



# Albany Area Floodplain Habitat and Stream Assessment - Stakeholder Team Meeting

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# Presentation Outline

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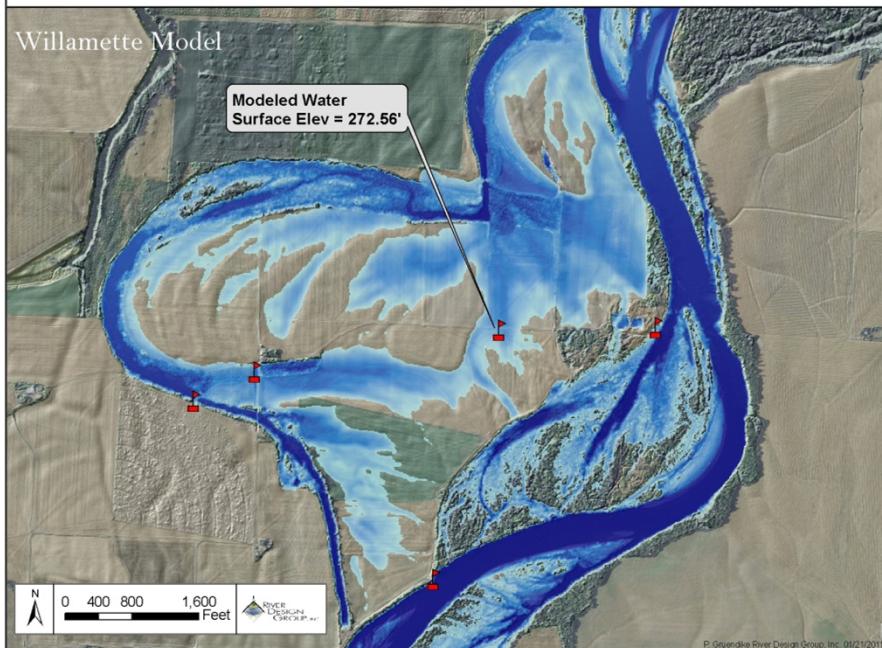
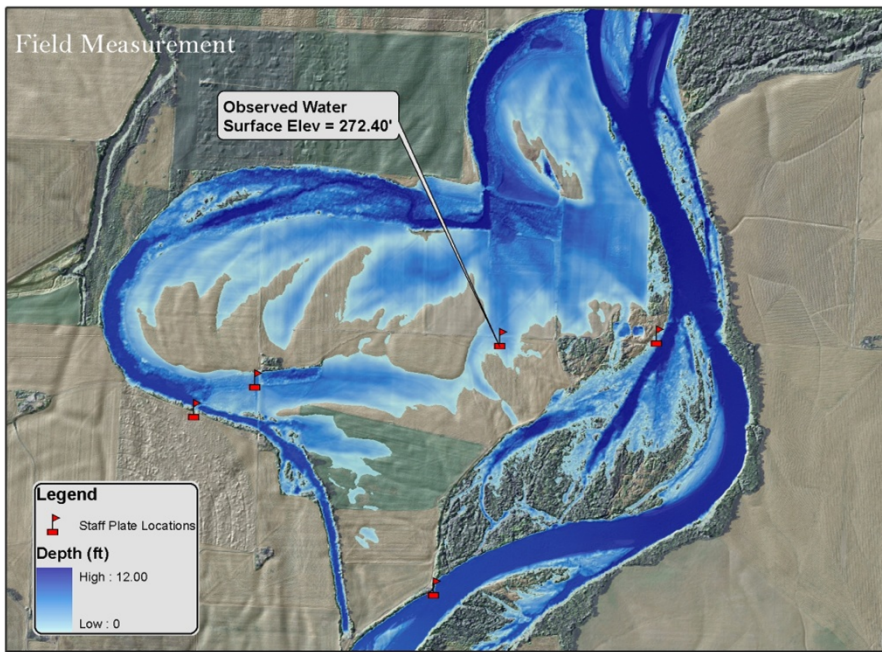
- Introductions
- Objectives of Meeting
- Inundation Mapping - Overview
- Project Area - Overview
- Project Areas – Breakout and Review
- Next Steps

# CWC and City of Albany Goals

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- Enhance river corridor habitats for anadromous species
- Restore riparian function
- Involve local landowners in data collection, project prioritization

# Inundation Model Validation



## Harken's Lake Inundation at 60,000 cfs (Harrisburg)

Top panel represents inundation based on measured water surface at center staff gage on 01/17/2011 when Harrisburg gage was at 60,000 cfs. Bottom panel represent inundation based on Willamette Inundation model for 60,000 cfs at Harrisburg.



# Project Tasks

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- Data collection
  - Field and remote sensing
  - Inundation mapping
  - Review previous work
- Develop GIS directory
- Identify opportunities
- Reporting

# Characterization

## Existing condition

- Habitat
- Infrastructure
- Bank erosion



# Opportunities

## ○ Opportunities

- Determining desired condition - goals
- How to move from existing to desired conditions
- Cause and effect



# Opportunities

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## ○ Passive

- Lower cost, longer-term
- Addresses processes
- Land use, veg focused

## ○ Examples

- Riparian and wetland expansion/enhancement
- Manage invasive species
- Education

## ○ Active

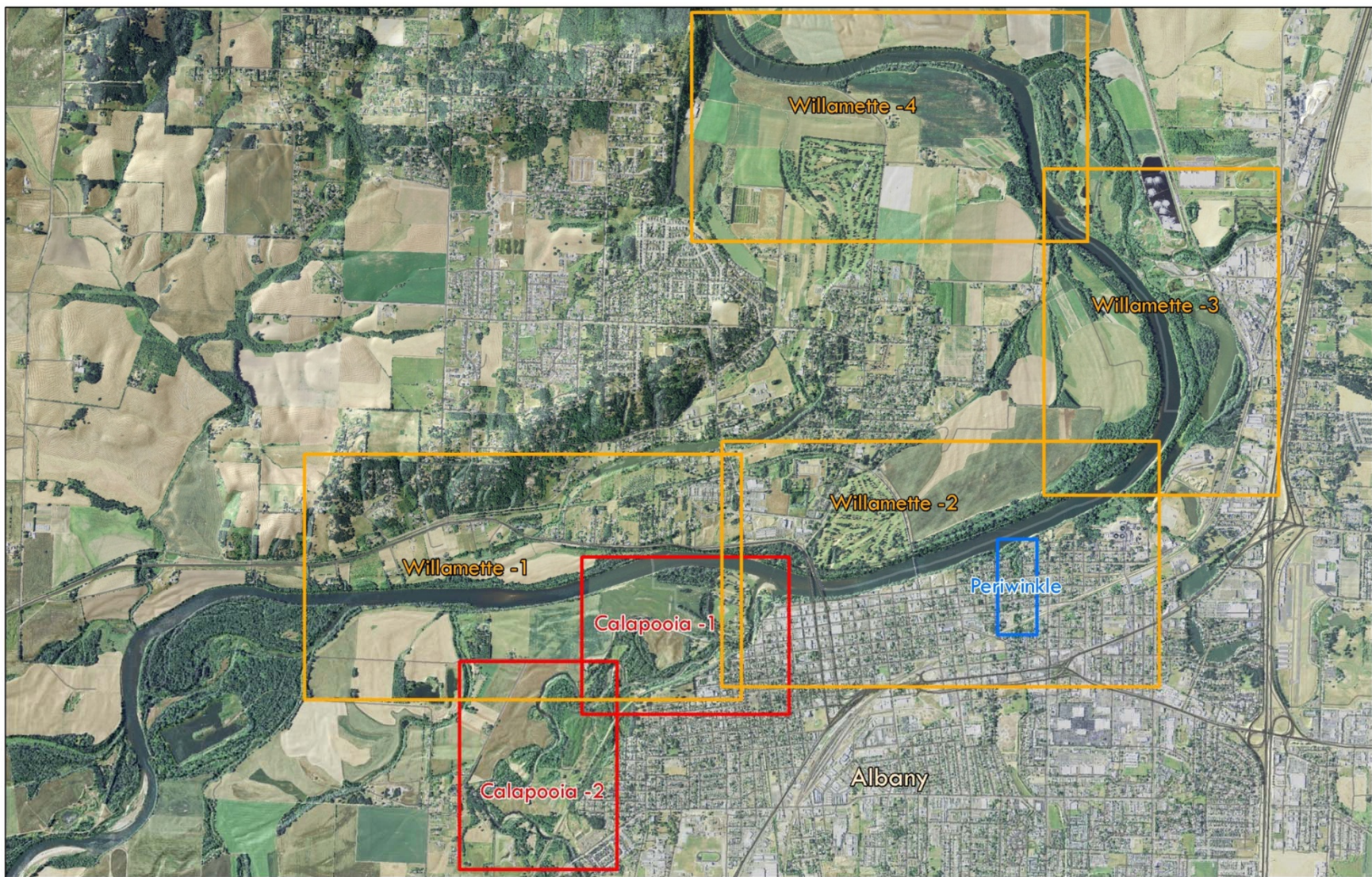
- More expensive & immediate
- Addresses effects
- Structural

## ○ Examples

- Bank stabilization
- Fish passage
- Side channel excavation
- Large wood placement



# Project Area Overview

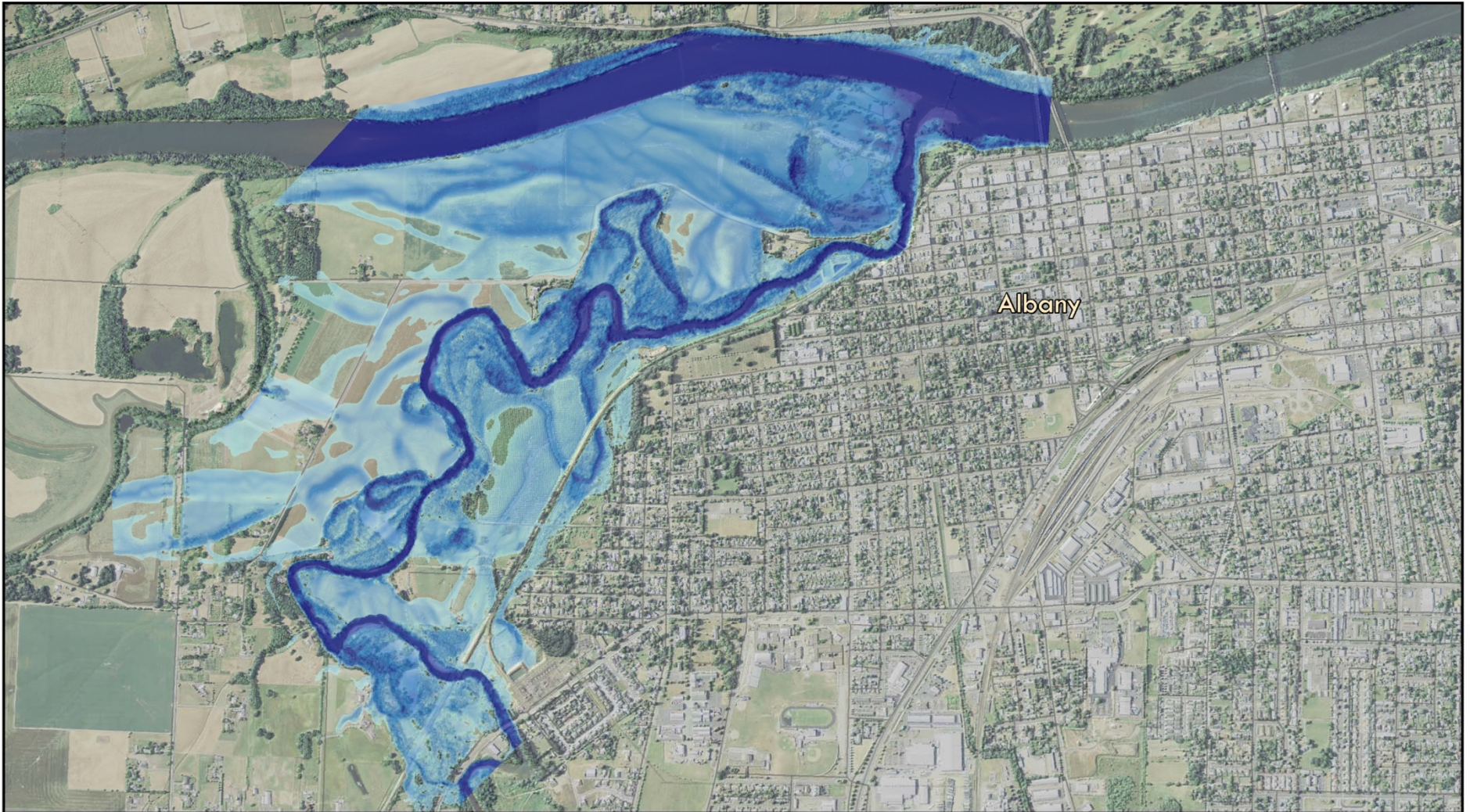


# Calapooia River

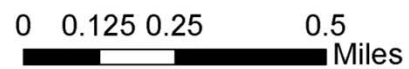
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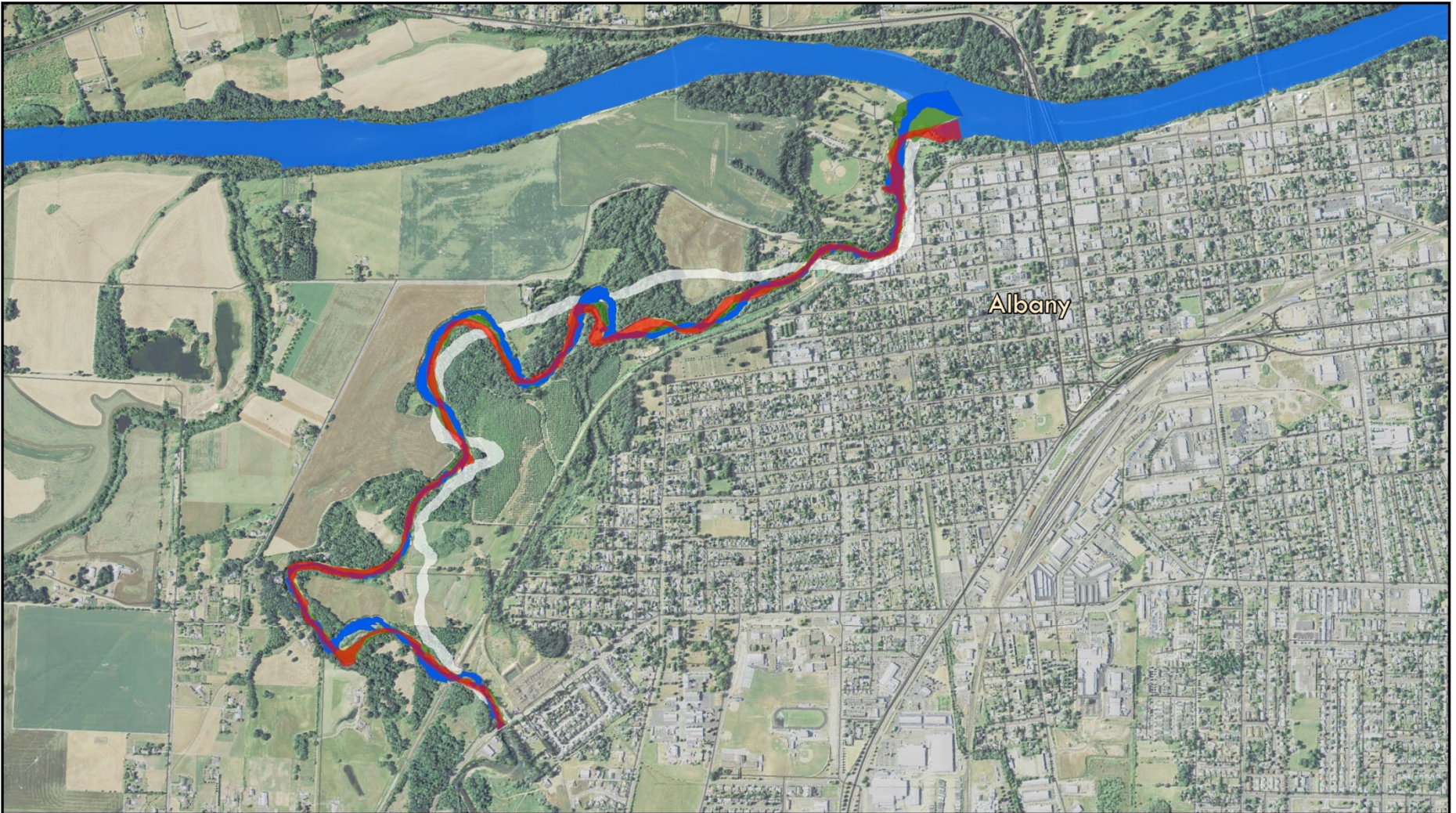
- Queen St. Bridge to Willamette River
- Inundation mapping
- Channel and riparian changes
- Opportunities





**Depth at 12,500 cfs**  
Calapooia River near Albany, Oregon



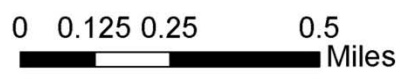


# Historical Channel Analysis

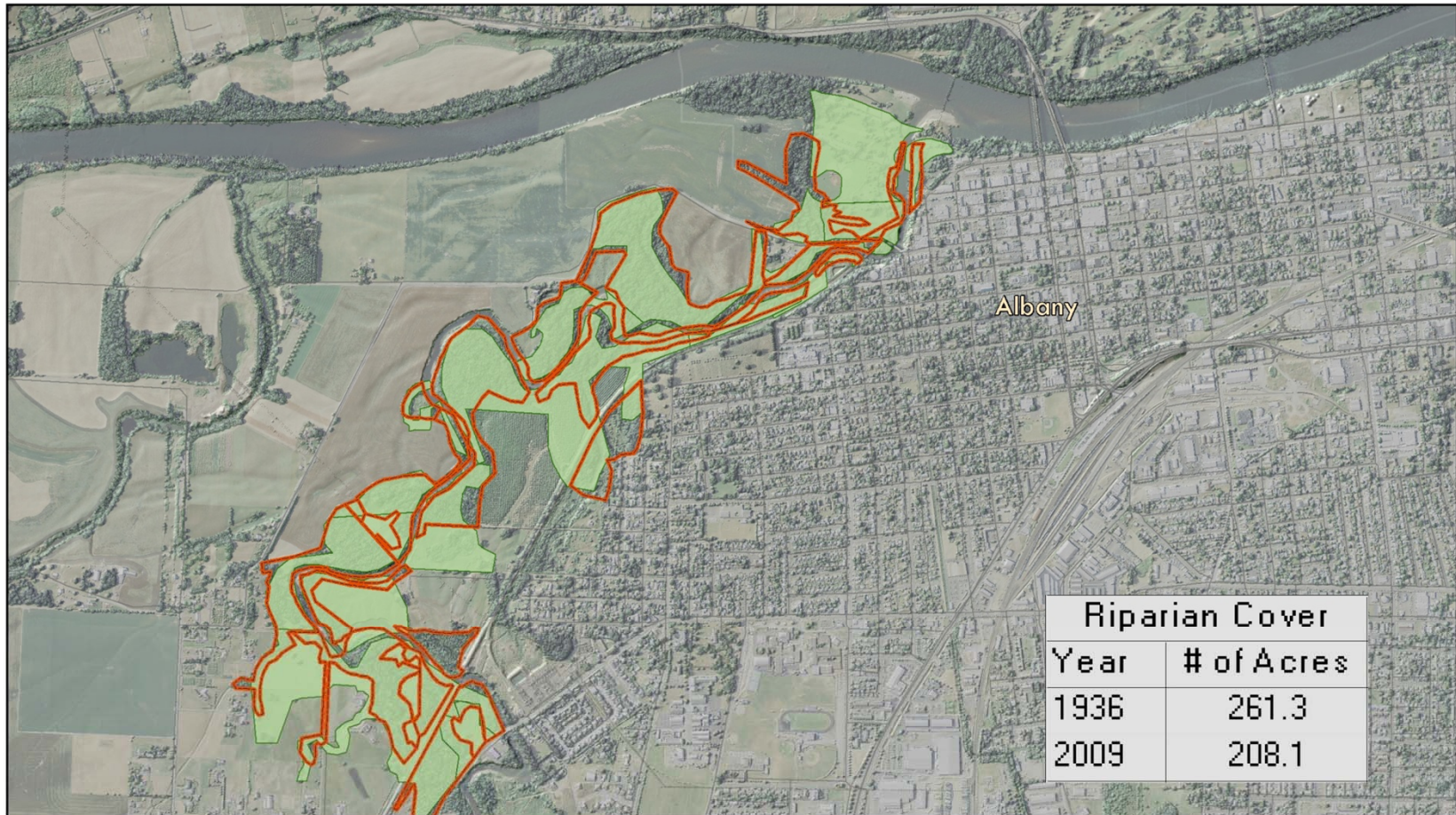
Calapooia River near Albany, Oregon

## Channels

-  2009
-  1971
-  1936
-  1991
-  1950
-  1852



# Riparian Change



## Riparian Cover

Calapooya River near Albany, Oregon

- 1936 Riparian
- 2009 Riparian



0 0.125 0.25 0.5  
Miles





Calapoia River, Treatments 2



Calapoia River, Treatments 1



# Combined Approach



2005 1994

44°37'25.18" N 123°08'07.04" W elev 198 ft

Eye alt 1468 ft

# Calapooia Summary

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- Large wood complexes and side channel habitat
- Intact riparian corridor
- Dynamic floodplain habitats
- Eroding banks at perimeter of CMZ
- Opportunities
  - Expand riparian zone
  - Enhance off-channel habitats
  - Stabilize banks for utility protection



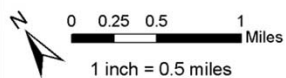
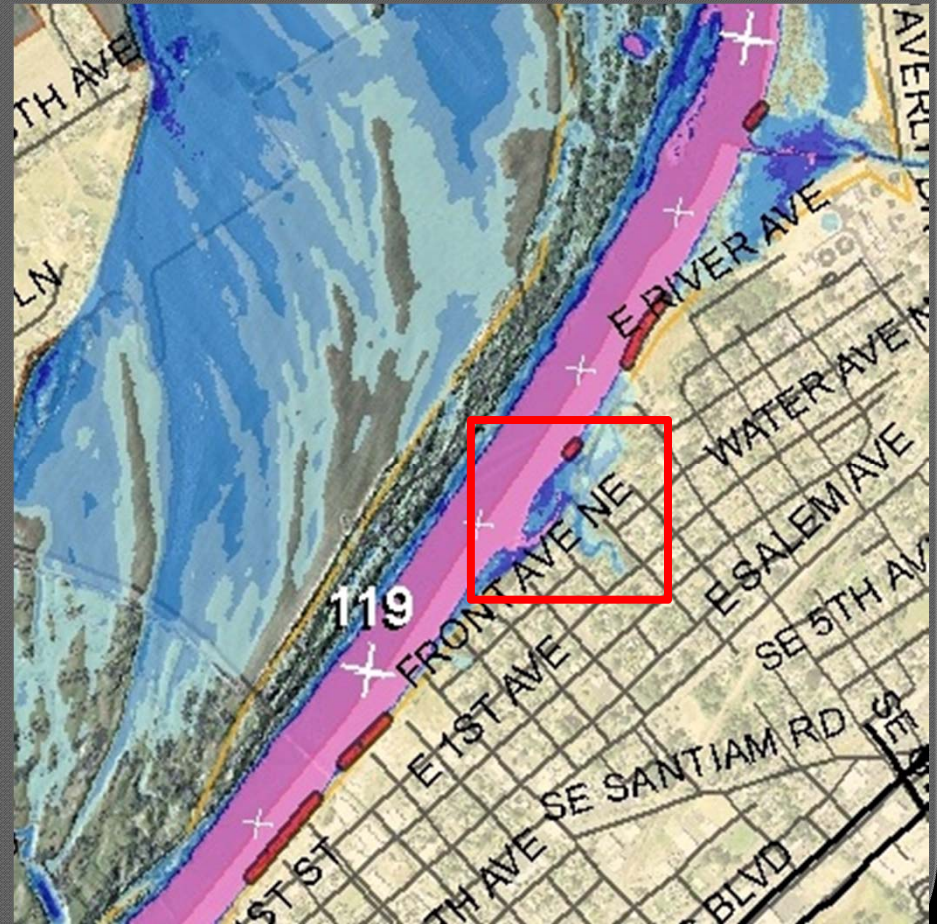
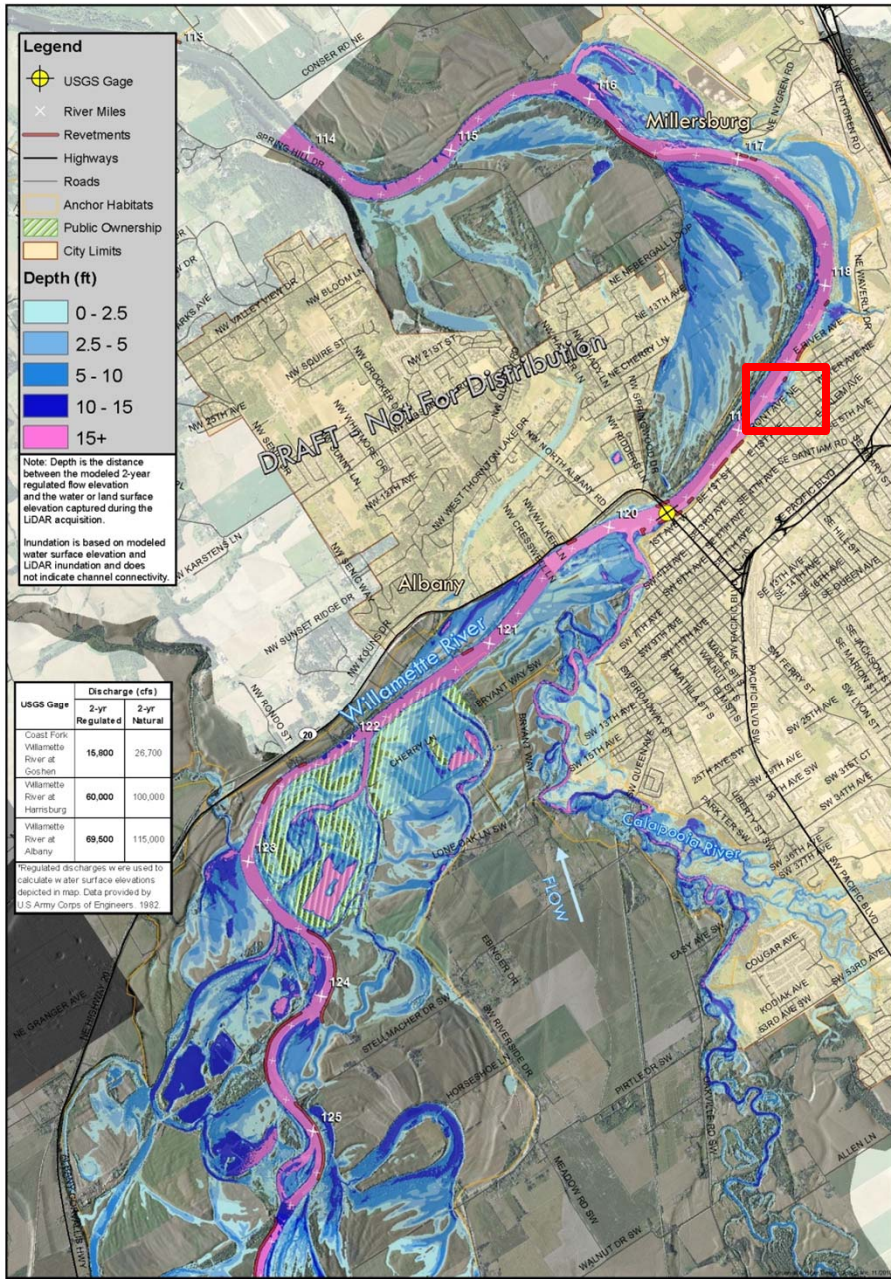
# Periwinkle Creek

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- First Street to Willamette River
- Mapping
- Opportunities

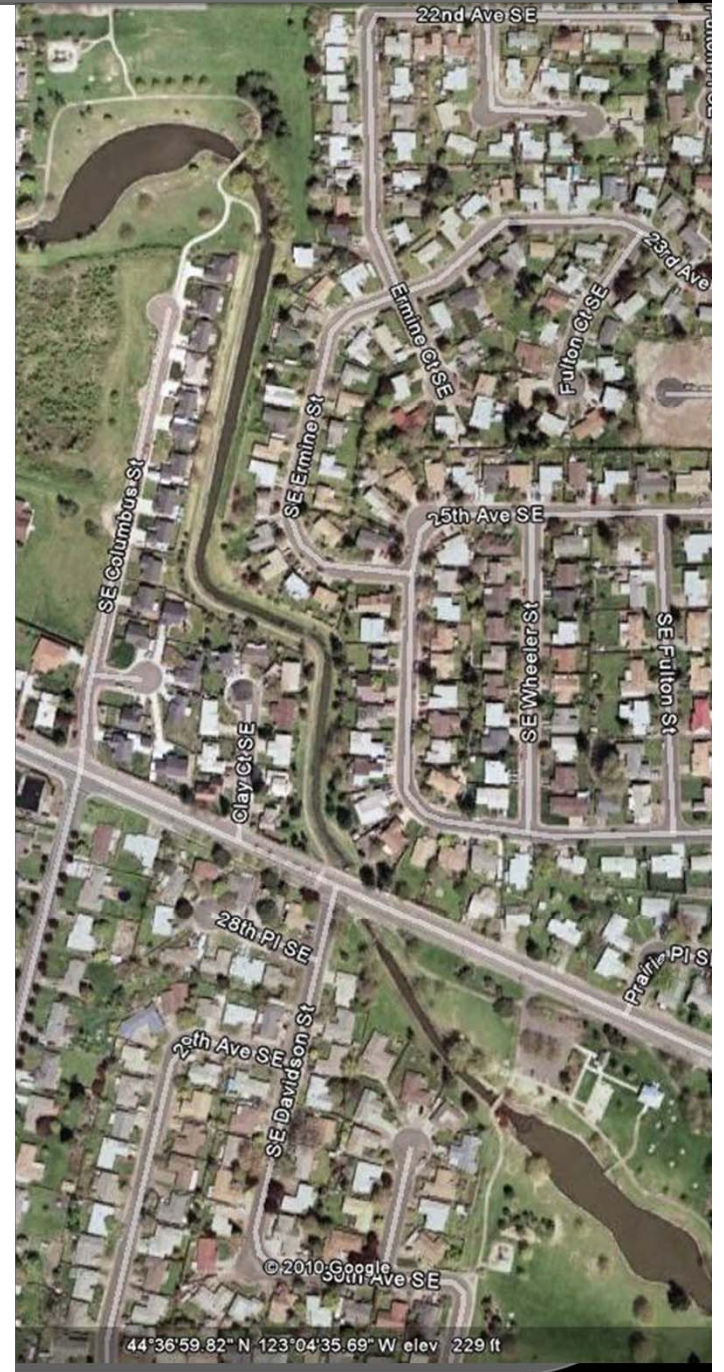
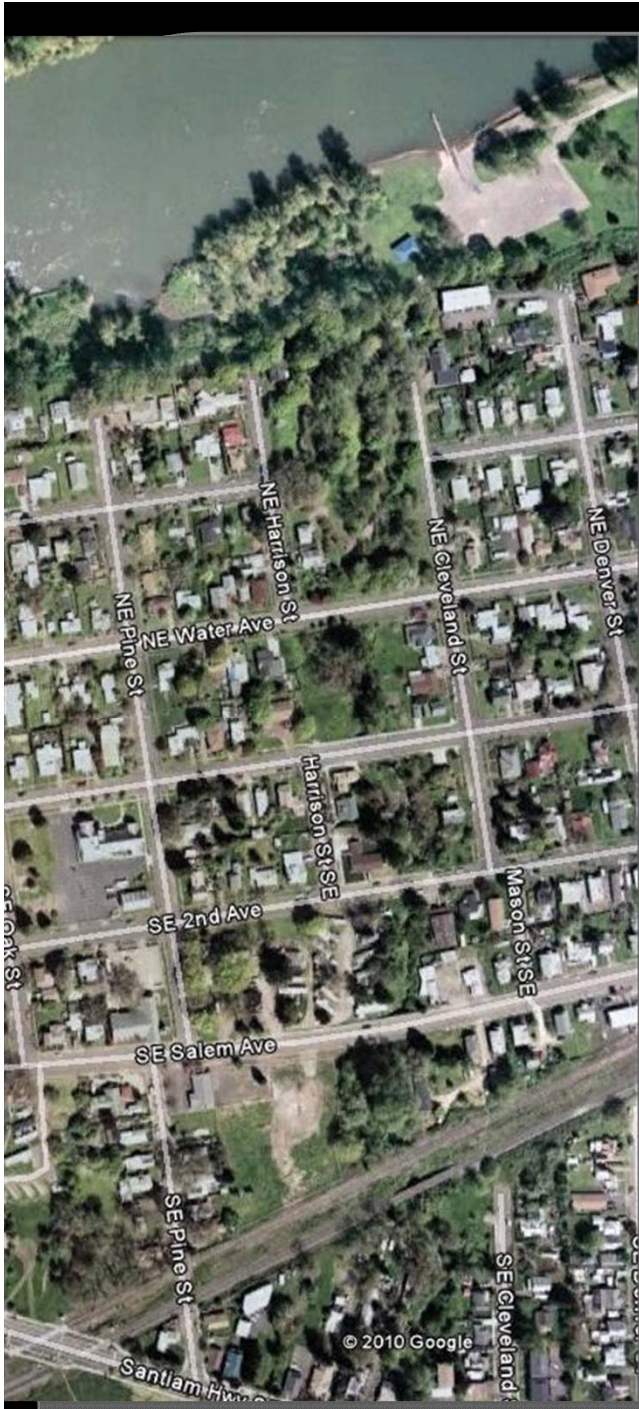


# Inundation Map

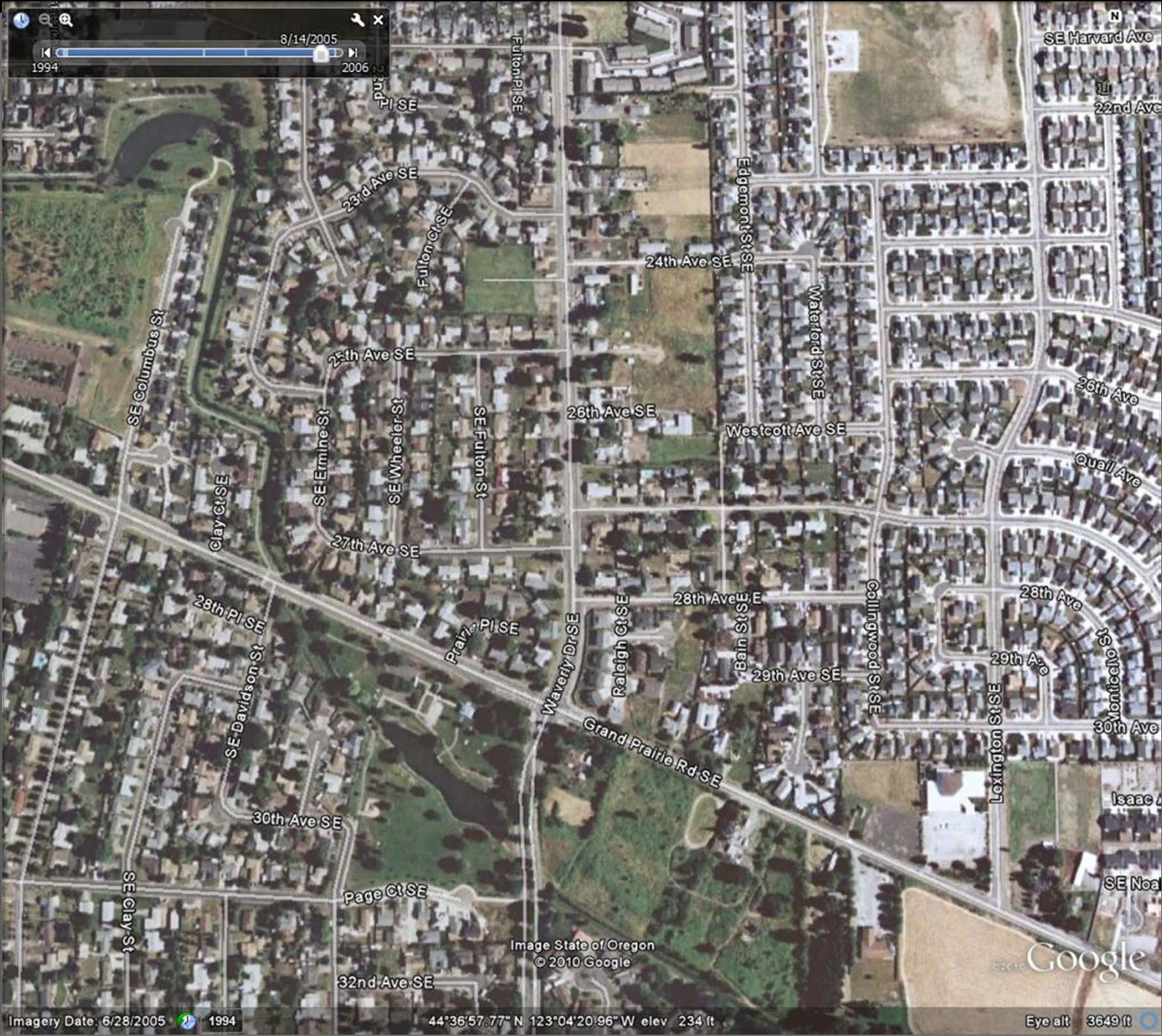


**Willamette River Inundation**  
**for 2 year regulated flow**  
 River Miles 114-126  
 (Sheet 7 of 7)









Imagery Date: 6/28/2005 1994

44°36'57.77" N 123°04'20.96" W elev. 234 ft

Eye alt 3649 ft

# Opportunities



# Periwinkle Summary

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- Urbanized stream
- Confluence area beneficial for juveniles and adults
- Educational opportunities – numerous parks
- Revegetation and water quality improvement in middle and upper watershed

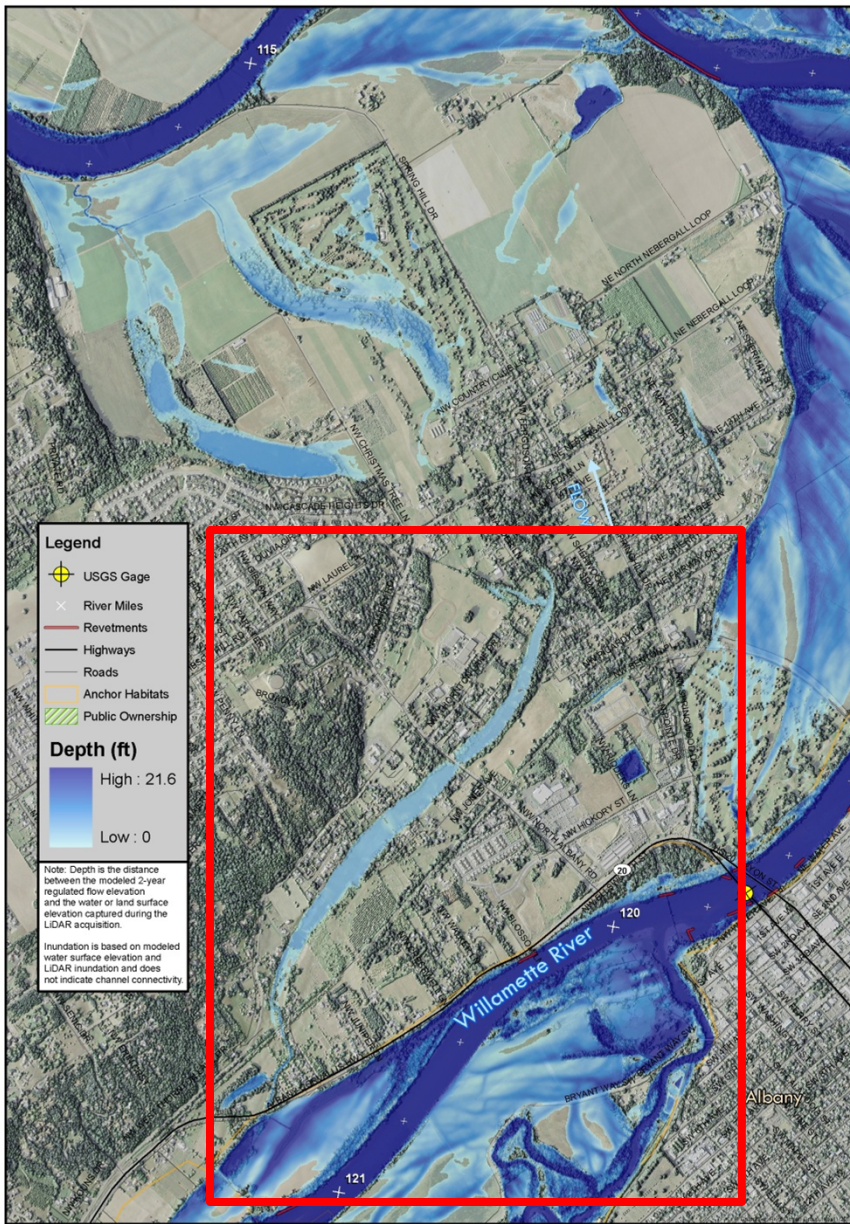
# East Thornton Lake

- Inundation mapping
- Existing conditions
- Opportunities





# Inundation



Source Data: LIDAR, DOGAMI (from Watershed Sciences 2008-2009), Imagery, 2009 NADIP Anchor Habitats, TNC, Roads, Tele Atlas, Highways, ODOT, Revetments, PNW-ERC, Stream Gages, USGS, Ownership, ODF



**Thornton Lake Inundation**  
under 2 year regulated flow  
Willamette River, near Albany, OR



# Historical Photo

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# Existing Conditions

- Lake outlet control structure



Courtesy A. Higinbotham



Courtesy A. Higinbotham

# Existing Conditions

- Example bank conditions



Courtesy A. Higinbotham

# Opportunities

- Invasive species
- Vegetation management
- Oak woodland restoration
- Fish passage



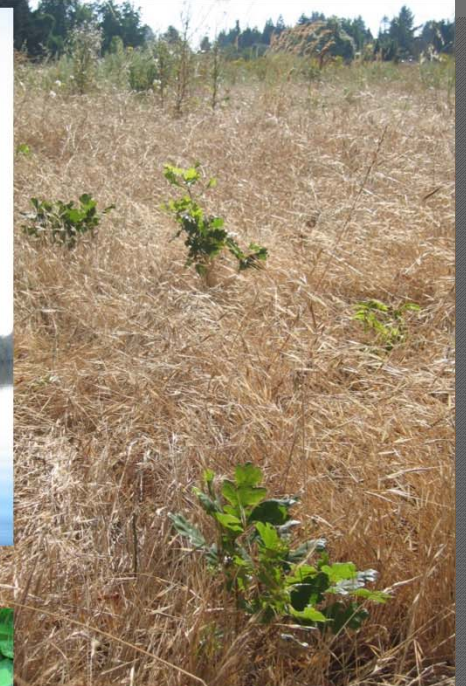
**Thorton Lakes Treatment Map**

Legend

bask_logs	strm_mgmt	invsp_mgmt
fish_psg	Veg_mgmt	Riparian
	lakes	



# Opportunities



## E. Thornton Summary

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- On-going organized effort focused on conservation
- Continue to work with willing landowners
- Manage vegetation around lake
- Improve fish passage at outlet
- Complete field review of outlet channel to Willamette
- Improve connection between two lakes?
- Horseshoe Lakes?

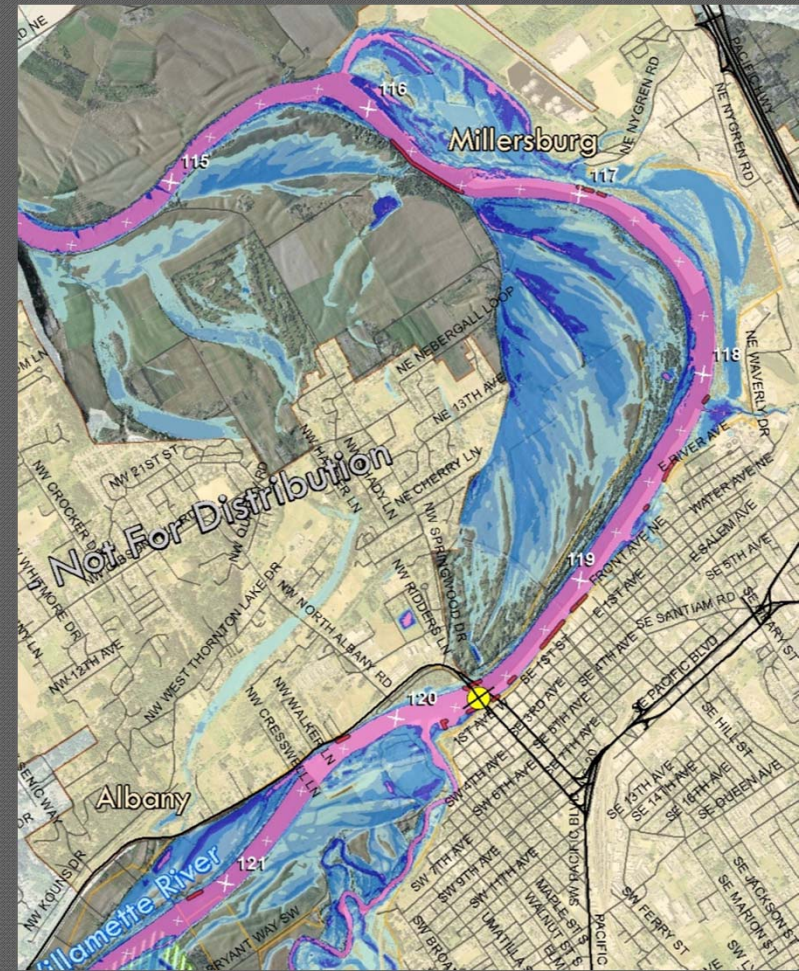
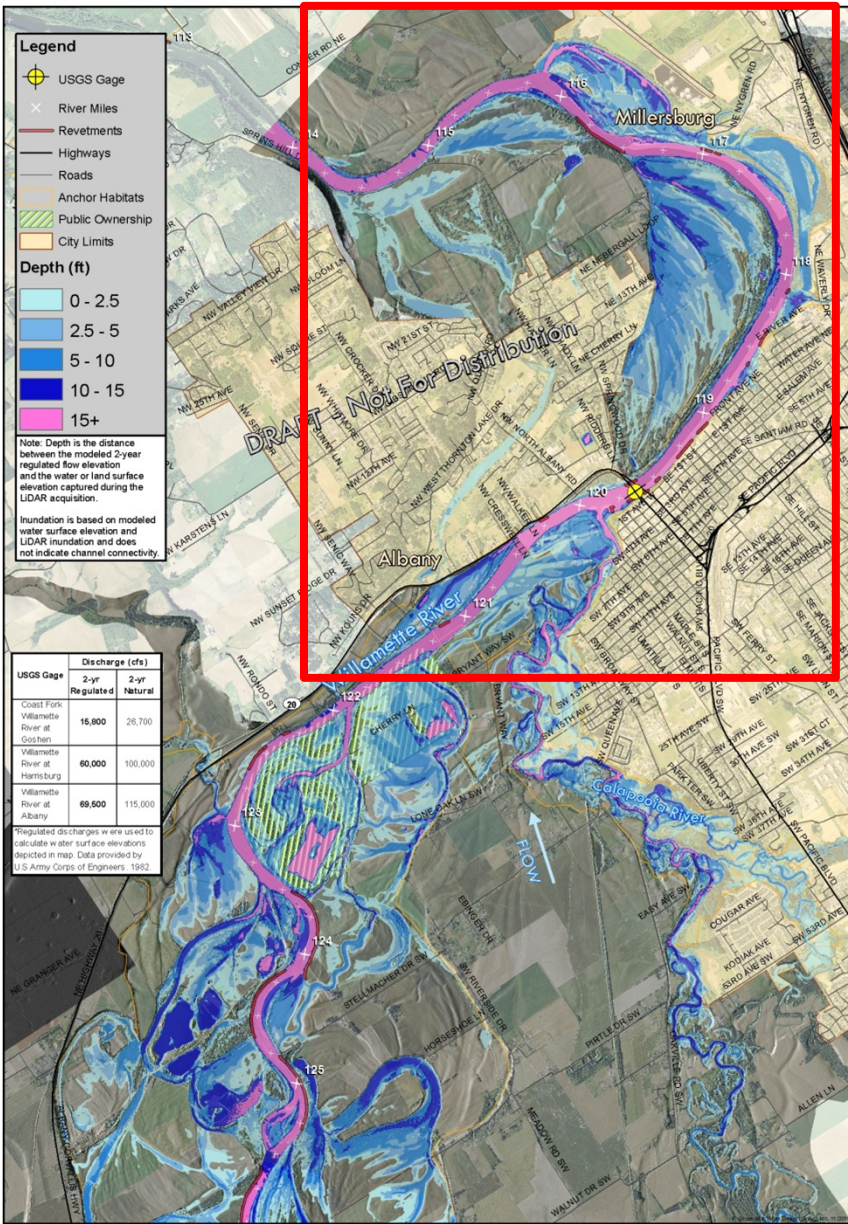


# Willamette River

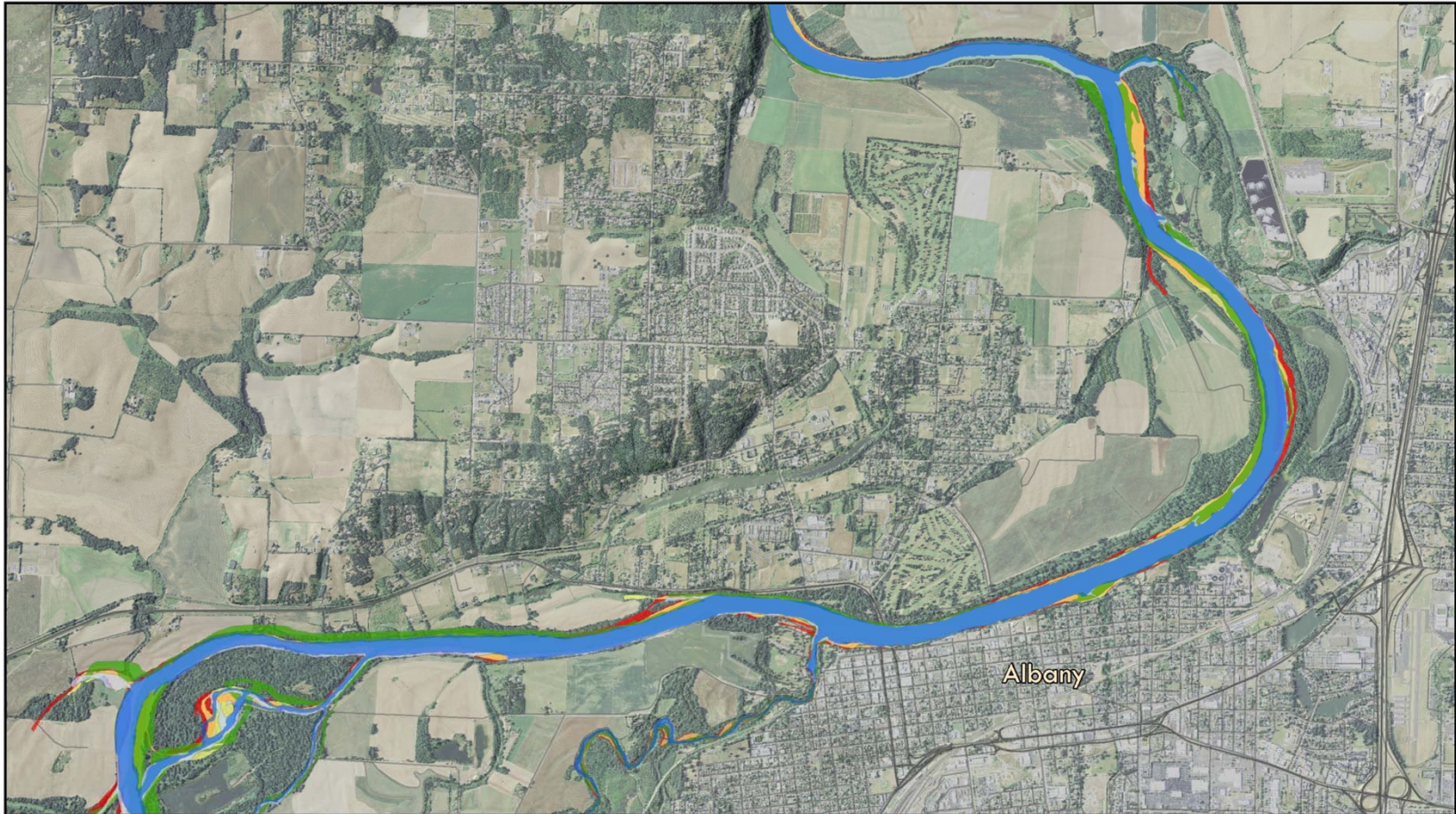
- Inundation mapping
- Existing conditions
- Opportunities



# Inundation



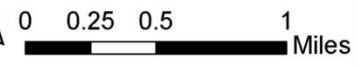
# Historical Photo



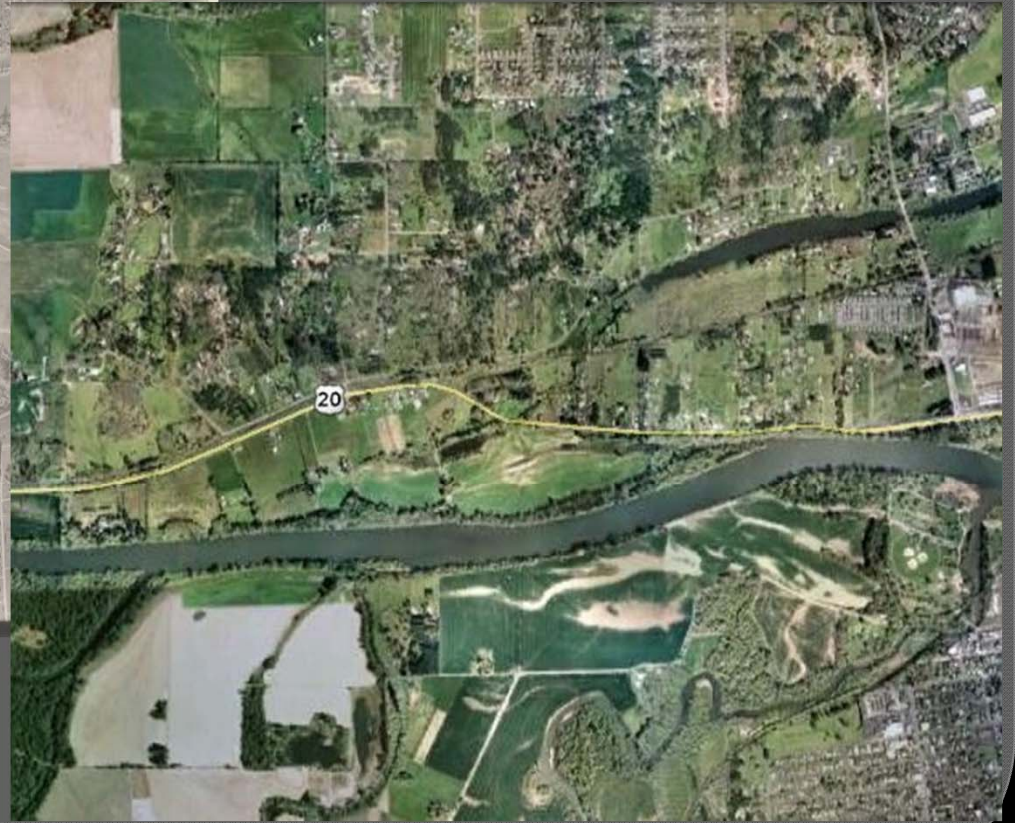
## Historical Channel Analysis

Willamette River near Albany, Oregon

### Legend



# Land Use



# Existing Conditions



# Opportunities



Willamette River, Treatments 1

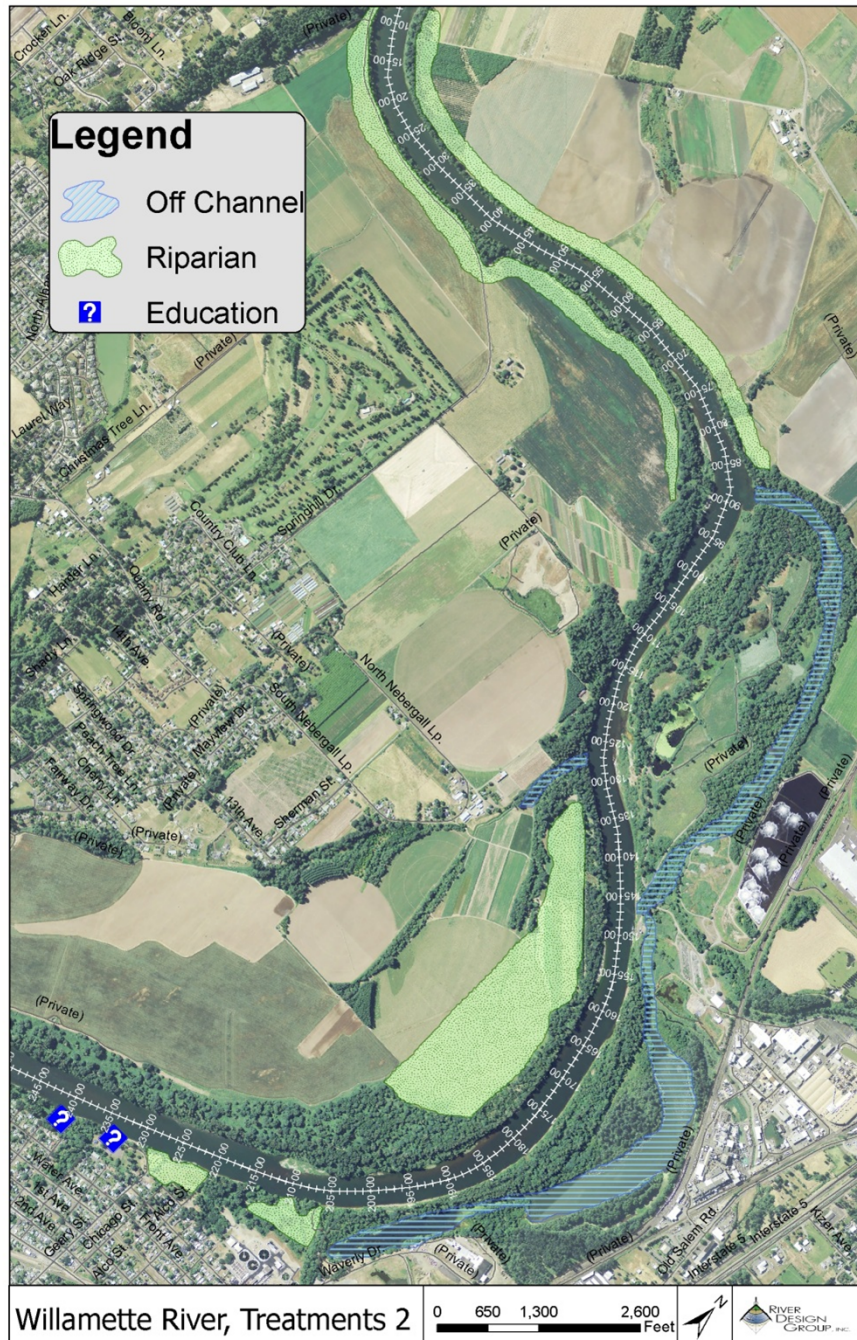


**Legend**

- Education
- Off Channel
- Riparian



# Opportunities



# Opportunities

- Invasive species
- Expand riparian corridor
- Educational opportunities





# Willamette Summary

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- Focus on conservation efforts
  - Expand riparian areas
  - Off-channel habitats
- Educational opportunities
- Expand parks and natural areas
- Manage river front vegetation

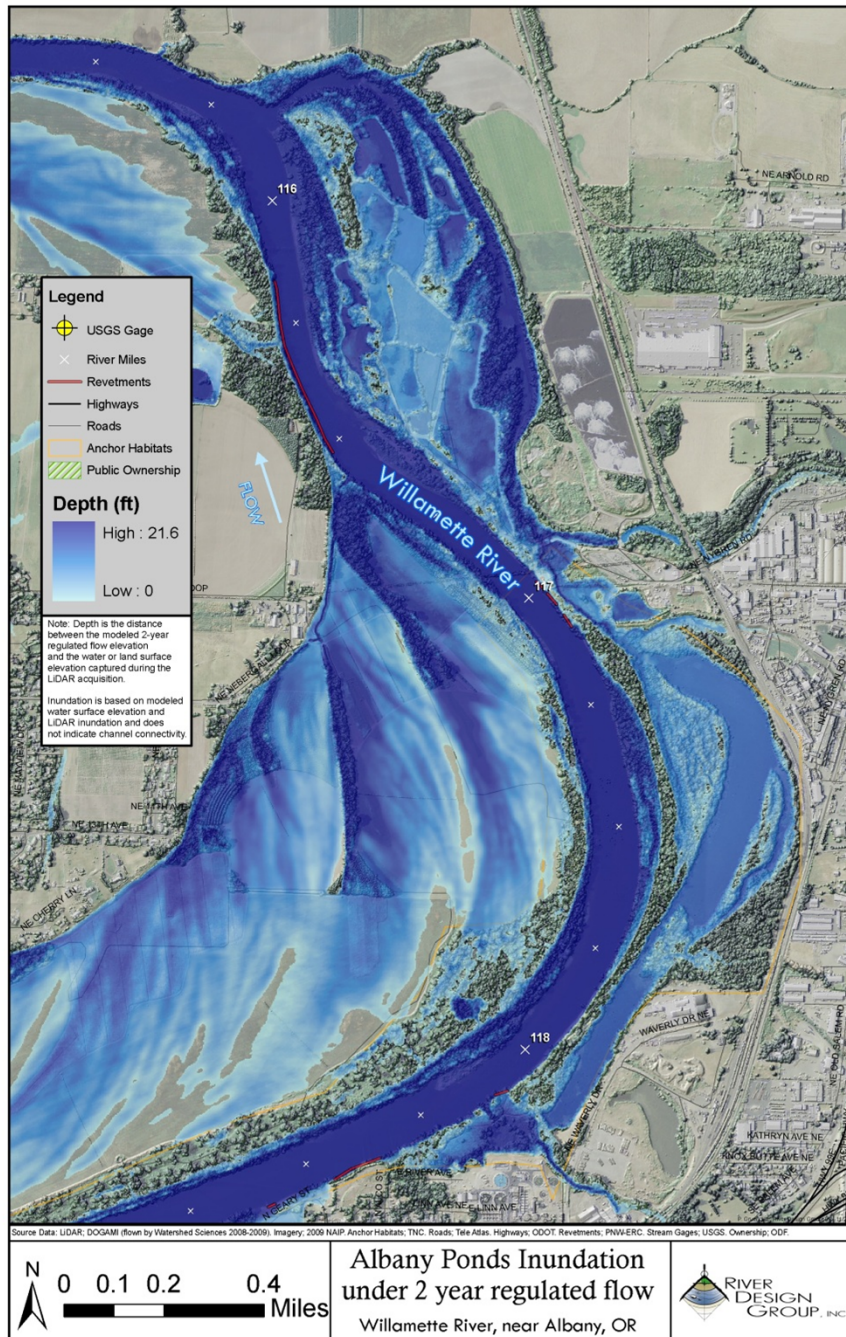


# Albany Ponds

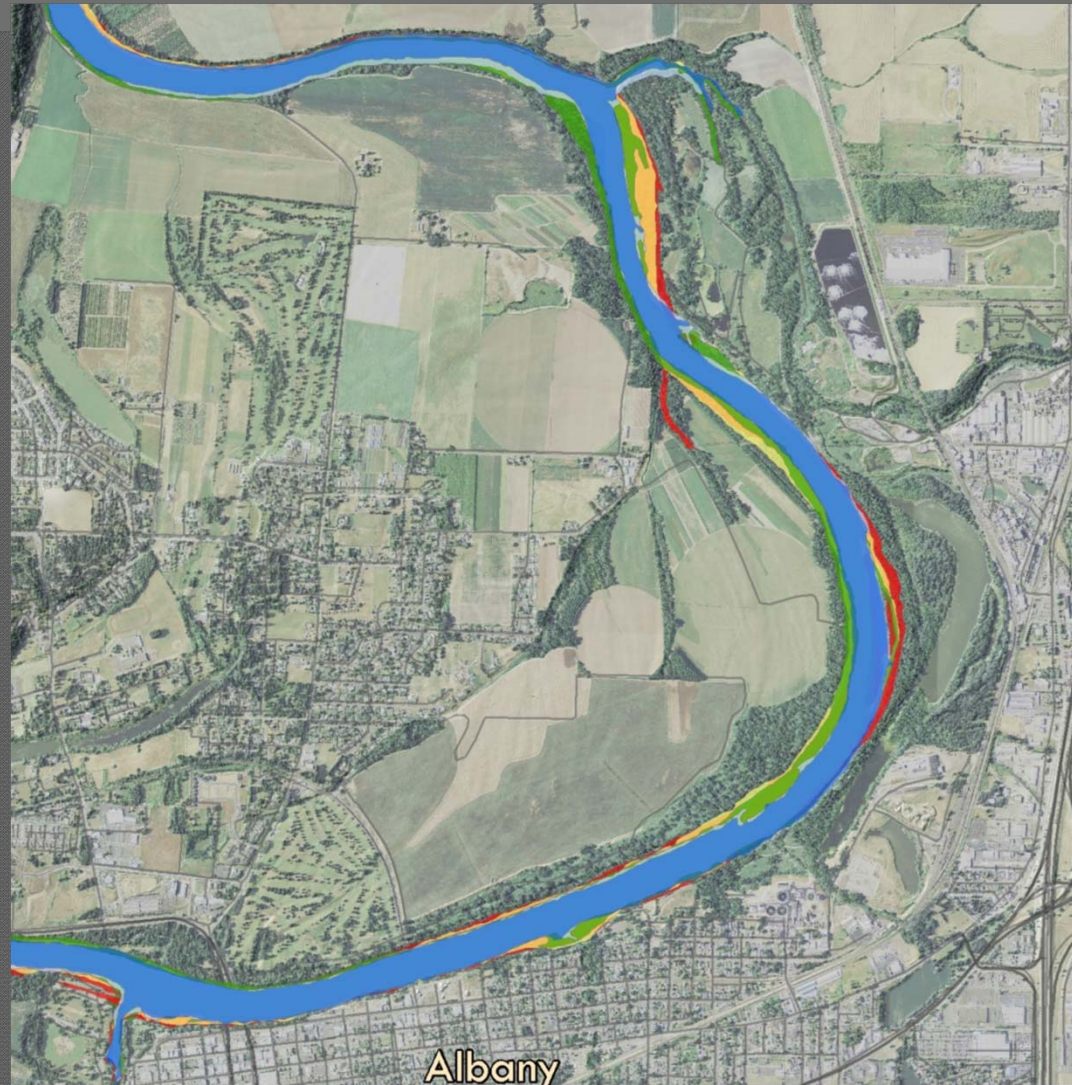
- Inundation mapping
- Existing conditions
- Opportunities



# Inundation



# Historical Channel



# Land Use

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# Albany Ponds Summary

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- ◉ Additional assessment necessary
- ◉ Coordinate with City of Albany
- ◉ Determine constraints
- ◉ Other tributaries and off-channel areas

# Overview

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- Completing assessment of Willamette River – Calapooia River confluence reach
- Opportunities focus on passive actions
- Active treatments in lower risk areas
- Albany Ponds to be reviewed with City of Albany