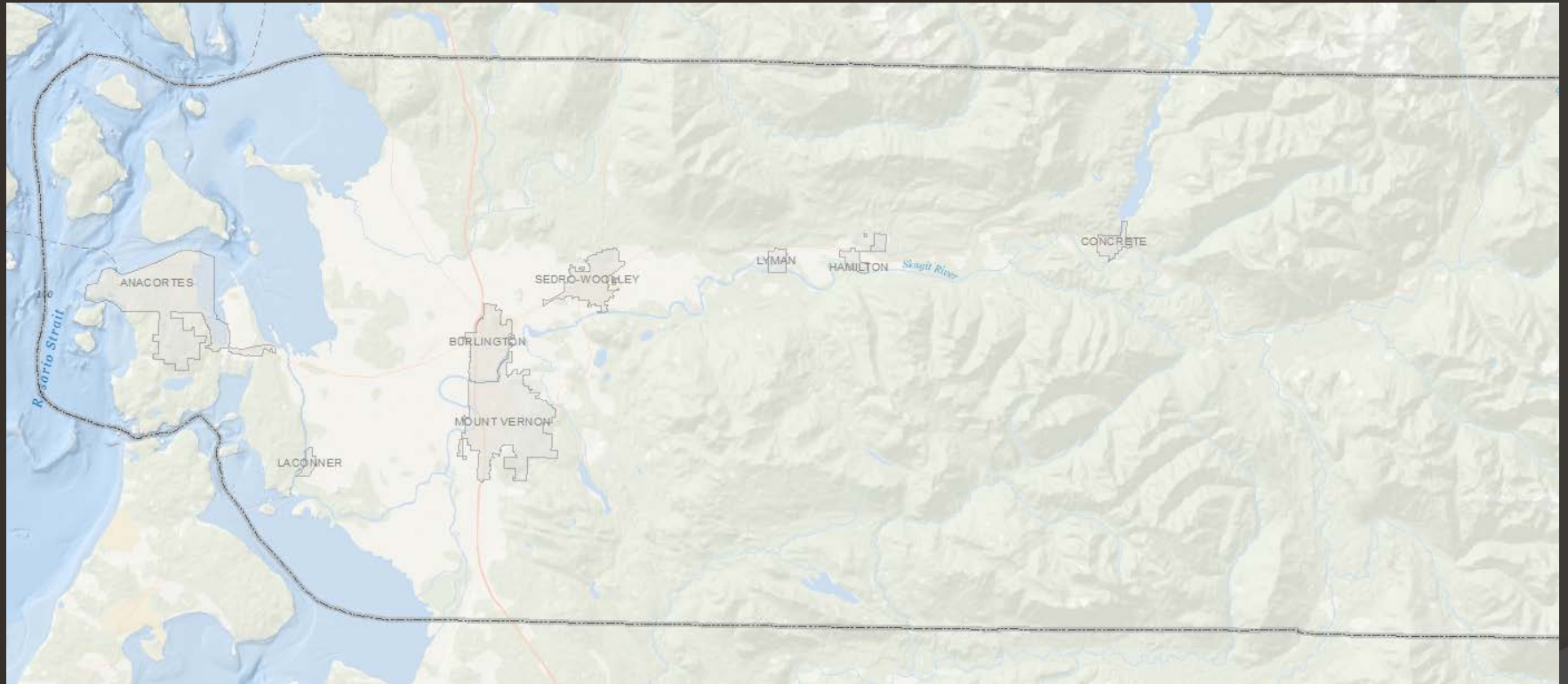
- Existing riparian buffers
- Existing roads, buildings and structures that would preclude riparian buffers

STEPS

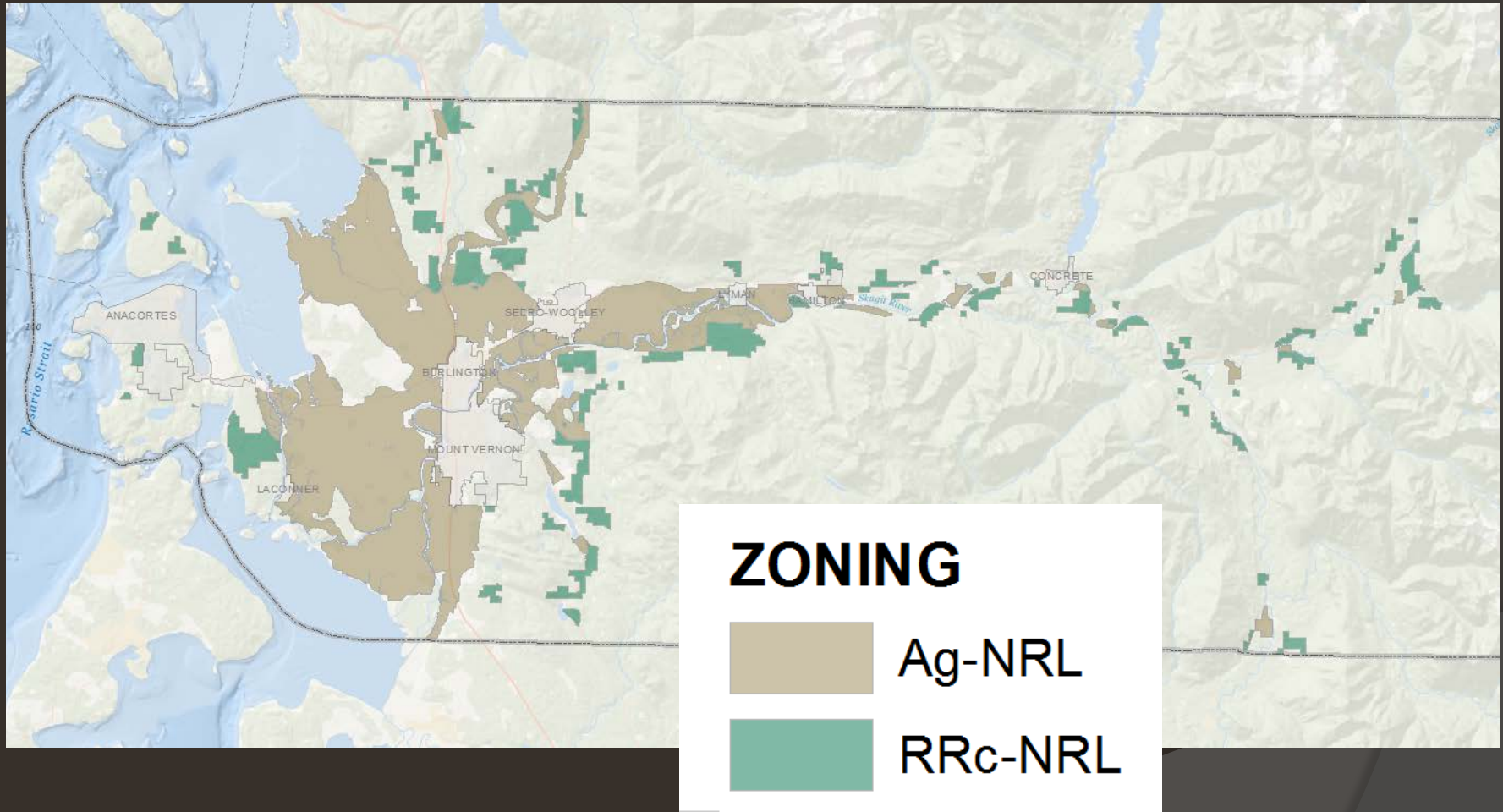
2008 Study

1. Determine Study area
2. Update hydrology data
3. Delineate Land Use
4. Run Analysis

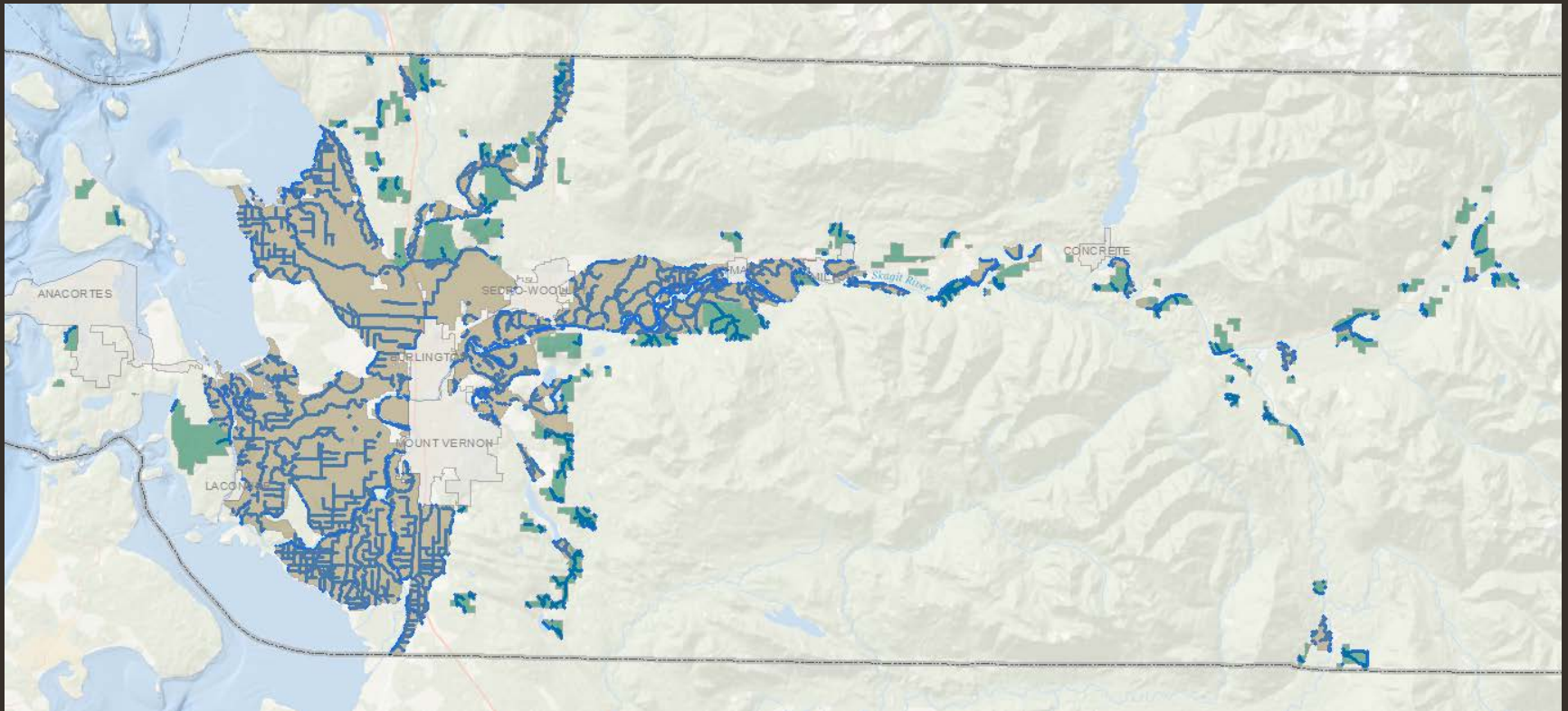
Study Area



Study Area



Study Area



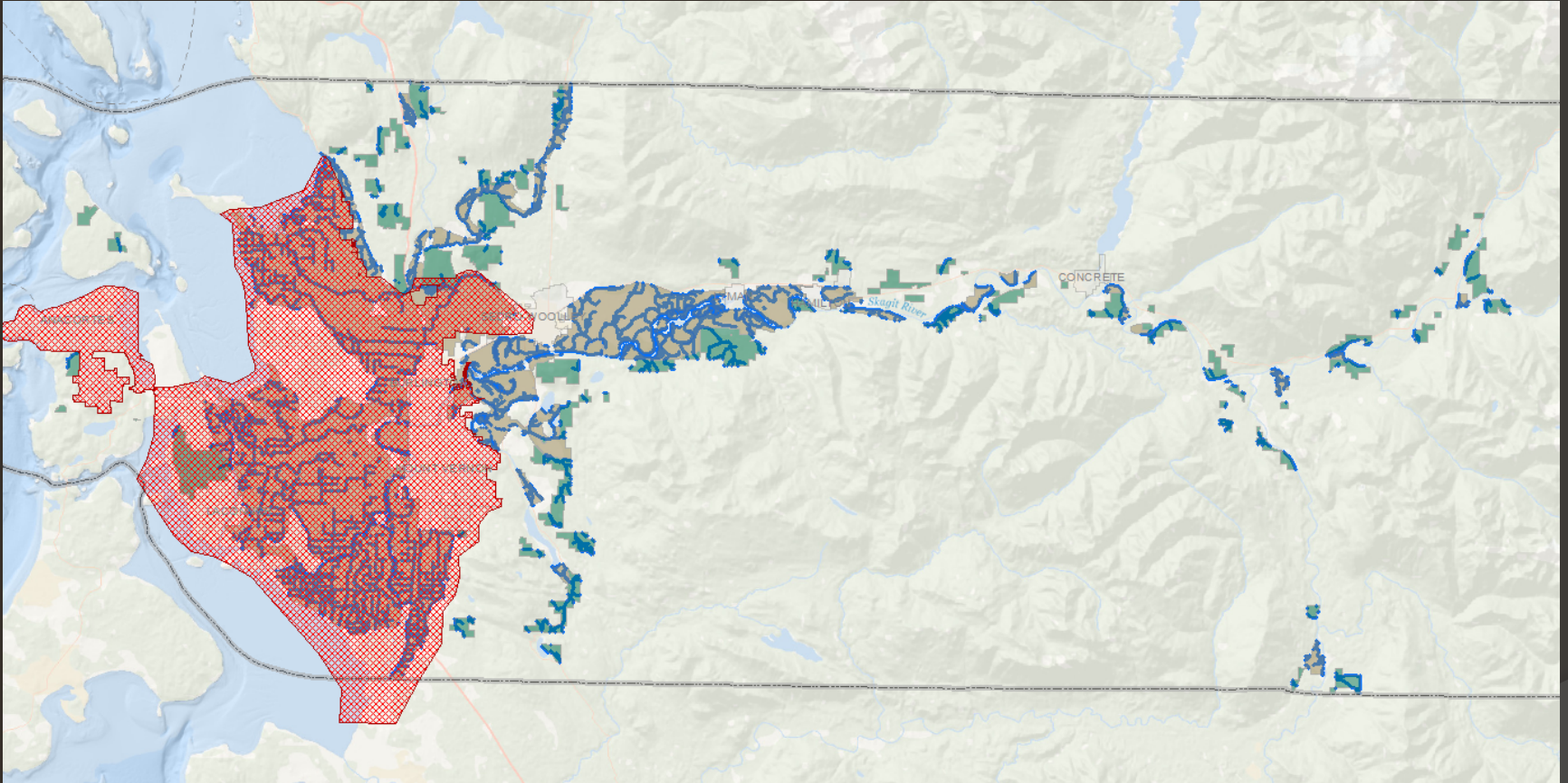
STREAM TYPES:

OLD: 1,2,3,4

NEW: Shoreline/ Fish / Perennial stream

Study Area

Exclude Skagit Delta



Dike and Drain Districts
Drainage & Fish Initiative

Determine areas to evaluate
Update Hydrology locations



2007 Image



2013 Image



Pictometry Images







CLASSES

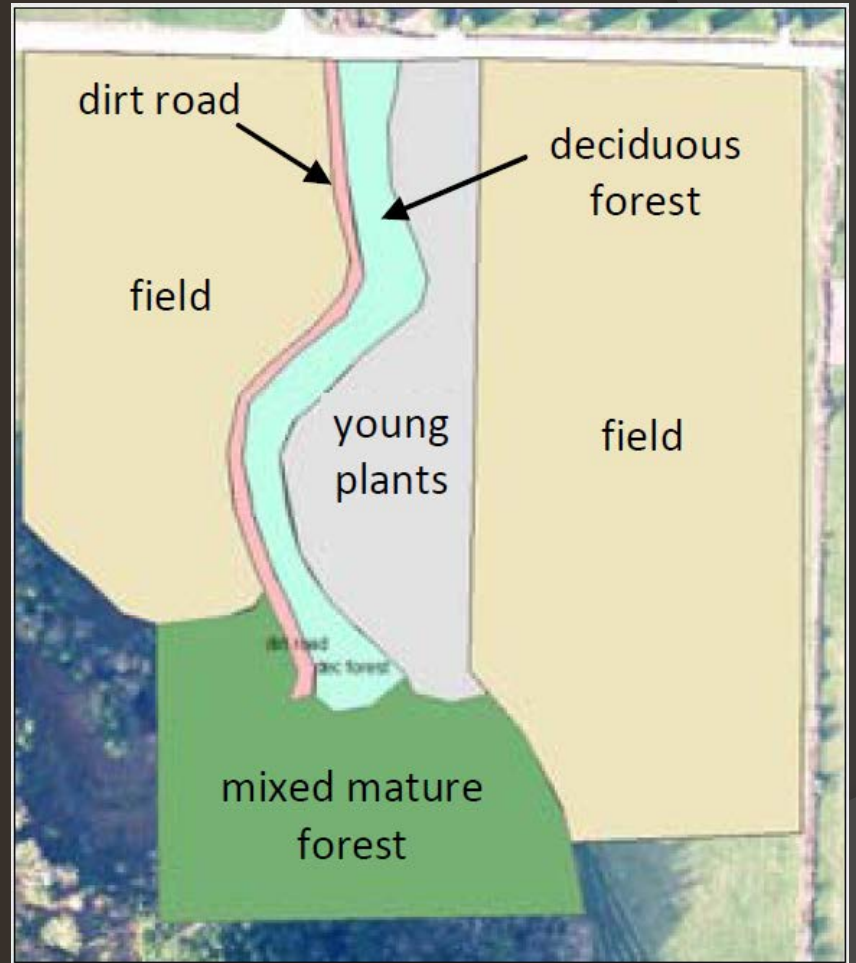
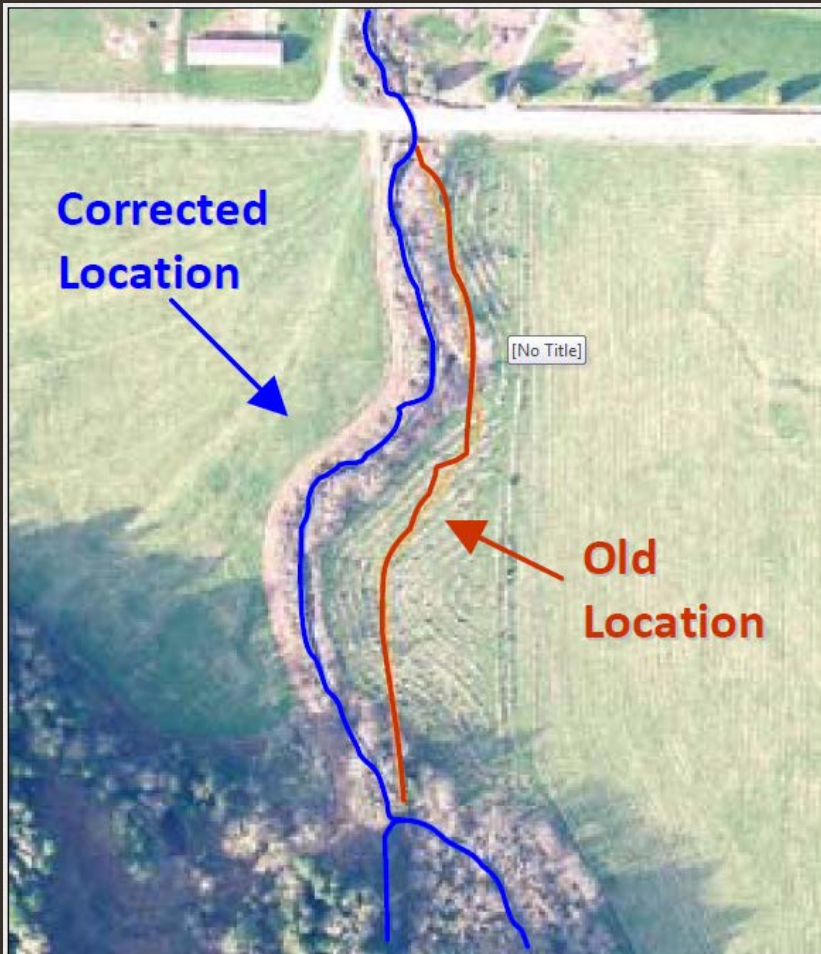
- Agricultural Land use

- Crop/Dirt Field
- Forested Pasture
- Mowed/Grazed Field

- Non-Agricultural Land Use

- General Wetland
 - Grassland/Field
 - Low Shrub/Tree
 - Deciduous Trees
 - Mixed Trees
 - Evergreen Trees
 - Residential
 - Commercial
 - Building
 - Road
 - Timber Harvest
 - Dike
 - Open Water
- Trees**
- Developed**
- Other**





Using other GIS databases, the project team identified existing areas of protected riparian area. Possible classifications included parks, USFS land, conservation easements, and CREP-rental lands.

- **Evaluate 300' from selected streams**
- **424 Miles of stream**
- **16,090 acres digitized**

**1030 hours to complete
3 staff**

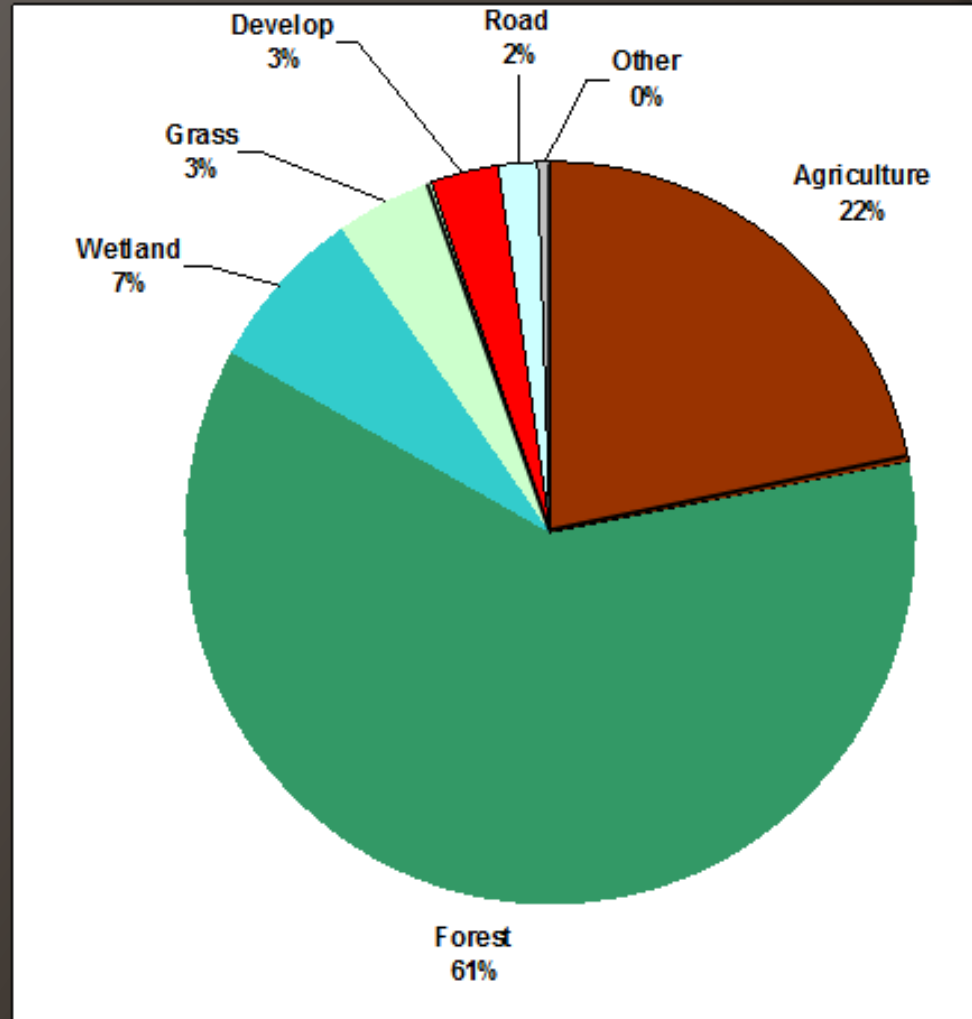
16,090 acres digitized

Analysis

- ◎ “Standard” buffer widths;
 - Type 1 & 2 – 200 feet
 - Type 3 – 100 feet
 - Type 4 – 50 feet



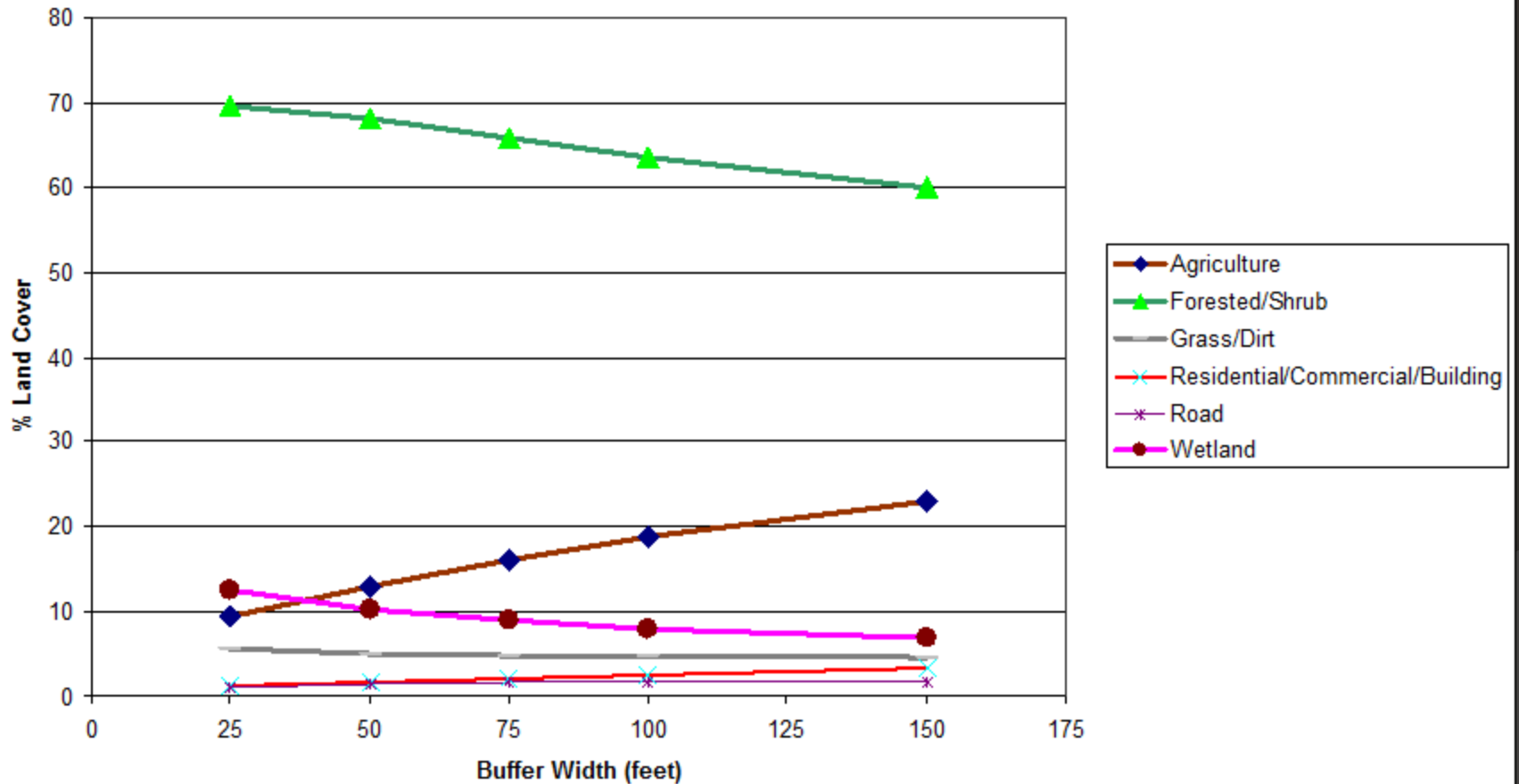
Analysis



Analysis



Analysis



◎ FUNCTIONAL VALUE

- 64.2 Acres of the standard buffer are “non-functional”



Standard Buffer:

Agriculture 1,766 (22% of buffer)

42 Acres Protected

75 Acres Public Lands

64.2 Acres non-functional

(~2% of buffer)

68% of the Agriculture acres are in
Nookachamps and Middle Skagit regions.

Comparisons to other data

		Skagit Land Cover							TOTAL
		Agriculture	Forest	Develop	Grass/Dirt	Wetland	Water		
NLCD	Agriculture	1063.2	733.2	53.5	153.8	131.8	26.2		2161.7
	Forest	579.9	3645.0	124.0	146.0	334.8	114.3		4944.1
	Develop	39.8	51.5	27.6	10.3	10.5	3.0		142.6
	Grass/Dirt	26.6	53.7	5.5	6.2	2.3	2.2		96.6
	Wetland	38.4	99.1	3.5	18.3	58.9	9.9		228.0
	Water	11.7	122.3	1.9	5.7	30.5	1.5		173.7

		Skagit Land Cover				
		AG	Forest	Develop	water	TOTAL
RTI	AG	1383.2	2904.2	578.8	181.5	5047.6
	Forest	95.0	1342.8	73.4	54.4	1565.6
	Develop	204.6	147.4	91.5	52.1	495.6
	Water	63.8	520.8	5.4	35.9	625.9
	TOTAL	1746.6	4915.1	749.1	324.0	7734.8

Correct=	2853.368
Overall Accuracy=	37%

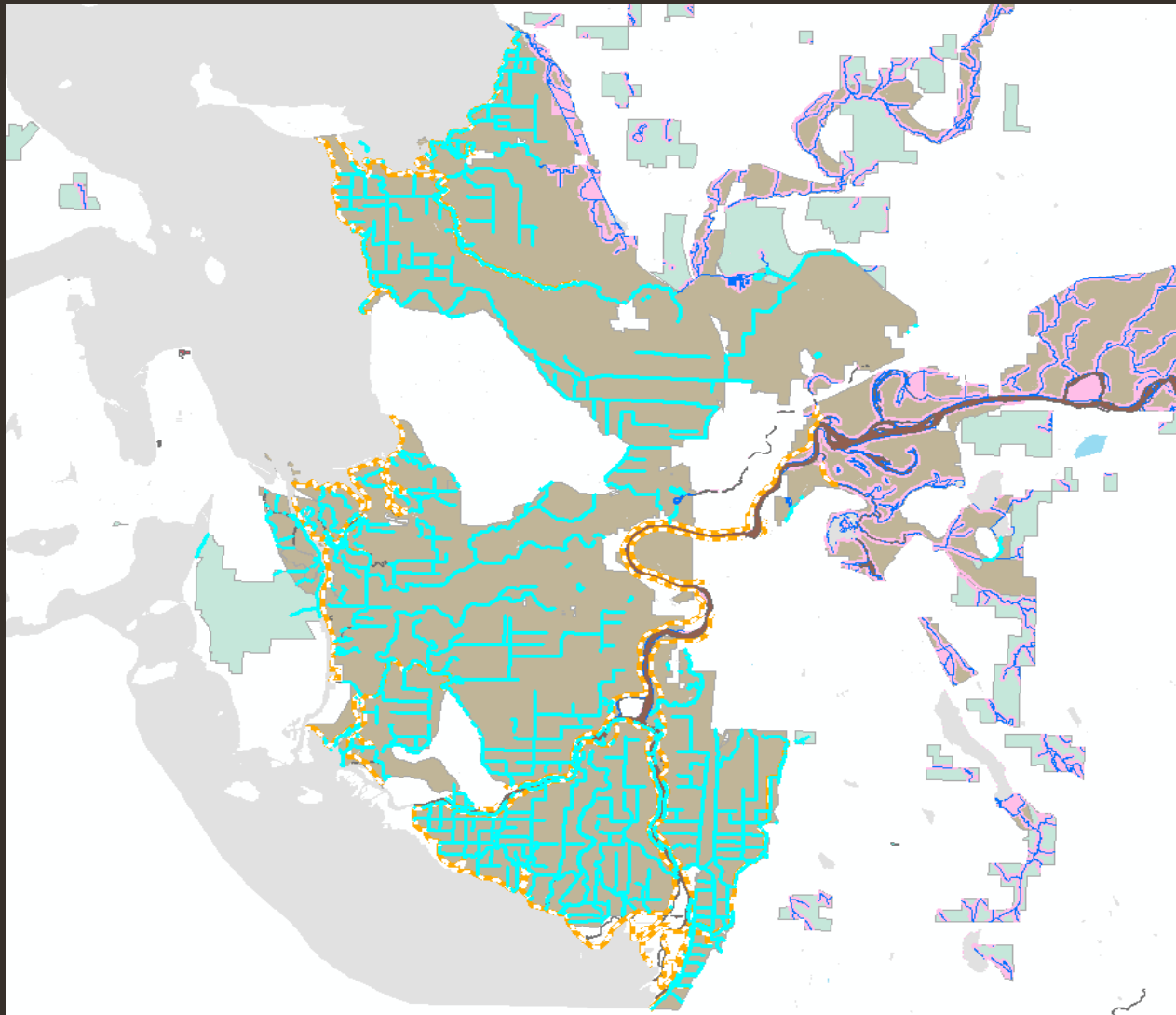
Agriculture Accuracy =	79%
Non-Specific Ag Accuracy=	289%

GOALS

2015 VSP

- Look at change in Land Cover 2011 – 2015
- Ag-Nri and RRC-Nri Zones (including delta!)
 - Additional 302 miles of stream/ditches
- Stream Types S, F
- Update stream location

◎ ADDITIONAL AREA



METHOD

2015 VSP

Heads up digitize areas that have changed that were previously

Forest, Shrub, or Grass

OR changed to **Forest, Shrub, or Grass**

In 2011 and 2015 images

ADVANTAGES

2015 VSP

Use existing data

Past data!

Only have to measure change

High level of accuracy

Detail of landcover