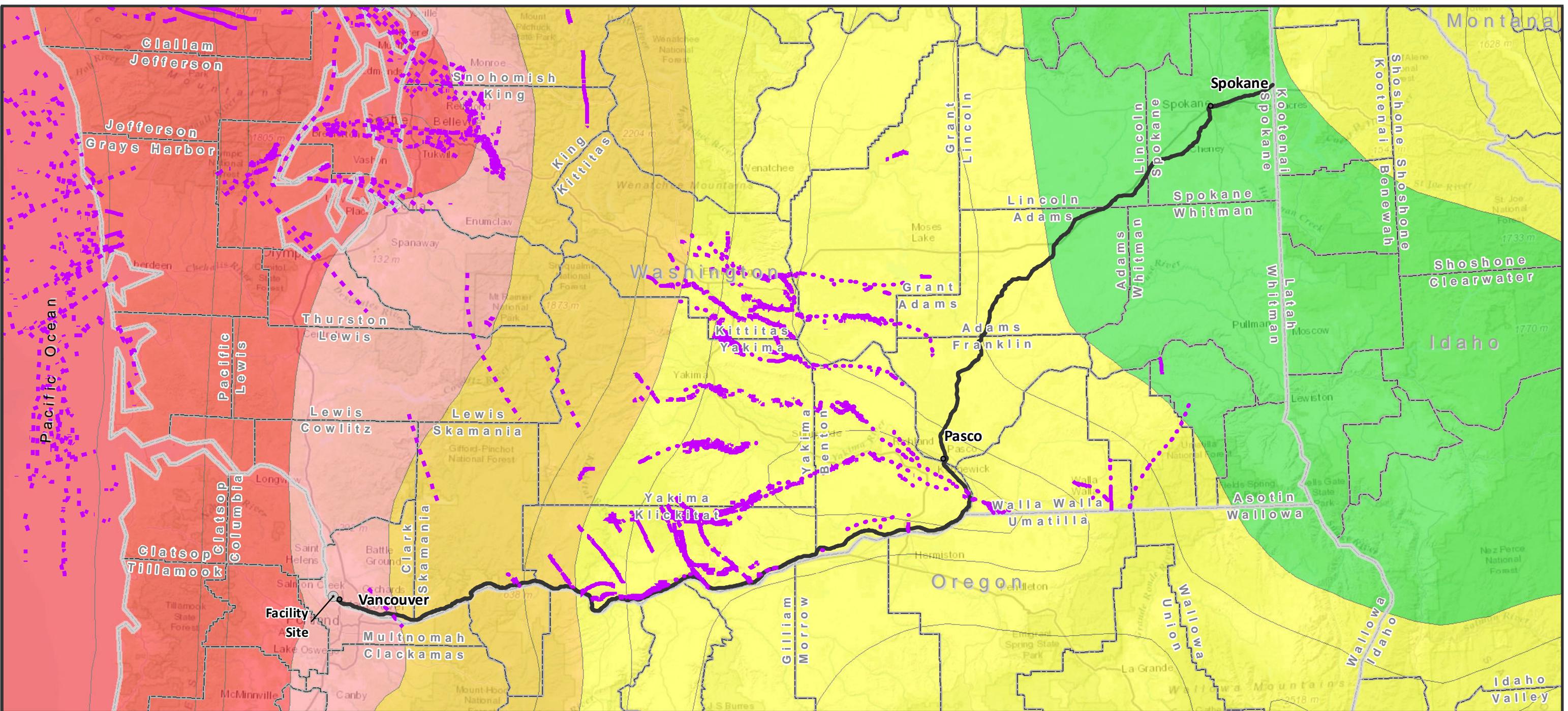


Appendix P
Mapbooks

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Appendix P-1
Seismic Hazards

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LEGEND

— BNSF Railroad Corridor

— State Boundary

— County Boundary

Peak Acceleration (%g) with a Probability of Exceedence in 50 years

4 - 8

8 - 16

16 - 24

24 - 32

32 - 200

Active Faults

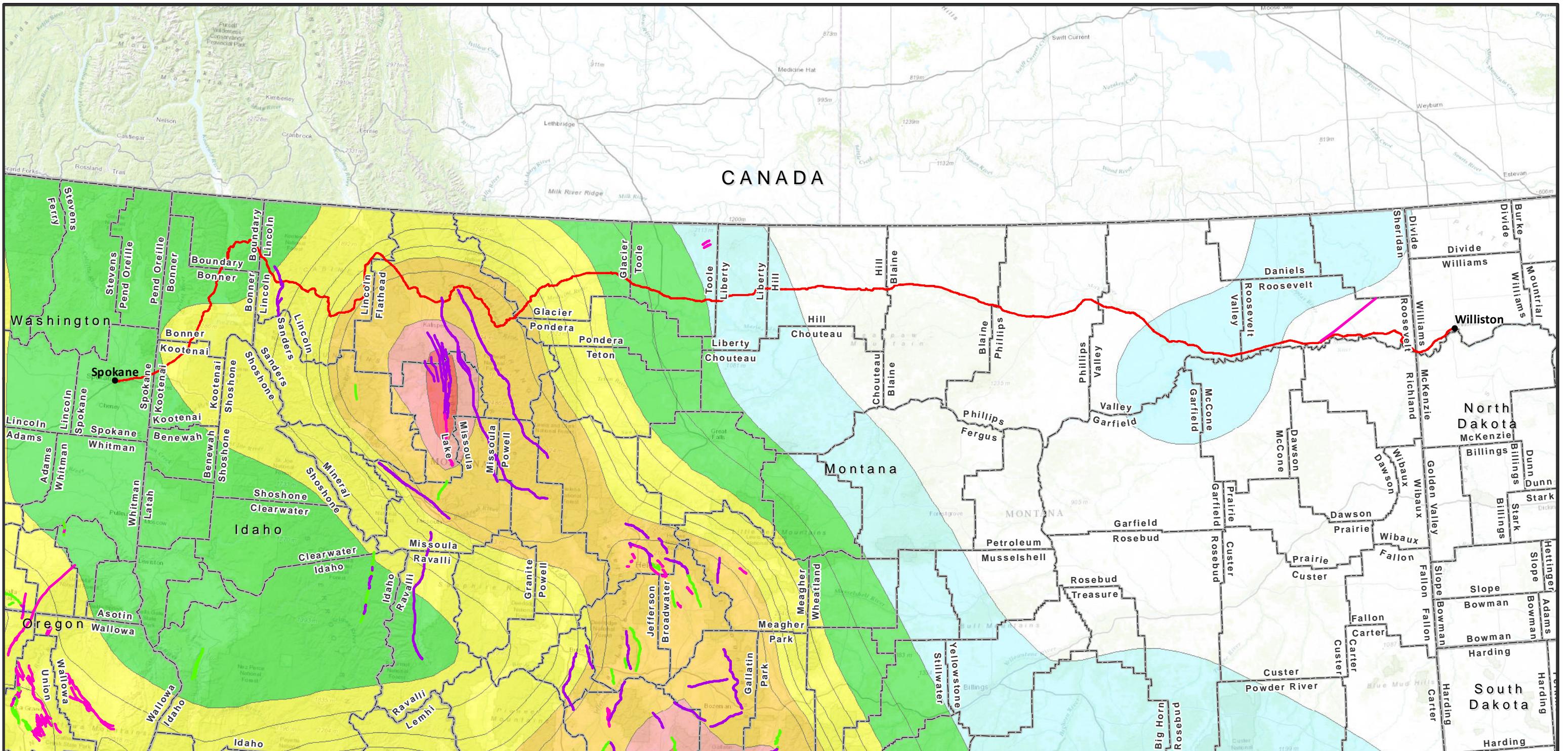
- Visible fault trace
- - - Inferred fault trace
- · - Concealed fault trace

Mapbook K3A
Seismic Hazards
In State Rail Corridor
Vancouver Energy



0 25 50 75 100 Miles

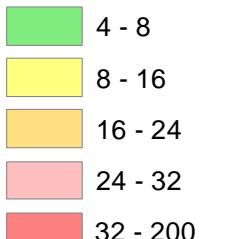
Sources:
Seismic Hazards - USGS, 2008
Washington Division of Geology and Earth Resources, 2011.



LEGEND

-  BNSF Railway
 State Boundary
 County Boundary

Peak Acceleration (%g) with a Probability of Exceedence in 50 years



Quaternary Faults

- Inferred
 - Moderately constrained
 - Well constrained

Mapbook K3B

Seismic and Quaternary Faults

Out-of-State Rail Corridor

Vancouver Energy



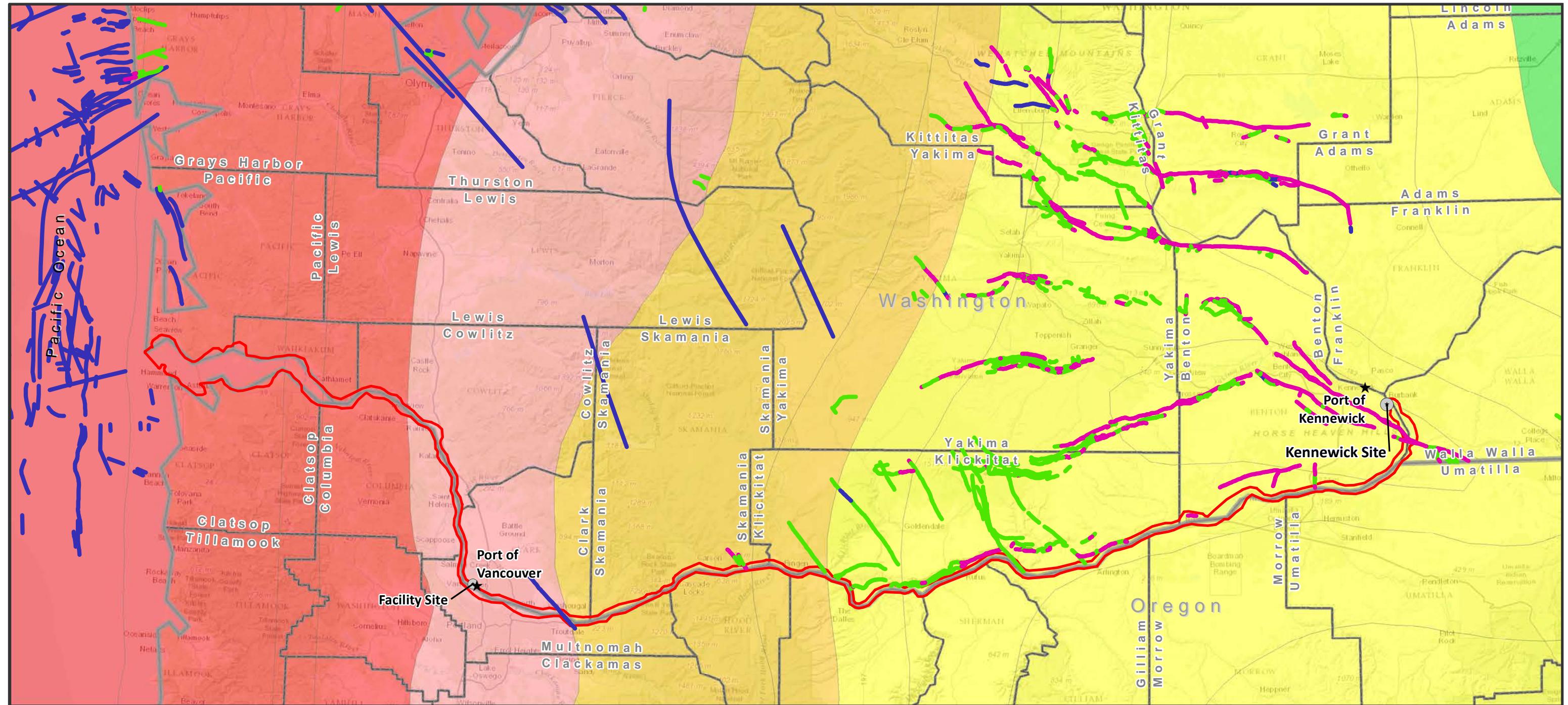
0 40 80 120 160 Miles

[View Details](#) | [Edit](#) | [Delete](#)

World Topographic Map Service, 2014.

nic Hazards - USGS, 2008.

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LEGEND

Columbia River 1/4 Mile Buffer

State Boundary

County Boundary

Peak Acceleration (%g) with a Probability of Exceedence in 50 years

4 - 8

8 - 16

16 - 24

24 - 32

32 - 200

Active Faults

Visible fault trace

Inferred fault trace

Concealed fault trace

Mapbook K3C
Seismic Hazards
Columbia River Marine Corridor
Vancouver Energy



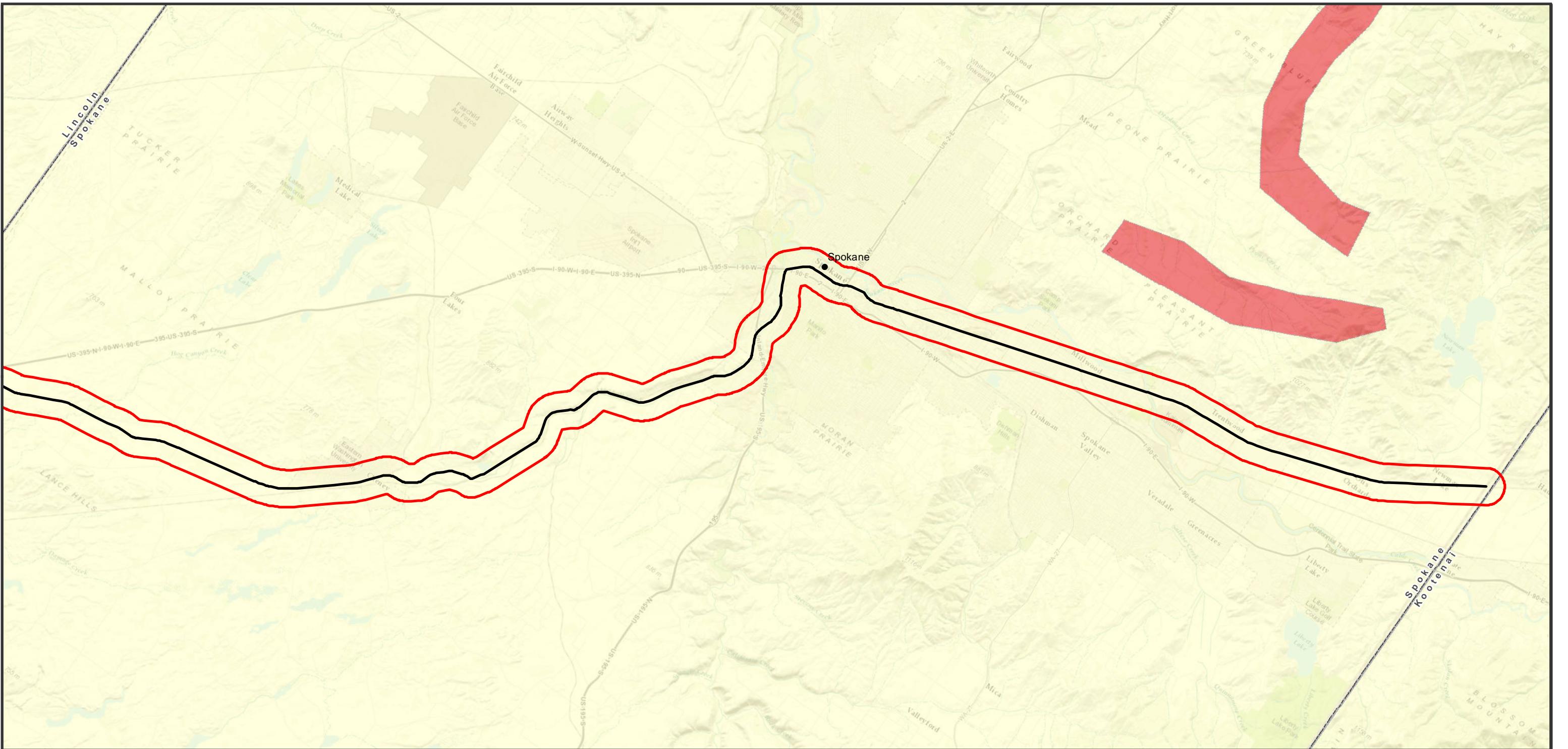
0 10 20 30 40 Miles

Sources:
Seismic Hazards - USGS, 2008
Washington Division of Geology and Earth Resources, 2011.

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Appendix P.2
Landslide Hazards

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LEGEND

— BNSF Railroad

— County Boundary

Landslide Probability (WADNR)

Certain

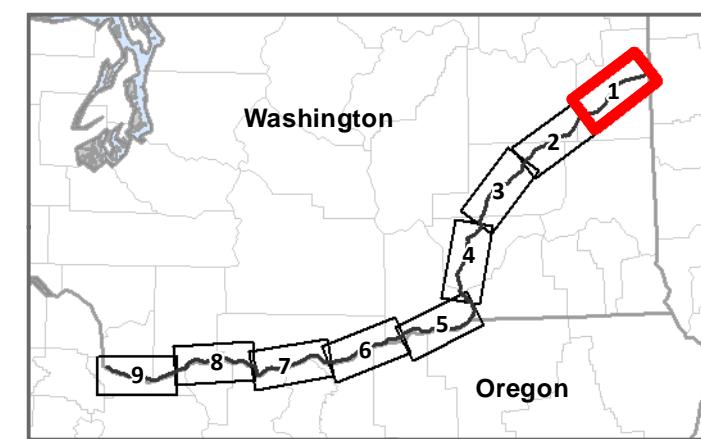
Probable

Questionable

Unknown

Landslides Incidence and Susceptibility (USDOI)

- High landslide incidence (over 15% of the area is involved in landsliding)
- Moderate landslide incidence (1.5 - 15% of the area is involved)
- High susceptibility to landsliding and moderate incidence
- High susceptibility to landsliding and low incidence
- Moderate susceptibility to landsliding and low incidence
- Low landslide incidence (less than 1.5 % of the area is involved)
- No data



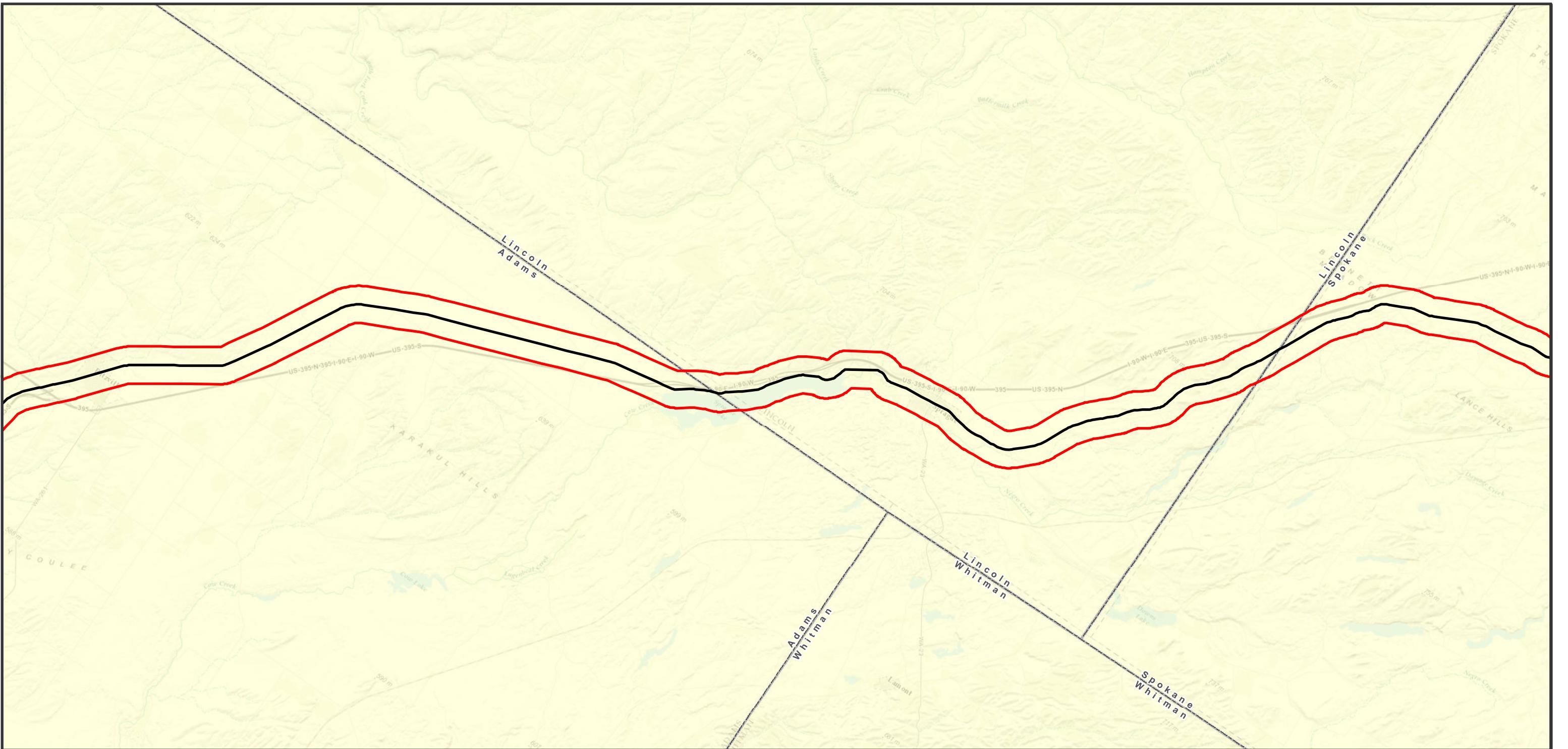
Mapbook K2A
Potential Landslide Areas
In State Rail Corridor
Vancouver Energy



0 2 4 6 8 Miles

Sources:
ESRI World Topographic Map Service, 2014.
Washington State Department of Natural Resources, 2010.
ESRI USDOI USGS Landslide Map Service.

Sheet 1 of 9



LEGEND

BNSF Railroad

County Boundary

Landslide Probability (WADNR)

Certain

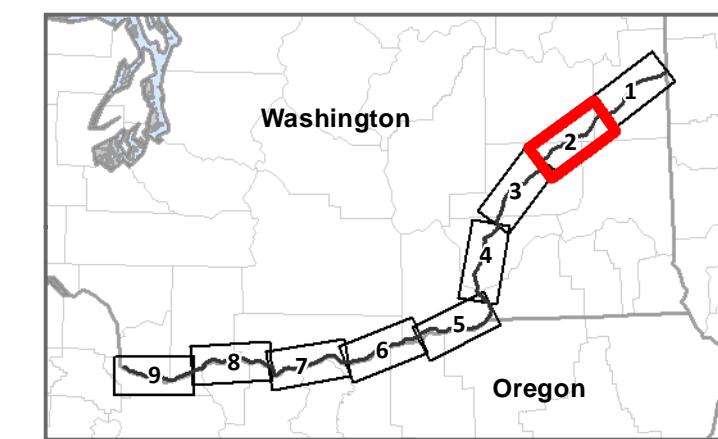
Probable

Questionable

Unknown

Landslides Incidence and Susceptibility (USDOI)

- High landslide incidence (over 15% of the area is involved in landsliding)
- Moderate landslide incidence (1.5 - 15% of the area is involved)
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- Low landslide incidence (less than 1.5 % of the area is involved)
- No data



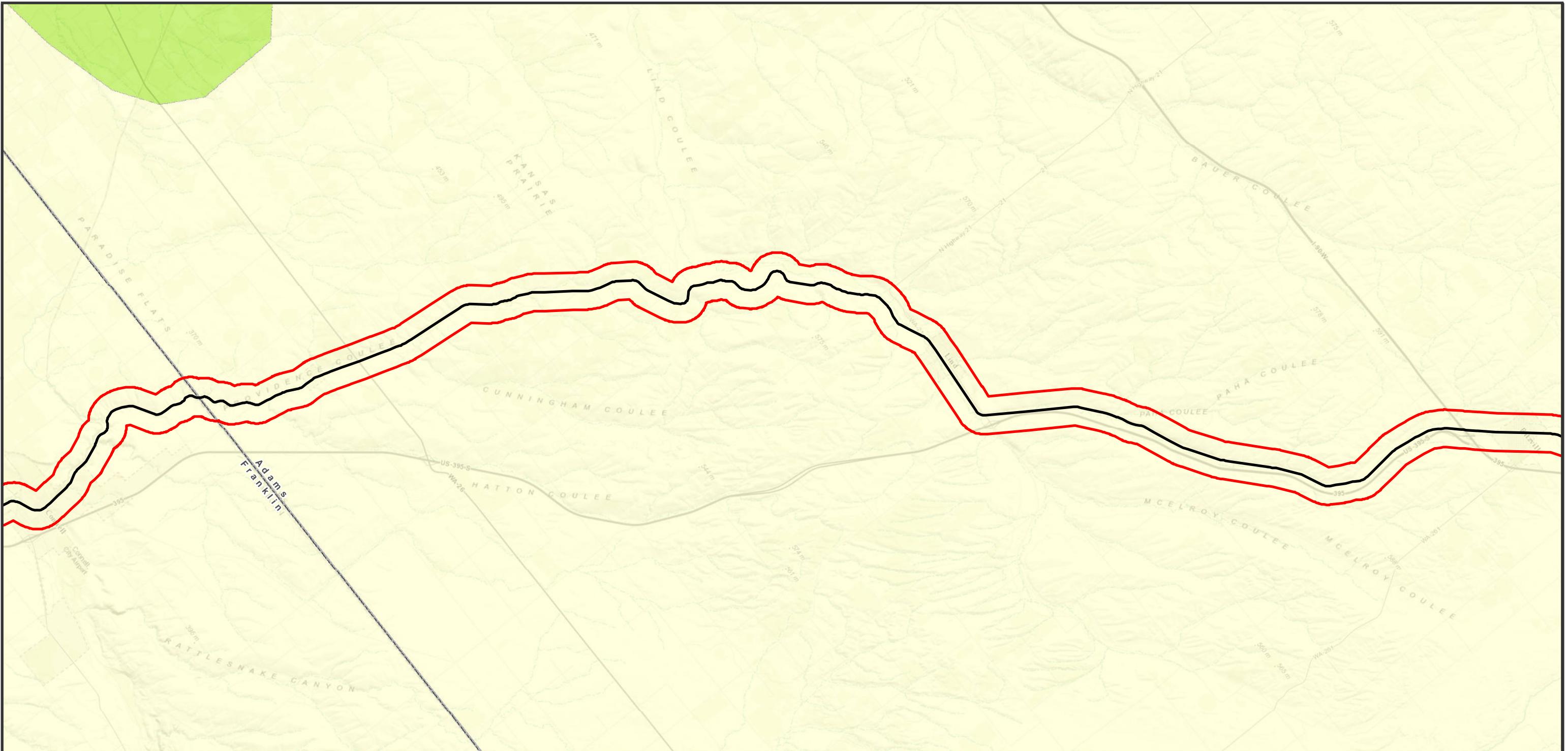
Mapbook K2A
Potential Landslide Areas
In State Rail Corridor
Vancouver Energy



0 2 4 6 8 Miles

Sources:
ESRI World Topographic Map Service, 2014.
Washington State Department of Natural Resources, 2010.
ESRI USDOI USGS Landslide Map Service.

Sheet 2 of 9



LEGEND

BNSF Railroad

County Boundary

Landslide Probability (WADNR)

Certain

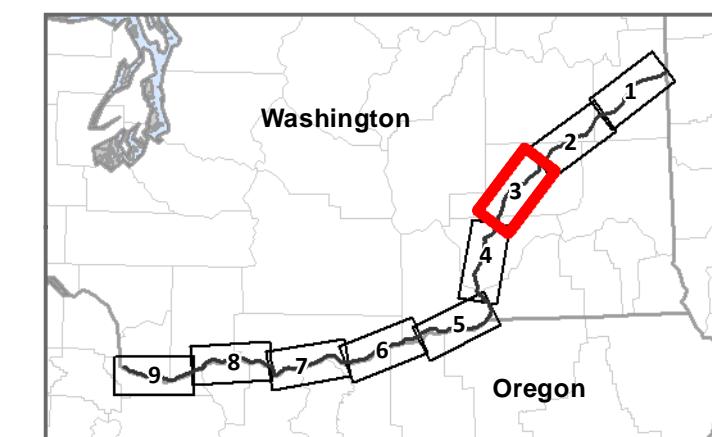
Probable

Questionable

Unknown

Landslides Incidence and Susceptibility (USDOI)

- High landslide incidence (over 15% of the area is involved in landsliding)
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- High susceptibility to landsliding and moderate incidence
- High susceptibility to landsliding and low incidence
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- Low landslide incidence (less than 1.5 % of the area is involved)
- No data

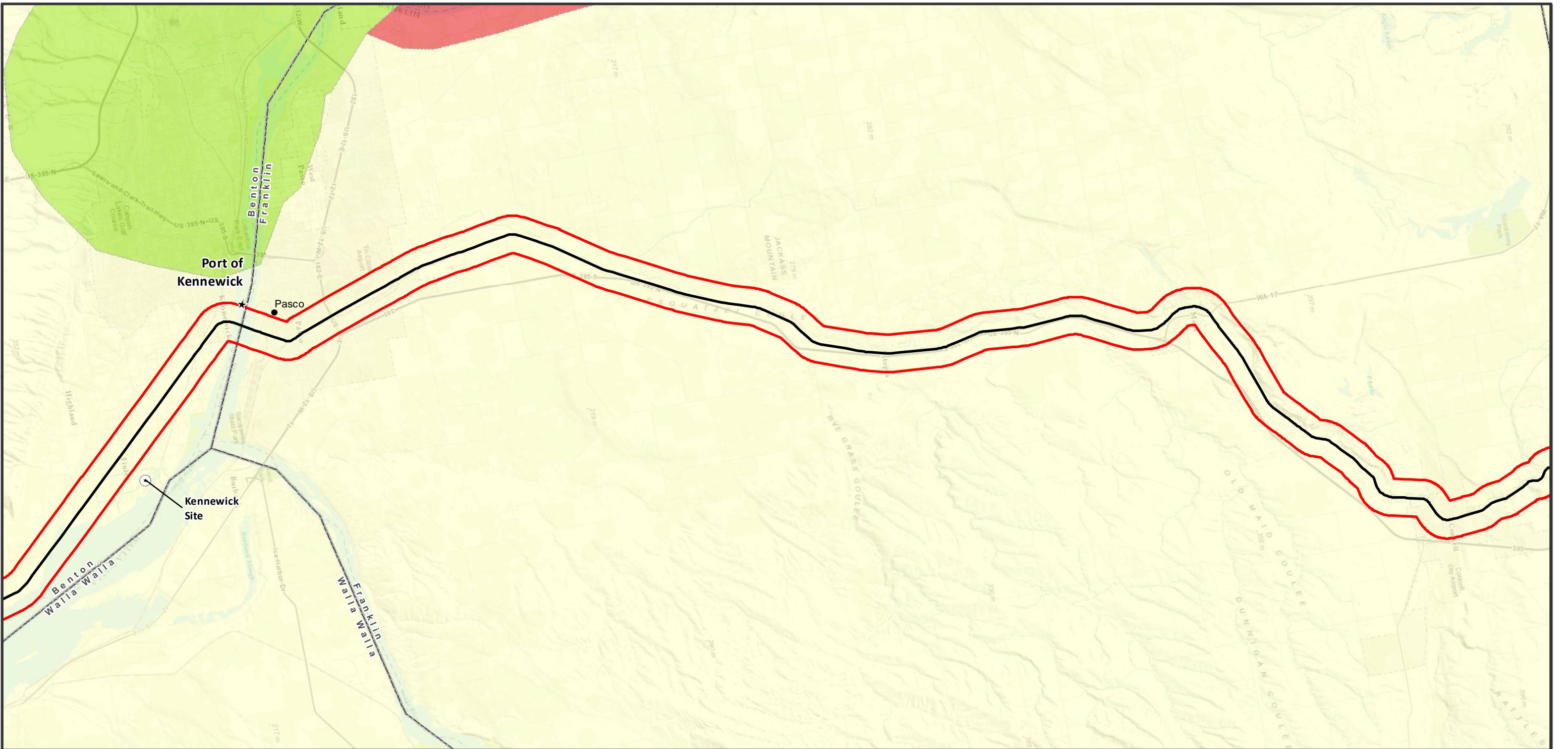


Mapbook K2A
Potential Landslide Areas
In State Rail Corridor
Vancouver Energy



Sources:
ESRI World Topographic Map Service, 2014.
Washington State Department of Natural Resources, 2010.
ESRI USDOI USGS Landslide Map Service.

Sheet 3 of 9



LEGEND

BNSF Railroad

County Boundary

Landslide Probability (WADNR)

Certain

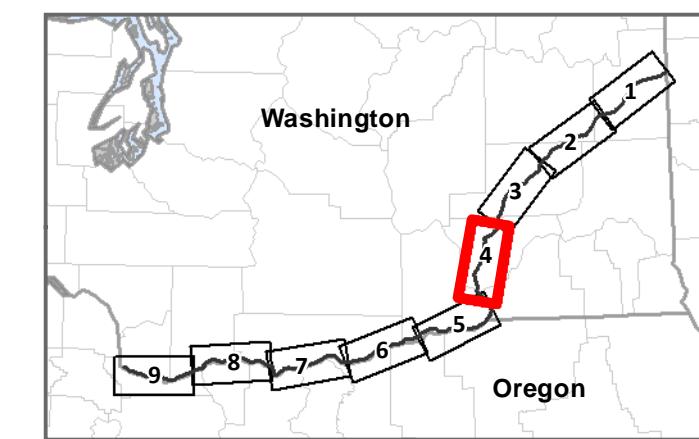
Probable

Questionable

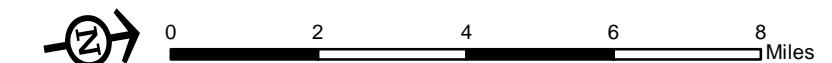
Unknown

Landslides Incidence and Susceptibility (USDOI)

- High landslide incidence (over 15% of the area is involved in landsliding)
- Moderate landslide incidence (1.5 - 15% of the area is involved)
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- Low landslide incidence (less than 1.5 % of the area is involved)
- No data

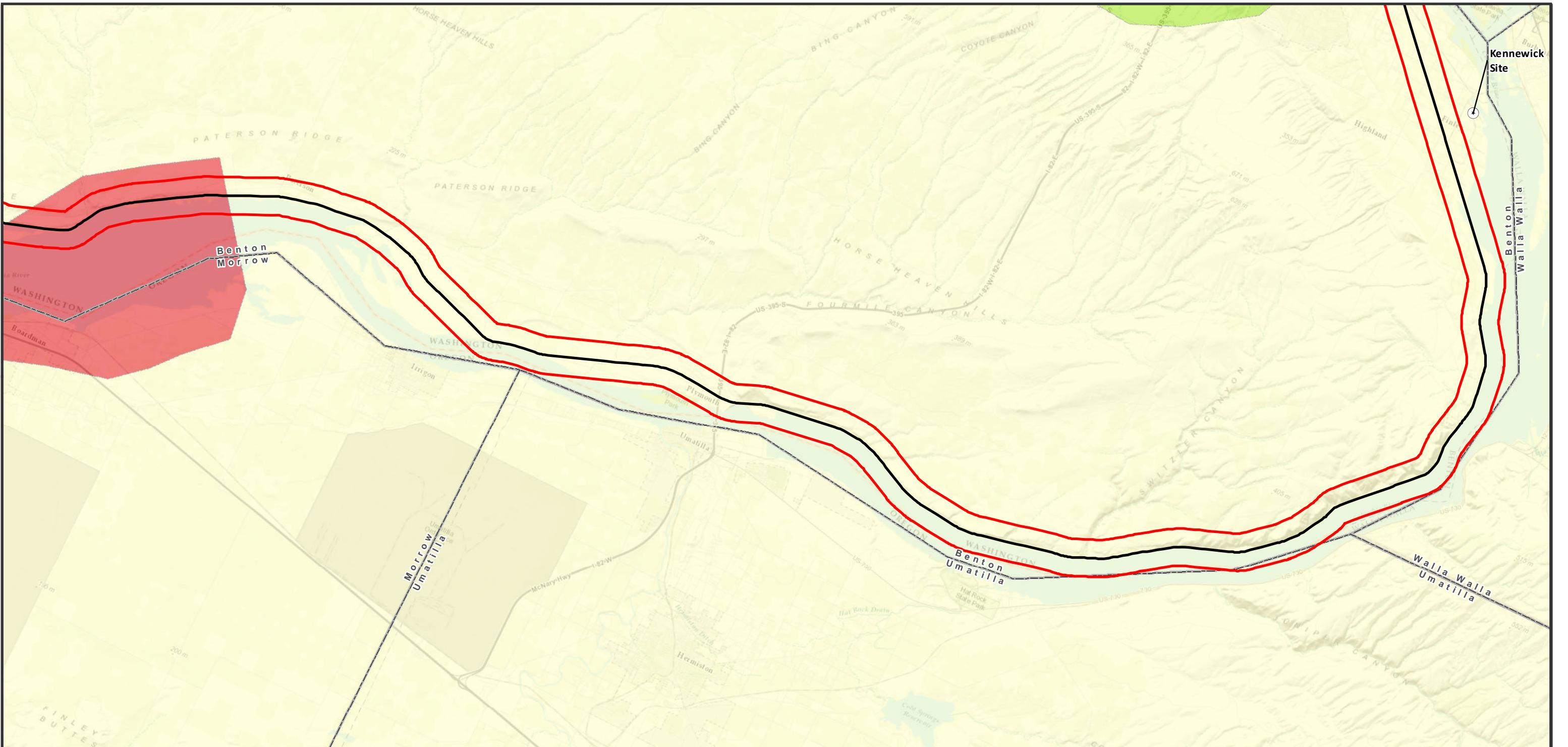


Mapbook K2A
Potential Landslide Areas
In State Rail Corridor
Vancouver Energy



Sources:
ESRI World Topographic Map Service, 2014.
Washington State Department of Natural Resources, 2010.
ESRI USDOI USGS Landslide Map Service.

Sheet 4 of 9



LEGEND

BNSF Railroad

County Boundary

Landslide Probability (WADNR)

Certain

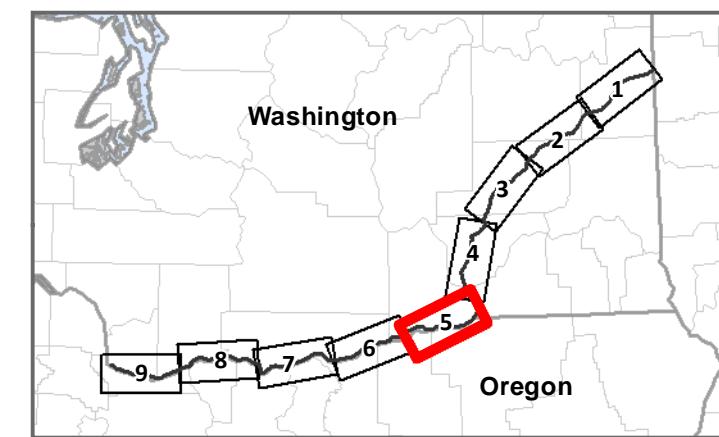
Probable

Questionable

Unknown

Landslides Incidence and Susceptibility (USDOI)

- High landslide incidence (over 15% of the area is involved in landsliding)
- Moderate landslide incidence (1.5 - 15% of the area is involved)
- High susceptibility to landsliding and moderate incidence
- High susceptibility to landsliding and low incidence
- Moderate susceptibility to landsliding and low incidence
- Low landslide incidence (less than 1.5 % of the area is involved)
- No data



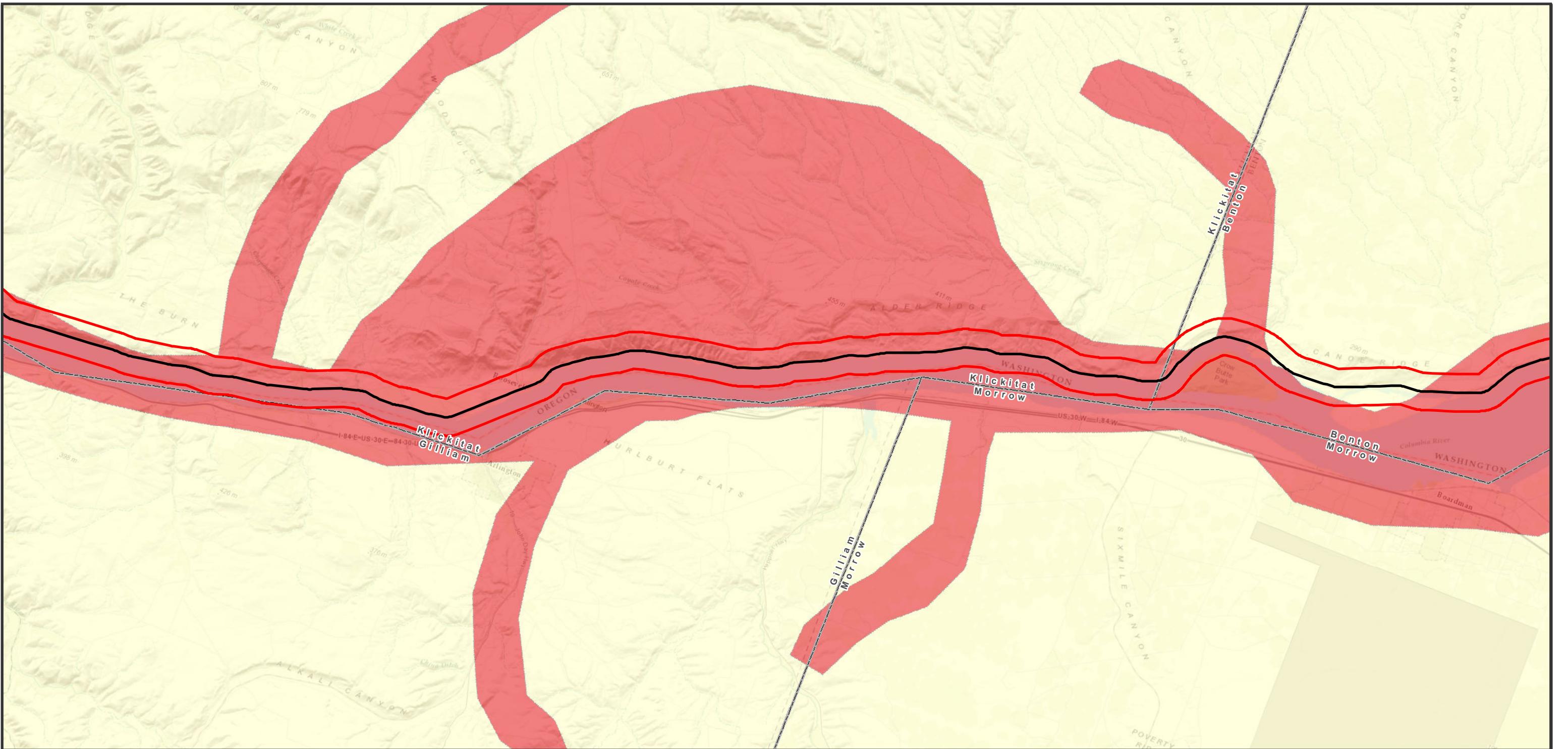
Mapbook K2A
Potential Landslide Areas
In State Rail Corridor
Vancouver Energy



0 2 4 6 8 Miles

Sources:
ESRI World Topographic Map Service, 2014.
Washington State Department of Natural Resources, 2010.
ESRI USDOI USGS Landslide Map Service.

Sheet 5 of 9

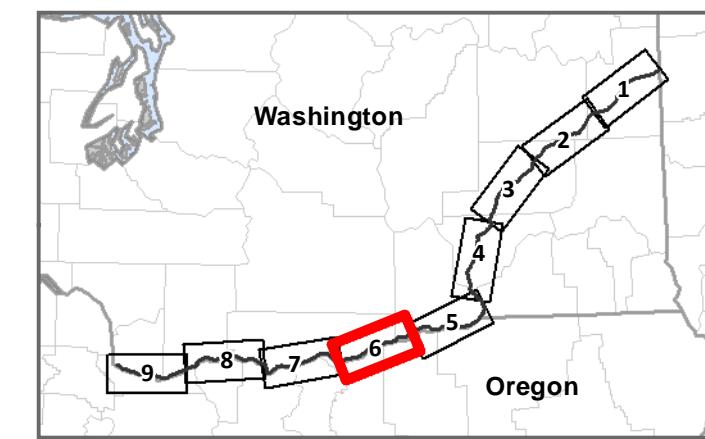


LEGEND

- BNSF Railroad
- County Boundary
- Landslide Probability (WADNR)**

 - Certain
 - Probable
 - Questionable
 - Unknown

- Landslides Incidence and Susceptibility (USDOI)**
- High landslide incidence (over 15% of the area is involved in landsliding)
 - Moderate landslide incidence (1.5 - 15% of the area is involved)
 - High susceptibility to landsliding and moderate incidence
 - High susceptibility to landsliding and low incidence
 - Moderate susceptibility to landsliding and low incidence
 - Low landslide incidence (less than 1.5 % of the area is involved)
 - No data



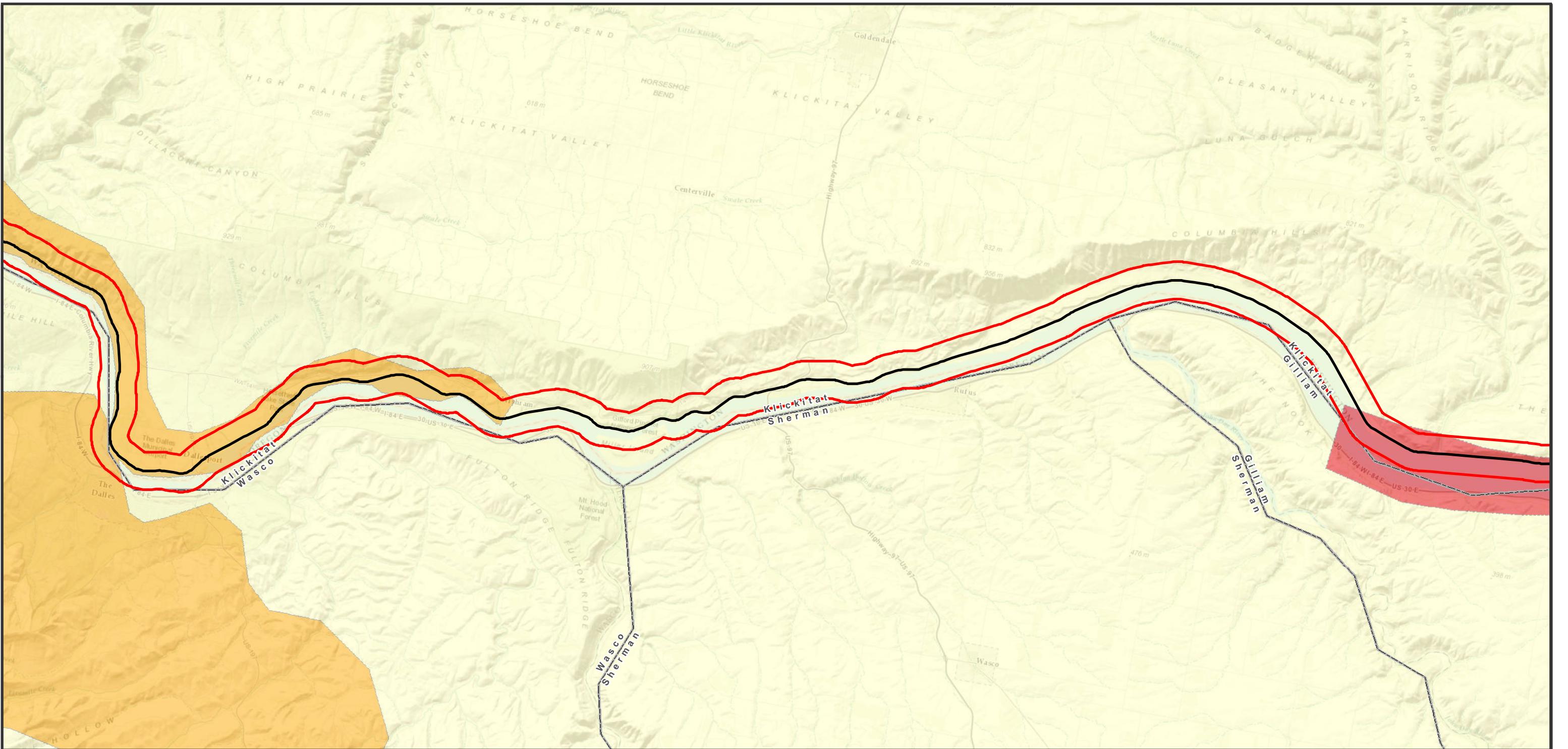
Mapbook K2A
Potential Landslide Areas
In State Rail Corridor
Vancouver Energy



0 2 4 6 8 Miles

Sources:
ESRI World Topographic Map Service, 2014.
Washington State Department of Natural Resources, 2010.
ESRI USDOI USGS Landslide Map Service.

Sheet 6 of 9



LEGEND

BNSF Railroad

County Boundary

Landslide Probability (WADNR)

Certain

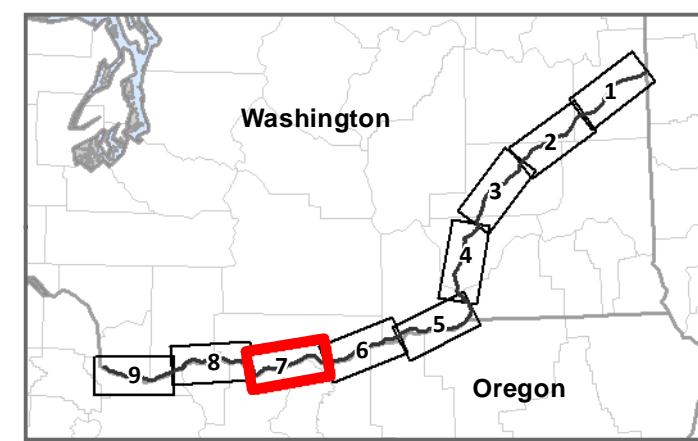
Probable

Questionable

Unknown

Landslides Incidence and Susceptibility (USDOI)

- High landslide incidence (over 15% of the area is involved in landsliding)
- Moderate landslide incidence (1.5 - 15% of the area is involved)
- High susceptibility to landsliding and moderate incidence
- High susceptibility to landsliding and low incidence
- Moderate susceptibility to landsliding and low incidence
- Low landslide incidence (less than 1.5 % of the area is involved)
- No data



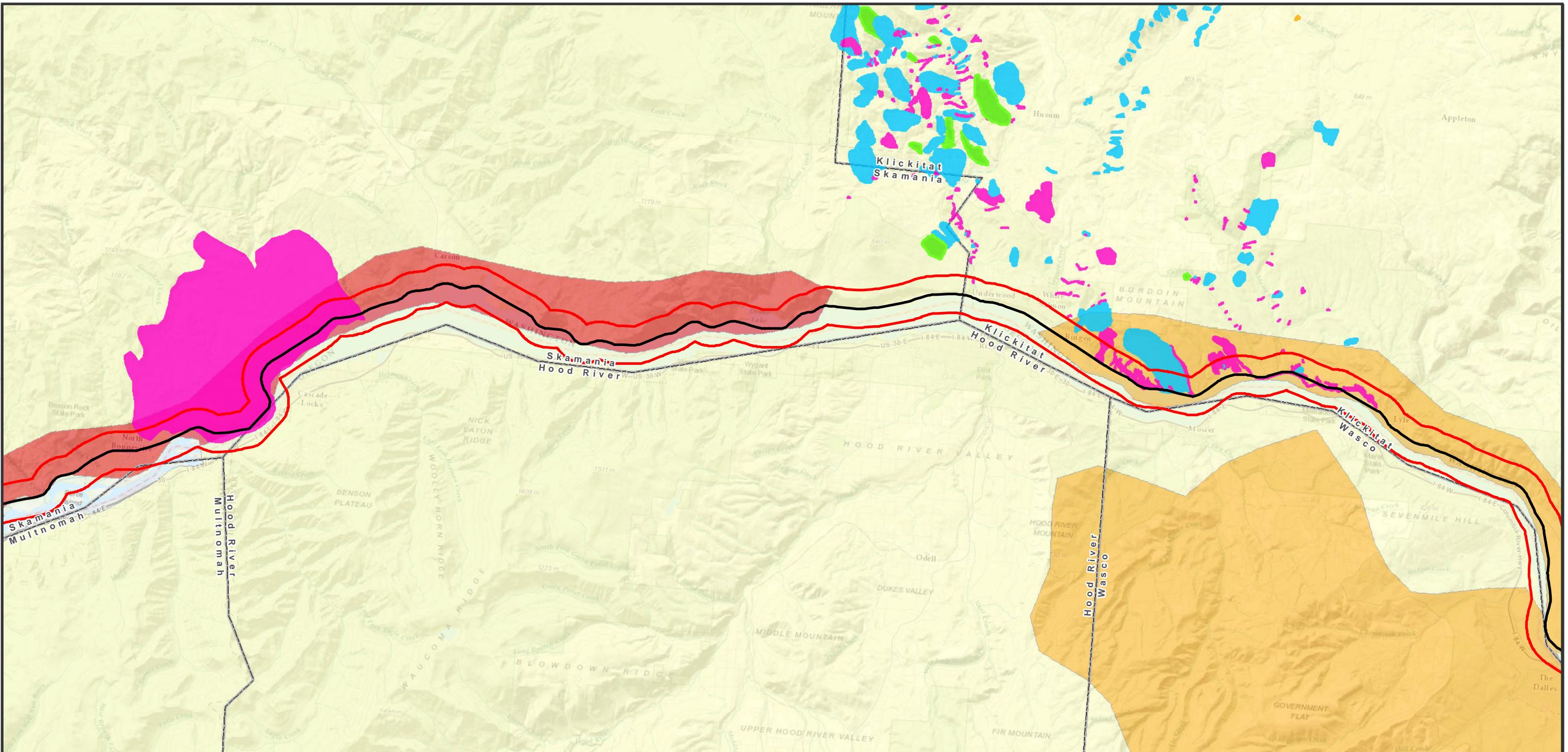
Mapbook K2A
Potential Landslide Areas
In State Rail Corridor
Vancouver Energy



0 2 4 6 8 Miles

Sources:
ESRI World Topographic Map Service, 2014.
Washington State Department of Natural Resources, 2010.
ESRI USDOI USGS Landslide Map Service.

Sheet 7 of 9



LEGEND

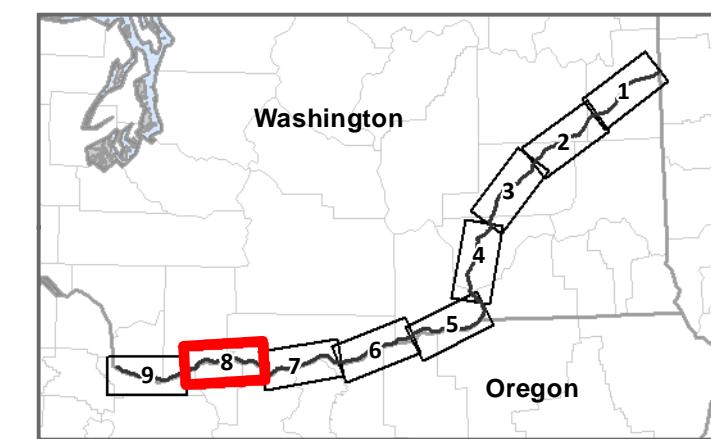
BNSF Railroad

County Boundary

Landslide Probability (WADNR)

Landslides Incidence and Susceptibility (USDOI)

- High landslide incidence (over 15% of the area is involved in landsliding)
- Moderate landslide incidence (1.5 - 15% of the area is involved)
- High susceptibility to landsliding and moderate incidence
- High susceptibility to landsliding and low incidence
- Moderate susceptibility to landsliding and low incidence
- Low landslide incidence (less than 1.5 % of the area is involved)
- No data



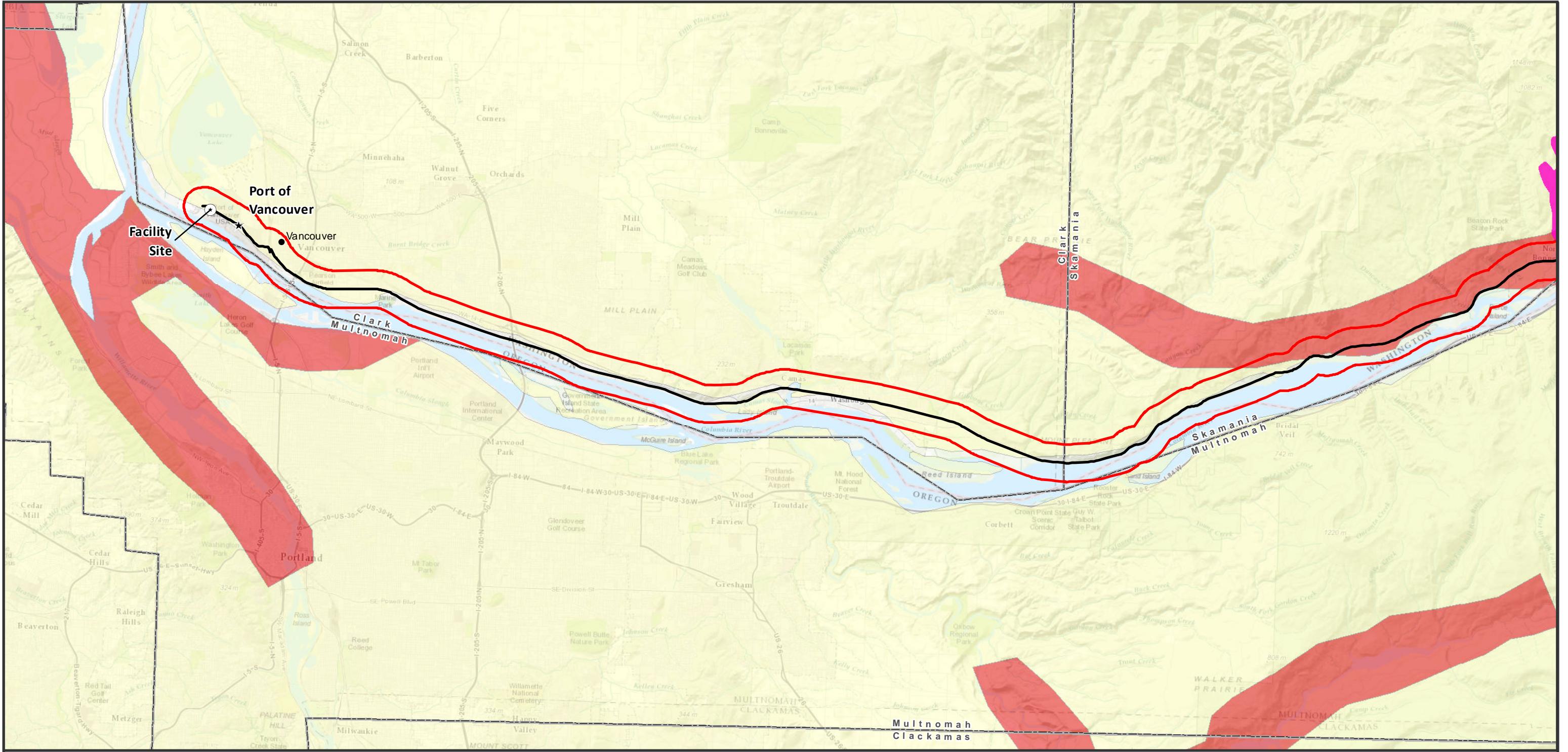
Mapbook K2A
Potential Landslide Areas
In State Rail Corridor
Vancouver Energy



0 2 4 6 8 Miles

Sources:
ESRI World Topographic Map Service, 2014.
Washington State Department of Natural Resources, 2010.
ESRI USDOI USGS Landslide Map Service.

Sheet 8 of 9



LEGEND

- BNSF Railroad**

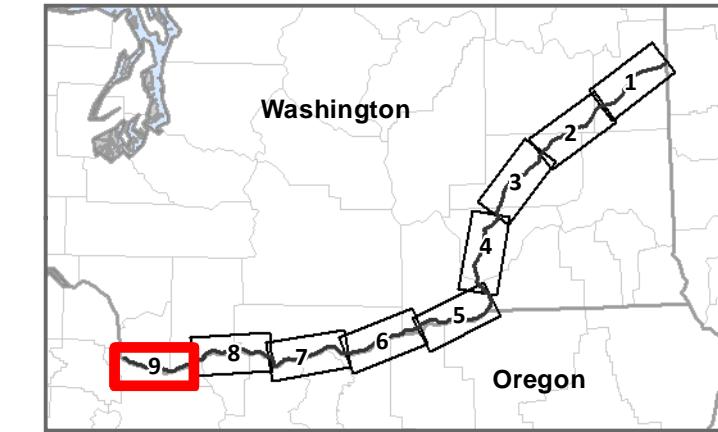
County Boundary

Landslide Probability (WADNR)

 - Certain
 - Probable
 - Questionable
 - Unknown

Landslides Incidence and Susceptibility (USDOI)

 - High landslide incidence (over 15% of the area is involved in landslides)
 - Moderate landslide incidence (1.5 - 15% of the area is involved)
 - High susceptibility to landsliding and moderate incidence
 - High susceptibility to landsliding and low incidence
 - Moderate susceptibility to landsliding and low incidence
 - Low landslide incidence (less than 1.5 % of the area is involved)
 - No data



Mapbook K2A

Potential Landslide Areas

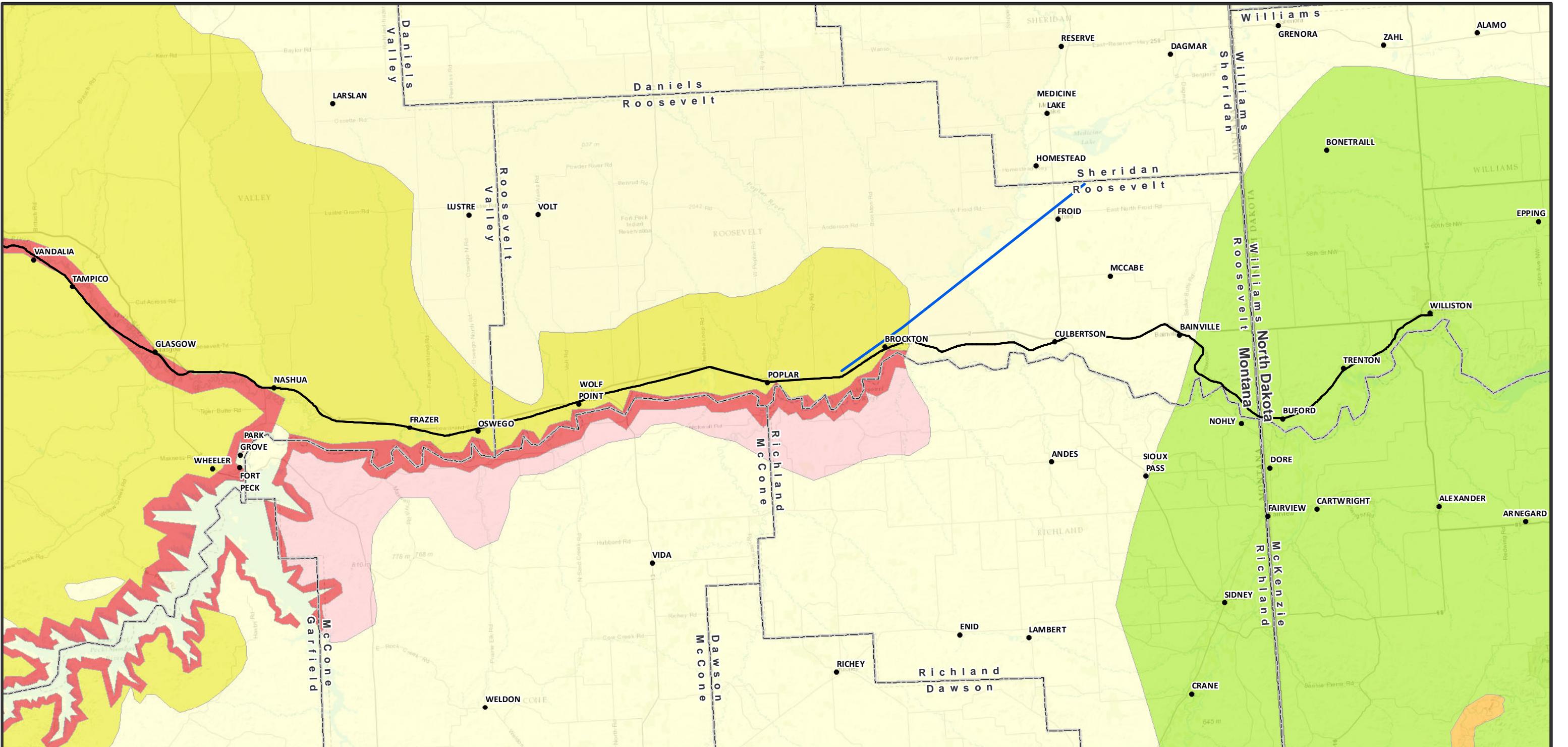
In State Rail Corridor

Vancouver Energy



A horizontal scale bar representing distance in miles. The scale is marked from 0 to 8 with major tick marks at each integer. A thick black line segment starts at the 0 mark and ends at the 8 mark, indicating the total length of 8 miles.

Sources:
ESRI World Topographic Map Service, 2014.
Washington State Department of Natural Resources, 2010.
ESRI USDOI USGS Landslide Map Service.

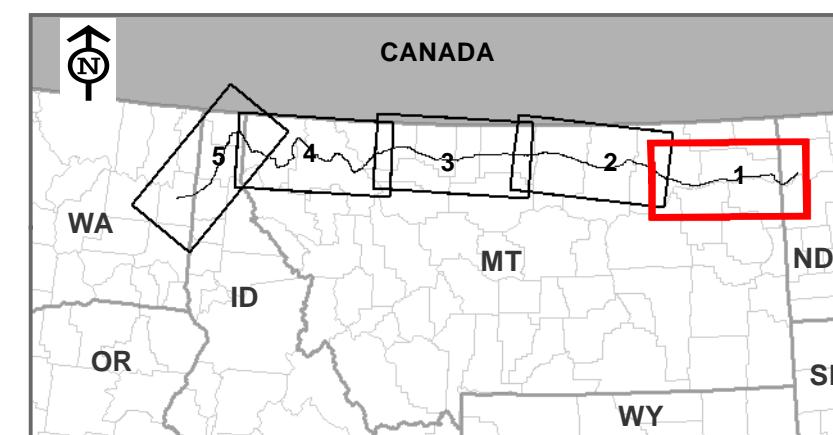


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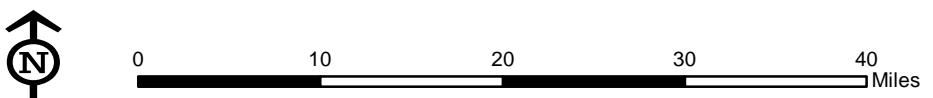
- BNSF Railway
- County Boundary
- State Boundary
- Inferred
- Moderately constrained
- Well constrained

Landslides Incidence and Susceptibility

- High landslide incidence (over 15% of the area is involved in landsliding)
- Moderate landslide incidence (1.5 - 15% of the area is involved)
- High susceptibility to landsliding and moderate incidence
- High susceptibility to landsliding and low incidence
- Moderate susceptibility to landsliding and low incidence
- Low landslide incidence (less than 1.5 % of the area is involved)
- No data

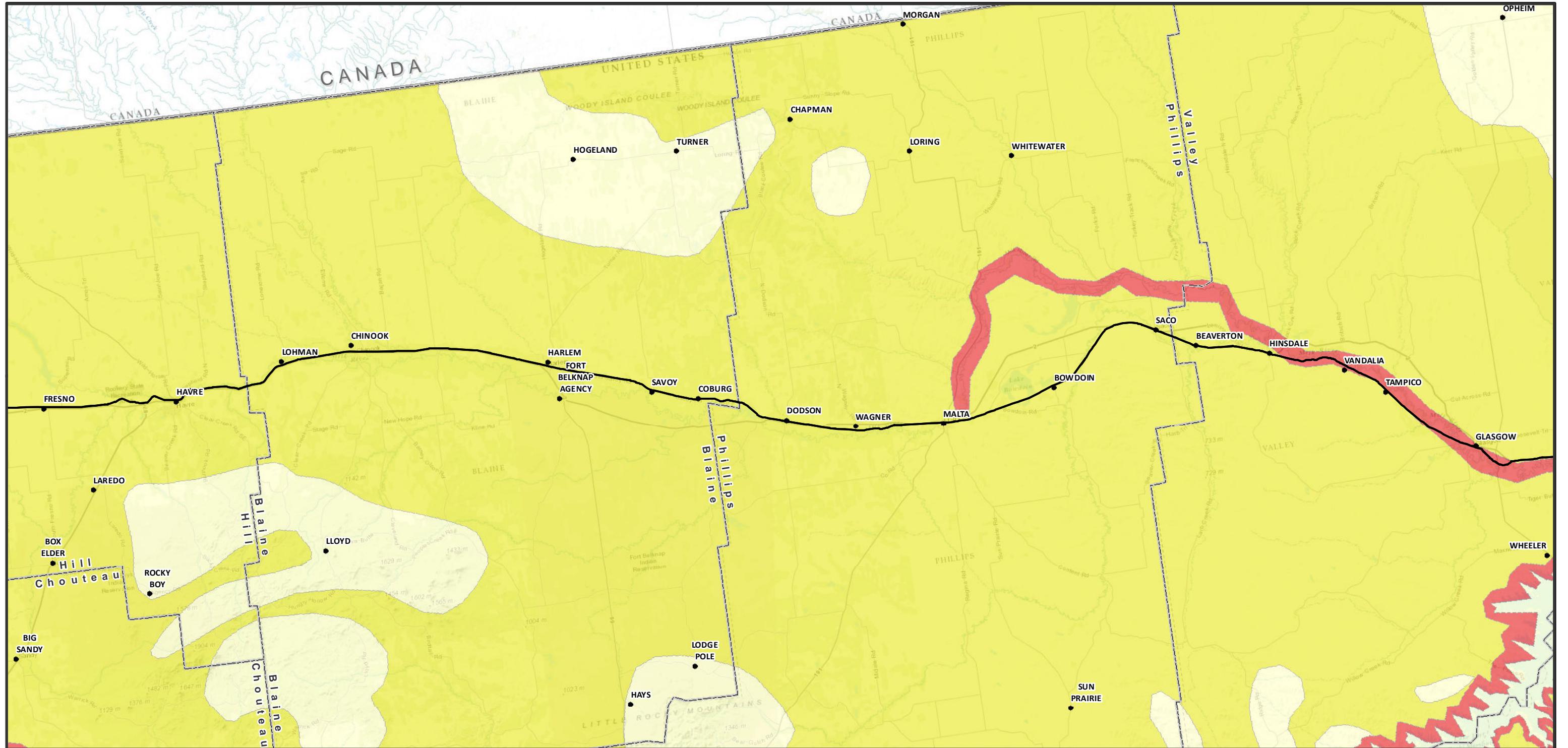


Mapbook K2B
Landslide Susceptibility
Out of State Rail Corridor
Vancouver Energy



Sources:
ESRI World Topographic Map Service, 2014.
ESRI USDOI USGS Landslide Map Service;
U.S. Geological Survey, 2006.

Sheet 1 of 5

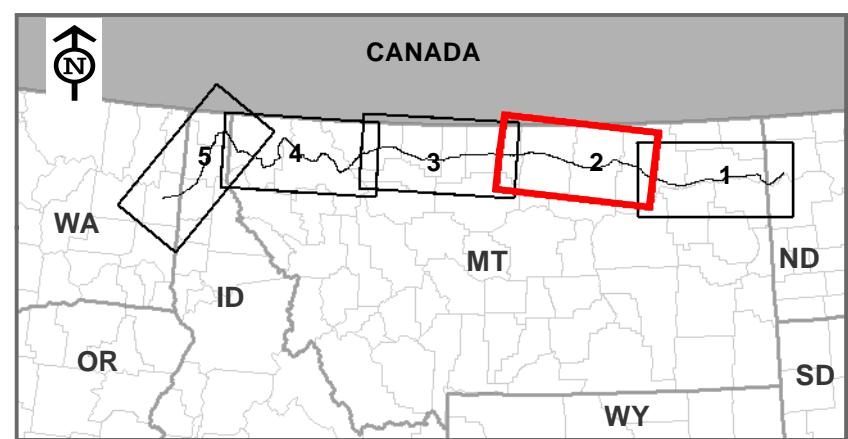


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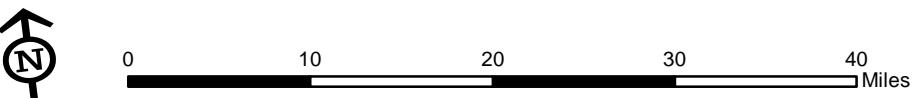
- BNSF Railway
- County Boundary
- State Boundary
- Inferred Fault Type
- Moderately constrained Fault Type
- Well constrained Fault Type

Landslides Incidence and Susceptibility

- High landslide incidence (over 15% of the area is involved in landsliding)
- Moderate landslide incidence (1.5 - 15% of the area is involved)
- High susceptibility to landsliding and moderate incidence
- High susceptibility to landsliding and low incidence
- Moderate susceptibility to landsliding and low incidence
- Low landslide incidence (less than 1.5 % of the area is involved)
- No data

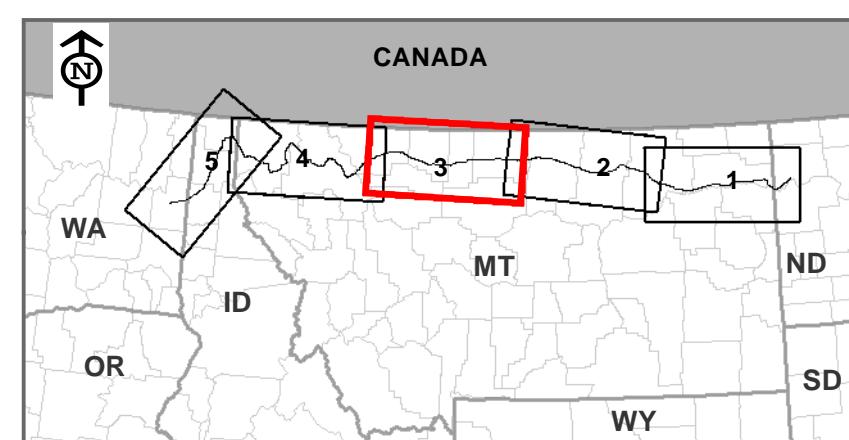
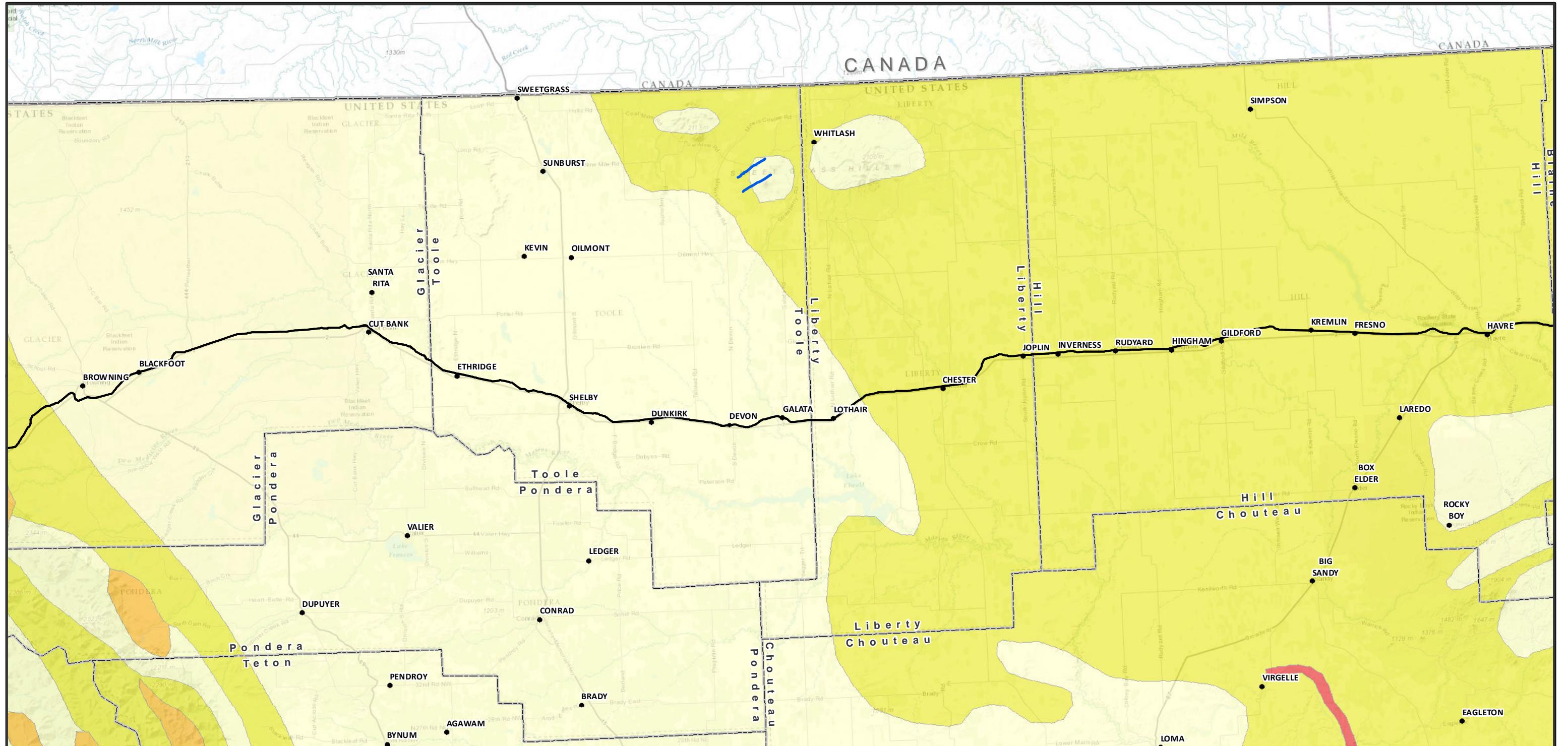


Mapbook K2B
Landslide Susceptibility
Out of State Rail Corridor
Vancouver Energy

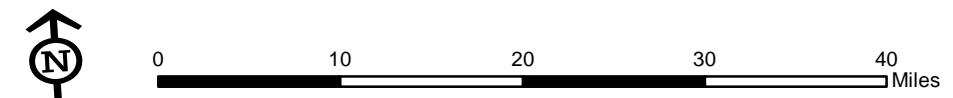


Sources:
ESRI World Topographic Map Service, 2014.
ESRI USDOI USGS Landslide Map Service;
U.S. Geological Survey, 2006.

Sheet 2 of 5

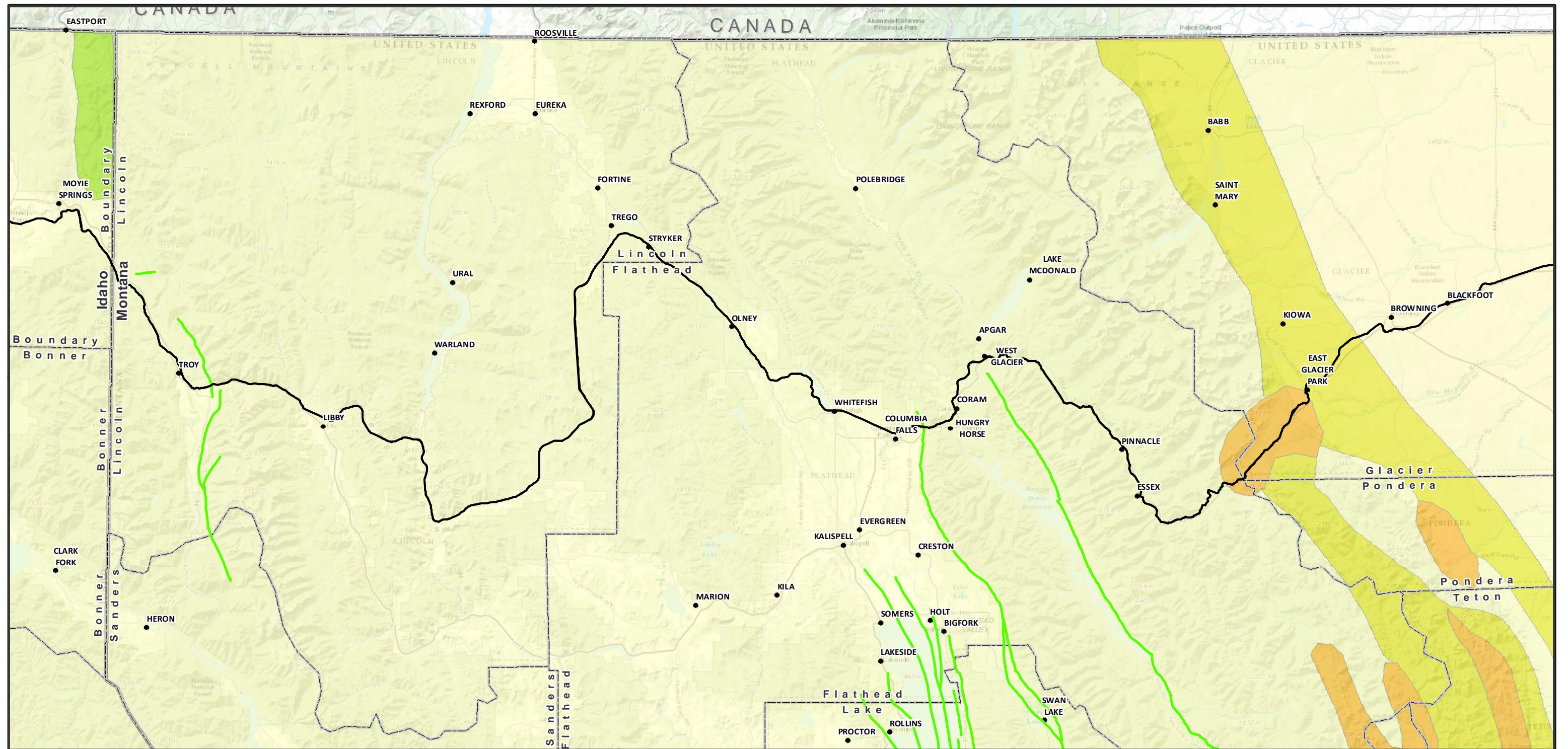


Mapbook K2B
Landslide Susceptibility
Out of State Rail Corridor
Vancouver Energy



Sources:
ESRI World Topographic Map Service, 2014.
ESRI USDOI USGS Landslide Map Service;
U.S. Geological Survey, 2006.

Sheet 3 of 5

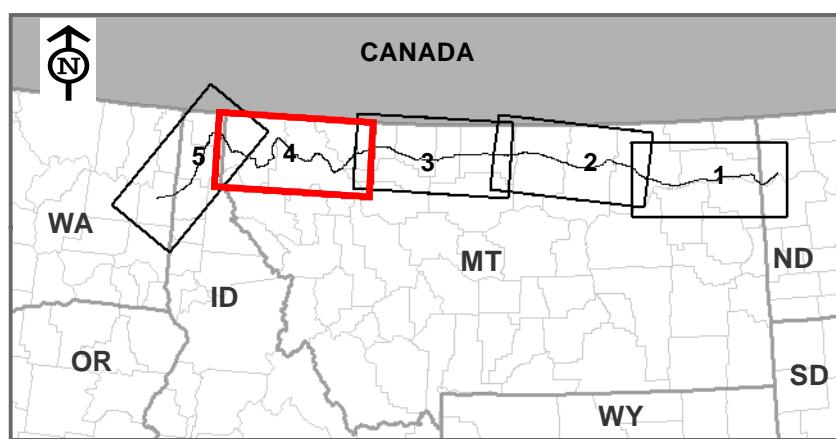


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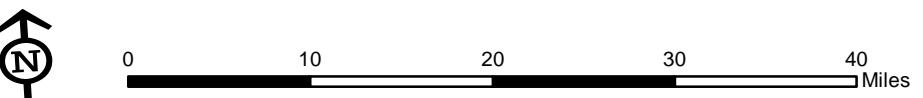
- BNSF Railway
- Fault Type
- County Boundary
- Inferred
- State Boundary
- Moderately constrained
- Well constrained

Landslides Incidence and Susceptibility

- High landslide incidence (over 15% of the area is involved in landsliding)
- Moderate landslide incidence (1.5 - 15% of the area is involved)
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- High susceptibility to landsliding and low incidence
- Moderate susceptibility to landsliding and low incidence
- Low landslide incidence (less than 1.5 % of the area is involved)
- No data

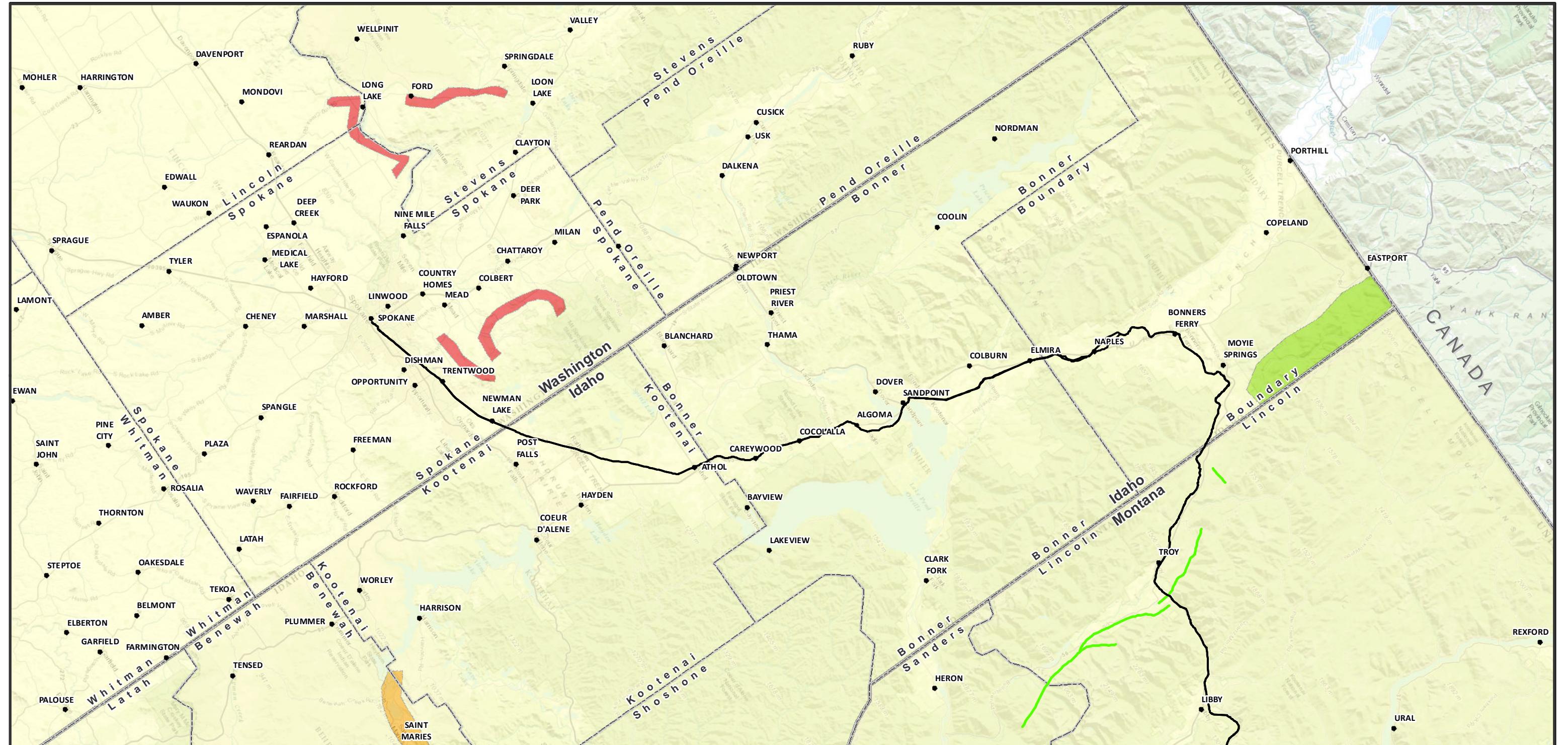


Mapbook K2B
Landslide Susceptibility
Out of State Rail Corridor
Vancouver Energy



Sources:
ESRI World Topographic Map Service, 2014.
ESRI USDOI USGS Landslide Map Service;
U.S. Geological Survey, 2006.

Sheet 4 of 5

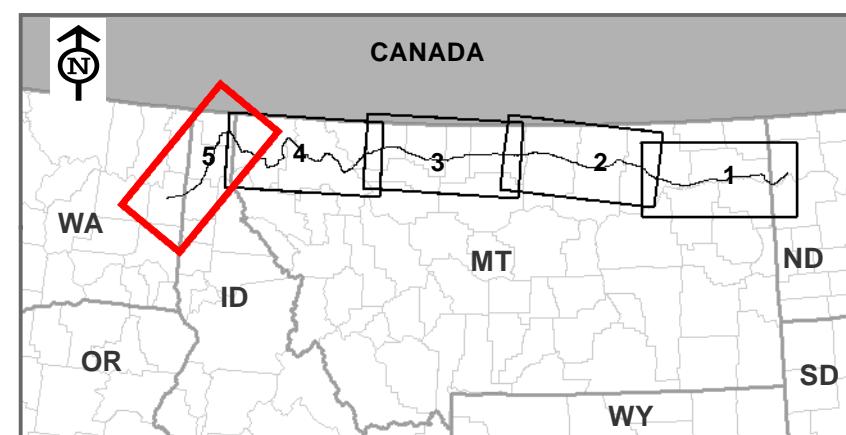


LEGEND

BNSF Railway	Fault Type
County Boundary	Green line
State Boundary	Pink line
Well constrained	Blue line
Moderately constrained	Red line
Inferred	Yellow line

Landslides Incidence and Susceptibility

- High landslide incidence (over 15% of the area is involved in landsliding)
- Moderate landslide incidence (1.5 - 15% of the area is involved)
- High susceptibility to landsliding and moderate incidence
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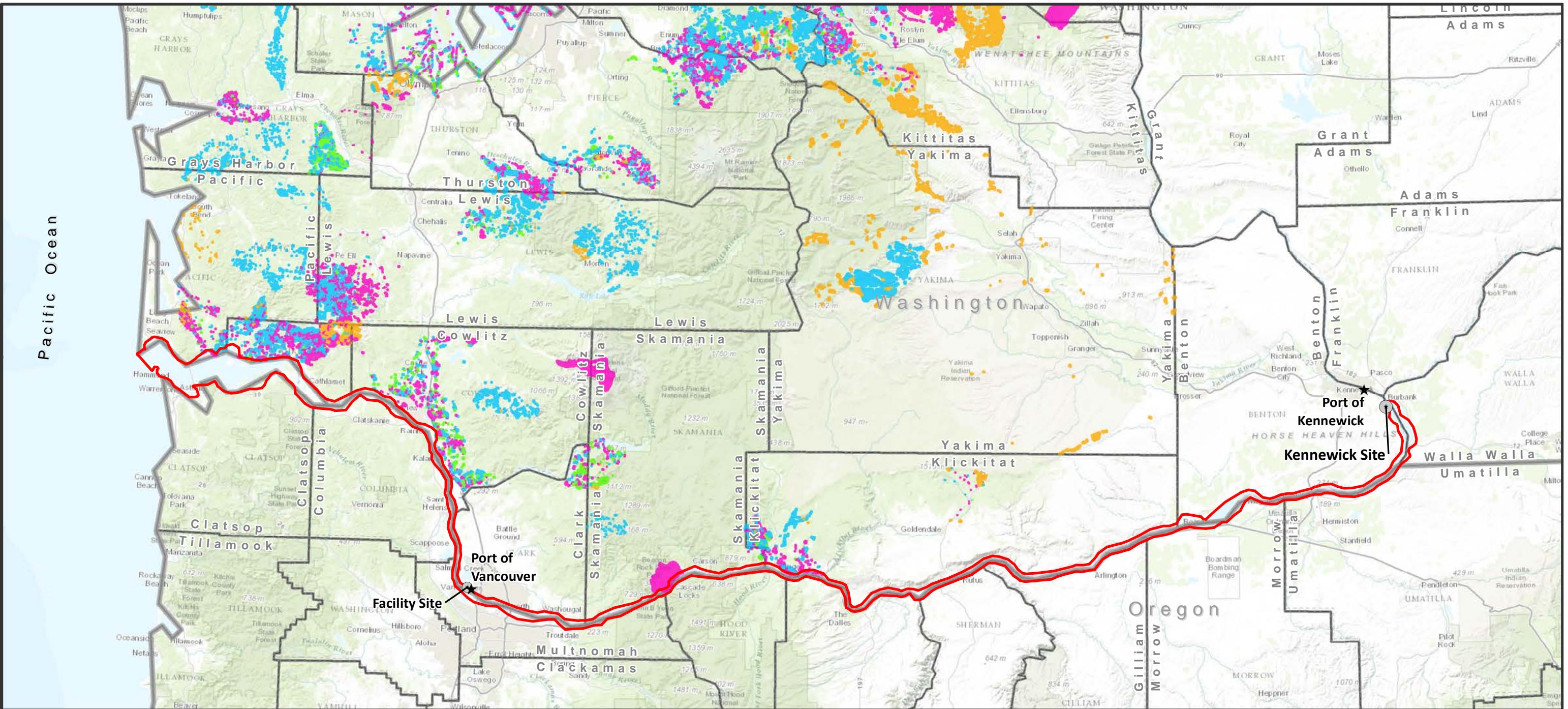


Mapbook K2B
Landslide Susceptibility
Out of State Rail Corridor
Vancouver Energy



Sources:
ESRI World Topographic Map Service, 2014.
ESRI USDOI USGS Landslide Map Service;
U.S. Geological Survey, 2006.

Sheet 5 of 5



LEGEND

- Columbia River 1/4 Mile Buffer
- State Boundary
- County Boundary
- Landslide Probability**
- Certain (Pink)
- Probable (Blue)
- Questionable (Green)
- Unknown (Yellow)

Mapbook K2C
Potential Landslide Areas
Columbia River Marine Corridor
Vancouver Energy



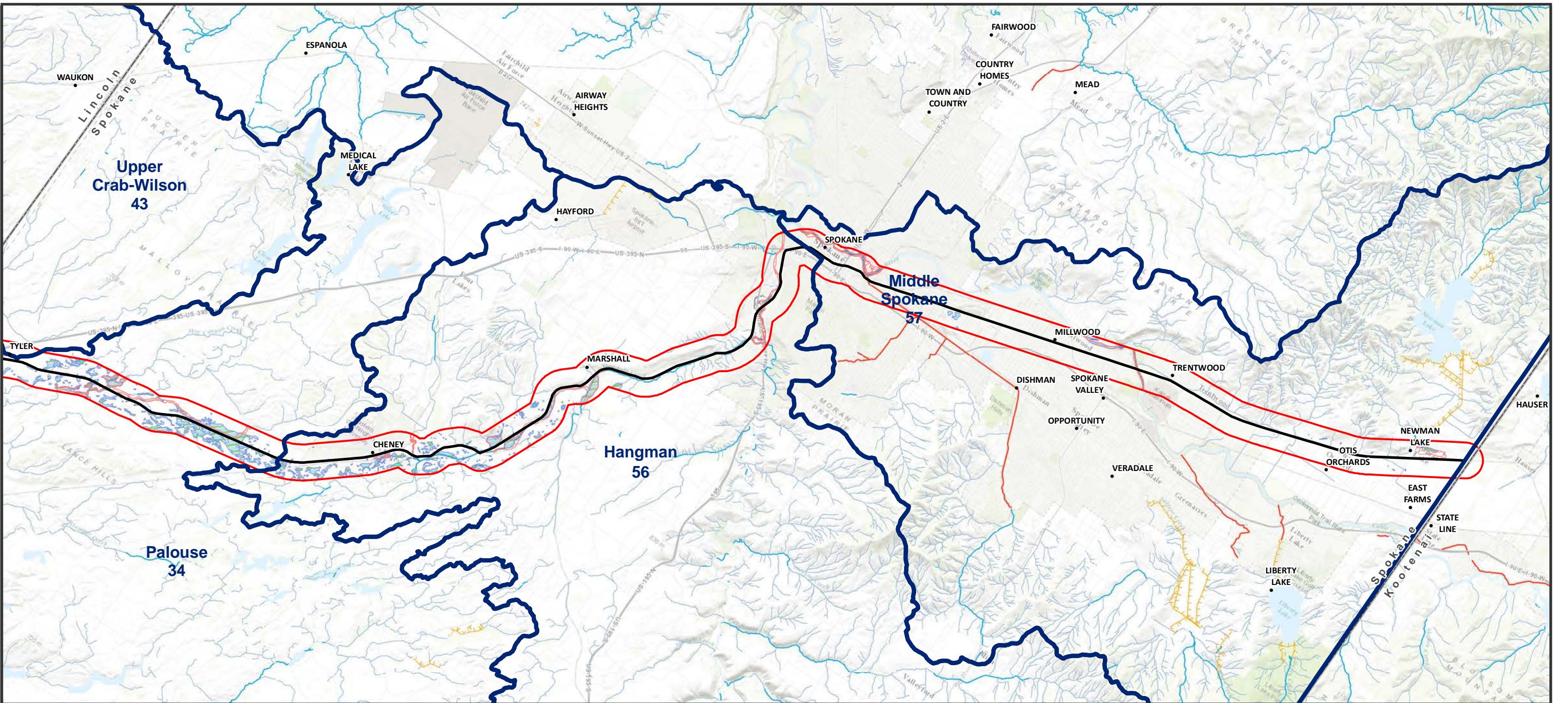
0 10 20 30 40 Miles

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Appendix P-3

Wetlands, Streams and Floodplains

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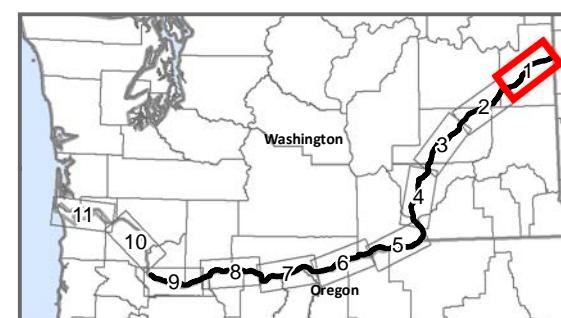


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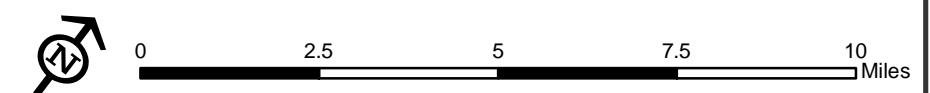
- BNSF Railroad
- BNSF Rail Corridor One Mile Buffer (half mile each side of railway)
- WP Washington Water Resource Inventory Area (WRIA)
- County Boundary

Wetlands within Corridors

- | | | | |
|--|-----------------------------------|--|----------|
| | Freshwater Emergent Wetland | | Lake |
| | Freshwater Forested/Shrub Wetland | | Riverine |
| | Freshwater Pond | | |



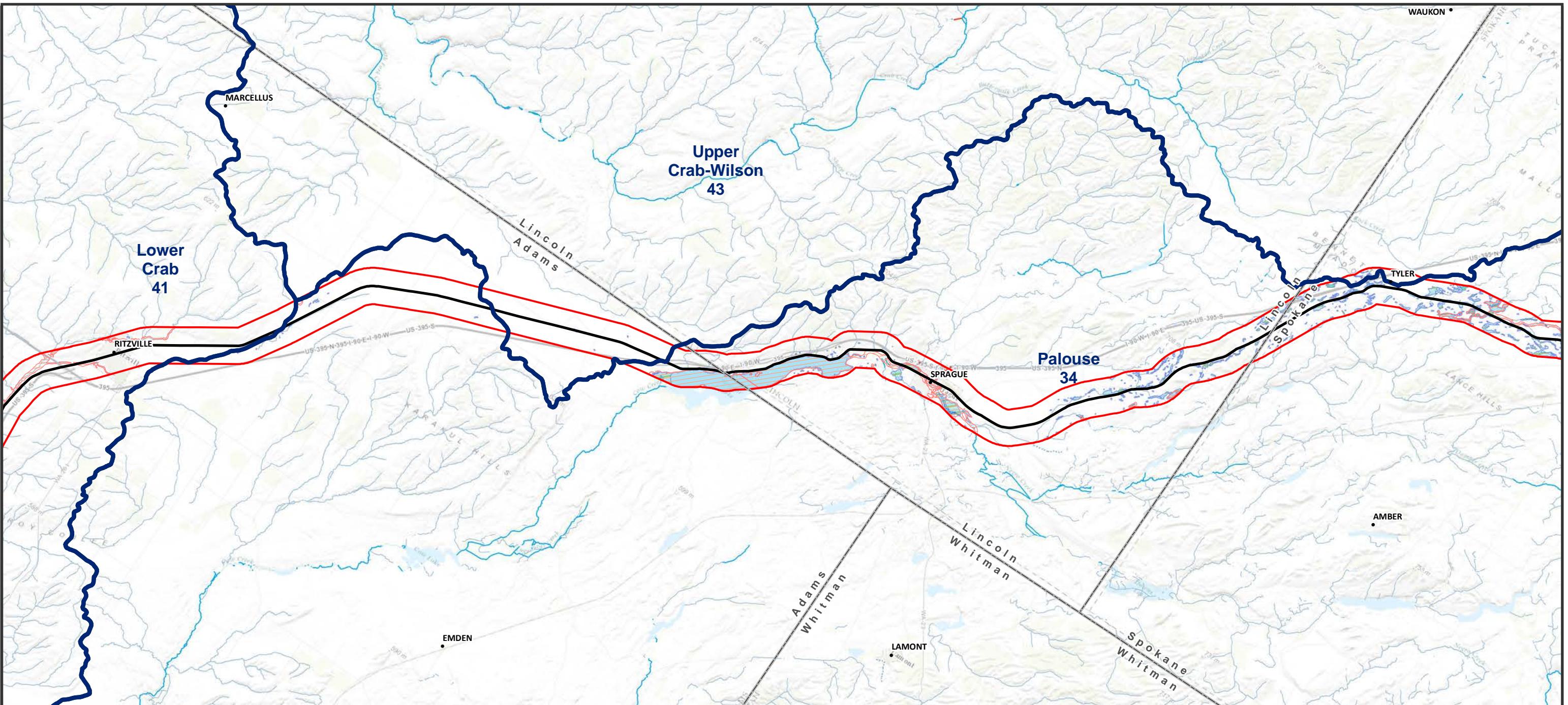
Water Resource Features
Wetlands, Streams, Floodplains



- | | | |
|---------------------------|-------------------------------|-----------------------|
| — Pipeline | — Stream/River- Intermittent | ▨ 100 Year Flood Zone |
| Canal/Ditch | Stream/River- Ephemeral | |
| — Stream/River- Perennial | | |

Sources:
 ESRI World Topographic Map Service, 2014.
 Hydrography - USGS National Hydrography Dataset (NHD)
 Washington Water Resource Inventory Area (WRIA)
 Wetlands - USFWS National Wetlands Inventory (NWI)
 Floodplains - FEMA Flood Insurance Rate Maps (FIRM) and WA Dept. of Ecology.
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Sheet 1 of 11

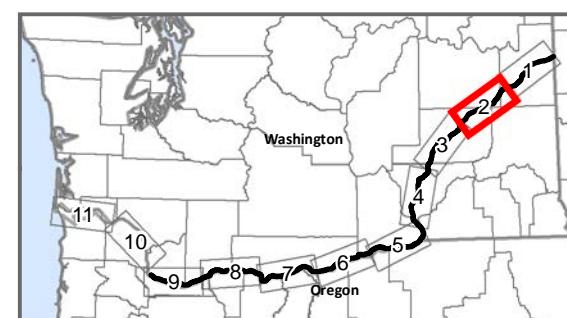


LEGEND

- BNSF Railroad
- BNSF Rail Corridor One Mile Buffer (half mile each side of railway)
- WP Washington Water Resource Inventory Area (WRIA)
- County Boundary

Wetlands within Corridors

- | | | | |
|--|-----------------------------------|--|-------|
| | Freshwater Emergent Wetland | | Lake |
| | Freshwater Forested/Shrub Wetland | | Other |
| | Freshwater Pond | | |



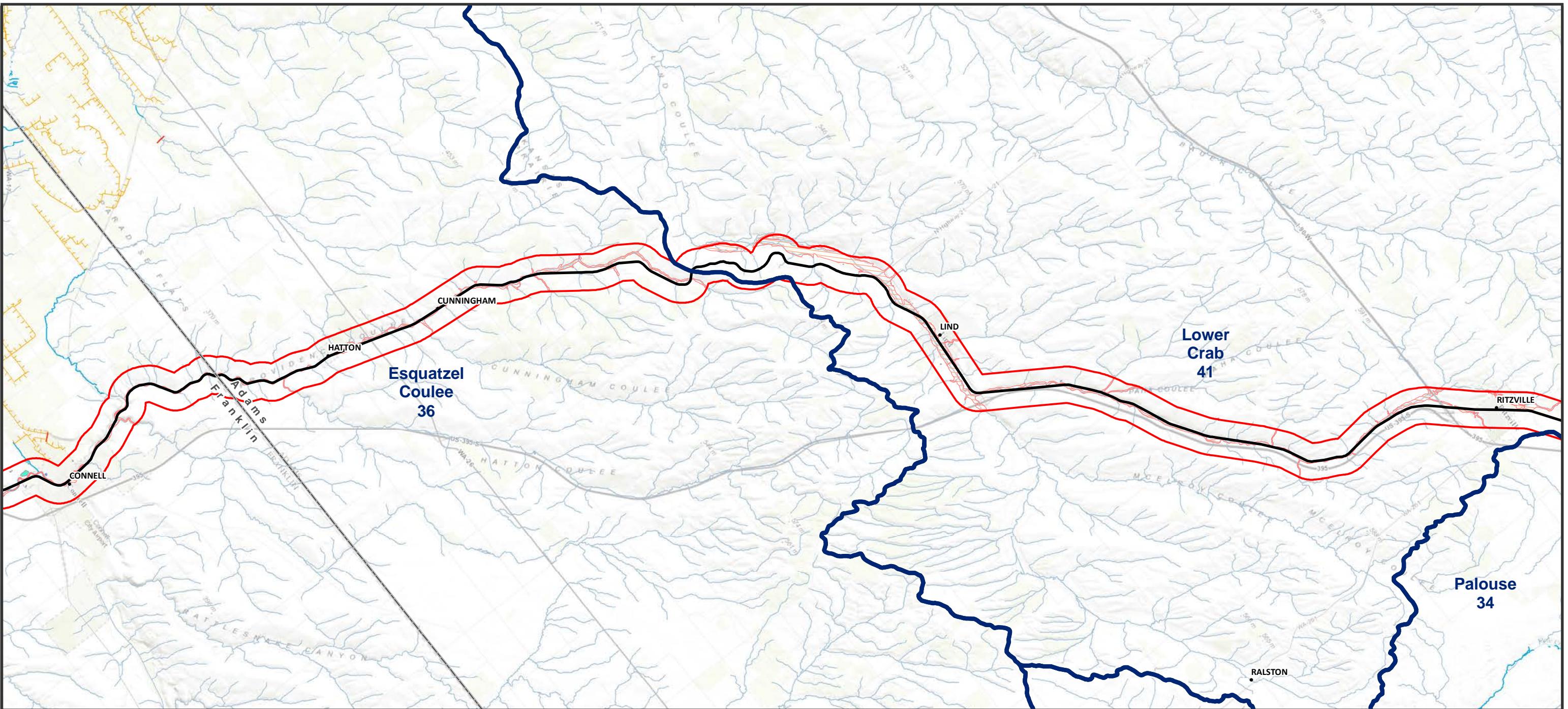
Water Resource Features
Wetlands, Streams, Floodplains



- | | | |
|---------------------------|------------------------------|-----------------------|
| — Pipeline | — Stream/River- Intermittent | ▨ 100 Year Flood Zone |
| — Stream/River- Perennial | ···· Stream/River- Ephemeral | |

Sources:
 ESRI World Topographic Map Service, 2014.
 Hydrography - USGS National Hydrography Dataset (NHD)
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Sheet 2 of 11



LEGEND

— BNSF Railroad

□ BNSF Rail Corridor One Mile Buffer
(half mile each side of railway)

WP Washington Water Resource
Inventory Area (WRIA)

□ County Boundary

Wetlands within Corridors

- Freshwater Emergent Wetland
- Freshwater Pond
- Freshwater Forested/Shrub
Wetland



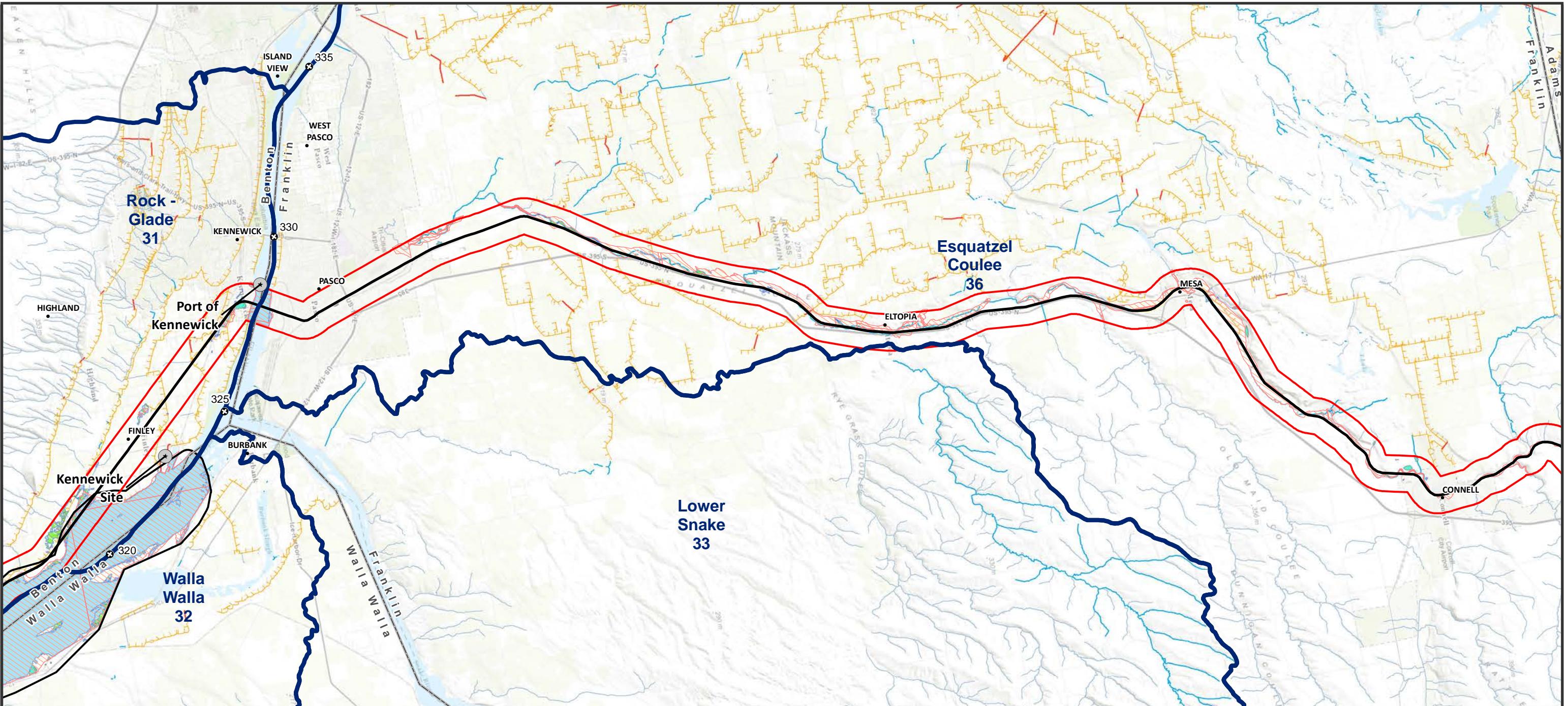
Water Resource Features
Wetlands, Streams, Floodplains



- Pipeline
- Stream/River- Perennial
- 100 Year Flood Zone
- Canal/Ditch
- Stream/River- Intermittent

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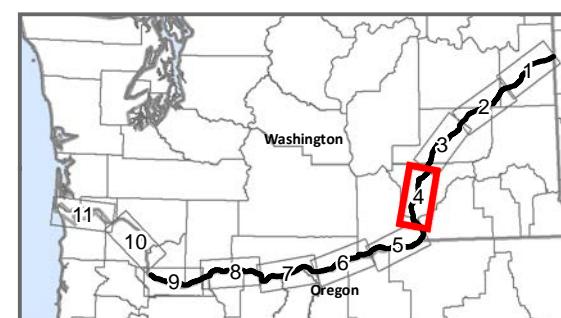
Sheet 3 of 11



LEGEND

- Columbia River 5-mile River Markers
 - BNSF Railroad
 - BNSF Rail Corridor One Mile Buffer (half mile each side of railway)
 - Mid-Columbia River Half Mile Buffer (1/4 mile each side of river)
 - Washington Water Resource Inventory Area (WRIA)
 - County Boundary
- | Wetlands within Corridors | |
|---------------------------|-----------------------------------|
| | Freshwater Emergent Wetland |
| | Freshwater Forested/Shrub Wetland |
| | Freshwater Pond |
| | Lake |
| | Riverine |
- Pipeline
 - Stream/River- Perennial
 - Stream/River- Intermittent
 - Canal/Ditch
- 100 Year Flood Zone

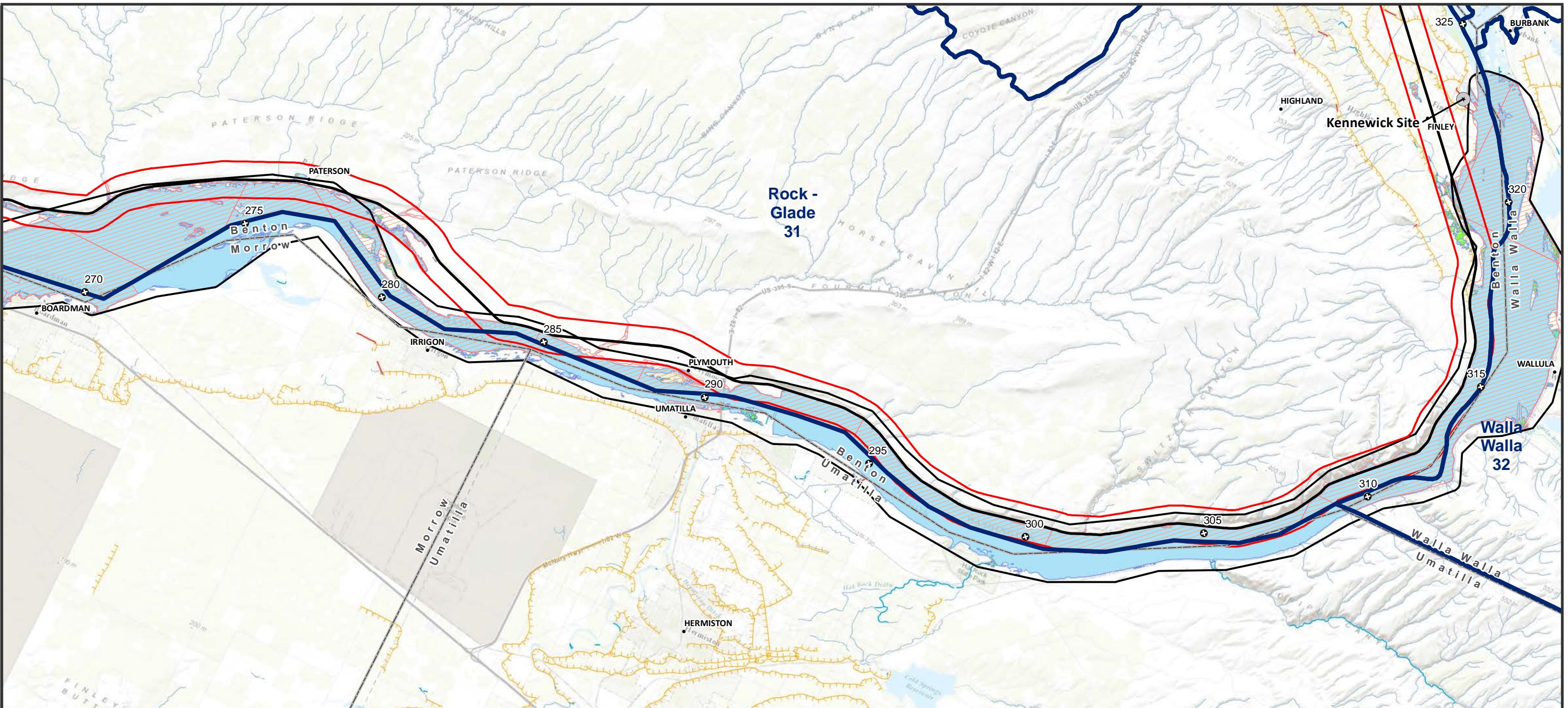
Sheet 4 of 11



Water Resource Features
Wetlands, Streams, Floodplains

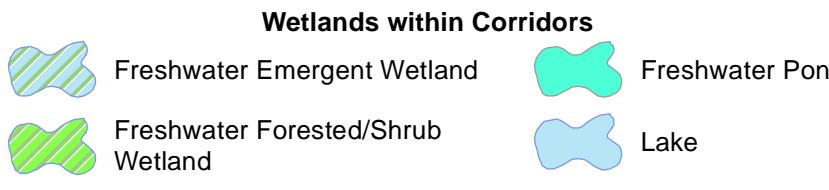
0 2.5 5 7.5 10 Miles

Sources:
 ESRI World Topographic Map Service, 2014.
 Hydrography - USGS National Hydrography Dataset (NHD)
 Washington Water Resource Inventory Area (WRIA)
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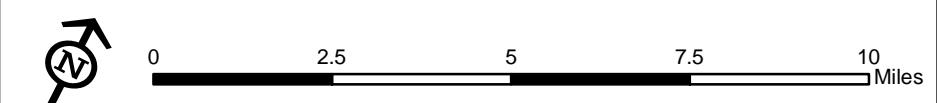


LEGEND

- Columbia River 5-mile River Markers
- BNSF Railroad
- BNSF Rail Corridor One Mile Buffer (half mile each side of railway)
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- County Boundary



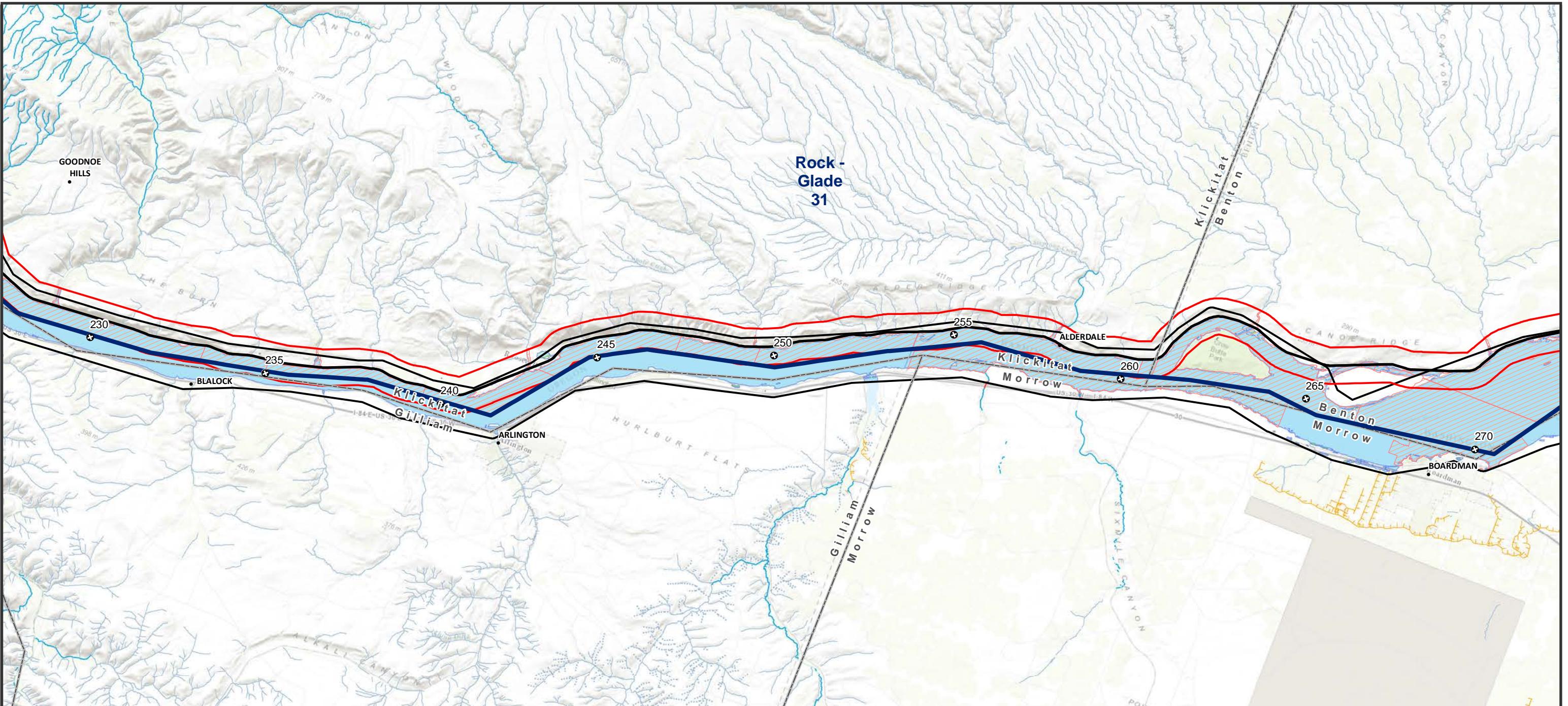
Water Resource Features Wetlands, Streams, Floodplains



Sources:
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Sheet 5 of 11

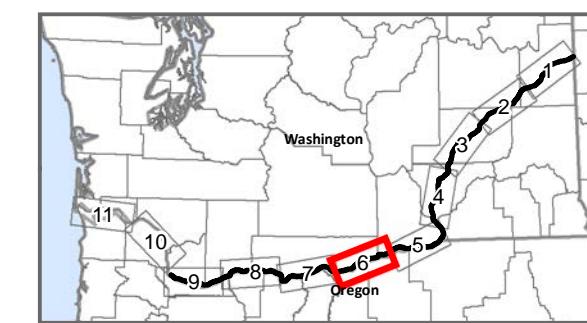
- Pipeline
- Stream/River- Perennial
- Stream/River- Intermittent
- Canal/Ditch



LEGEND

- Columbia River 5-mile River Markers
- BNSF Railroad
- BNSF Rail Corridor One Mile Buffer (half mile each side of railway)
- Mid-Columbia River Half Mile Buffer (1/4 mile each side of river)
- WP Washington Water Resource Inventory Area (WRIA)
- County Boundary

- Wetlands within Corridors**
- Freshwater Emergent Wetland
 - Freshwater Pond
 - Freshwater Forested/Shrub Wetland
 - Lake
- Pipeline
 - Stream/River- Intermittent
 - Stream/River- Ephemeral
 - Stream/River- Perennial



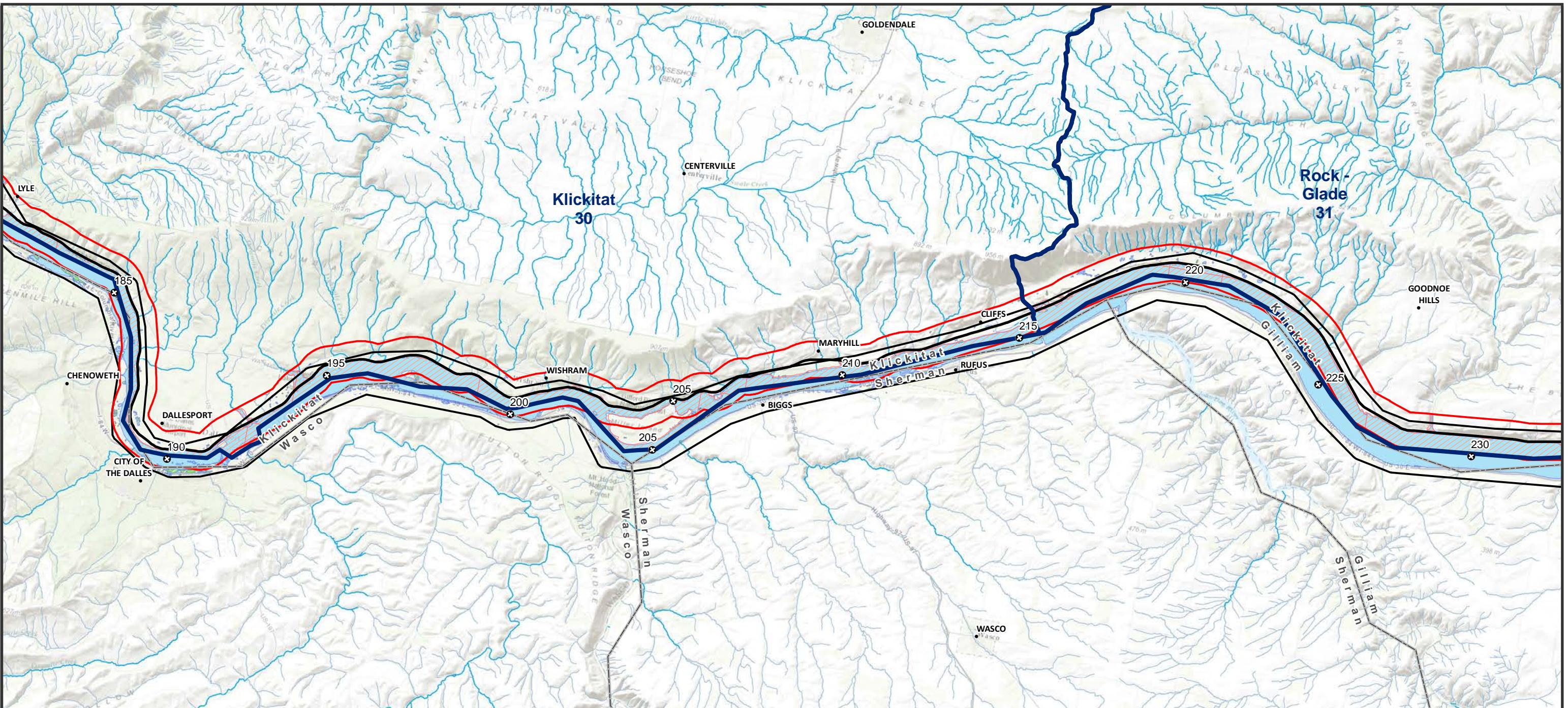
Water Resource Features Wetlands, Streams, Floodplains



0 2.5 5 7.5 10 Miles

Sources:
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Sheet 6 of 11



LEGEND

- Columbia River 5-mile River Markers
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- BNSF Rail Corridor One Mile Buffer (half mile each side of railway)
- Mid-Columbia River Half Mile Buffer (1/4 mile each side of river)
- W Washington Water Resource Inventory Area (WRIA)
- County Boundary

Wetlands within Corridors

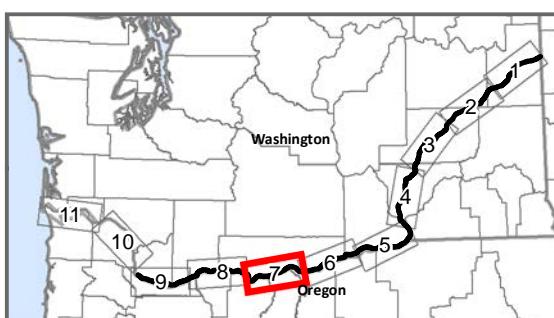
- Freshwater Emergent Wetland
- Lake
- Freshwater Forested/Shrub Wetland
- Other
- Freshwater Pond

Stream/River- Perennial

Stream/River- Intermittent

100 Year Flood Zone

Sheet 7 of 11

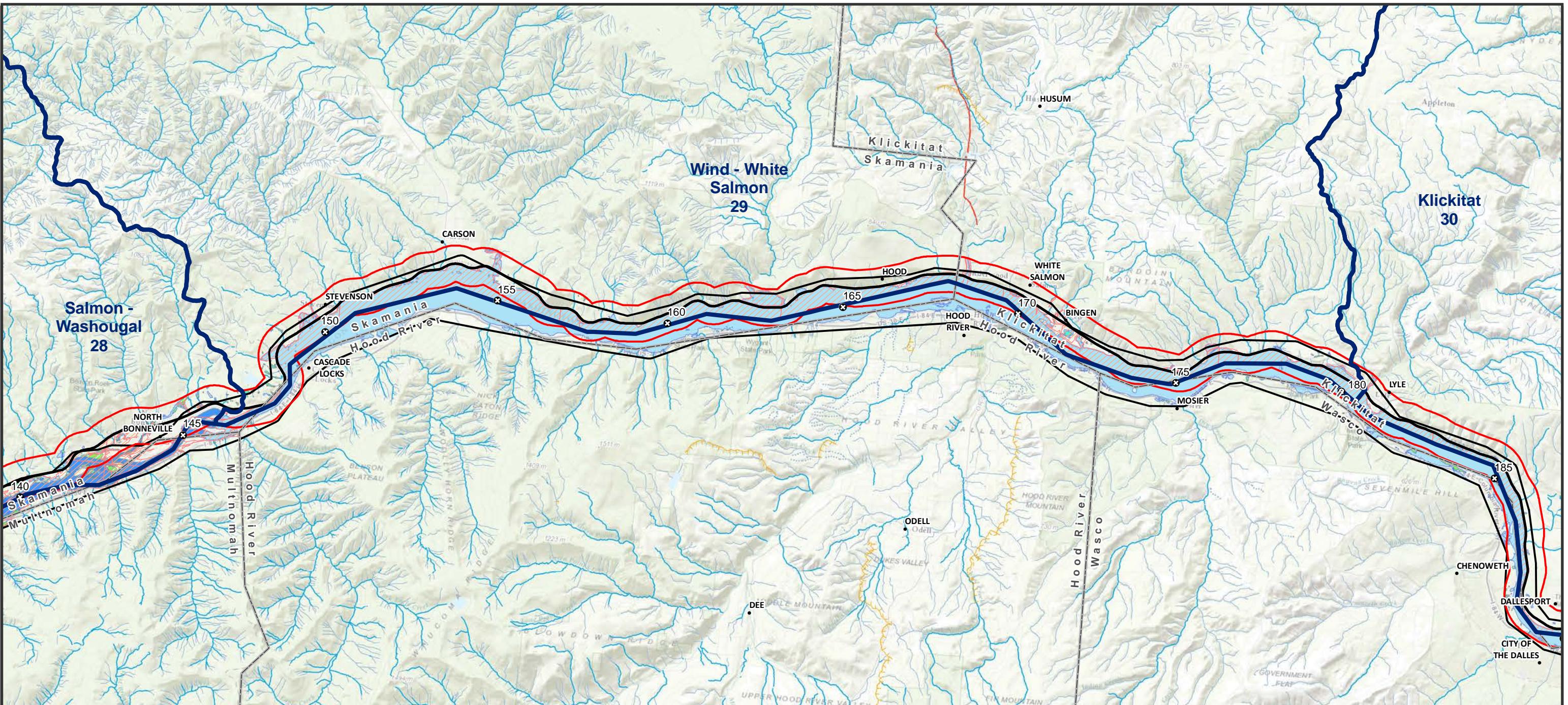


Water Resource Features
Wetlands, Streams, Floodplains



0 2.5 5 7.5 10 Miles

Sources:
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- County Boundary

Wetlands within Corridors

- Freshwater Emergent Wetland
- Lake
- Freshwater Forested/Shrub Wetland
- Riverine
- Freshwater Pond
- Other



Water Resource Features
Wetlands, Streams, Floodplains



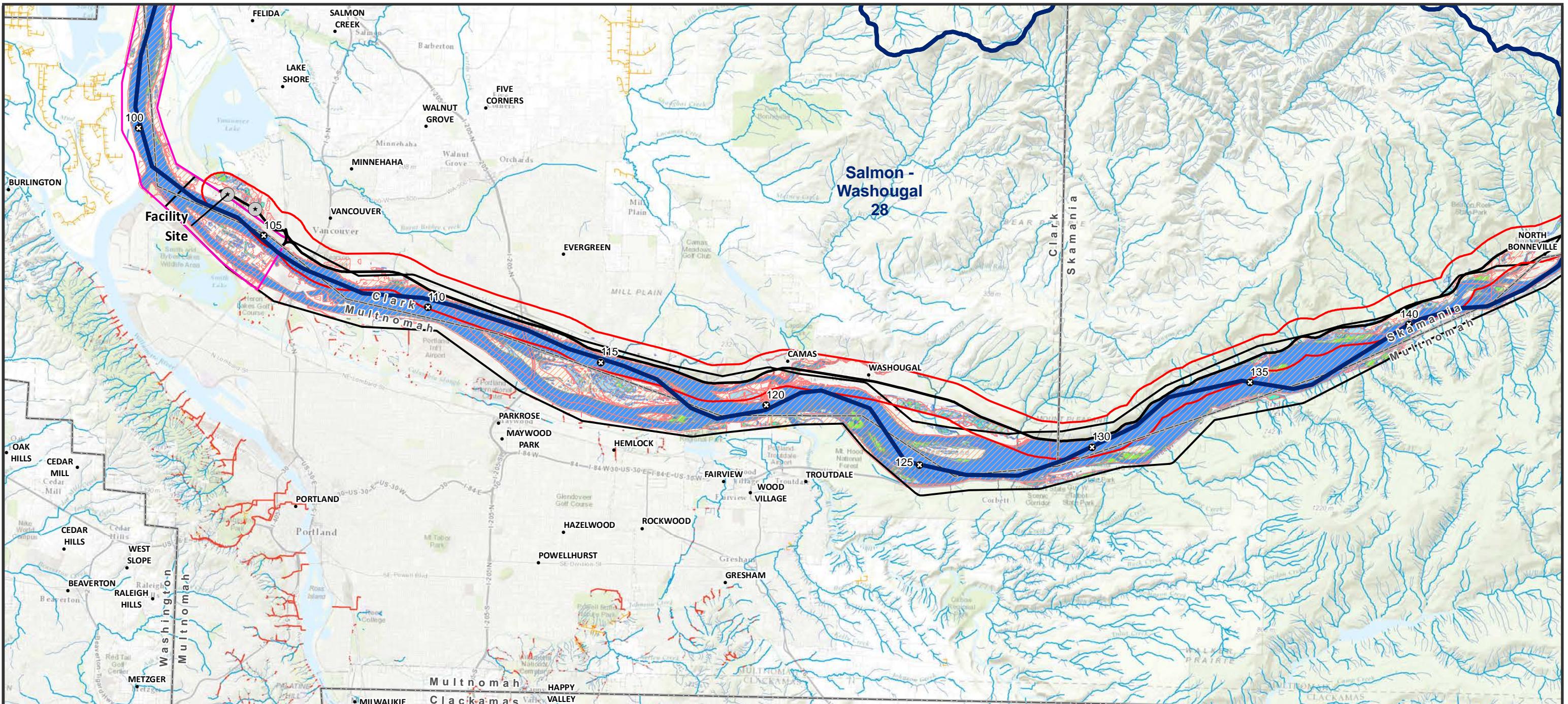
0 2.5 5 7.5 10 Miles

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Sheet 8 of 11

- Pipeline
- Stream/River- Intermittent
- Stream/River- Ephemeral
- Stream/River- Perennial
- Canal/Ditch

100 Year Flood Zone

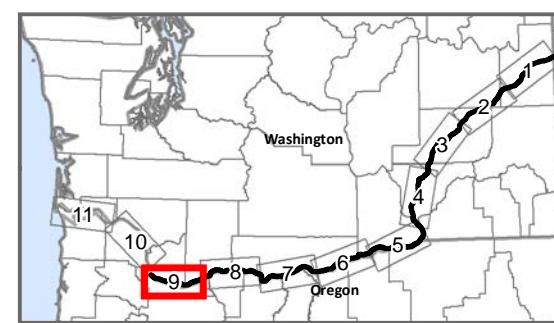


LEGEND

- Columbia River 5-mile River Markers
- BNSF Railroad
- BNSF Rail Corridor One Mile Buffer (half mile each side of railway)
- Mid-Columbia River Half Mile Buffer (1/4 mile each side of river)
- Columbia River Half Mile Buffer (1/4 mile each side of river)
- W Washington Water Resource Inventory Area (WRIA)
- County Boundary

Wetlands within Corridors

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- Other



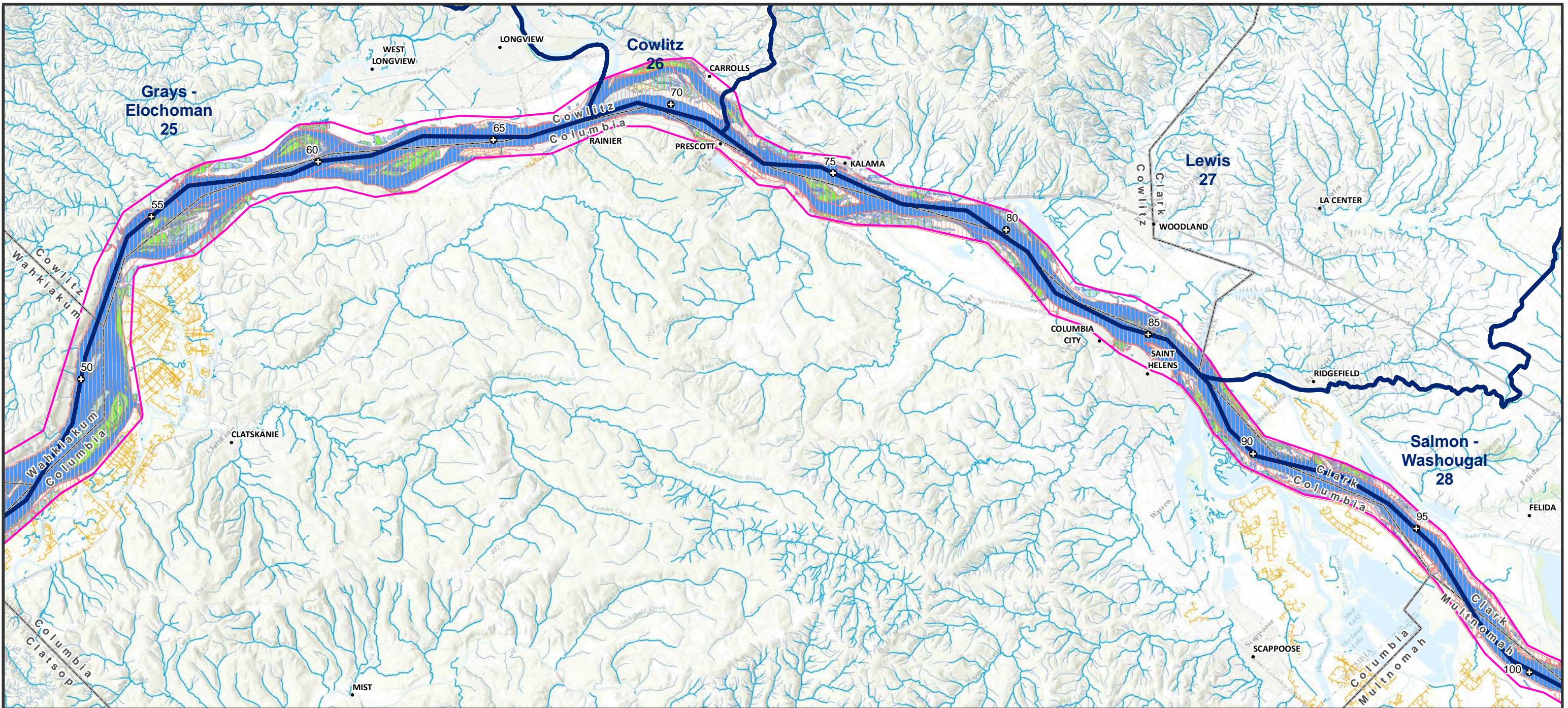
Water Resource Features
Wetlands, Streams, Floodplains



0 2.5 5 7.5 10 Miles

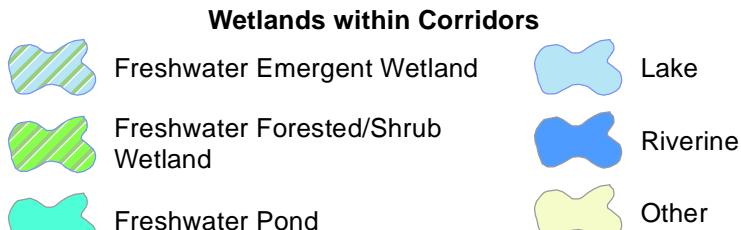
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Sheet 9 of 11

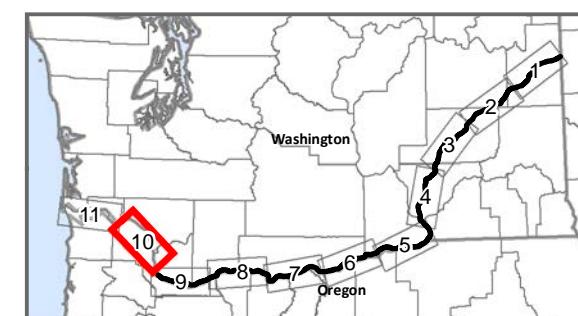


LEGEND

- Columbia River 5-mile River Markers
- Columbia River Half Mile Buffer (1/4 mile each side of river)
- Washington Water Resource Inventory Area (WRIA)
- County Boundary



- Canal/Ditch
- Stream/River- Intermittent
- Stream/River- Perennial

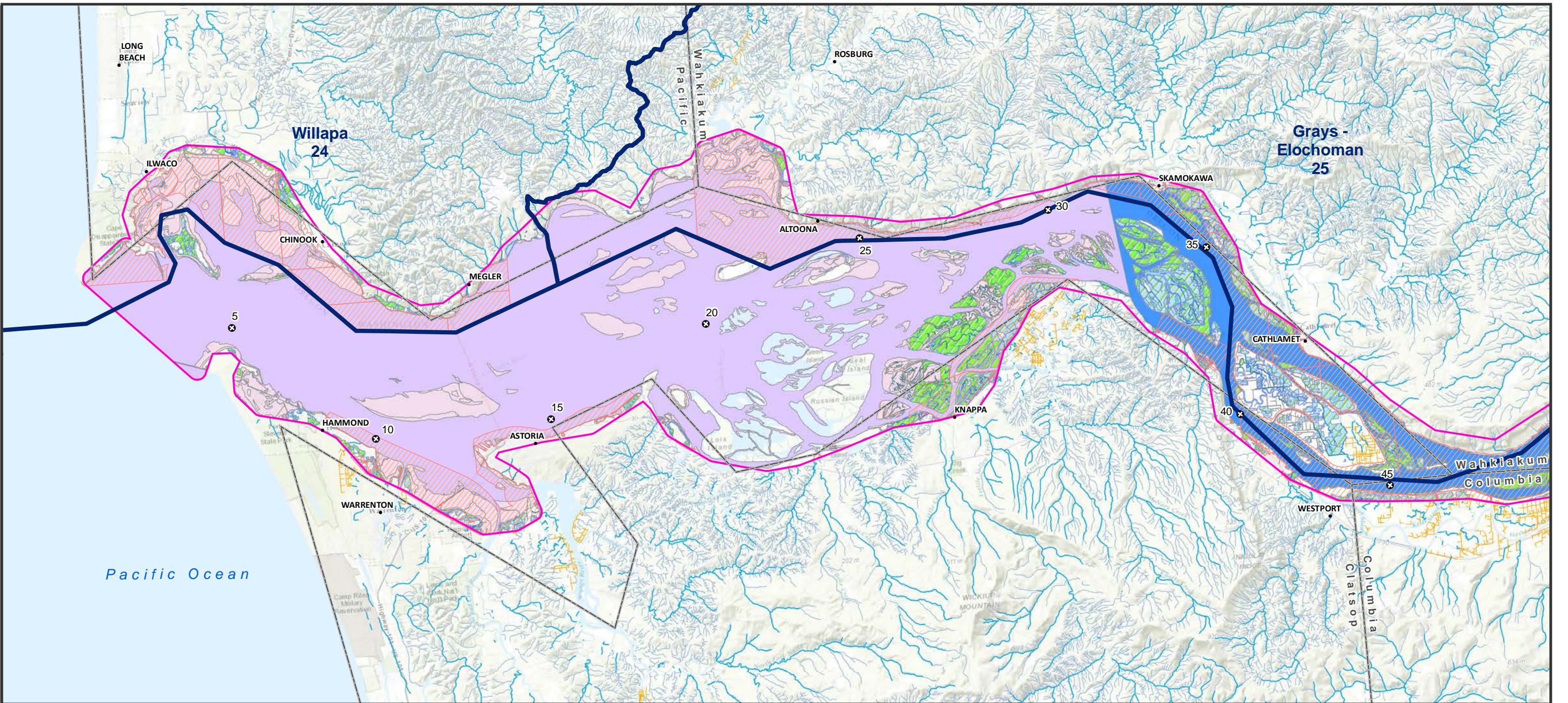


Water Resource Features
Wetlands, Streams, Floodplains



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Sheet 10 of 11



LEGEND

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- Columbia River Half Mile Buffer (1/4 mile each side of river)
- Washington Water Resource Inventory Area (WRIA)
- County Boundary

Wetlands within Corridors

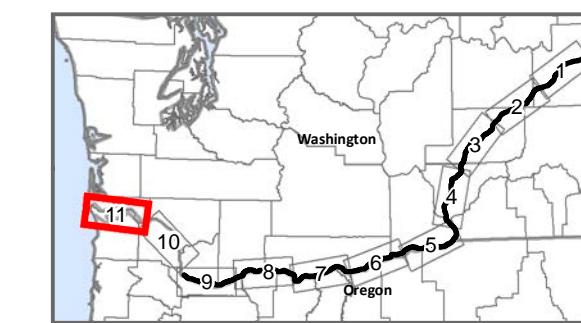
- | | | | |
|--|-----------------------------------|--|-----------------|
| | Estuarine and Marine Deepwater | | Freshwater Pond |
| | Estuarine and Marine Wetland | | Lake |
| | Freshwater Emergent Wetland | | Riverine |
| | Freshwater Forested/Shrub Wetland | | |

Canal/Ditch

Stream/River- Intermittent

100 Year Flood Zone

Stream/River- Perennial



Water Resource Features
Wetlands, Streams, Floodplains



0 2.5 5 7.5 10 Miles

Sources:
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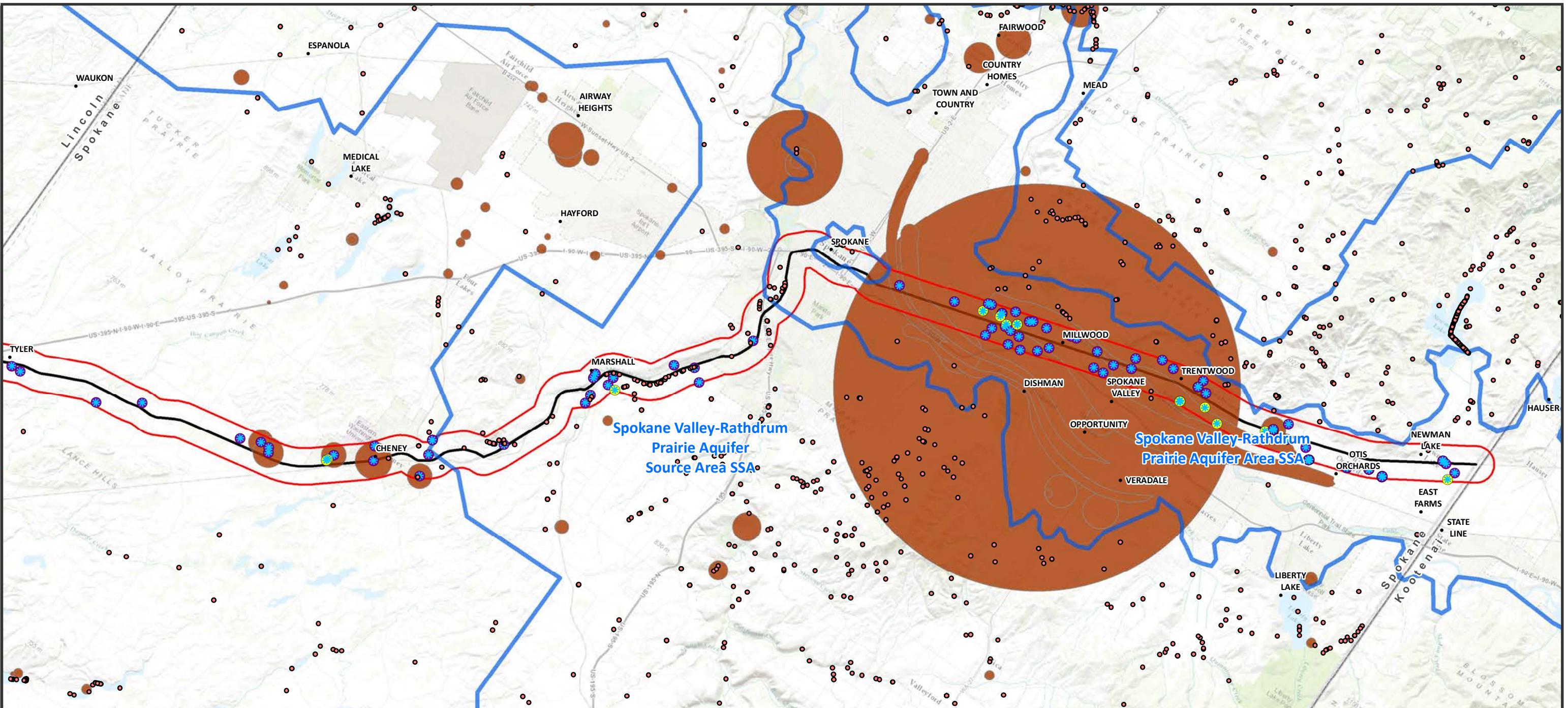
Sheet 11 of 11

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Appendix P-4

Sole Source Aquifers and Drinking Water Sources

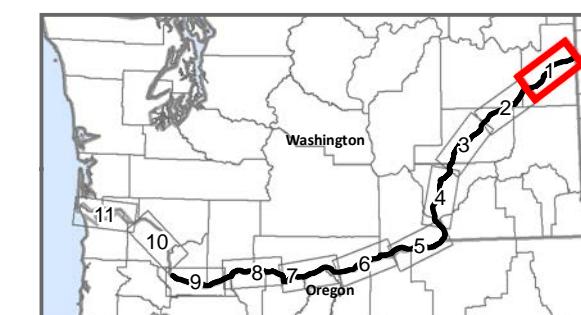
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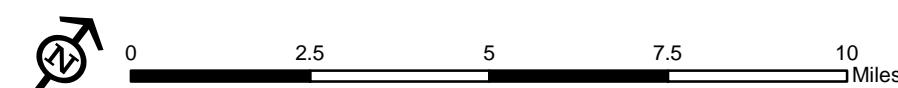
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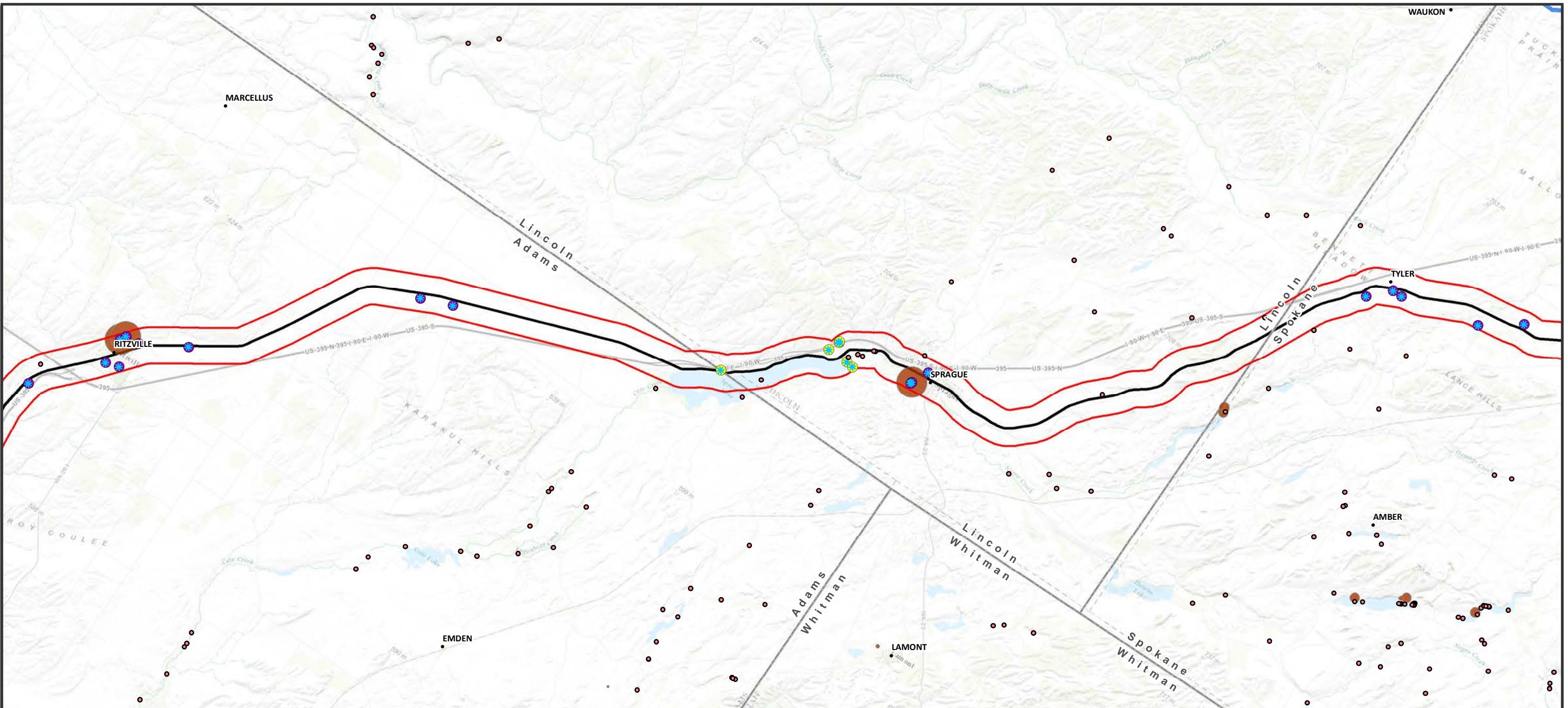
- BNSF Railroad
- BNSF Rail Corridor One Mile Buffer (half mile each side of railway)
- County Boundary
- Points of Diversion Washington
- Wellhead Protection Zones 5-year (Washington)
- Sole Source Aquifer
- * Surface Water Intake
- * Drinking Water Well
- Community Water System
- Non-Community Water System

Water Sources and Water Supply



Sources: ESRI World Topographic Map Service, 2014.
 Washington State Department of Ecology Geographic Water Information System
 Oregon State Water Right Points of Diversion
 Oregon State Surface Water Drinking Water Source Areas
 Oregon State Groundwater Drinking Water Source Areas
 Washington State Department of Health, Office of Drinking Water and Division of Information Resource Management
 National Sole Source Aquifer
 BergerABAM





LEGEND

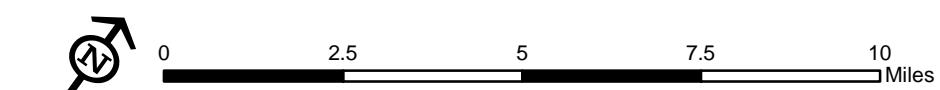
- BNSF Railroad
- BNSF Rail Corridor One Mile Buffer (half mile each side of railway)
- County Boundary

- Points of Diversion Washington
- Wellhead Protection Zones 5-year (Washington)
- Sole Source Aquifer
- * Surface Water Intake
- * Drinking Water Well
- Community Water System
- Non-Community Water System

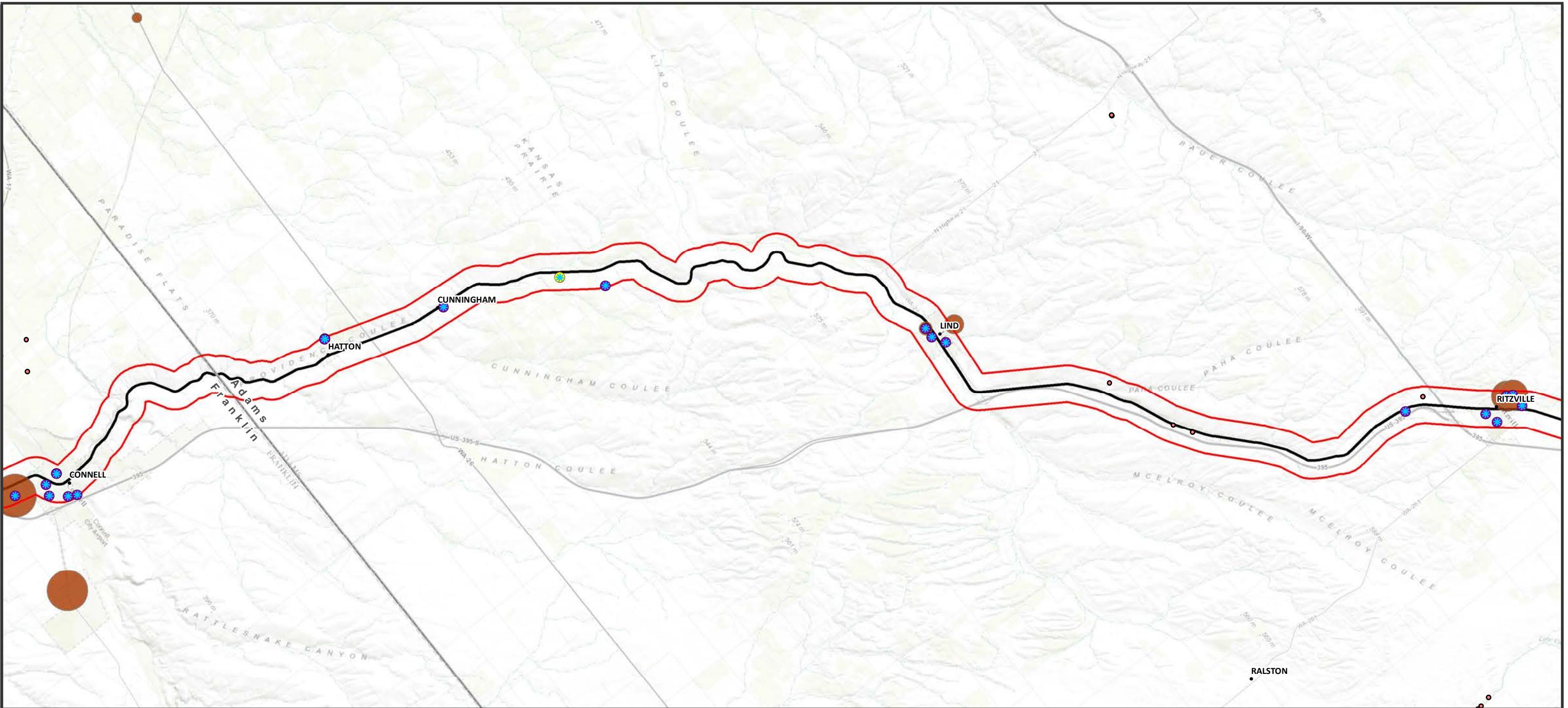
Water Sources and Water Supply



Sources: ESRI World Topographic Map Service, 2014.
 Washington State Department of Ecology Geographic Water Information System
 Oregon State Water Right Points of Diversion
 Oregon State Surface Water Drinking Water Source Areas
 Oregon State Groundwater Drinking Water Source Areas
 Washington State Department of Health, Office of Drinking Water and Division of Information Resource Management
 National Sole Source Aquifer
 BergerABAM



Sheet 2 of 11



LEGEND

- BNSF Railroad
- BNSF Rail Corridor One Mile Buffer (half mile each side of railway)
- County Boundary

- Points of Diversion Washington
- Wellhead Protection Zones 5-year (Washington)
- * Surface Water Intake
- * Drinking Water Well
- Community Water System
- Non-Community Water System

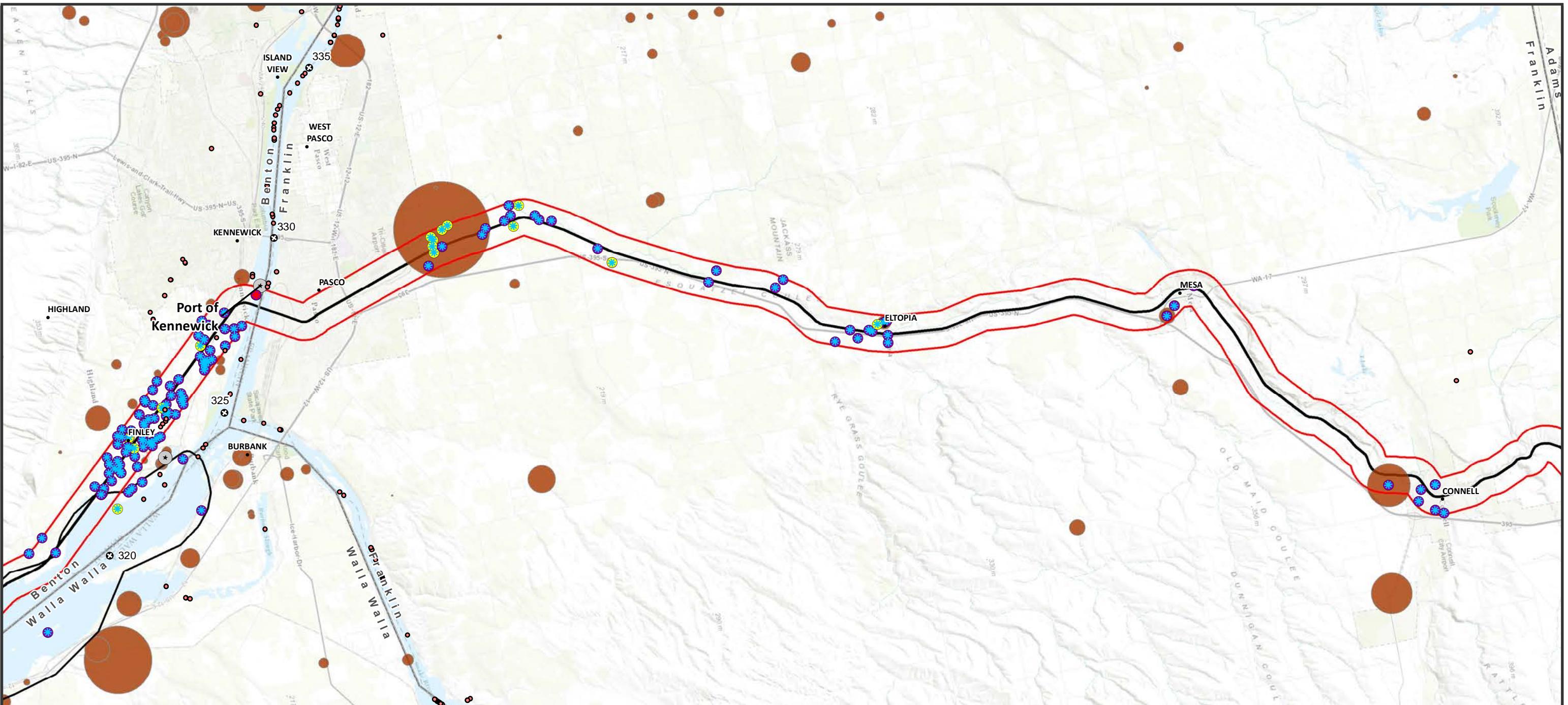
Water Sources and Water Supply



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 National Sole Source Aquifer
 BergerABAM



Sheet 3 of 11



LEGEND

- ⊗ Columbia River 5-mile River Markers
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- Wellhead Protection Zones 5-year (Washington)
- * Surface Water Intake
- * Drinking Water Well
- Community Water System
- Non-Community Water System

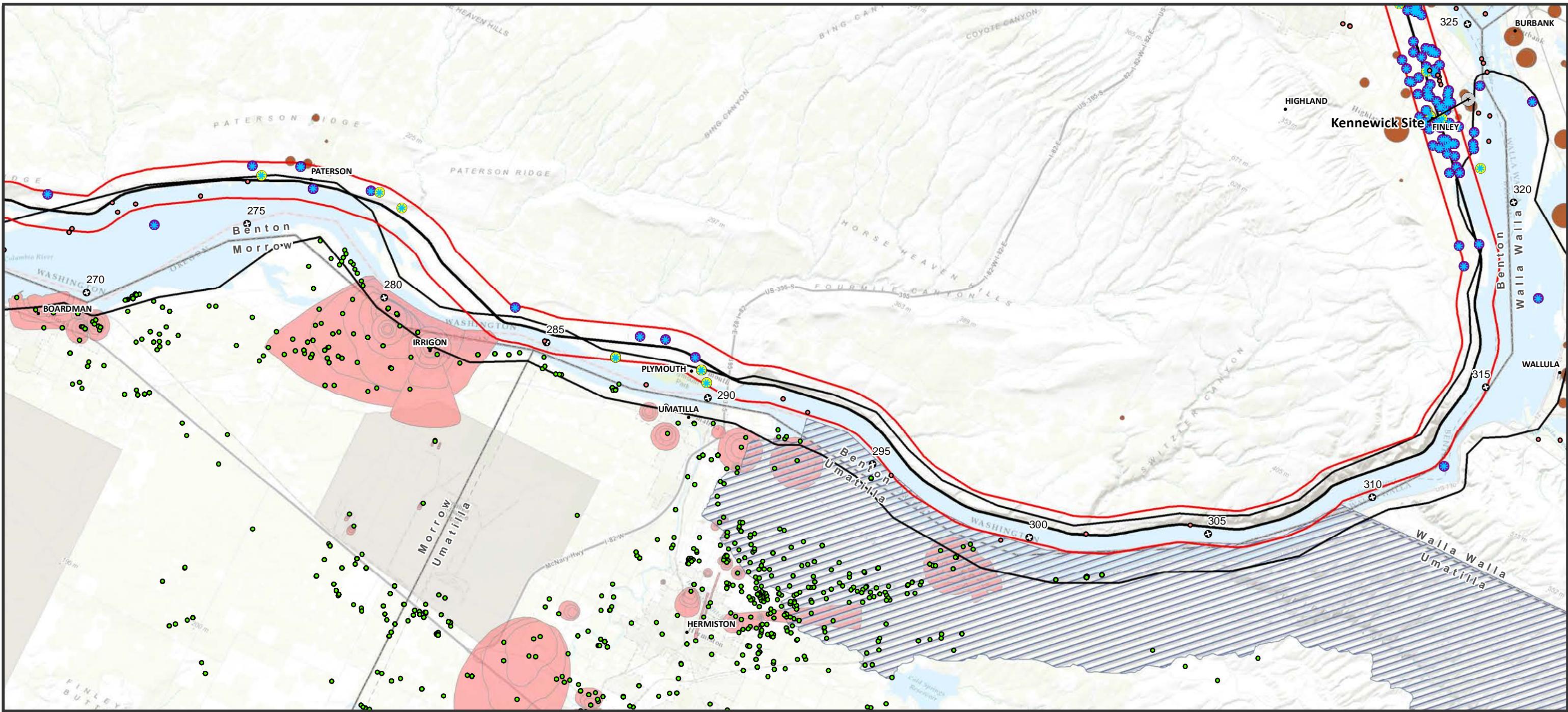
Water Sources and Water Supply



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 Oregon State Surface Water Drinking Water Source Areas
 Oregon State Groundwater Drinking Water Source Areas
 Washington State Department of Health, Office of Drinking Water and Division of Information Resource Management
 National Sole Source Aquifer
 BergerABAM

0 2.5 5 7.5 10 Miles

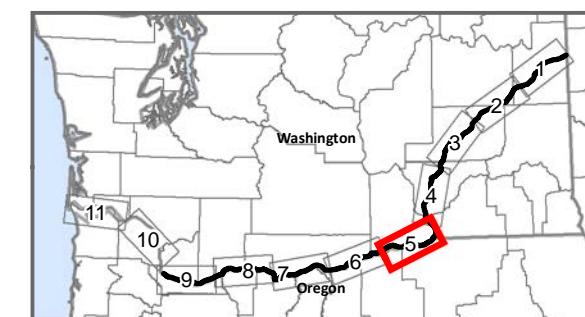
Sheet 4 of 11



LEGEND

- ✖ Columbia River 5-mile River Markers
 - BNSF Railroad
 - BNSF Rail Corridor One Mile Buffer (half mile each side of railway)
 - Mid-Columbia River Half Mile Buffer (1/4 mile each side of river)
 - County Boundary
 - Points of Diversion Washington
 - Points of Diversion Oregon
 - Surface Water Drinking Water Source Areas (Oregon)
 - Ground Water Drinking Water Source Areas (Oregon)
 - Wellhead Protection Zones 5-year (Washington)
 - * Surface Water Intake
 - * Drinking Water Well
 - Community Water System
 - Non-Community Water System

Water Sources and Water Supply

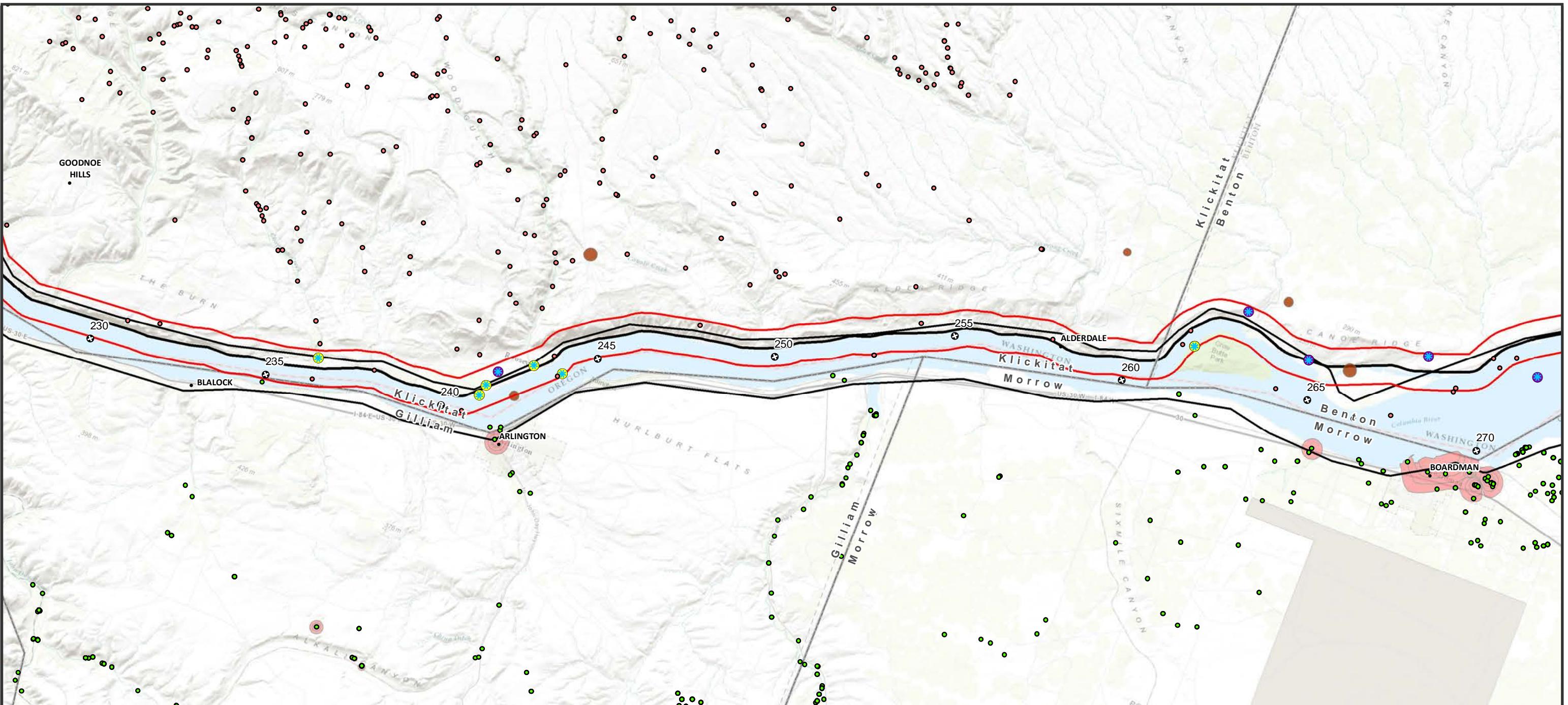


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Information System
Oregon State Water Right Points of Diversion
Oregon State Surface Water Drinking Water Source Areas
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Washington State Department of Health, Office of Drinking Water
and Division of Information Resource Management
National Sole Source Aquifer
BergerABAM

Sheet 5 of 11



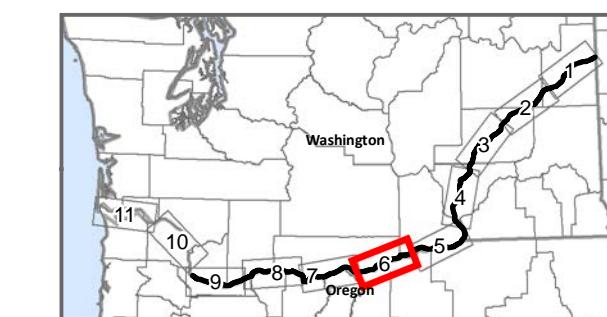
0 2.5 5 7.5 10 Miles



LEGEND

- ⊗ Columbia River 5-mile River Markers
- BNSF Railroad
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- County Boundary
- Points of Diversion Washington
- Points of Diversion Oregon
- Ground Water Drinking Water Source Areas (Oregon)
- Wellhead Protection Zones 5-year (Washington)

Water Sources and Water Supply

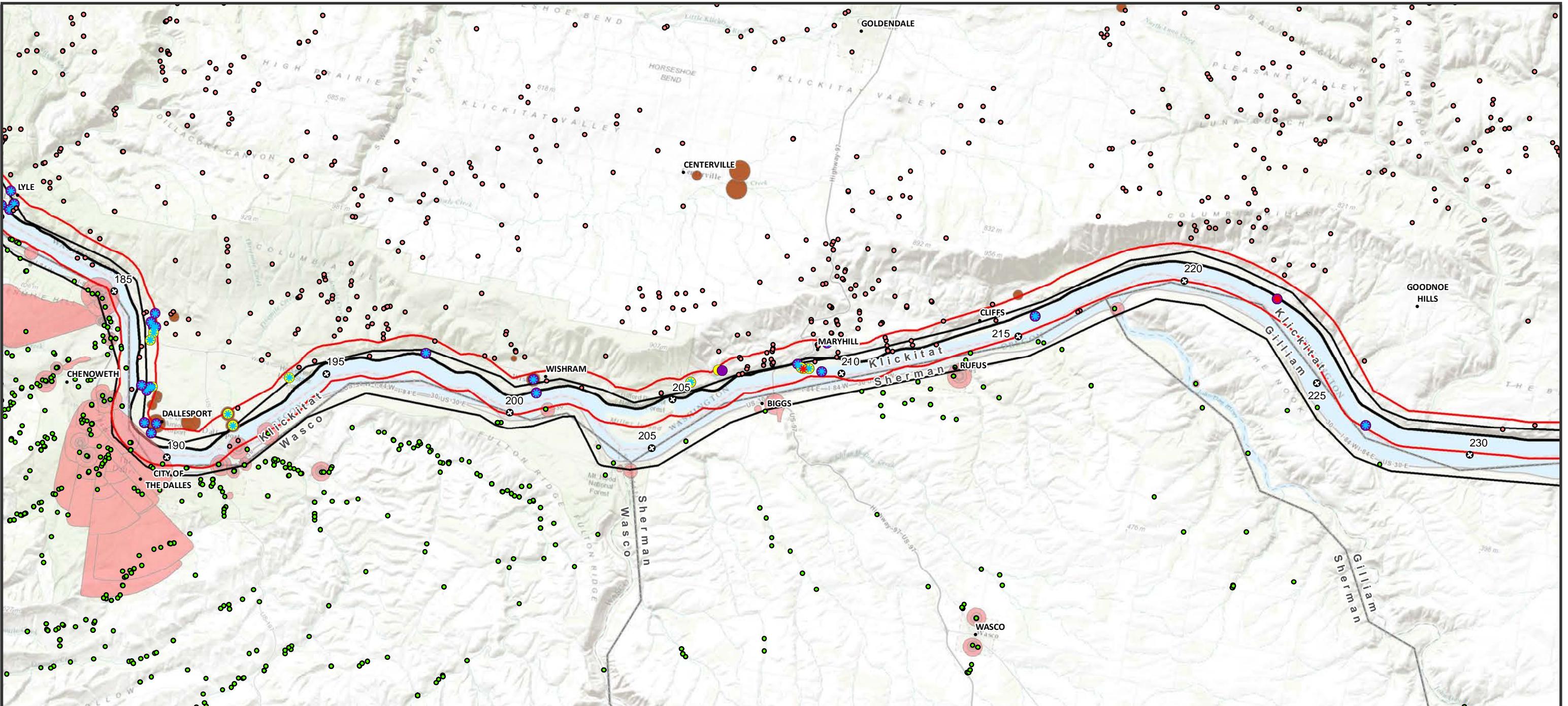


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 BergerABAM



0 2.5 5 7.5 10 Miles

Sheet 6 of 11

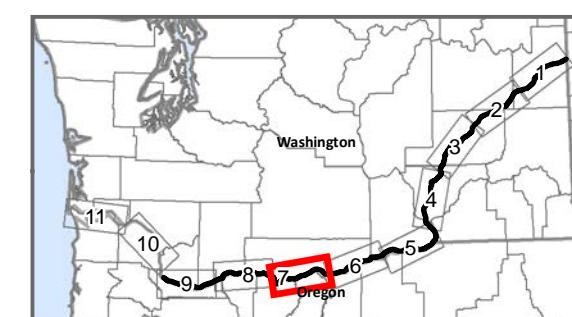


LEGEND

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- Surface Water Intake
- Drinking Water Well
- Community Water System
- Non-Community Water System

Water Sources and Water Supply

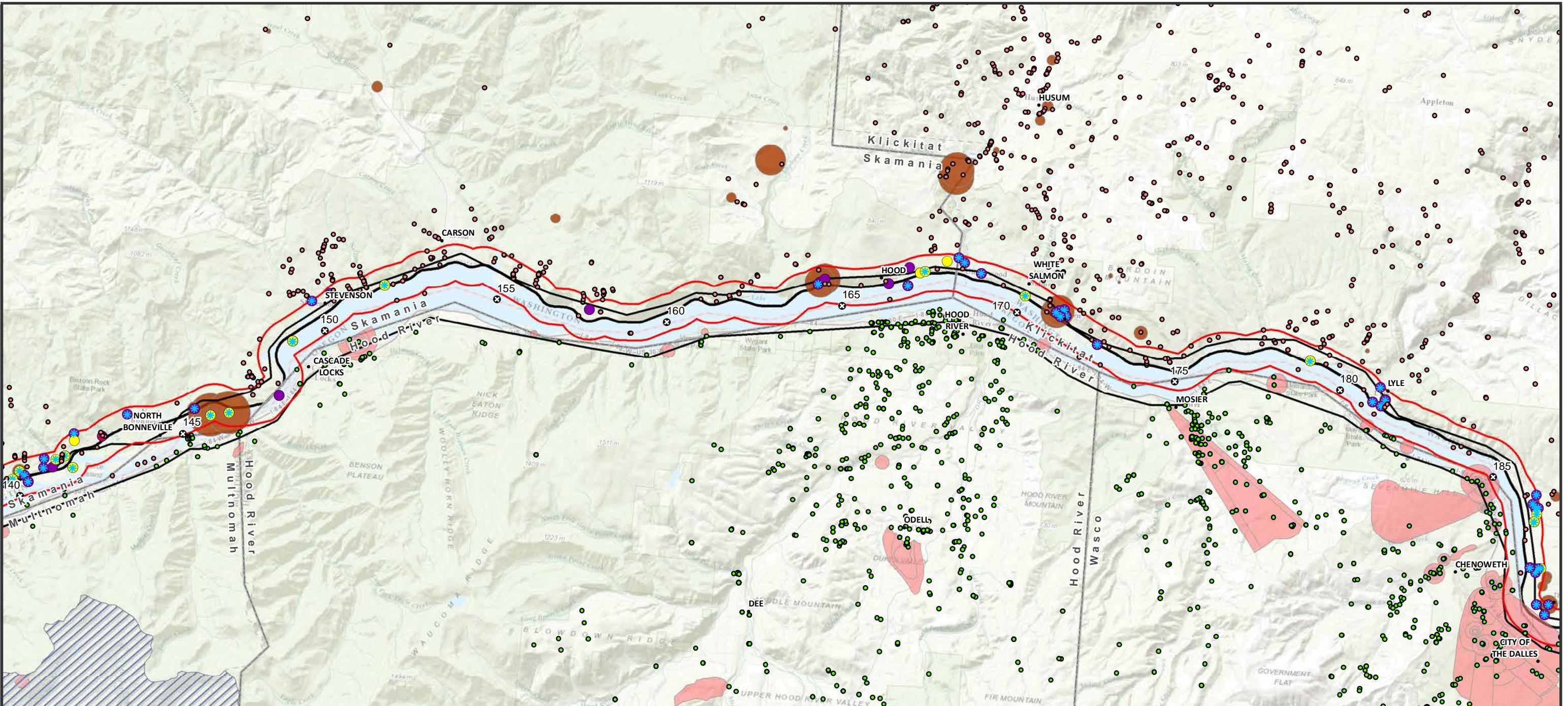


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 BergerABAM



0 2.5 5 7.5 10 Miles

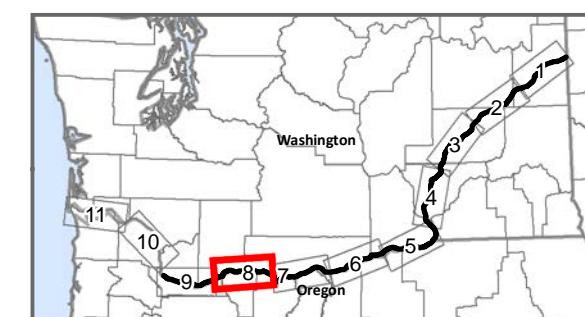
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LEGEND

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- Wellhead Protection Zones 5-year (Washington)

Water Sources and Water Supply

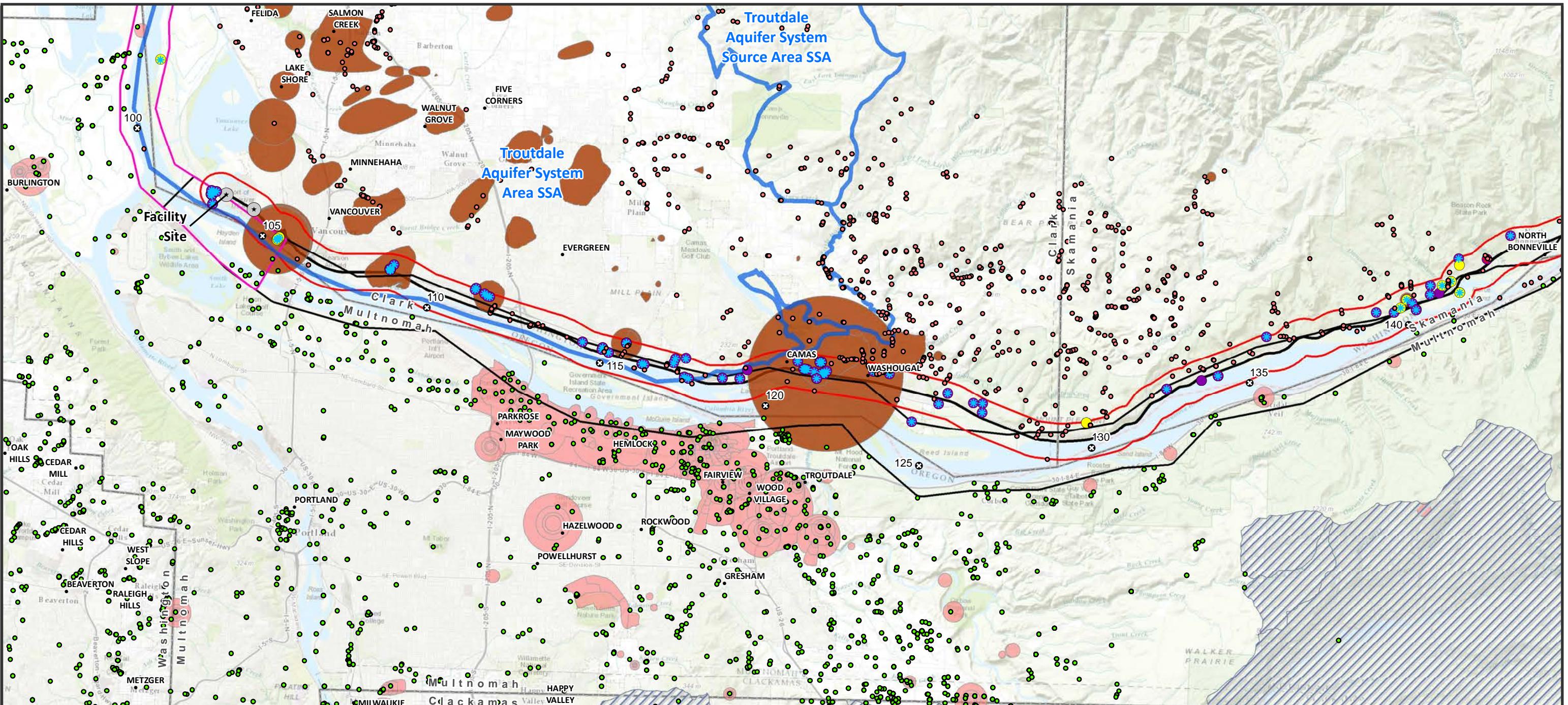


Sources: ESRI World Topographic Map Service, 2014.
 Washington State Department of Ecology Geographic Water Information System
 Oregon State Water Right Points of Diversion
 Oregon State Surface Water Drinking Water Source Areas
 Oregon State Groundwater Drinking Water Source Areas
 Washington State Department of Health, Office of Drinking Water and Division of Information Resource Management
 National Sole Source Aquifer
 BergerABAM



0 2.5 5 7.5 10 Miles

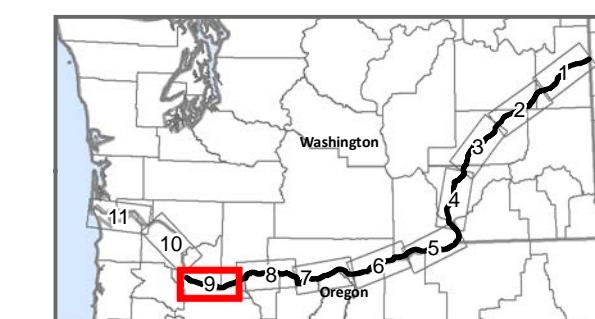
Sheet 8 of 11



LEGEND

- ✖ Columbia River 5-mile River Markers
- BNSF Railroad
- BNSF Rail Corridor One Mile Buffer (half mile each side of railway)
- Mid-Columbia River Half Mile Buffer (1/4 mile each side of river)
- Columbia River Half Mile Buffer (1/4 mile each side of river)
- County Boundary
- Points of Diversion Washington
- Points of Diversion Oregon
- ▨ Surface Water Drinking Water Source Areas (Oregon)
- ▨ Ground Water Drinking Water Source Areas (Oregon)
- ▨ Wellhead Protection Zones 5-year (Washington)
- ▨ Sole Source Aquifer
- * Surface Water Intake
- * Drinking Water Well
- Community Water System
- Non-Community Water System

Water Sources and Water Supply

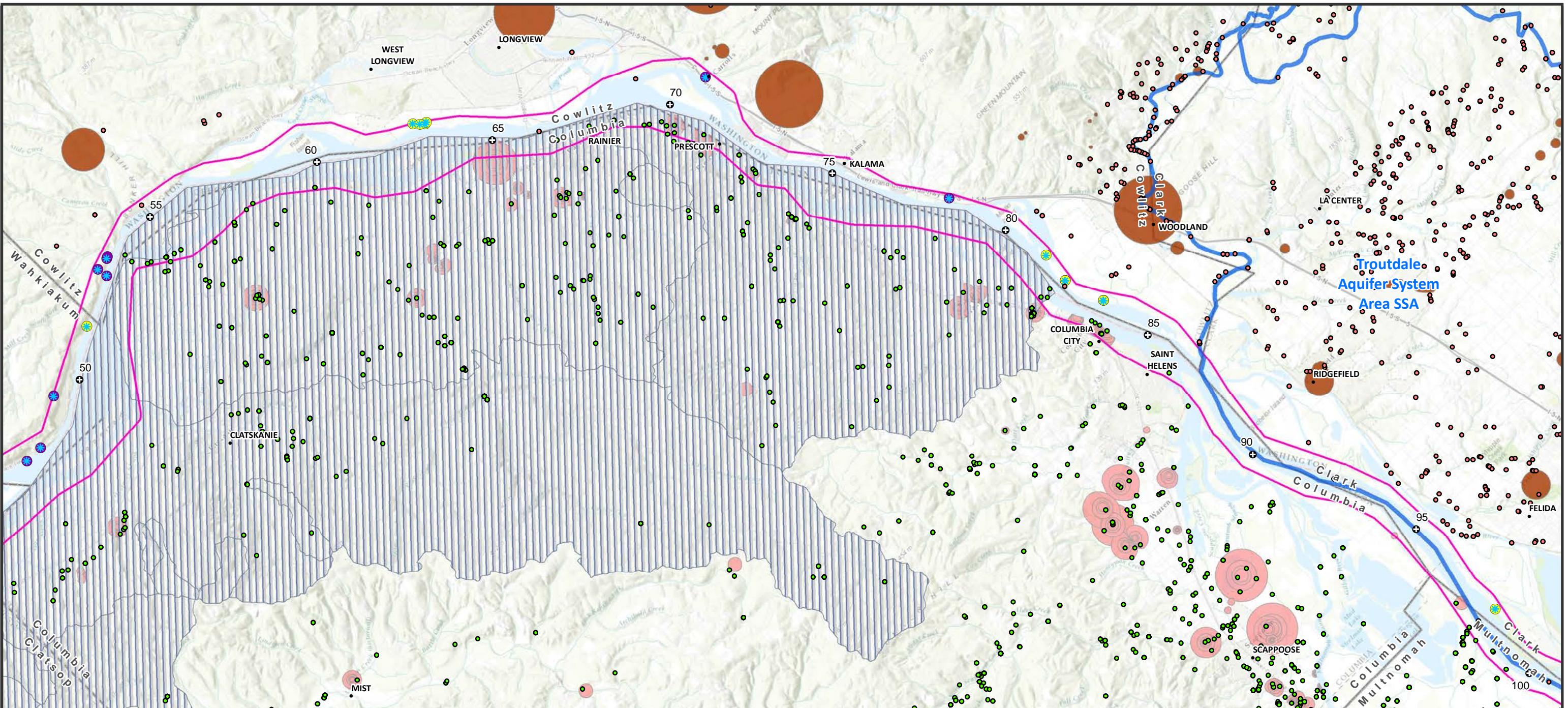


Sources: ESRI World Topographic Map Service, 2014.
 Washington State Department of Ecology Geographic Water Information System
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 Oregon State Surface Water Drinking Water Source Areas
 Oregon State Groundwater Drinking Water Source Areas
 Washington State Department of Health, Office of Drinking Water and Division of Information Resource Management
 National Sole Source Aquifer
 BergerABAM



0 2.5 5 7.5 10 Miles

Sheet 9 of 11



LEGEND

- ✖ Columbia River 5-mile River Markers
- ◻ Columbia River Half Mile Buffer (1/4 mile each side of river)
- ◻ County Boundary
- ▨ Surface Water Drinking Water Source Areas (Oregon)
- ▨ Ground Water Drinking Water Source Areas (Oregon)
- Wellhead Protection Zones 5-year (Washington)
- ◻ Sole Source Aquifer
- Points of Diversion Washington
- Points of Diversion Oregon
- Surface Water Intake
- ✳ Drinking Water Well
- Community Water System
- Non-Community Water System

Water Sources and Water Supply

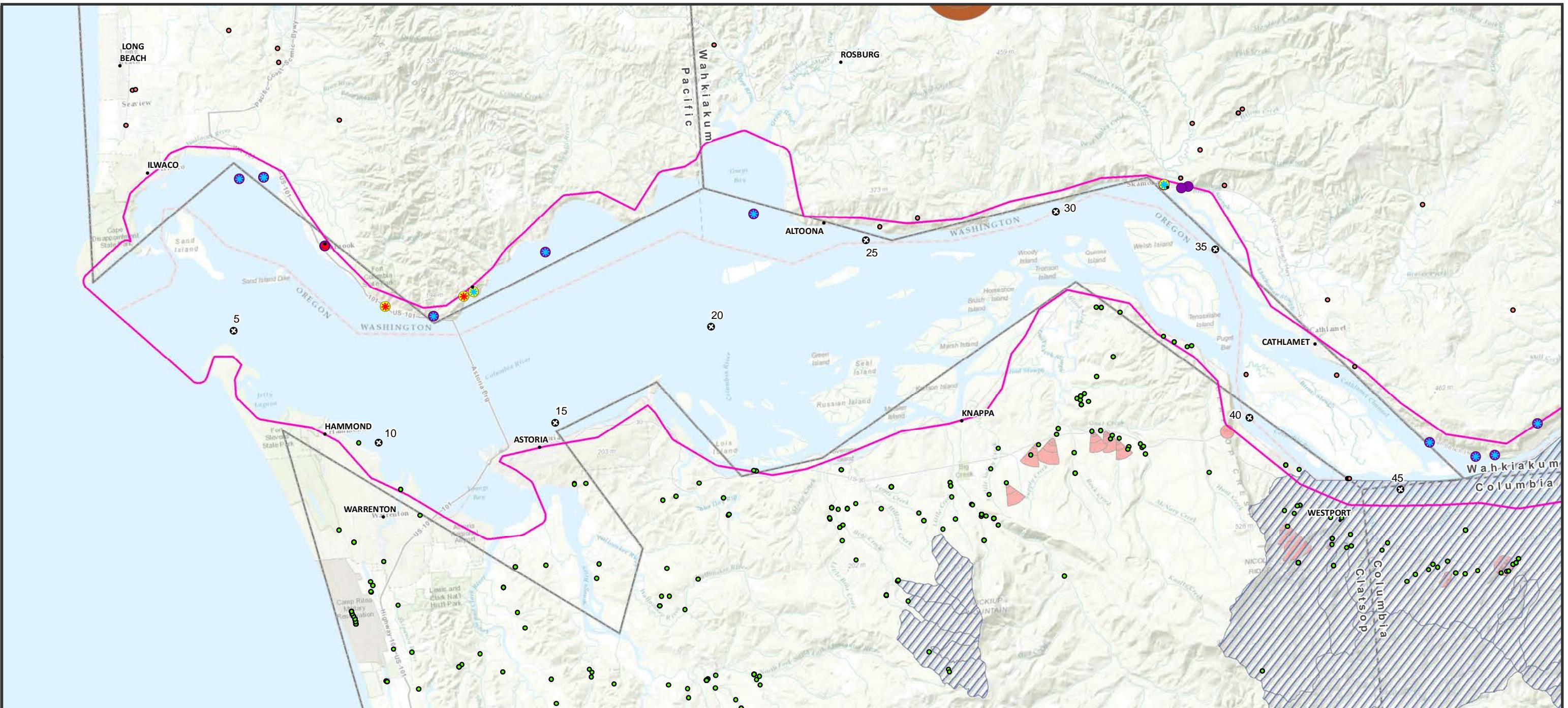


Sources: ESRI World Topographic Map Service, 2014.
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 Oregon State Groundwater Drinking Water Source Areas
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 National Sole Source Aquifer
 BergerABAM



0 2.5 5 7.5 10 Miles

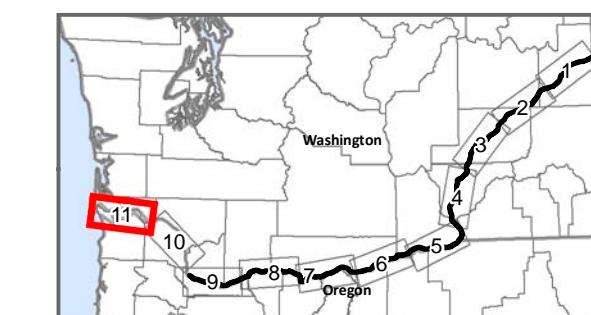
Sheet 10 of 11



LEGEND

- ⊗ Columbia River 5-mile River Markers
- Columbia River Half Mile Buffer (1/4 mile each side of river)
- County Boundary
- Points of Diversion Washington
- Points of Diversion Oregon
- ▨ Surface Water Drinking Water Source Areas (Oregon)
- ▨ Ground Water Drinking Water Source Areas (Oregon)
- Wellhead Protection Zones 5-year (Washington)

Water Sources and Water Supply



Sources: ESRI World Topographic Map Service, 2014.
 Washington State Department of Ecology Geographic Water Information System
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 Washington State Department of Health, Office of Drinking Water and Division of Information Resource Management
 National Sole Source Aquifer
 BergerABAM

Sheet 11 of 11

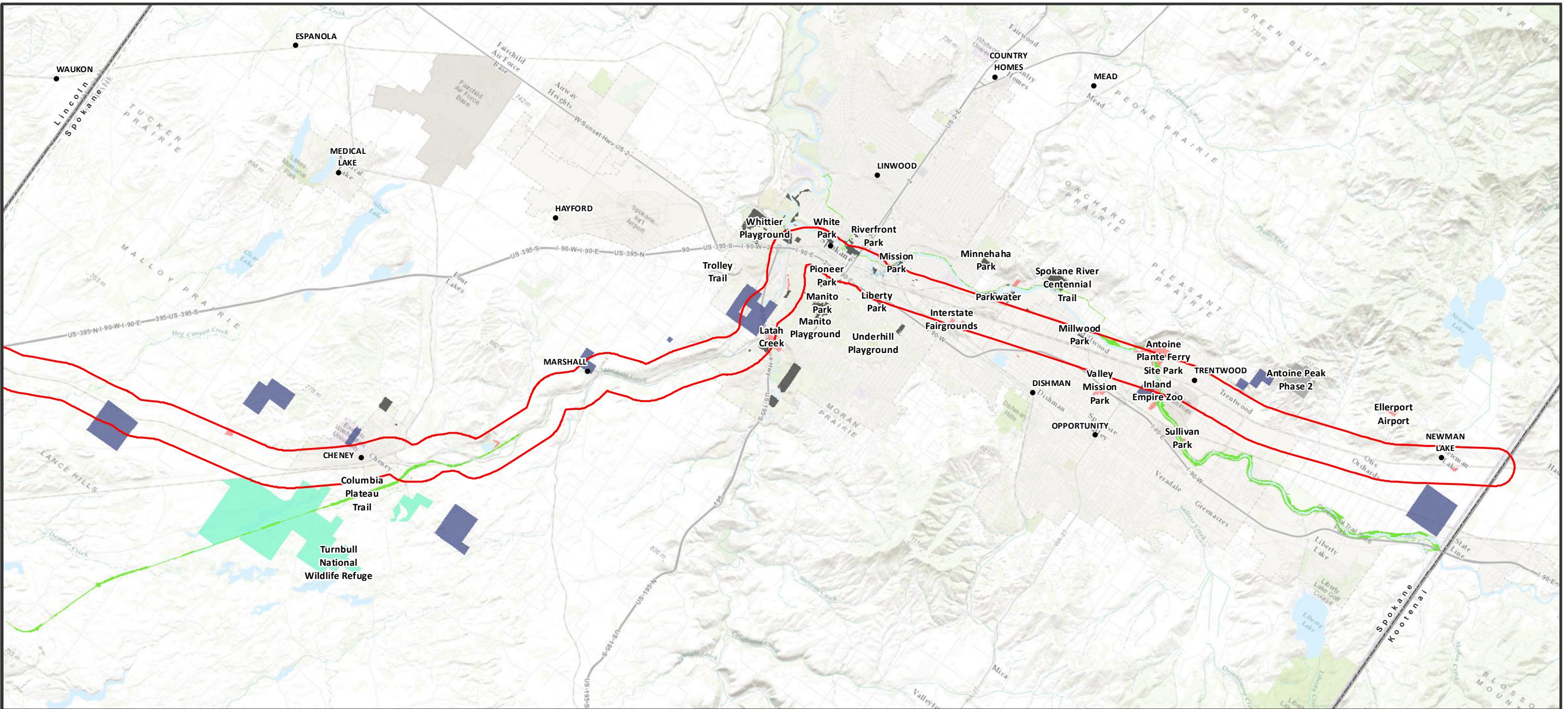


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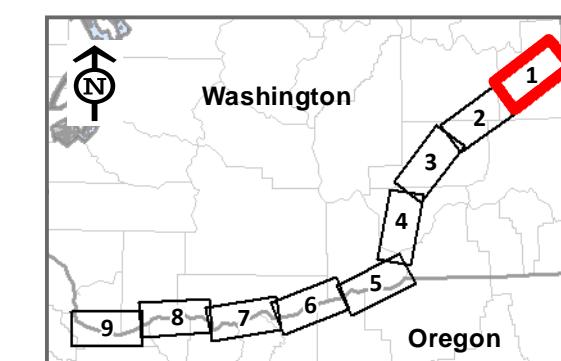
Appendix P-5
Public Lands

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LEGEND

- BNSF Rail Corridor Half Mile Buffer
- County Boundary
- Bureau of Land Management (BLM)
- Army Corps of Engineers
- City Land
- Conservation Easement (Private Landowner)
- County Land
- Fish and Wildlife Service (FWS)
- Forest Service (USFS)
- Joint Ownership
- Land Trust
- National Park Service (NPS)
- State Department of Natural Resources
- State Fish and Wildlife
- State Park & Recreation
- The Nature Conservancy (TNC)
- WA Dept Fish & Wildlife

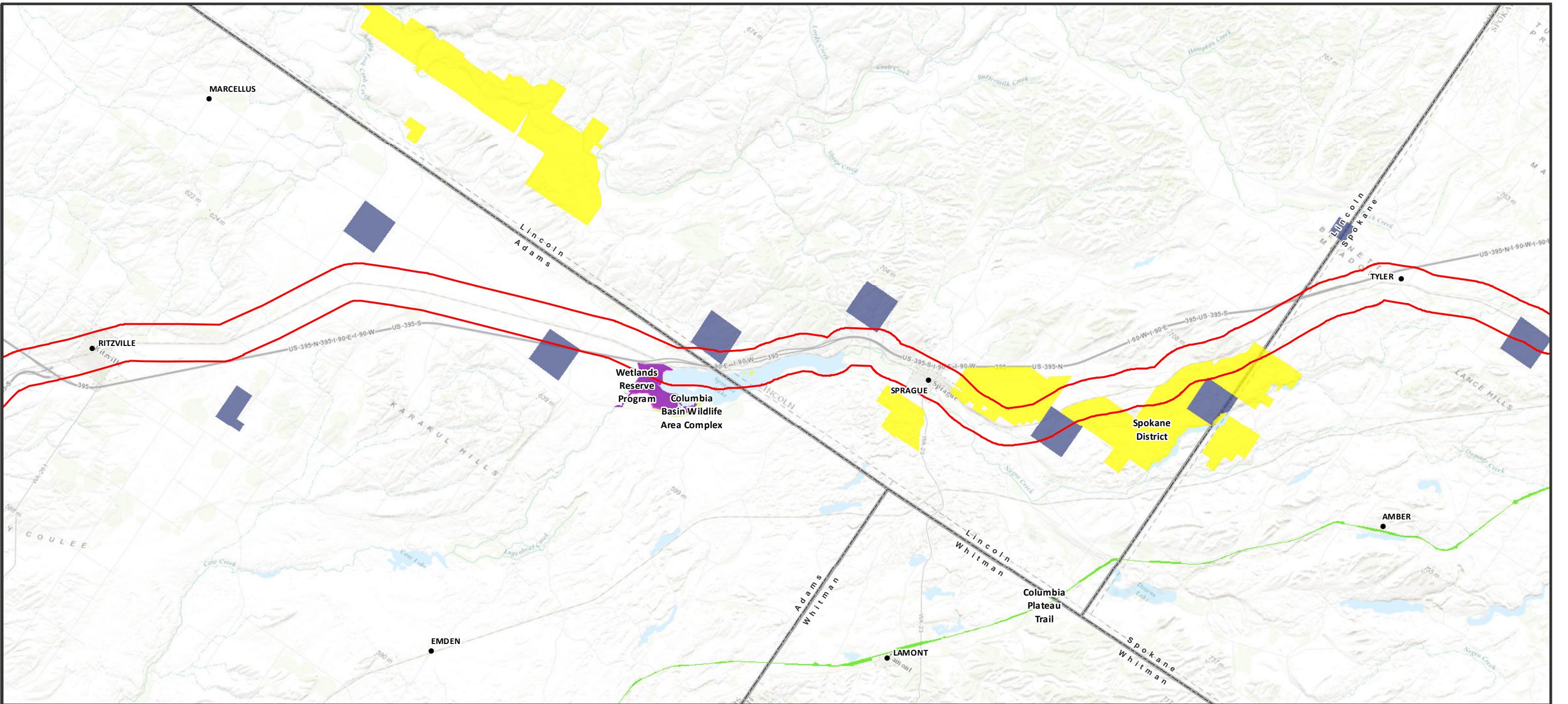


Mapbook K7A
Public Lands
In State Rail Corridor
Vancouver Energy



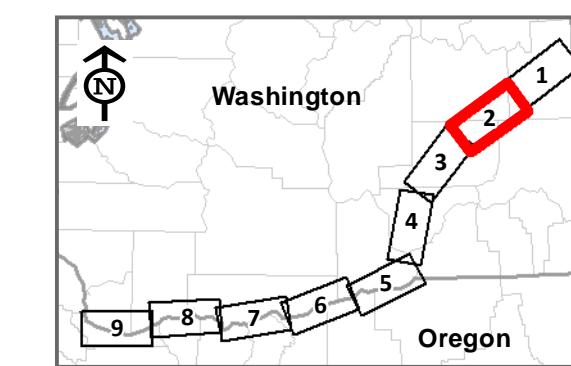
Sources:
ESRI World Topographic Map Service, 2014.
US Geological Survey (USGS) Gap Analysis Program (GAP).

Sheet 1 of 9



LEGEND

- BNSF Rail Corridor Half Mile Buffer
- County Boundary
- Bureau of Land Management (BLM)
- Army Corps of Engineers
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- WA Dept Fish & Wildlife

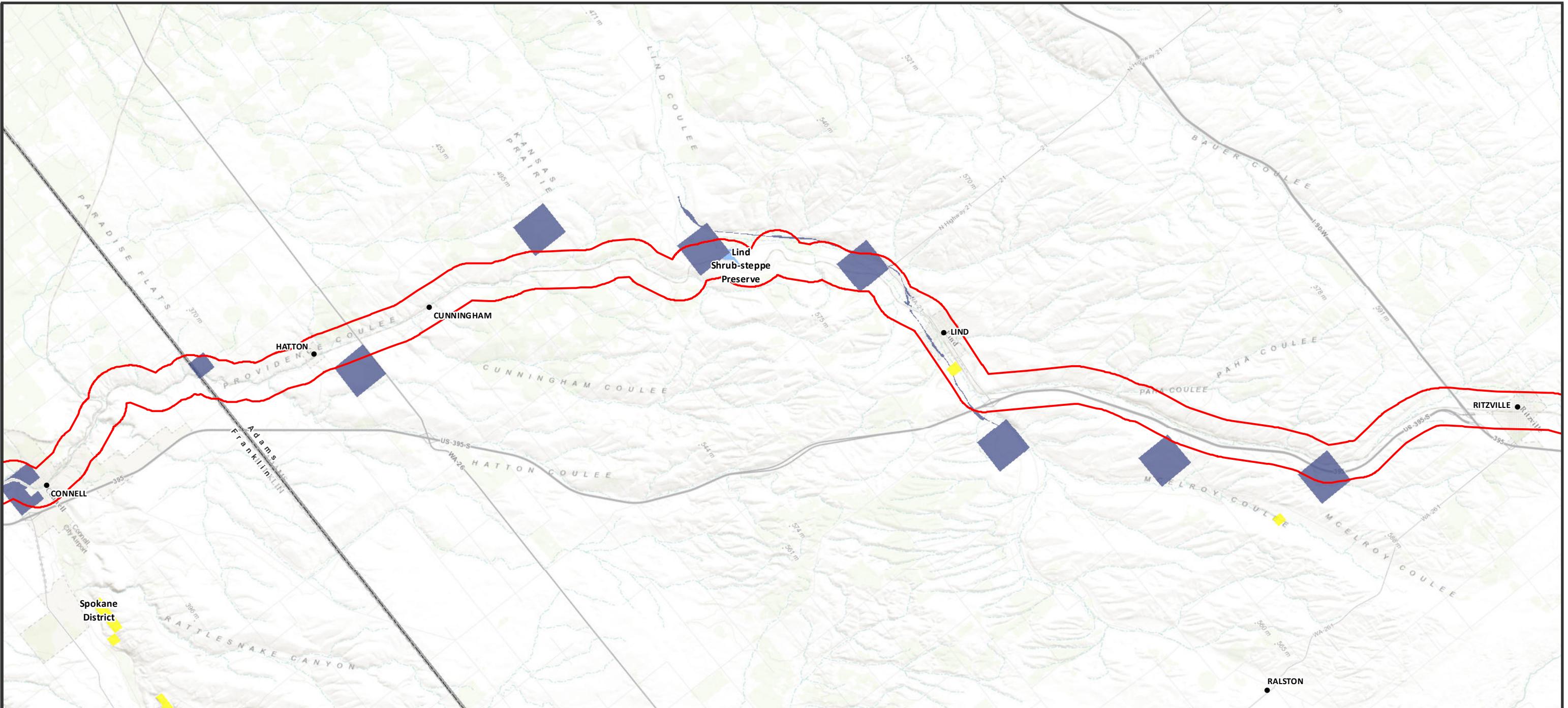


Mapbook K7A
Public Lands
In State Rail Corridor
Vancouver Energy



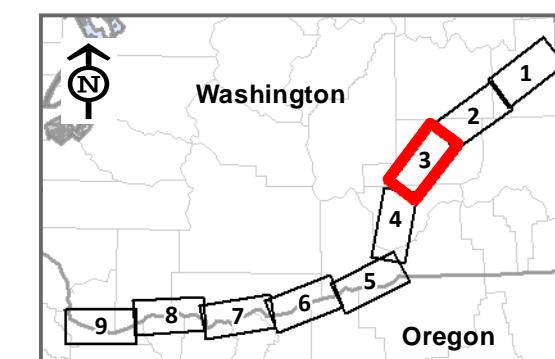
Sources:
ESRI World Topographic Map Service, 2014.
US Geological Survey (USGS) Gap Analysis Program (GAP).

Sheet 2 of 9



LEGEND

- BNSF Rail Corridor Half Mile Buffer
- County Boundary
- Bureau of Land Management (BLM)
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- The Nature Conservancy (TNC)
- WA Dept Fish & Wildlife

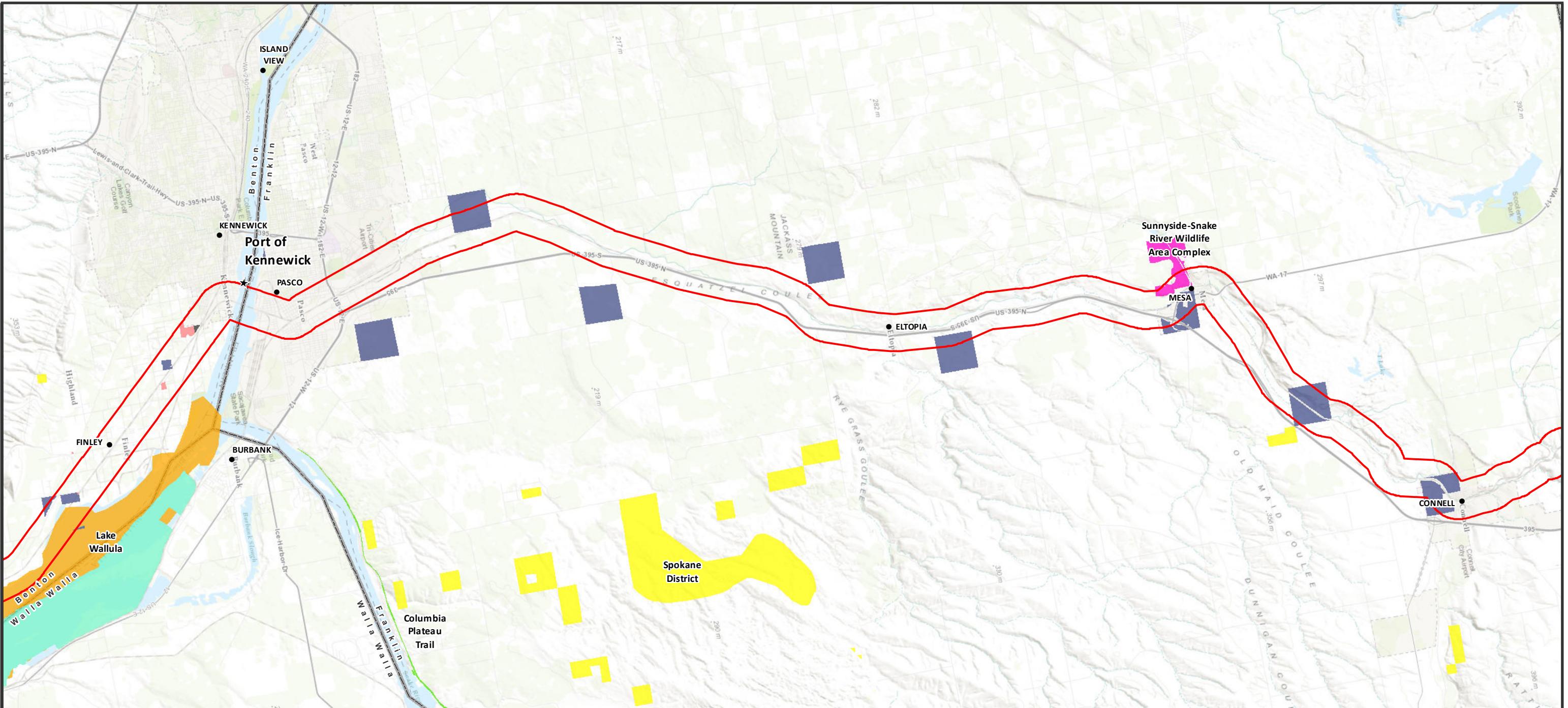


Mapbook K7A
Public Lands
In State Rail Corridor
Vancouver Energy



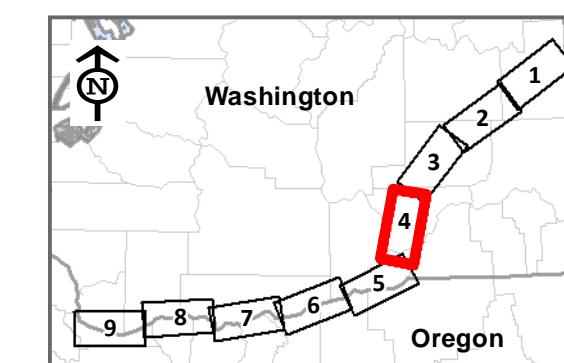
Sources:
ESRI World Topographic Map Service, 2014.
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Sheet 3 of 9



LEGEND

- BNSF Rail Corridor Half Mile Buffer
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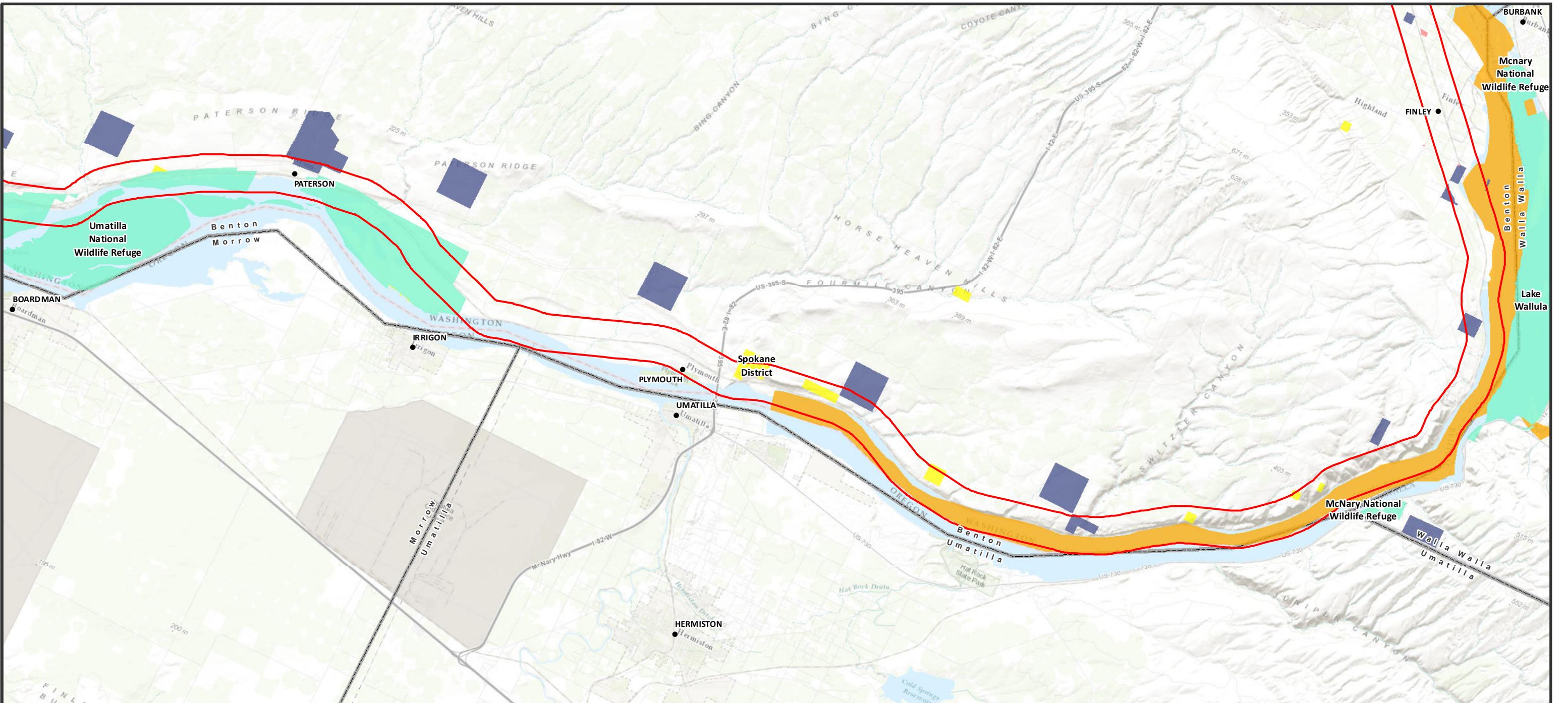


Mapbook K7A
Public Lands
In State Rail Corridor
Vancouver Energy



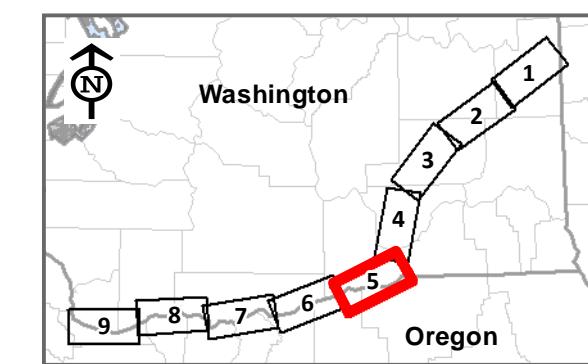
Sources:
ESRI World Topographic Map Service, 2014.
US Geological Survey (USGS) Gap Analysis Program (GAP).

Sheet 4 of 9



LEGEND

- BNSF Rail Corridor Half Mile Buffer
- County Boundary
- Bureau of Land Management (BLM)
- Army Corps of Engineers
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- State Park & Recreation
- The Nature Conservancy (TNC)
- WA Dept Fish & Wildlife

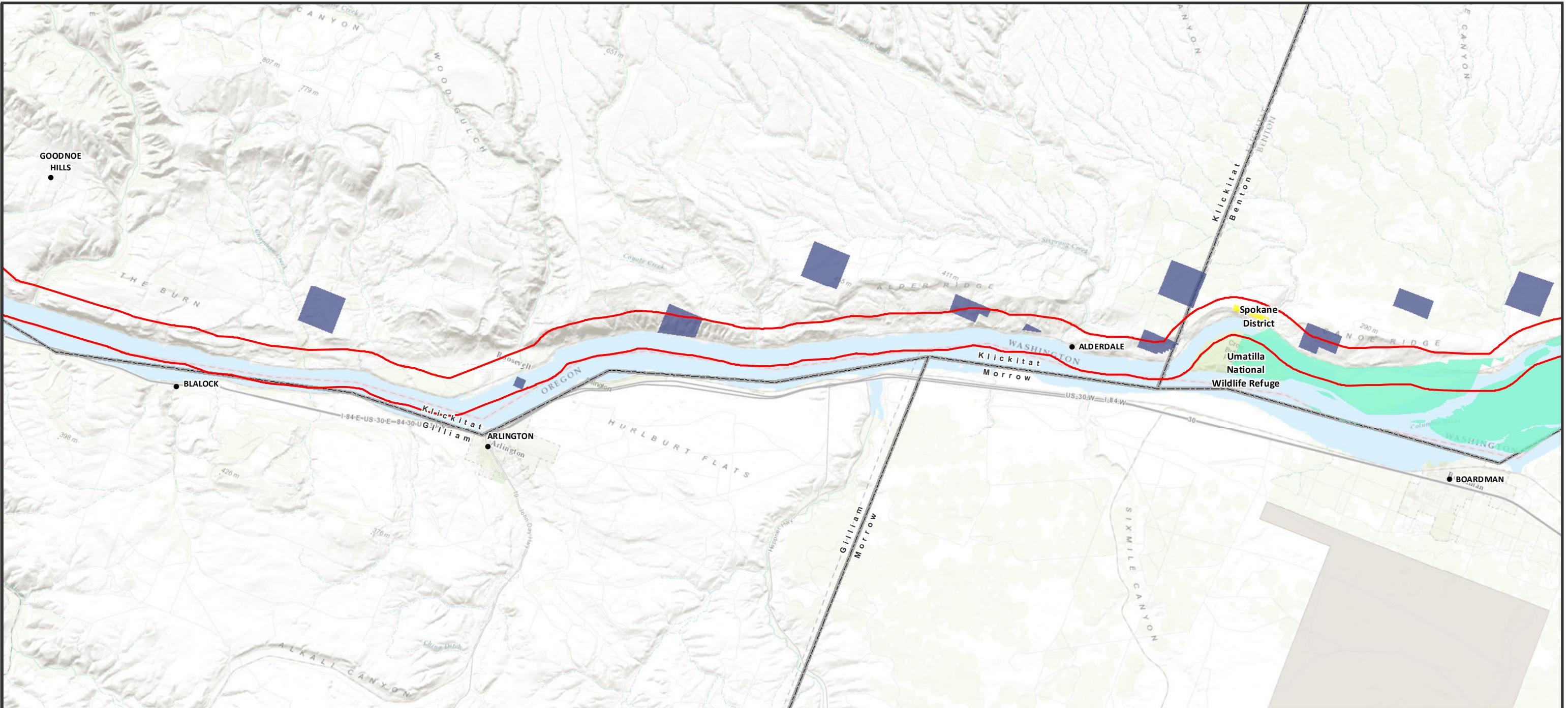


Mapbook K7A
Public Lands
In State Rail Corridor
Vancouver Energy



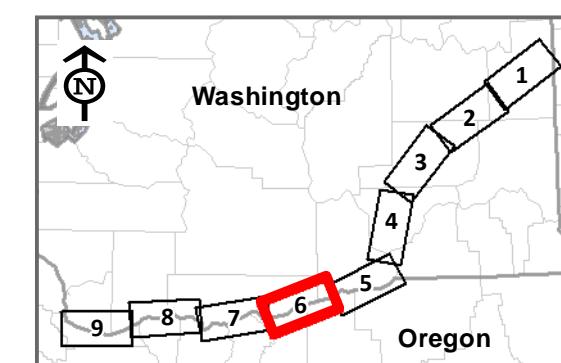
Sources:
ESRI World Topographic Map Service, 2014.
US Geological Survey (USGS) Gap Analysis Program (GAP).

Sheet 5 of 9



LEGEND

- BNSF Rail Corridor Half Mile Buffer
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- Bureau of Land Management (BLM)
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- The Nature Conservancy (TNC)
- WA Dept Fish & Wildlife

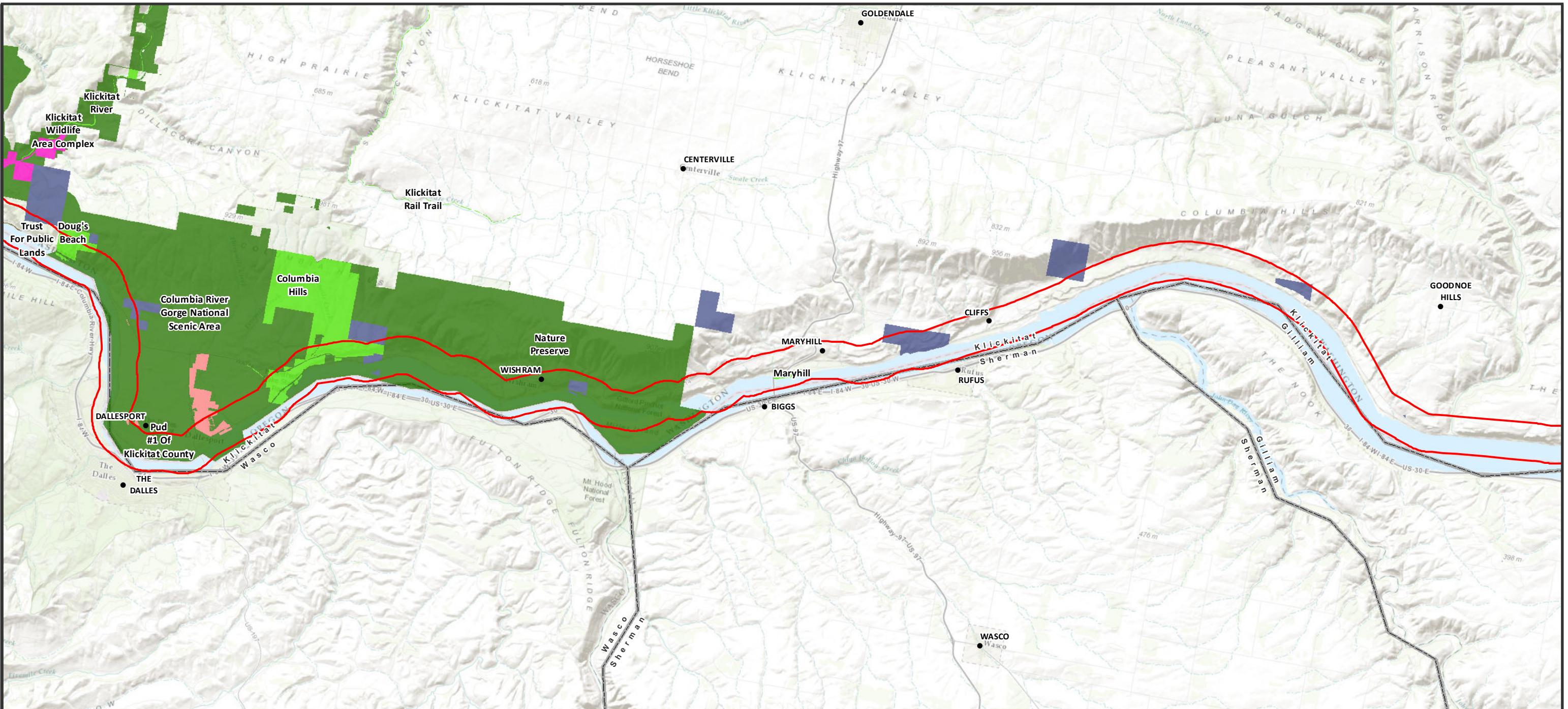


Mapbook K7A
Public Lands
In State Rail Corridor
Vancouver Energy



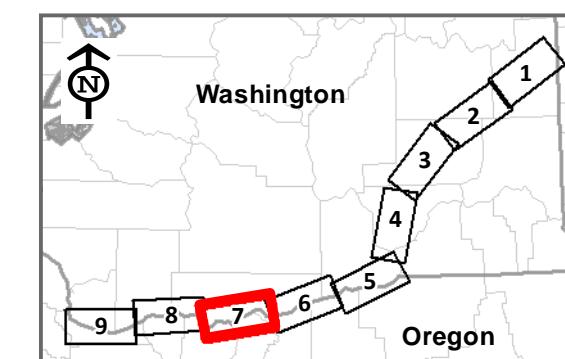
Sources:
ESRI World Topographic Map Service, 2014.
US Geological Survey (USGS) Gap Analysis Program (GAP).

Sheet 6 of 9



LEGEND

- BNSF Rail Corridor Half Mile Buffer
- County Boundary
- Bureau of Land Management (BLM)
- Army Corps of Engineers
- City Land
- Conservation Easement (Private Landowner)
- County Land
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- State Fish and Wildlife
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- The Nature Conservancy (TNC)
- WA Dept Fish & Wildlife

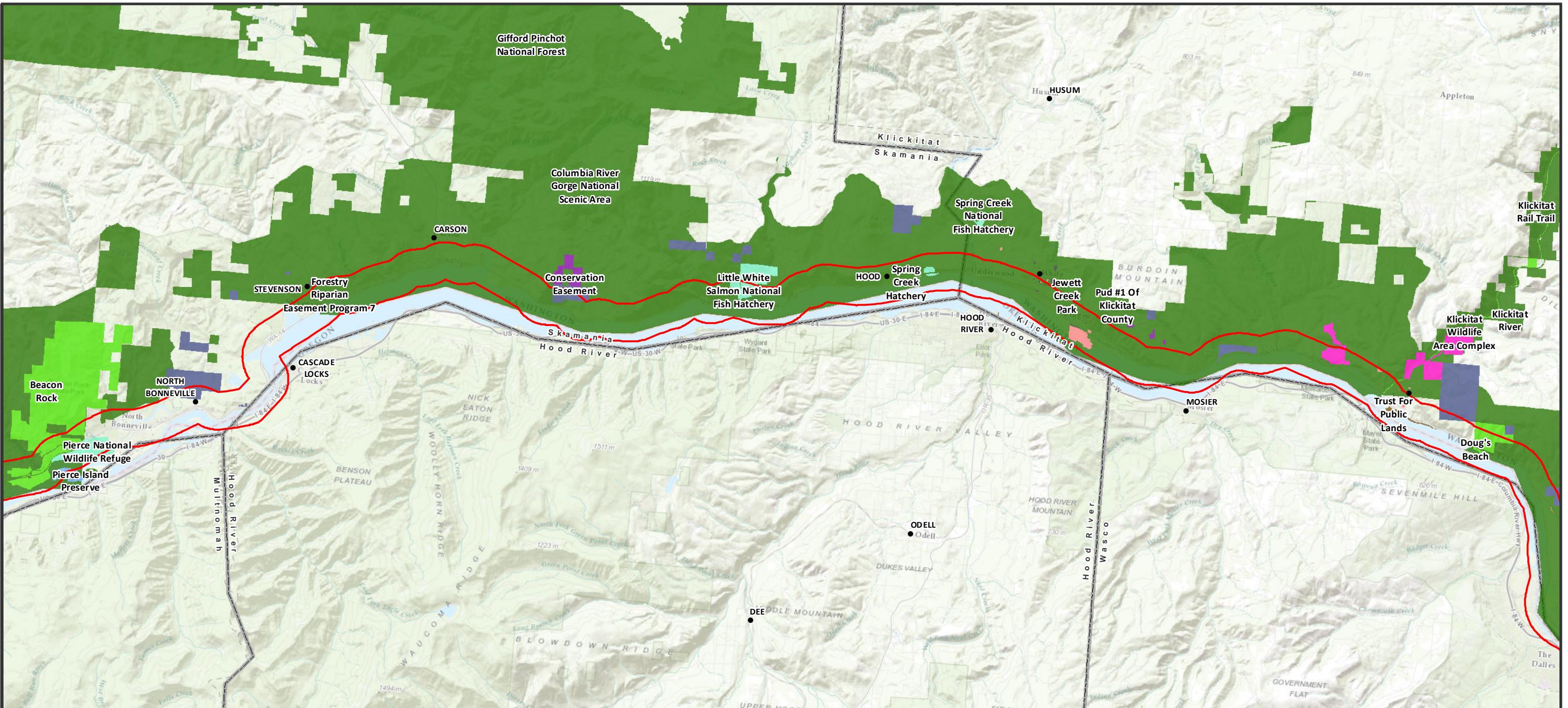


Mapbook K7A
Public Lands
In State Rail Corridor
Vancouver Energy



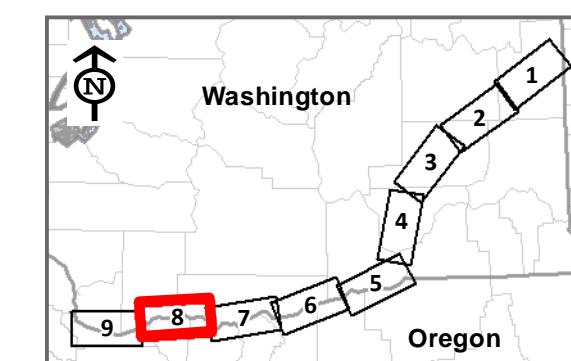
Sources:
ESRI World Topographic Map Service, 2014.
US Geological Survey (USGS) Gap Analysis Program (GAP).

Sheet 7 of 9



LEGEND

- BNSF Rail Corridor Half Mile Buffer
- County Boundary
- Bureau of Land Management (BLM)
- Army Corps of Engineers
- City Land
- Conservation Easement (Private Landowner)
- County Land
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- Joint Ownership
- Land Trust
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- State Fish and Wildlife
- State Park & Recreation
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- WA Dept Fish & Wildlife

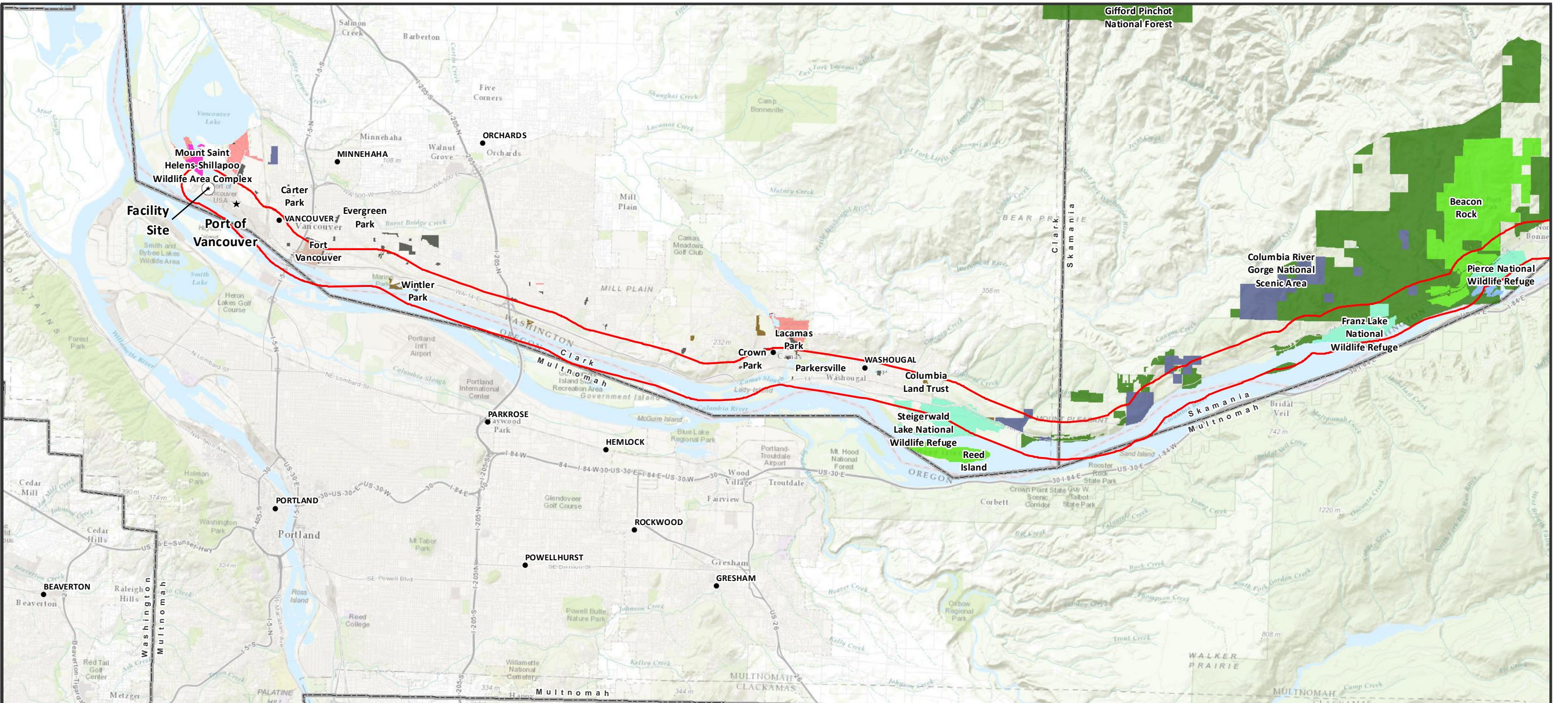


Mapbook K7A
Public Lands
In State Rail Corridor
Vancouver Energy



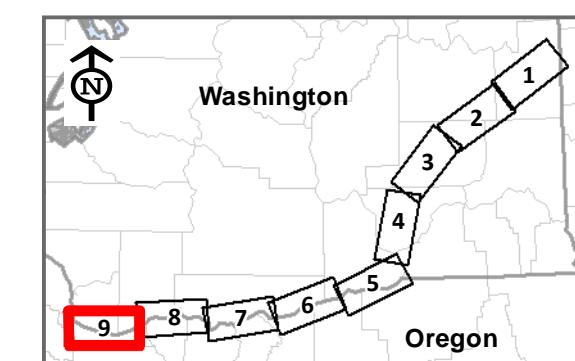
Sources:
ESRI World Topographic Map Service, 2014.
US Geological Survey (USGS) Gap Analysis Program (GAP).

Sheet 8 of 9



LEGEND

- BNSF Rail Corridor Half Mile Buffer
- County Boundary
- Bureau of Land Management (BLM)
- Army Corps of Engineers
- City Land
- Conservation Easement (Private Landowner)
- County Land
- Fish and Wildlife Service (FWS)
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- State Fish and Wildlife
- State Park & Recreation
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- WA Dept Fish & Wildlife

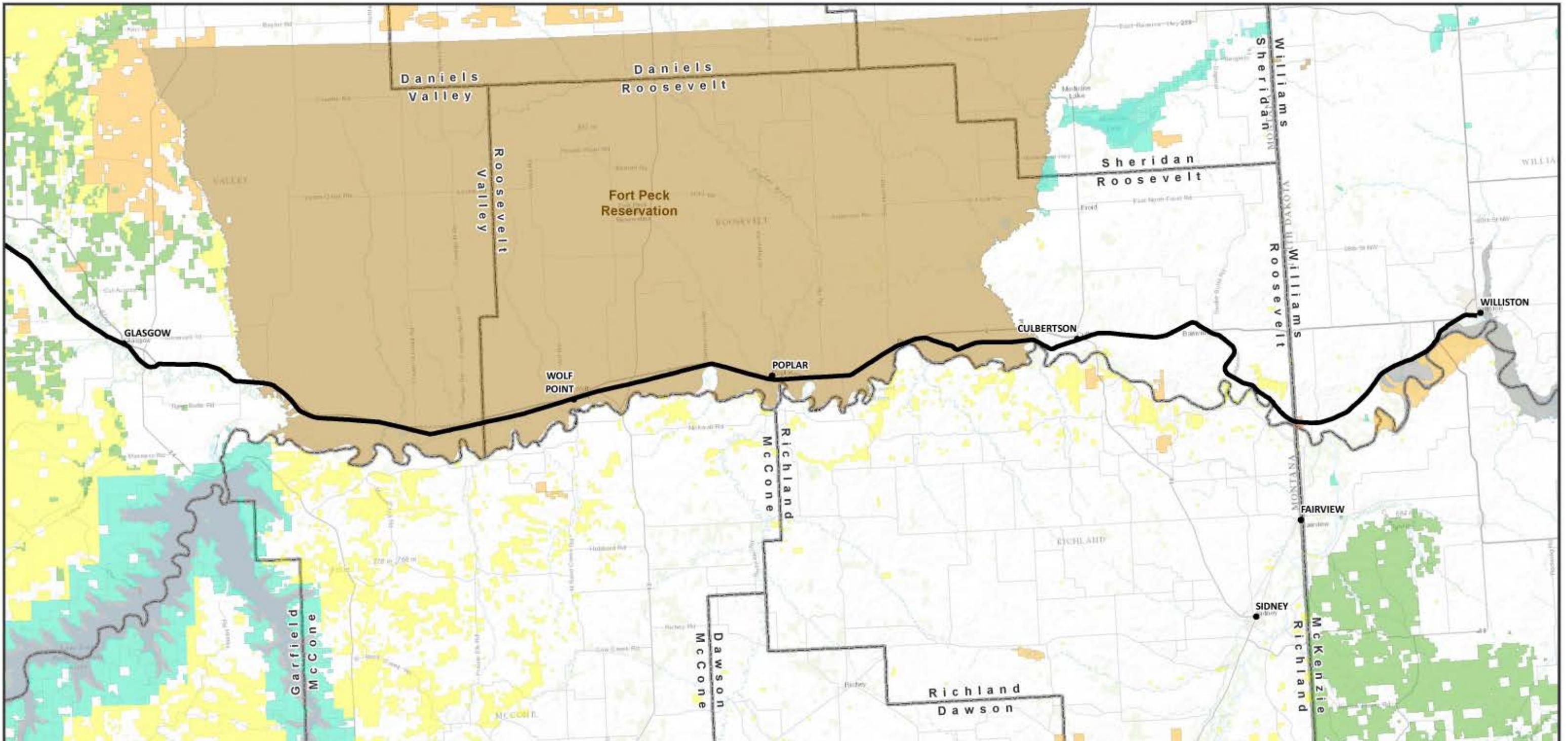


Mapbook K7A
Public Lands
In State Rail Corridor
Vancouver Energy



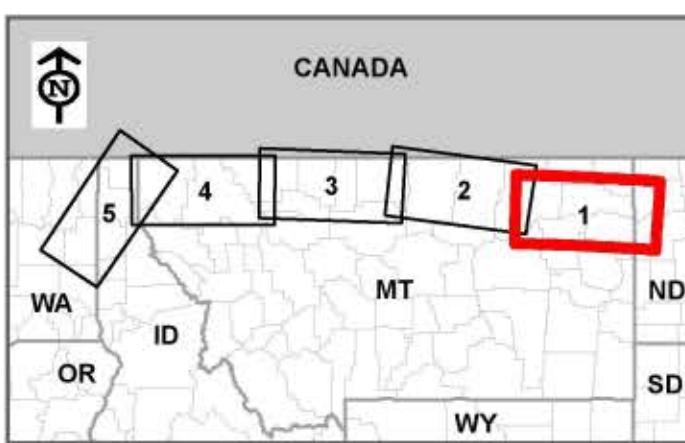
Sources:
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Sheet 9 of 9

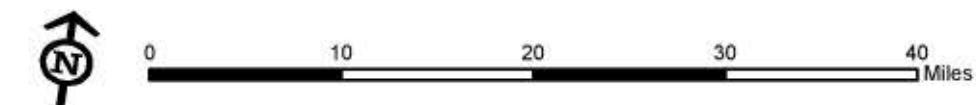


LEGEND

- BNSF Railway
- City
- County Boundary
- State Boundary
- Land Ownership
 - Forest Service (USFS)
 - Fish and Wildlife Service (FWS)
 - National Park Service (NPS)
 - Bureau of Land Management (BLM)
 - Bureau of Reclamation (BOR)
 - Department of Defense (DOD)
 - Native American (BIA)
 - State Land

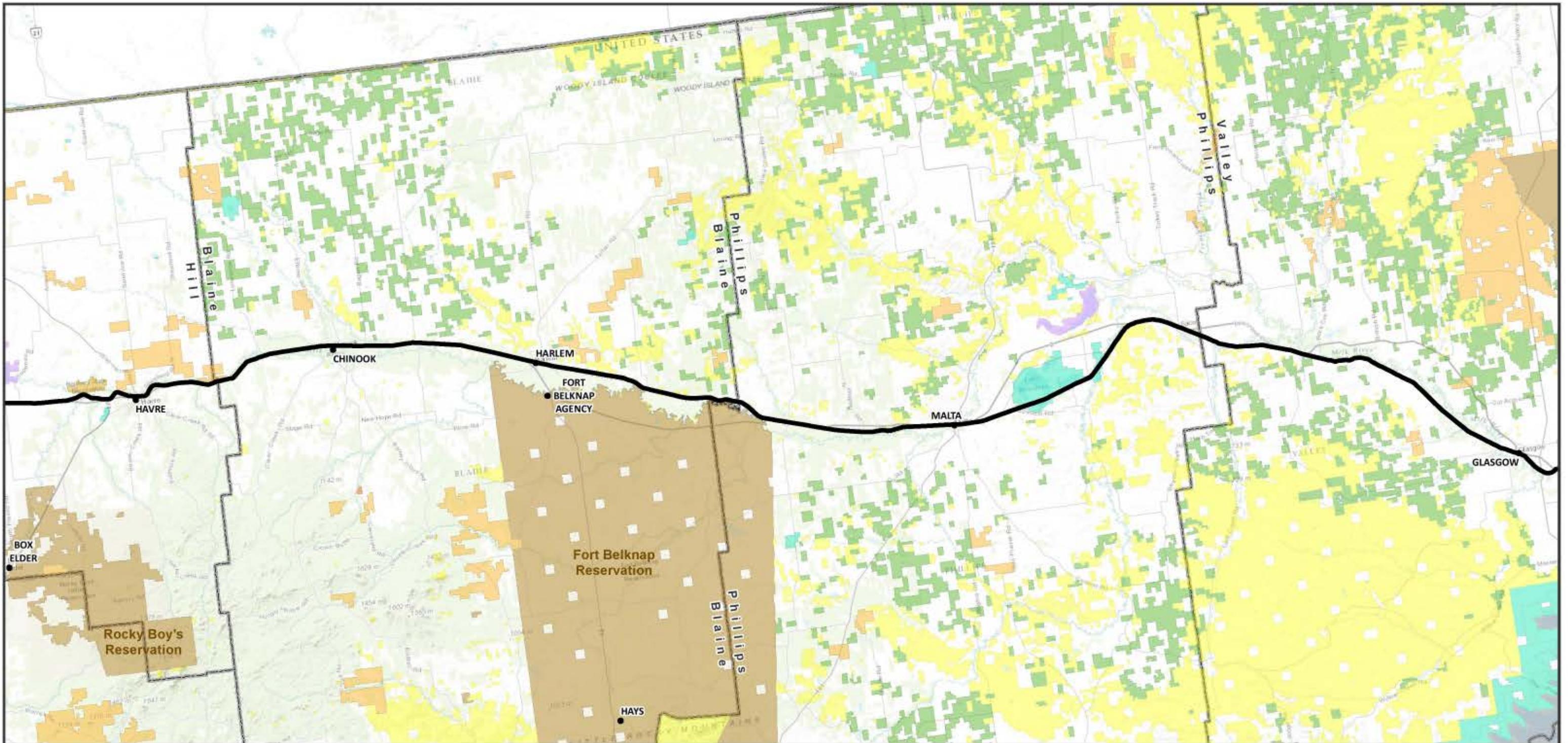


Mapbook K7B
Public Lands
Out-of-State Rail Corridor
Vancouver Energy



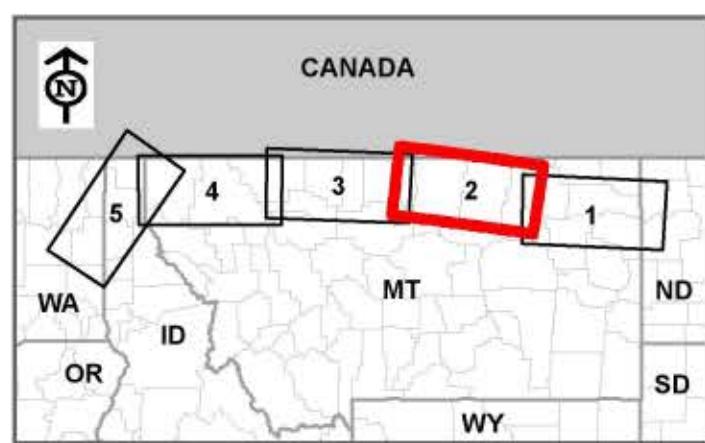
Sources:
ESRI World Topographic Map Service, 2014.
U.S. Geological Survey Protected Areas Database v1.3 (2012).

Sheet 1 of 5



LEGEND

- BNSF Railway
- City
- County Boundary
- State Boundary
- Land Ownership
- Forest Service (USFS)
- Fish and Wildlife Service (FWS)
- National Park Service (NPS)
- Bureau of Land Management (BLM)
- Bureau of Reclamation (BOR)
- Department of Defense (DOD)
- Native American (BIA)
- State Land

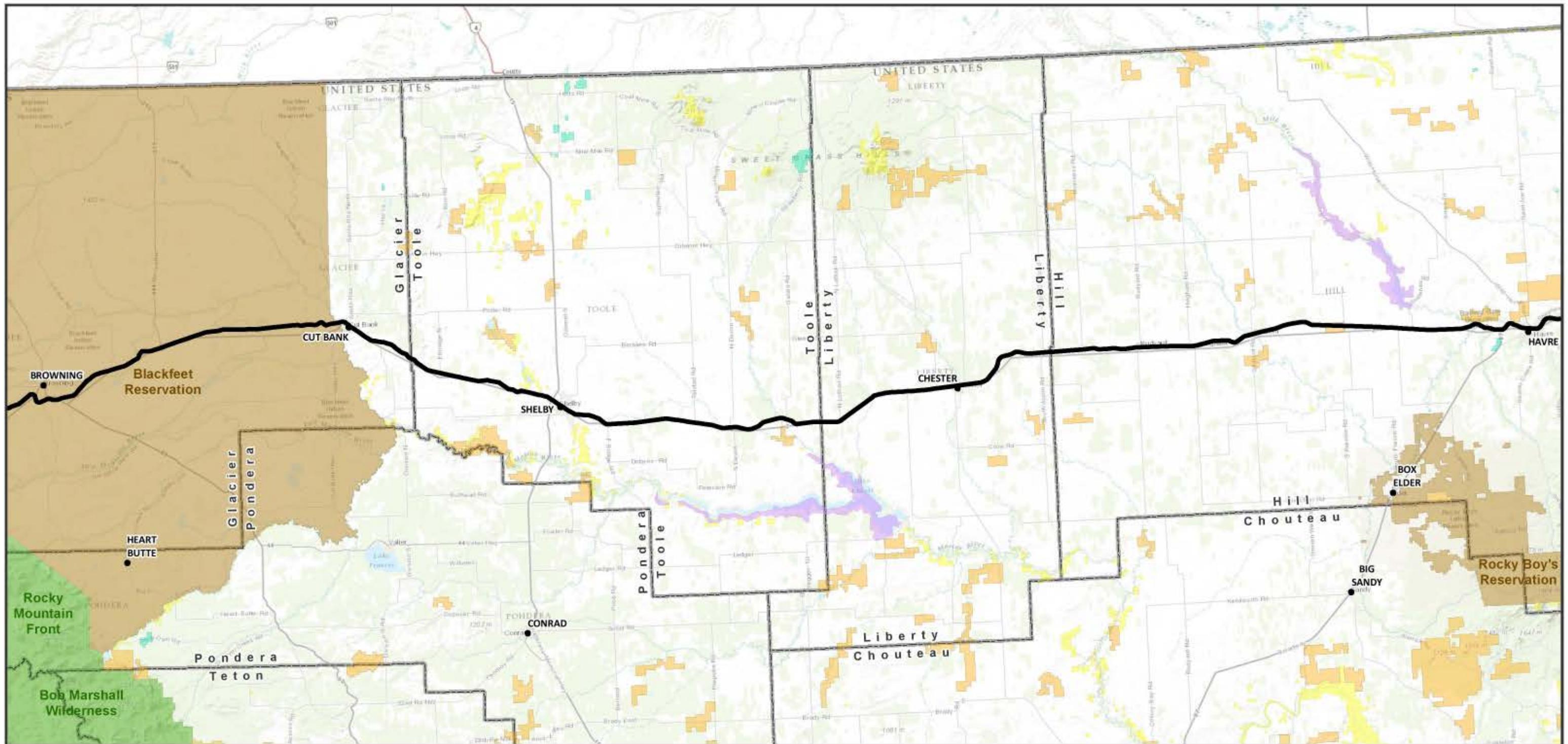


Mapbook K7B
Public Lands
Out-of-State Rail Corridor
Vancouver Energy



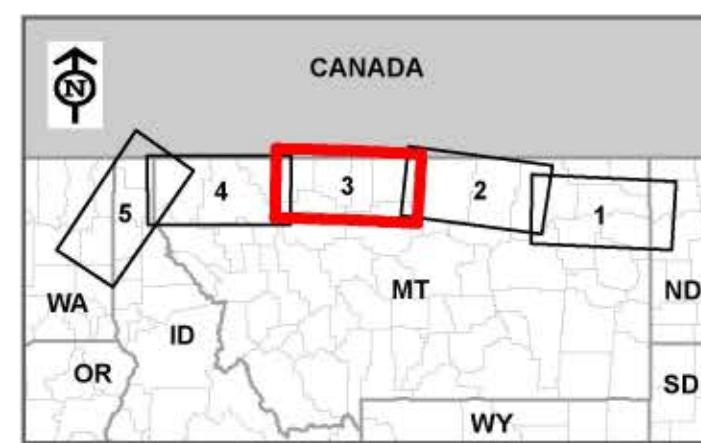
Sources:
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U.S. Geological Survey Protected Areas Database v1.3 (2012).

Sheet 2 of 5



LEGEND

- | | |
|-----------------|---------------------------------|
| — BNSF Railway | Land Ownership |
| • City | Forest Service (USFS) |
| County Boundary | Fish and Wildlife Service (FWS) |
| State Boundary | National Park Service (NPS) |
| | Bureau of Land Management (BLM) |
| | Bureau of Reclamation (BOR) |
| | Department of Defense (DOD) |
| | Native American (BIA) |
| | State Land |



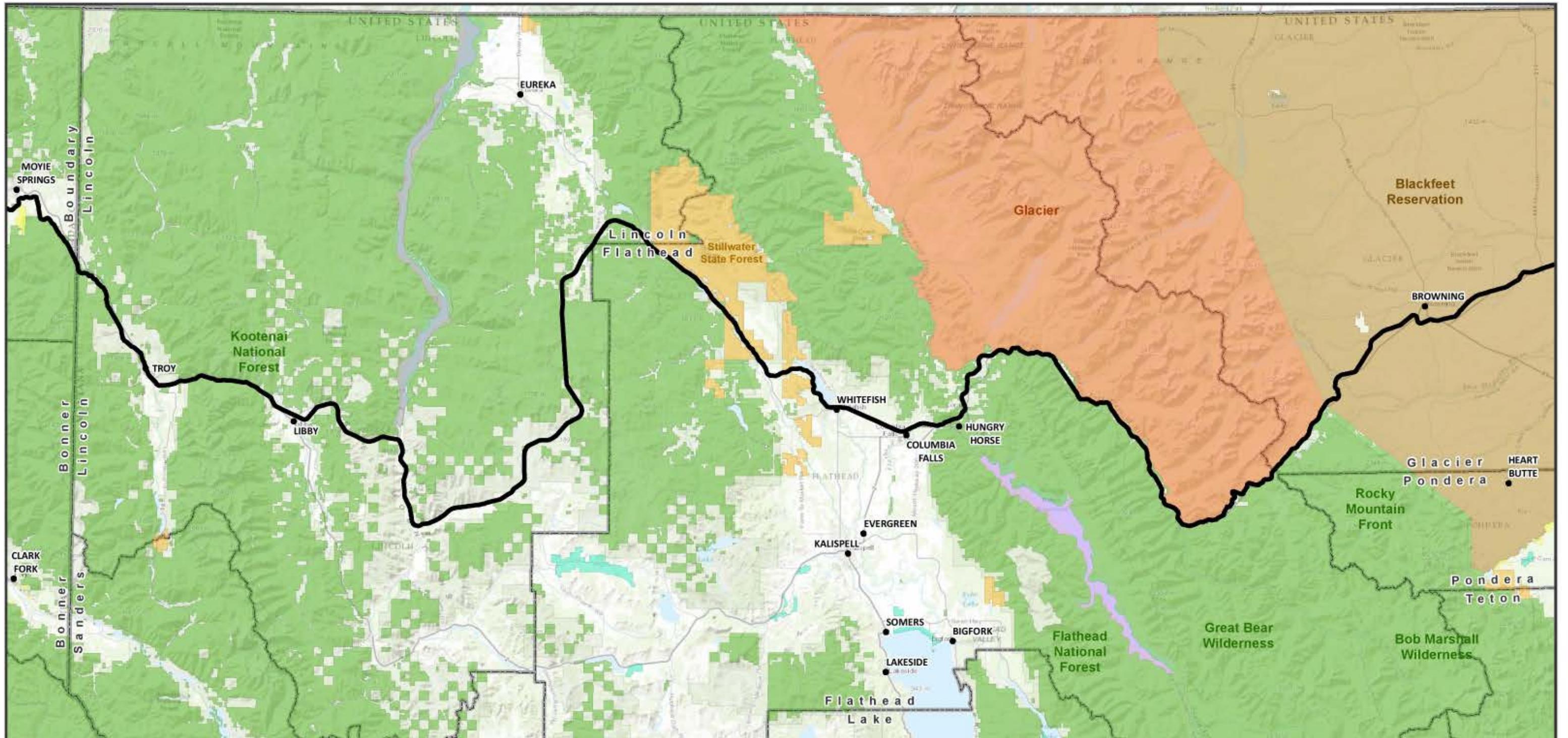
Mapbook K7B
Public Lands
Out-of-State Rail Corridor
Vancouver Energy



0 10 20 30 40 Miles

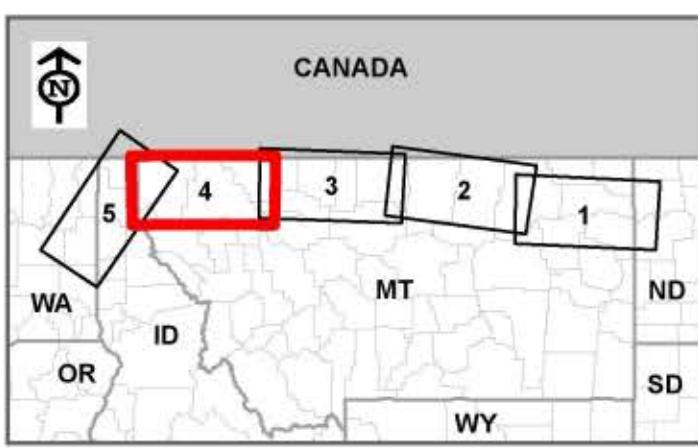
Sources:
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U.S. Geological Survey Protected Areas Database v1.3 (2012).

Sheet 3 of 5



LEGEND

- BNSF Railway
- City
- County Boundary
- State Boundary
- Land Ownership
- Forest Service (USFS)
- Fish and Wildlife Service (FWS)
- National Park Service (NPS)
- Bureau of Land Management (BLM)
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- Department of Defense (DOD)
- Native American (BIA)
- State Land



Mapbook K7B
Public Lands
Out-of-State Rail Corridor
Vancouver Energy



0 10 20 30 40 Miles

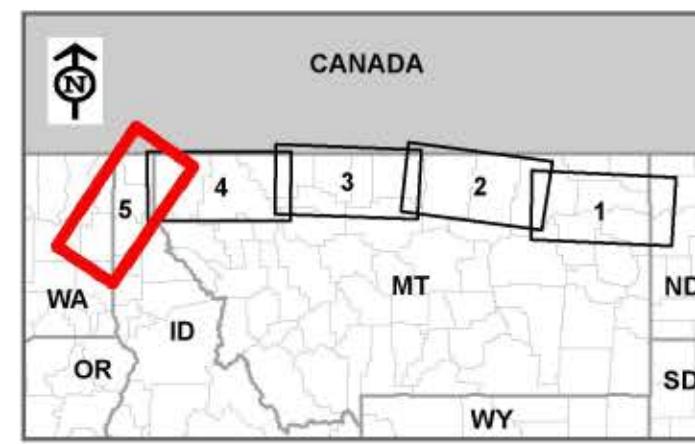
Sources:
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Sheet 4 of 5



LEGEND

- BNSF Railway
- City
- County Boundary
- State Boundary
- Land Ownership
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 - National Park Service (NPS)
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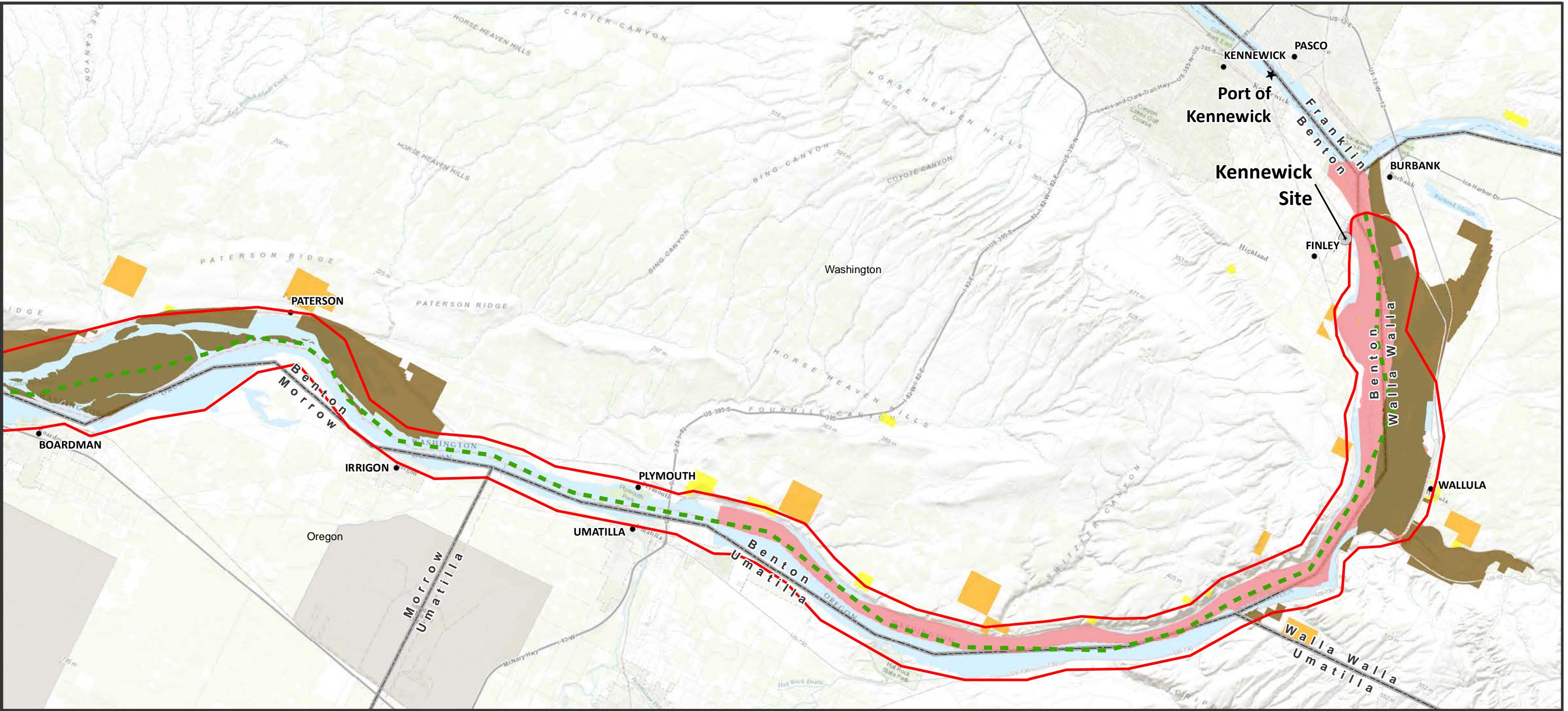


Mapbook K7B
Public Lands
Out-of-State Rail Corridor
Vancouver Energy



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Sheet 5 of 5



LEGEND

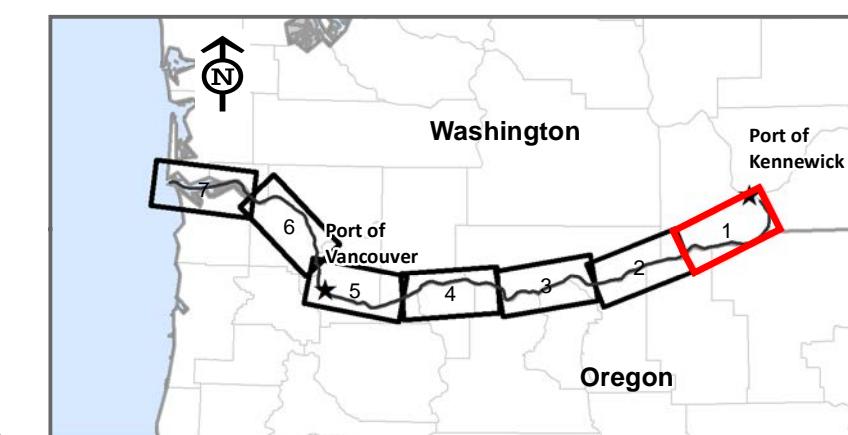
Vessel Routes
— Vessel Route Lower Columbia River (Proposed Action) Port of Vancouver, WA to West Coast Refineries
— Barge Route Columbia River (Action Alternative) Port of Kennewick, WA to Port of Vancouver, WA

 Columbia River 1/4 Mile Buffer
 County Boundary

Public Land	
Army Corps of Engineers	
Bureau of Land Management	
Conservation Land	
County/Municipal Park	
Federal Recreation	
Land Trust	
NPS Administrative/Legislative Boundary	
National Fish Hatchery	
National Scenic Area	
National Wildlife Refuge	
Natural Resources Conservation Service	
Nature Preserve	
US Fish and Wildlife Service	
WA Dept Fish & Wildlife	
Washington State Department of Natural Resources	
Washington State Parks and Recreation Commission	

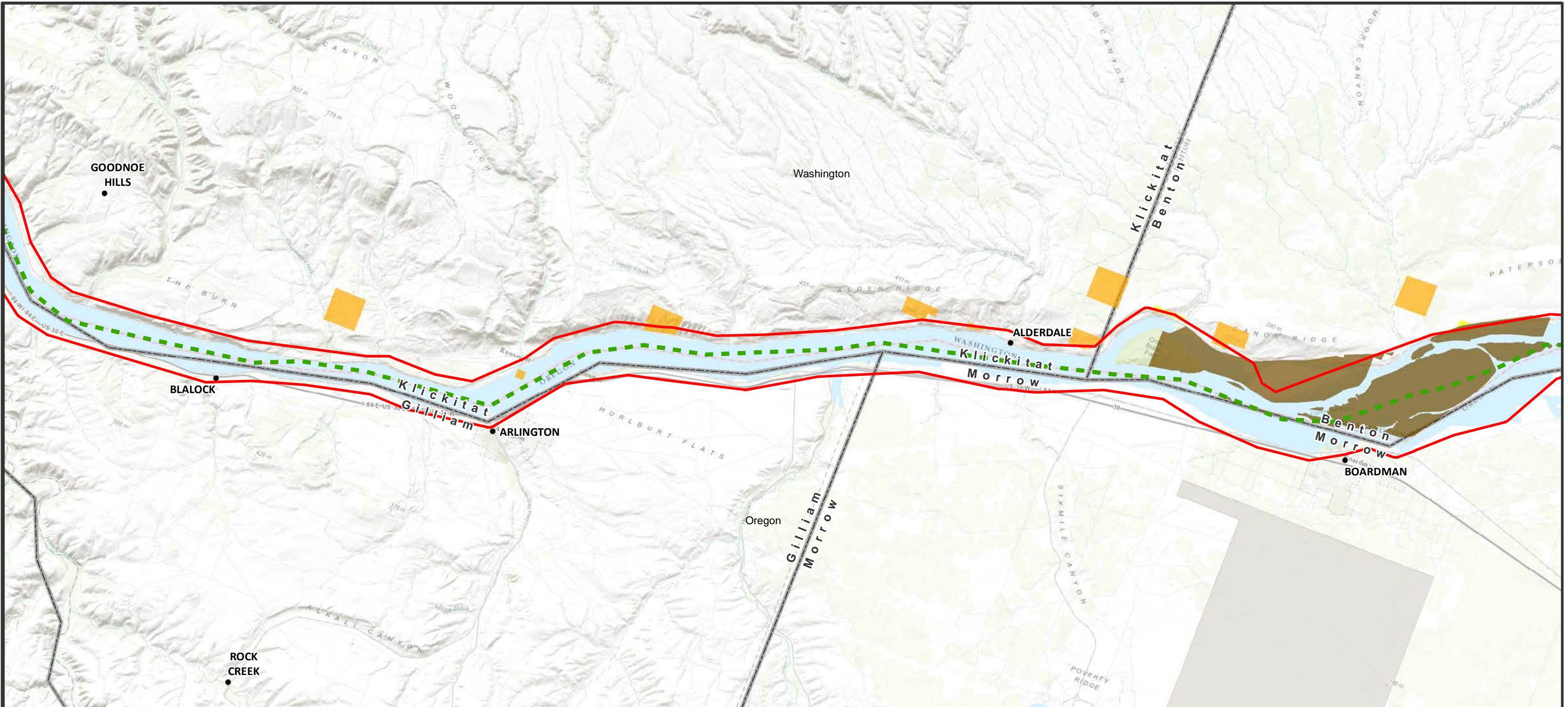
Sheet 1 of 7

Mapbook K7C
 Public Lands
 Columbia River Marine Corridor
 Vancouver Energy



0 2.5 5 7.5 10 Miles

Sources:
 ESRI World Topographic Map Service, 2014.
 US Geological Survey (USGS) Gap Analysis Program (GAP)



LEGEND

- Vessel Routes
- Vessel Route Lower Columbia River (Proposed Action) Port of Vancouver, WA to West Coast Refineries
 - Barge Route Columbia River (Action Alternative) Port of Kennewick, WA to Port of Vancouver, WA

Columbia River 1/4 Mile Buffer

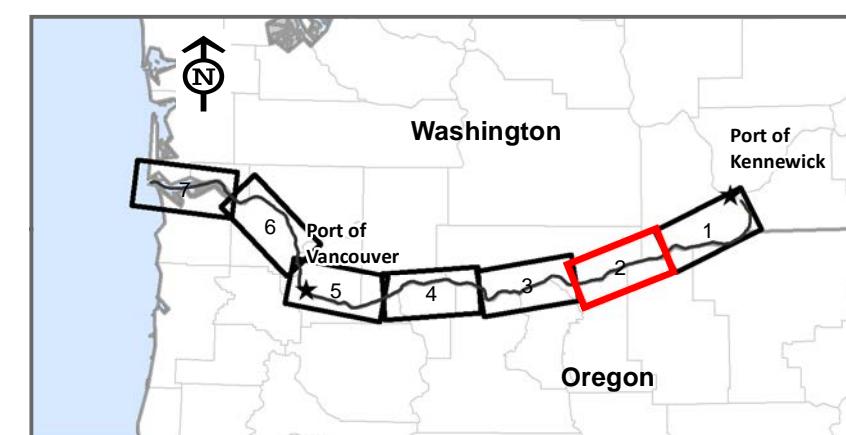
County Boundary

Public Land

- | | |
|---|--|
| Army Corps of Engineers | National Scenic Area |
| Bureau of Land Management | National Wildlife Refuge |
| Conservation Land | Natural Resources Conservation Service |
| County/Municipal Park | Nature Preserve |
| Federal Recreation | US Fish and Wildlife Service |
| Land Trust | WA Dept Fish & Wildlife |
| NPS Administrative/Legislative Boundary | Washington State Department of Natural Resources |
| | Washington State Parks and Recreation Commission |
| | National Fish Hatchery |

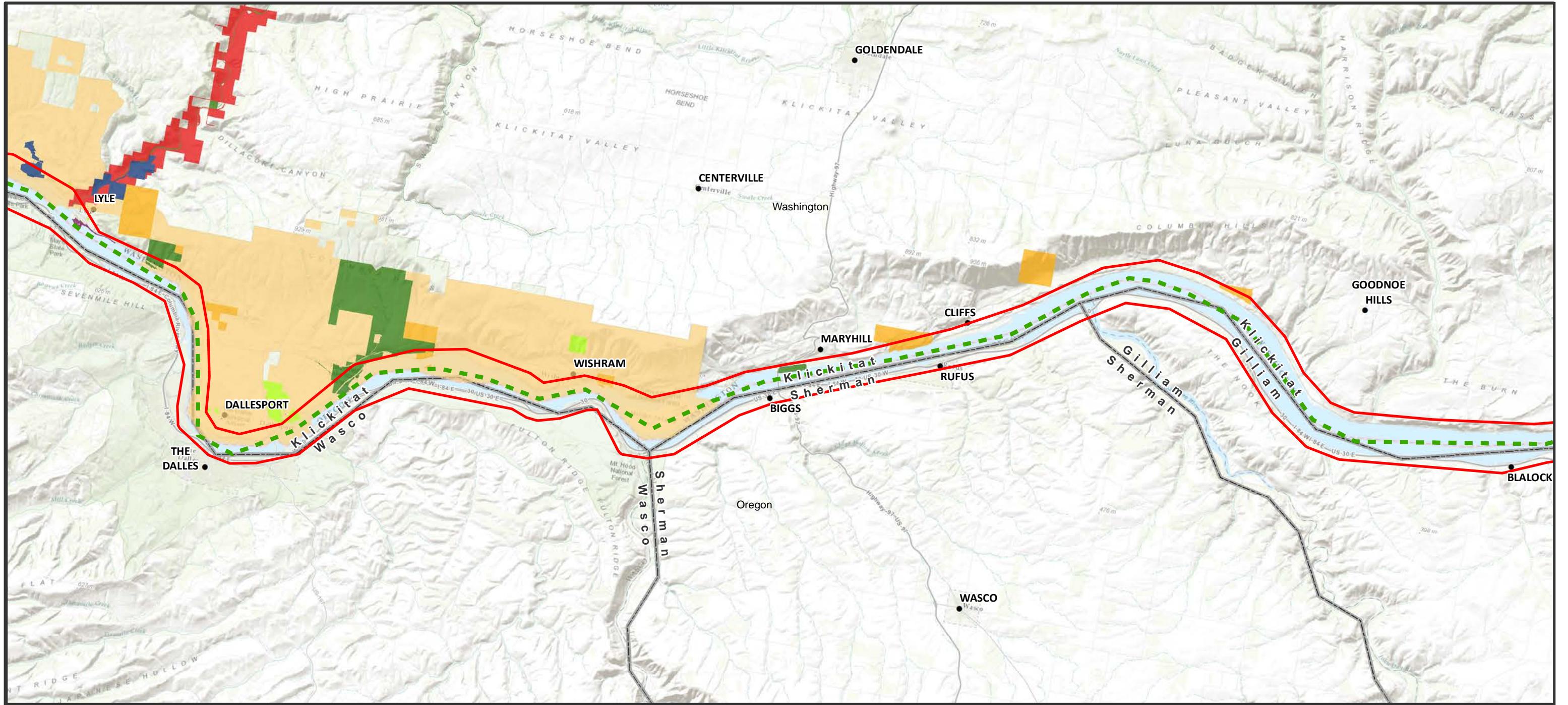
Sheet 2 of 7

Mapbook K7C
Public Lands
Columbia River Marine Corridor
Vancouver Energy



0 2.5 5 7.5 10 Miles

Sources:
ESRI World Topographic Map Service, 2014.
US Geological Survey (USGS) Gap Analysis Program (GAP)



LEGEND

Vessel Routes

— Vessel Route Lower Columbia River (Proposed Action) Port of Vancouver, WA to West Coast Refineries

— Barge Route Columbia River (Action Alternative) Port of Kennewick, WA to Port of Vancouver, WA

 Columbia River 1/4 Mile Buffer

 County Boundary

Public Land

Army Corps of Engineers

Bureau of Land Management

Conservation Land

County/Municipal Park

Federal Recreation

Land Trust

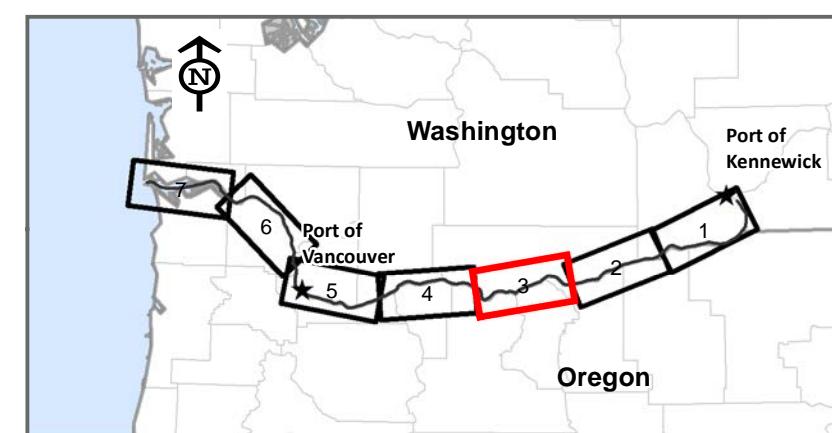
NPS Administrative/Legislative Boundary

National Fish Hatchery

- National Scenic Area
- National Wildlife Refuge
- Natural Resources Conservation Service
- Nature Preserve
- US Fish and Wildlife Service
- WA Dept Fish & Wildlife
- Washington State Department of Natural Resources
- Washington State Parks and Recreation Commission

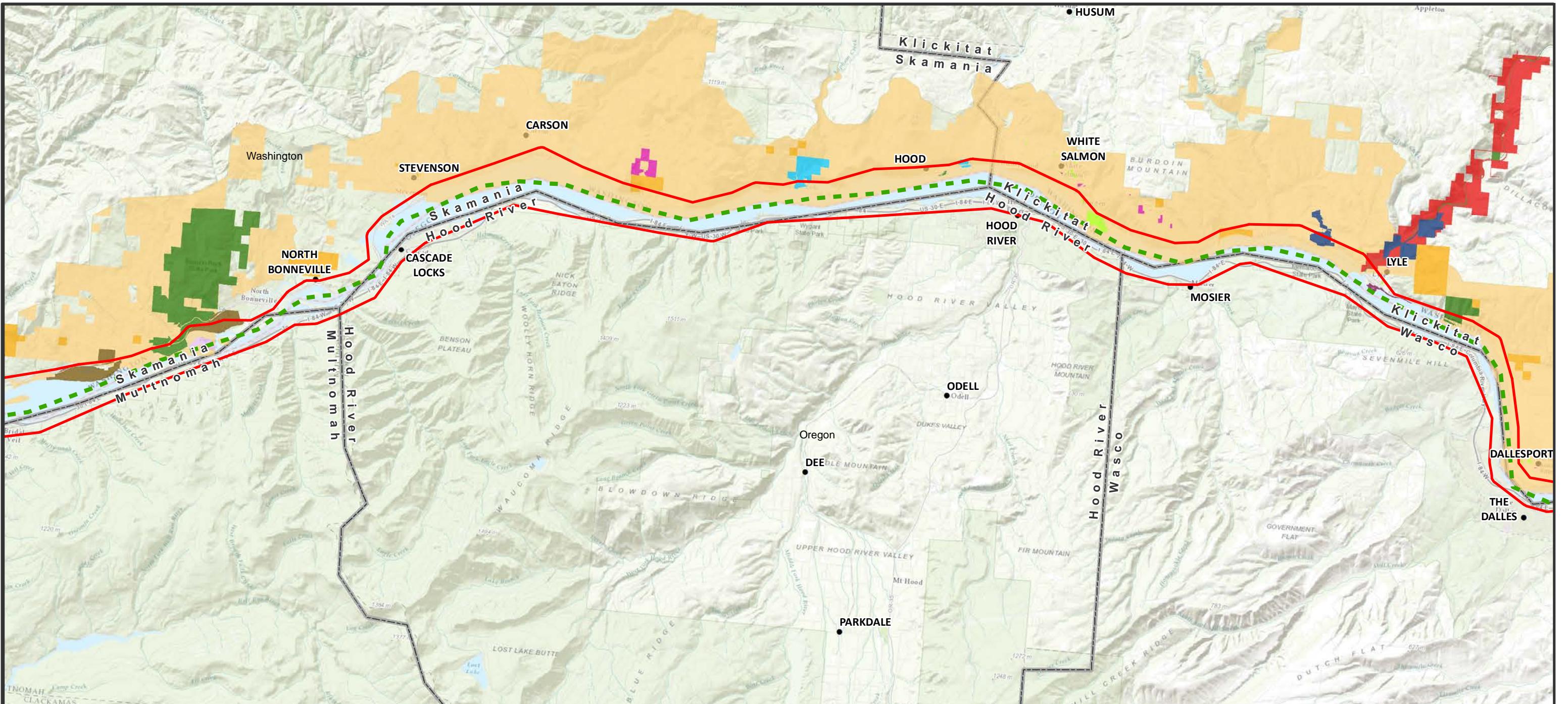
Sheet 3 of 7

Mapbook K7C
Public Lands
Columbia River Marine Corridor
Vancouver Energy



0 2.5 5 7.5 10 Miles

Sources:
ESRI World Topographic Map Service, 2014.
US Geological Survey (USGS) Gap Analysis Program (GAP)



LEGEND

Vessel Routes
— Vessel Route Lower Columbia River (Proposed Action) Port of Vancouver, WA to West Coast Refineries

— Barge Route Columbia River (Action Alternative) Port of Kennewick, WA to Port of Vancouver, WA
■ Columbia River 1/4 Mile Buffer

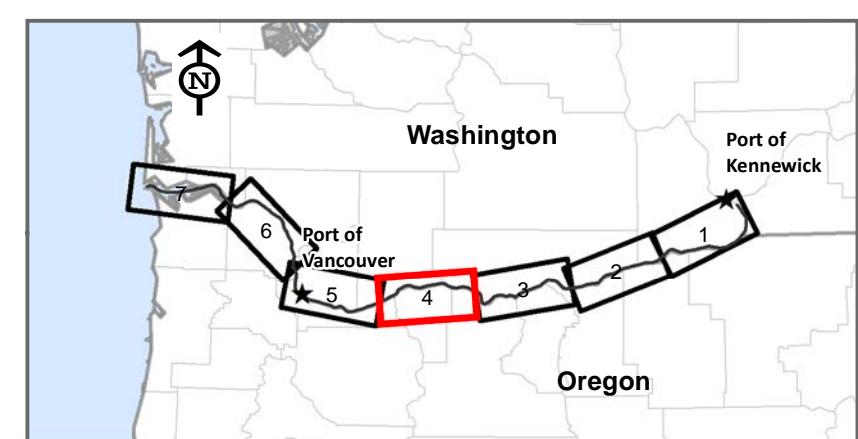
 County Boundary

Public Land

- Army Corps of Engineers
- Bureau of Land Management
- Conservation Land
- County/Municipal Park
- Federal Recreation
- Land Trust
- NPS Administrative/Legislative Boundary
- National Fish Hatchery
- National Scenic Area
- National Wildlife Refuge
- Natural Resources Conservation Service
- Nature Preserve
- US Fish and Wildlife Service
- WA Dept Fish & Wildlife
- Washington State Department of Natural Resources
- Washington State Parks and Recreation Commission

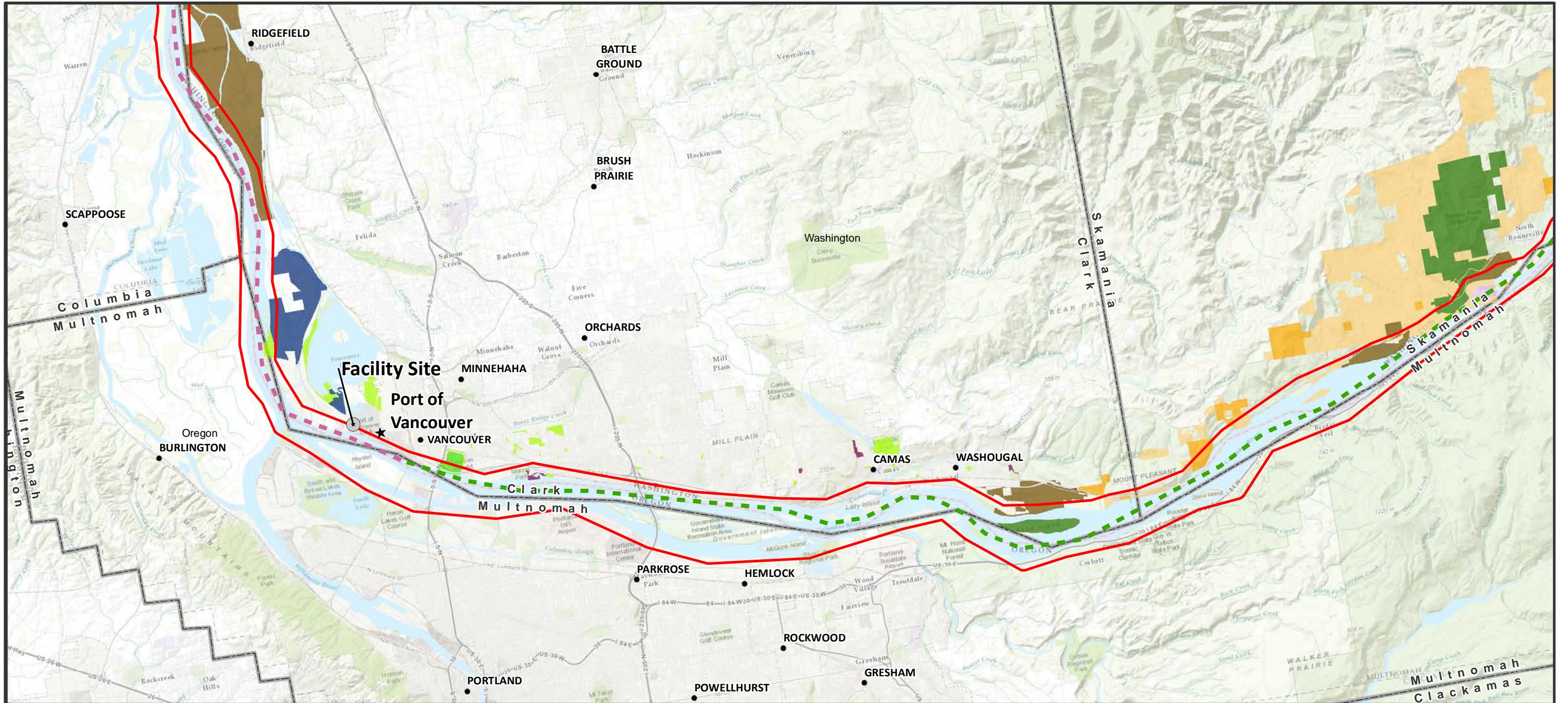
Sheet 4 of 7

Mapbook K7C
 Public Lands
 Columbia River Marine Corridor
 Vancouver Energy



Sources:
 ESRI World Topographic Map Service, 2014.
 US Geological Survey (USGS) Gap Analysis Program (GAP)

0 2.5 5 7.5 10 Miles



LEGEND

Vessel Routes

— Vessel Route Lower Columbia River (Proposed Action) Port of Vancouver, WA to West Coast Refineries

— Barge Route Columbia River (Action Alternative) Port of Kennewick, WA to Port of Vancouver, WA

 Columbia River 1/4 Mile Buffer

 County Boundary

Public Land

Army Corps of Engineers

Bureau of Land Management

Conservation Land

County/Municipal Park

Federal Recreation

Land Trust

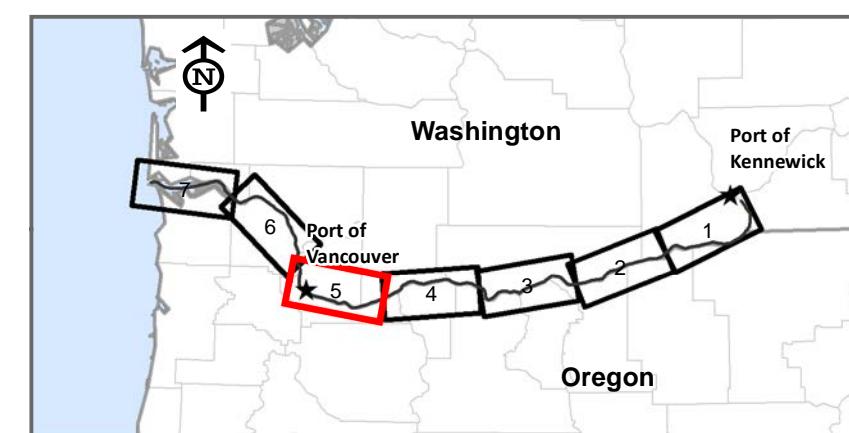
NPS Administrative/Legislative Boundary

National Fish Hatchery

- National Scenic Area
- National Wildlife Refuge
- Natural Resources Conservation Service
- Nature Preserve
- US Fish and Wildlife Service
- WA Dept Fish & Wildlife
- Washington State Department of Natural Resources
- Washington State Parks and Recreation Commission

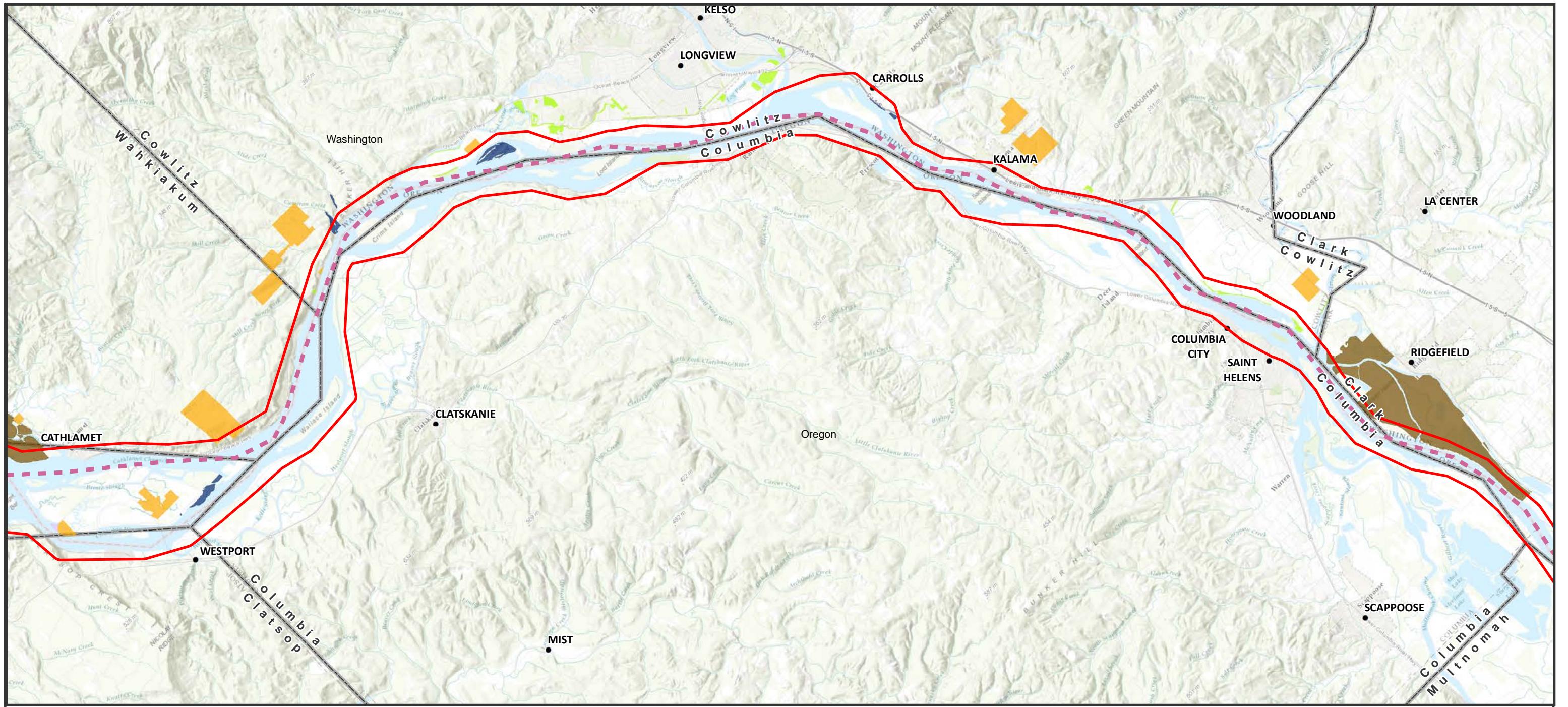
Sheet 5 of 7

Mapbook K7C
Public Lands
Columbia River Marine Corridor
Vancouver Energy



0 2.5 5 7.5 10 Miles

Sources:
ESRI World Topographic Map Service, 2014.
US Geological Survey (USGS) Gap Analysis Program (GAP)



LEGEND

Vessel Routes

- - - Vessel Route Lower Columbia River (Proposed Action) Port of Vancouver, WA to West Coast Refineries

- - - Barge Route Columbia River (Action Alternative) Port of Kennewick, WA to Port of Vancouver, WA

 Columbia River 1/4 Mile Buffer

 County Boundary

Public Land

Army Corps of Engineers

Bureau of Land Management

Conservation Land

County/Municipal Park

Federal Recreation

Land Trust

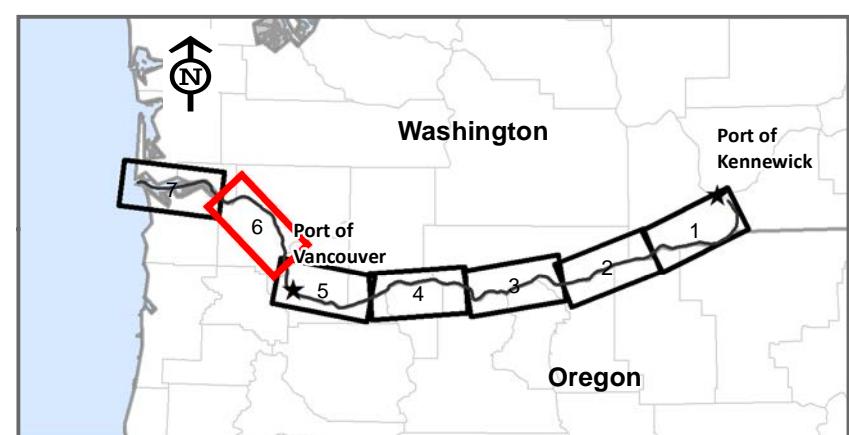
NPS Administrative/Legislative Boundary

National Fish Hatchery

- National Scenic Area
- National Wildlife Refuge
- Natural Resources Conservation Service
- Nature Preserve
- US Fish and Wildlife Service
- WA Dept Fish & Wildlife
- Washington State Department of Natural Resources
- Washington State Parks and Recreation Commission

Sheet 6 of 7

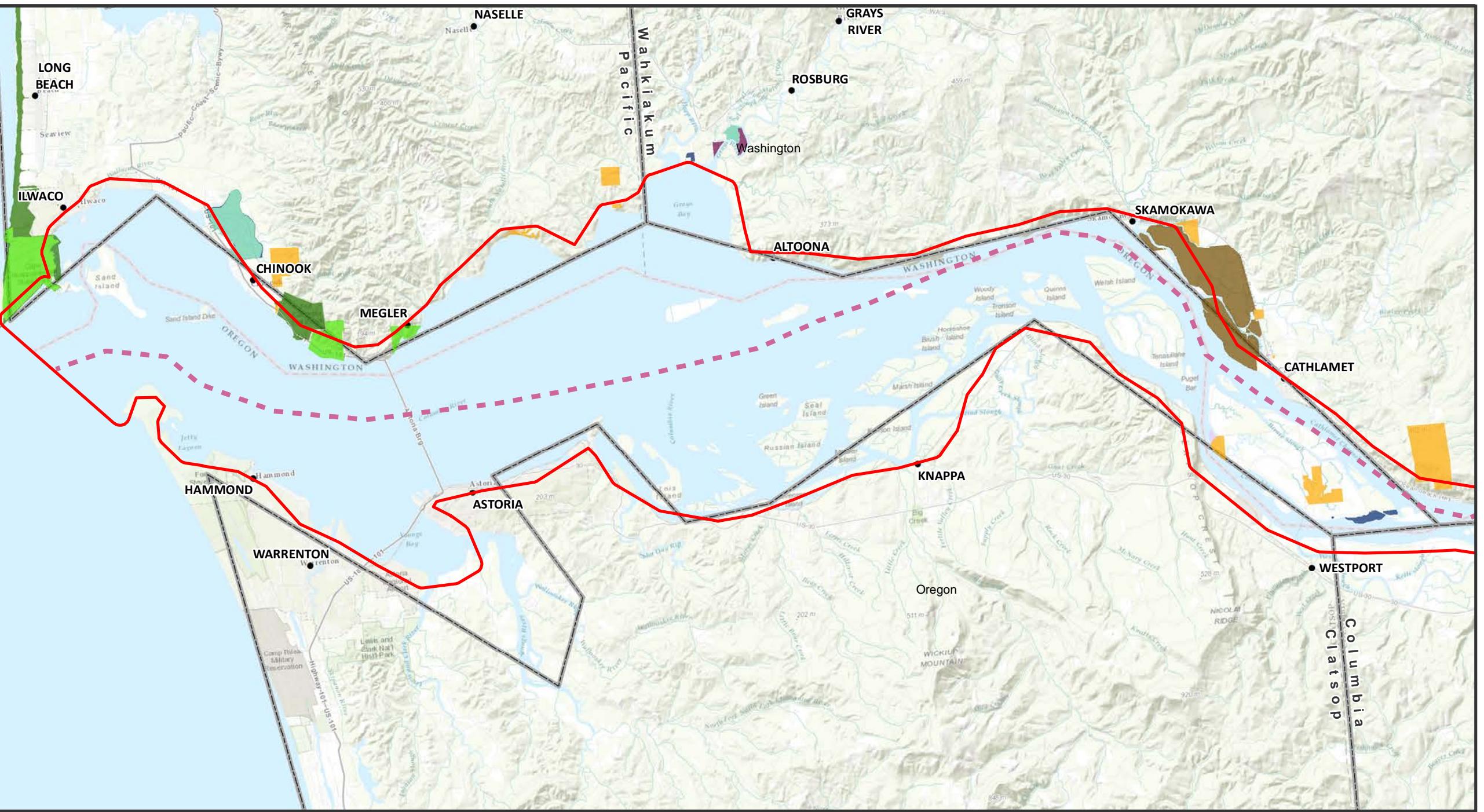
Mapbook K7C
Public Lands
Columbia River Marine Corridor
Vancouver Energy



0 2.5 5 7.5 10 Miles

Sources:
ESRI World Topographic Map Service, 2014.
US Geological Survey (USGS) Gap Analysis Program (GAP)

Pacific Ocean



LEGEND

Vessel Routes

— Vessel Route Lower Columbia River (Proposed Action) Port of Vancouver, WA to West Coast Refineries

— Barge Route Columbia River (Action Alternative) Port of Kennewick, WA to Port of Vancouver, WA

— Columbia River 1/4 Mile Buffer

— County Boundary

Public Land

Army Corps of Engineers

Bureau of Land Management

Conservation Land

County/Municipal Park

Federal Recreation

Land Trust

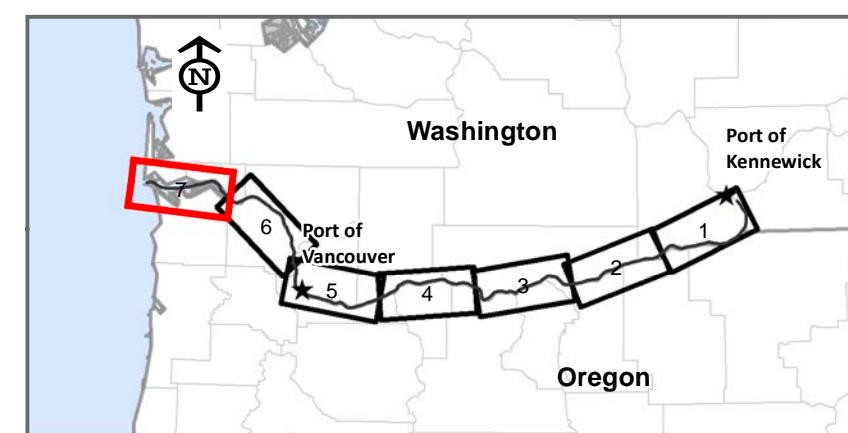
NPS Administrative/Legislative Boundary

National Fish Hatchery

- National Scenic Area
- National Wildlife Refuge
- Natural Resources Conservation Service
- Nature Preserve
- US Fish and Wildlife Service
- WA Dept Fish & Wildlife
- Washington State Department of Natural Resources
- Washington State Parks and Recreation Commission

Sheet 7 of 7

Mapbook K7C
Public Lands
Columbia River Marine Corridor
Vancouver Energy



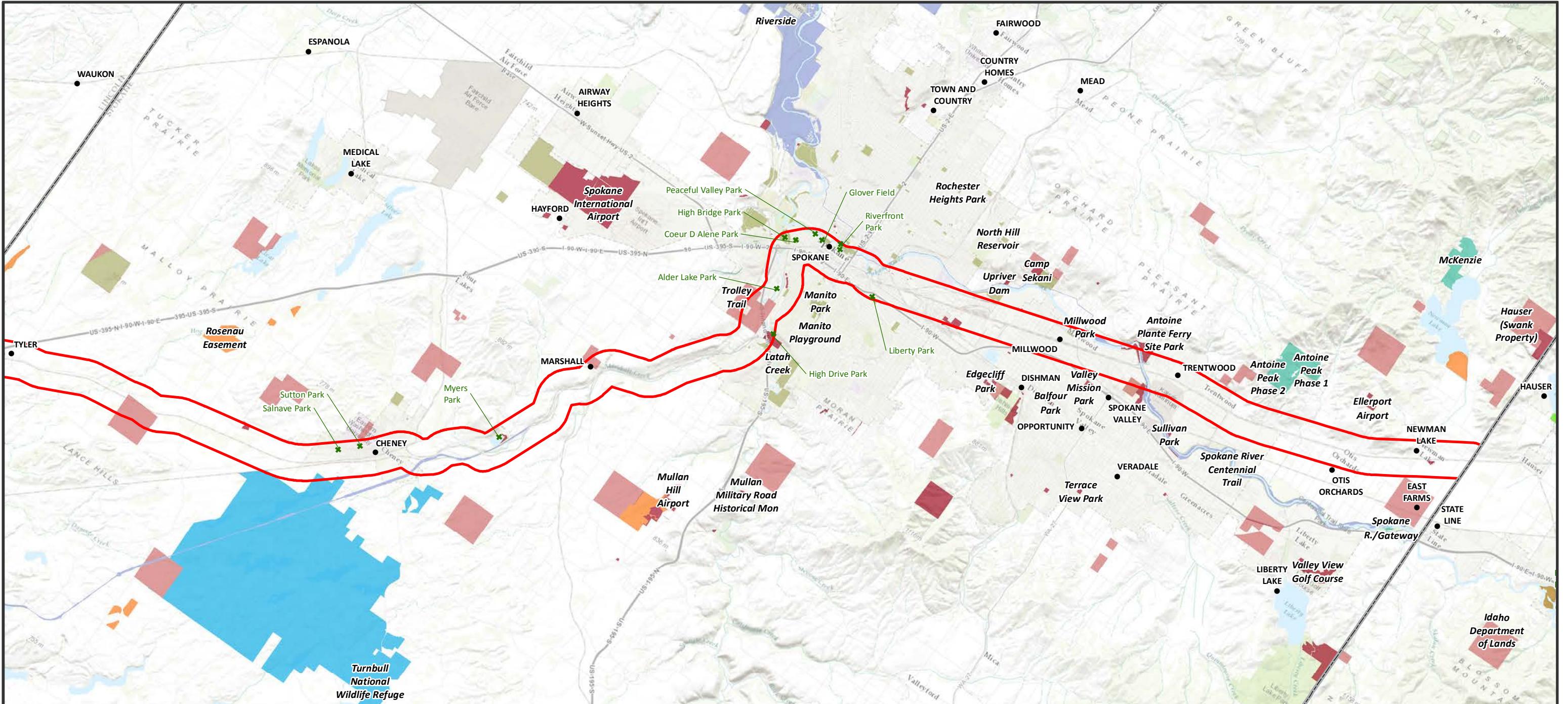
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Sources:
ESRI World Topographic Map Service, 2014.
US Geological Survey (USGS) Gap Analysis Program (GAP)

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Appendix P.6
Recreation Sites

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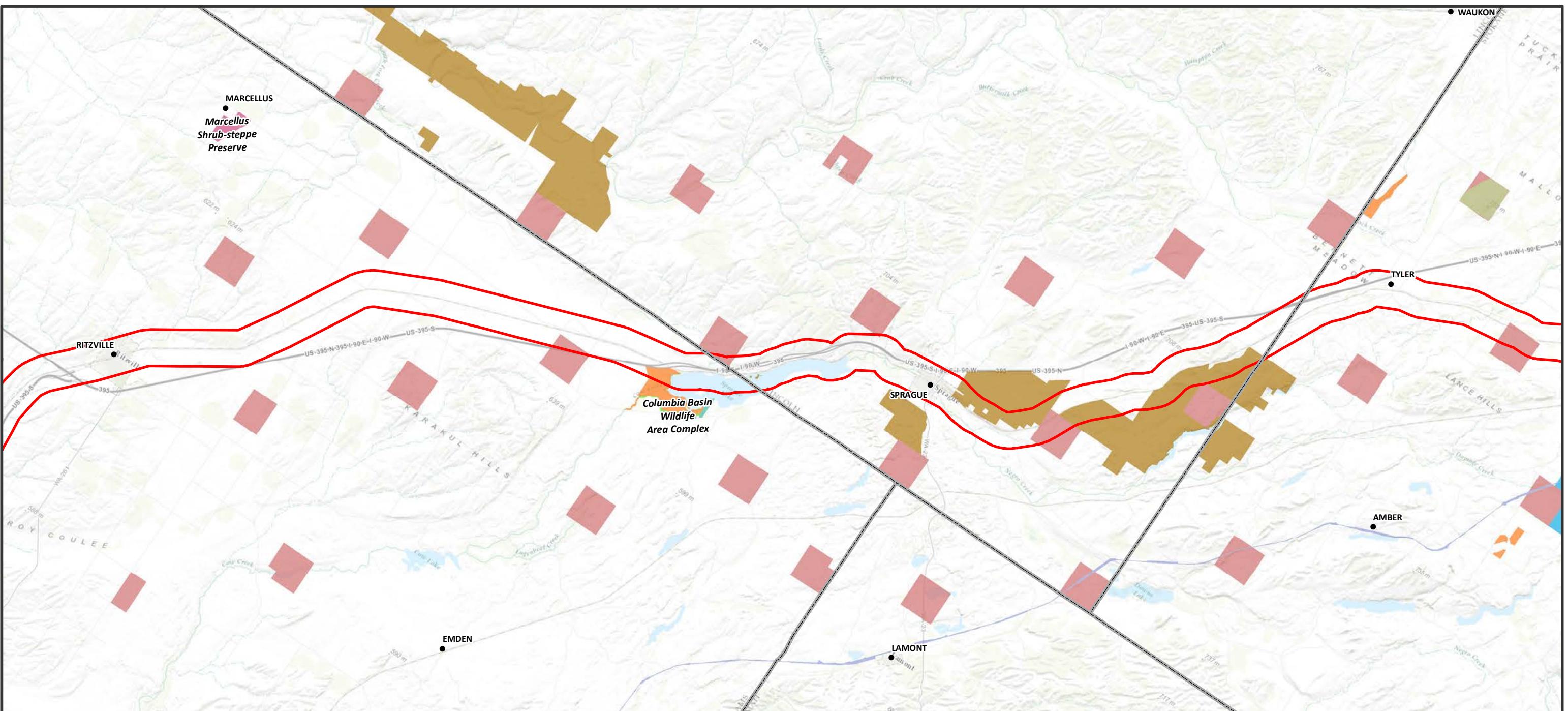
- + Recreation Sites
 - County Boundary
 - BNSF Rail Corridor Half Mile Buffer
 - Bureau of Land Management (BLM)
 - City Land
 - County Land \ Regional Agency Land
 - Fish and Wildlife Service (FWS)
 - Private Conservation; Private Corporation
 - State Fish and Wildlife
 - State Parks and Recreation
 - Joint, Other, Unknown Owner Land

Public Lands and Select Recreation Sites In Study Corridors

Sources:
ESRI World Topographic Map Service, 2014.
Protected Areas Database of the United States;
USGS Gap Analysis Program (GAP)
ESRI Recreation Areas, 2014
City of Spokane, Clark County

Sheet 1 of 11





LEGEND

- County Boundary
- BNSF Rail Corridor Half Mile Buffer
- Bureau of Land Management (BLM)
- City Land
- Fish and Wildlife Service (FWS)
- Private Conservation; Private Corporation
- State Trust Land
- State Fish and Wildlife
- State Parks and Recreation
- The Nature Conservancy (TNC)
- Joint, Other, Unknown Owner Land

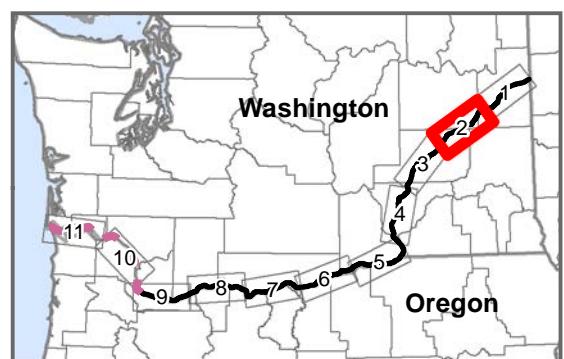
Public Lands and Select Recreation Sites
In Study Corridors

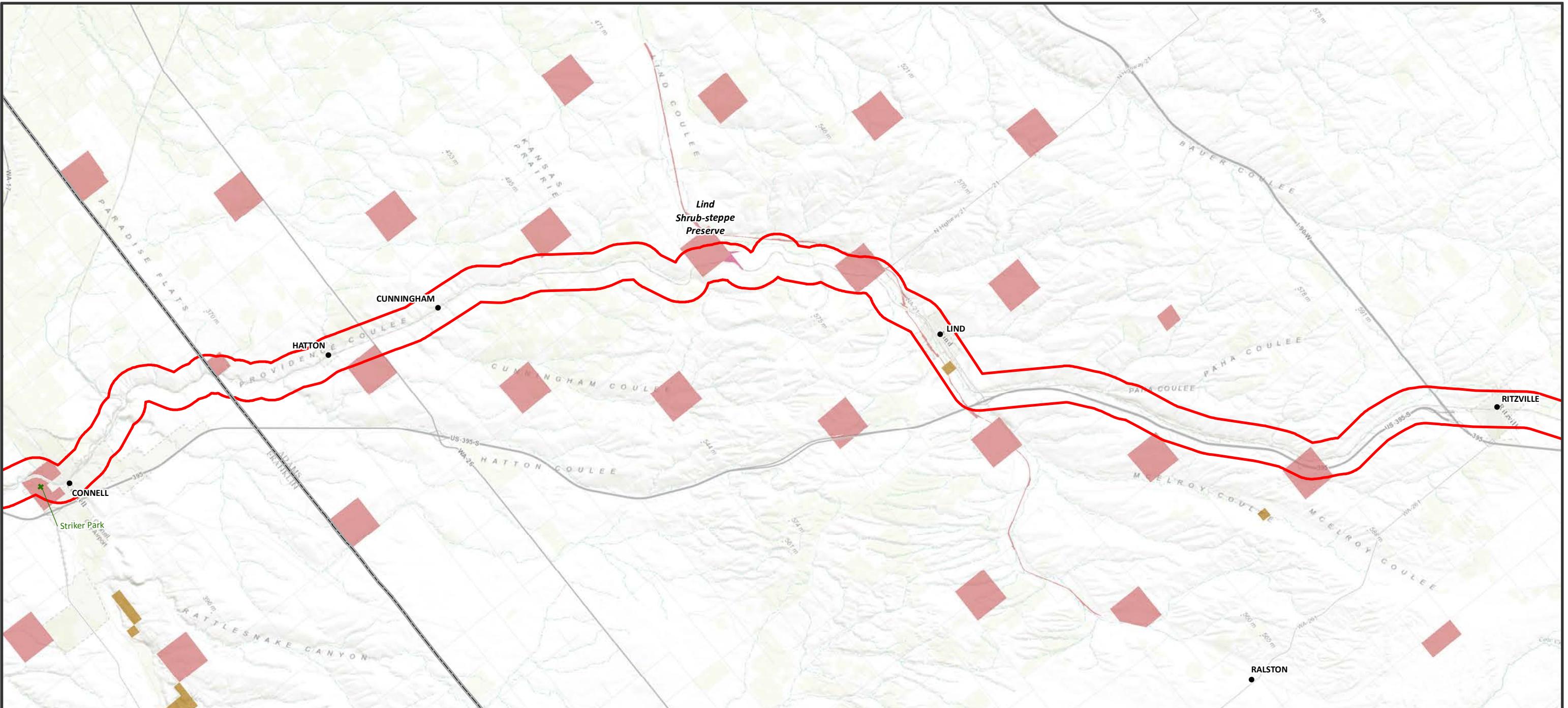
0 2.5 5 7.5 10 Miles



Sheet 2 of 11

Sources:
ESRI World Topographic Map Service, 2014.
Protected Areas Database of the United States;
USGS Gap Analysis Program (GAP)
ESRI Recreation Areas, 2014
City of Spokane, Clark County





LEGEND

- + Recreation Sites
- County Boundary
- BNSF Rail Corridor Half Mile Buffer
- Bureau of Land Management (BLM)
- State Trust Land
- The Nature Conservancy (TNC)

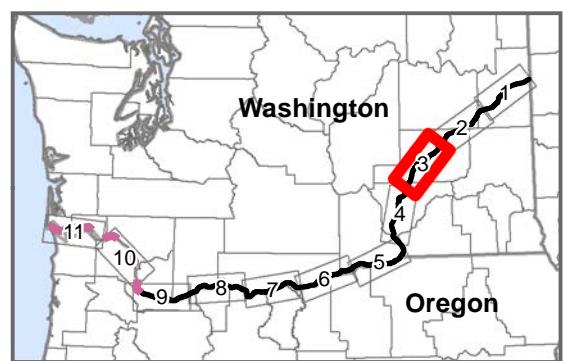
Public Lands and Select Recreation Sites
In Study Corridors

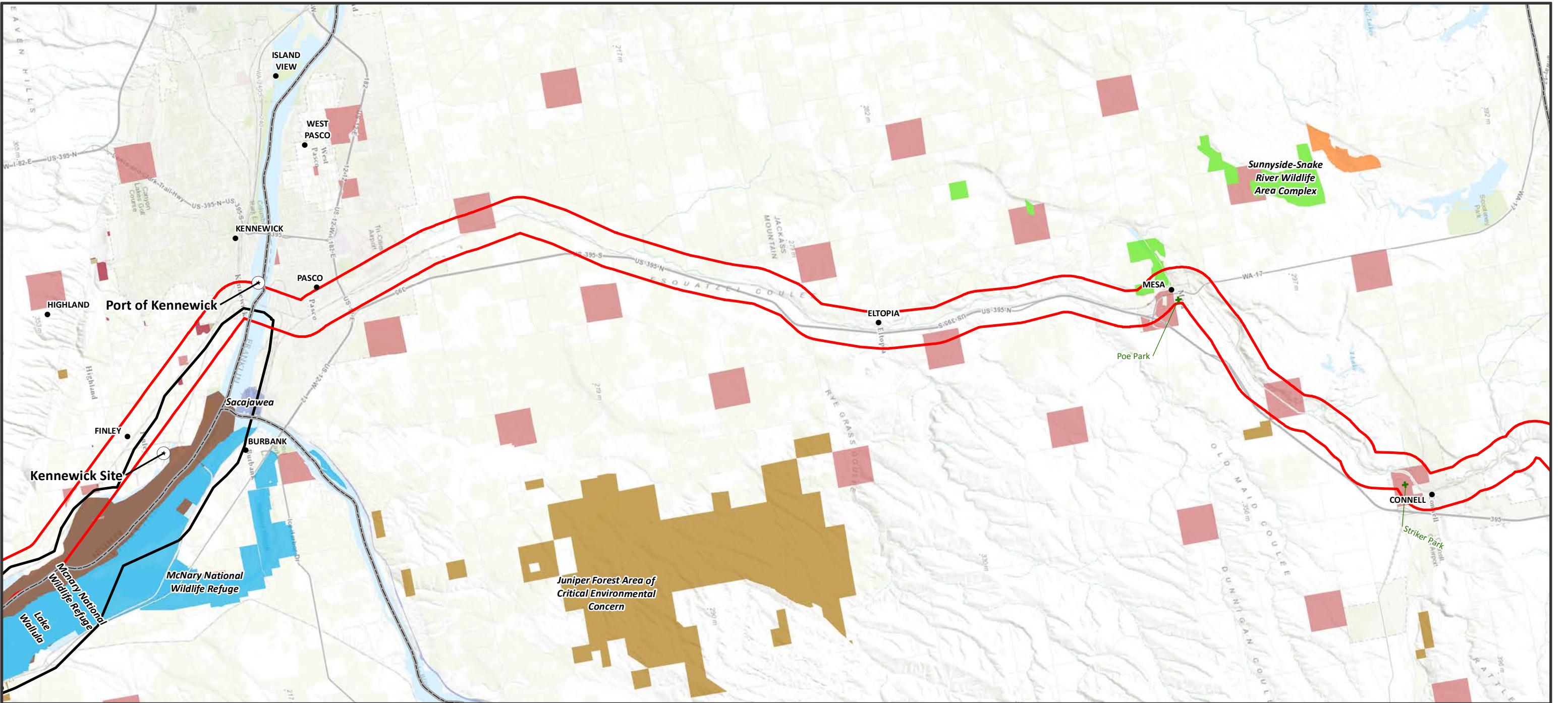
0 2.5 5 7.5 10 Miles



Sheet 3 of 11

Sources:
ESRI World Topographic Map Service, 2014.
Protected Areas Database of the United States;
USGS Gap Analysis Program (GAP)
ESRI Recreation Areas, 2014
City of Spokane, Clark County





LEGEND

- + Recreation Sites
- County Boundary
- Mid-Columbia River 1/4 Mile Buffer
- BNSF Rail Corridor Half Mile Buffer
- Bureau of Land Management (BLM)
- City Land
- County Land \ Regional Agency Land
- Department of Defense (DOD) and Department of Energy (DOE)
- Fish and Wildlife Service (FWS)
- Private Conservation; Private Corporation
- State Trust Land
- State Fish and Wildlife
- State Parks and Recreation

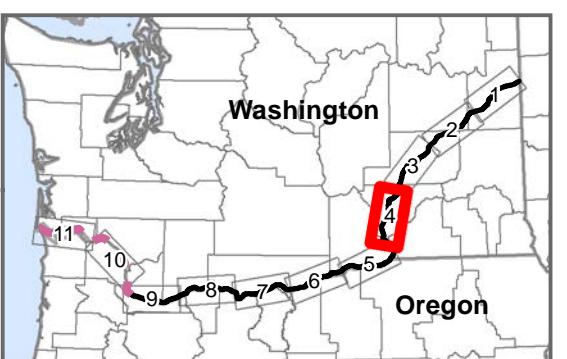
Public Lands and Select Recreation Sites
In Study Corridors

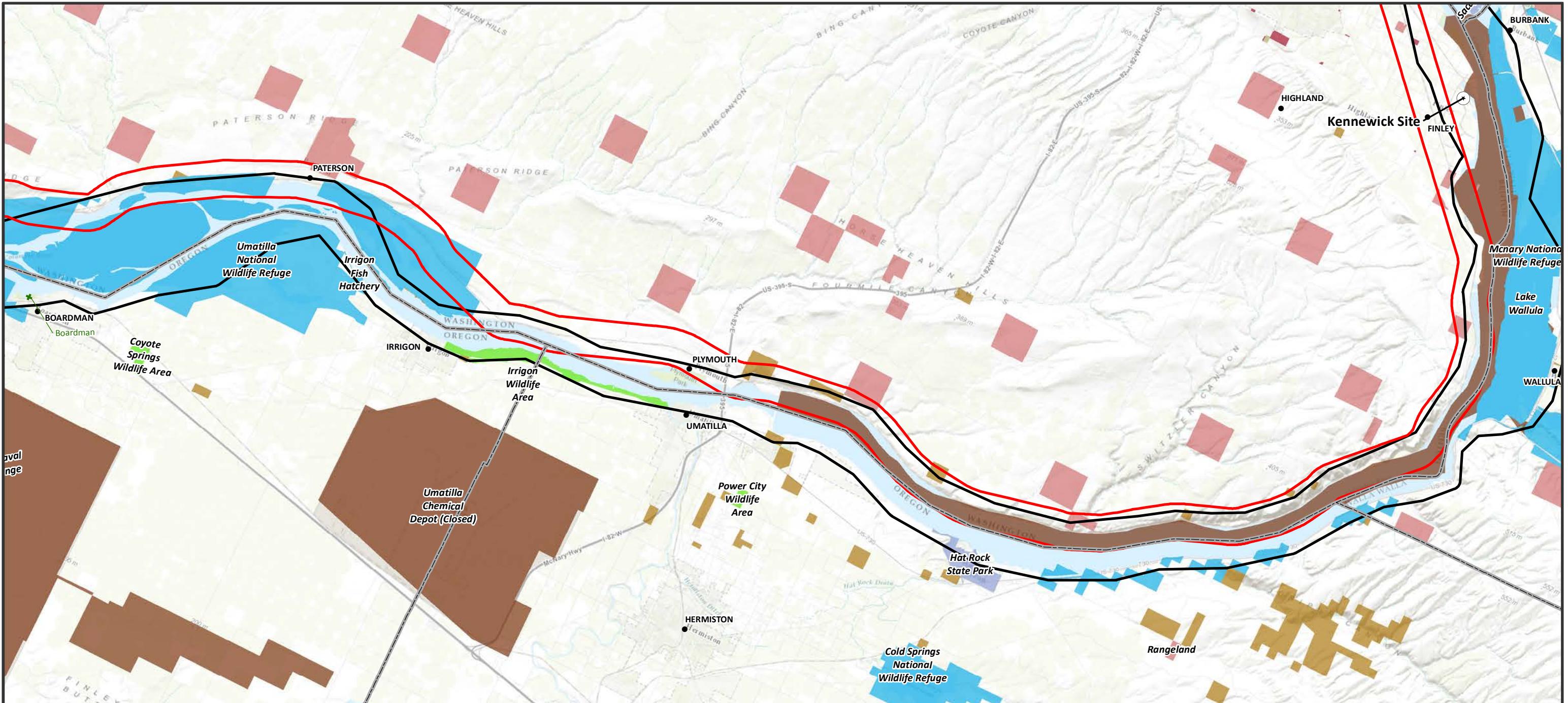
0 2.5 5 7.5 10 Miles



Sheet 4 of 11

Sources:
ESRI World Topographic Map Service, 2014.
Protected Areas Database of the United States;
USGS Gap Analysis Program (GAP)
ESRI Recreation Areas, 2014
City of Spokane, Clark County





LEGEND

- + Recreation Sites
- State Trust Land
- State Fish and Wildlife
- State Parks and Recreation
- County Boundary
- Mid-Columbia River 1/4 Mile Buffer
- BNSF Rail Corridor Half Mile Buffer
- Bureau of Land Management (BLM)
- City Land
- County Land \ Regional Agency Land
- Department of Defense (DOD) and Department of Energy (DOE)
- Fish and Wildlife Service (FWS)

Public Lands and Select Recreation Sites
In Study Corridors

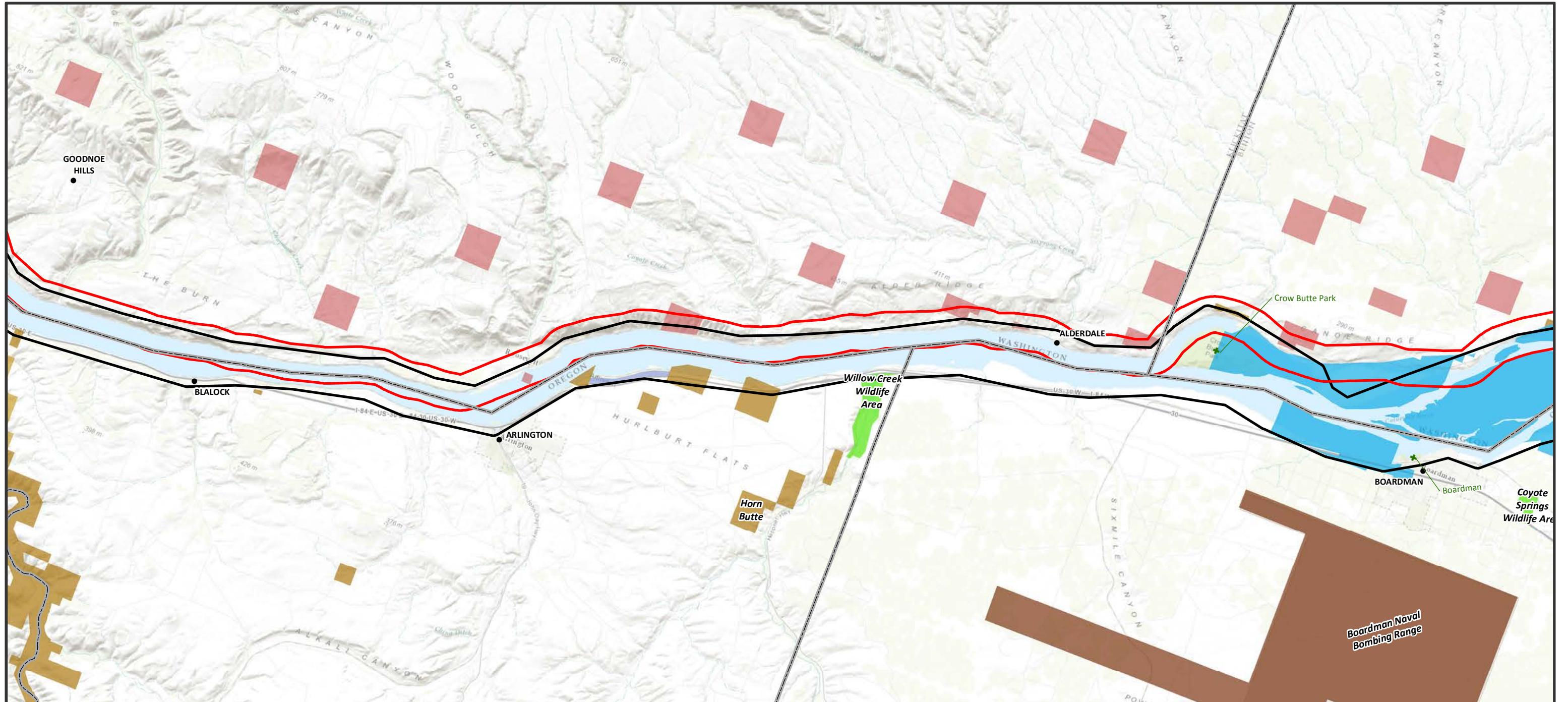
Sheet 5 of 11

0 2.5 5 7.5 10 Miles



Sources:
ESRI World Topographic Map Service, 2014.
Protected Areas Database of the United States;
USGS Gap Analysis Program (GAP)
ESRI Recreation Areas, 2014
City of Spokane, Clark County





LEGEND

- + Recreation Sites
- State Fish and Wildlife
- State Parks and Recreation
- County Boundary
- Mid-Columbia River 1/4 Mile Buffer
- BNSF Rail Corridor Half Mile Buffer
- Tribal Land
- Bureau of Land Management (BLM)
- Department of Defense (DOD) and Department of Energy (DOE)
- Fish and Wildlife Service (FWS)
- State Trust Land

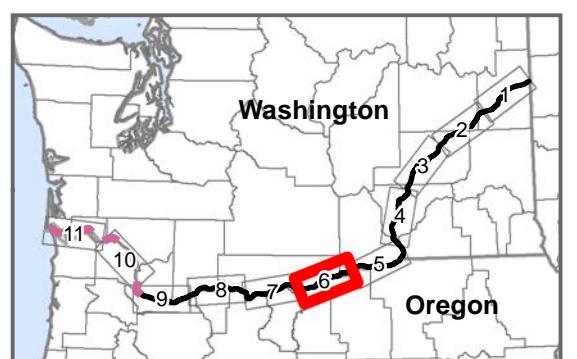
Public Lands and Select Recreation Sites
In Study Corridors

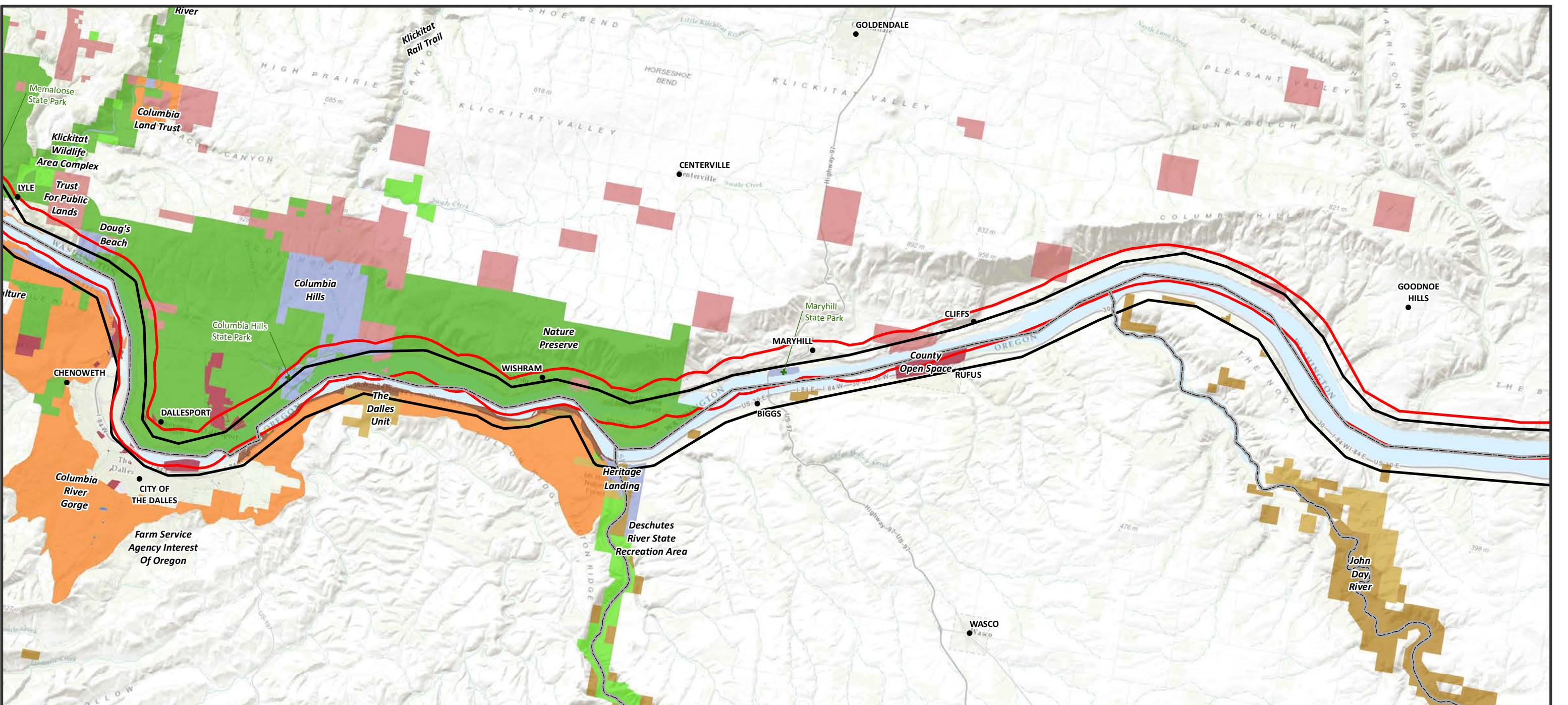
0 2.5 5 7.5 10 Miles



Sheet 6 of 11

Sources:
ESRI World Topographic Map Service, 2014.
Protected Areas Database of the United States;
USGS Gap Analysis Program (GAP)
ESRI Recreation Areas, 2014
City of Spokane, Clark County





LEGEND

- + Recreation Sites
- County Boundary
- Mid-Columbia River 1/4 Mile Buffer
- BNSF Rail Corridor Half Mile Buffer
- Tribal Land
- Bureau of Land Management (BLM)
- Bureau of Reclamation (BOR)
- County Land \ Regional Agency Land
- Department of Defense (DOD) and Department of Energy (DOE)
- Forest Service (USFS)
- Other Federal (TVA,NRCS,NOAA, etc.)
- Private Conservation; Private Corporation
- State Trust Land
- State Fish and Wildlife
- State Parks and Recreation
- Other State (NHP, DOT, HS, etc.); State University
- Joint, Other, Unknown Owner Land

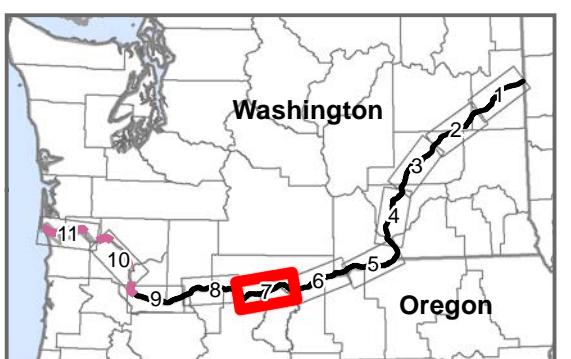
Public Lands and Select Recreation Sites
In Study Corridors

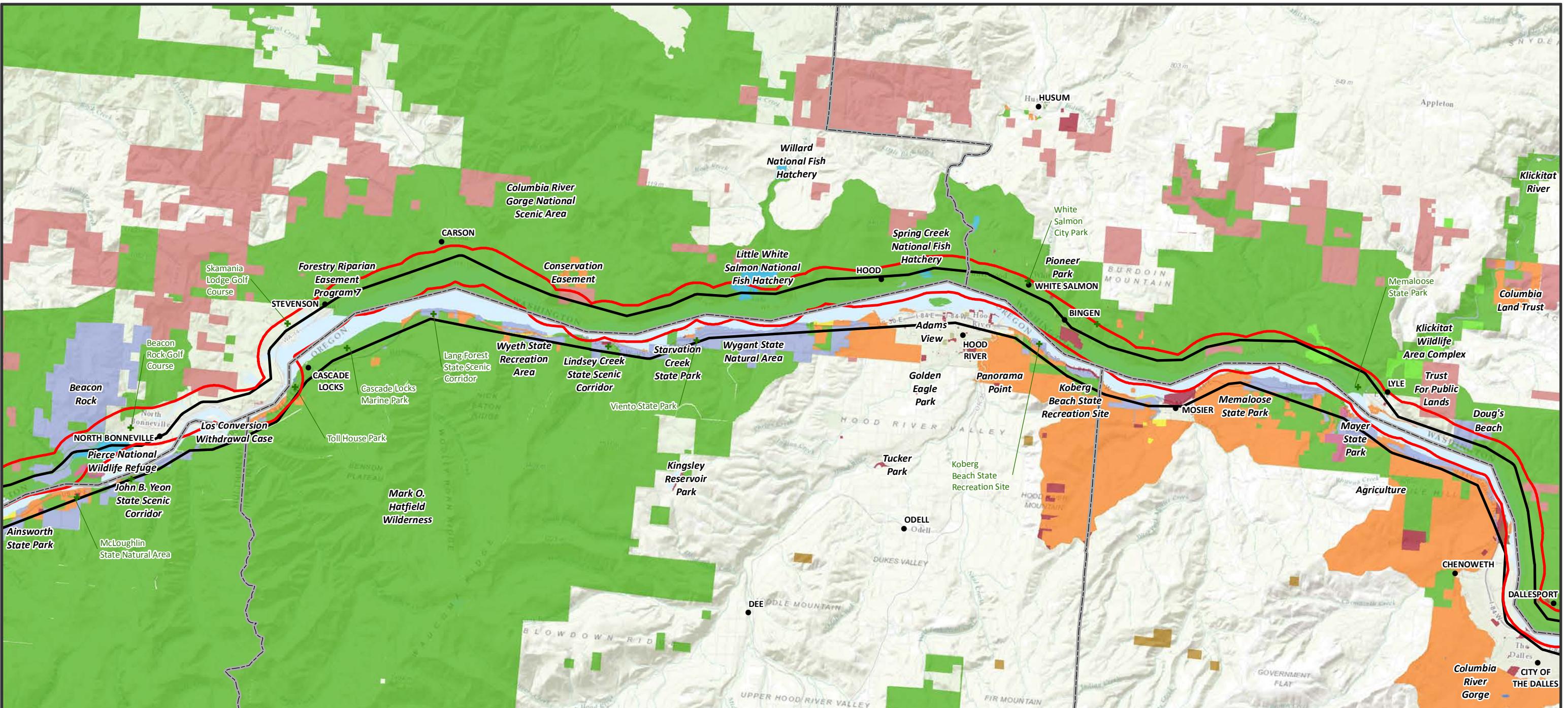
0 2.5 5 7.5 10 Miles



Sheet 7 of 11

Sources:
ESRI World Topographic Map Service, 2014.
Protected Areas Database of the United States;
USGS Gap Analysis Program (GAP)
ESRI Recreation Areas, 2014
City of Spokane, Clark County





LEGEND

+	Recreation Sites		Department of Defense (DOD) and Department of Energy (DOE)
	County Boundary		The Nature Conservancy (TNC)
	Mid-Columbia River 1/4 Mile Buffer		Joint, Other, Unknown Owner Land
	BNSF Rail Corridor Half Mile Buffer		Fish and Wildlife Service (FWS)
	Tribal Land		Forest Service (USFS)
	Bureau of Land Management (BLM)		Other Federal (TVA,NRCS,NOAA, etc.)
	Bureau of Reclamation (BOR)		Private Conservation; Private Corporation
	City Land		State Trust Land
	County Land \ Regional Agency Land		State Fish and Wildlife
			State Parks and Recreation
			Other State (NHP, DOT, HS, etc.); State University

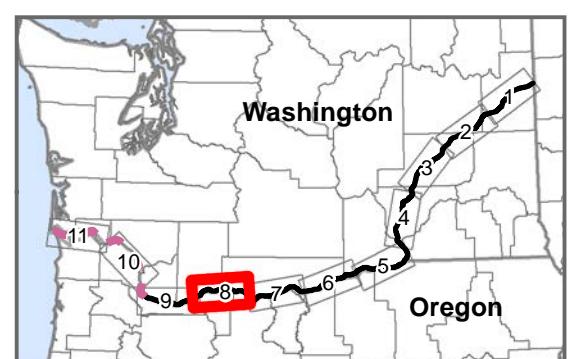
Public Lands and Select Recreation Sites
In Study Corridors

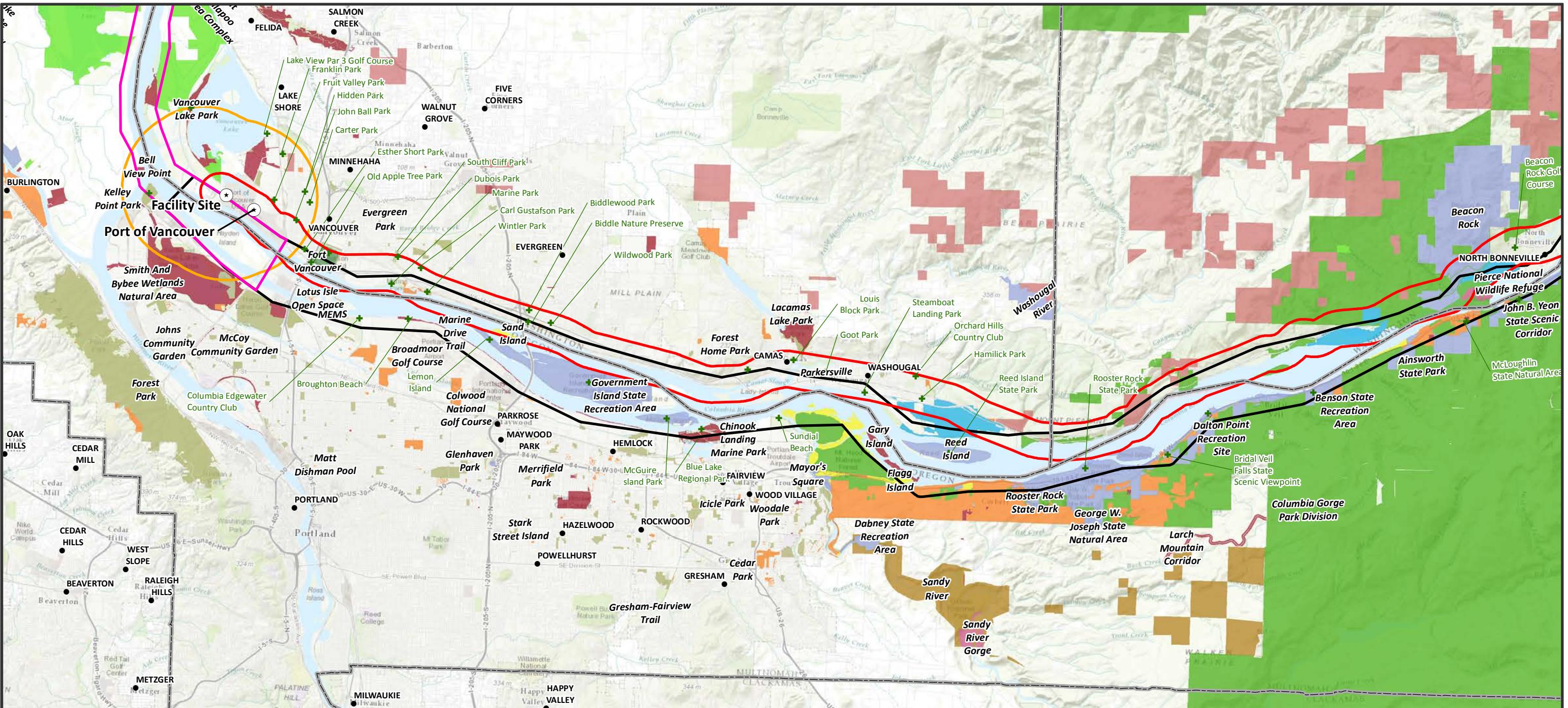
Sheet 8 of 11

0 2.5 5 7.5 10 Miles



Sources:
ESRI World Topographic Map Service, 2014.
Protected Areas Database of the United States;
USGS Gap Analysis Program (GAP)
ESRI Recreation Areas, 2014
City of Spokane, Clark County





LEGEND

- + Recreation Sites
- County Boundary
- Mid-Columbia River 1/4 Mile Buffer
- BNSF Rail Corridor Half Mile Buffer
- Site Boundary - 2 Mile Buffer
- Columbia River 1/4 Mile Buffer
- Bureau of Land Management (BLM)
- City Land
- County Land \ Regional Agency Land

- Fish and Wildlife Service (FWS)
- Forest Service (USFS)
- National Park Service (NPS)
- Private Conservation; Private Corporation
- State Trust Land
- State Fish and Wildlife
- State Parks and Recreation
- Other State (NHP, DOT, HS, etc.); State University
- The Nature Conservancy (TNC)
- Joint, Other, Unknown Owner Land

Public Lands and Select Recreation Sites
In Study Corridors

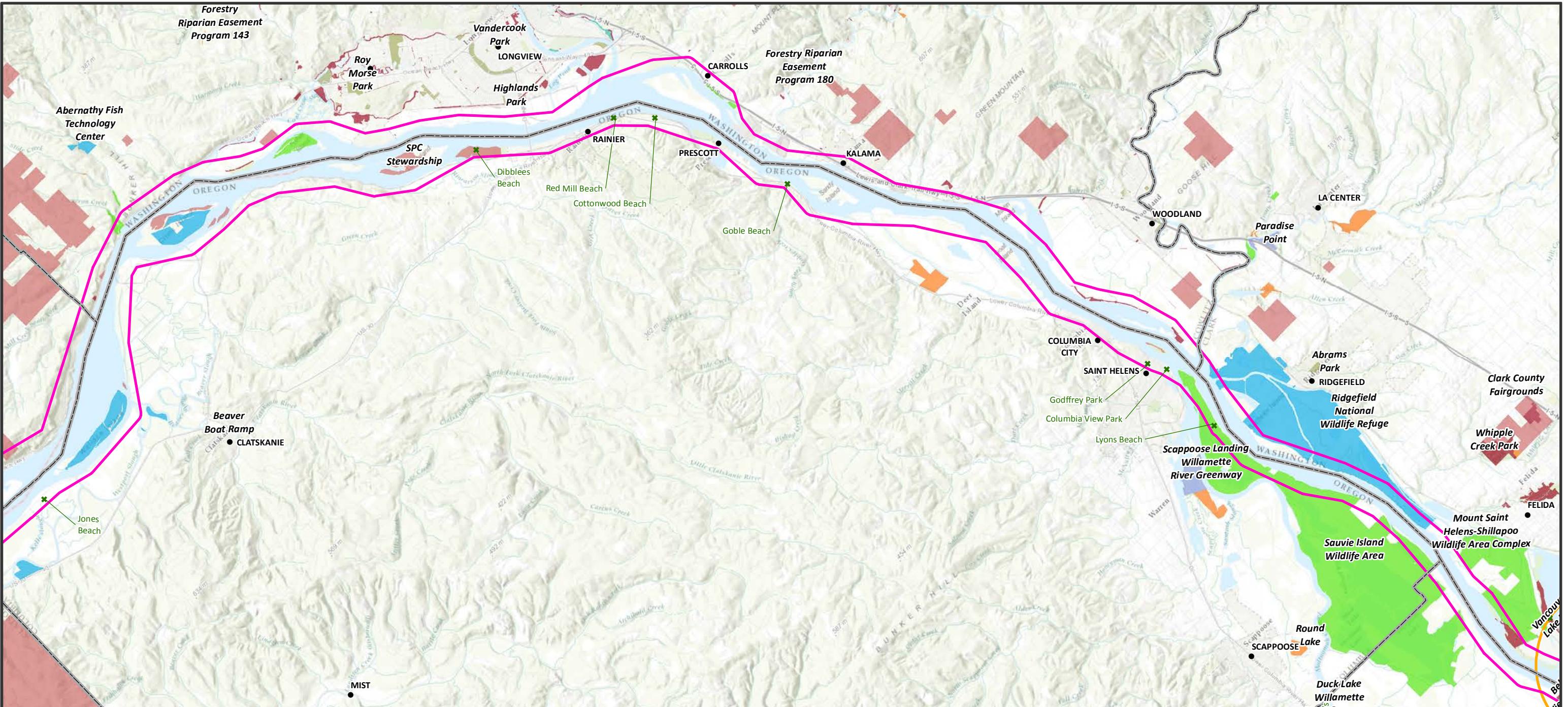
0 2.5 5 7.5 10 Miles



Sheet 9 of 11

Sources:
ESRI World Topographic Map Service, 2014.
Protected Areas Database of the United States;
USGS Gap Analysis Program (GAP)
ESRI Recreation Areas, 2014
City of Spokane, Clark County





LEGEND

- + Recreation Sites
- County Boundary
- Site Boundary - 2 Mile Buffer
- Columbia River 1/4 Mile Buffer
- City Land
- County Land \ Regional Agency Land
- Fish and Wildlife Service (FWS)
- Private Conservation; Private Corporation
- State Trust Land
- State Fish and Wildlife
- State Parks and Recreation
- Joint, Other, Unknown Owner Land

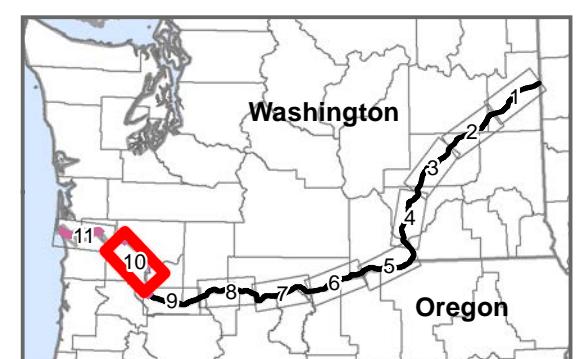
Public Lands and Select Recreation Sites
In Study Corridors

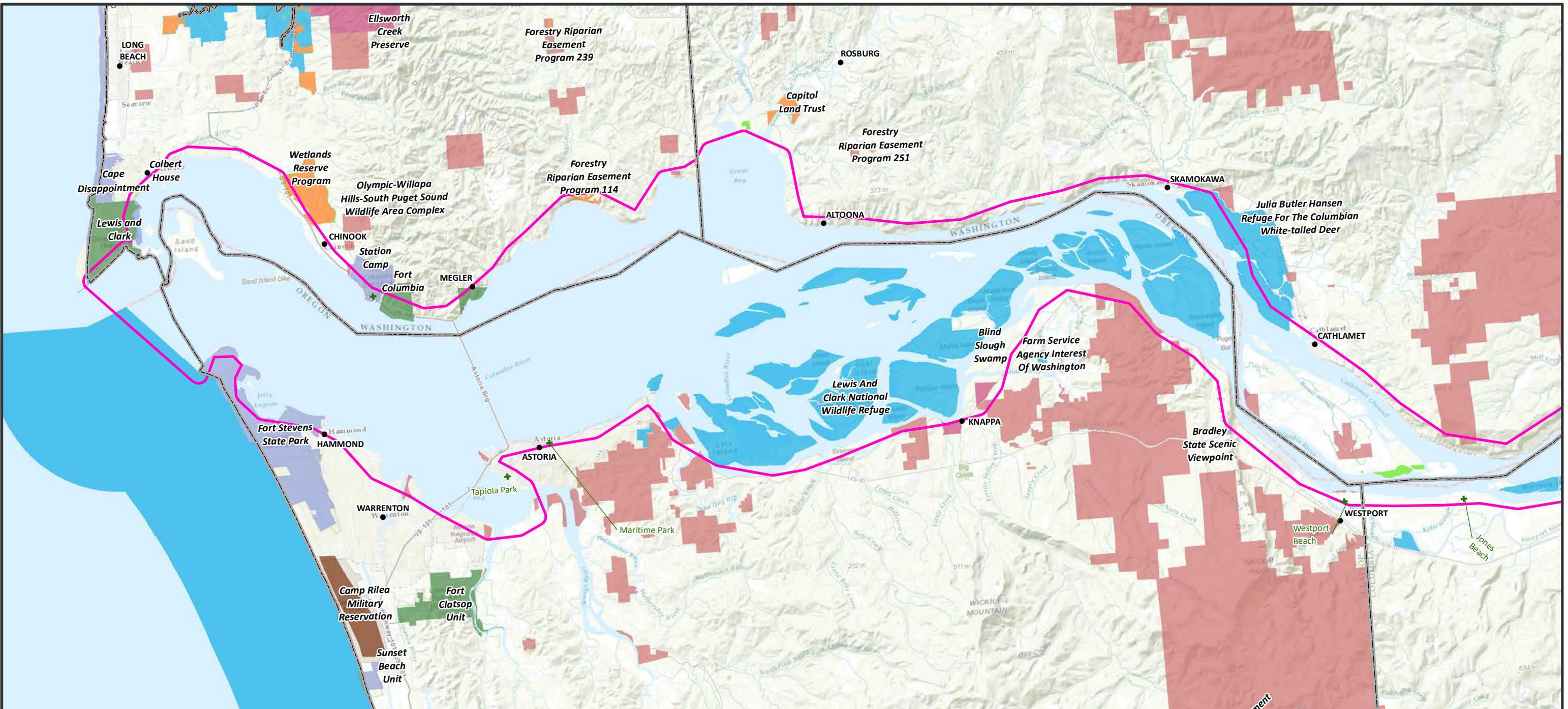
0 2.5 5 7.5 10 Miles



Sheet 10 of 11

Sources:
ESRI World Topographic Map Service, 2014.
Protected Areas Database of the United States;
USGS Gap Analysis Program (GAP)
ESRI Recreation Areas, 2014
City of Spokane, Clark County





LEGEND

- + Recreation Sites
- County Boundary
- Columbia River 1/4 Mile Buffer
- Department of Defense (DOD) and Department of Energy (DOE)
- Fish and Wildlife Service (FWS)
- National Park Service (NPS)
- Private Conservation; Private Corporation
- State Trust Land
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- State Parks and Recreation
- The Nature Conservancy (TNC)
- Joint, Other, Unknown Owner Land

Public Lands and Select Recreation Sites
In Study Corridors

0 2.5 5 7.5 10 Miles



Sheet 11 of 11

Sources:
ESRI World Topographic Map Service, 2014.
Protected Areas Database of the United States;
USGS Gap Analysis Program (GAP)
ESRI Recreation Areas, 2014
City of Spokane, Clark County

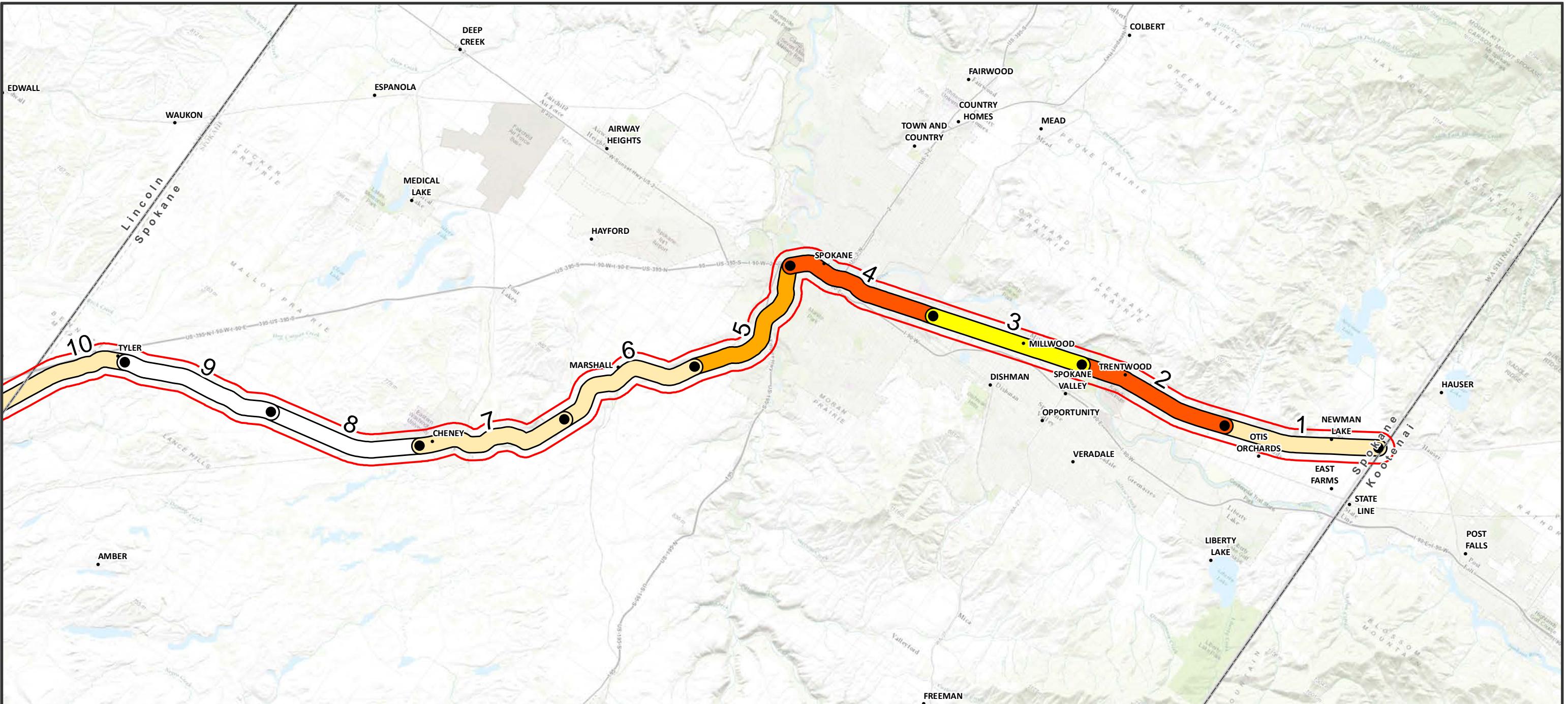


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Appendix P-7

Previously Recorded Archaeological Resources within Study Area

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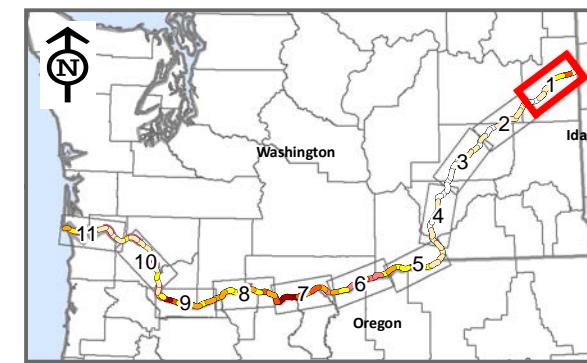


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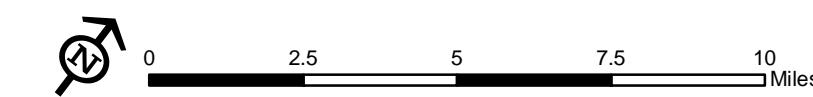
- Cities
- 5-mile interval
- BNSF Rail Corridor Half Mile Buffer (each side of railway)
- County Boundary

Archaeological Resources (count)

- | |
|---------|
| 0 |
| 1 - 5 |
| 6 - 10 |
| 11 - 15 |
| 21 - 50 |

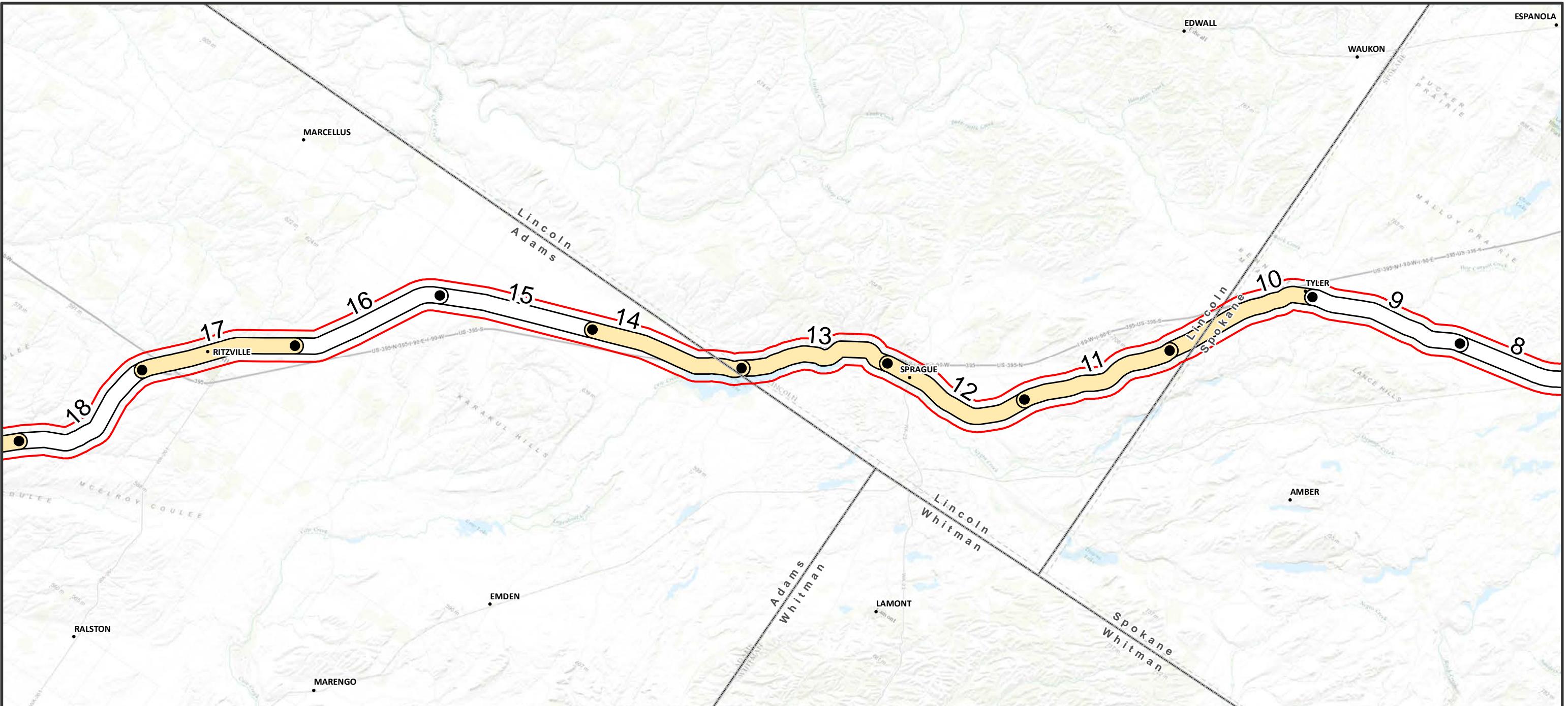


Previously Recorded Archaeological Resources within the Study Area



Sources:
ESRI World Topographic Map Service, 2014.

Sheet 1 of 11

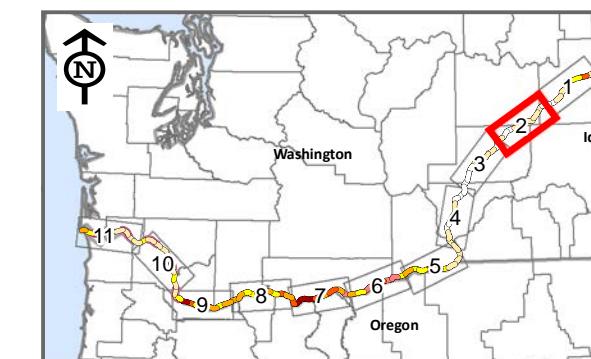


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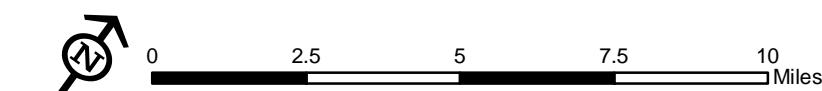
- Cities
- 5-mile interval
- ◻ BNSF Rail Corridor Half Mile Buffer (each side of railway)
- ◻ County Boundary

Archaeological Resources (count)

0	
1 - 5	

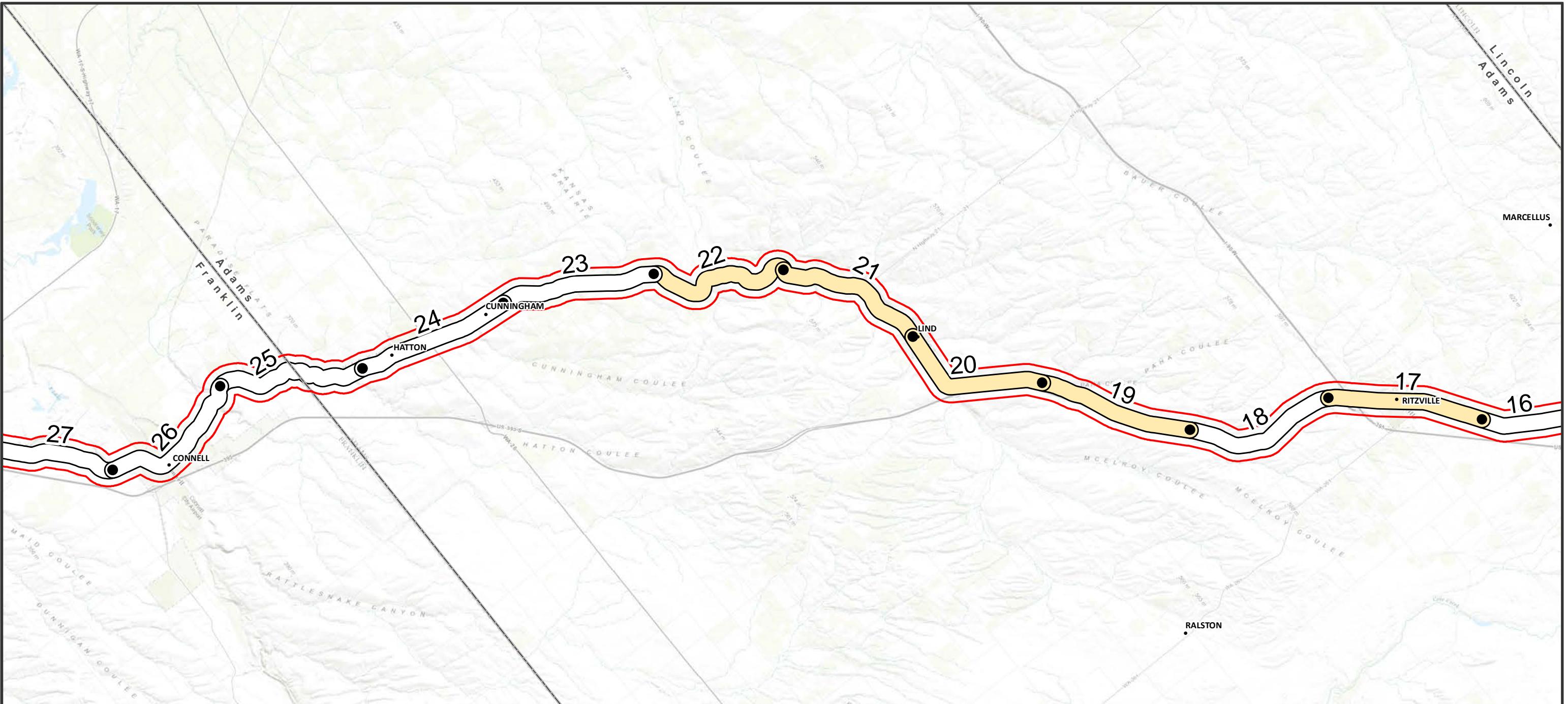


Previously Recorded Archaeological Resources within the Study Area



Sources:
ESRI World Topographic Map Service, 2014.

Sheet 2 of 11

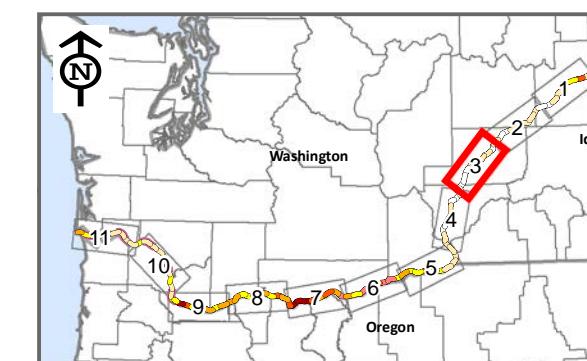


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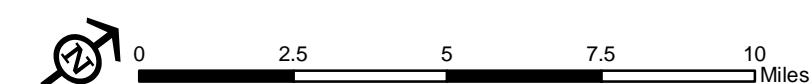
- Cities
- 5-mile interval
- BNSF Rail Corridor Half Mile Buffer (each side of railway)
- County Boundary

Archaeological Resources (count)

	0
	1 - 5

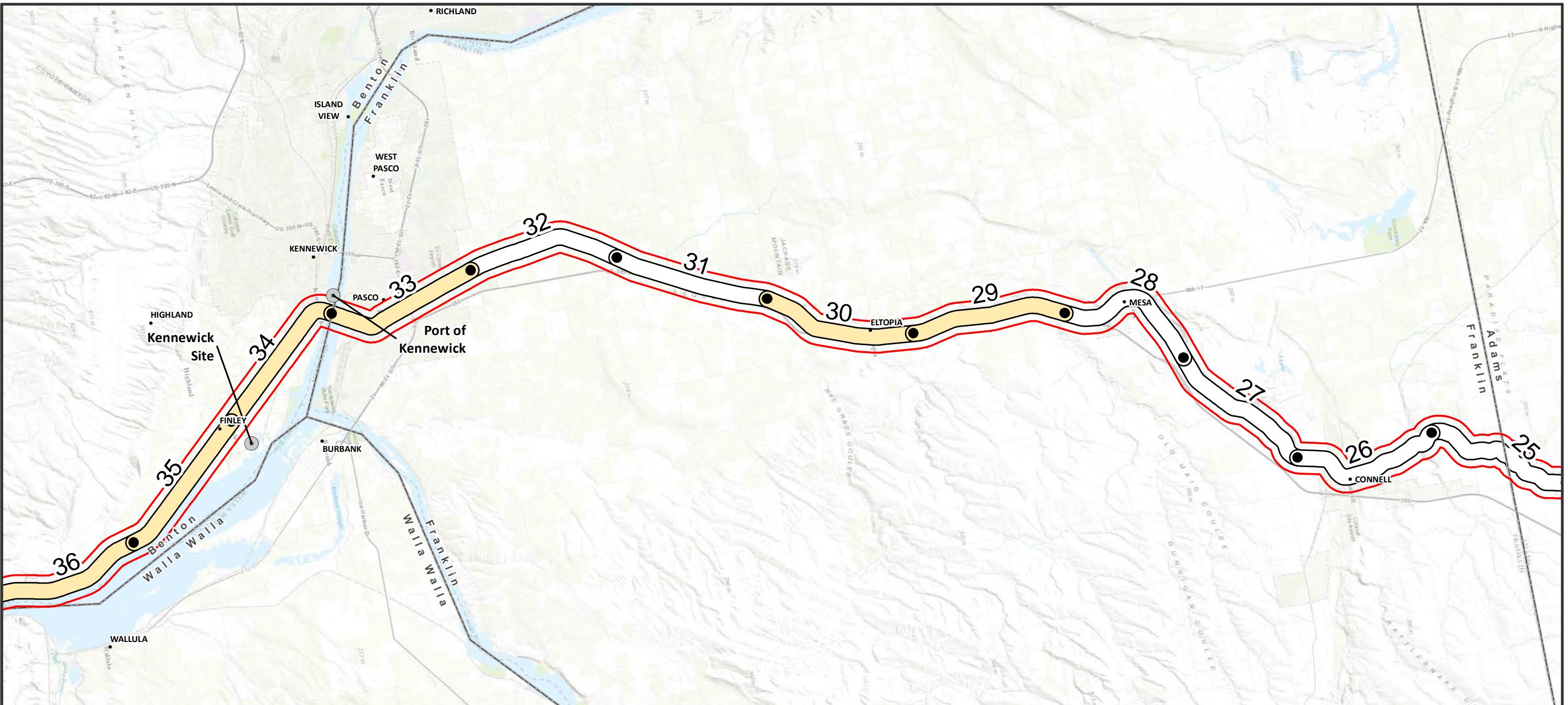


Previously Recorded Archaeological Resources within the Study Area



Sources:
ESRI World Topographic Map Service, 2014.

Sheet 3 of 11

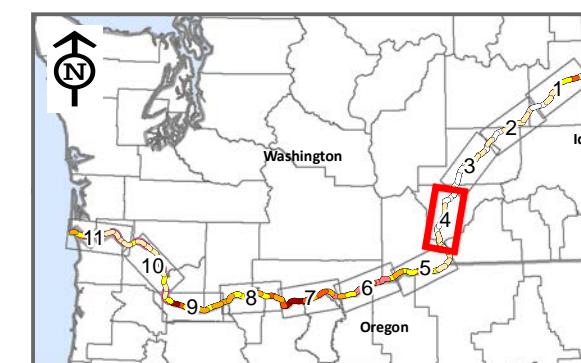


LEGEND

- Cities
- 5-mile interval
- BNSF Rail Corridor Half Mile Buffer (each side of railway)
- County Boundary

Archaeological Resources (count)

	0
	1 - 5

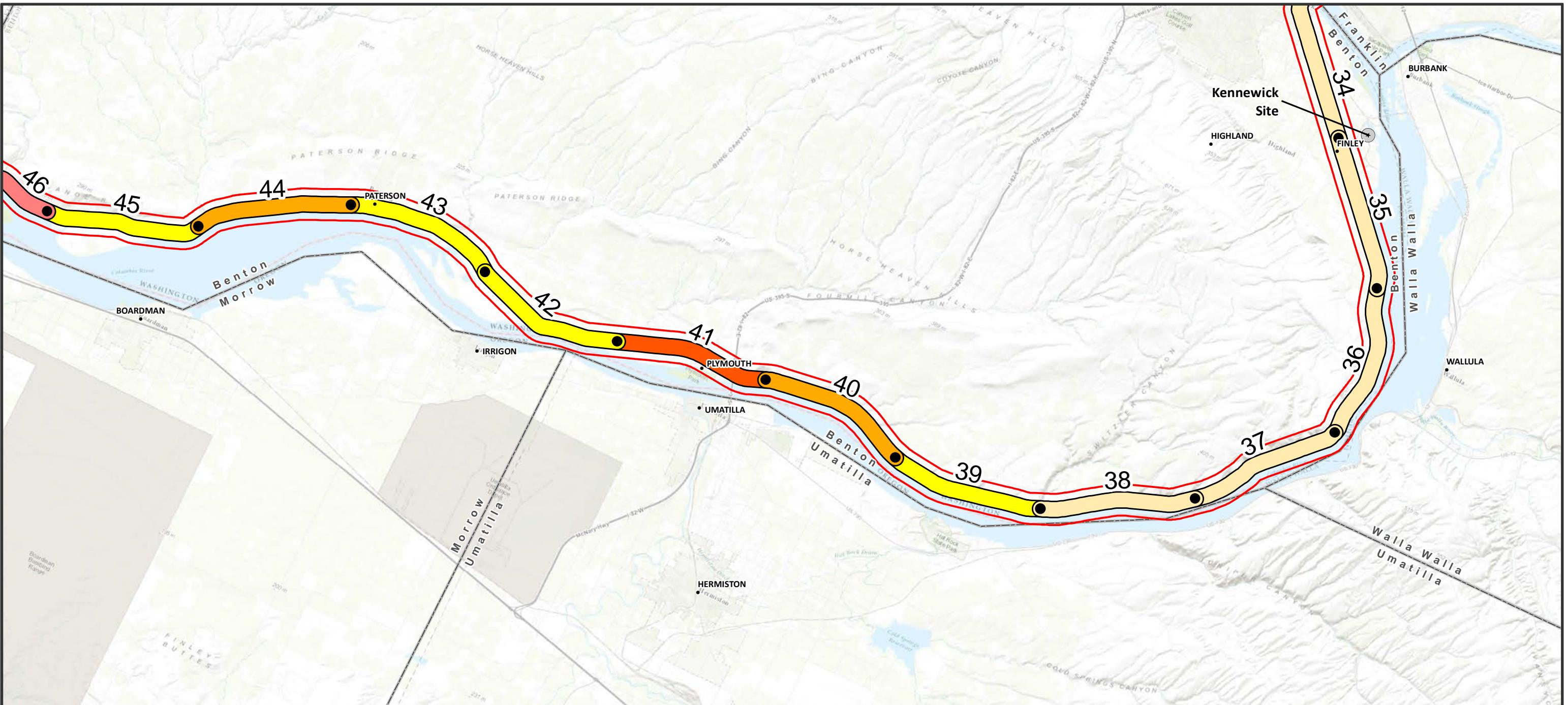


Previously Recorded Archaeological Resources within the Study Area

0 2.5 5 7.5 10 Miles

Sources:
ESRI World Topographic Map Service, 2014.

Sheet 4 of 11



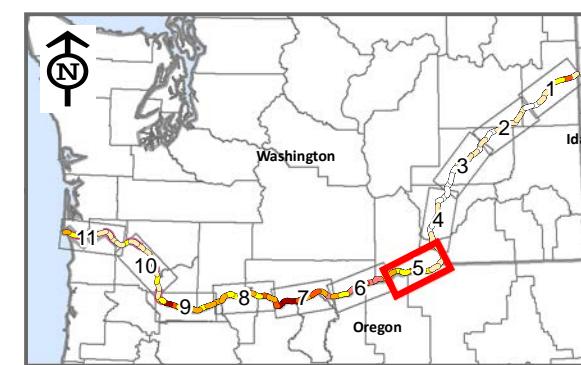
LEGEND

- Cities
- 5-mile interval
- BNSF Rail Corridor Half Mile Buffer (each side of railway)

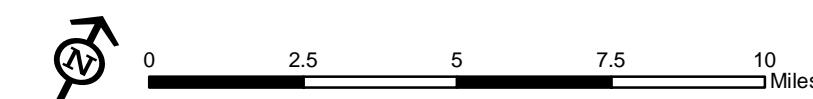
County Boundary

Archaeological Resources (count)

- | |
|---------|
| 1 - 5 |
| 6 - 10 |
| 11 - 15 |
| 16 - 20 |
| 21 - 50 |

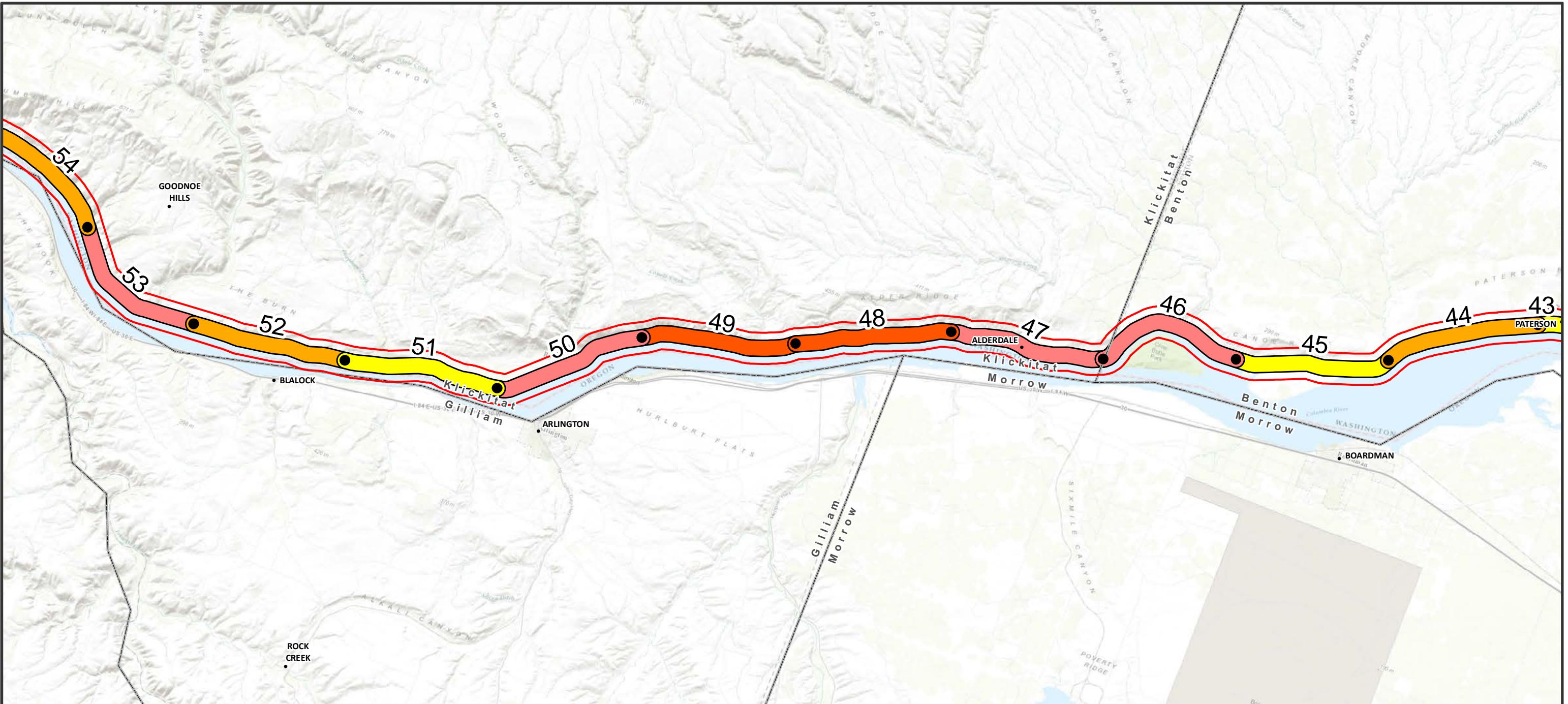


Previously Recorded Archaeological Resources
within the Study Area



Sources:
ESRI World Topographic Map Service, 2014.

Sheet 5 of 11

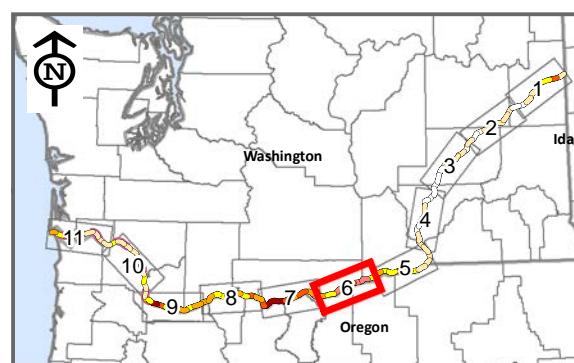


LEGEND

- Cities
- 5-mile interval
- BNSF Rail Corridor Half Mile Buffer (each side of railway)
- County Boundary

Archaeological Resources (count)

	6 - 10
	11 - 15
	16 - 20
	21 - 50

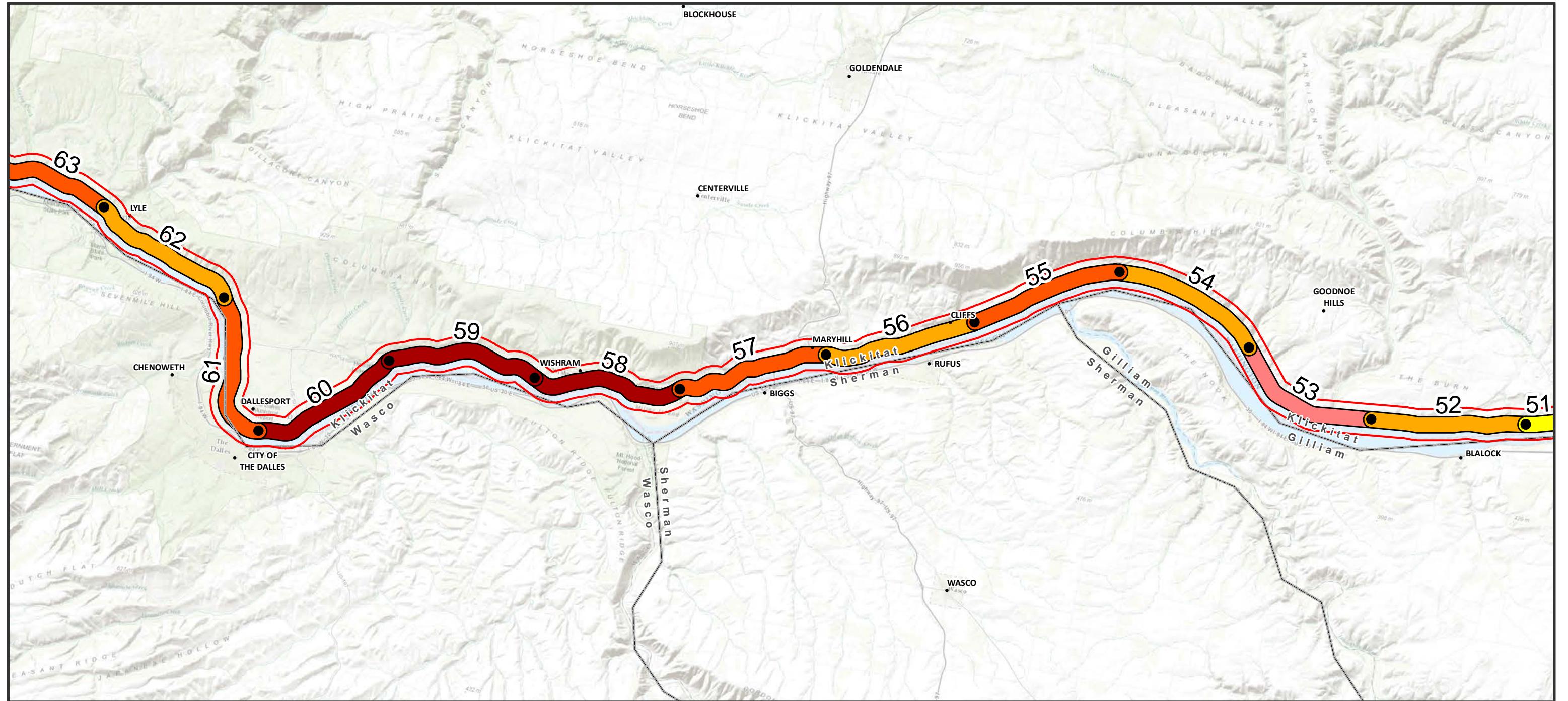


Previously Recorded Archaeological Resources within the Study Area



Sources:
ESRI World Topographic Map Service, 2014.

Sheet 6 of 11

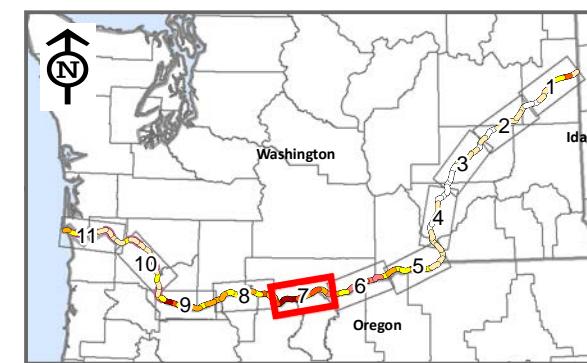


LEGEND

- Cities
- 5-mile interval
- BNSF Rail Corridor Half Mile Buffer (each side of railway)

Archaeological Resources (count)

- | | |
|--|---------|
| | 6 - 10 |
| | 11 - 15 |
| | 16 - 20 |
| | 21 - 50 |
| | 51+ |

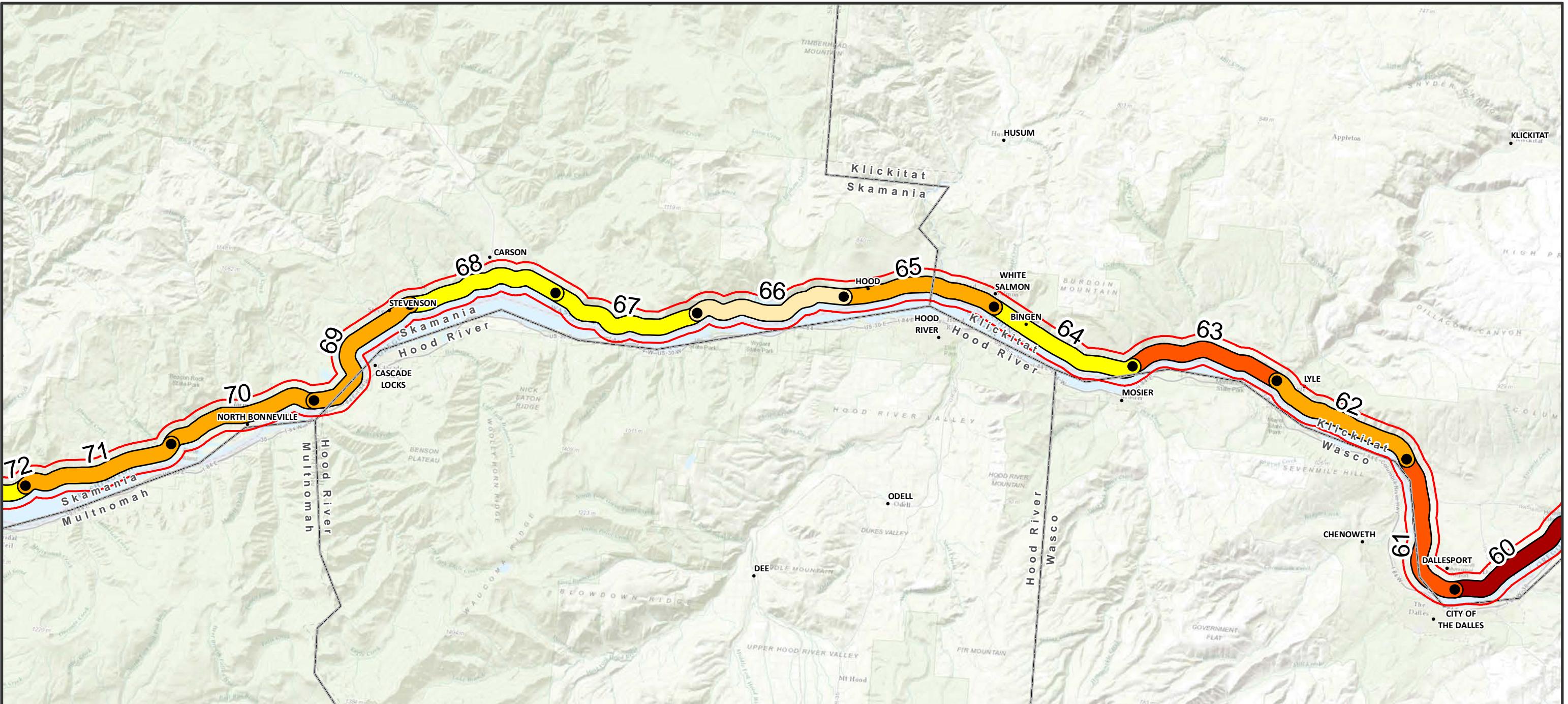


Previously Recorded Archaeological Resources within the Study Area



Sources:
ESRI World Topographic Map Service, 2014.

Sheet 7 of 11

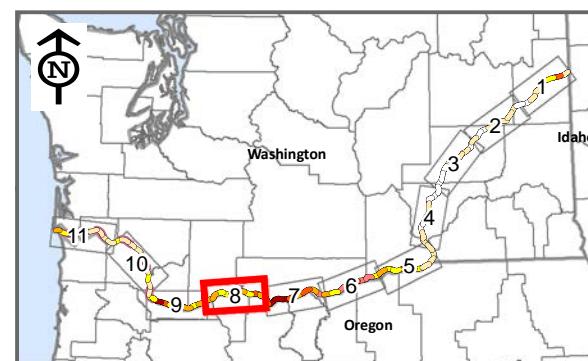


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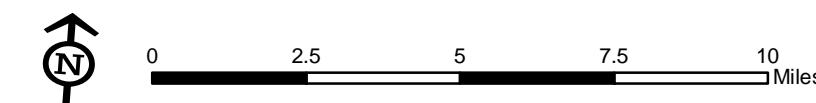
- Cities
- 5-mile interval
- BNSF Rail Corridor Half Mile Buffer (each side of railway)

Archaeological Resources (count)

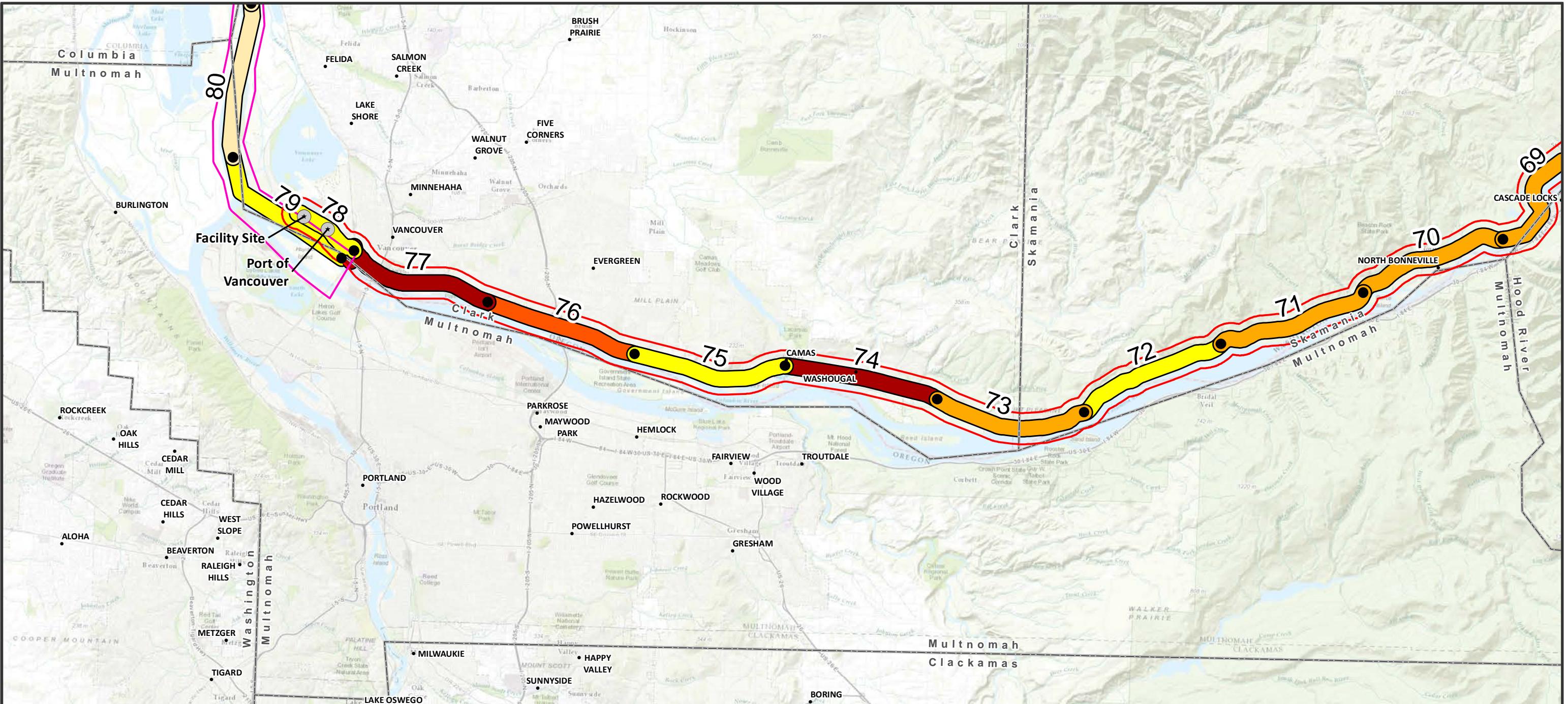
- 1 - 5
- 6 - 10
- 11 - 15
- 21 - 50
- 51+



Previously Recorded Archaeological Resources within the Study Area



Sources:
ESRI World Topographic Map Service, 2014.



LEGEND

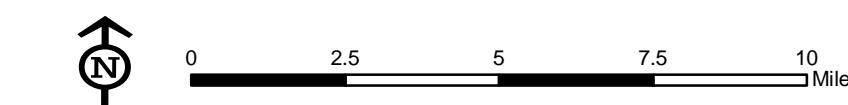
- Cities
- 5-mile interval
- Columbia River 1/2 Mile Buffer (1/4 mile each side of river)
- BNSF Rail Corridor Half Mile Buffer (each side of railway)
- County Boundary

Archaeological Resources (count)

- | |
|---------|
| 1 - 5 |
| 6 - 10 |
| 11 - 15 |
| 21 - 50 |
| 51+ |

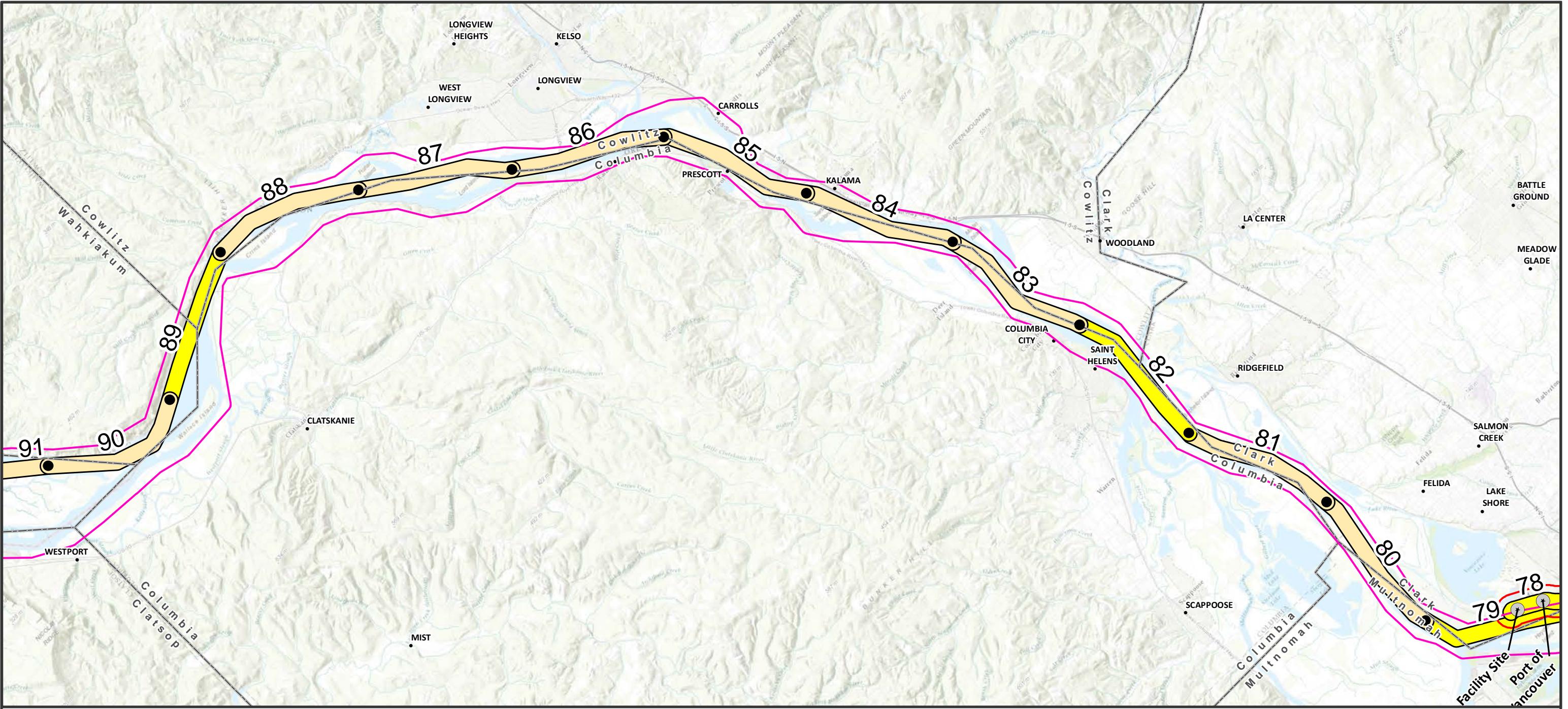


Previously Recorded Archaeological Resources
within the Study Area



Sources:
ESRI World Topographic Map Service, 2014.

Sheet 9 of 11

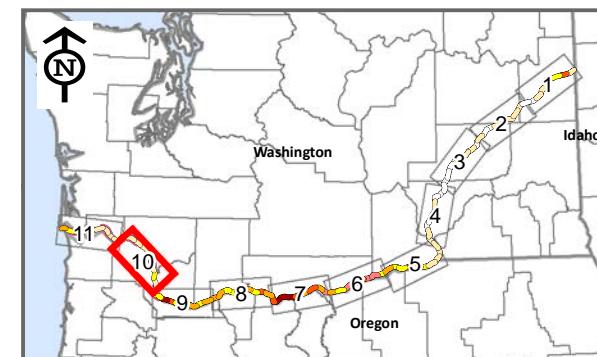


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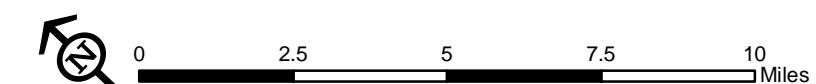
- Cities
- 5-mile interval
- Columbia River 1/2 Mile Buffer (1/4 mile each side of river)
- BNSF Rail Corridor Half Mile Buffer (each side of railway)
- County Boundary

Archaeological Resources (count)

- 1 - 5
- 6 - 10

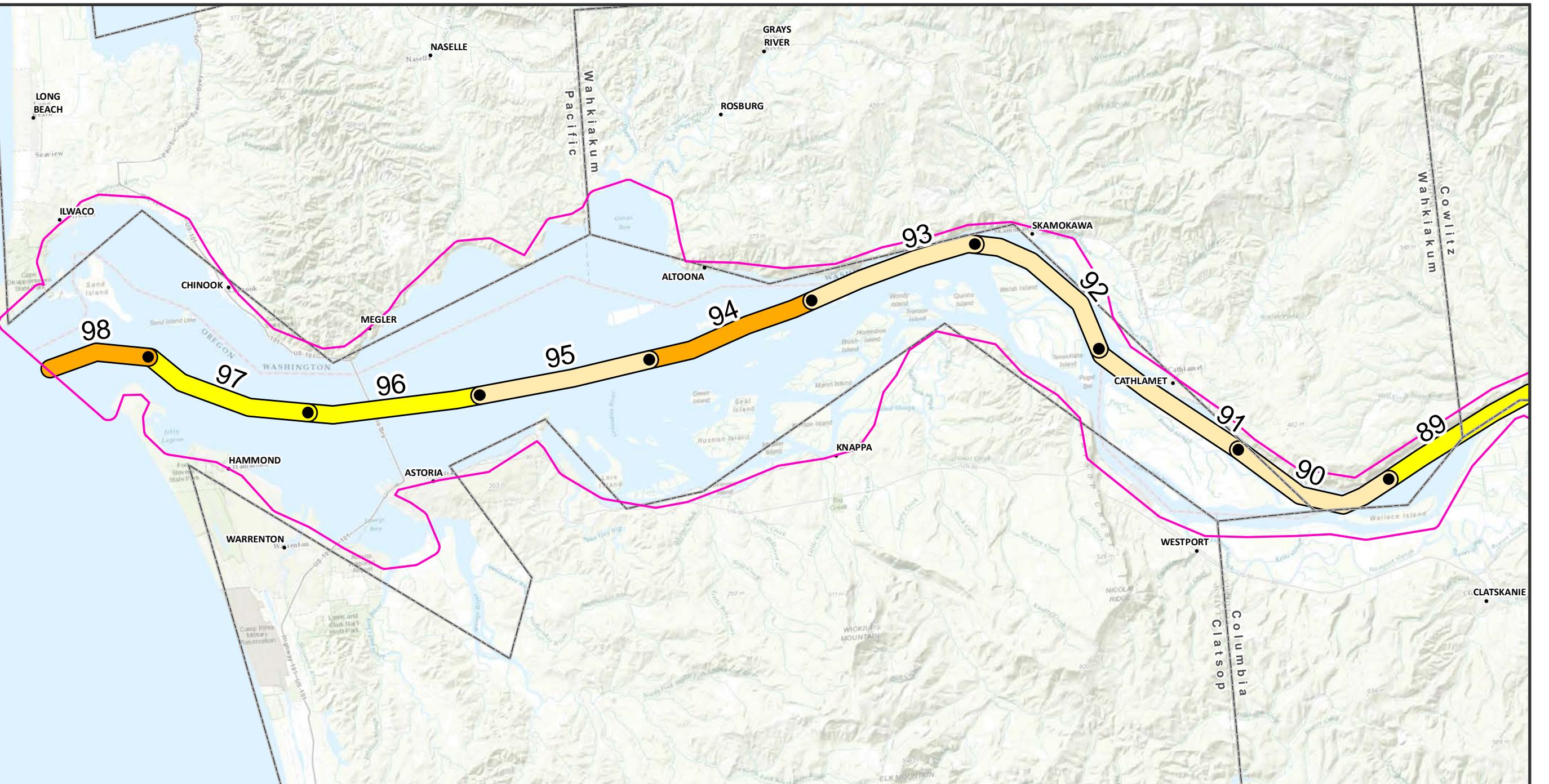


Previously Recorded Archaeological Resources within the Study Area



Sources:
ESRI World Topographic Map Service, 2014.

Sheet 10 of 11

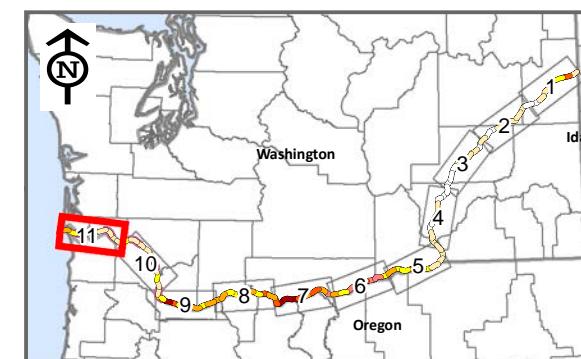


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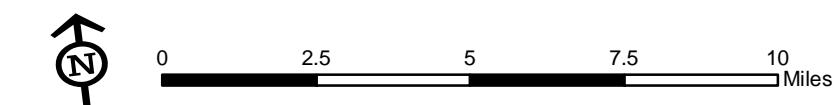
- Cities
- 5-mile interval
- ❑ Columbia River 1/2 Mile Buffer (1/4 mile each side of river)
- ❑ County Boundary

Archaeological Resources (count)

	1 - 5
	6 - 10
	11 - 15



Previously Recorded Archaeological Resources within the Study Area



Sources:
ESRI World Topographic Map Service, 2014.

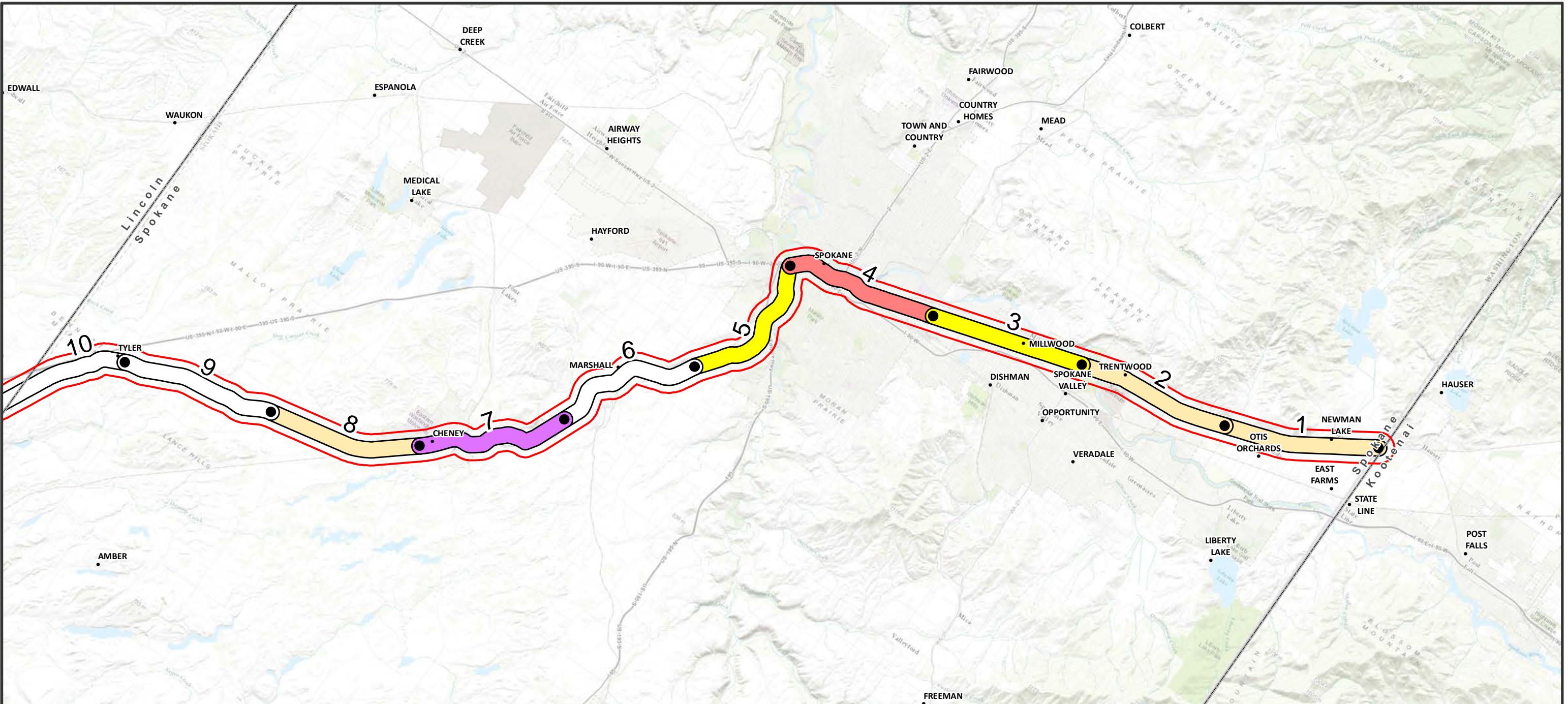
Sheet 11 of 11

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Appendix P-8

Previously Recorded Historical Resources within Study Area

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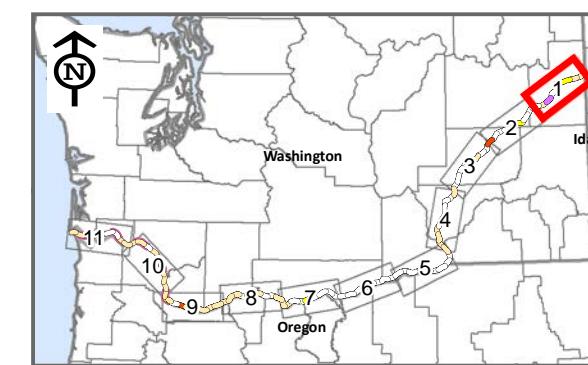
LEGEND

- Cities
- 5-mile interval
- BNSF Rail Corridor Half Mile Buffer (each side of railway)

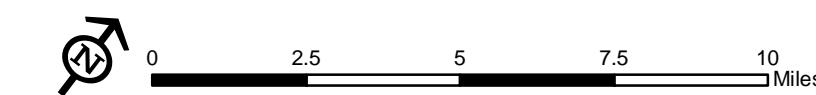
 County Boundary

Historic Resources
(count)

- 0
- 1 - 4
- 5 - 9
- 76
- 213

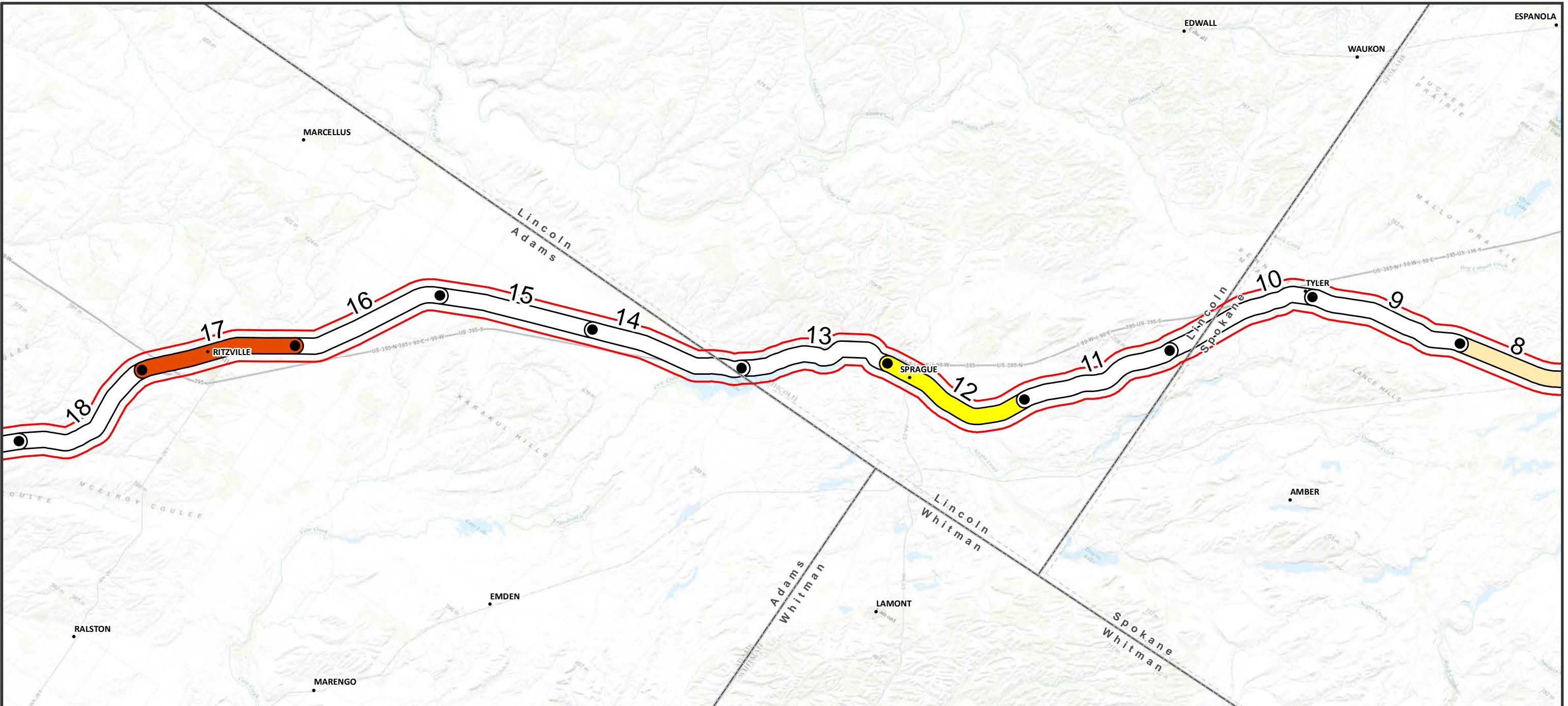


Previously Recorded Historic Resources
within the Study Area



Sources:
ESRI World Topographic Map Service, 2014.

Sheet 1 of 11

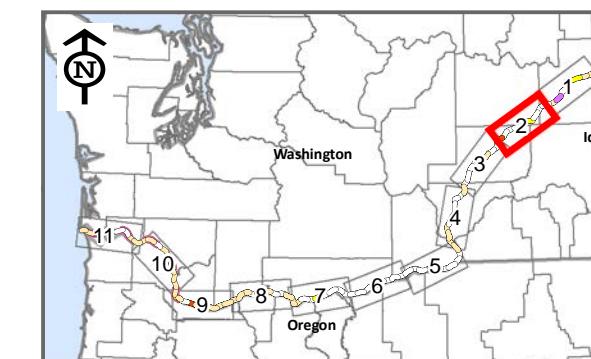


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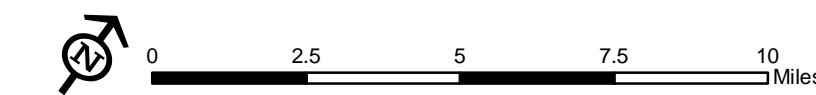
- Cities
- 5-mile interval
- BNSF Rail Corridor Half Mile Buffer (each side of railway)
- County Boundary

Historic Resources (count)

	0
	1 - 4
	5 - 9
	10 - 20

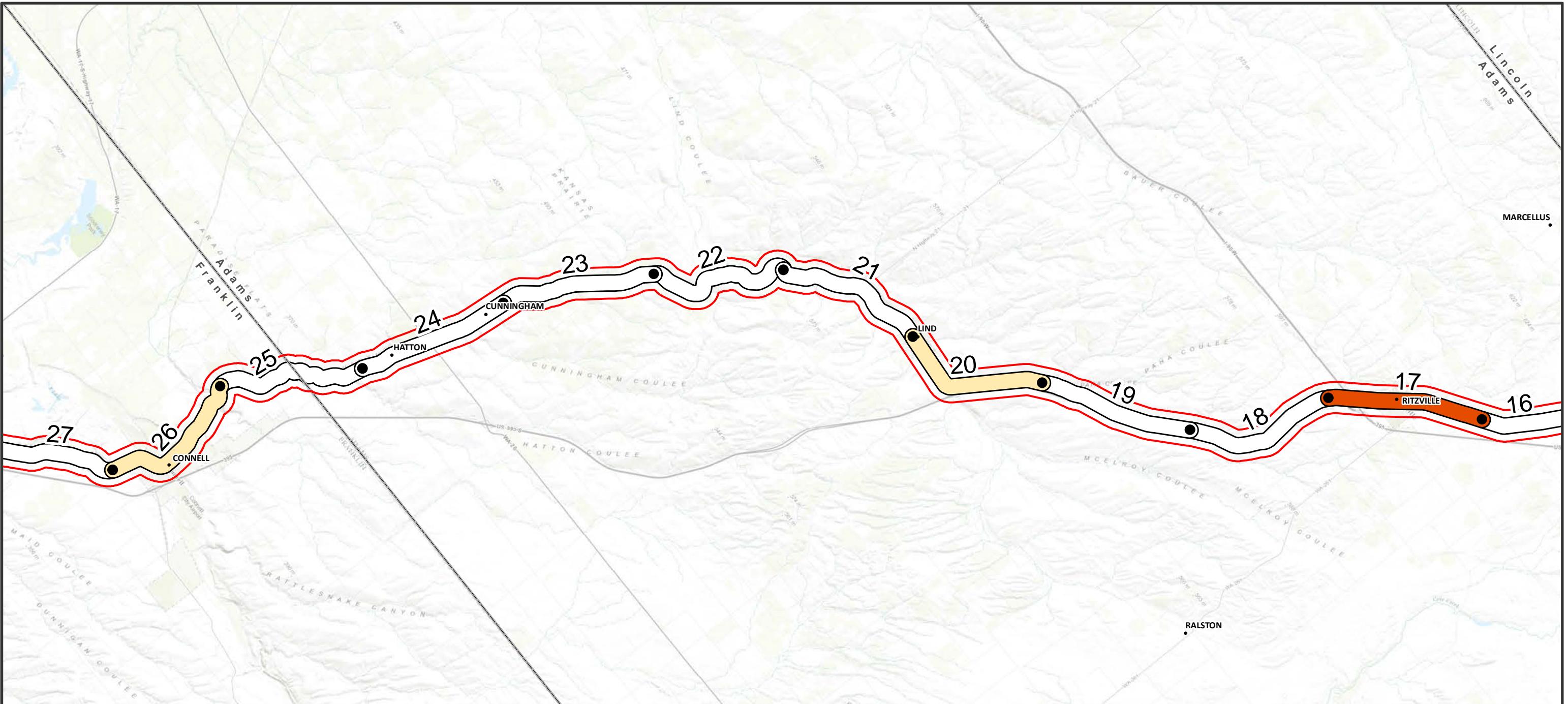


Previously Recorded Historic Resources within the Study Area



Sources:
ESRI World Topographic Map Service, 2014.

Sheet 2 of 11

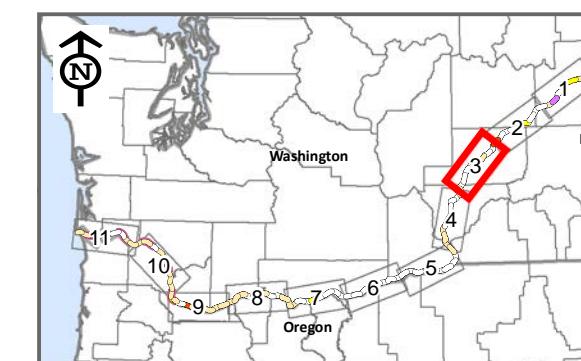


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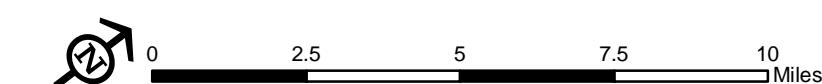
- Cities
- 5-mile interval
- BNSF Rail Corridor Half Mile Buffer (each side of railway)
- County Boundary

Historic Resources
(count)

	0
	1 - 4
	10 - 20

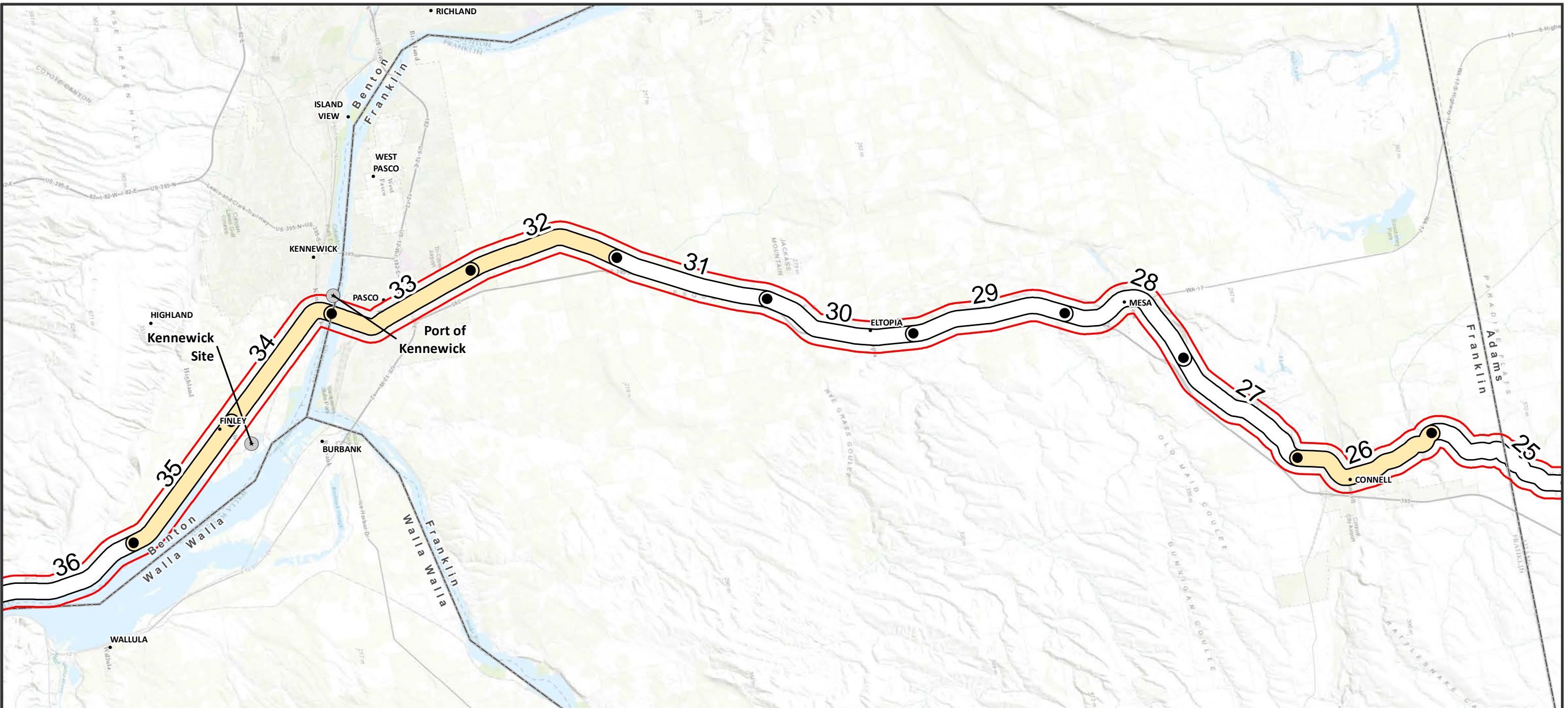


Previously Recorded Historic Resources
within the Study Area



Sources:
ESRI World Topographic Map Service, 2014.

Sheet 3 of 11

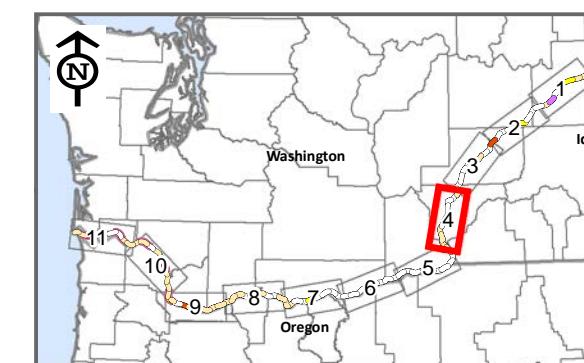


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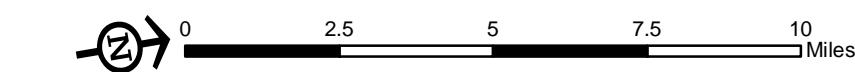
- Cities
- 5-mile interval
- BNSF Rail Corridor Half Mile Buffer (each side of railway)
- County Boundary

Historic Resources (count)

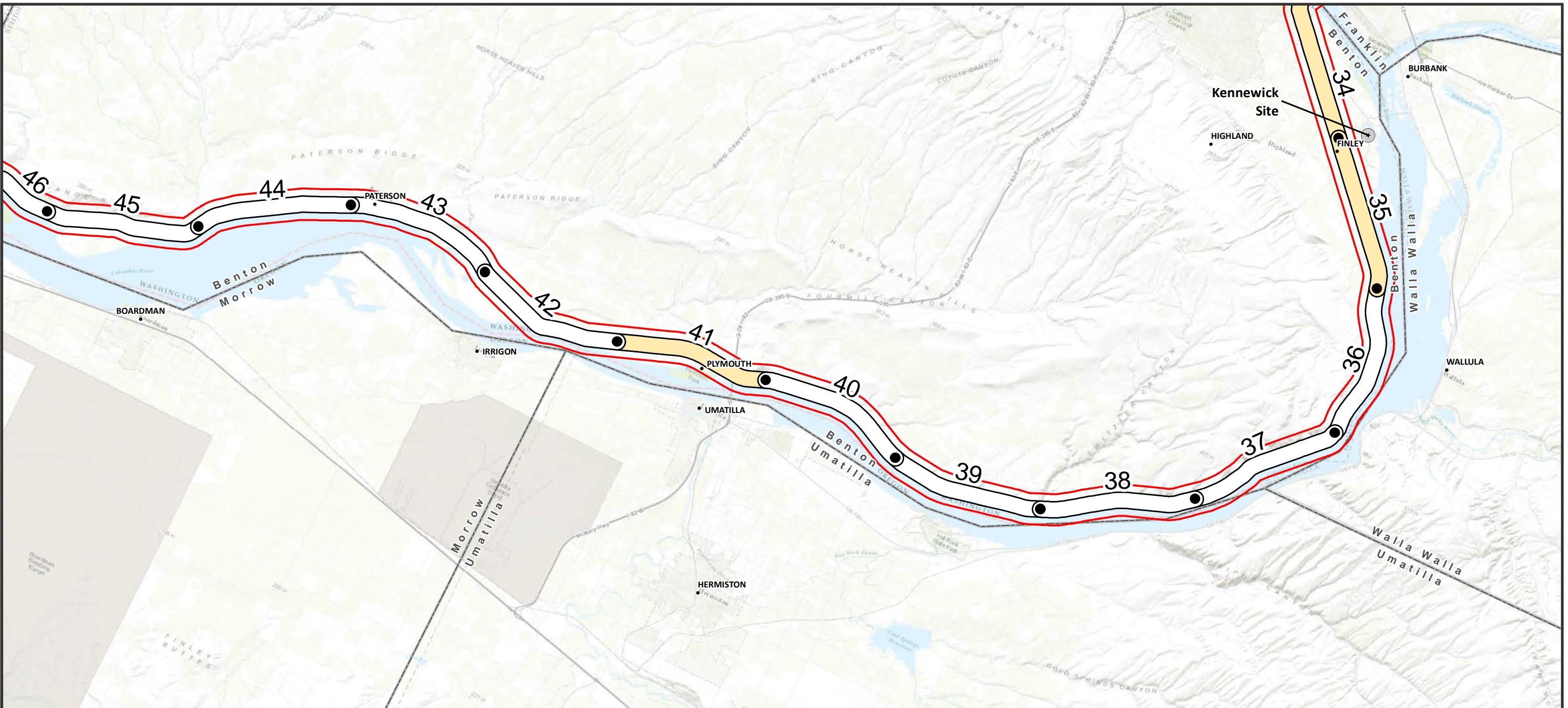
- 0
- 1 - 4



Previously Recorded Historic Resources within the Study Area



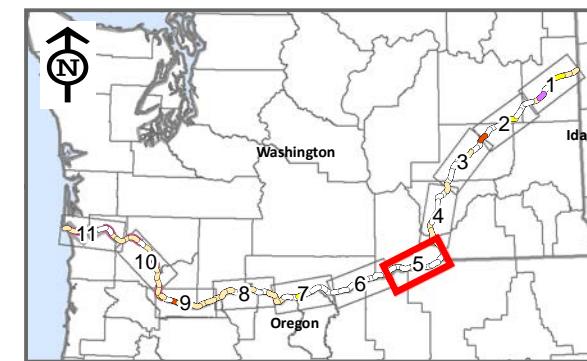
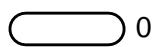
Sources:
ESRI World Topographic Map Service, 2014.



LEGEND

- Cities
- 5-mile interval
- BNSF Rail Corridor Half Mile Buffer (each side of railway)
- County Boundary

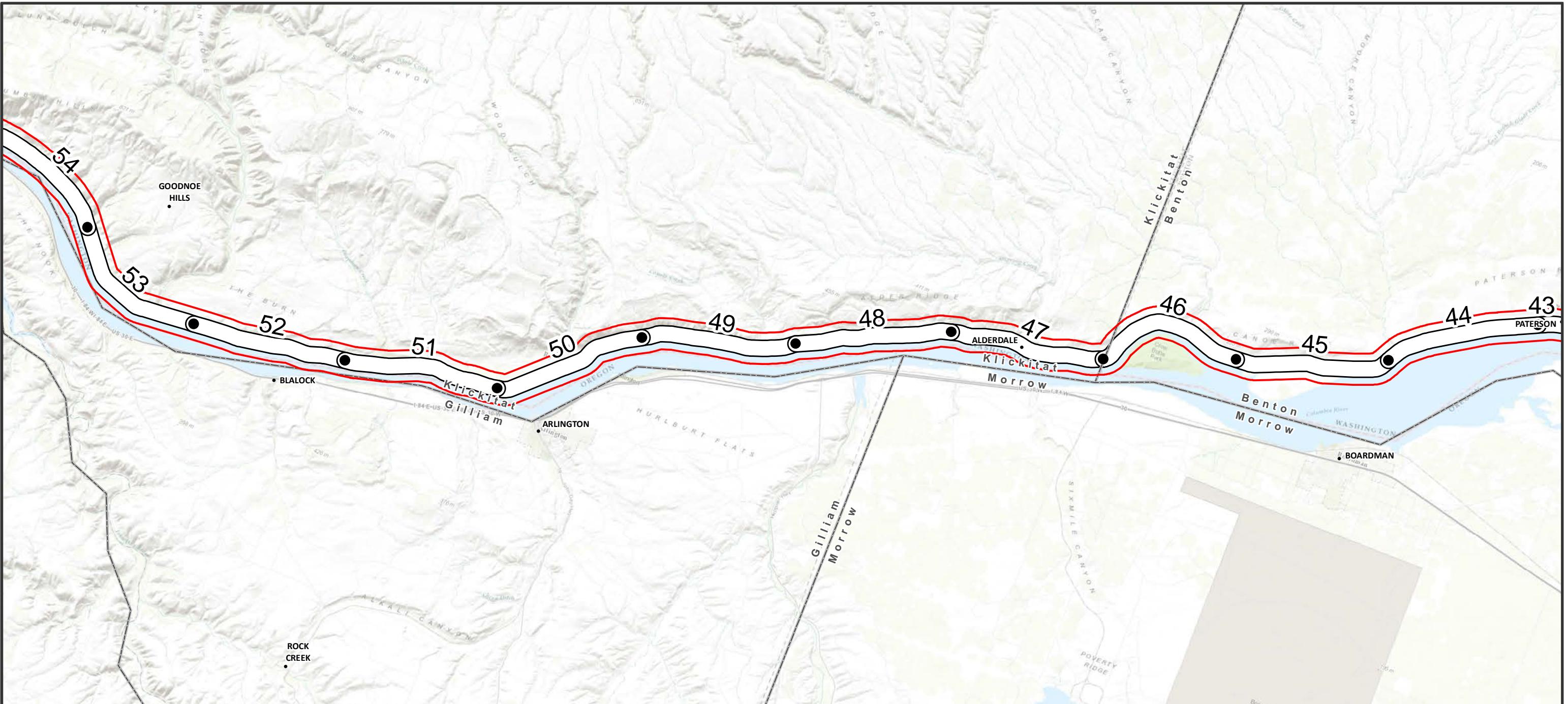
Historic Resources
(count)



Previously Recorded Historic Resources
within the Study Area



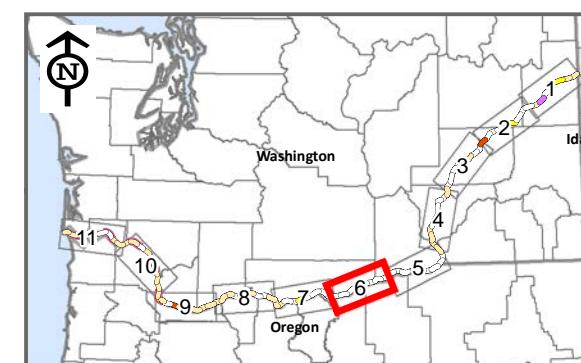
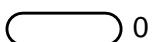
Sources:
ESRI World Topographic Map Service, 2014.



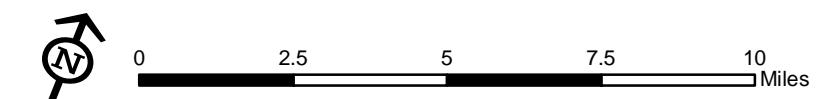
LEGEND

- Cities
- 5-mile interval
- BNSF Rail Corridor Half Mile Buffer (each side of railway)
- County Boundary

Historic Resources
(count)

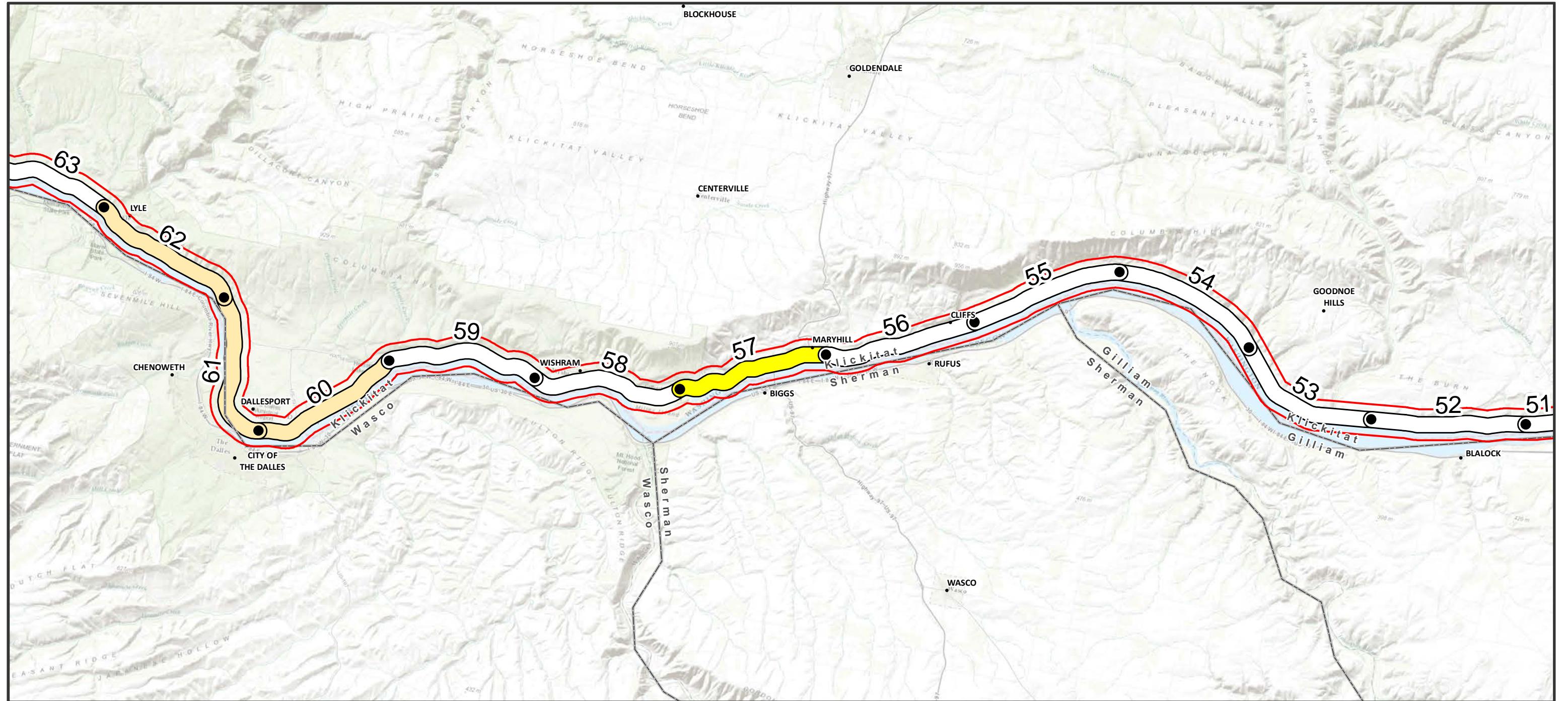


Previously Recorded Historic Resources
within the Study Area



Sources:
ESRI World Topographic Map Service, 2014.

Sheet 6 of 11

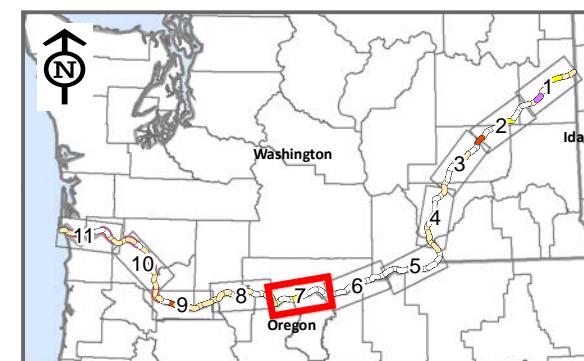


LEGEND

- Cities
- 5-mile interval
- BNSF Rail Corridor Half Mile Buffer (each side of railway)
- County Boundary

Historic Resources (count)

	0
	1 - 4
	5 - 9

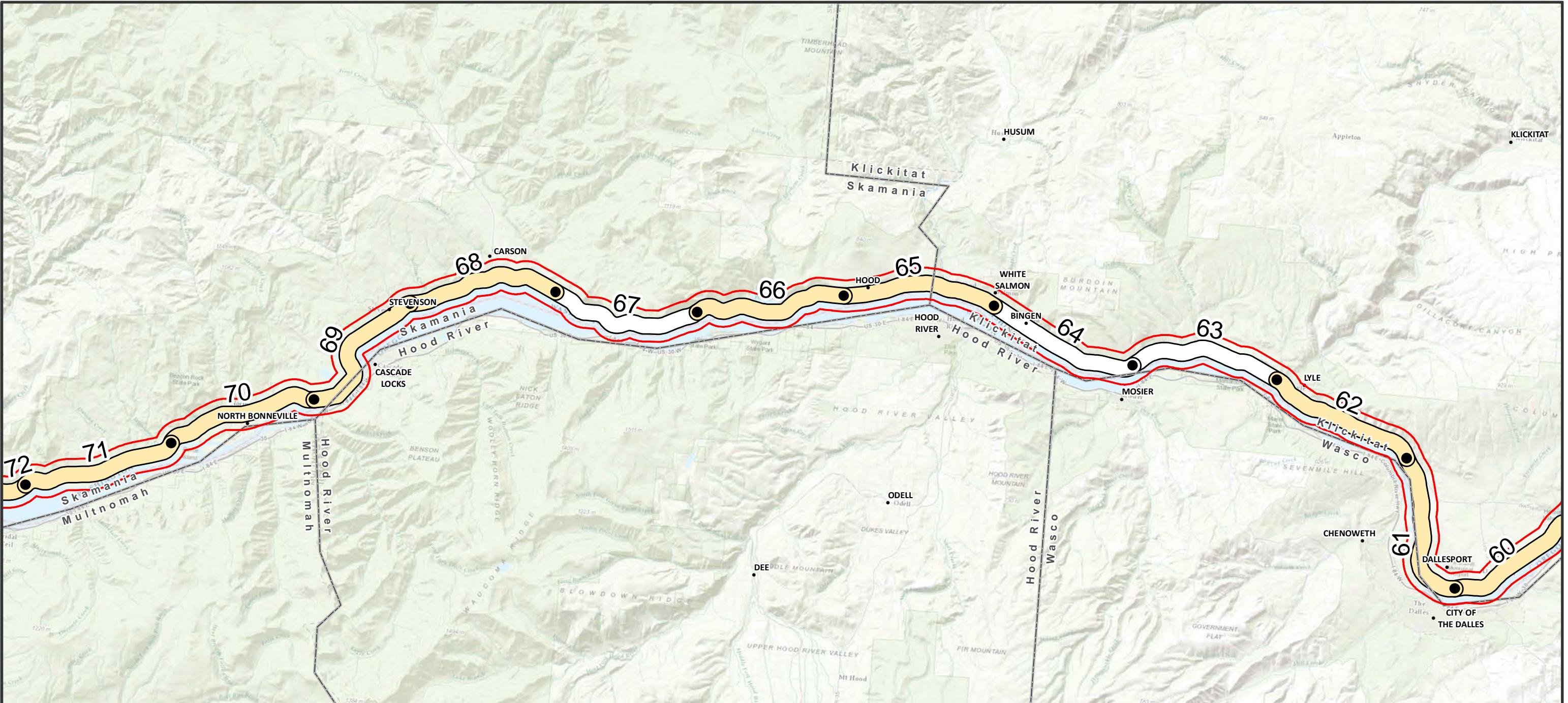


Previously Recorded Historic Resources within the Study Area



Sources:
ESRI World Topographic Map Service, 2014.

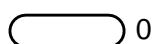
Sheet 7 of 11



LEGEND

- Cities
- 5-mile interval
- BNSF Rail Corridor Half Mile Buffer (each side of railway)
- County Boundary

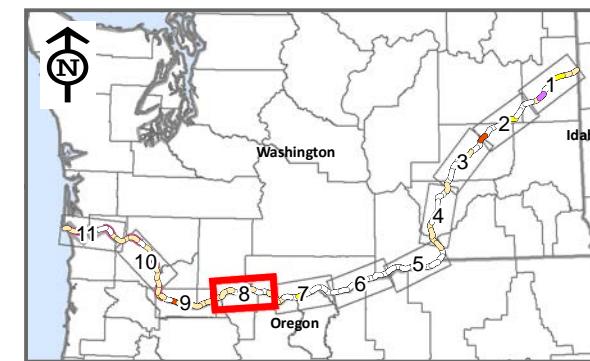
Historic Resources
(count)



0



1 - 4



Previously Recorded Historic Resources
within the Study Area

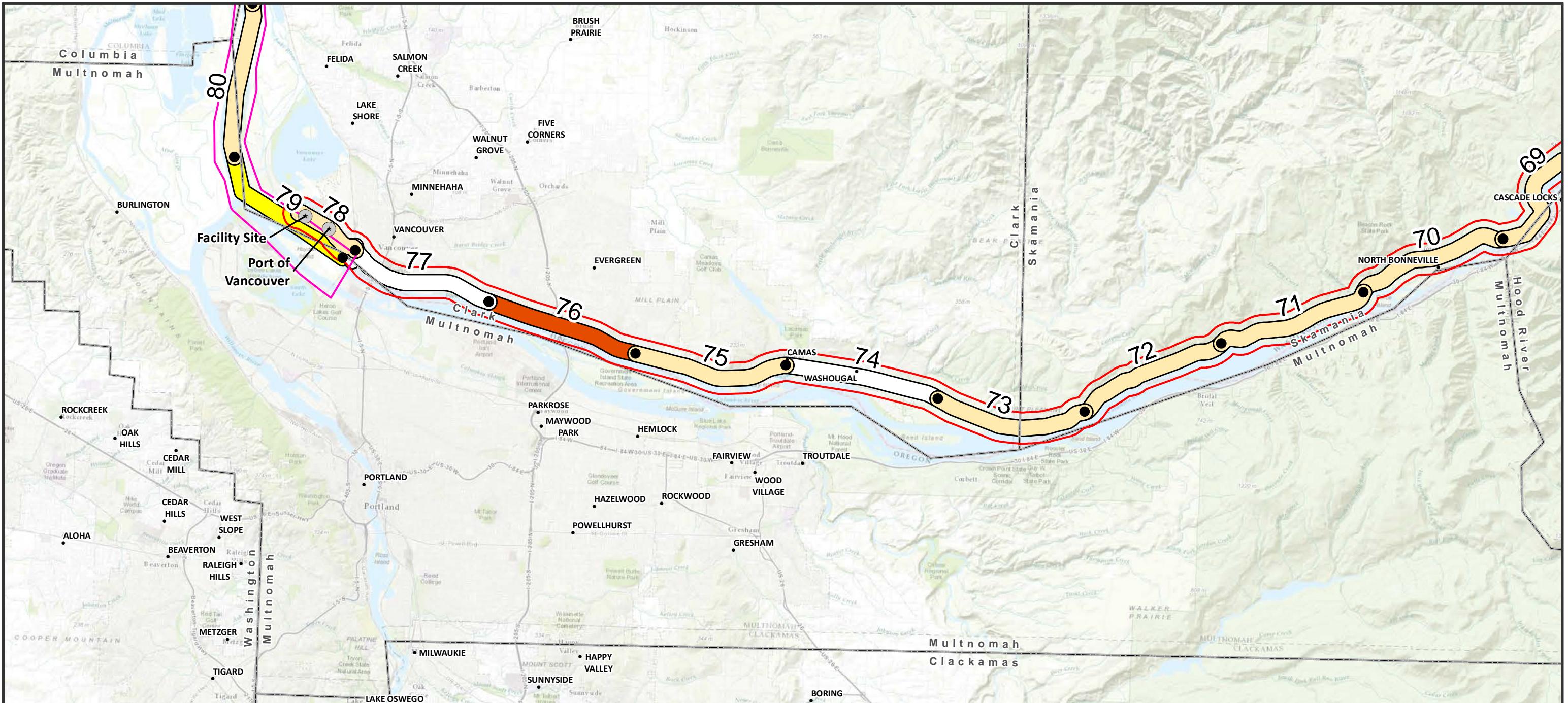


N

0 2.5 5 7.5 10 Miles

Sources:
ESRI World Topographic Map Service, 2014.

Sheet 8 of 11

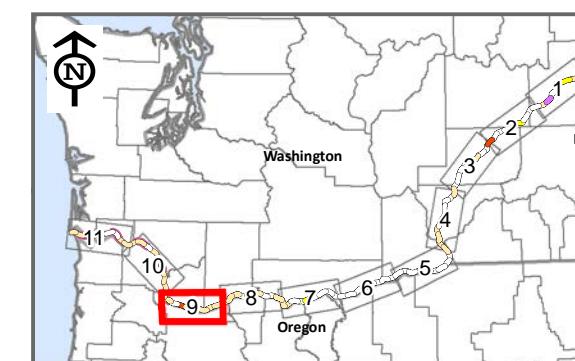


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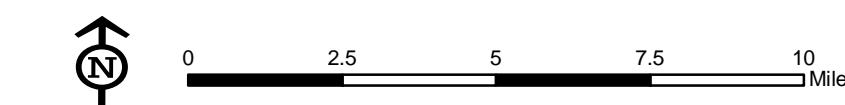
- Cities
- 5-mile interval
- Columbia River 1/2 Mile Buffer (1/4 mile each side of river)
- BNSF Rail Corridor Half Mile Buffer (each side of railway)
- County Boundary

Historic Resources (count)

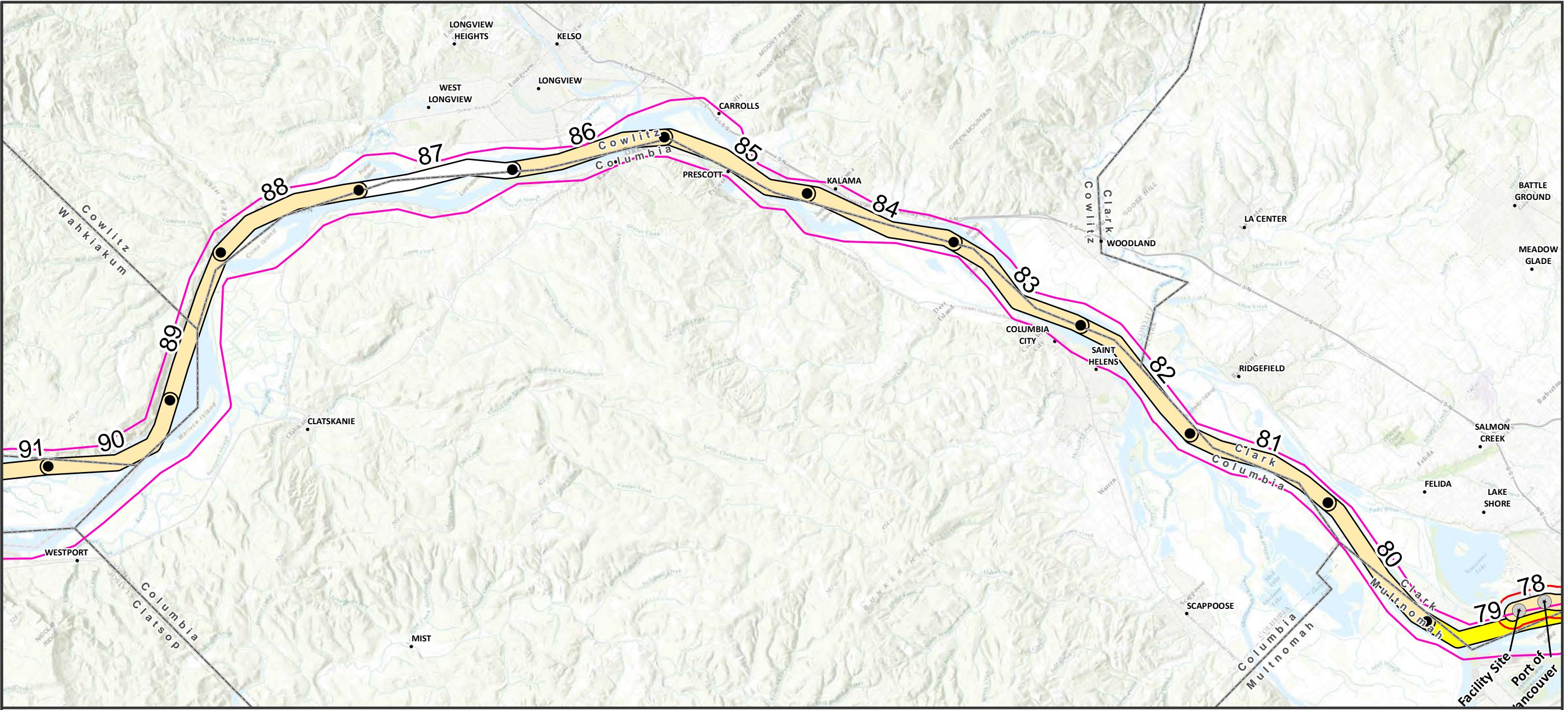
0	
1 - 4	
5 - 9	
10 - 20	



Previously Recorded Historic Resources within the Study Area



Sources:
ESRI World Topographic Map Service, 2014.

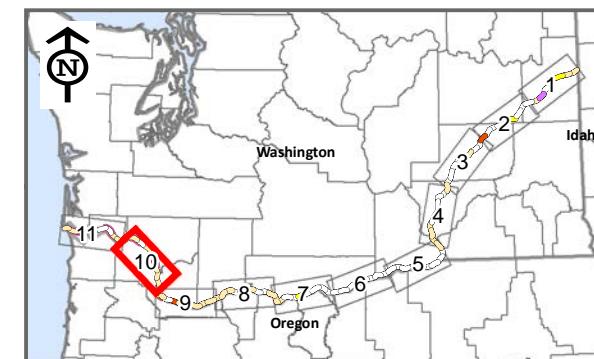


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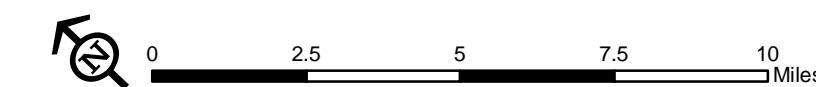
- Cities
- 5-mile interval
- Columbia River 1/2 Mile Buffer (1/4 mile each side of river)
- BNSF Rail Corridor Half Mile Buffer (each side of railway)
- County Boundary

Historic Resources
(count)

	0
	1 - 4
	5 - 9

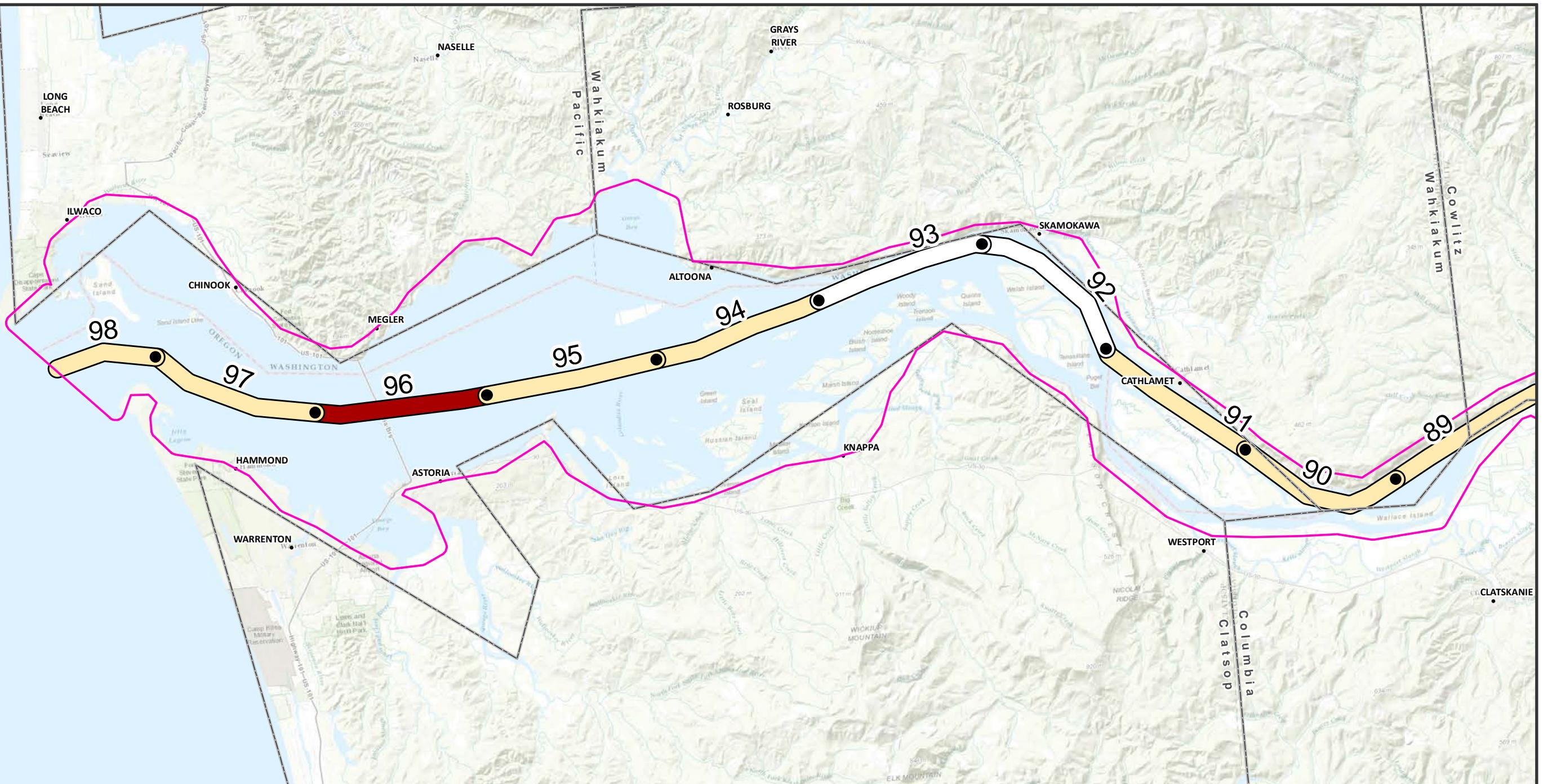


Previously Recorded Historic Resources
within the Study Area



Sources:
ESRI World Topographic Map Service, 2014.

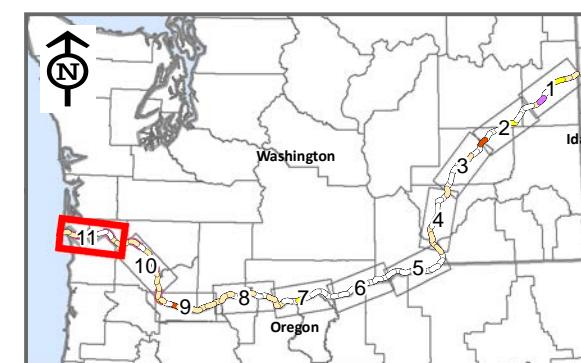
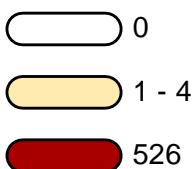
Sheet 10 of 11



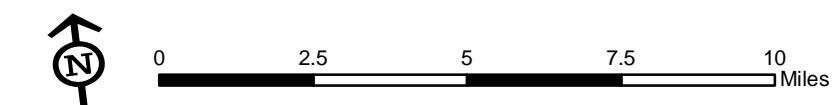
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- Cities
- 5-mile interval
- Columbia River 1/2 Mile Buffer (1/4 mile each side of river)
- County Boundary

Historic Resources
(count)



Previously Recorded Historic Resources
within the Study Area



Sources:
ESRI World Topographic Map Service, 2014.

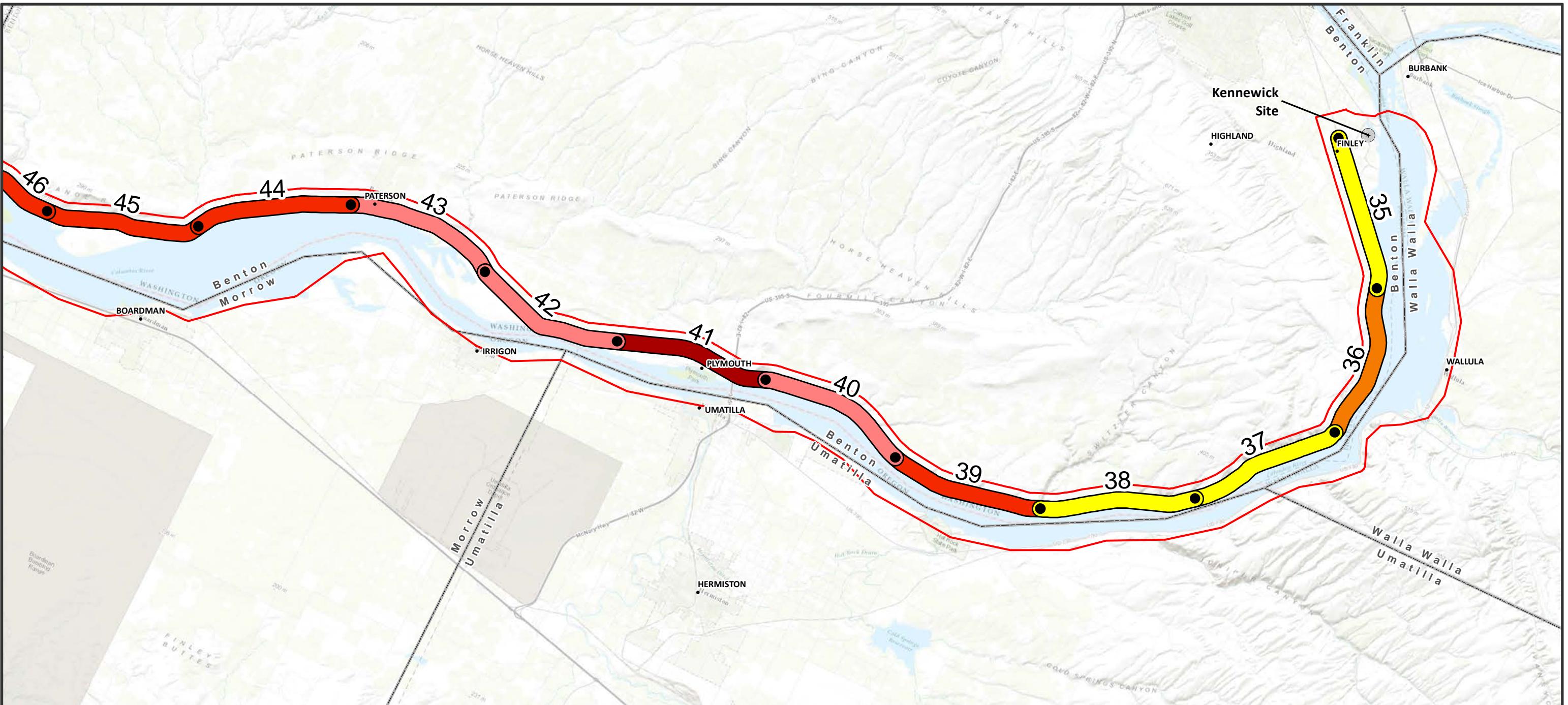
Sheet 11 of 11

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Appendix P-9

Previously Recorded Archaeological Resources within the Mid-Columbia Study Area

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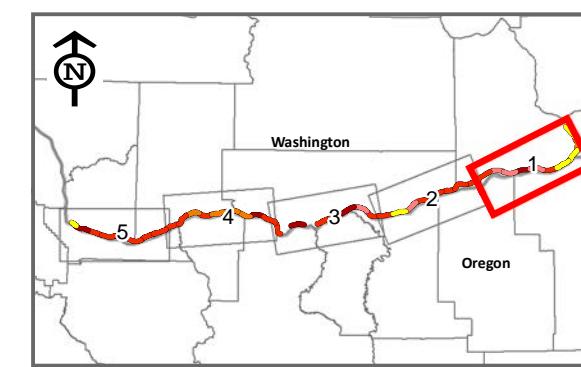
- Cities
- 5-mile interval

 Mid-Columbia Study Area

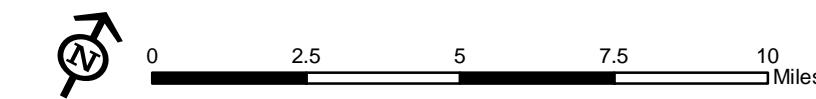
 County Boundary

Archaeological Resources (count)

- | | |
|--|----------|
| | 6 - 10 |
| | 11 - 15 |
| | 16 - 20 |
| | 21 - 50 |
| | 51 - 109 |

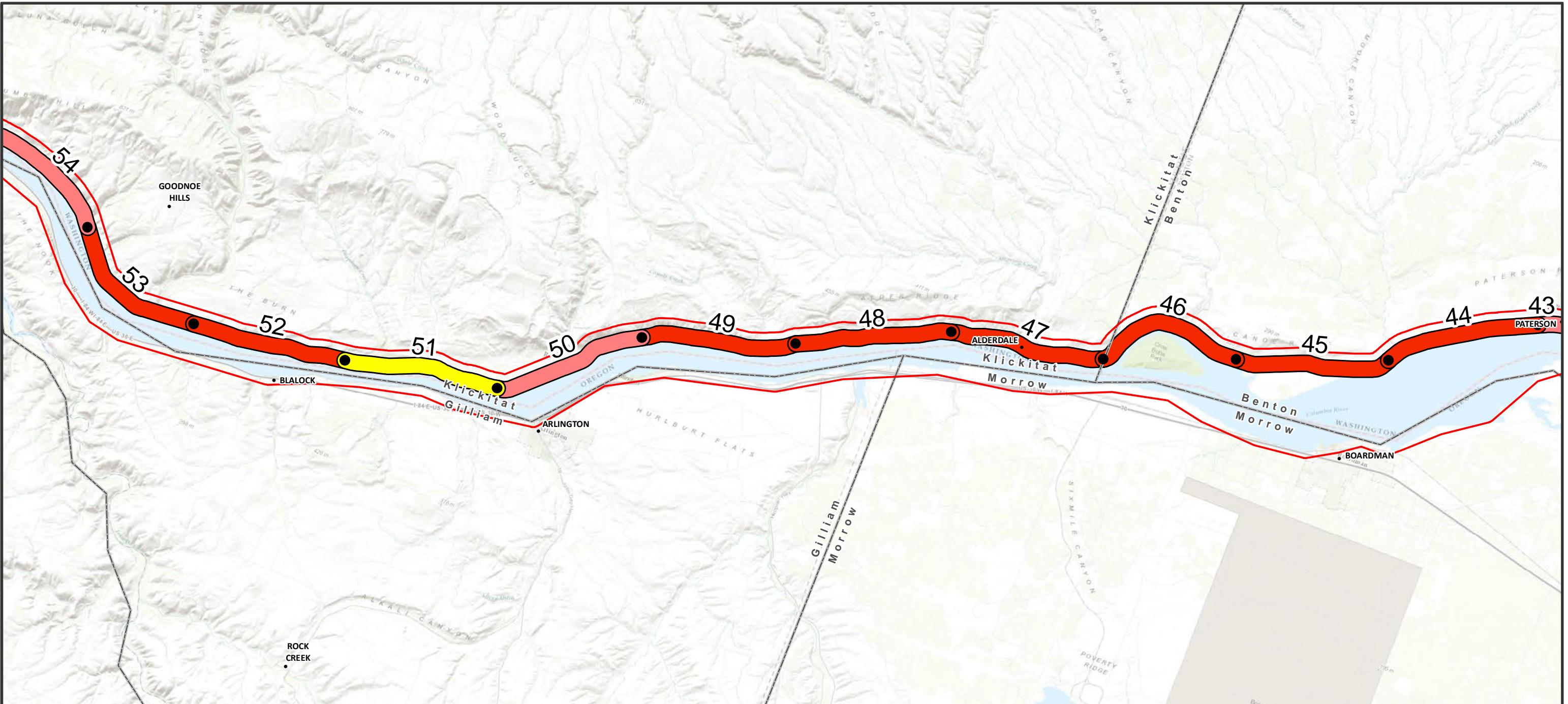


Previously Recorded Archaeological Resources
within the Mid-Columbia Study Area



Sources:
ESRI World Topographic Map Service, 2014.

Sheet 1 of 5

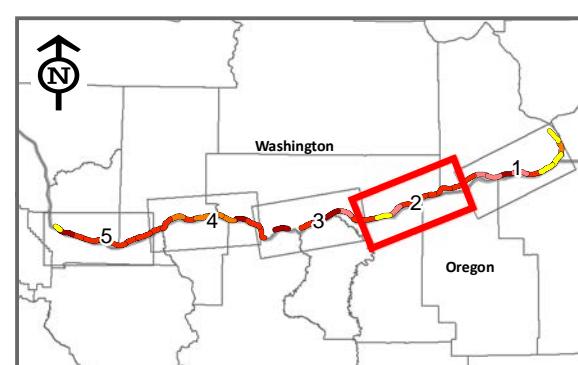


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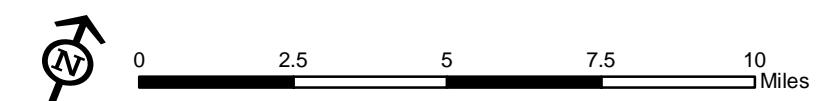
- Cities
- 5-mile interval
- Mid-Columbia Study Area
- County Boundary

Archaeological Resources (count)

	6 - 10
	16 - 20
	21 - 50

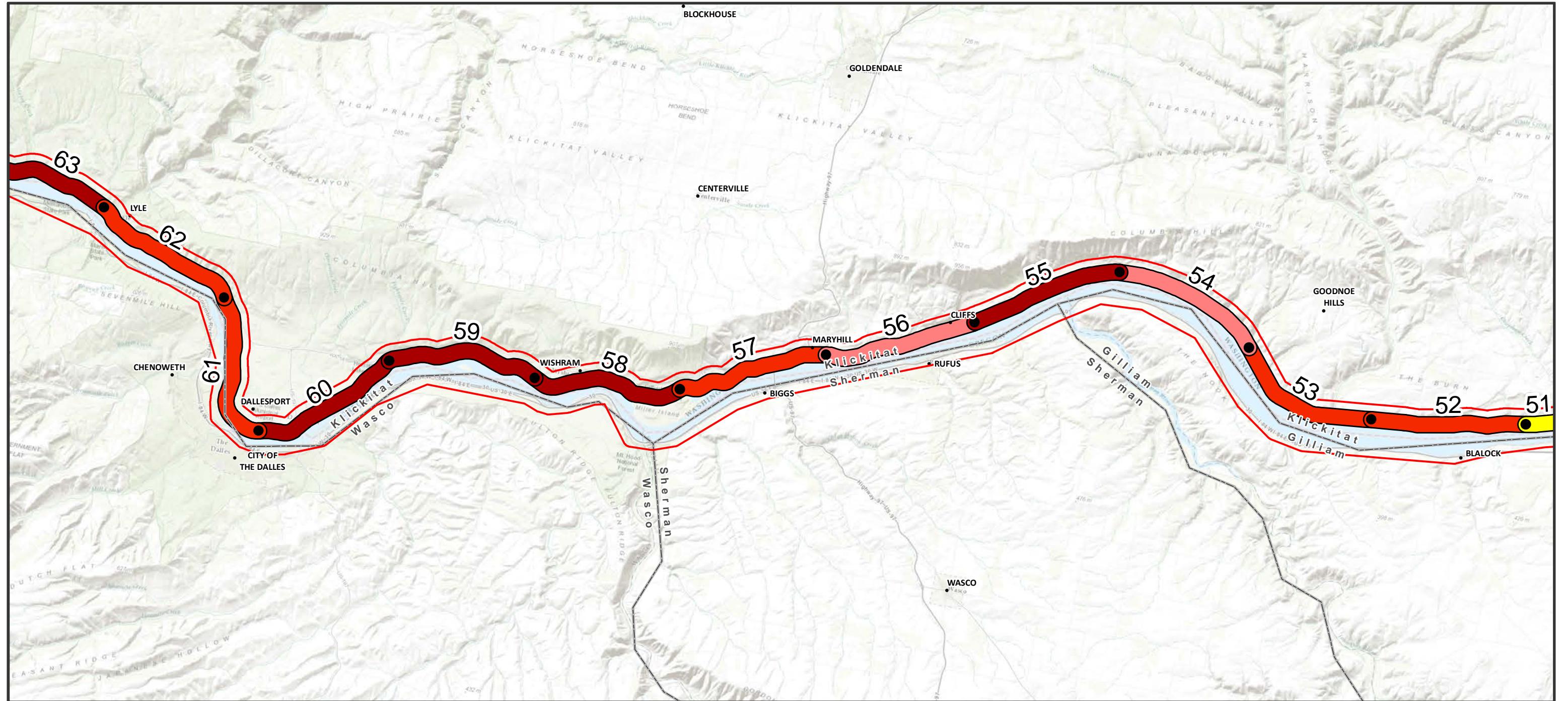


Previously Recorded Archaeological Resources
within the Mid-Columbia Study Area



Sources:
ESRI World Topographic Map Service, 2014.

Sheet 2 of 5

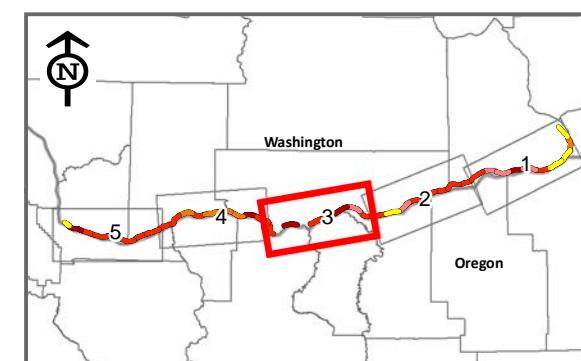


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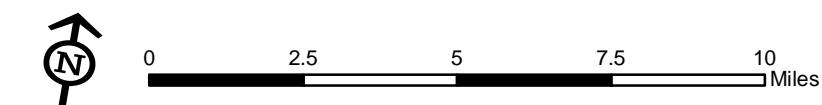
- Cities
- 5-mile interval
- Mid-Columbia Study Area
- County Boundary

Archaeological Resources (count)

	6 - 10
	16 - 20
	21 - 50
	51 - 109

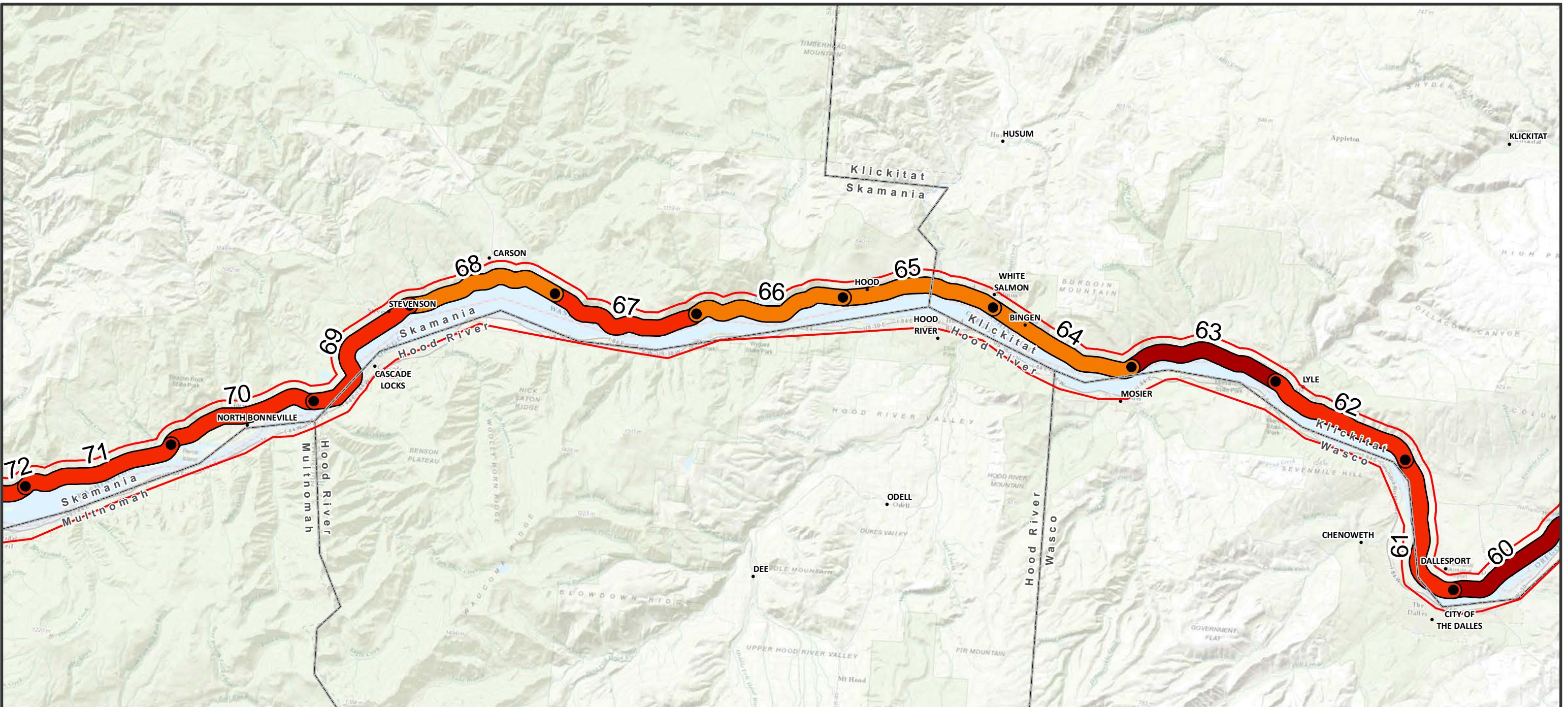


Previously Recorded Archaeological Resources
within the Mid-Columbia Study Area



Sources:
ESRI World Topographic Map Service, 2014.

Sheet 3 of 5

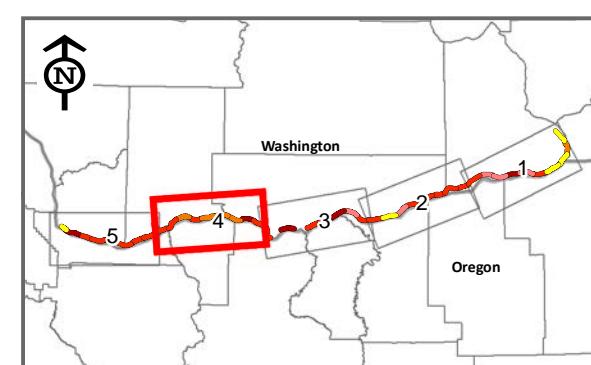


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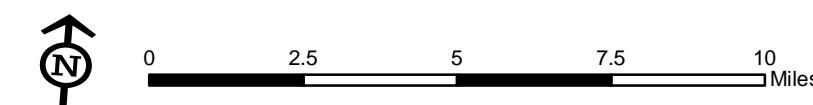
- Cities
- 5-mile interval
- Mid-Columbia Study Area
- County Boundary

Archaeological Resources (count)

- 11 - 15
- 21 - 50
- 51 - 109

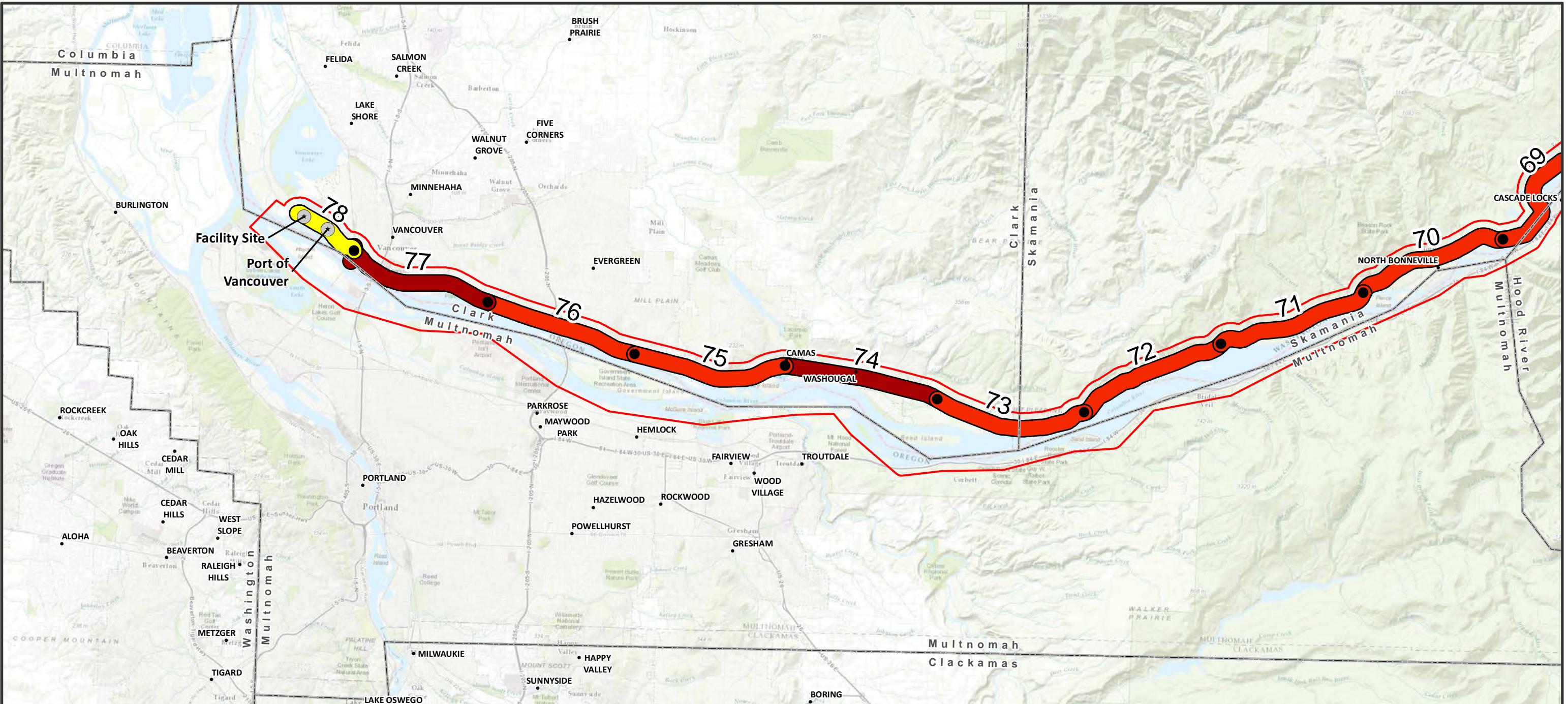


Previously Recorded Archaeological Resources within the Mid-Columbia Study Area



Sources:
ESRI World Topographic Map Service, 2014.

Sheet 4 of 5

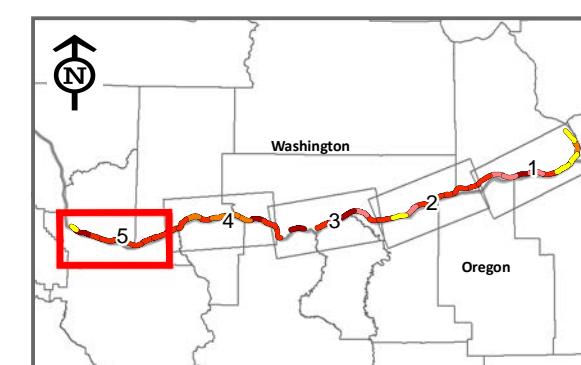


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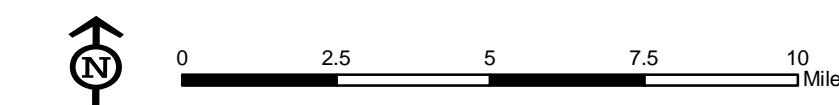
- Cities
- 5-mile interval
- Mid-Columbia Study Area
- County Boundary

Archaeological Resources (count)

- 6 - 10
- 21 - 50
- 51 - 109



Previously Recorded Archaeological Resources
within the Mid-Columbia Study Area



Sources:
ESRI World Topographic Map Service, 2014.

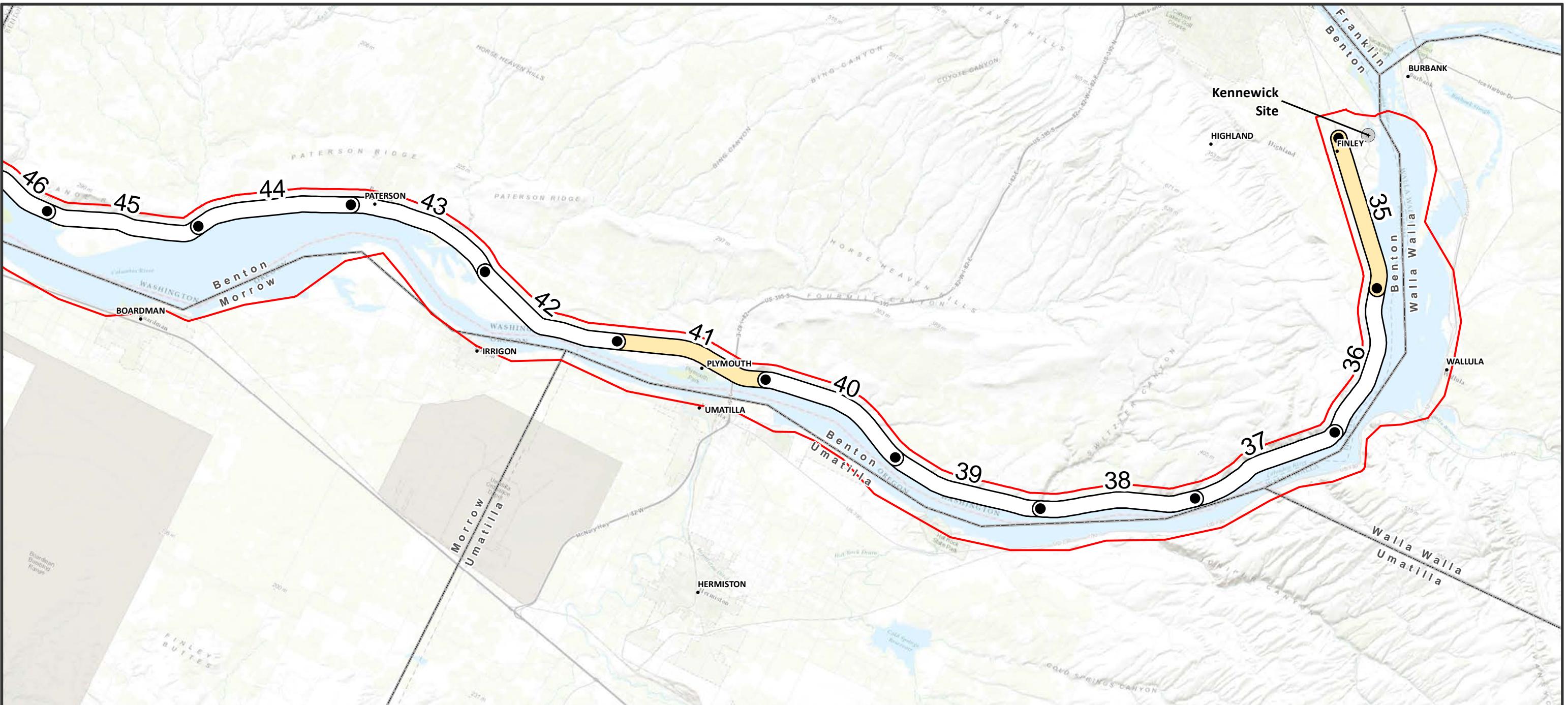
Sheet 5 of 5

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Appendix P-10

Previously Recorded Historical Resources within the Mid-Columbia Study Area

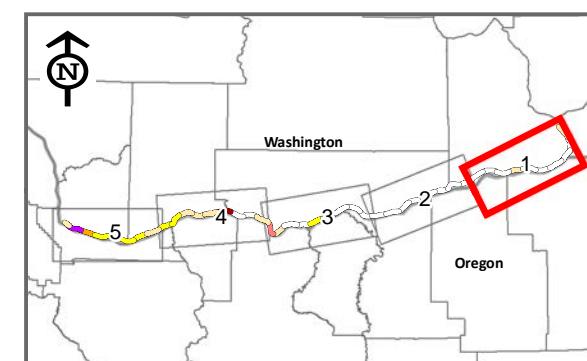
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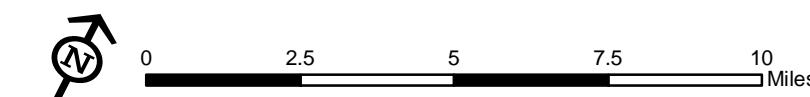
LEGEND

- Cities
- 5-mile interval
- Mid-Columbia Study Area
- County Boundary

Historic Resources
(count)

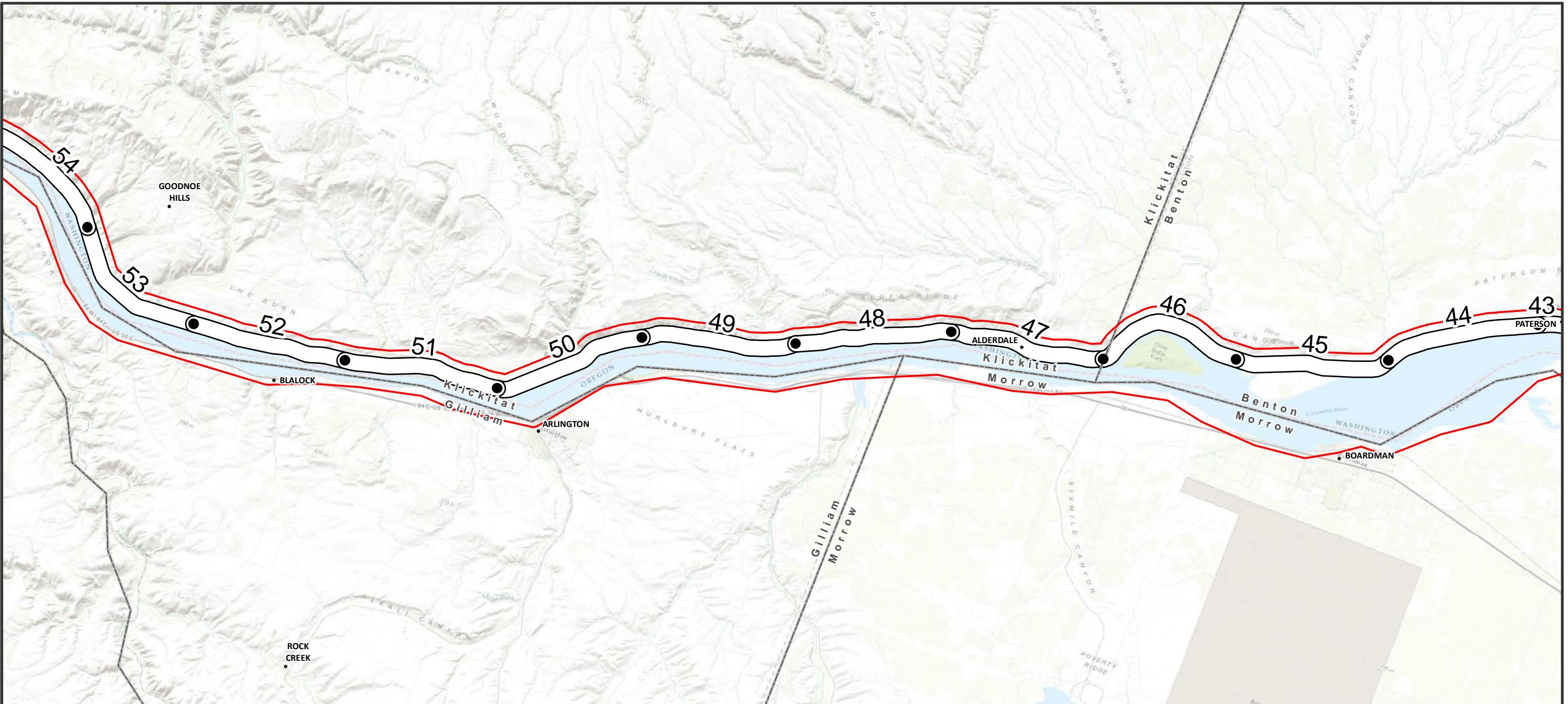


Previously Recorded Historic Resources
within the Mid-Columbia Study Area



Sources:
ESRI World Topographic Map Service, 2014.

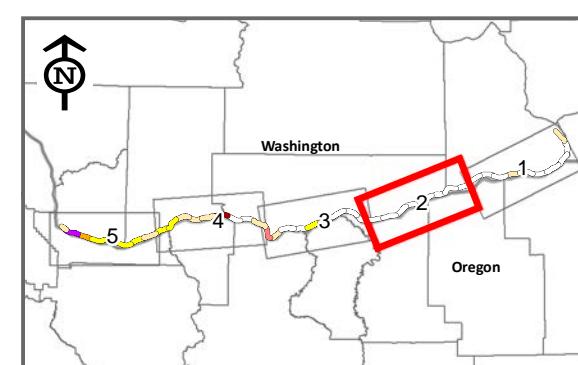
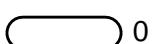
Sheet 1 of 5



LEGEND

- Cities
- 5-mile interval
- Mid-Columbia Study Area
- County Boundary

Historic Resources
(count)

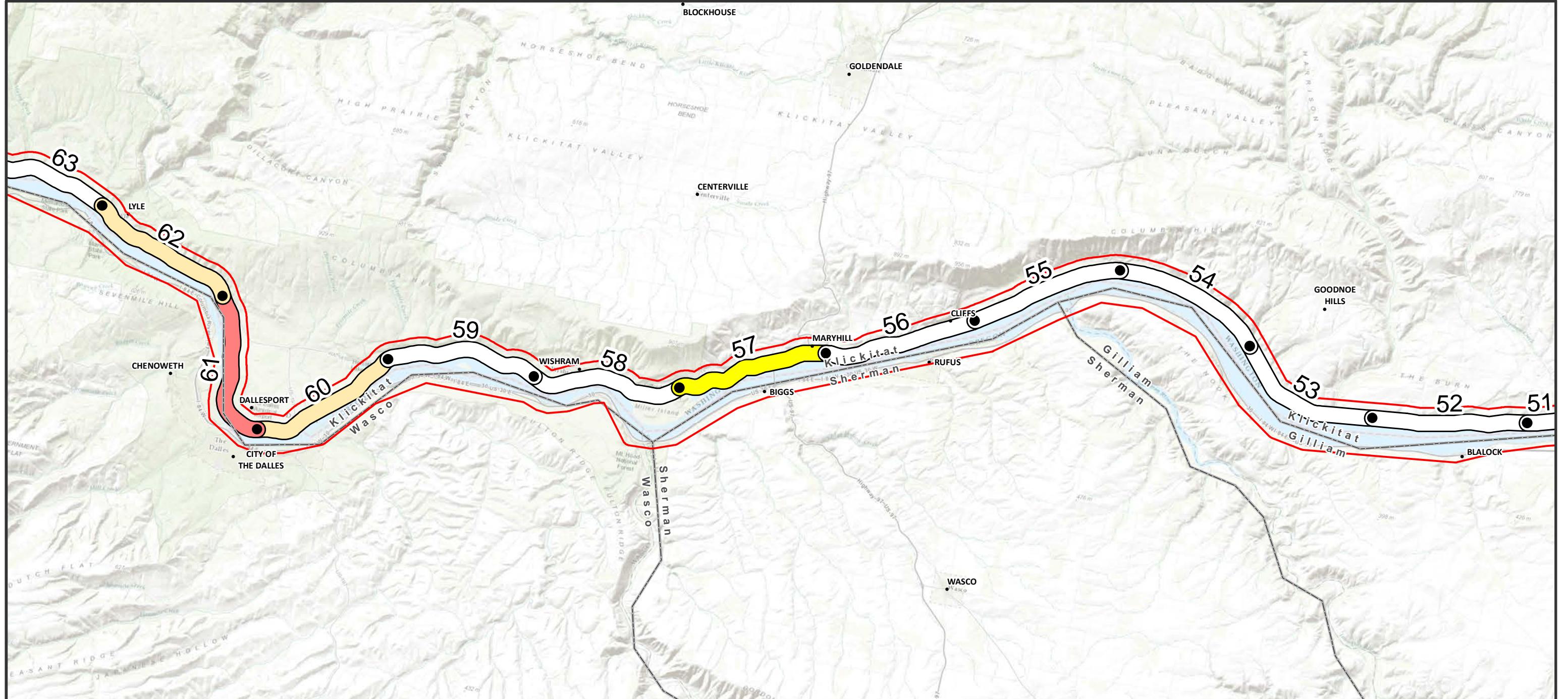


Previously Recorded Historic Resources
within the Mid-Columbia Study Area



Sources:
ESRI World Topographic Map Service, 2014.

Sheet 2 of 5



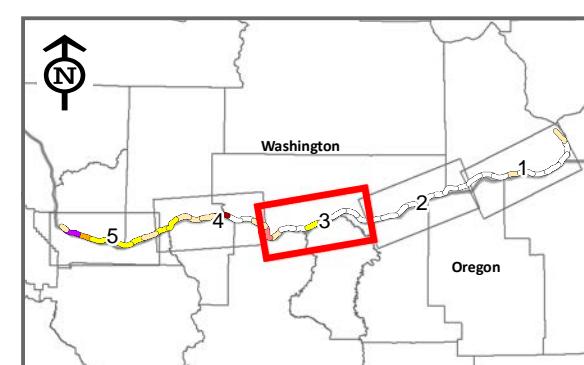
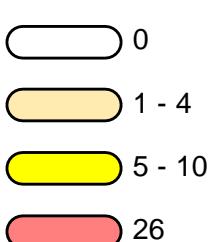
LEGEND

- Cities
 - 5-mile interval

Mid-Columbia Study Area

County Boundary

Historic Resources (count)

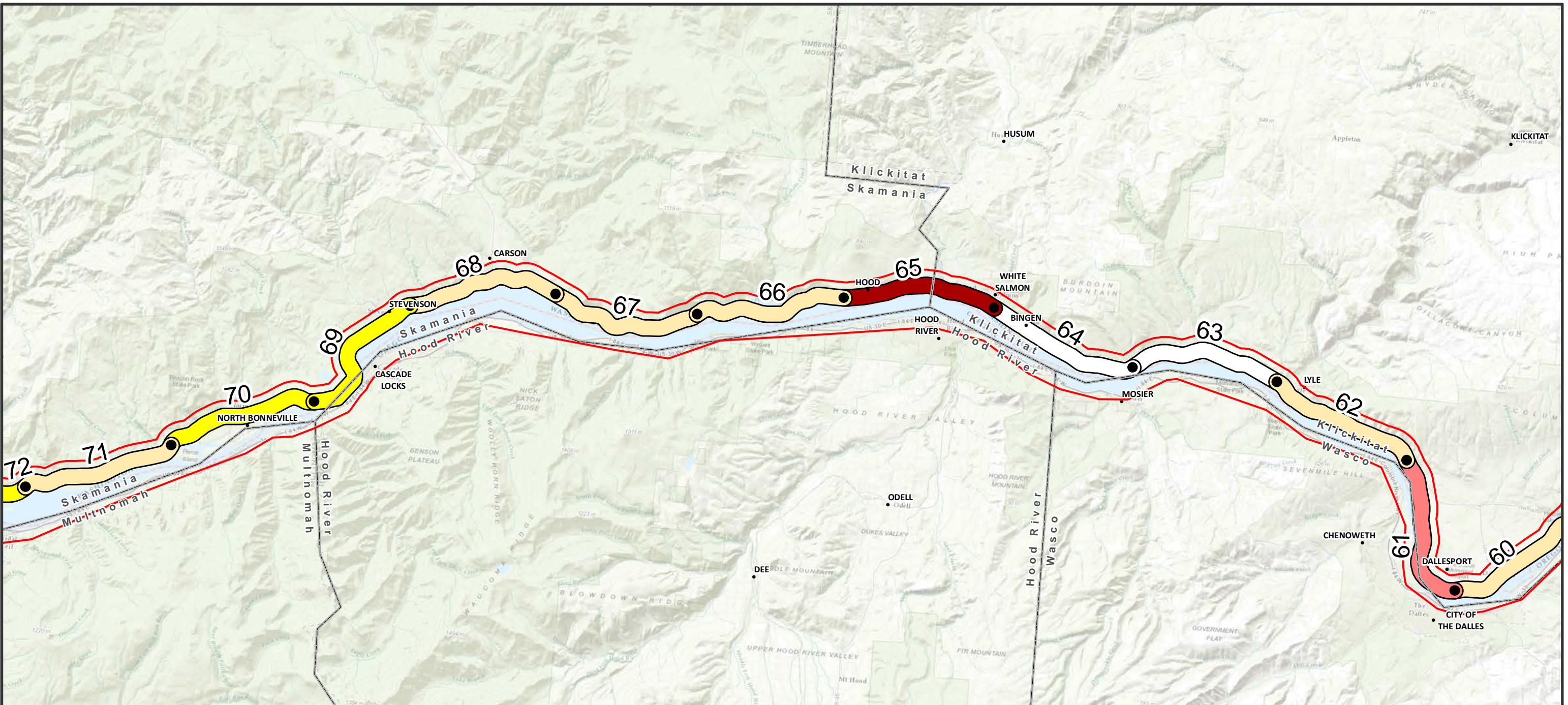


Previously Recorded Historic Resources within the Mid-Columbia Study Area



Sources:
ESRI World Topographic Map Service, 2014.

Sheet 3 of 5

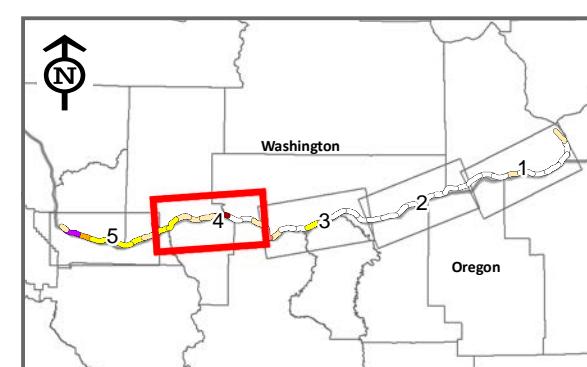


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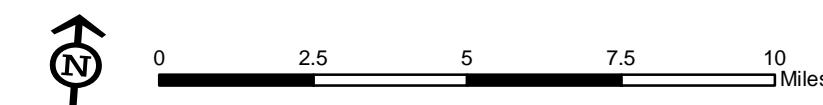
- Cities
- 5-mile interval
- Mid-Columbia Study Area
- County Boundary

Historic Resources
(count)

- 0
- 1 - 4
- 5 - 10
- 26
- 94

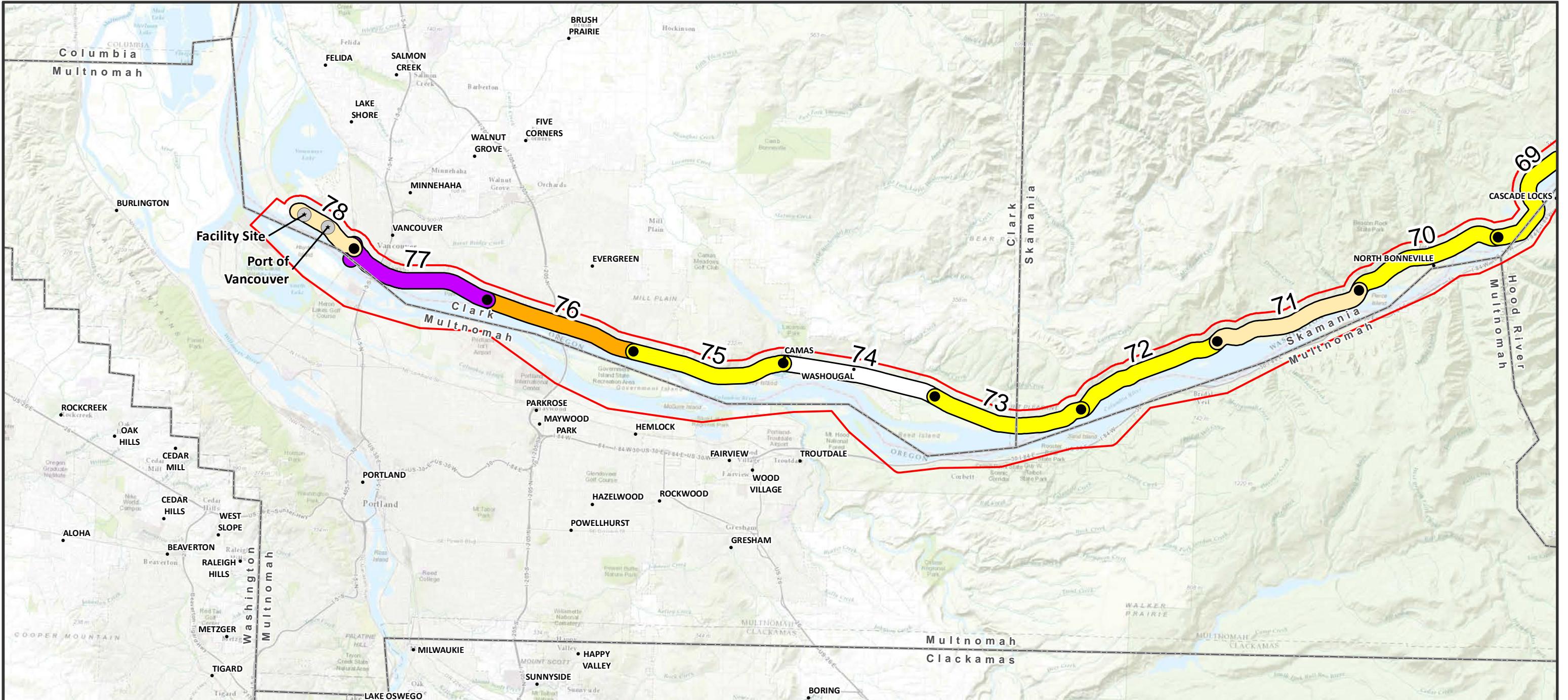


Previously Recorded Historic Resources
within the Mid-Columbia Study Area



Sources:
ESRI World Topographic Map Service, 2014.

Sheet 4 of 5

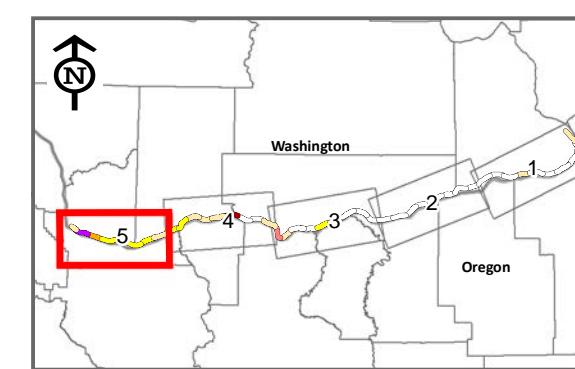
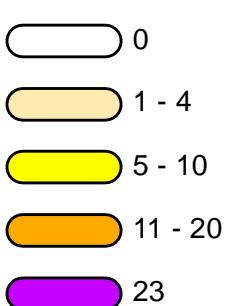


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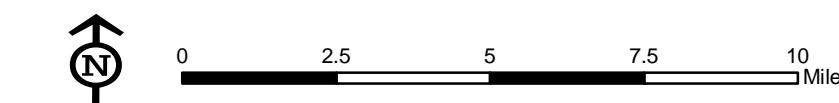
- Cities
 - 5-mile interval

Mid-Columbia Study Area

Historic Resources (count)



Previously Recorded Historic Resources within the Mid-Columbia Study Area



Sources:
ESRI World Topographic Map Service, 2011

Sheet 5 of 5

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Appendix P.11
Enlarged DEIS Figures

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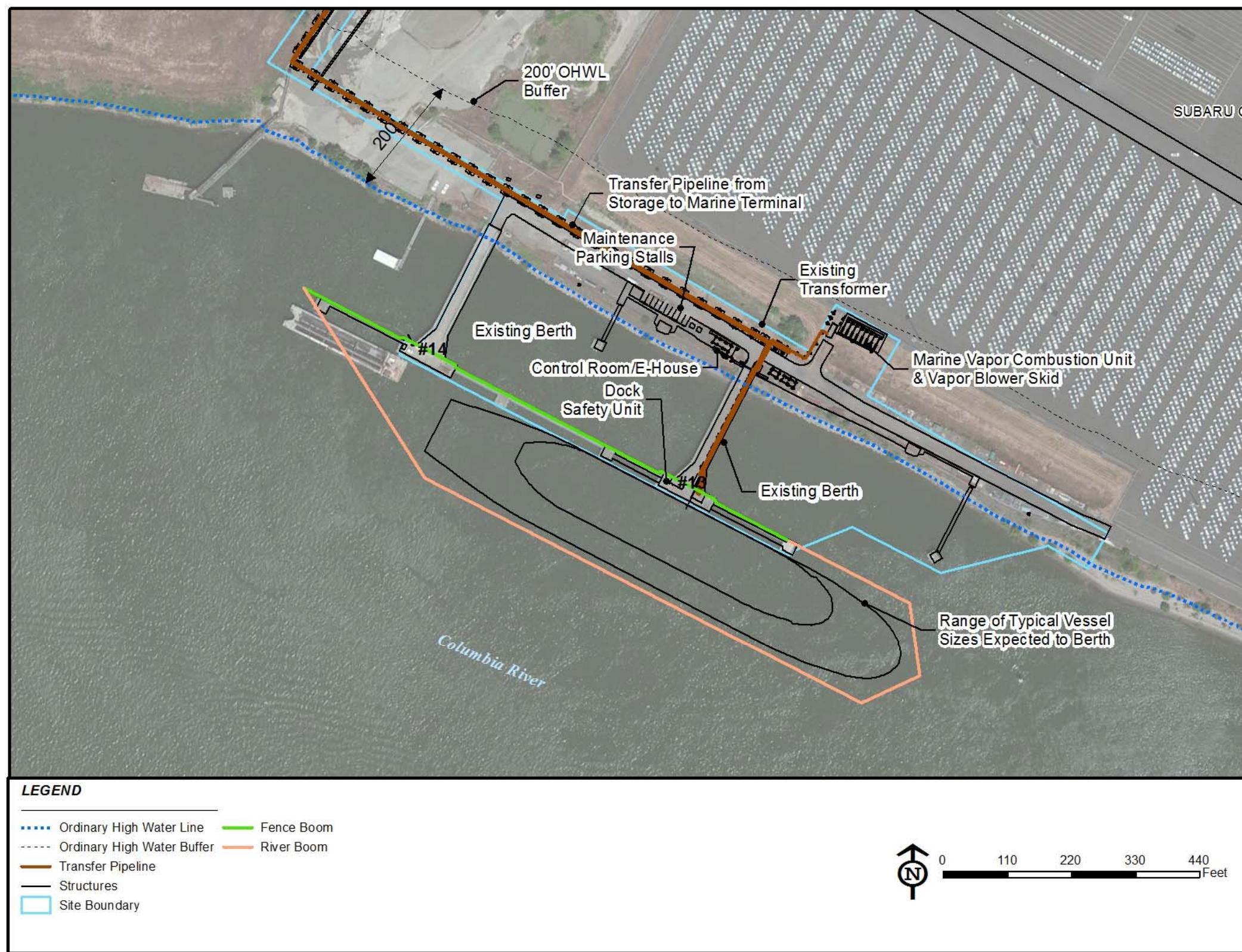


Figure P.11-1 Marine Terminal (Area 400) (Enlarged Figure 2-10)

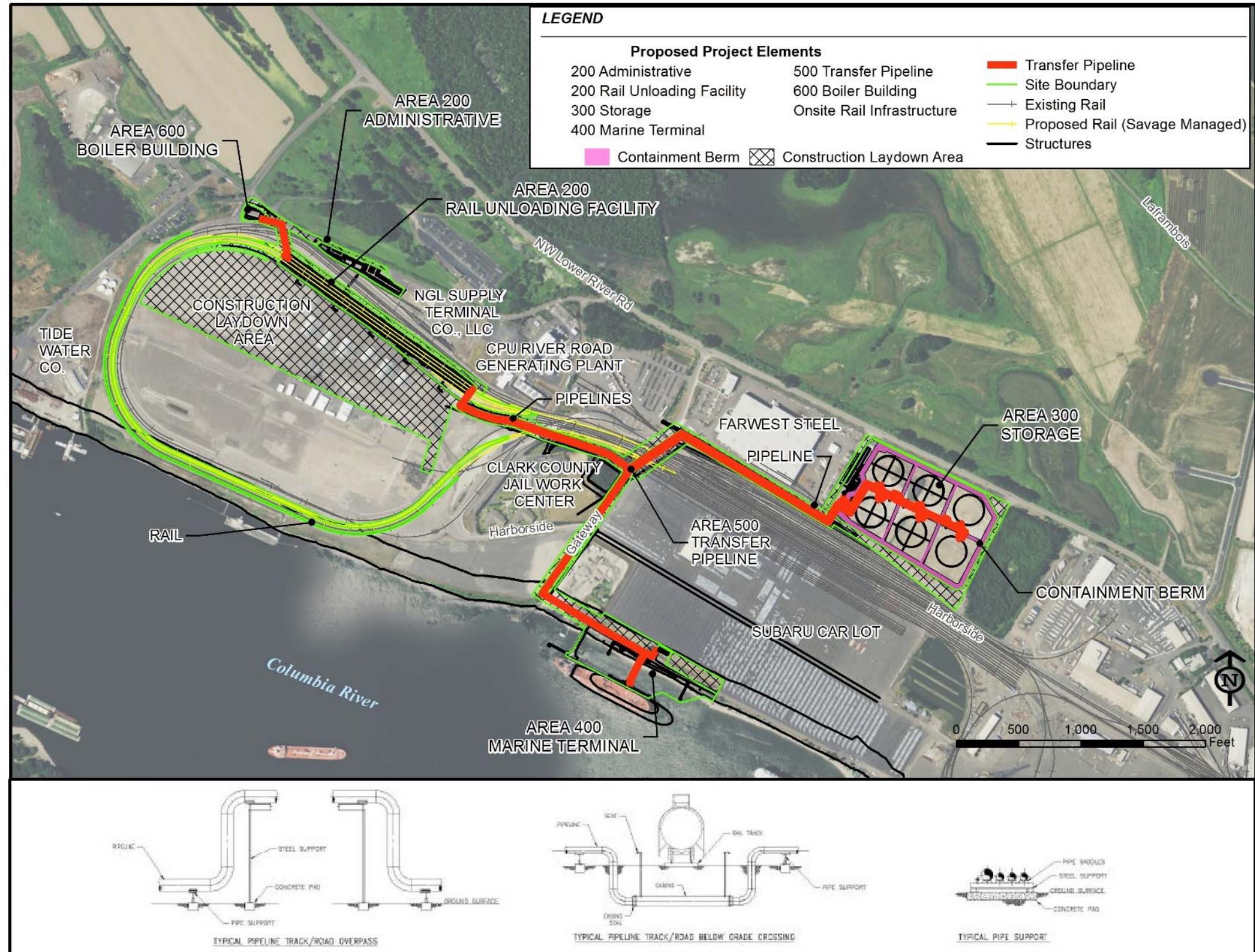


Figure P.11-2 Transfer Pipeline System (Enlarged Figure 2-11)

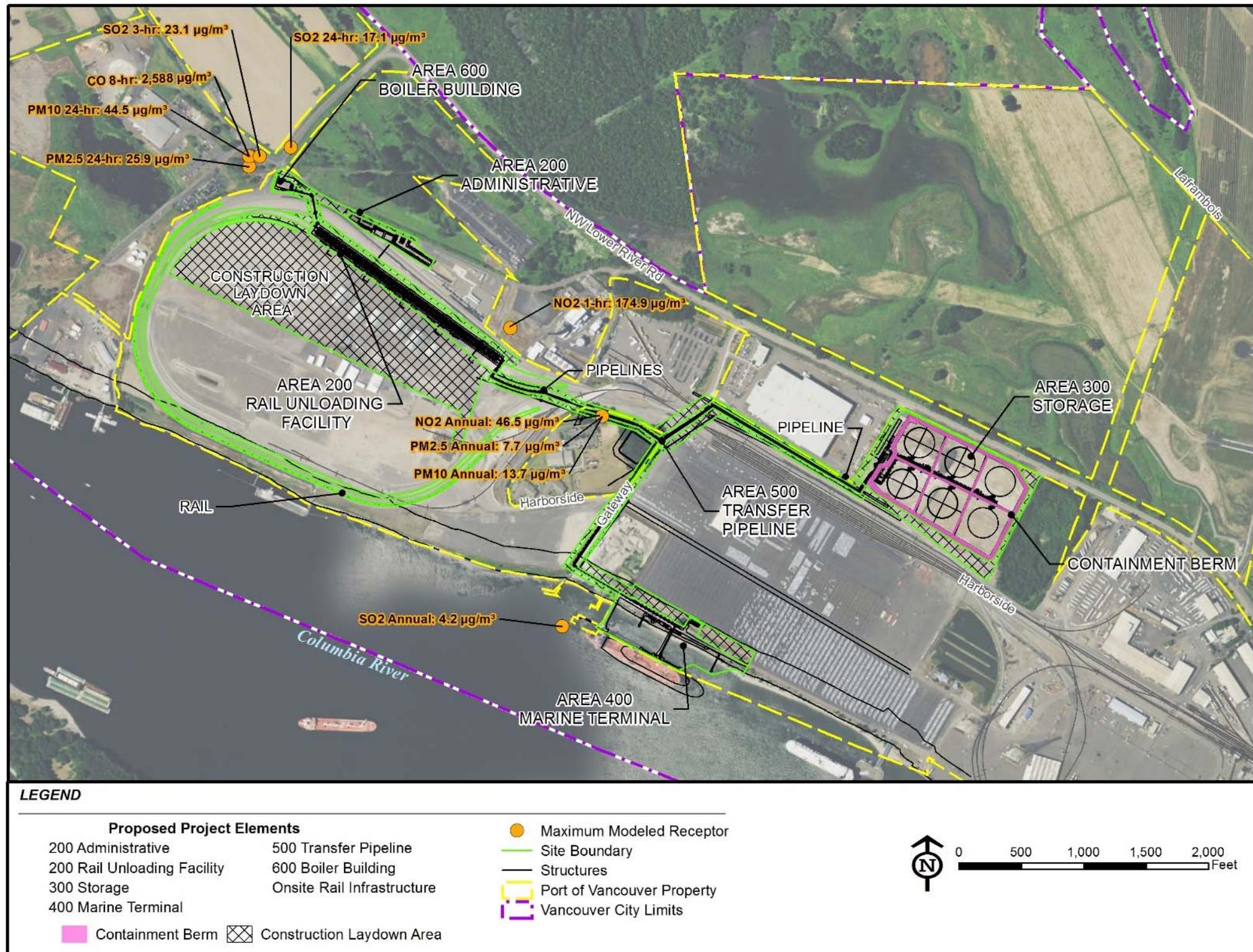


Figure P.11-3 AERMOD Projected Maximum Criteria Pollutant Concentrations During Operations West (Enlarged Figure 3.2-3)

Source: BergerABAM 2014

Note: The yellow lines depict Port parcels and the orange dots show the points of maximum concentrations.

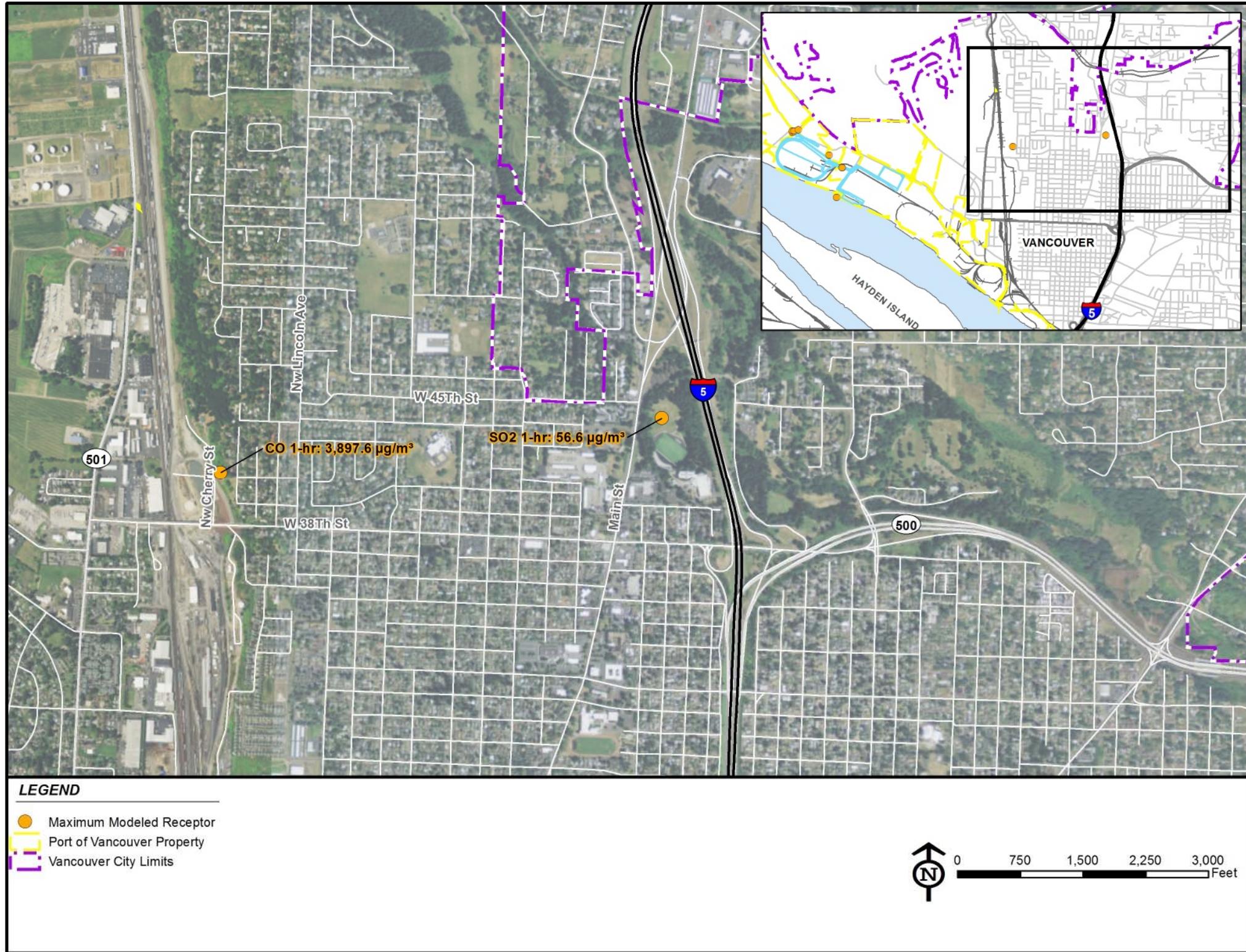


Figure P.11-4 AERMOD Projected Maximum Criteria Pollutant Concentrations During Operations East (Enlarged Figure 3.2-4)

Source: BergerABAM 2014

Note: The yellow lines depict Port parcels and the orange dots show the points of maximum concentrations.

SYSTEM	SERIES	GEOLOGIC UNIT West	HYDROGEOLOGIC UNIT	LITHOLOGY
		East		
QUATERNARY	Holocene	Quaternary alluvium	Unconsolidated sedimentary aquifer	Silt, sand, and clay comprise flood plain deposits of the Columbia and Willamette Rivers. Alluvium along major tributaries is sandy gravel. Late Pleistocene catastrophic floods of the Columbia River deposits on the basin floor are bouldery gravel, sandy gravel, and sand with sandy silt extending to 400-foot altitude. Late Pleistocene terrace deposits are weakly consolidated thin sand and gravel beds.
		Catastrophic flood deposits		
	Pleistocene	Boring lava, High Cascade volcanics, Pleistocene Cascadian Conglomerate and Troutdale Formation	Upper sedimentary subsystem	Pleistocene volcaniclastic conglomerates derived from the Cascade Range are weakly to well consolidated sandy gravel with lithic sandstone lenses and beds. Troutdale Formation is cemented basaltic gravel with quartzite pebbles and micaceous sand matrix and lenses, as well as minor lithic-vitric sand beds. Boring lava that erupted from vents in the Portland area is fine to medium olivine basalt and basaltic andesite lava flows with less abundant pyroclastics. High Cascade Range volcanics are olivine basalts and basaltic andesite flows that erupted, and for the most part deposited east of the Sandy River. The upper 10 to 100 feet of the aquifer is weathered loess and residual soil.
	Tertiary	TROUTDALE		
		Troutdale gravel aquifer	Confining unit 1	Bedded micaceous arkosic siltstone and sandstone with some thin lenses of lithic and vitric sandy tuffaceous silt and sandstone, and clay.
		Troutdale sandstone aquifer		Coarse vitric sandstone and basaltic conglomerate interlayered with siltstone, sandstone, and claystone.
		Troutdale Formation	Lower sedimentary subsystem	Bedded micaceous siltstone and sandstone with some thin lenses of lithic and vitric sand, tuffaceous silt and sandstone, and clay.
		Sandy River Mudstone		Discontinuous beds of micaceous sand, gravel, and silt with localized vitric sandstone lenses. Upper part is gravelly along the Columbia River in east part of study area; elsewhere, upper part is interlayered with micaceous sand, silt, and clay.
		Troutdale Formation	Fine-grained sedimentary rocks	
		Troutdale Formation		
	Miocene	Rhododendron Formation	Sand and gravel aquifer	Rhododendron Formation consists of lava flows and dense volcanic breccia. Columbia River Basalt Group is a series of basalt flows, some have fractured scoriaceous tops and bases. Marine sedimentary rocks are predominantly dense siltstones and sandstones. Skamania volcanics are dense flow rock, breccia and volcaniclastic sediment. Older basalts are sequences of flows with some breccia and sediment.
Oligocene		Columbia River Basalt Group		
Eocene		Marine rocks, Skamania volcanics	Older rocks	
		Basalt		

Figure P.11-5 Geologic and Hydrogeologic Units in Portland Basin (Enlarged Figure 3.3-6)

Source: Swanson et al. 1993

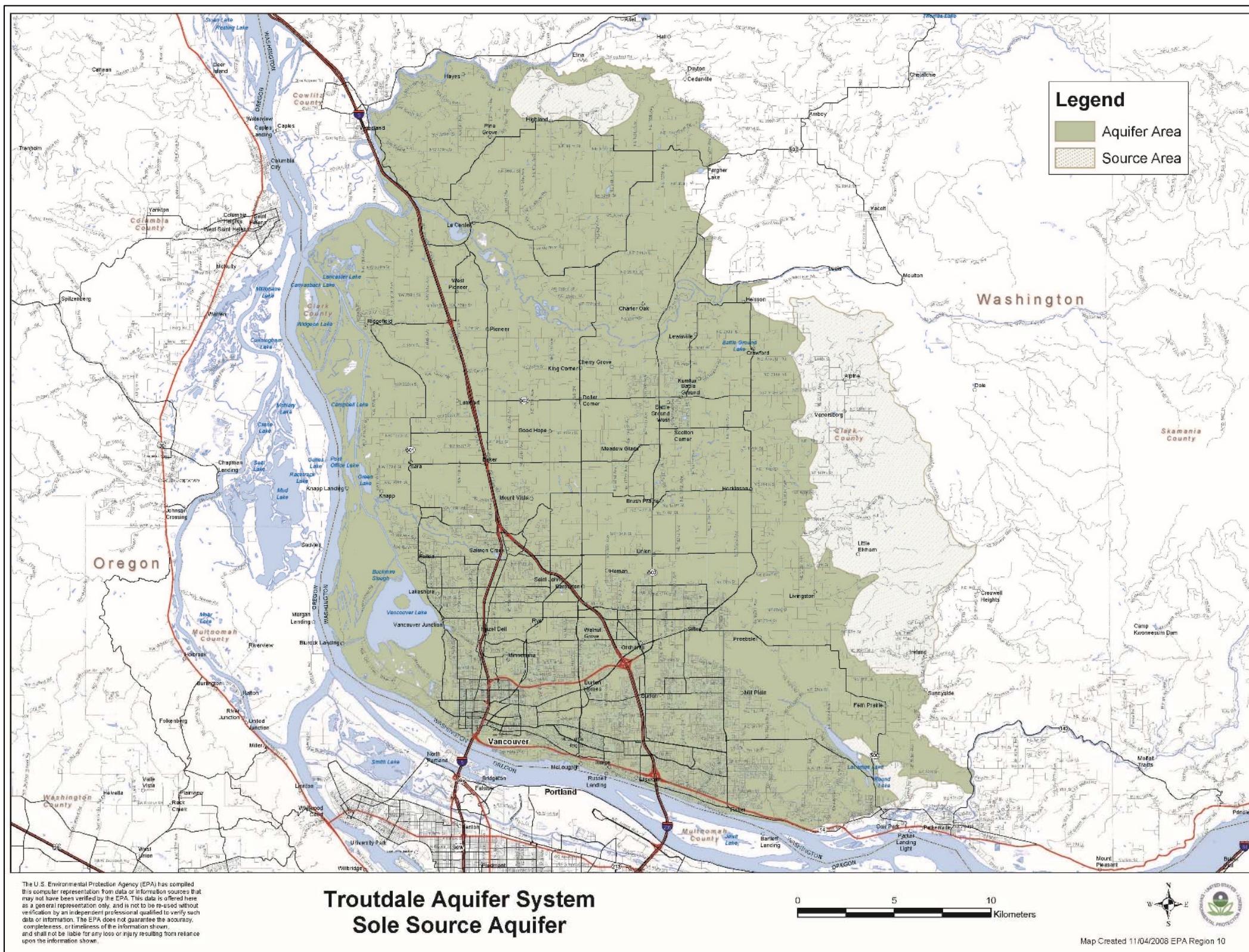


Figure P.11-6 Troutdale Aquifer System – Sole Sources Aquifer Area (Enlarged Figure 3.3-7)

Source: EPA 2014

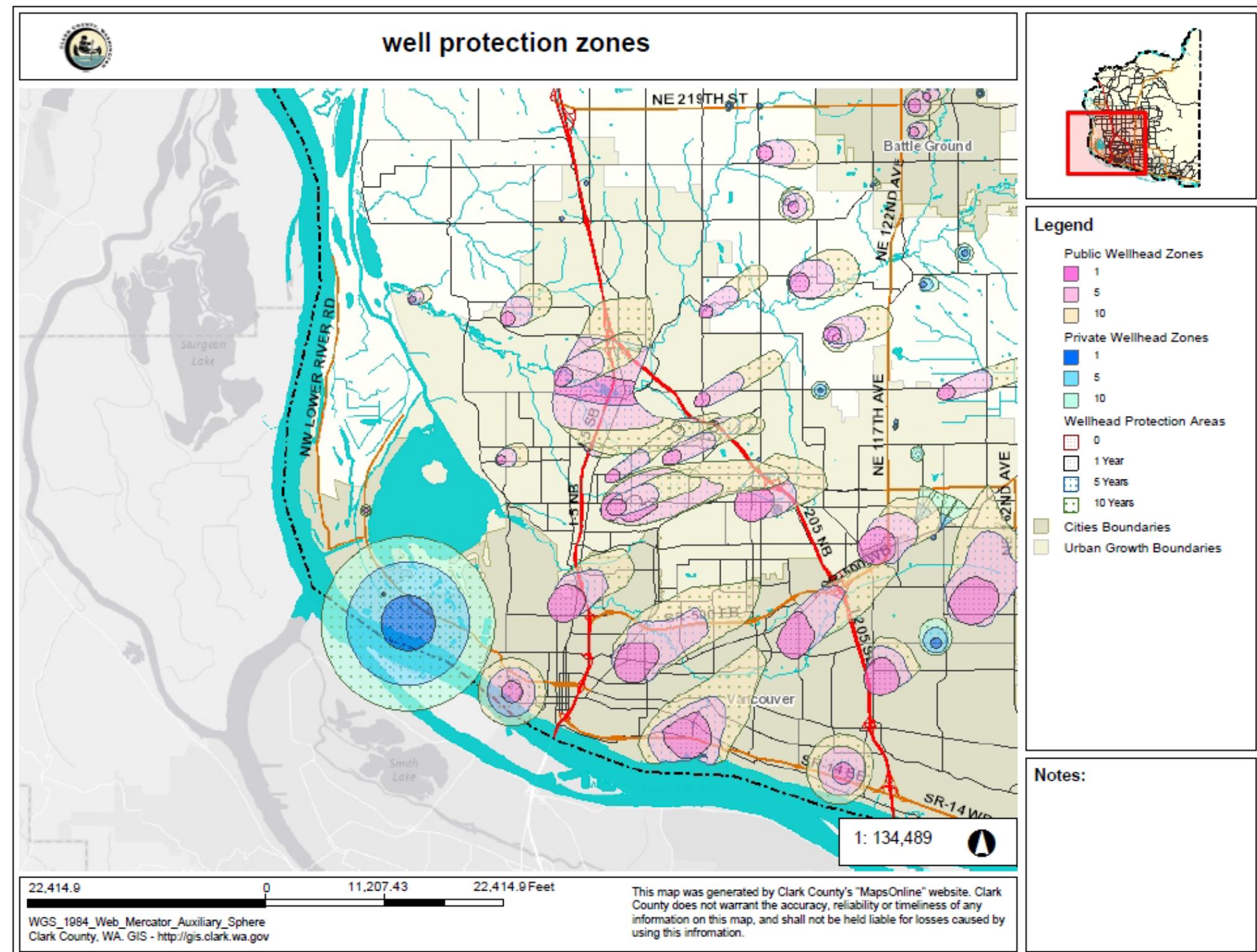


Figure P.11-7 Troutdale Aquifer System – Wellhead Protection Zones (Enlarged Figure 3.3-8)

Source: Clark County 2015.

Note: The wellhead protection areas show 1-, 5-, and 10-year zones. Each zone represents the length of time it would take a particle of water to travel from the zone boundary to the well.

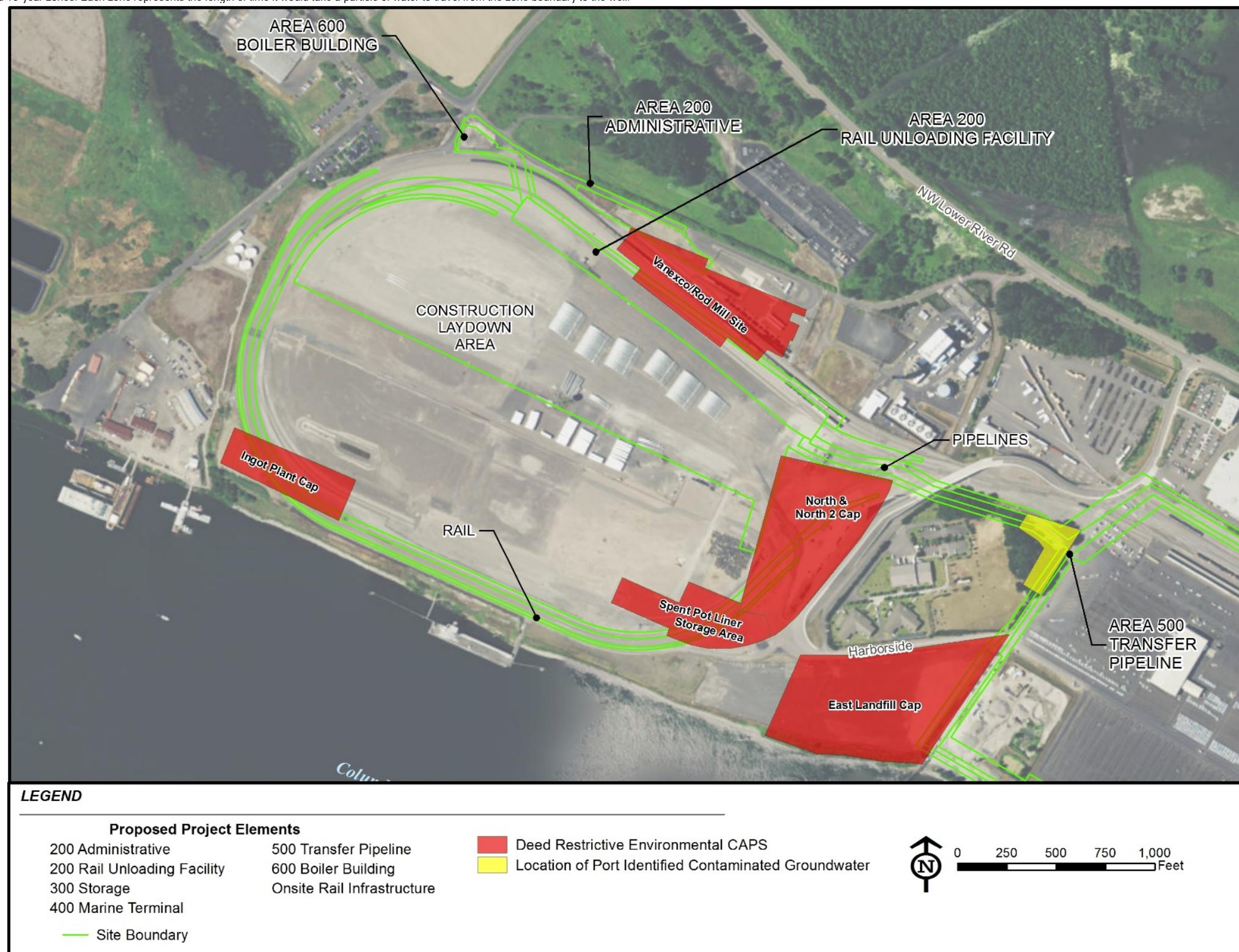


Figure P.11-8 Contaminated Site Area (Enlarged Figure 3.3-9)

Source: BergerABAM 2015c.

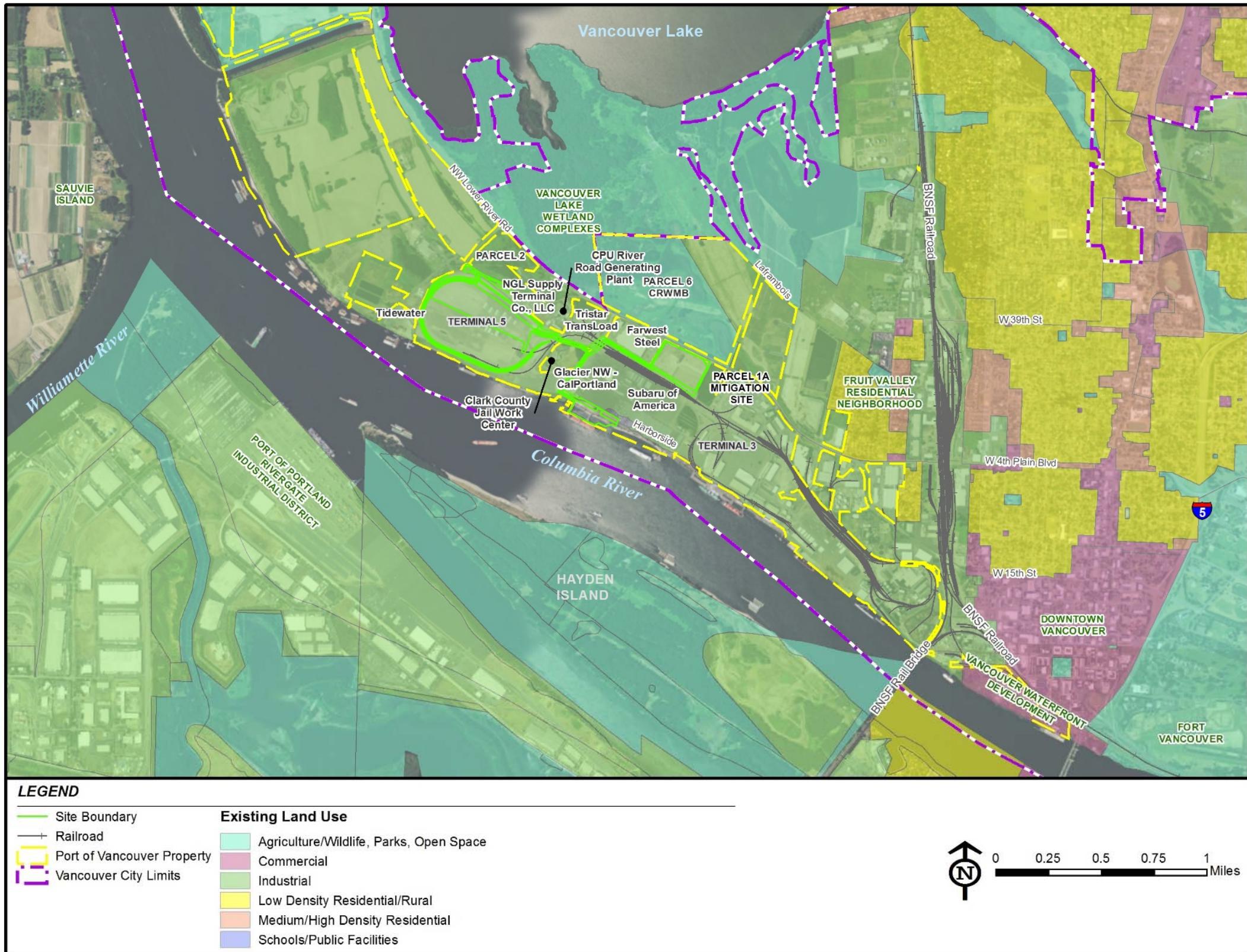


Figure P.11-9 Land Use in the West Vancouver Area (Enlarged Figure 3.10-1)

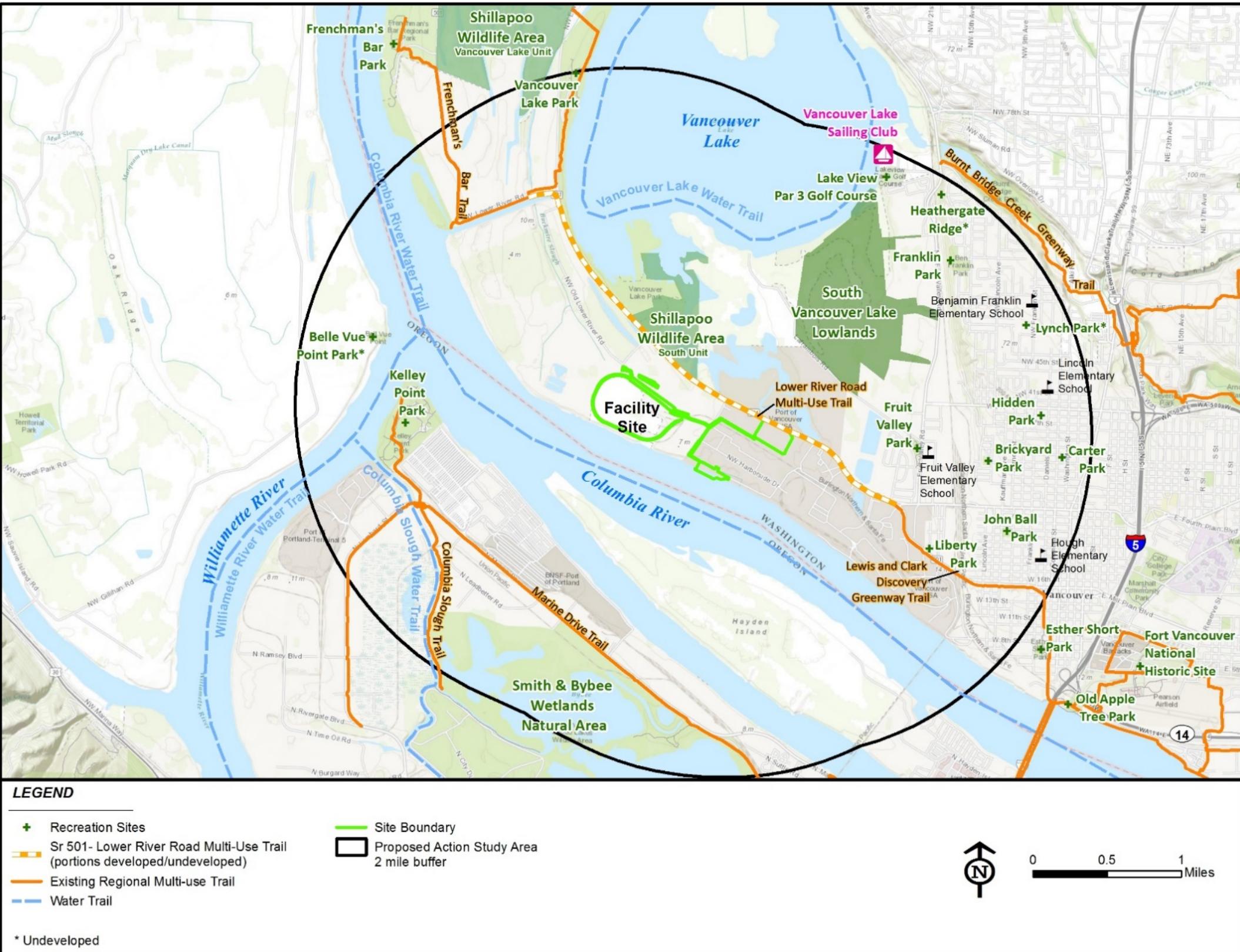


Figure P.11-10 Recreational Sites within Proposed Action Study Area (Enlarged Figure 3.12-1)

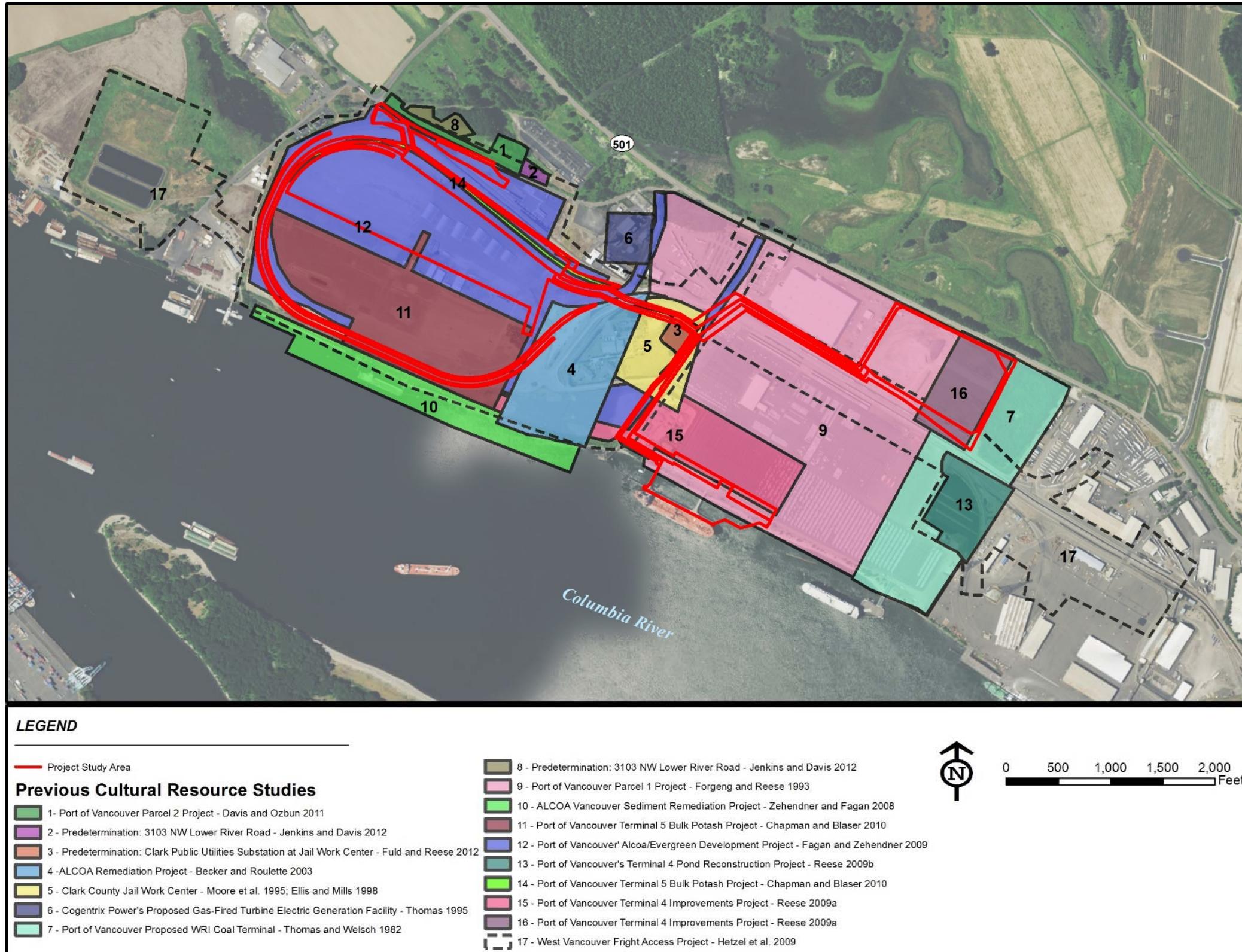


Figure P.11-11 Cultural Resources Survey Area (Enlarged Figure 3.13-1)

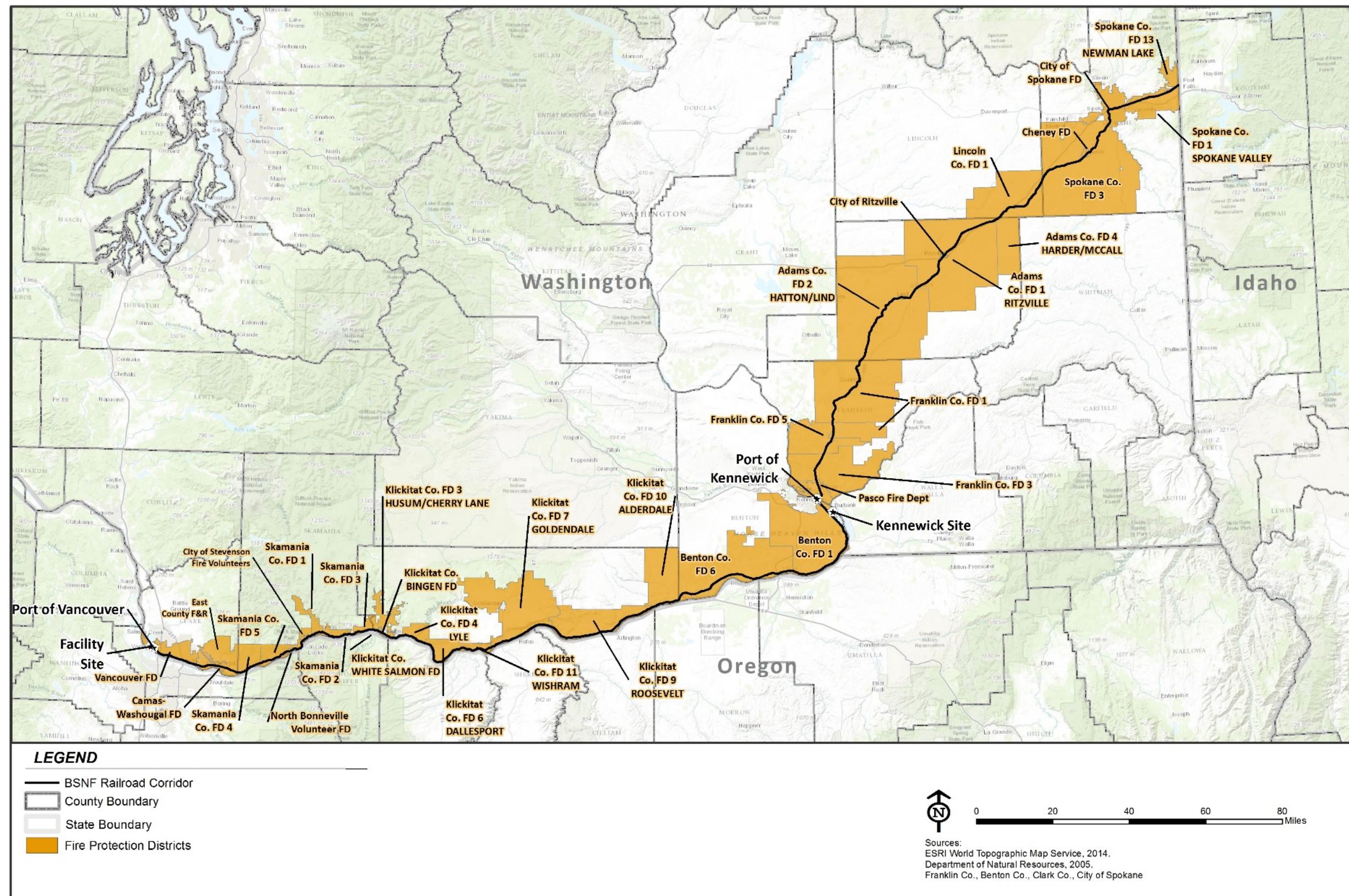


Figure P.11-12 Fire Protection Districts within the Rail Corridor Study Area (Enlarged Figure 3.15-1)

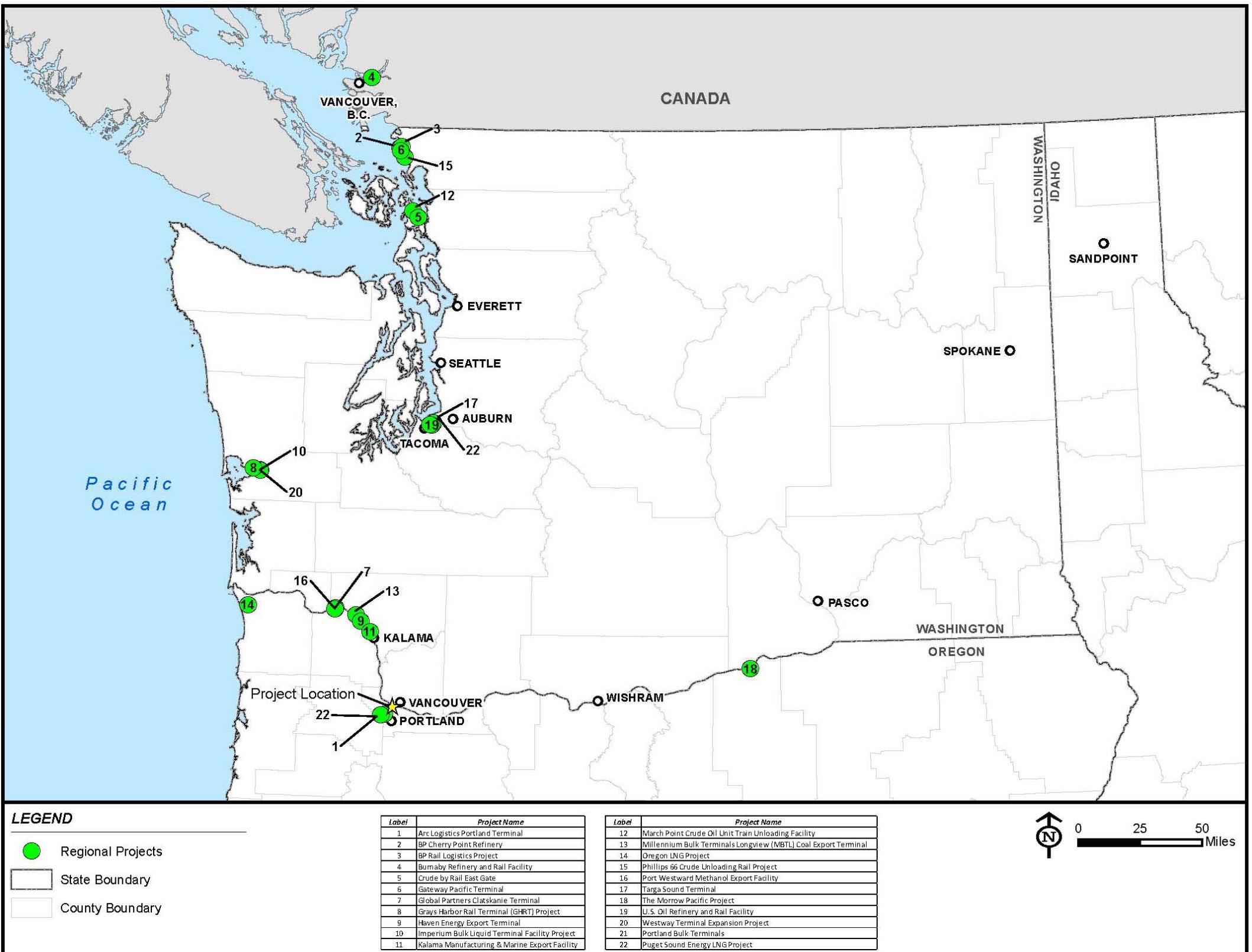


Figure P.11-13 Locations of Projects and Actions with additional Rail and/or Vessel Traffic (Enlarged Figure 5-2)

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