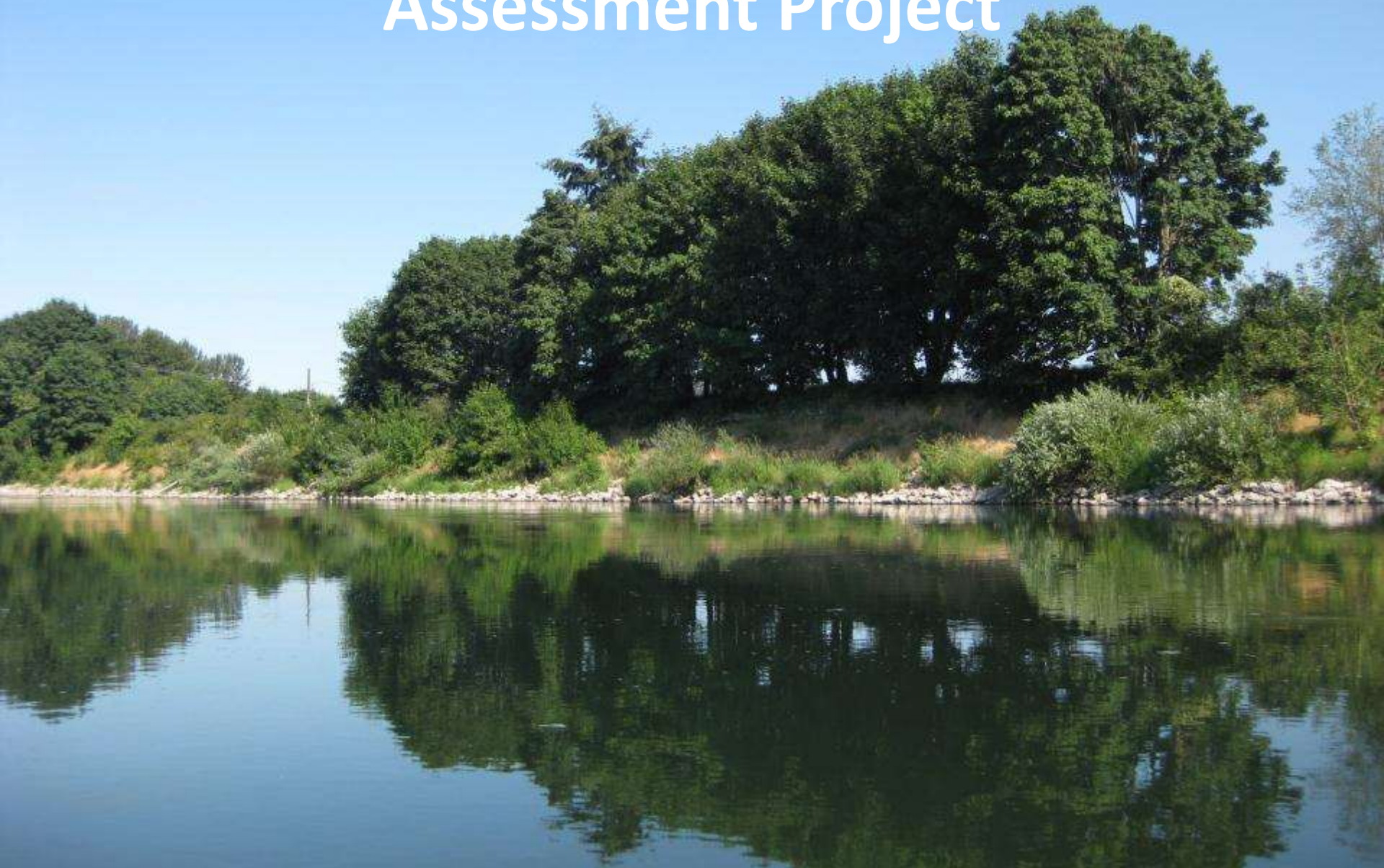


# Willamette Mainstem Habitat Assessment Project



# Purpose

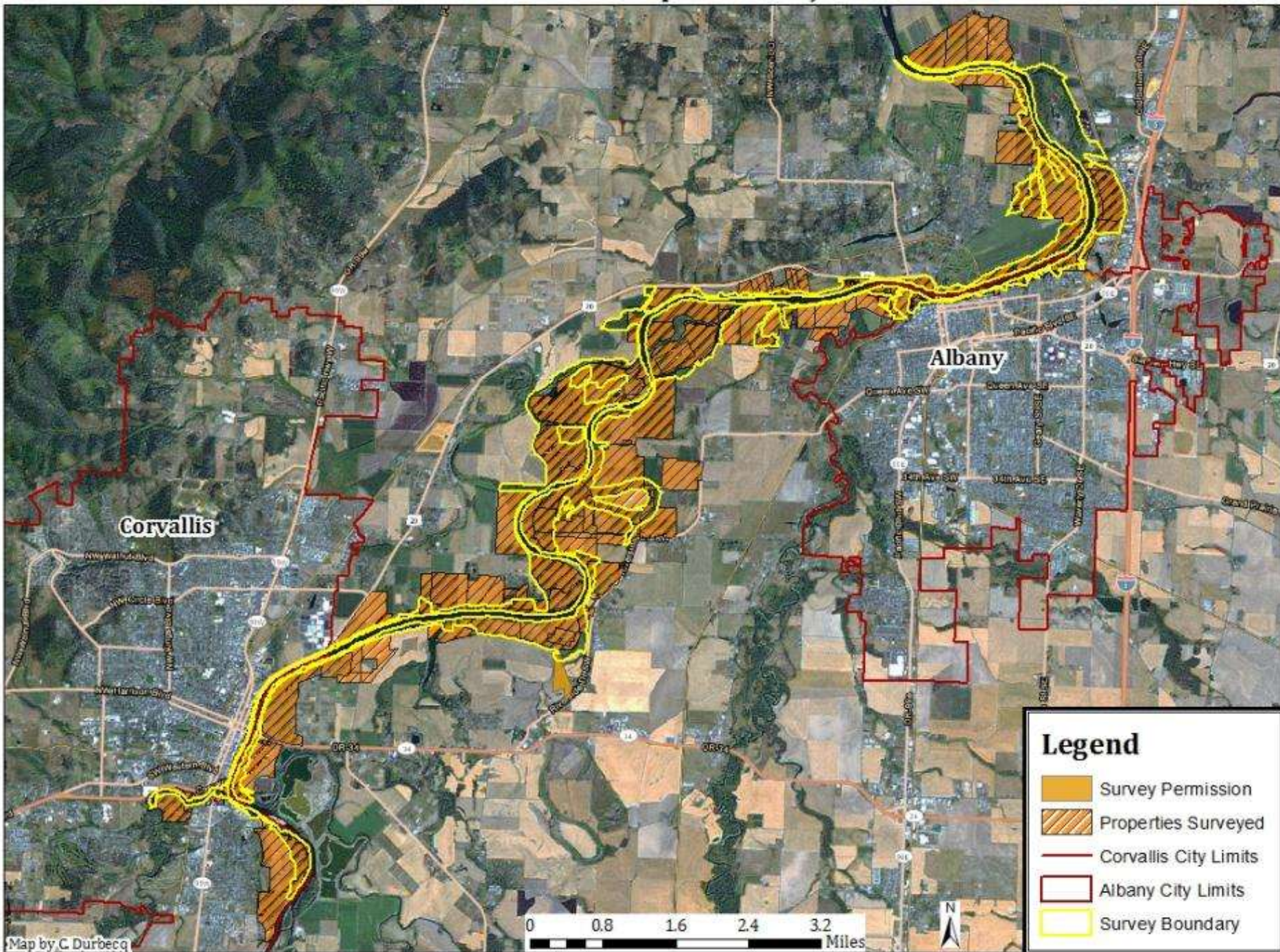
- “Evaluate the character and health of vegetative communities, with an emphasis on invasive species.”

# Project Goals

- Design replicable methodology
- Map location and extent of invasive species
- Map native habitats
- ID best areas for management/containment
- ID invasives that are still controllable
- Analysis and assistance for future management and treatment

# Willamette Mainstem Cooperative Project Area

Updated Aug 20, 2013





# Methods

- Ownership (= site)
- ~~Map vegetation cover types – 2012 only!~~
- Map target invasive species – ODA list & more
- Rate habitat quality
- Map native habitat
- Management recommendations
- GIS Mapping

# Methods – Native Habitat

- Invasives few or absent
- High diversity of native species
- Low disturbance/few human impacts
- Structural diversity
- Connectivity

# Methodology – native habitat

- High native/low invasive species
- ~~Vegetation plots~~ – 2012 only!
- Document change over time
- GPS'd but not permanently monumented
- Dominant species by layer
- Invasive species present
- Photo points



# Field Surveys

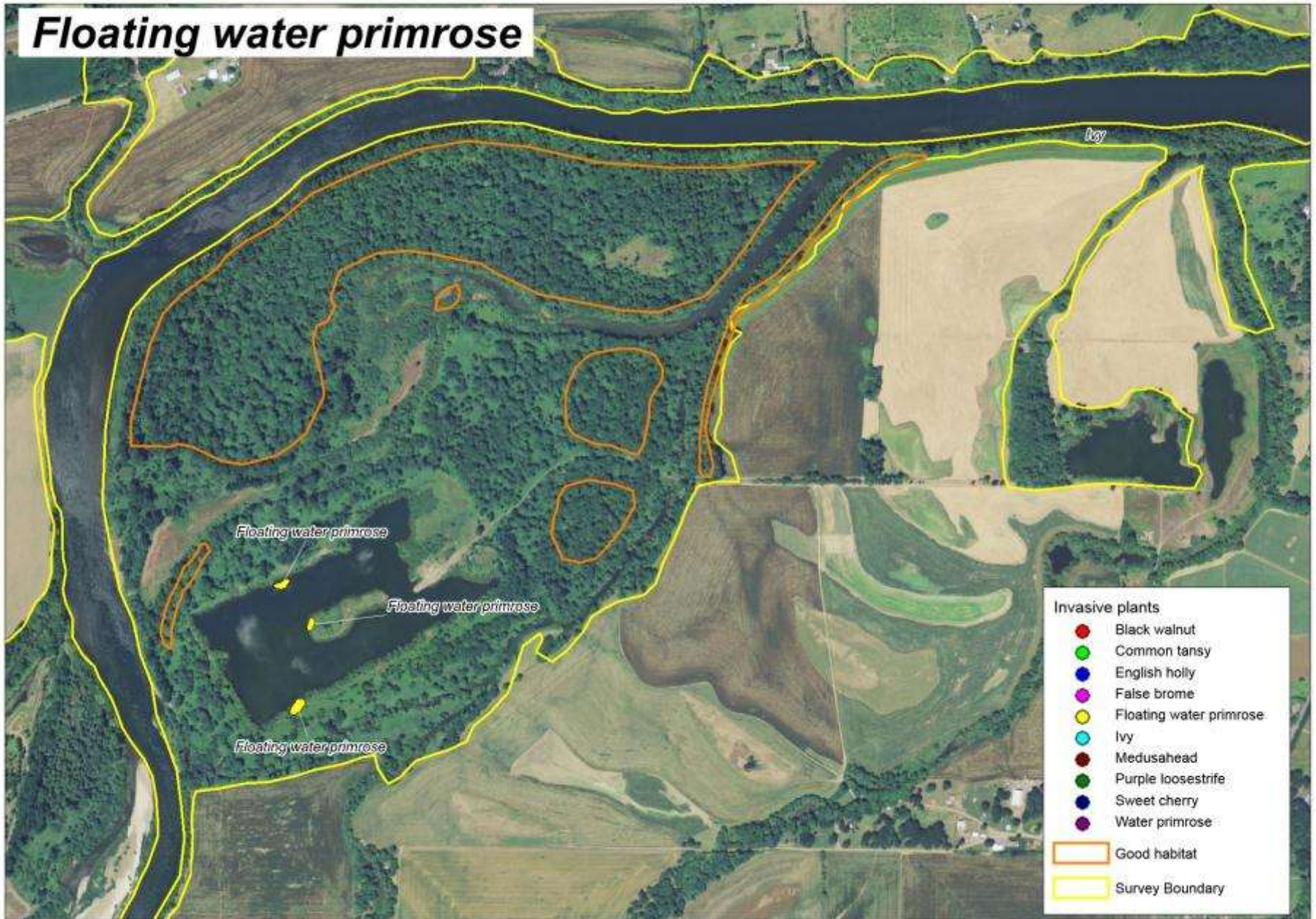


# Field Surveys

- 2012 - July to September
- 2013 – May to July
- 58 sites
- 45 ownerships – public and private
- 2,566 acres surveyed
- Field assistance by BSWCD, OPRD, Marvin Gilmour



# Floating water primrose



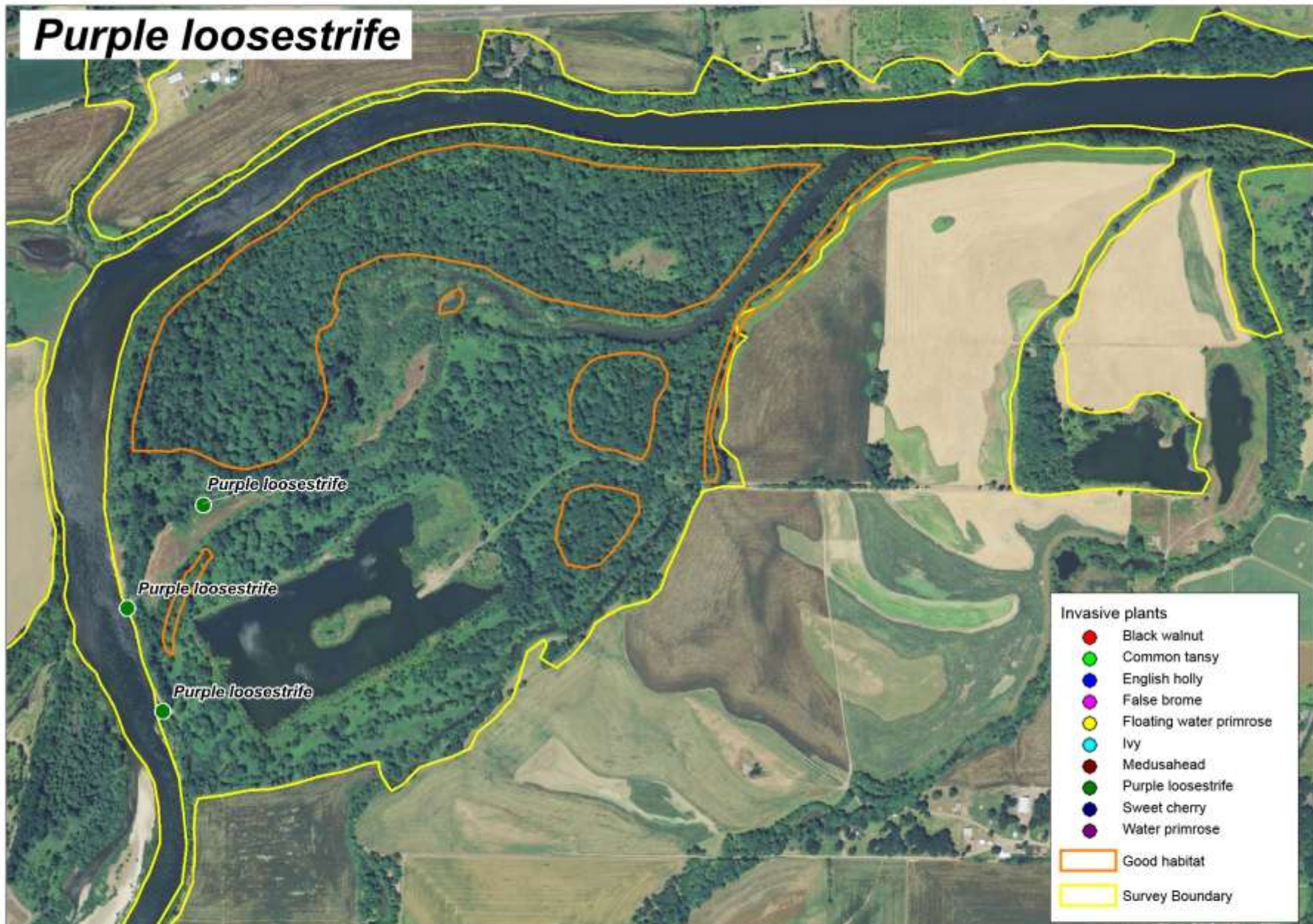
Willamette River Vegetative Habitat Survey  
Bowers Rock, Oregon State Park



Aerial photo: NAIP Summer 2012

Carex Working Group  
GIS by Jim Reed, PhD  
Fall 2012

# Purple loosestrife

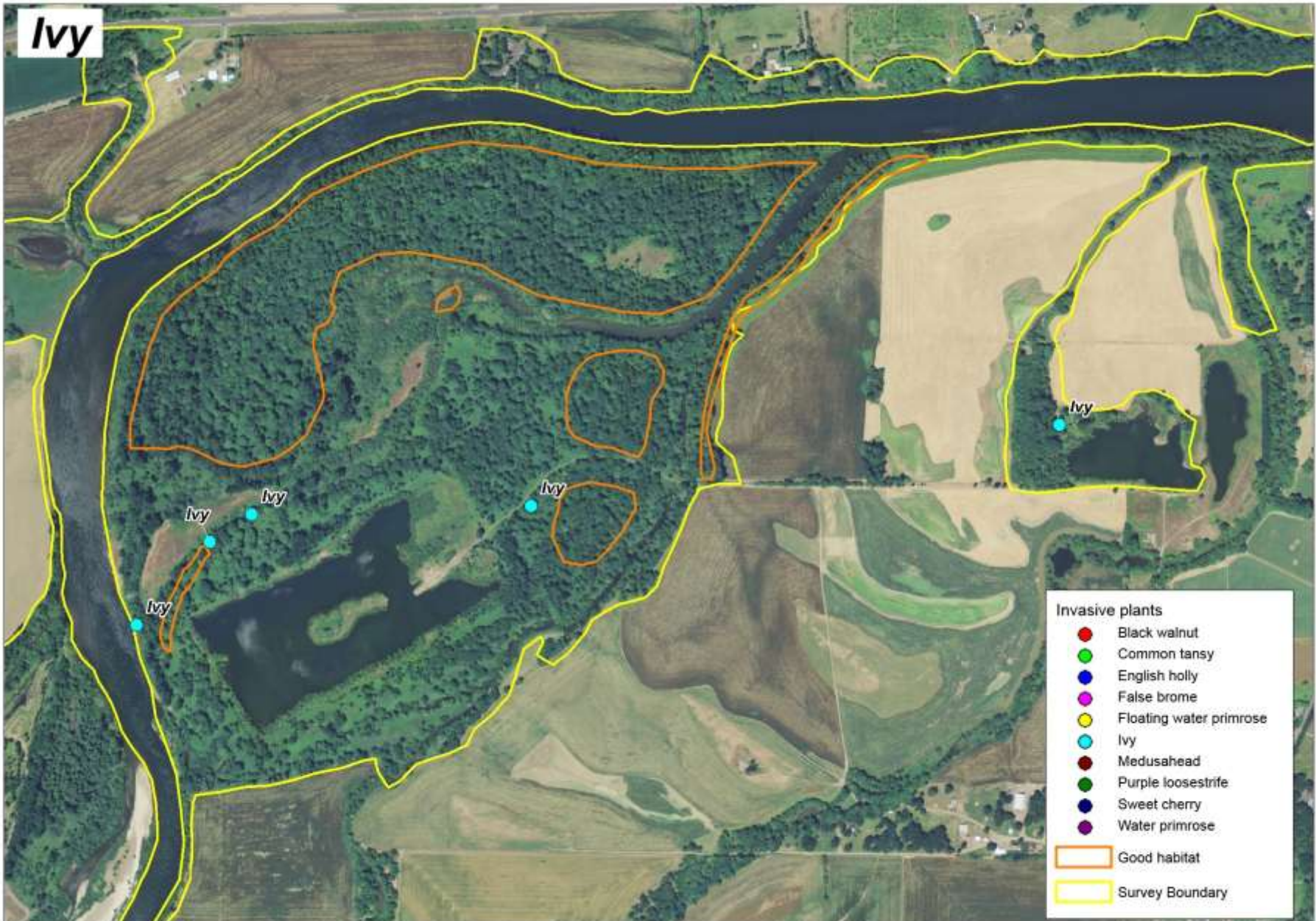


**Willamette River Vegetative Habitat Survey**  
**Bowers Rock, Oregon State Park**

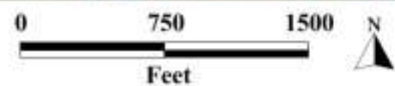


Aerial photo: NAIP Summer 2012

Carex Working Group  
GIS by Jim Reed, PhD  
Fall 2012



**Willamette River Vegetative Habitat Survey**  
**Bowers Rock, Oregon State Park**

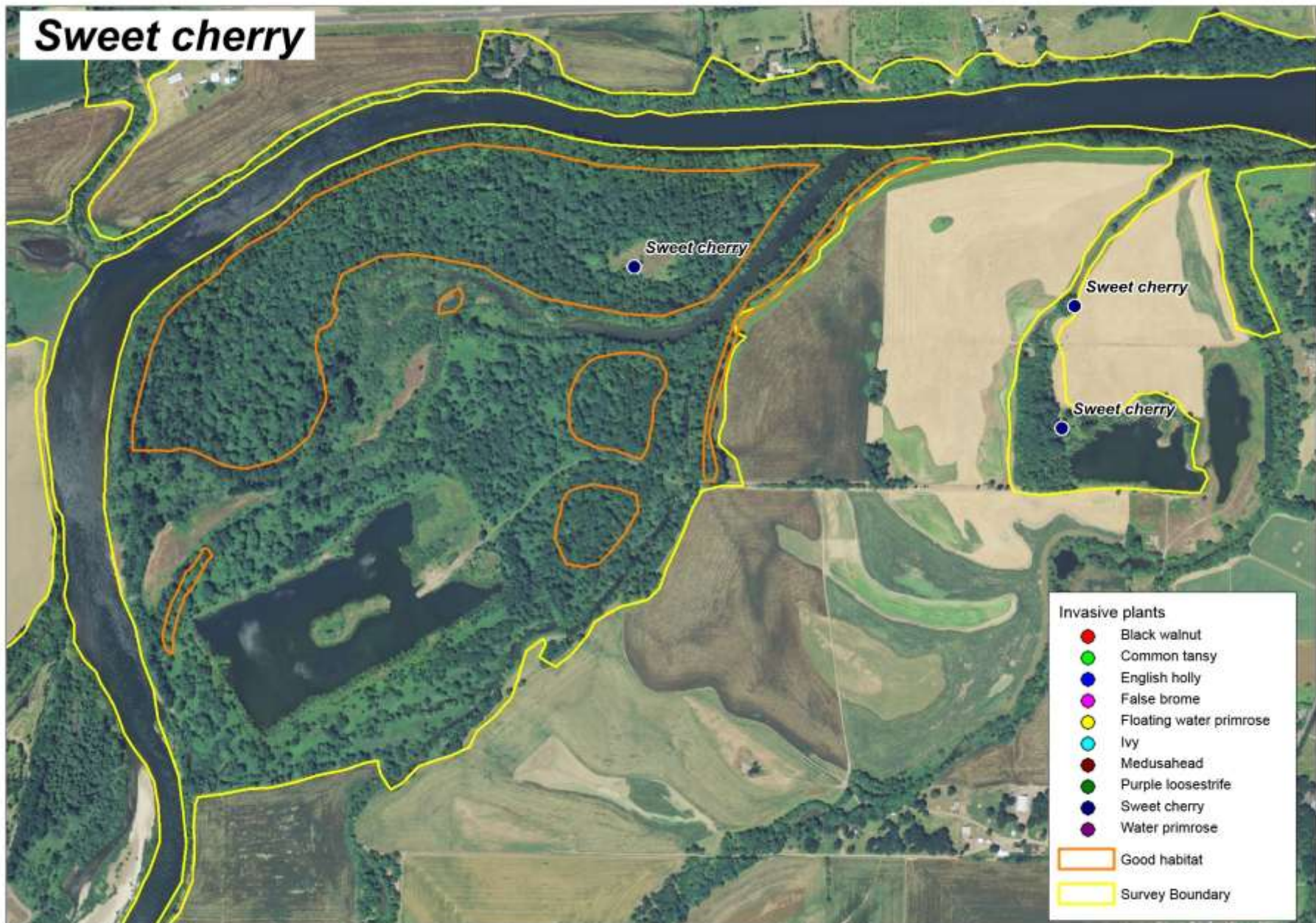


Aerial photo: NAIP Summer 2012

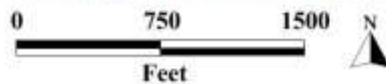
Carex Working Group  
 GIS by Jim Reed, PhD  
 Fall 2012



# Sweet cherry



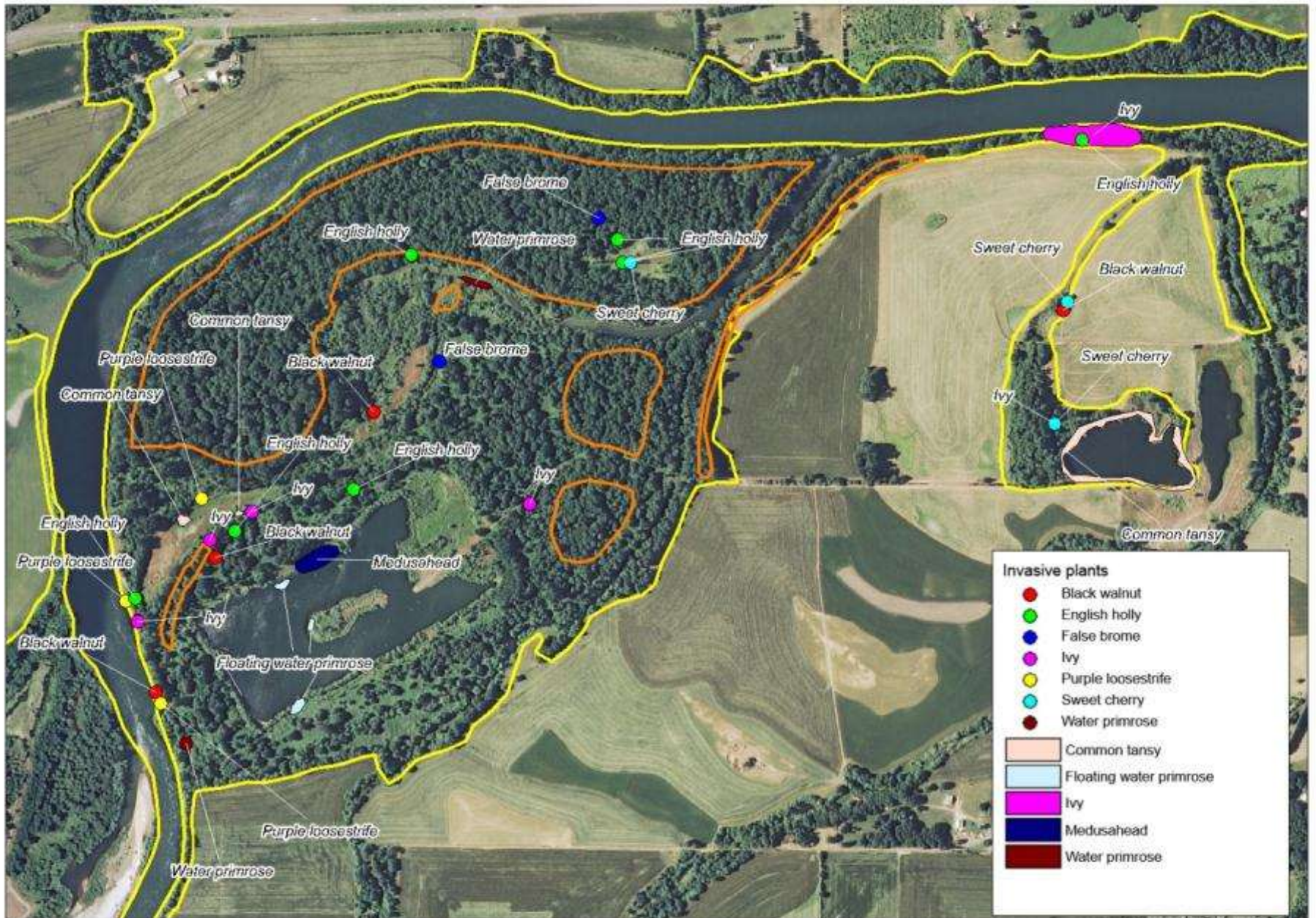
**Willamette River Vegetative Habitat Survey**  
**Bowers Rock, Oregon State Park**



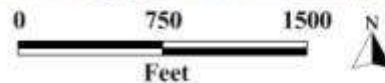
Aerial photo: NAIP Summer 2012

Carex Working Group  
GIS by Jim Reed, PhD  
Fall 2012





**Willamette River Vegetative Habitat Survey**  
**Bowers Rock, Oregon State Park**



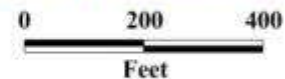
Aerial photo: NAIP Summer 2011 Carex Working Group  
 GIS by Jim Reed, PhD  
 Fall 2012

# Canada thistle



**Willamette River Vegetative Habitat Survey 2013**  
**Kenagy (1 of 3) Property**

Data source:  
Aerial: NAIP 2012



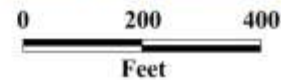
Carex Working Group  
GIS by Jim Reed, Ph.D.  
2013

# Clematis



**Willamette River Vegetative Habitat Survey 2013**  
**Kenagy (1 of 3) Property**

Data source:  
Aerial: NAIP 2012



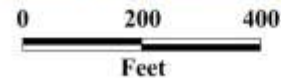
Carex Working Group  
GIS by Jim Reed, Ph.D.  
2013

# English holly



**Willamette River Vegetative Habitat Survey 2013**  
**Kenagy (1 of 3) Property**

Data source:  
Aerial: NAIP 2012



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2013

# False brome

False brome

False brome

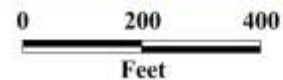
## Invasive Plants

- Aaron's beard
- Black walnut
- Bull thistle
- Canada thistle
- Clematis
- Common tansy
- English holly
- English walnut
- False brome
- French broom
- Himalayan blackberry
- Ivy
- Poison hemlock
- Tansy ragwort

- ▭ Good habitat
- ▭ Survey boundary

**Willamette River Vegetative Habitat Survey 2013**  
**Kenagy (1 of 3) Property**

Data source:  
Aerial: NAIP 2012



Carex Working Group  
GIS by Jim Reed, Ph.D.  
2013

Ivy



**Invasive Plants**

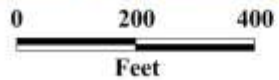
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**Kenagy (1 of 3) Property**

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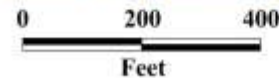


Carex Working Group  
GIS by Jim Reed, Ph.D.  
2013



**Willamette River Vegetative Habitat Survey 2013**  
**Kenagy (1 of 3) Property**

Data source:  
 Aerial: NAIP 2012



Carex Working Group  
 GIS by Jim Reed, Ph.D.  
 2013

# Results

- Himalayan blackberry, reed canarygrass, common tansy common and widespread
- Thin strips of habitat usually overrun with invasives, especially Himalayan blackberry
- False brome common, scattered in small pops.
- Invasive trees and woody vines common
- Water primrose common in sloughs and ponds - often very dense



# Native Habitat

- 64 areas on 37 ownerships
- 384 total acres
- < 0.1 acre to 102 acres
- Average size = 6 acres
- Concentrated in interior forest habitats
- Mostly on larger sites
- Mostly on public ownerships

# Management Recommendations

- Protect the best
- Prioritize small & emerging weed populations
- Prioritize control of false brome, ivy, clematis, water primrose, Japanese knotweed, purple loosestrife
- Work with land-owners to set weed control priorities
- Periodic surveys with follow-up treatments

# Challenges/Limitations aka Lessons Learned

- Access – dense vegetation, aquatic habitats, boat-only sites, private land issues
- Late season phenology – hampered ID of good habitats in 2012
- 2012 method too detailed & time consuming
- Automate field mapping and data collection

# HIMALAYAN BLACKBERRY



# WATER PRIMROSE







IVY



**IVY CONTROL**







**BARRED OWL**