

Cardwell Hill

Regional conservation planning strategy



Mary River Watershed Council



Working together for a watershed world



conservation
restoration
protection
restoration management

A Collaborative Landscape Partnership

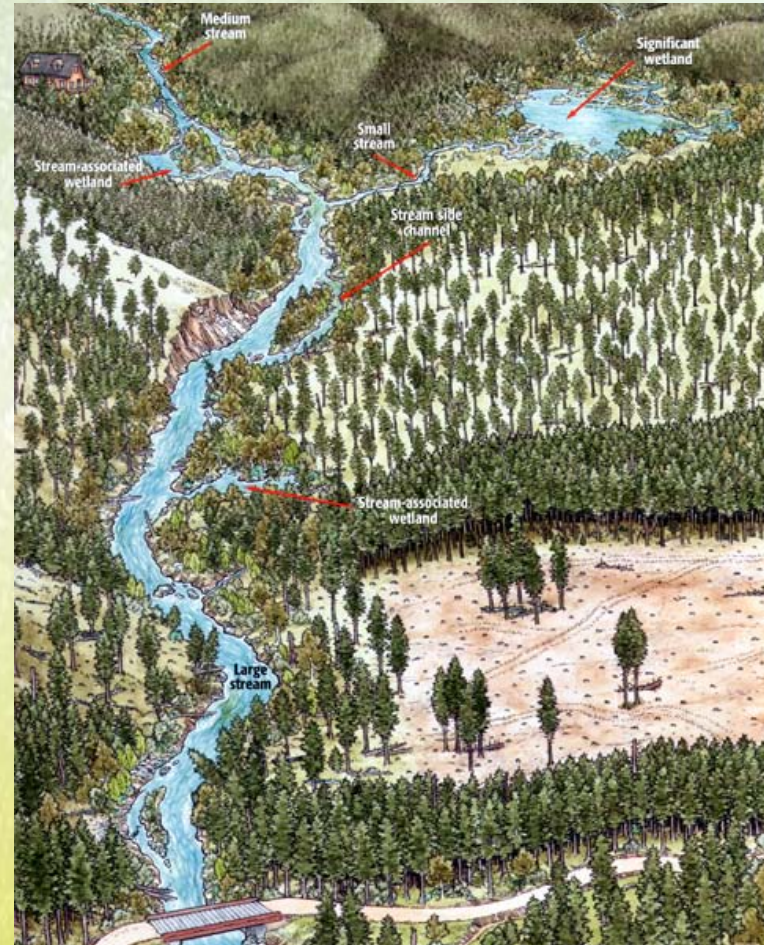
Multiple projects networking a regional conservation framework



A Regional Landscape Plan

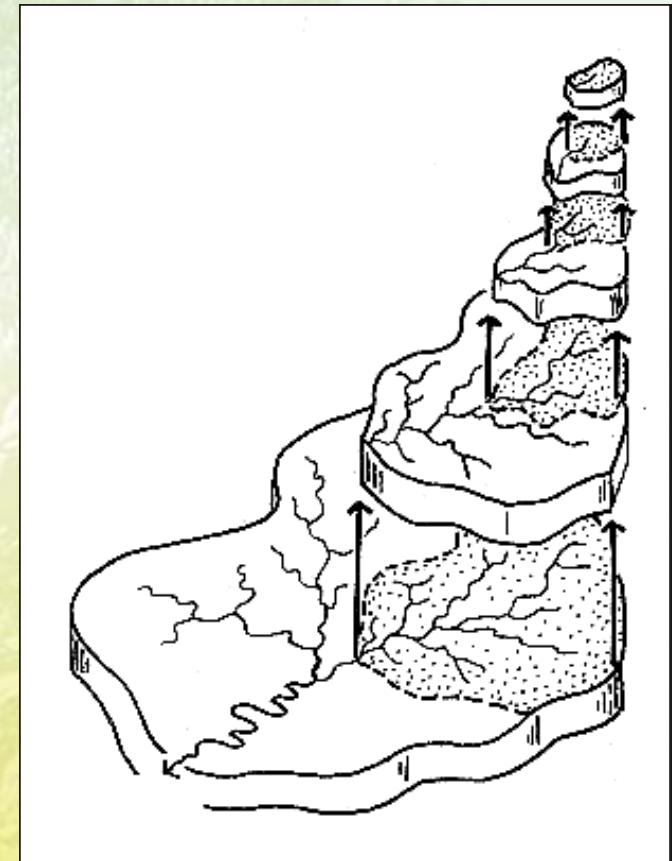
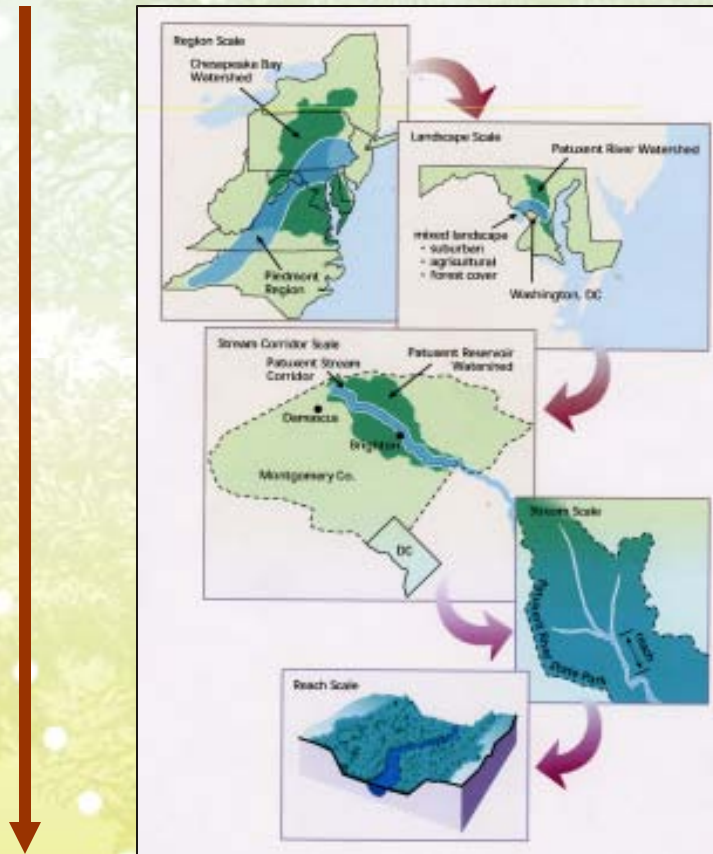
- **Community Networks**
 - **Building Community**

- **Conservation Networks**
 - **Building Ecology**



Source: Oregon's forest protection laws : an illustrated manual
Logan, Robert ; Oregon Forest Resources Institute. 2002.

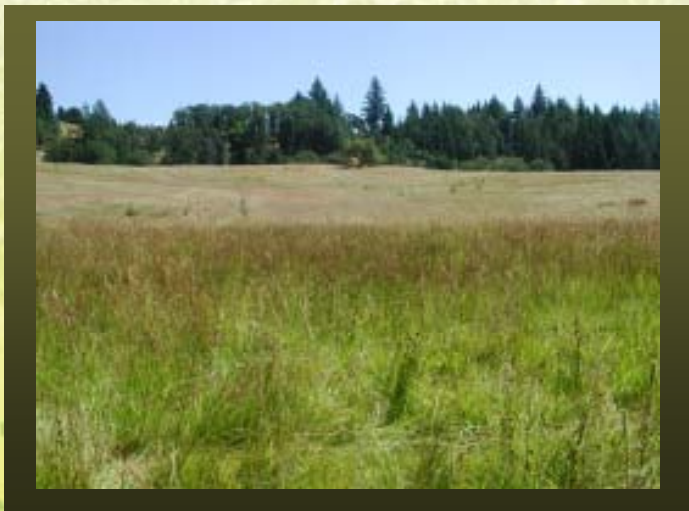
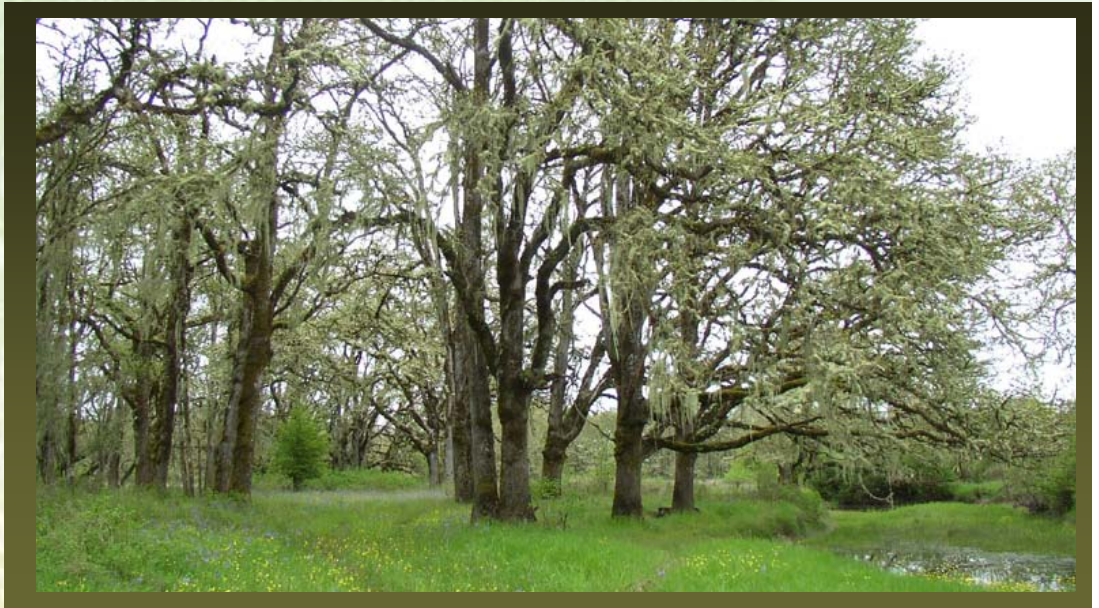
Planning and Design at all Scales



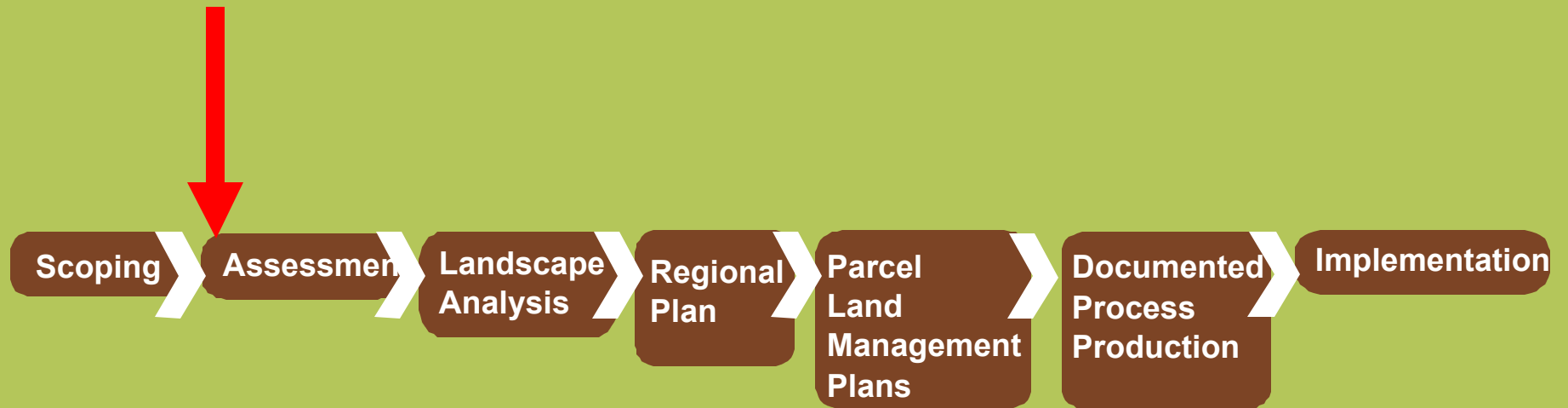
restoration protection
restoration protection
restoration management
restoration

Watershed and Subbasin Habitat Priorities

- **Prairie/ Oak Savanna**
- **Oak Woodland**
- **Riparian**
- **Wetland**

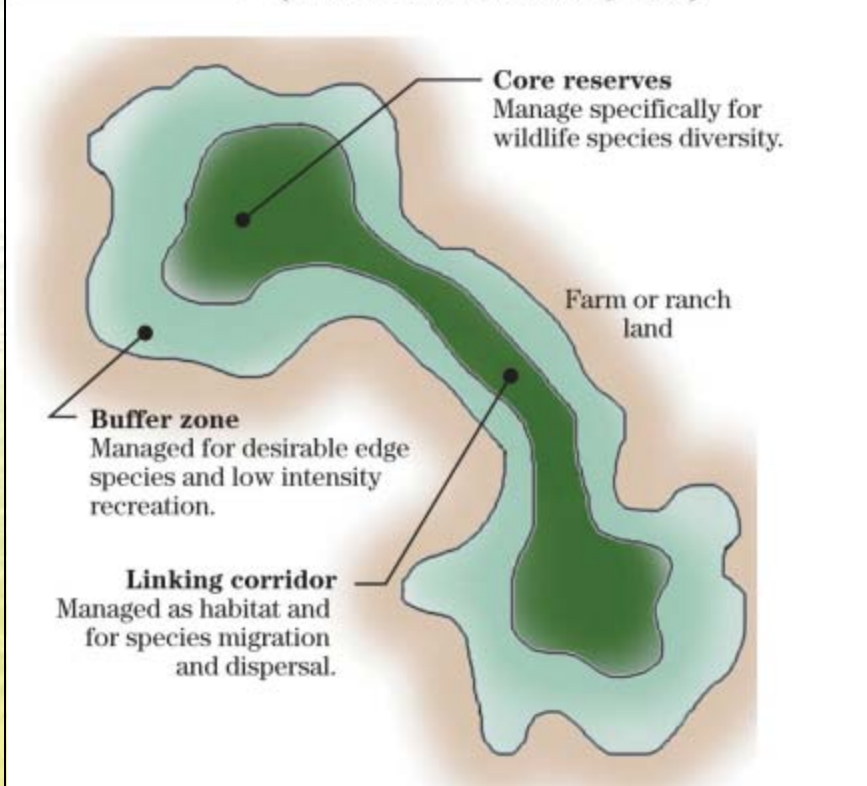


Cardwell Hill Project – Phase 1 Process

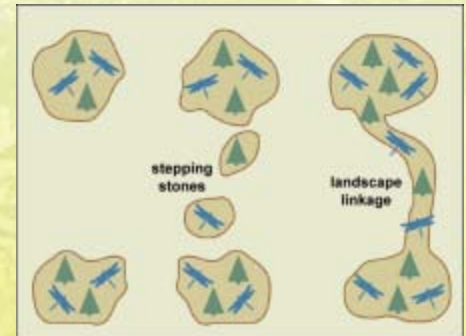


Applying Principles of Landscape Ecology

Figure 613-43 Core reserves, buffer zones, and linkages (after Adams and Dove, 1989)



- Landscape Scales
- Habitat Patches / Quality
- Edge Habitat / Core Habitat
- Stepping Stones
- Connectivity Corridors



- A Functioning Conservation Framework

Willamette Valley Habitat Overview

WILLAMETTE BASIN HABITAT CONSERVATION PRIORITIES

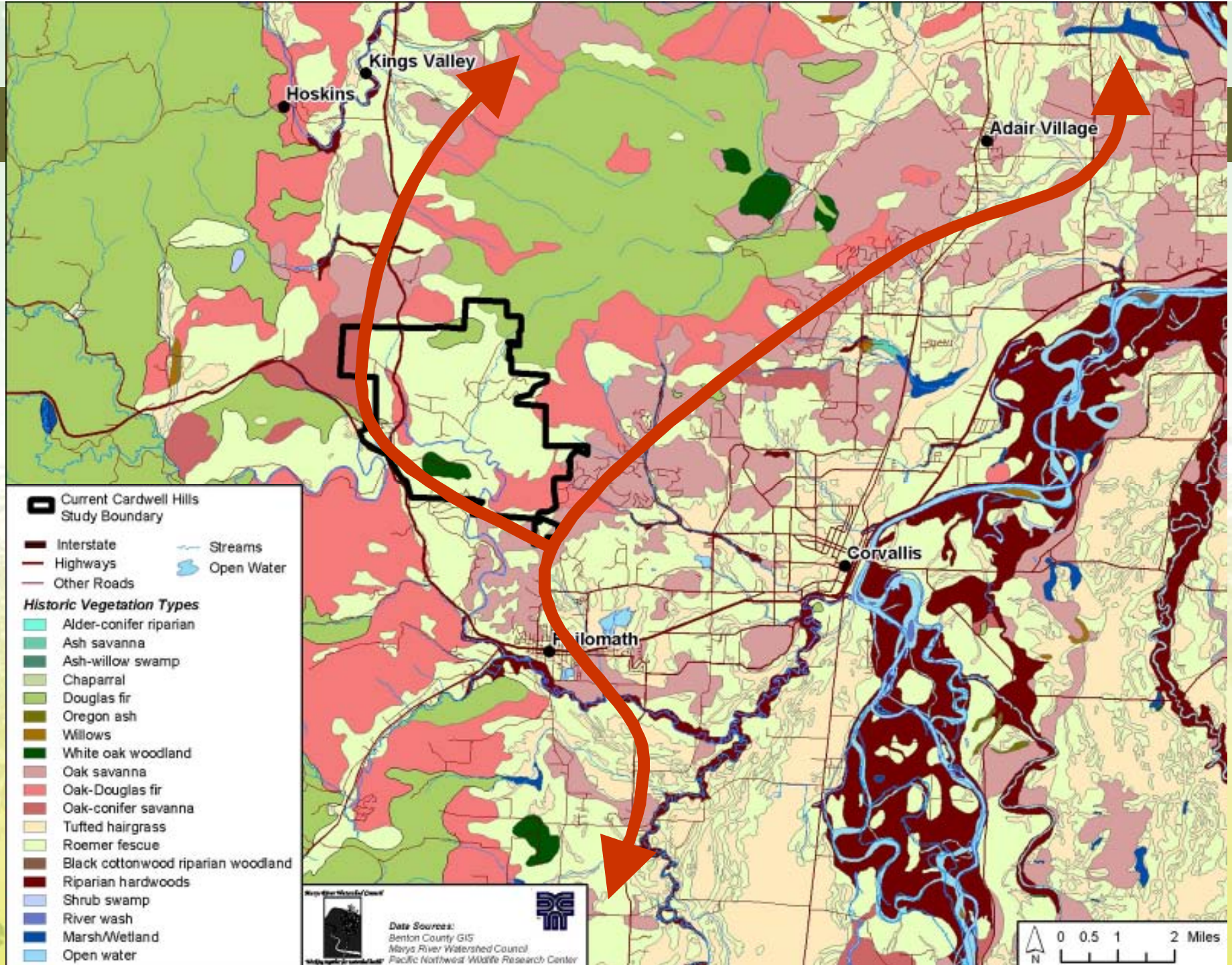
- Hyland Forests
- Prairie
- Oak Savanna
- Esperanza/Wetland
- Wetlands
- Cities
- Water

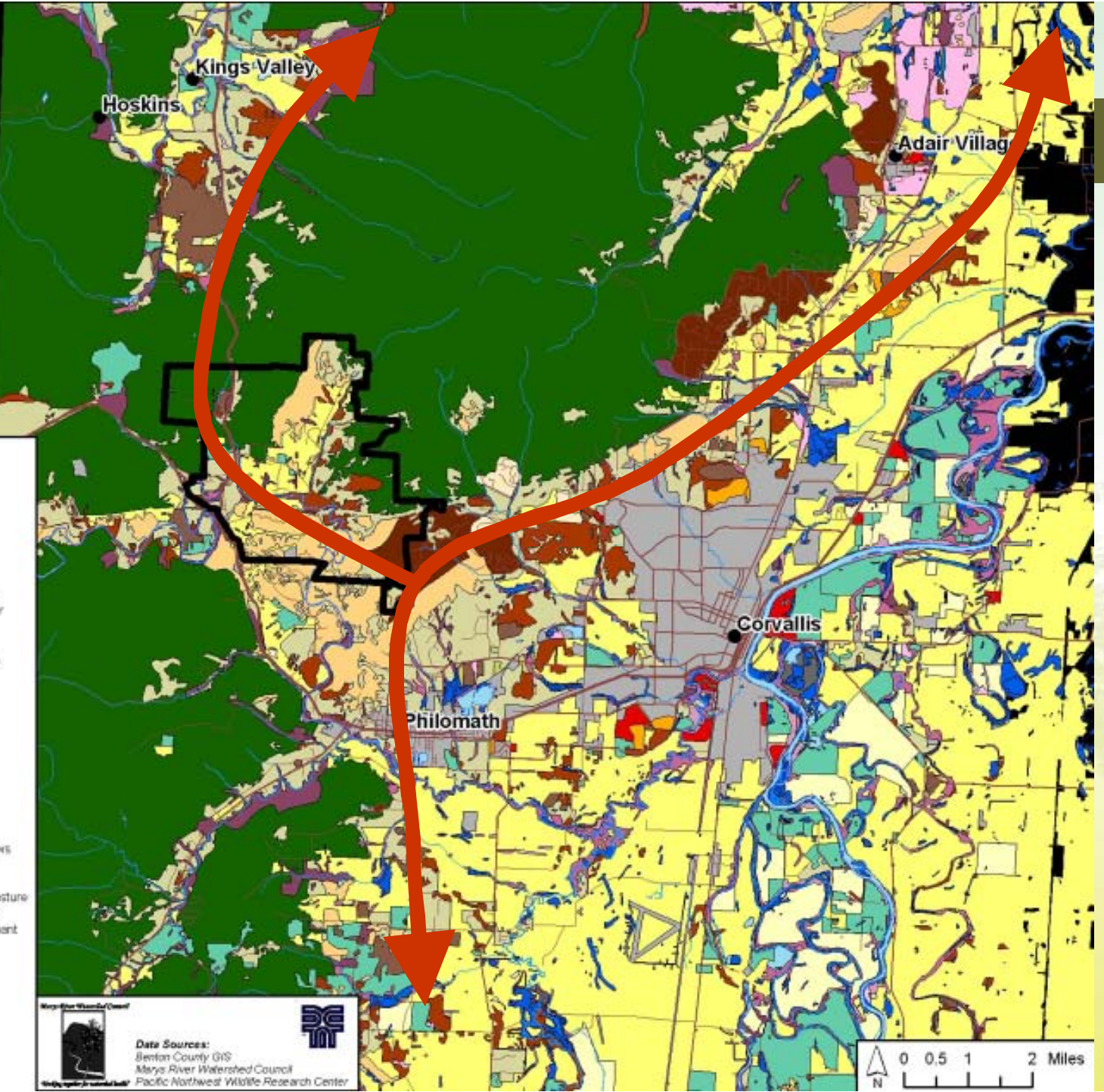
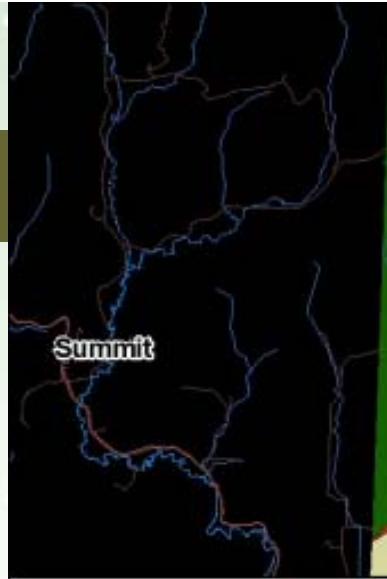
The map represents a first cut at a network of existing and potential areas for conservation in the basin. Information on the map is still in the process of being refined at local levels. As information on the map is field-checked and refined, map details will evolve.

The Willamette Restoration Strategy, 2001
Willamette Restoration Institute



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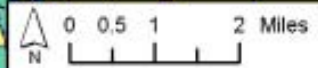


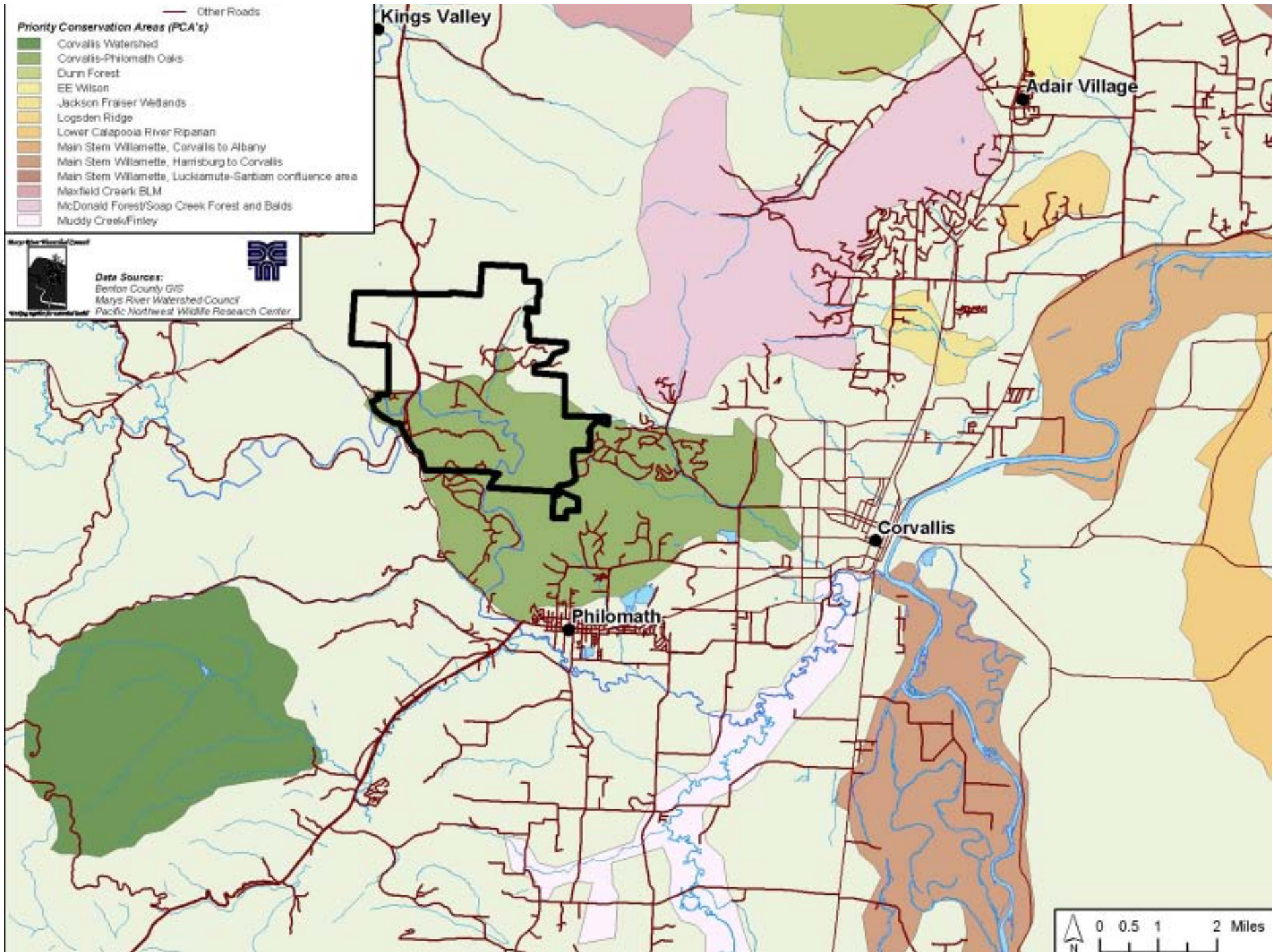


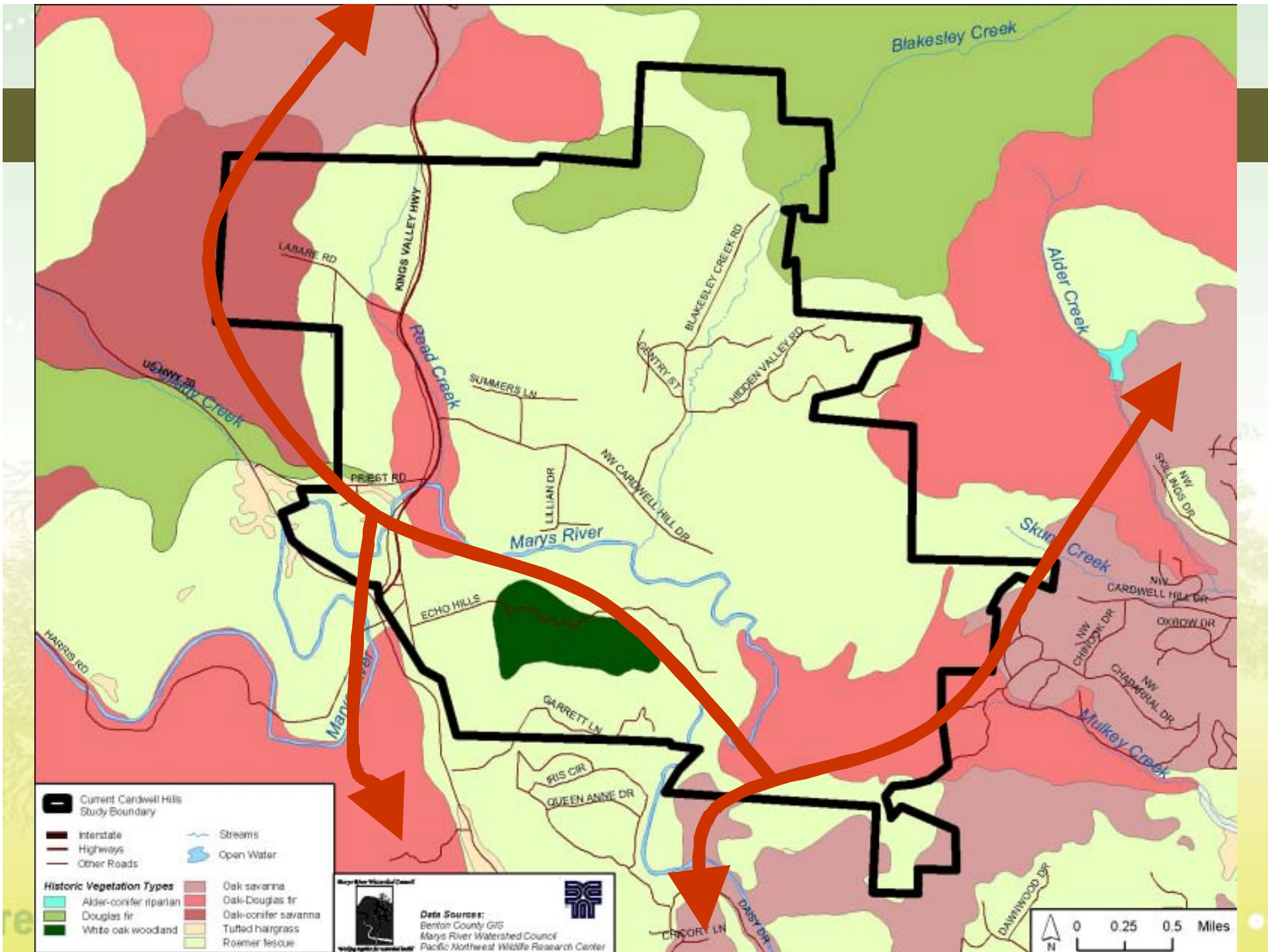
- Current Cardwell Hills Study Boundary
- Interstate
- Highways
- Other Roads
- Streams
- Open Water
- Oak Woodland/Restorable Oak Woodland**
 - 476 - Oak/Douglas Fir - >50% Oak
 - 476.3 - Oak/Douglas Fir - Urban Build-up
 - 505 - Douglas Fir/Oak - >50% Douglas Fir
 - 505.3 Douglas Fir/Oak - Urban Build-up
 - 506 - Oak - Madrone
- Oak Savannah/Grassland/Potential Restorable**
 - 22 - Annual Grasses
 - 23 - Perennial Grasses
 - 25 - Unmanaged Pasturelands
 - 39 - Hairgrass Prairie
- Wetland & Water**
 - 30 - Reed Canary Wetland
 - 31 - Cattail - Bulrush
 - 9 - Water
 - NWM Wetlands
- Riparian**
 - 20 - Black Hawthorn Riparian & Hedgerows
 - 21 - Cottonwood Riparian
 - 22 - Willow
 - 463 - Ash/Cottonwood - Maple Bottom Pasture
 - 463.3 - Ash/Cottonwood - Urban Build-up
 - 510 - Maple/Wilder Fir - Hardwoods Dominant
- Other Landcover**
 - 1000 - General Forest Unclassified
 - 2.1 - Row Crops
 - 2.4 - Orchards and Berry Fields
 - 2.6 - Recreational Fields and Parks
 - 3 - Urban & Industrial
 - 512 - Douglas Fir
 - 512.3 - Douglas Fir - Urban Build-up
 - 999 - Gravel Bars & Sand

Map of the Watershed Council

Data Sources:
 Benton County GIS
 Marys River Watershed Council
 Pacific Northwest Wildlife Research Center







Current Cardwell Hills Study Boundary

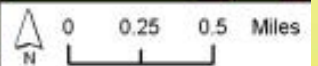
- Interstate
- Highways
- Other Roads
- Streams
- Open Water

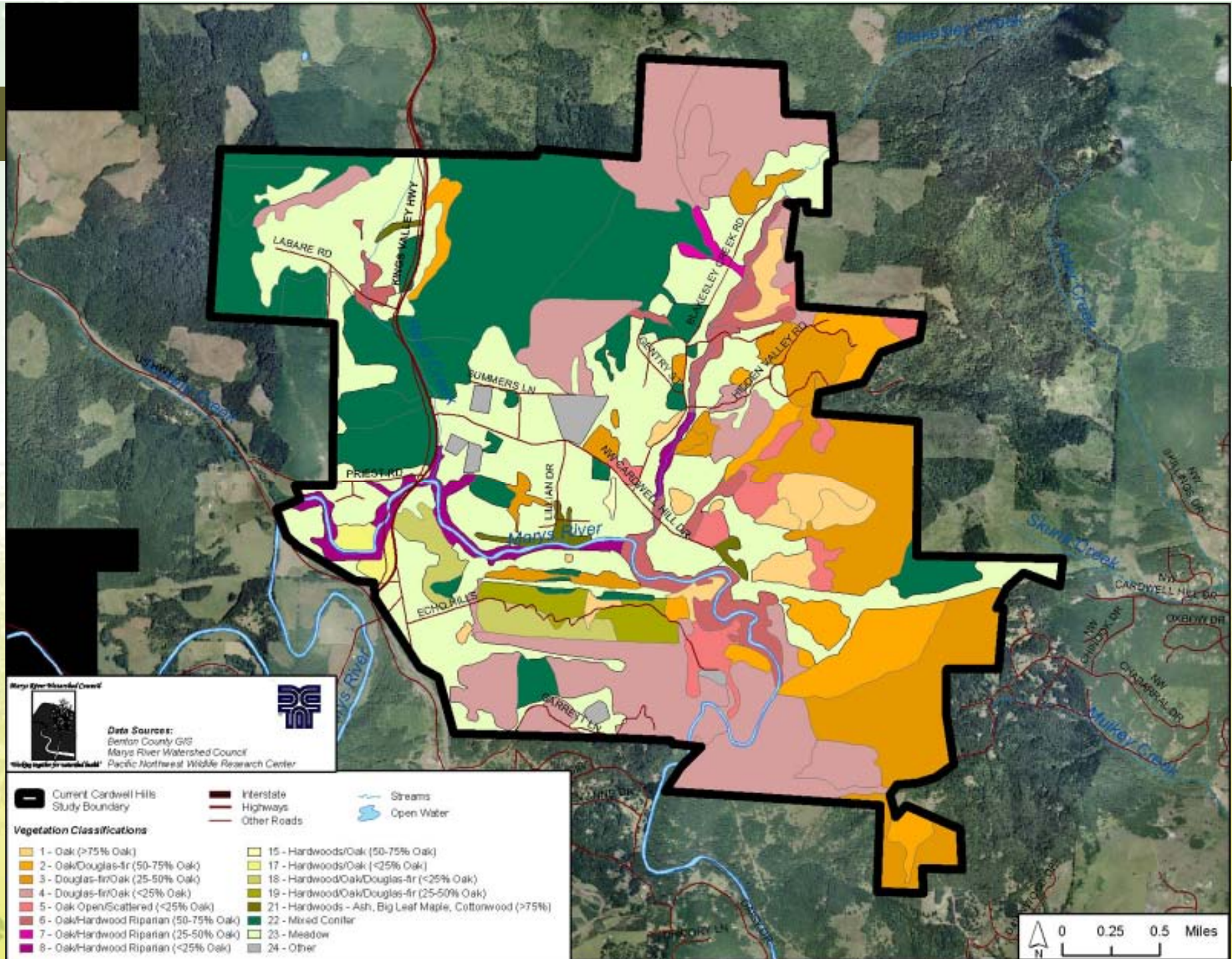
Historic Vegetation Types

- Alder-conifer riparian
- Douglas fir
- White oak woodland
- Oak savanna
- Oak-Douglas fir
- Oak-conifer savanna
- Tufted hairgrass
- Roemer lesoué

Marys River Watershed Council

Data Sources:
 Benton County GIS
 Marys River Watershed Council
 Pacific Northwest Wildlife Research Center

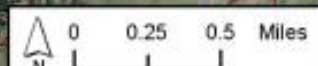




Marys River Watershed Council

Data Sources:
 Benton County GIS
 Marys River Watershed Council
 Pacific Northwest Wildlife Research Center

- | | | |
|---------------------------------------|-------------|------------|
| Current Cardwell Hills Study Boundary | Interstate | Streams |
| Highways | Other Roads | Open Water |
- Vegetation Classifications**
- | | |
|--|---|
| 1 - Oak (>75% Oak) | 15 - Hardwoods/Oak (50-75% Oak) |
| 2 - Oak/Douglas-fir (50-75% Oak) | 17 - Hardwoods/Oak (<25% Oak) |
| 3 - Douglas-fir/Oak (25-50% Oak) | 18 - Hardwood/Oak/Douglas-fir (<25% Oak) |
| 4 - Douglas-fir/Oak (<25% Oak) | 19 - Hardwood/Oak/Douglas-fir (25-50% Oak) |
| 5 - Oak Open/Scattered (<25% Oak) | 21 - Hardwoods - Ash, Big Leaf Maple, Cottonwood (>75%) |
| 6 - Oak/Hardwood Riparian (50-75% Oak) | 22 - Mixed Conifer |
| 7 - Oak/Hardwood Riparian (25-50% Oak) | 23 - Meadow |
| 8 - Oak/Hardwood Riparian (<25% Oak) | 24 - Other |



Grassland Habitats- Species



- **Western Meadowlark**



- **Vesper Sparrow**



- **Streaked Horned Lark**

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Oak Savanna Habitats - Species

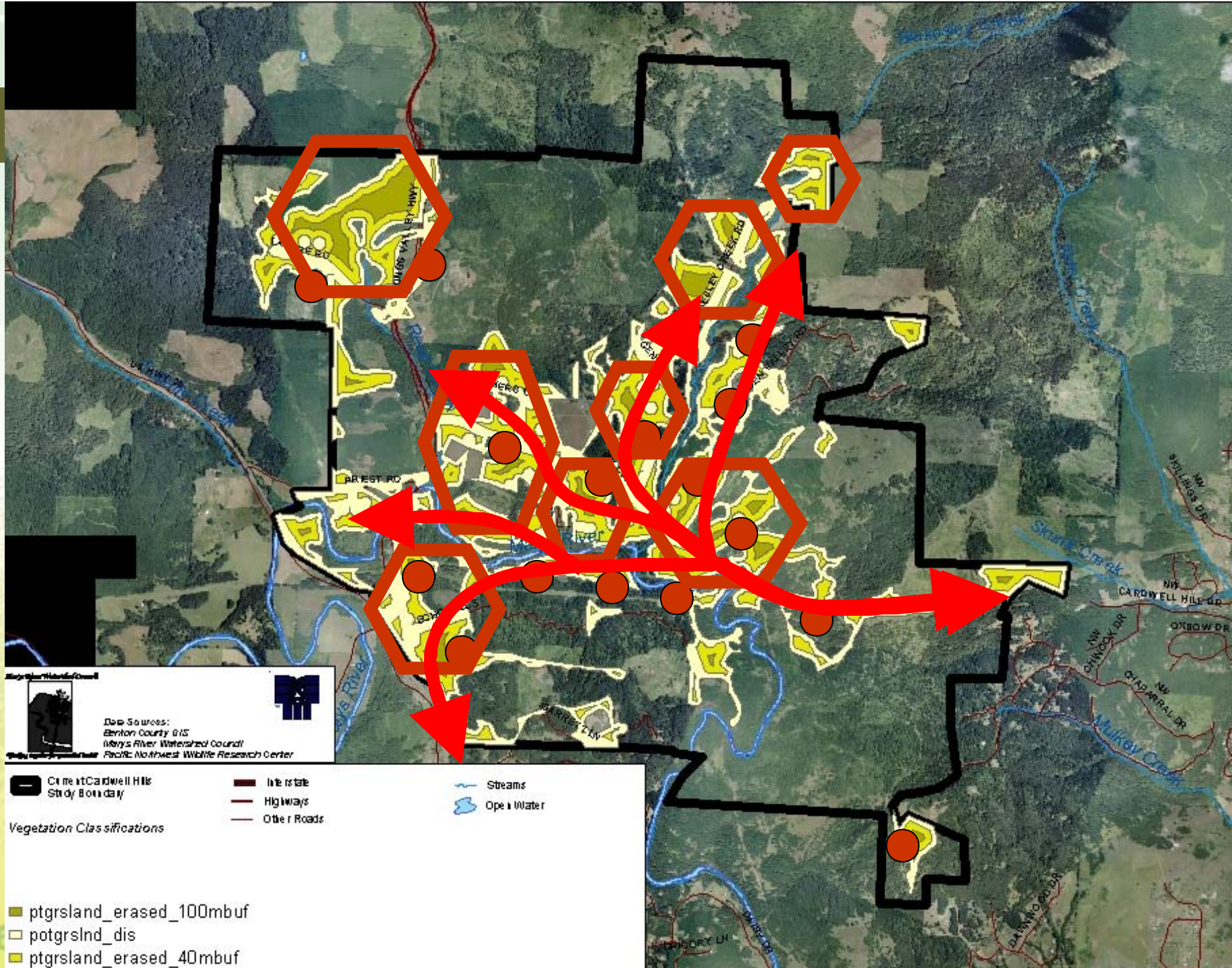


- **American Kestrel**



- **Western Bluebird**

restoration protection management restoration restoration



Map Source:
 Benton County GIS
 May's River Watershed Council
 Pacific Northwest Wildlife Research Center

- Cardwell Hills Study Boundary
 - Interstate
 - Highways
 - Other Roads
 - Streams
 - Open Water

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 ■ ptgrslnd_erased_40mbuf

Oak Woodland Habitats- Species



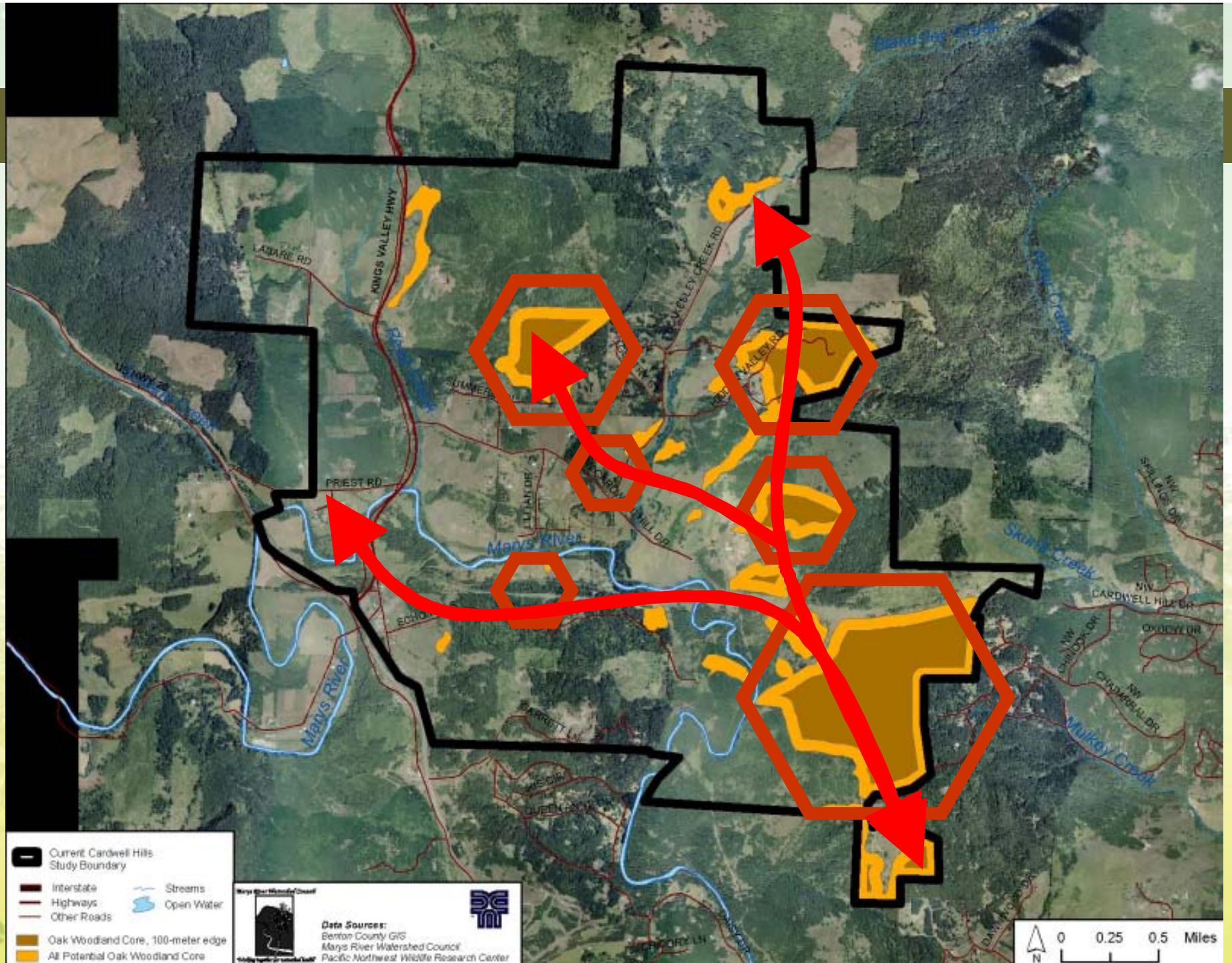
- Acorn Woodpecker



- White Breasted Nuthatch



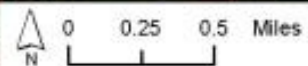
- Western Gray Squirrel



- Current Cardwell Hills Study Boundary
- Interstate
- Highways
- Other Roads
- Streams
- Open Water
- Oak Woodland Core, 100-meter edge
- All Potential Oak Woodland Core



Data Sources:
 Benton County GIS
 Mays River Watershed Council
 Pacific Northwest Wildlife Research Center



Riparian Habitats and Focal Species

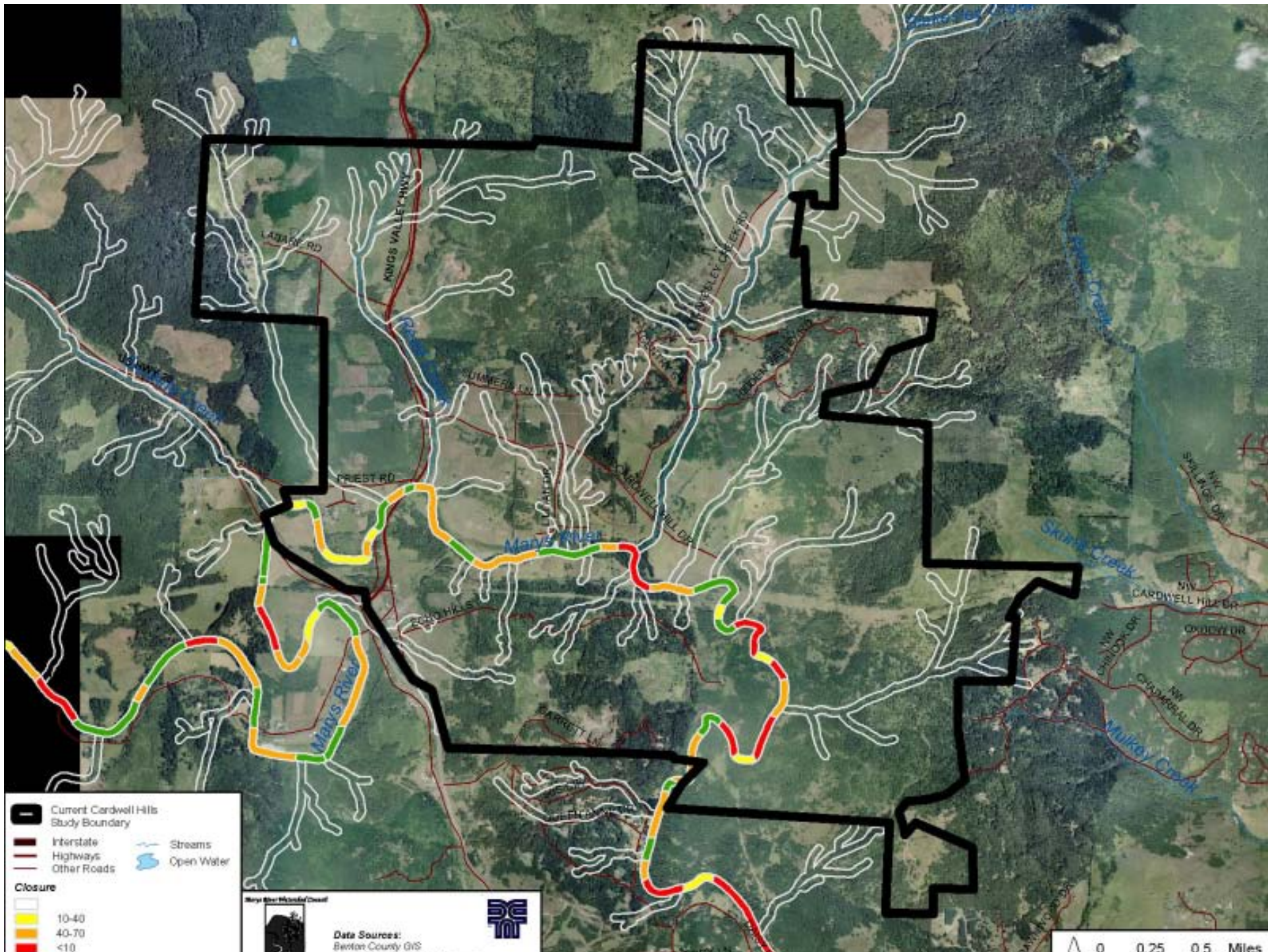


- Downy Woodpecker



- Red-Eyed Vireo

- Cutthroat Trout



Legend

- Current Cardwell Hills Study Boundary
- Interstate
- Highways
- Other Roads
- Streams
- Open Water

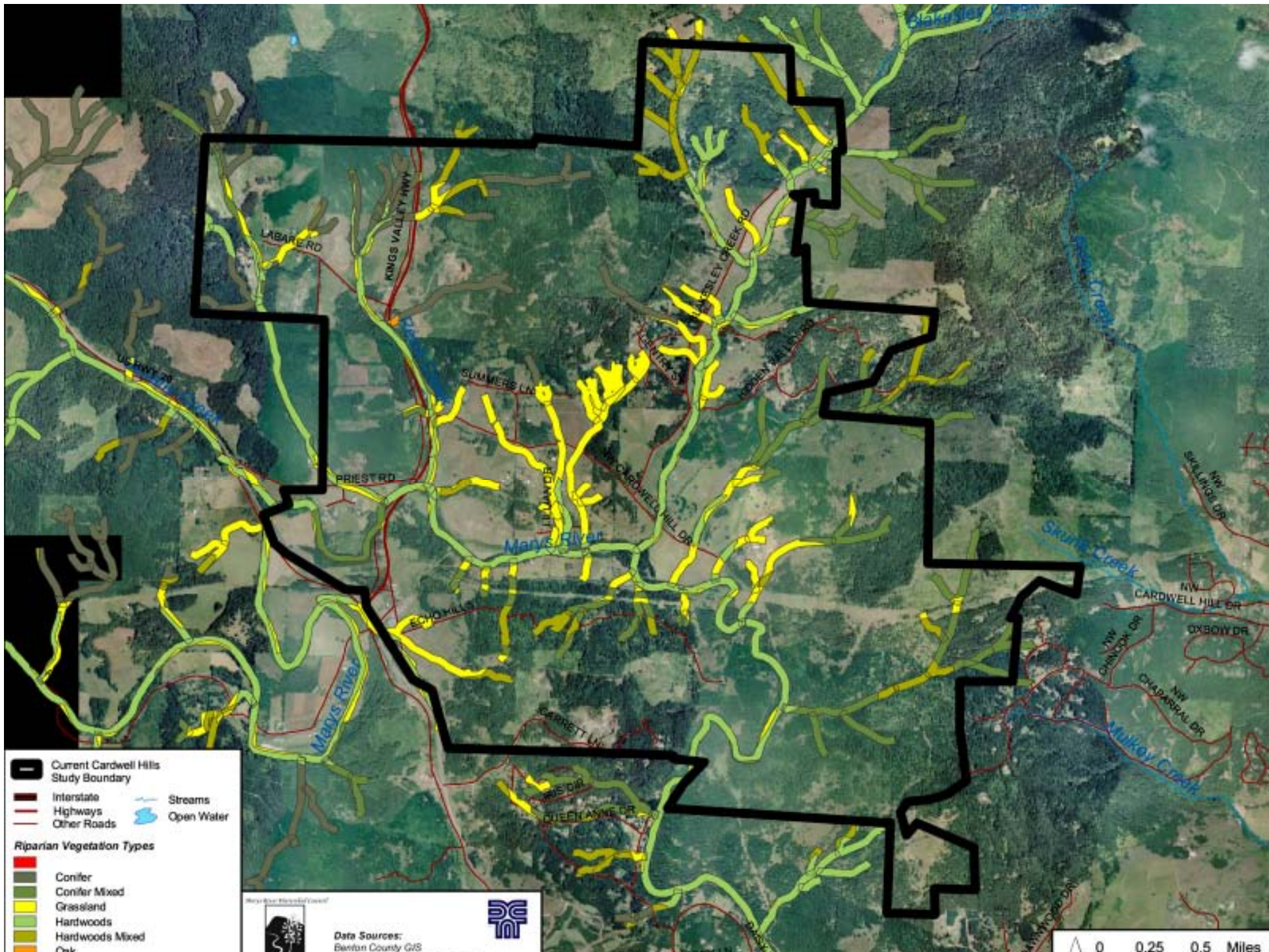
Closure

- 10-40
- 40-70
- <10

Map of Mulkey Creek

Date Sources:
Barton County GIS

0 0.25 0.5 Miles



Legend

- Current Cardwell Hills Study Boundary
- Interstate
- Highways
- Other Roads
- Streams
- Open Water

Riparian Vegetation Types

- Conifer
- Conifer Mixed
- Grassland
- Hardwoods
- Hardwoods Mixed
- Oak

Map of the Cardwell Hills

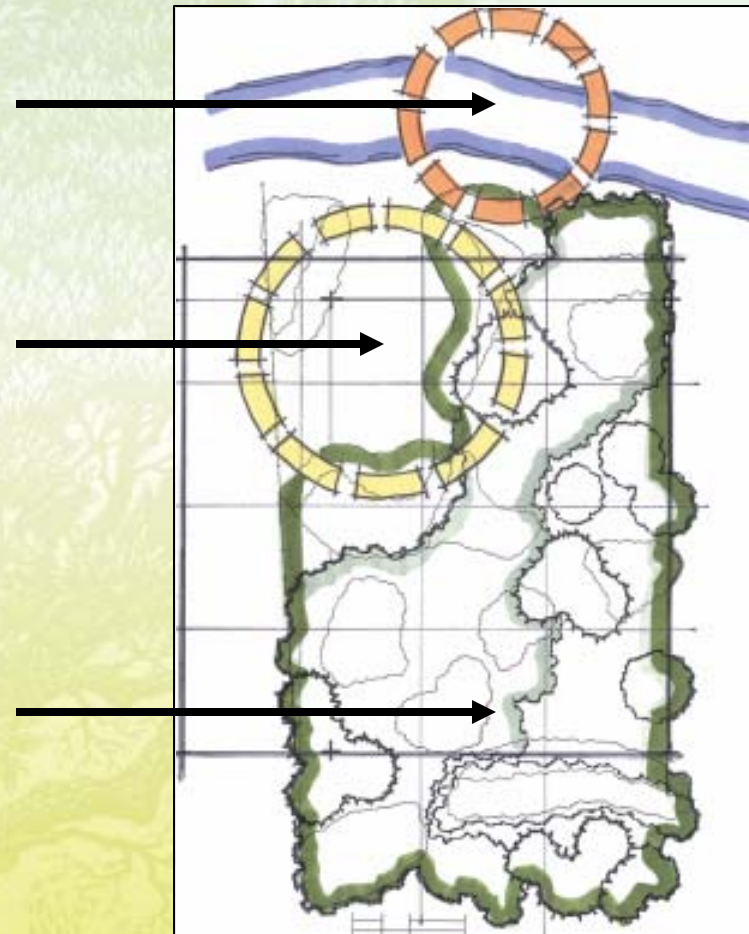
Data Sources:
Benham County GIS

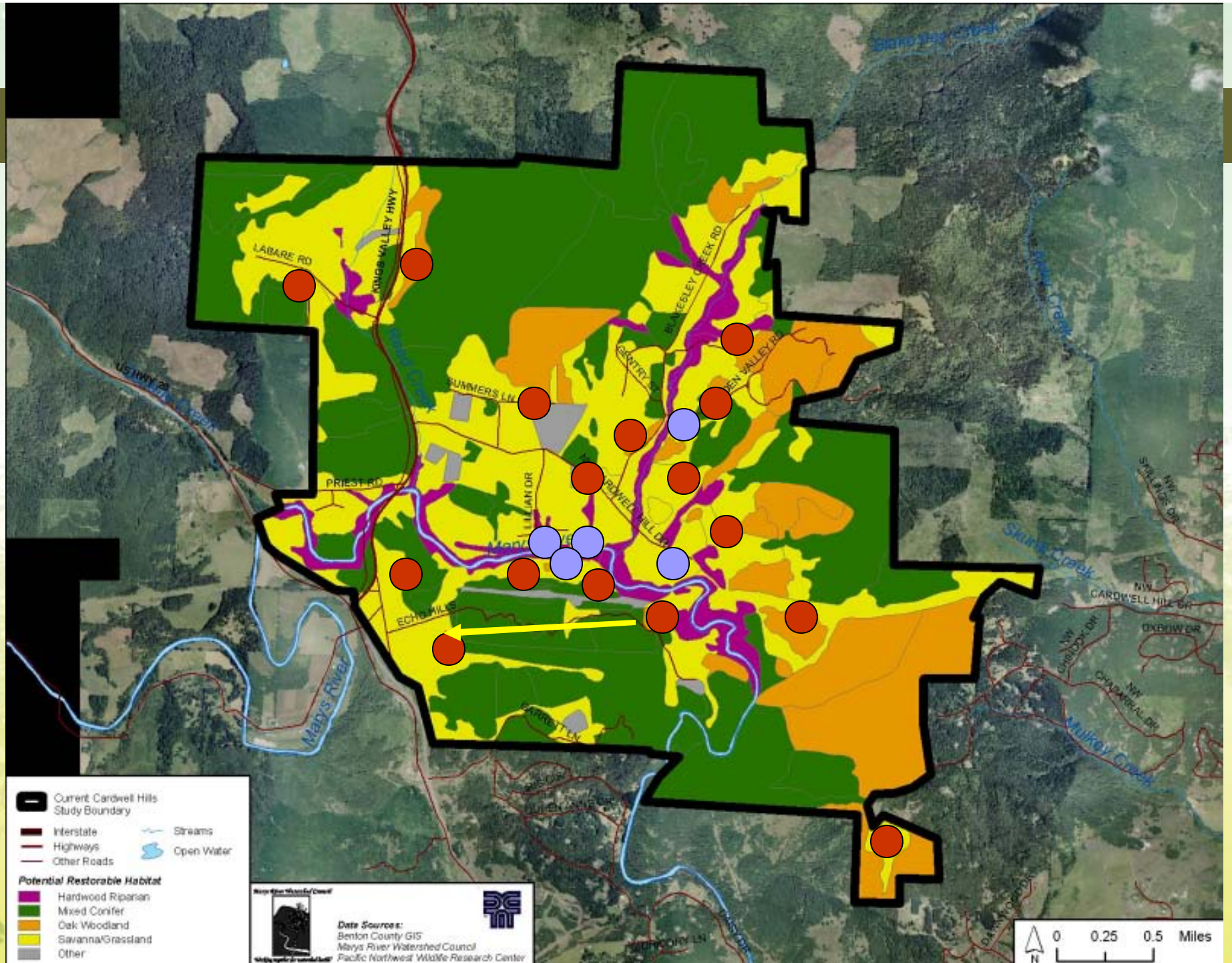
0 0.25 0.5 Miles

Wetland and Pond Habitats



- Foraging Habitat
- Nesting Habitat
- Wintering Habitat



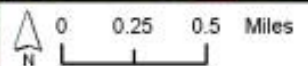


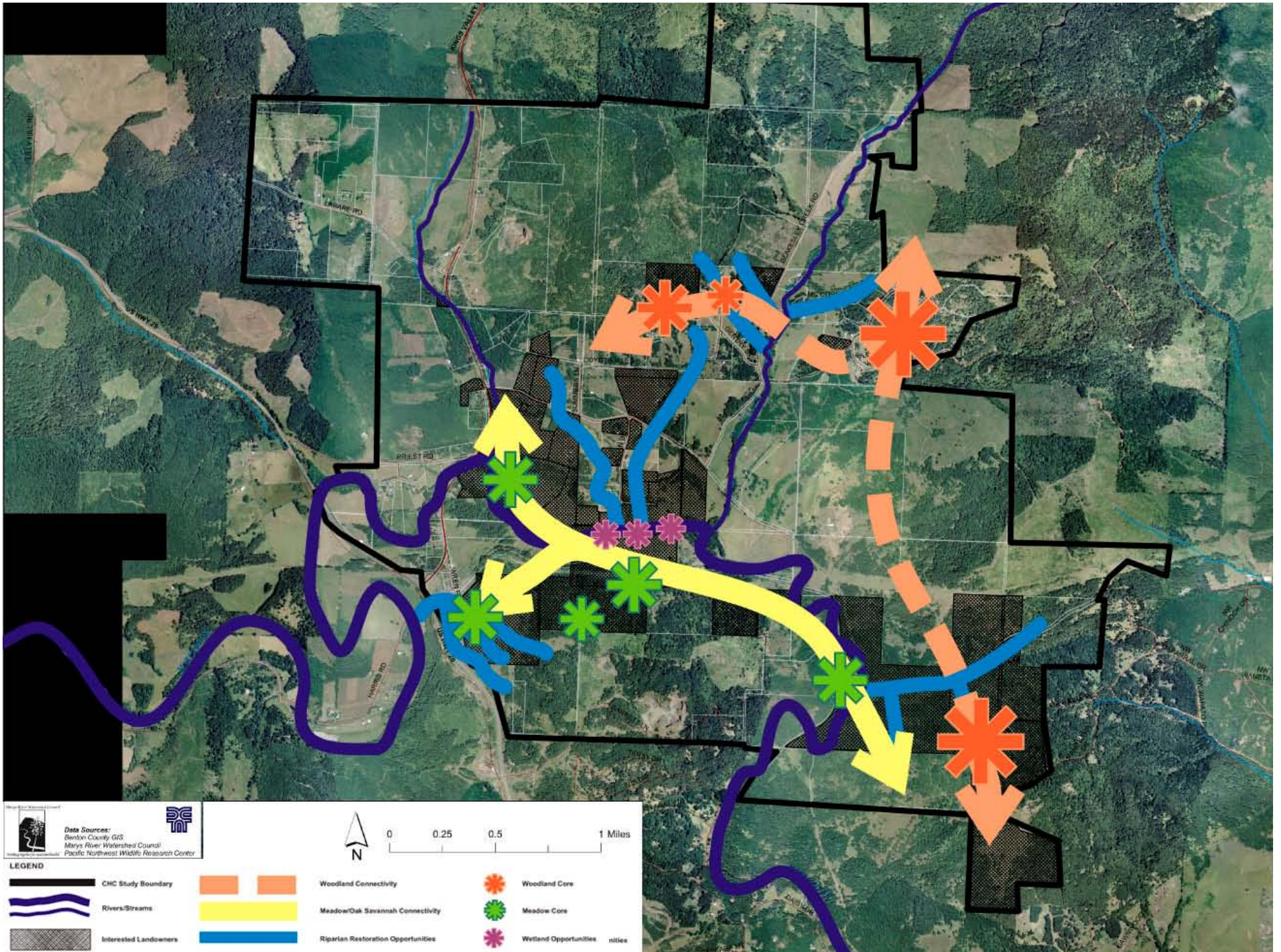
- Current Cardwell Hills Study Boundary
 - Interstate
 - Highways
 - Other Roads
 - Streams
 - Open Water
- Potential Restorable Habitat**
- Hardwood Riparian
 - Mixed Conifer
 - Oak Woodland
 - Savanna/Grasland
 - Other

Mays River Watershed Council












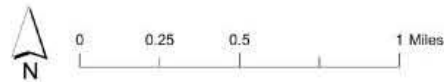
Date Source:
Benton County GIS
Mays River Watershed Council
Pacific Northwest Wildlife Research Center

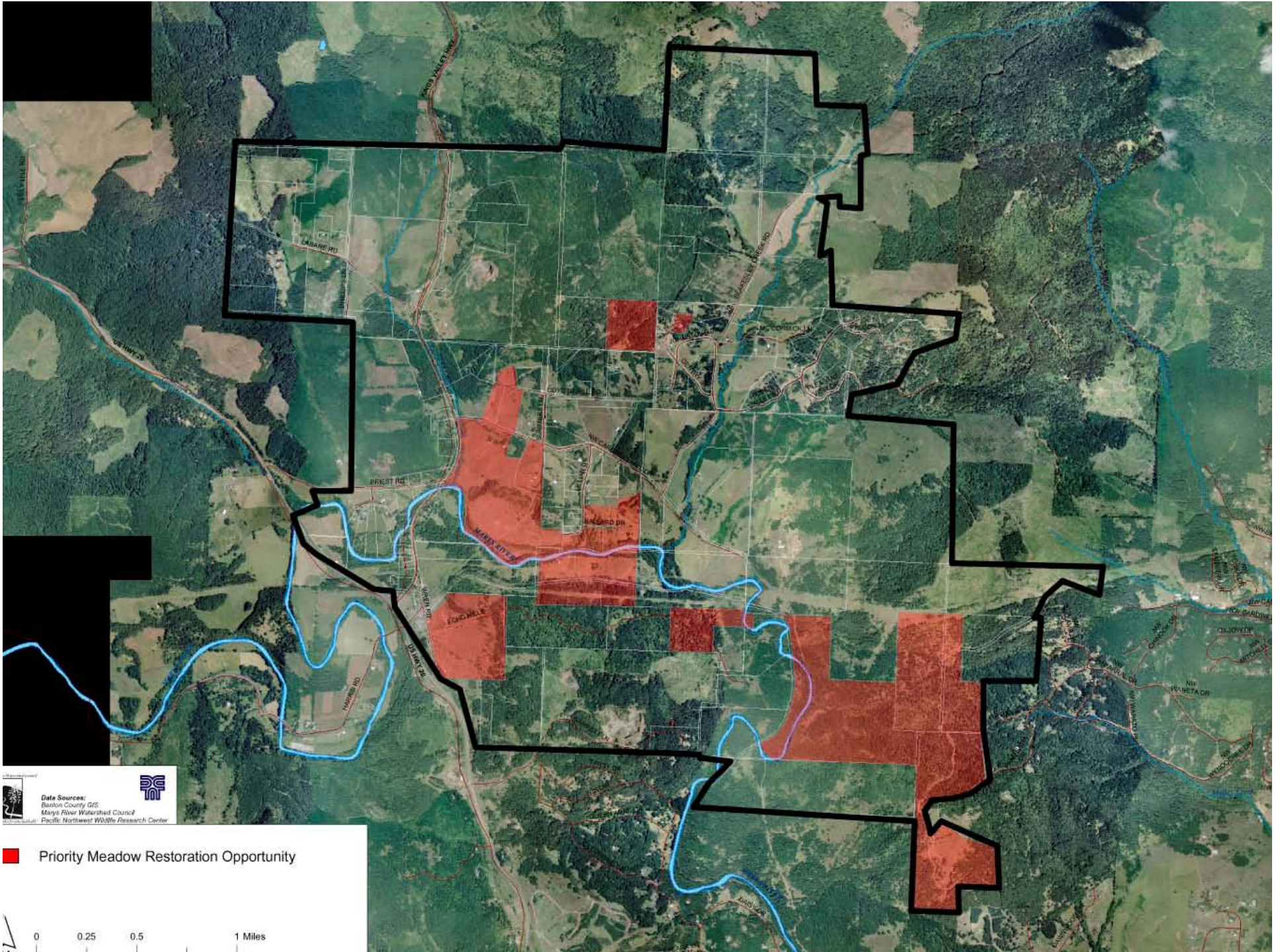






Data Sources:
 Benbow County GIS
 Marys River Watershed Council
 Pacific Northwest Wildfire Research Center

- LEGEND**
-  CHC Study Boundary
 -  Rivers/Streams
 -  Interested Landowners
 -  Woodland Connectivity
 -  Meadow/Oak Savannah Connectivity
 -  Riparian Restoration Opportunities
 -  Woodland Core
 -  Meadow Core
 -  Wetland Opportunities

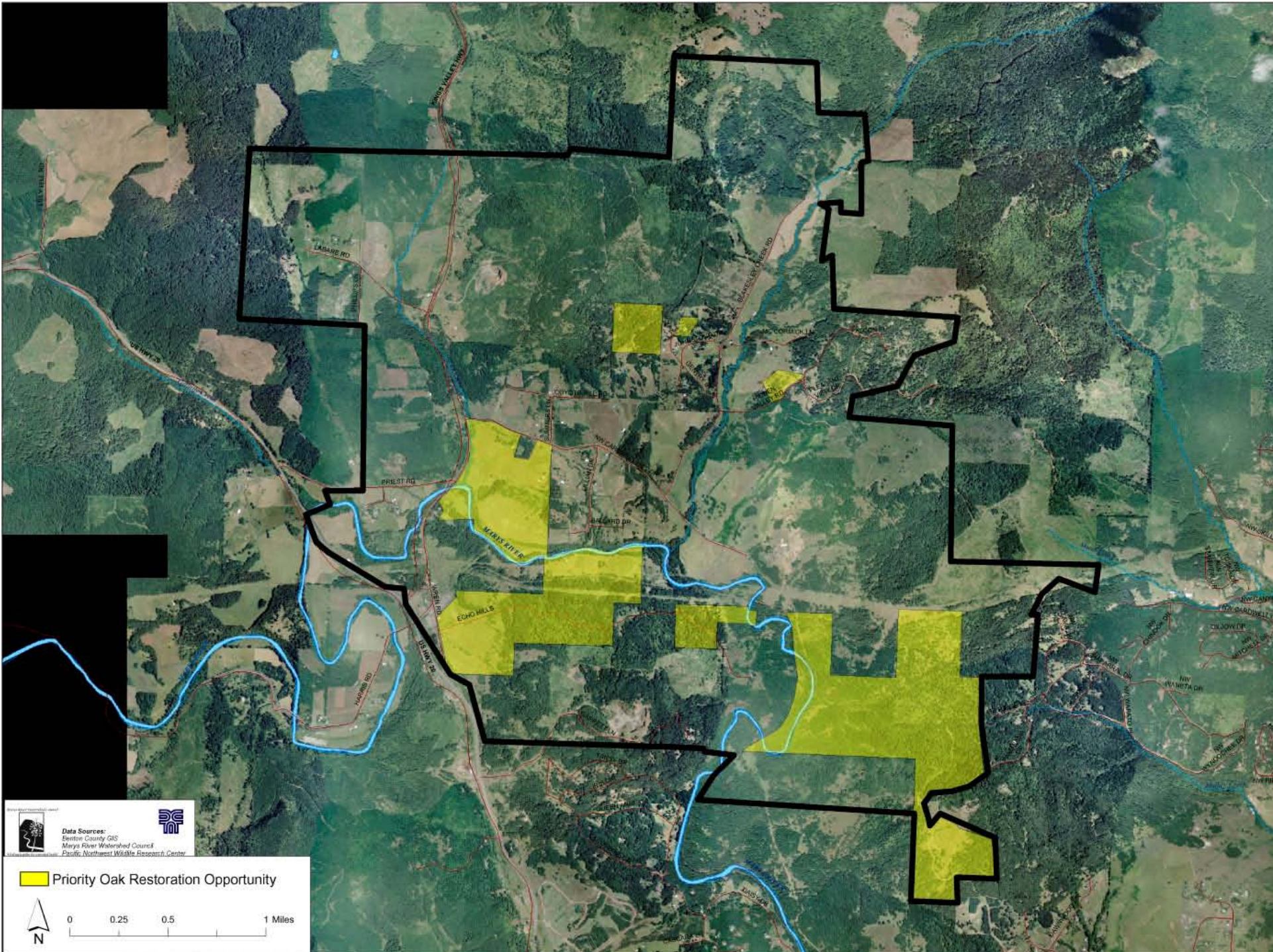






Data Sources:
Benton County GIS
Marys River Watershed Council
Pacific Northwest Wildlife Research Center

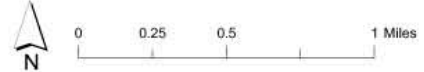
 Priority Meadow Restoration Opportunity

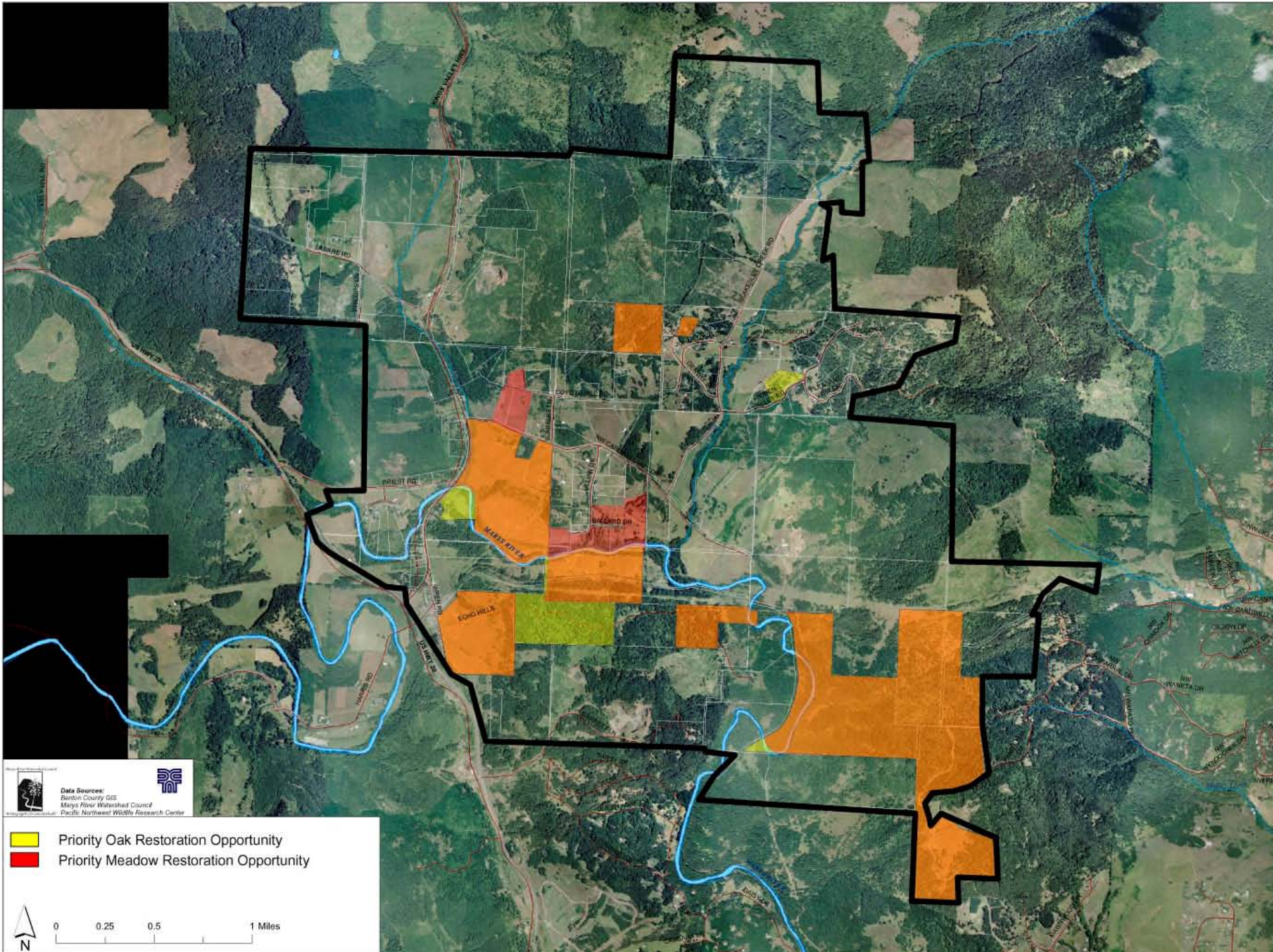


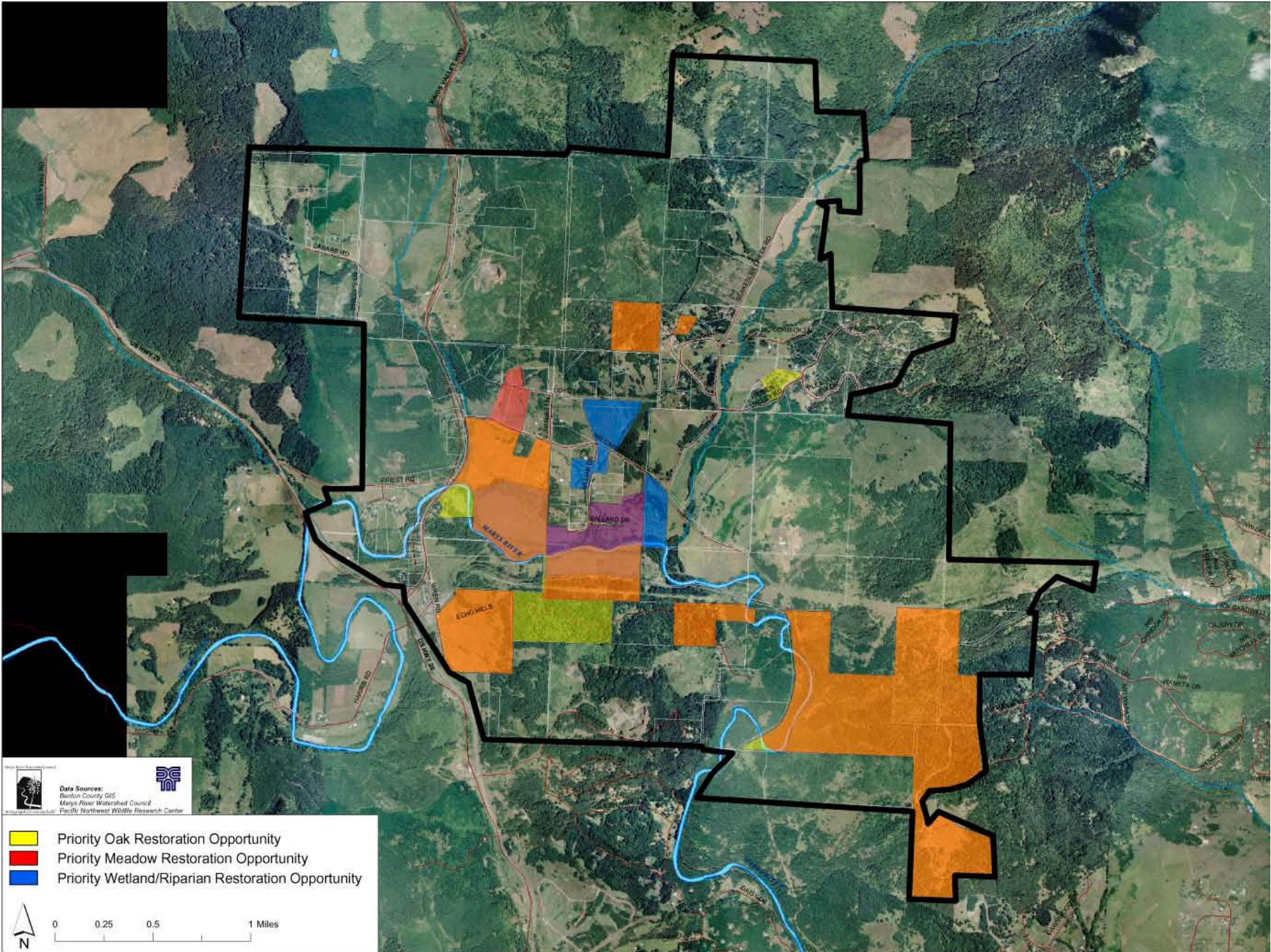


 Data Sources:
Denton County GIS
Mays River Watershed Council
Pawley, Northwest Wildlife Research Center

 Priority Oak Restoration Opportunity



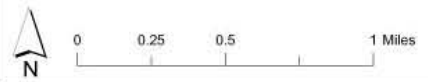




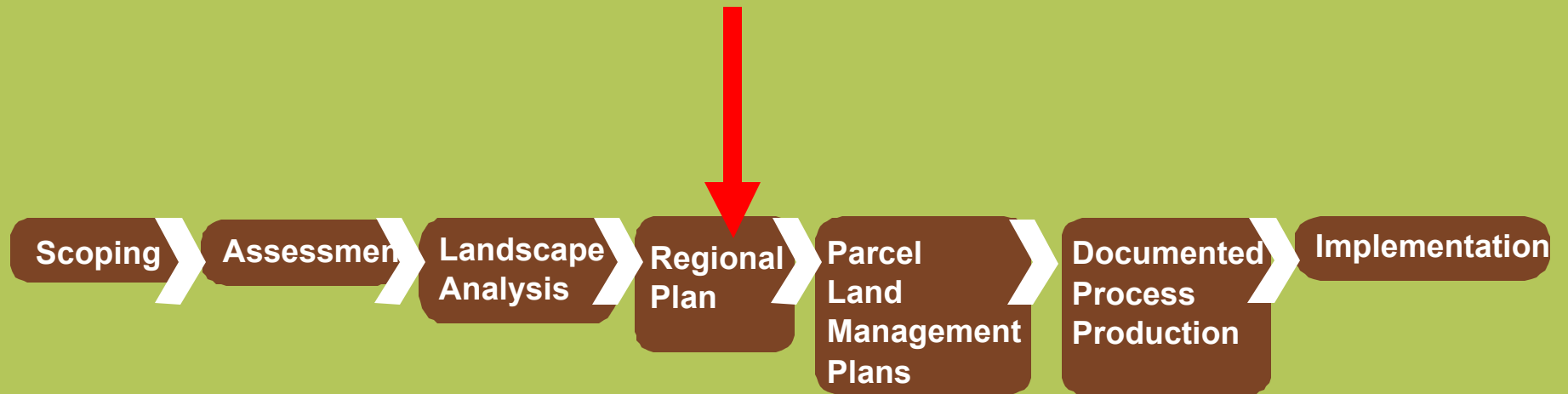



Data Sources:
 Benben County GIS
 Marys River Watershed Council
 Pacific Northwest Wildlife Research Center

- Priority Oak Restoration Opportunity
- Priority Meadow Restoration Opportunity
- Priority Wetland/Riparian Restoration Opportunity



Cardwell Hill Project – Phase 1 Process



A Collaborative Landscape Partnership

Multiple projects networking a regional conservation framework



Cardwell Hill

Regional conservation planning strategy



Mary River Watershed Council



Working together for a watershed world



conservation
protection
restoration
management