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- |  |                 |                                  |
|--|-----------------|----------------------------------|
|  | SMP Stream      | <b>Cities</b>                    |
|  | SMP Waterbody   | Castle Rock                      |
|  | County Boundary | Kalama                           |
|  |                 | Kelso                            |
|  |                 | Woodland                         |
|  |                 | Longview (Not included in study) |

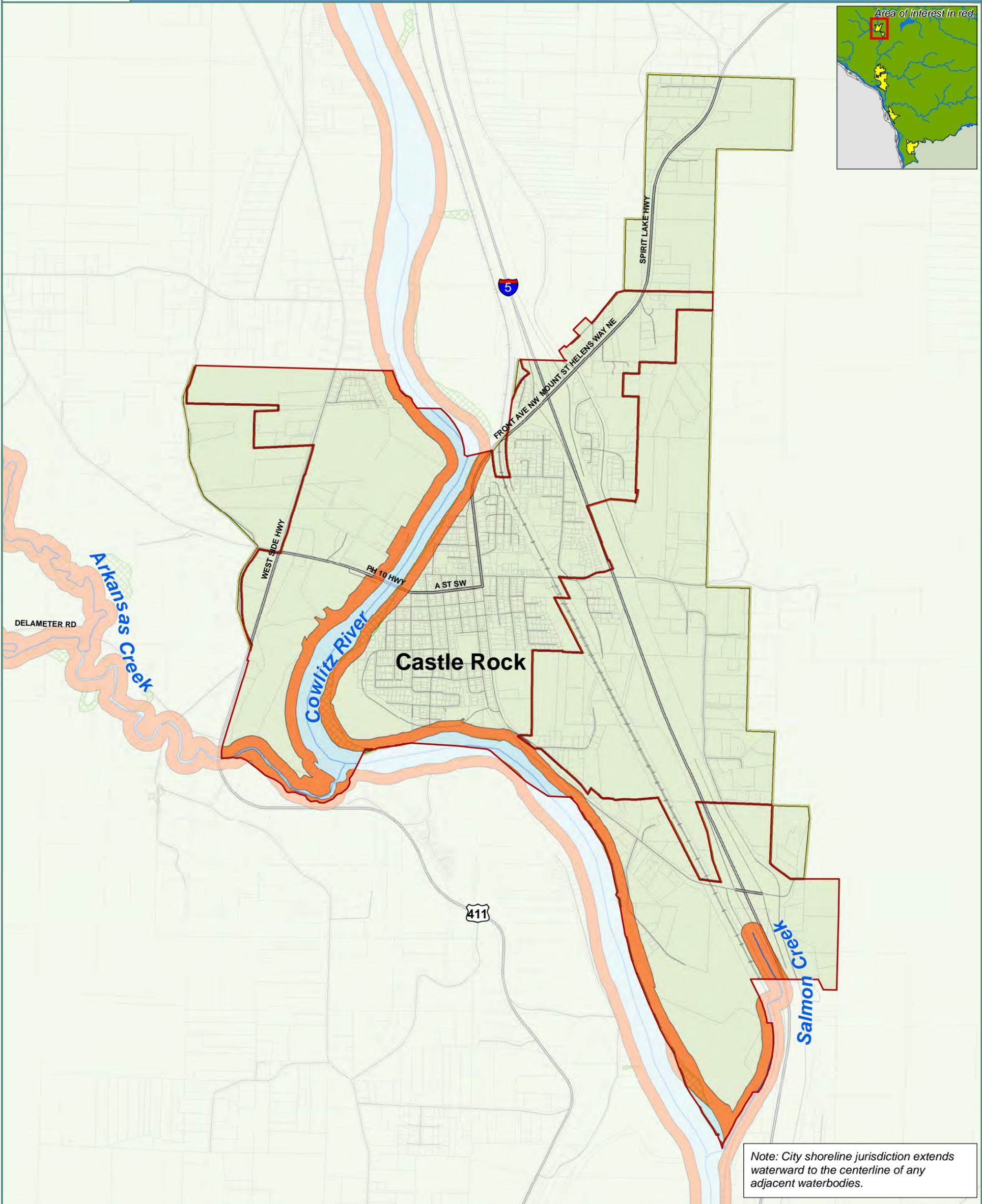
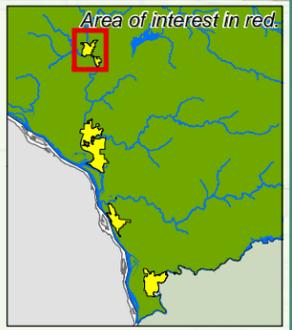


0 8,000 16,000 Feet

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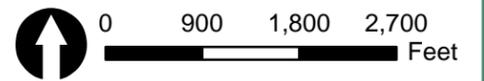
Data projection: NAD 1983 Washington State Plane South (feet)

Data source: Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.



Note: City shoreline jurisdiction extends waterward to the centerline of any adjacent waterbodies.

- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

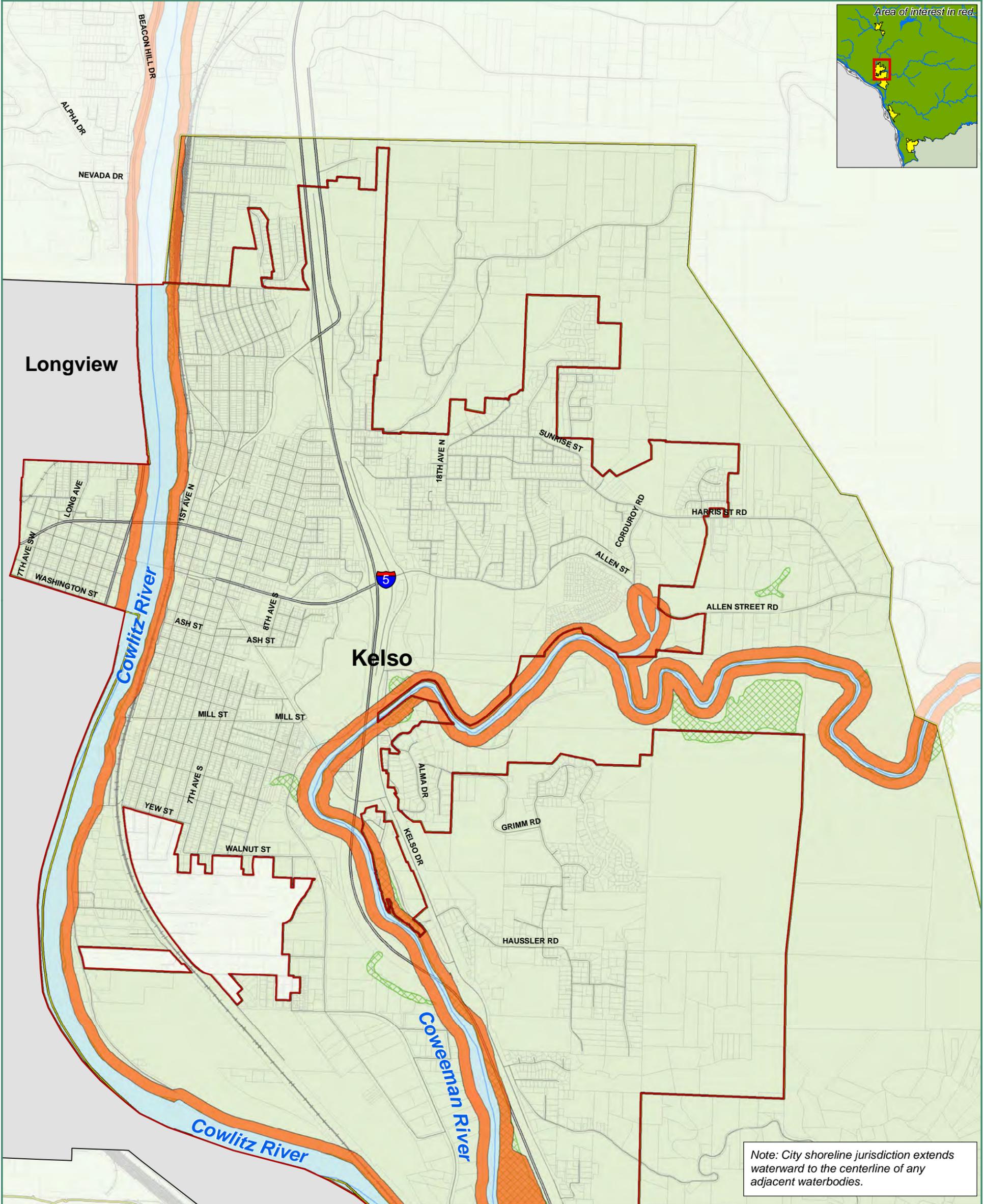


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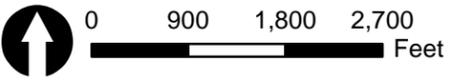
FIGURE 1. SHORELINE JURISDICTION

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Note: City shoreline jurisdiction extends waterward to the centerline of any adjacent waterbodies.

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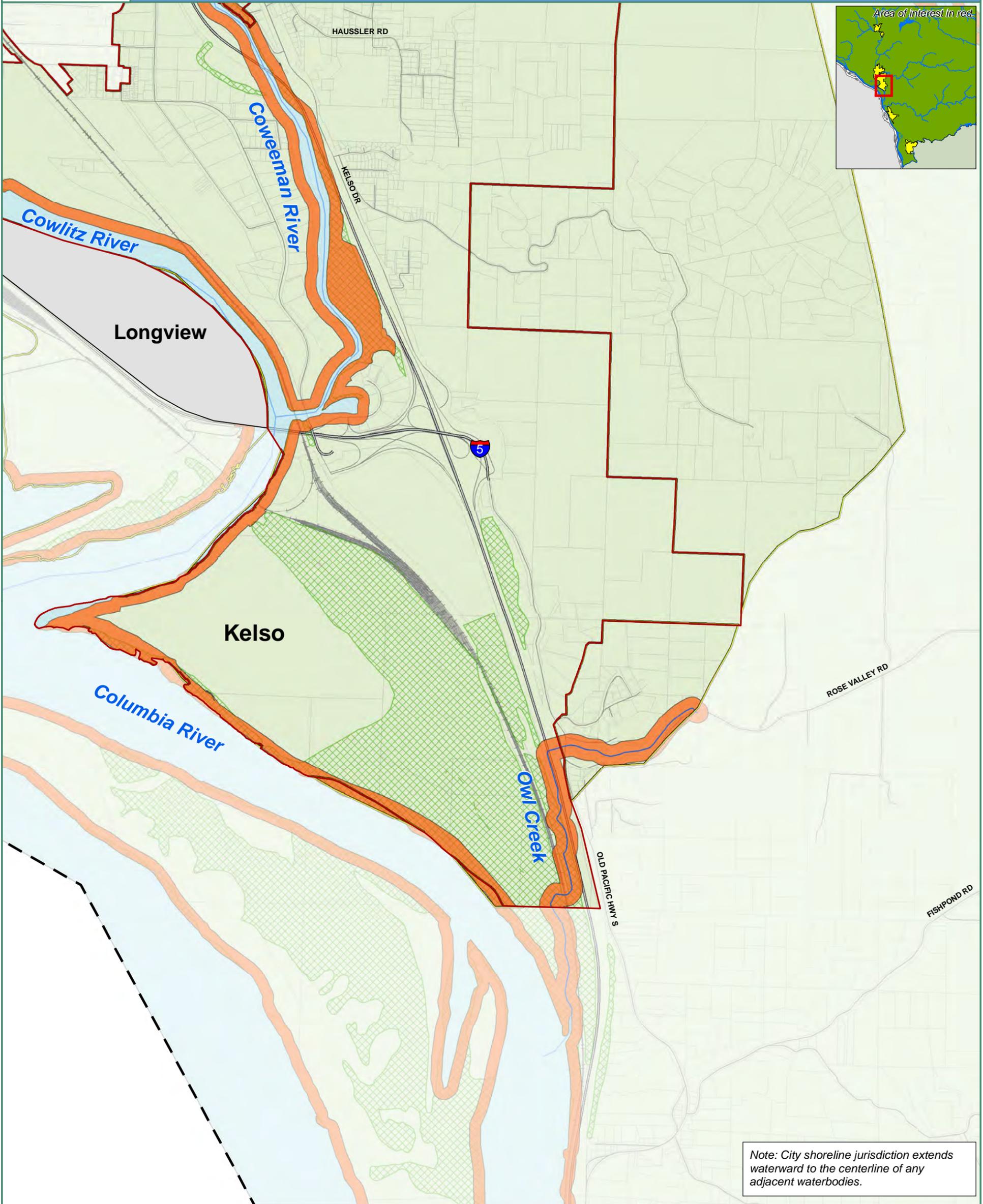


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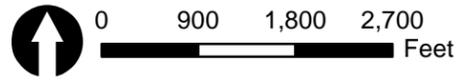
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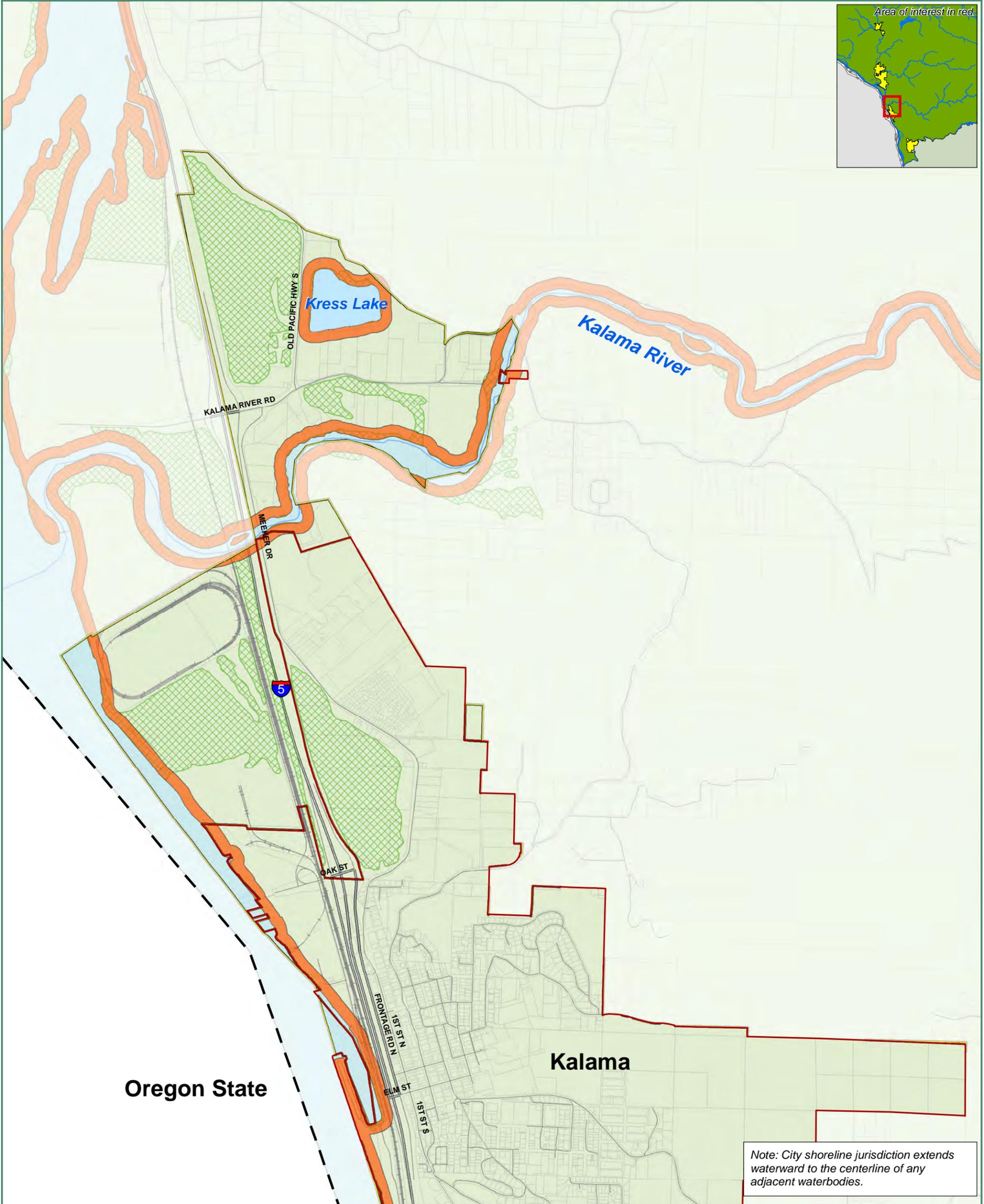
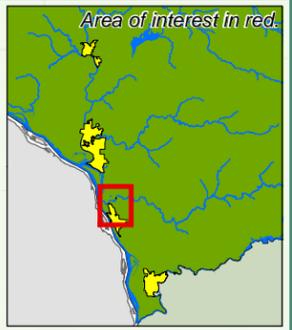


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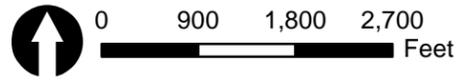
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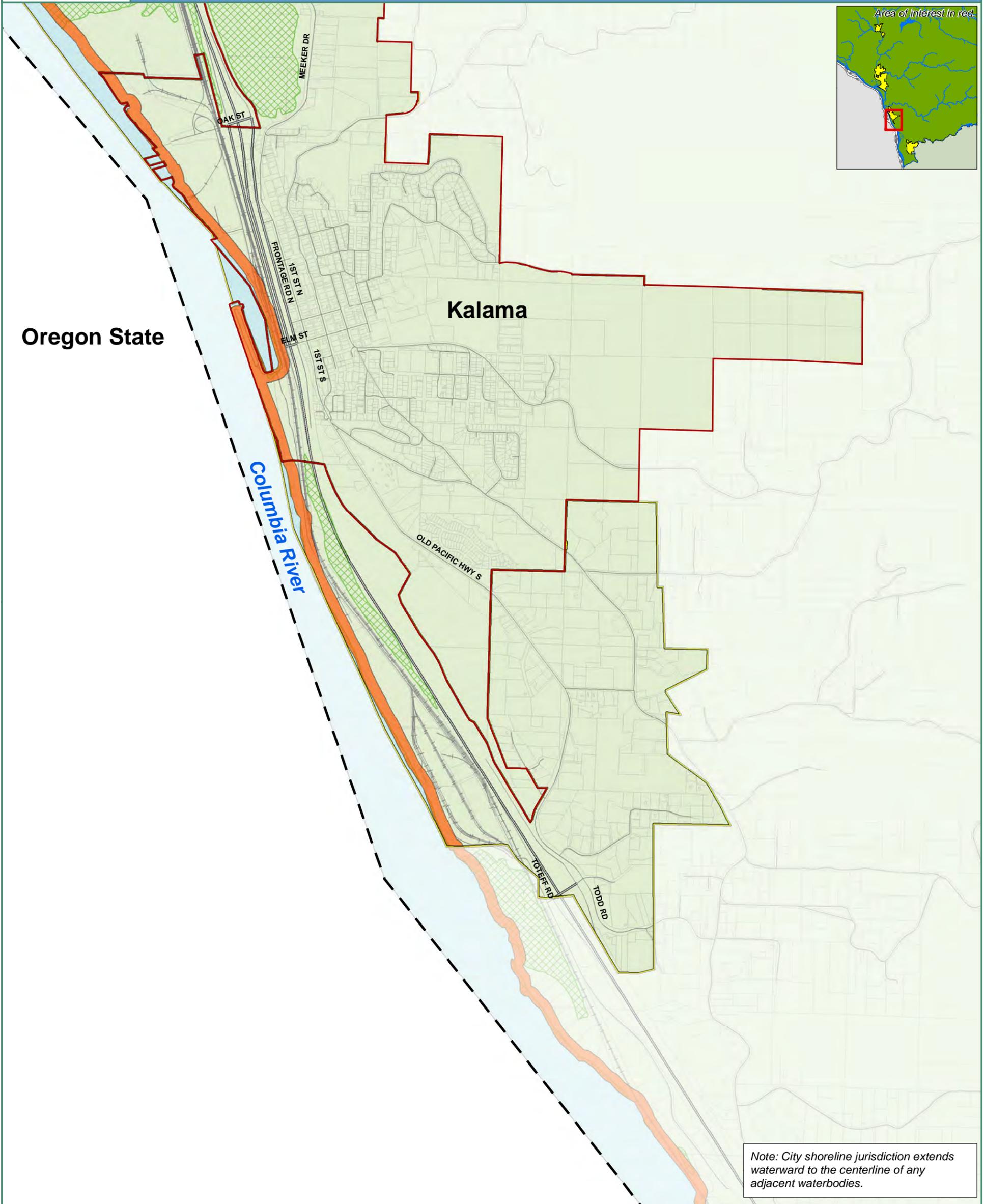


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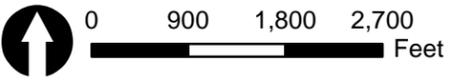
FIGURE 1. SHORELINE JURISDICTION

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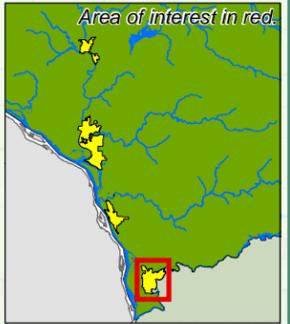
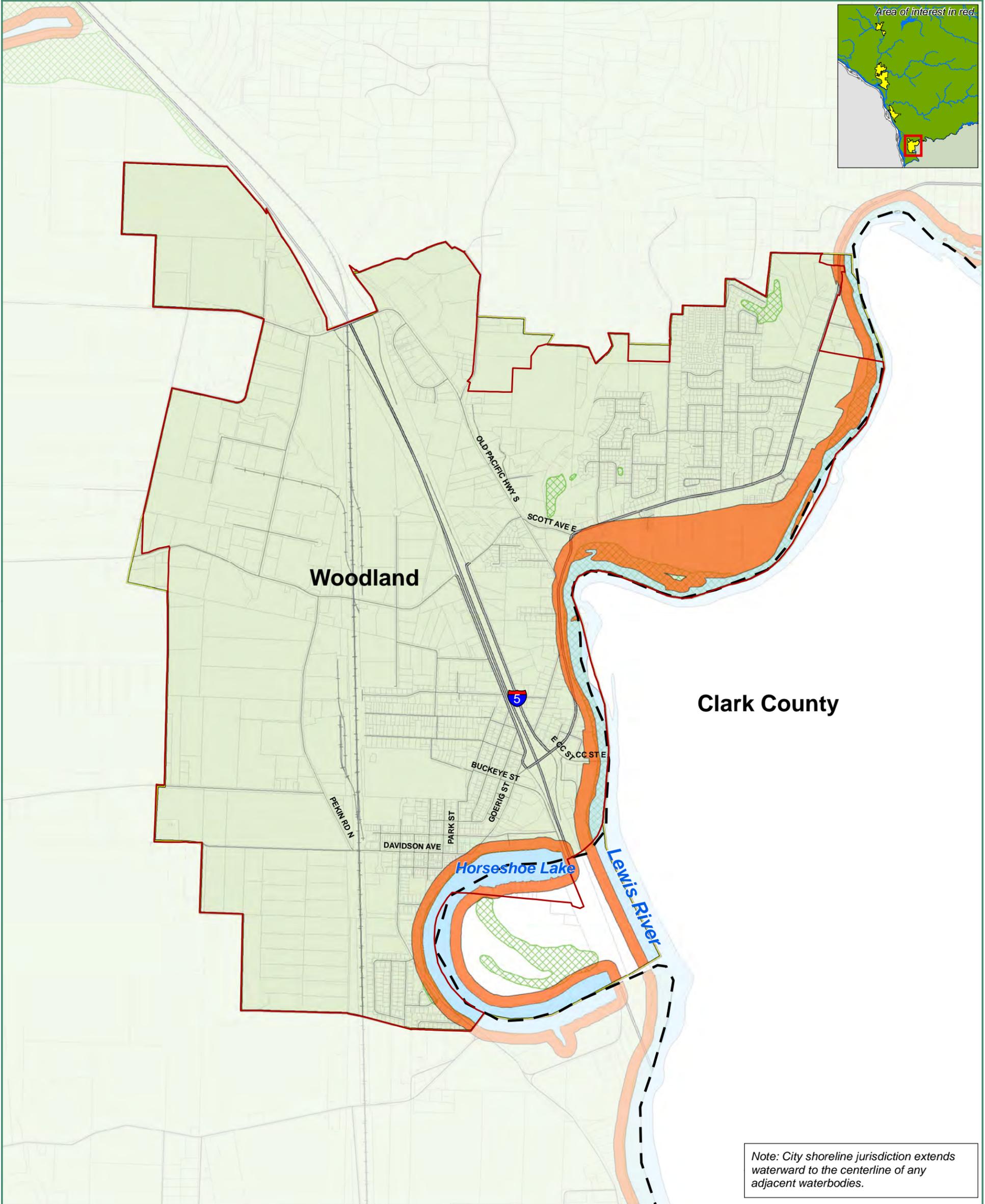
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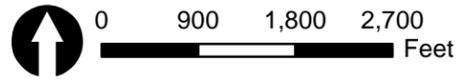
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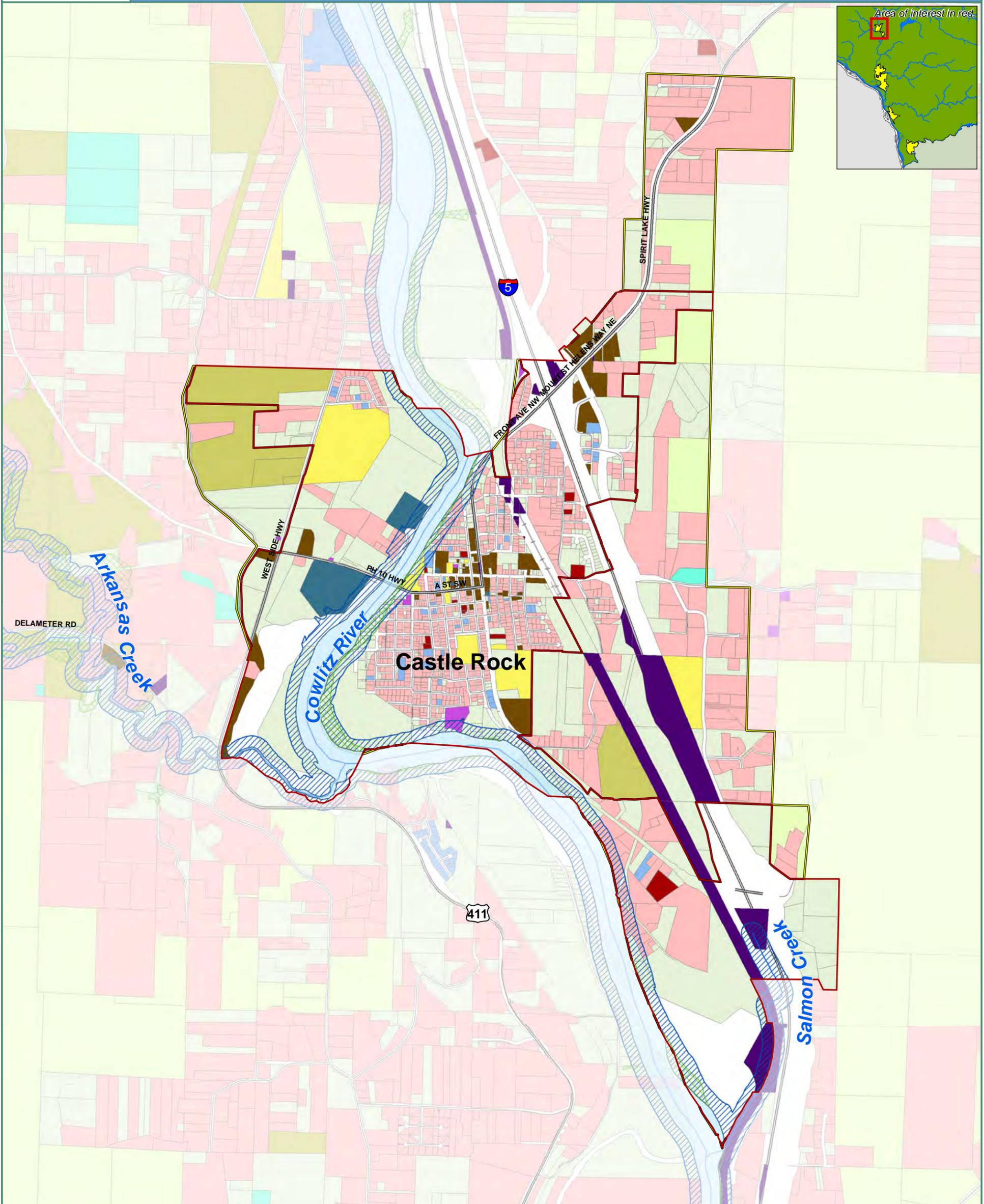
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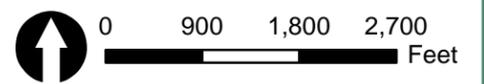


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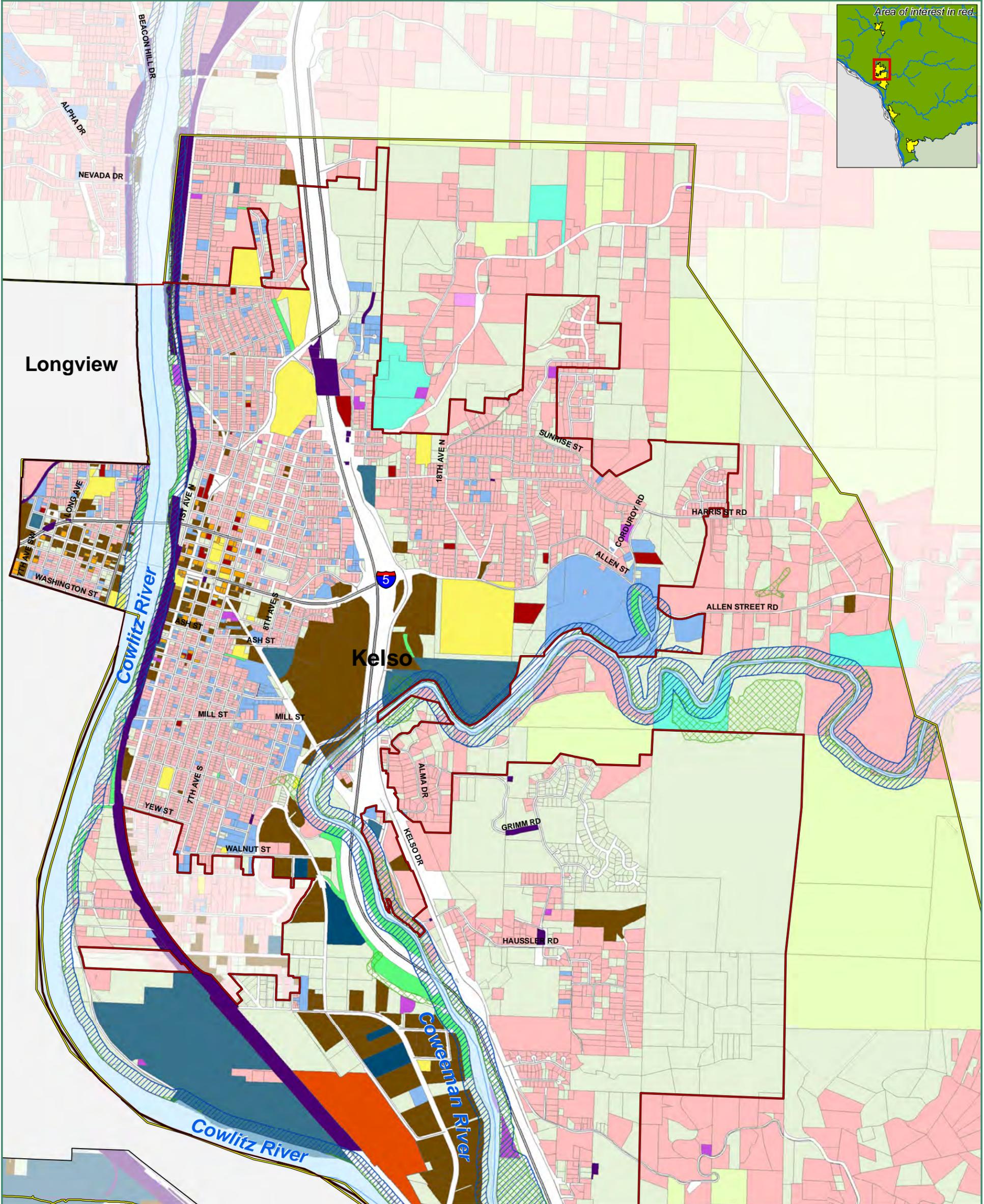


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|-------------------------|--------------------------|---------------------------|---------------------------------|
| <b>Current Land Use</b> | Fishing Activities       | Public/Education/Assembly | SMP Stream                      |
| Agriculture             | Forestland               | Recreation                | SMP Waterbody                   |
| Airport                 | Industrial               | Single Family Residential | Proposed Shoreline Jurisdiction |
| Auto Parking            | Multi-Family Residential | Transportation            | Potentially Associated Wetland  |
| Church                  | Open Space               | Undeveloped Land          | City Boundary                   |
| Commercial              | Other                    | Utilities                 | UGA/UGB/PAB                     |
| Diking Right of Way     | Ports                    |                           | County Boundary                 |

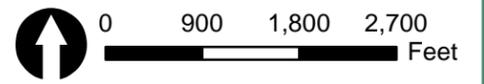


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- |                         |                          |                           |                                 |
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| Commercial              | Other                    | Utilities                 | UGA/UGB/PAB                     |
| Diking Right of Way     | Ports                    |                           | County Boundary                 |

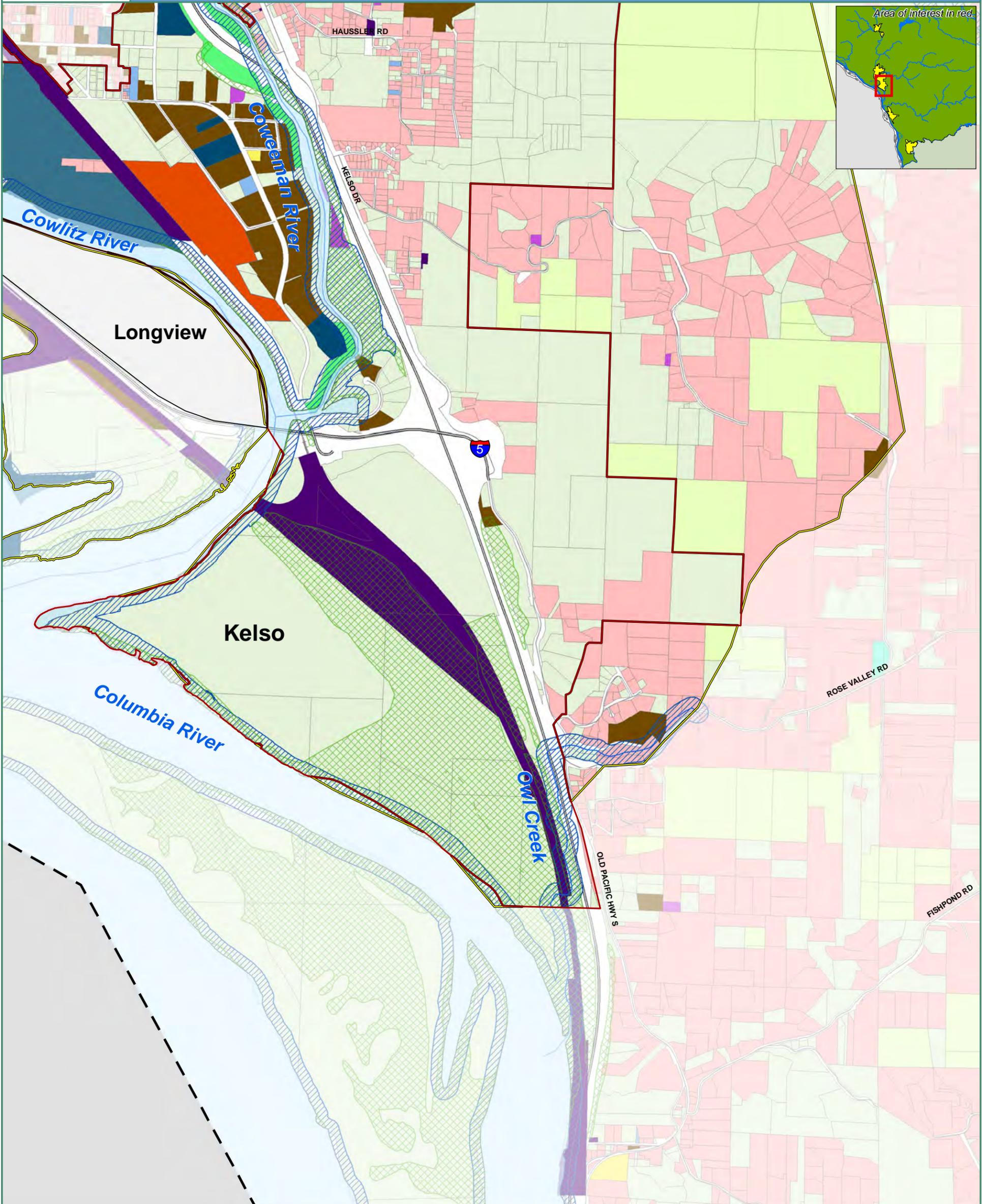


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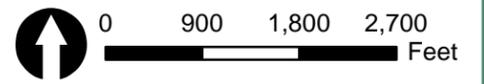
Data source:  
Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

FIGURE 2. CURRENT LAND USE

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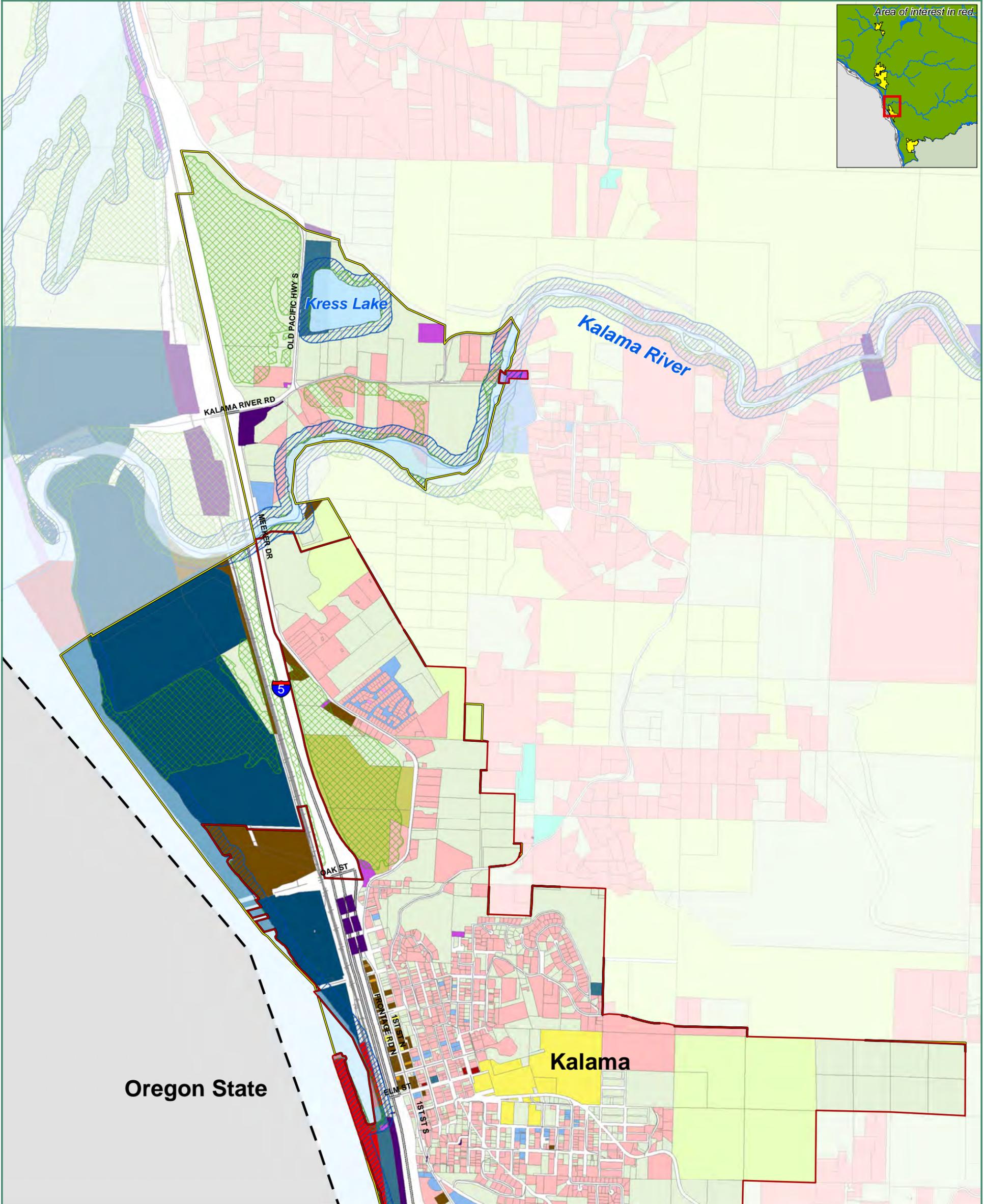


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|-------------------------|--------------------------|---------------------------|---------------------------------|
| <b>Current Land Use</b> | Fishing Activities       | Public/Education/Assembly | SMP Stream                      |
| Agriculture             | Forestland               | Recreation                | SMP Waterbody                   |
| Airport                 | Industrial               | Single Family Residential | Proposed Shoreline Jurisdiction |
| Auto Parking            | Multi-Family Residential | Transportation            | Potentially Associated Wetland  |
| Church                  | Open Space               | Undeveloped Land          | City Boundary                   |
| Commercial              | Other                    | Utilities                 | UGA/UGB/PAB                     |
| Diking Right of Way     | Ports                    |                           | County Boundary                 |

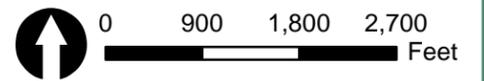


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Please scale accordingly.

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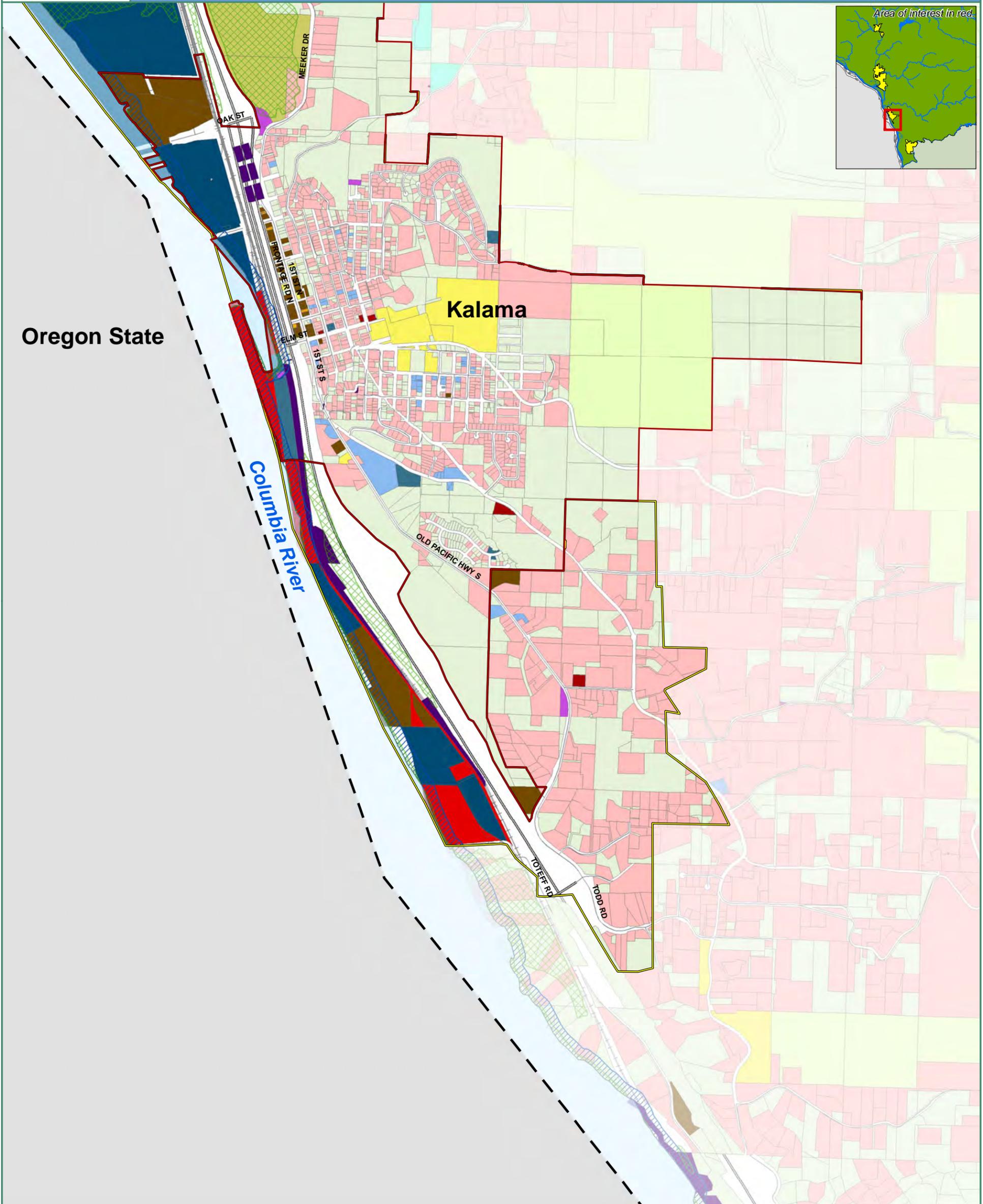


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|-------------------------|--------------------------|---------------------------|---------------------------------|
| <b>Current Land Use</b> | Fishing Activities       | Public/Education/Assembly | SMP Stream                      |
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| Auto Parking            | Multi-Family Residential | Transportation            | Potentially Associated Wetland  |
| Church                  | Open Space               | Undeveloped Land          | City Boundary                   |
| Commercial              | Other                    | Utilities                 | UGA/UGB/PAB                     |
| Diking Right of Way     | Ports                    |                           | County Boundary                 |

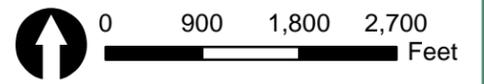


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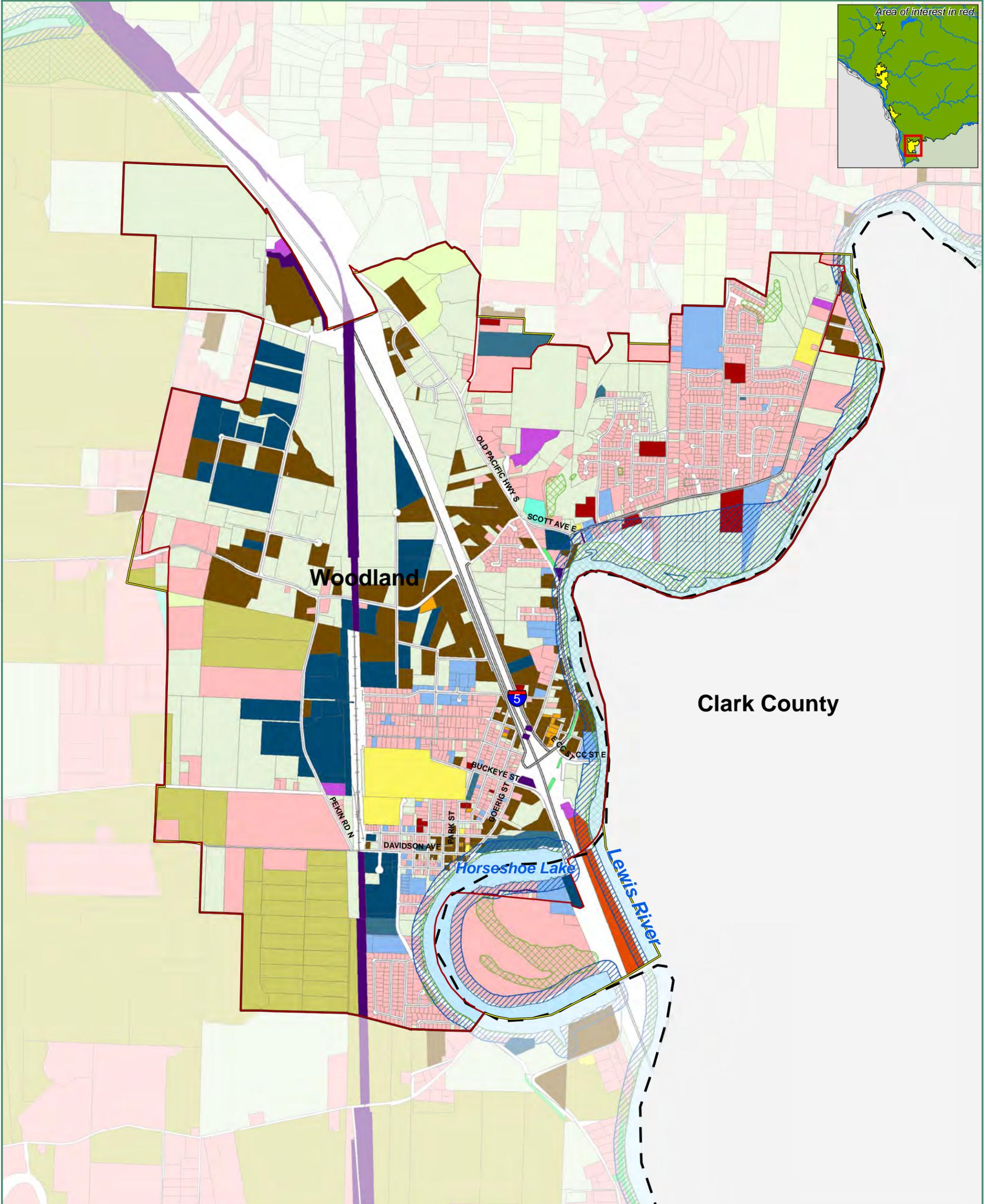


|                         |                          |                           |                                 |
|-------------------------|--------------------------|---------------------------|---------------------------------|
| <b>Current Land Use</b> | Fishing Activities       | Public/Education/Assembly | SMP Stream                      |
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| Auto Parking            | Multi-Family Residential | Transportation            | Potentially Associated Wetland  |
| Church                  | Open Space               | Undeveloped Land          | City Boundary                   |
| Commercial              | Other                    | Utilities                 | UGA/UGB/PAB                     |
| Diking Right of Way     | Ports                    |                           | County Boundary                 |

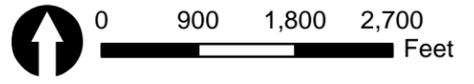


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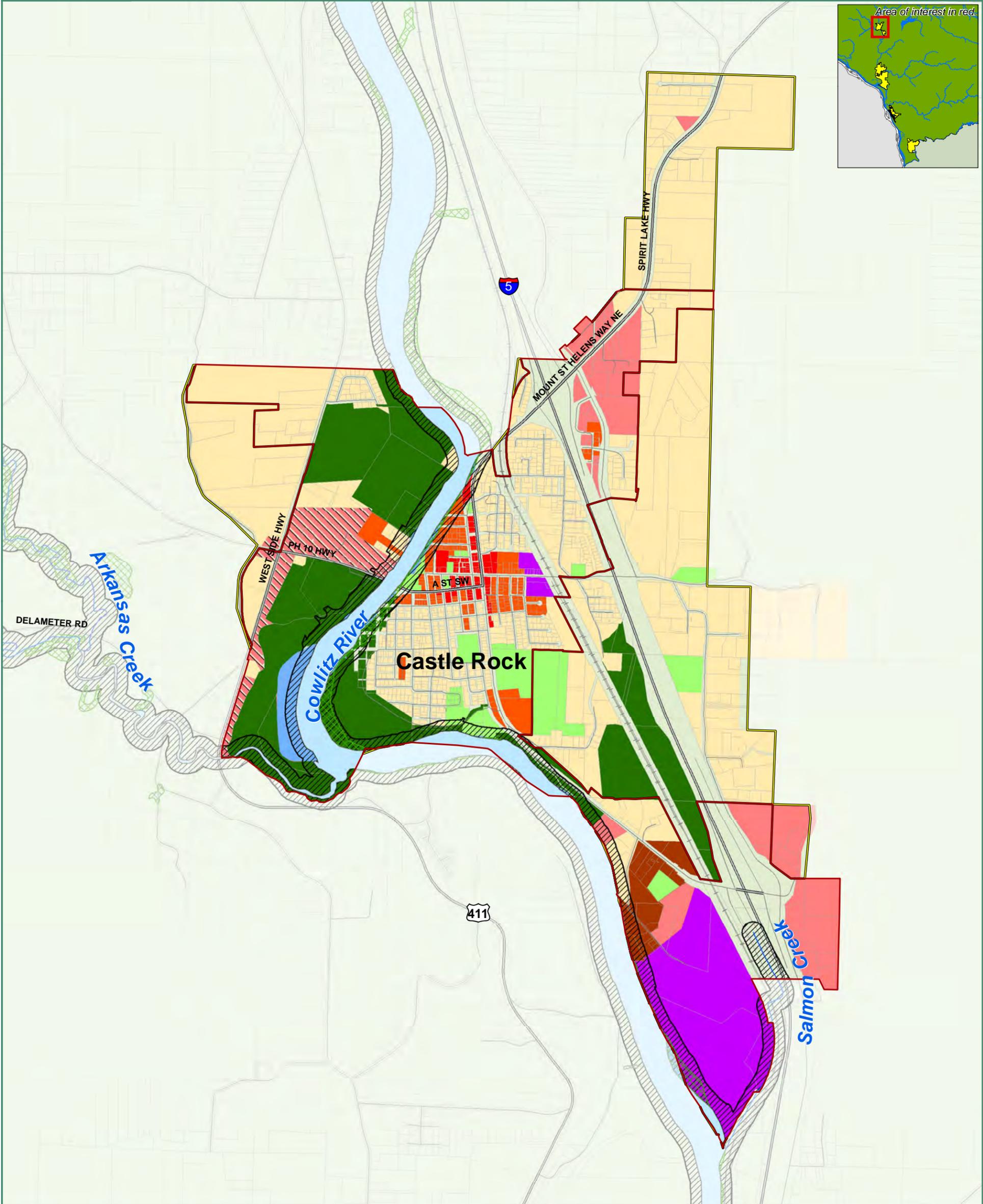


|                         |                          |                           |                                 |
|-------------------------|--------------------------|---------------------------|---------------------------------|
| <b>Current Land Use</b> | Fishing Activities       | Public/Education/Assembly | SMP Stream                      |
| Agriculture             | Forestland               | Recreation                | SMP Waterbody                   |
| Airport                 | Industrial               | Single Family Residential | Proposed Shoreline Jurisdiction |
| Auto Parking            | Multi-Family Residential | Transportation            | Potentially Associated Wetland  |
| Church                  | Open Space               | Undeveloped Land          | City Boundary                   |
| Commercial              | Other                    | Utilities                 | UGA/UGB/PAB                     |
| Diking Right of Way     | Ports                    |                           | County Boundary                 |

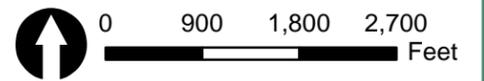


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- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary
- Low Density Residential
- High Density Residential
- Downtown Commercial
- Commercial
- Mixed-use Commercial / Industrial
- Heavy Commercial / Light Industrial
- Industrial
- Public / Quasi-Public
- Recreational / Open Space
- River

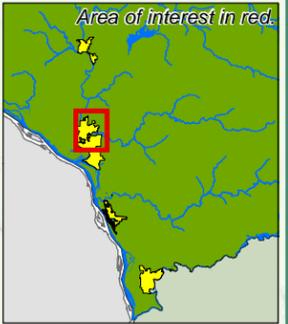
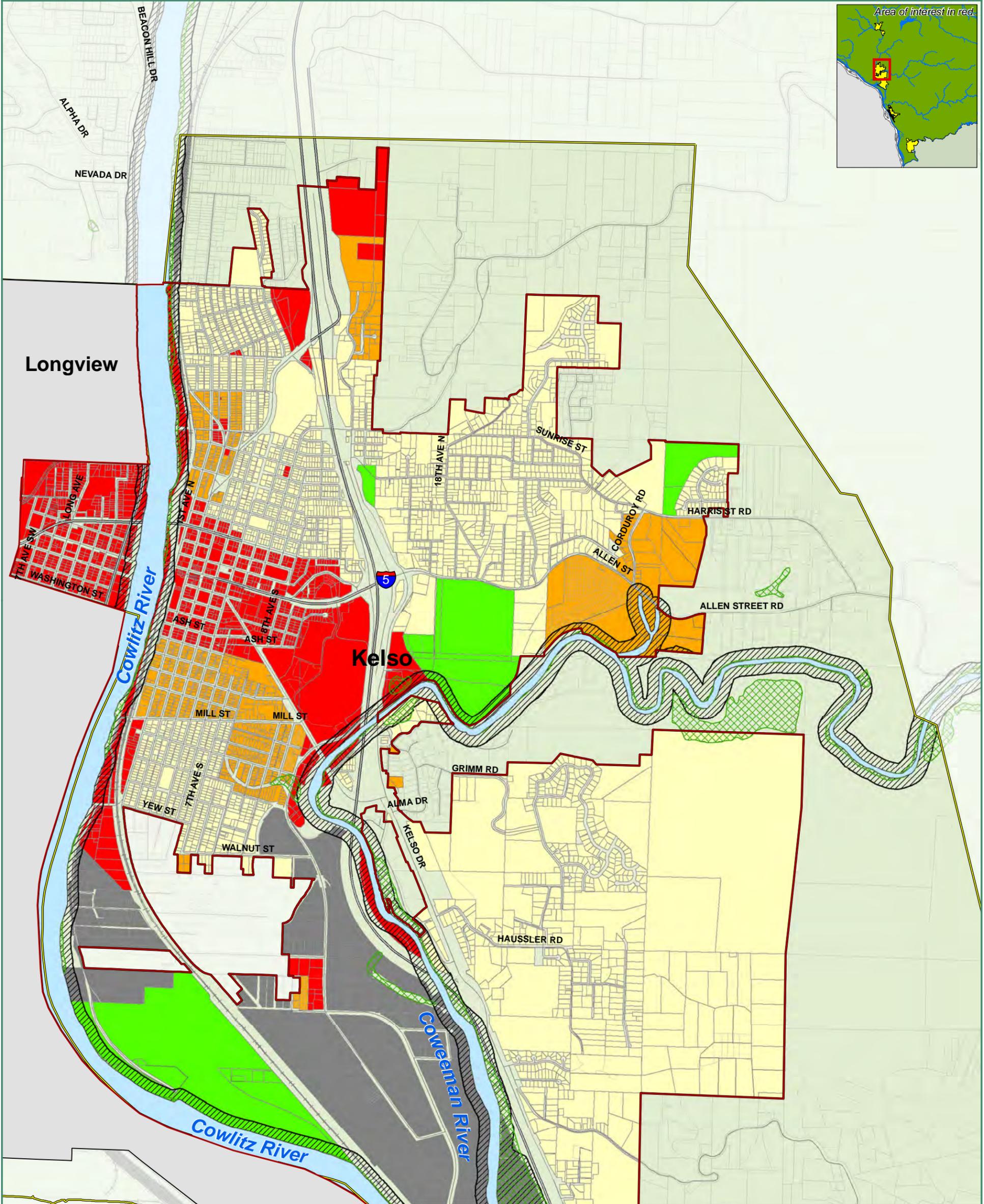


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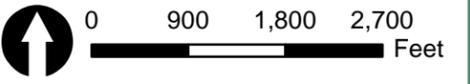
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FIGURE 3. COMPREHENSIVE PLAN LAND USE

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- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary
- Commercial
- High Density Residential
- Low Density Residential
- Industrial
- Open

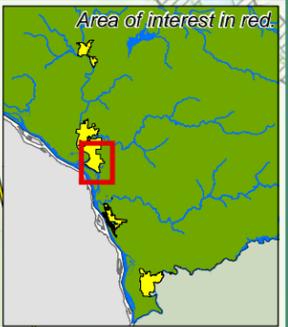
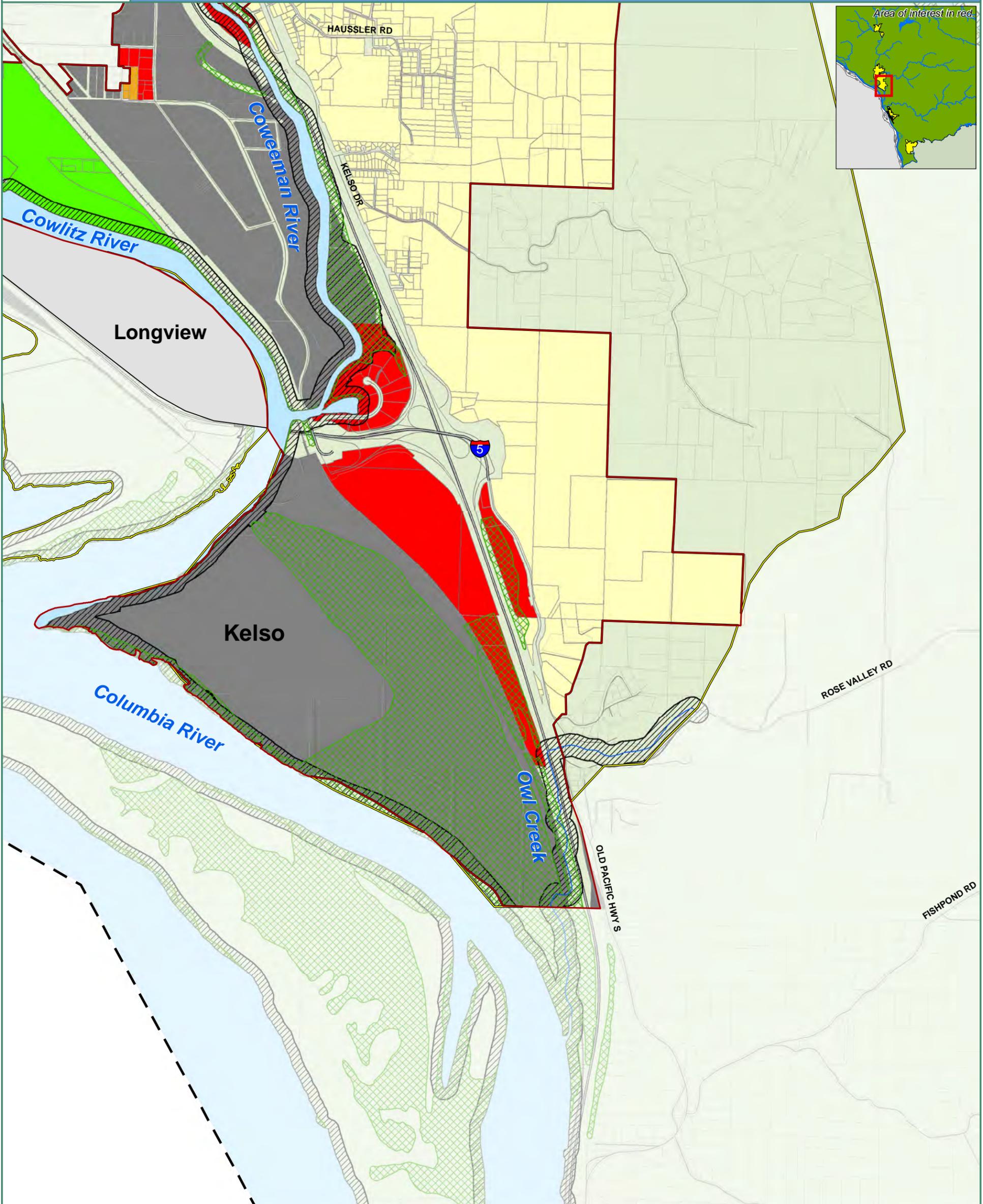


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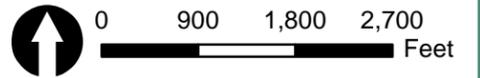
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- County Boundary
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- High Density Residential
- Low Density Residential
- Industrial
- Open

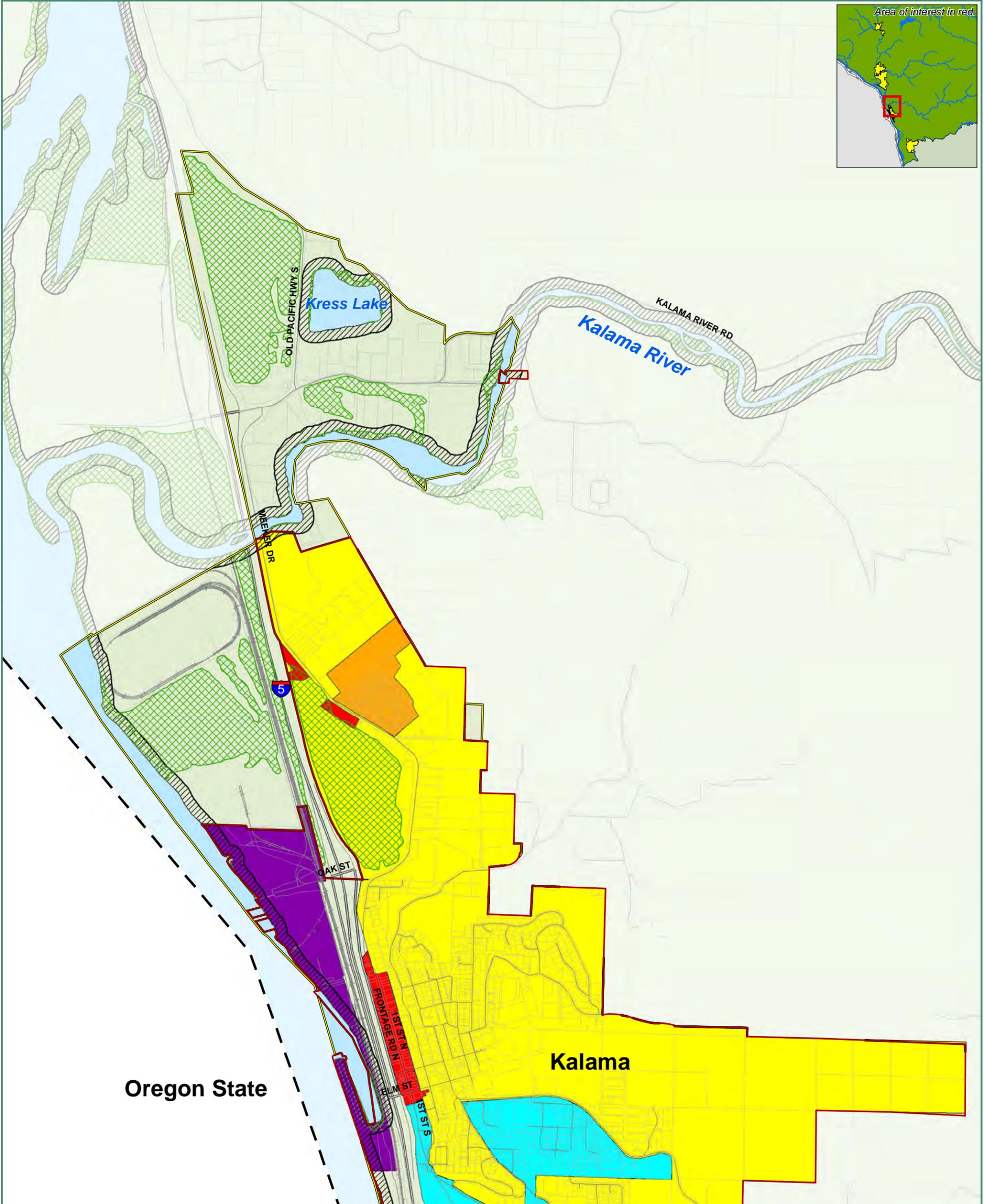
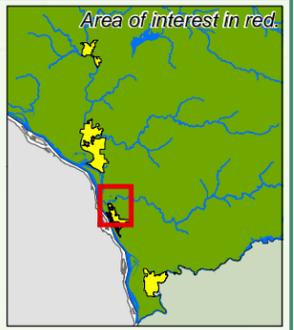


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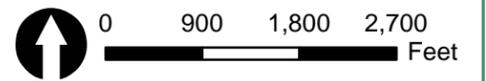
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- Potentially Associated Wetland
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- County Boundary
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Commercial
- Industrial
- Public/Quasi-Public Overlay

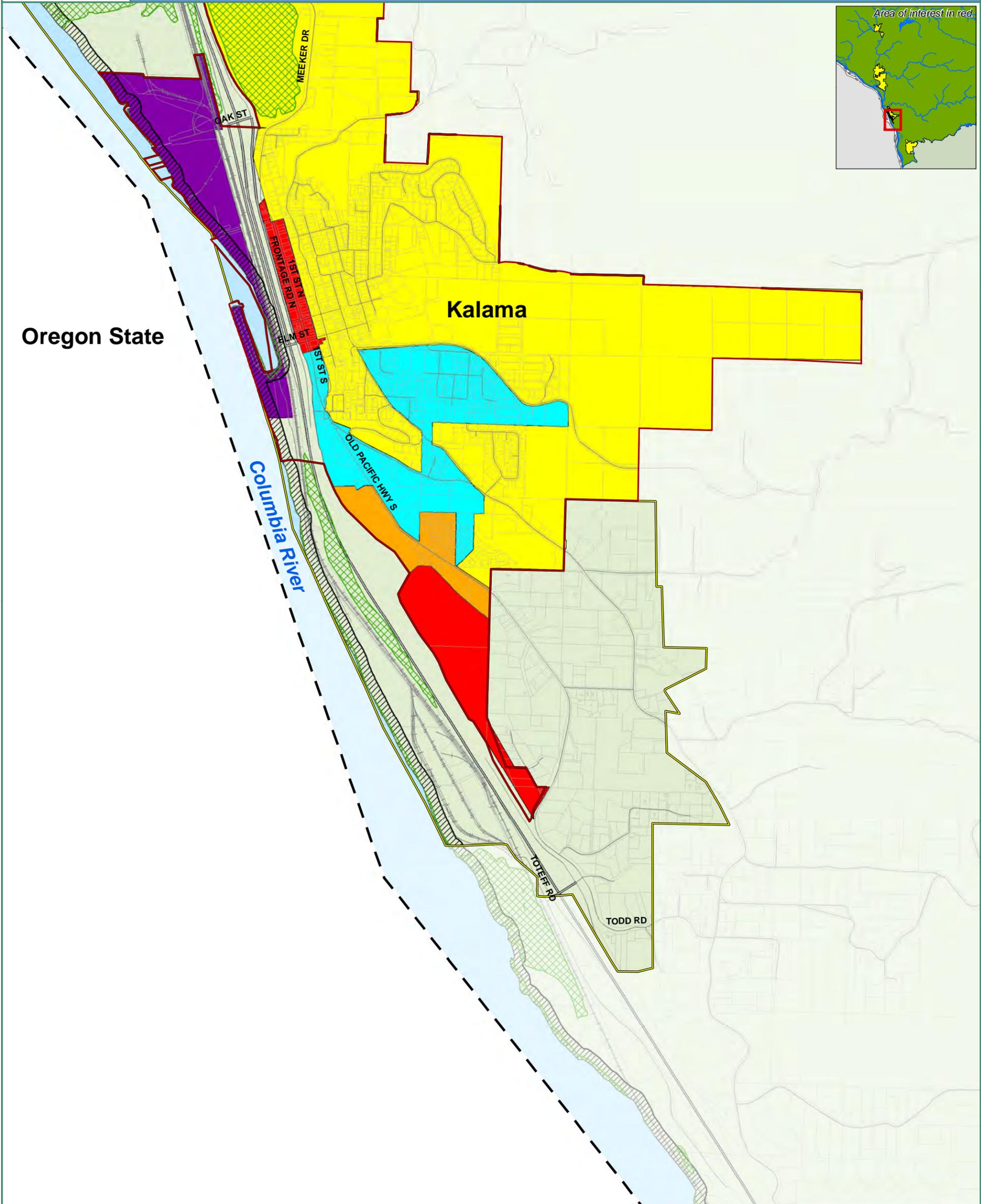


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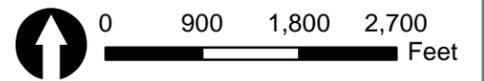
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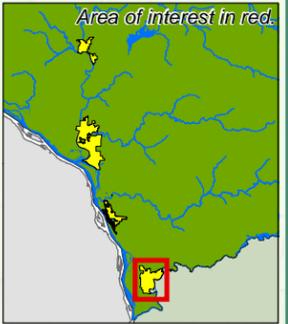
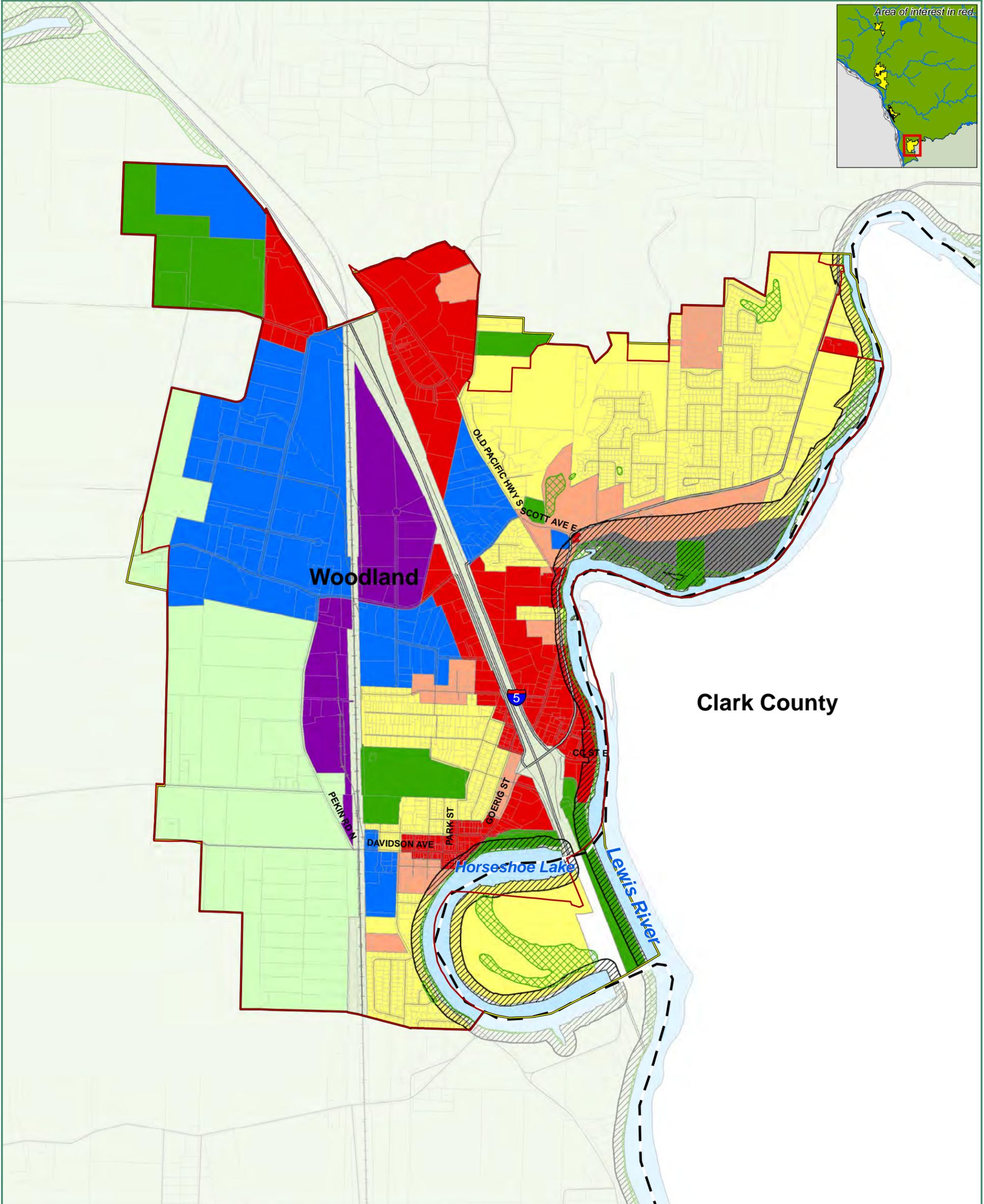


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- City Boundary
- UGA/UGB/PAB
- County Boundary
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Commercial
- Industrial
- Public/Quasi-Public Overlay



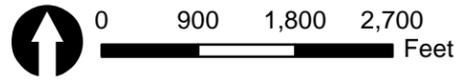
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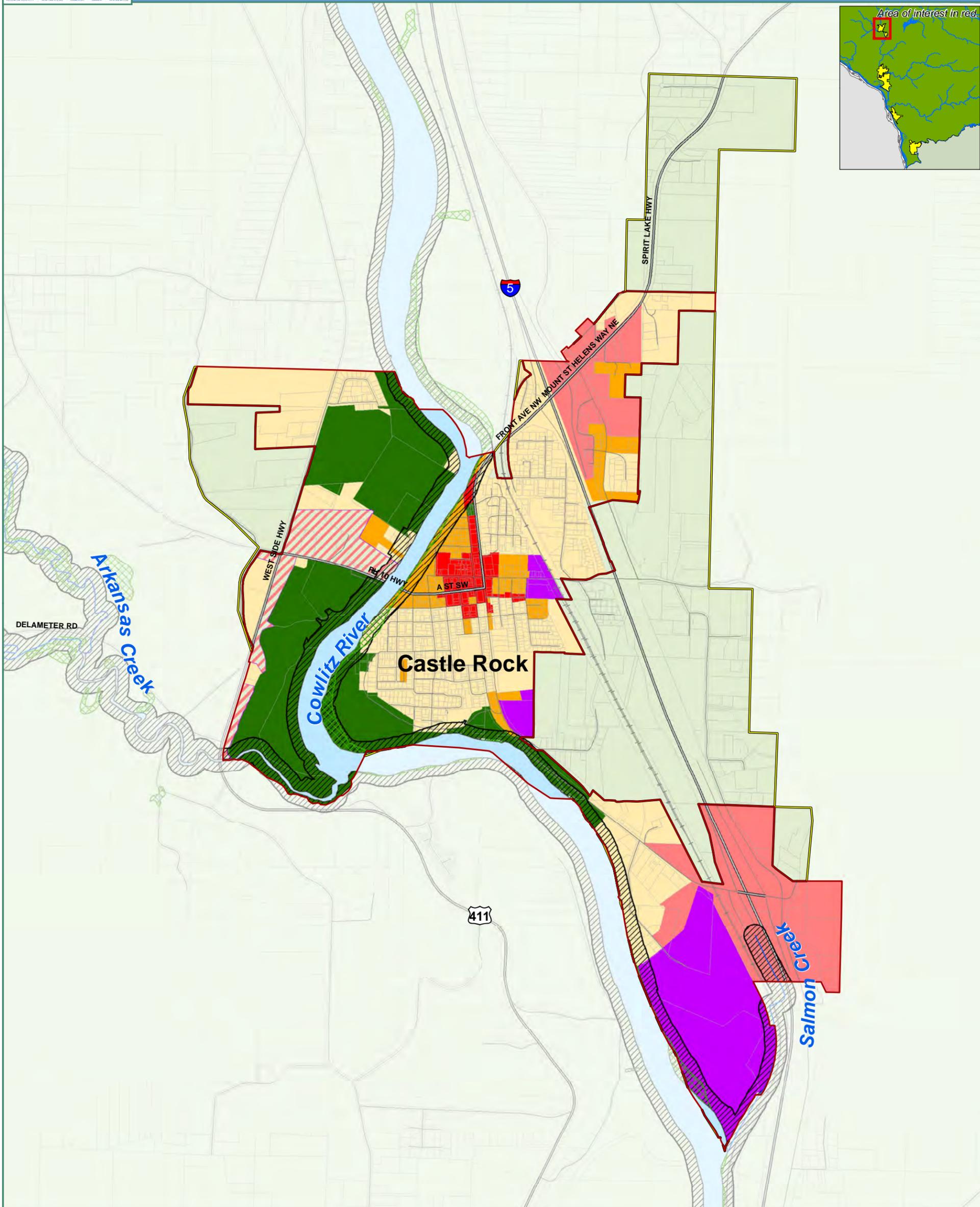
- SMP Stream
- SMP Waterbody
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- City Boundary
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- County Boundary

- Commercial
- Floodway and Open Space
- Heavy Industrial
- High Density Residential
- Industrial Reserve
- Light Industrial
- Low Density Residential
- Public / Quasi Public / Institutional



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Please scale accordingly.

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- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary
- Low Density Residential
- Mixed Use
- High Density Residential
- Highway Business
- Retail Business
- Industrial
- Parks, Rec & OS

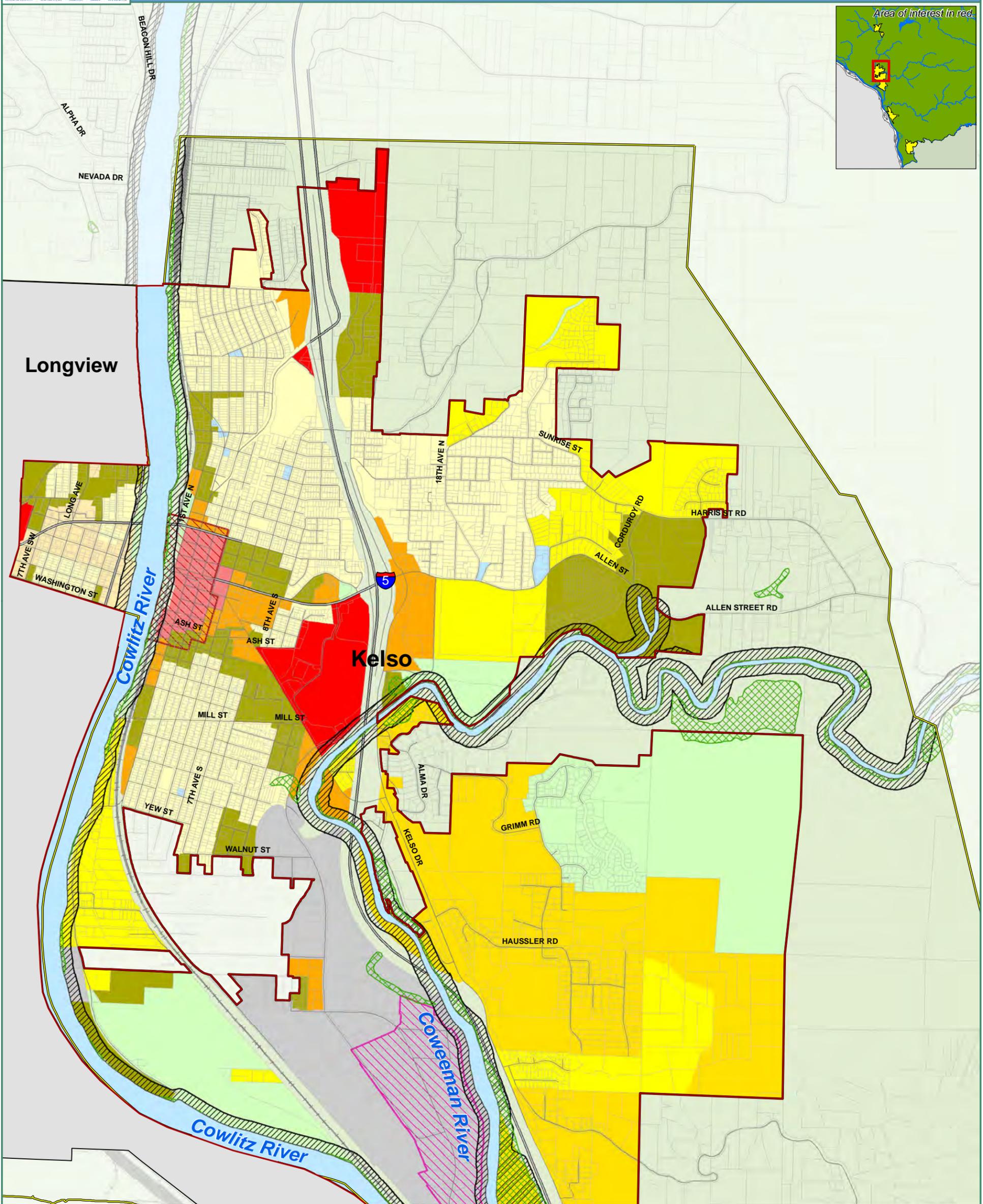
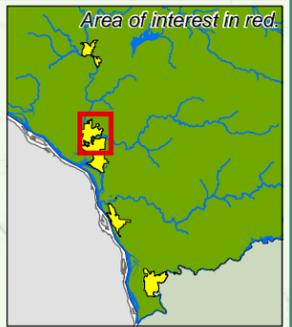


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FIGURE 4. ZONING

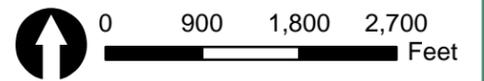
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- County Boundary

- Overlay Zones**
- Downtown Design Review Overlay
  - SOB Overlay
- Zoning**
- CMR- Major Retail Area
  - CNH- Commercial Neighborhood
  - CSR- Special Retail District
  - CTC- Town Center Community

- CWK- West Kelso Community
- ILM- Airport Industrial/Light Industrial Area
- OPN- Open Space
- RMF- Residential Multi-Family
- RSF-10- Residential Single Family
- RSF-15- Residential Single Family
- RSF-5- Residential Single Family

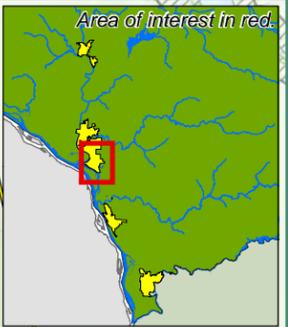
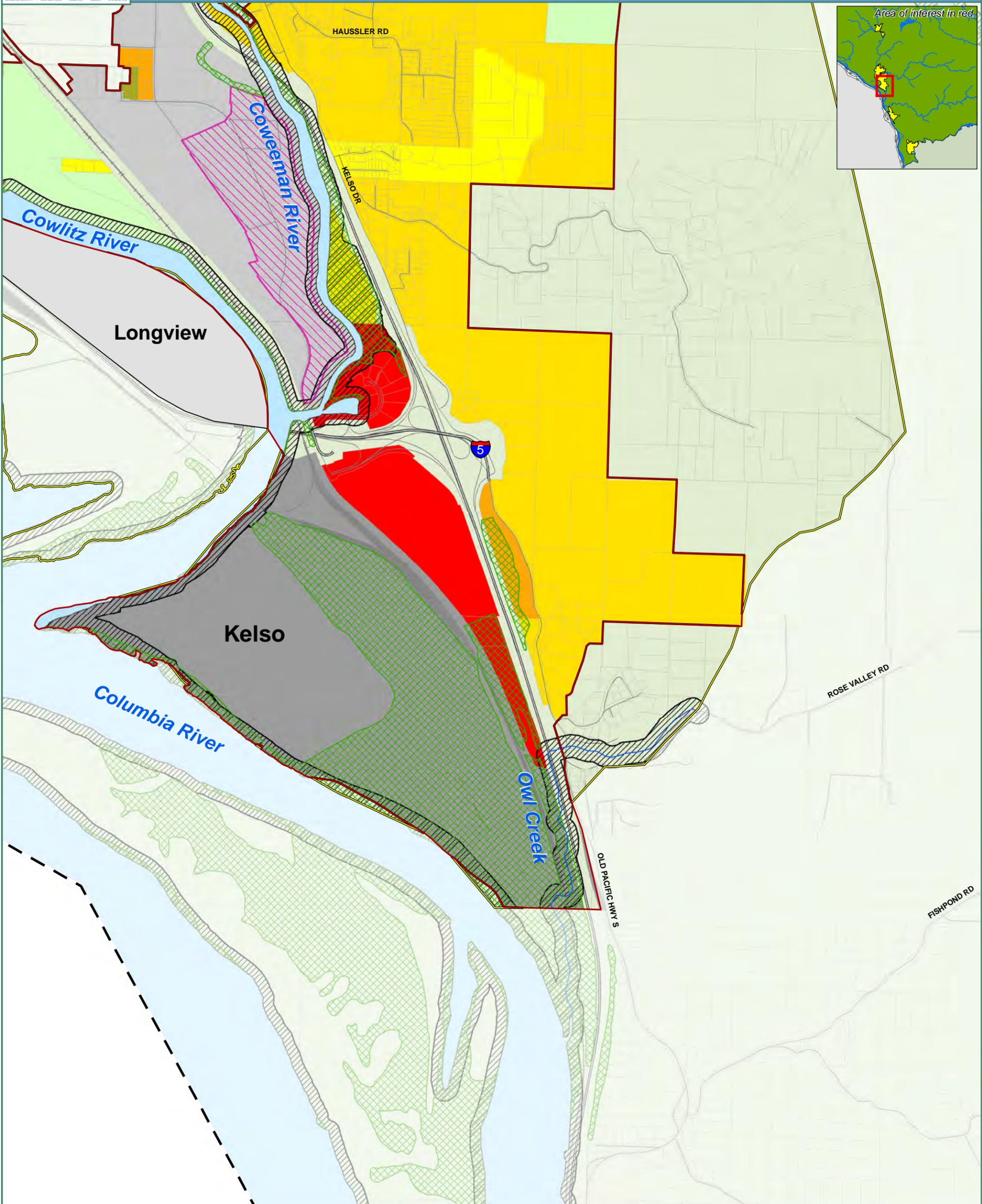


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Data source: Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

FIGURE 4. ZONING

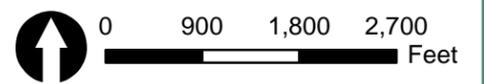
DRAFT



- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

- Overlay Zones**
- SOB Overlay
- Zoning**
- CMR- Major Retail Area
  - CSR- Special Retail District
  - IGM- General Manufacturing

- ILM- Airport Industrial/Light Industrial Area
- OPN- Open Space
- RMF- Residential Multi-Family
- RSF-10- Residential Single Family
- RSF-15- Residential Single Family

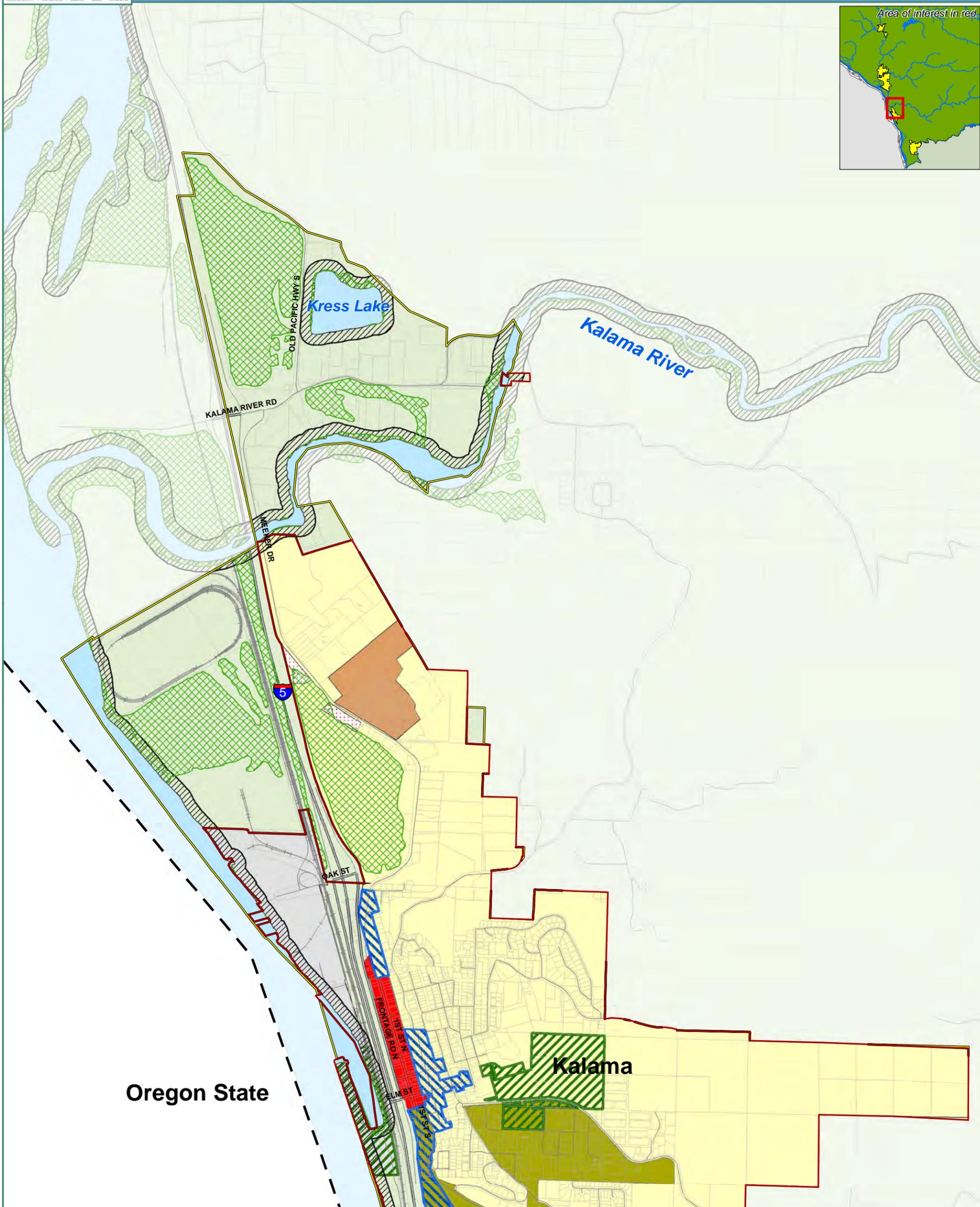
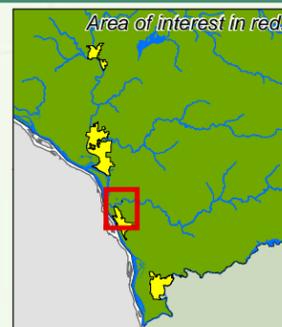


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Data source: Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

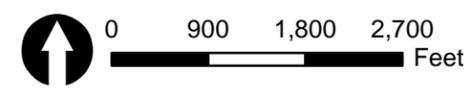
FIGURE 4. ZONING

DRAFT



- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary
- Central Business District
- Highway Commercial
- Industrial
- Multi-Family Residential
- Single-Family Residential
- Two-Family Residential

- Kalama Overlay Zones**
- Professional Service Commercial (overlay)
  - Public Quasi Public (overlay)

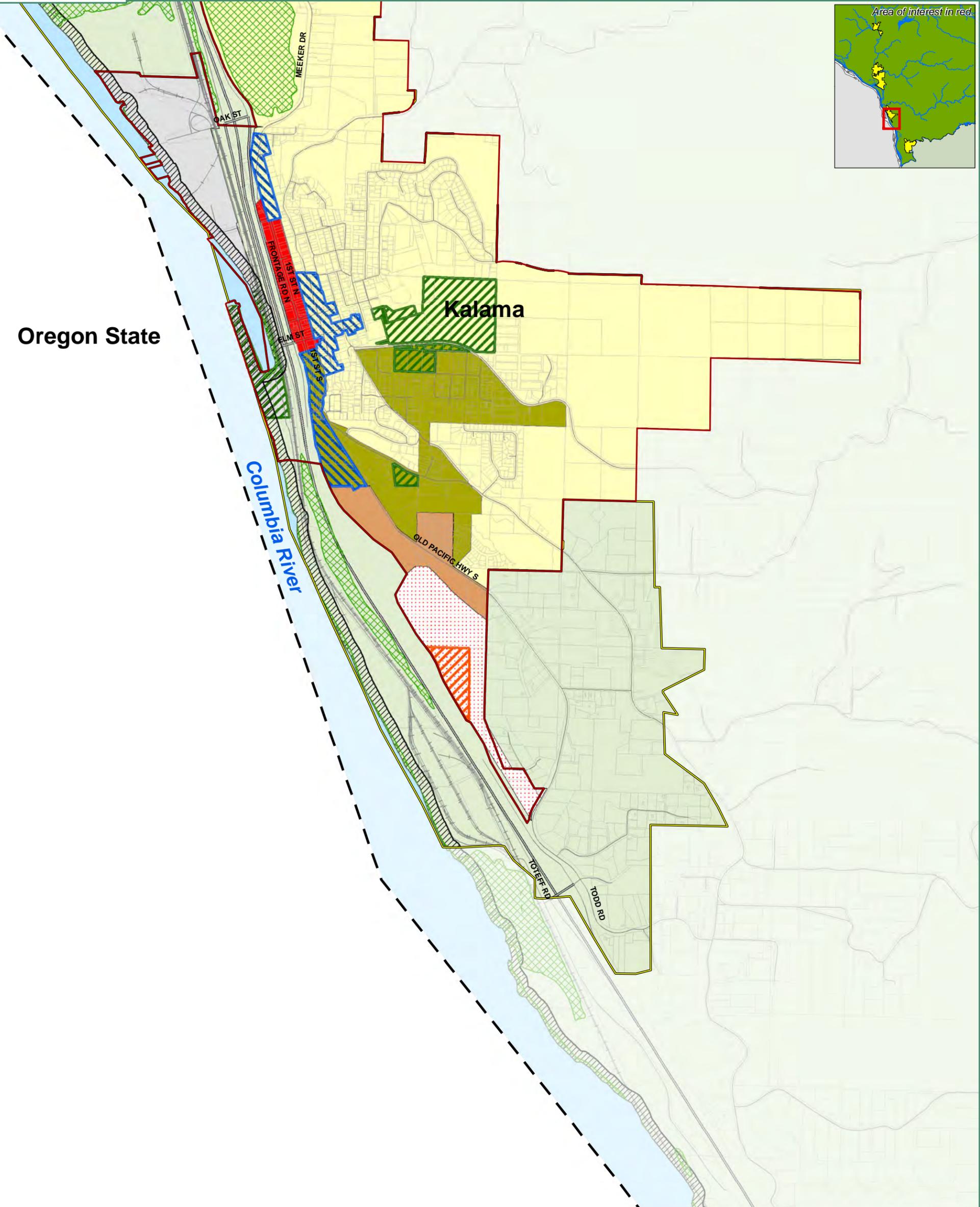


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Data source: Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

FIGURE 4. ZONING

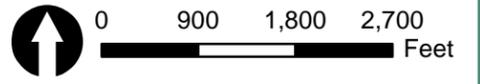
DRAFT



- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

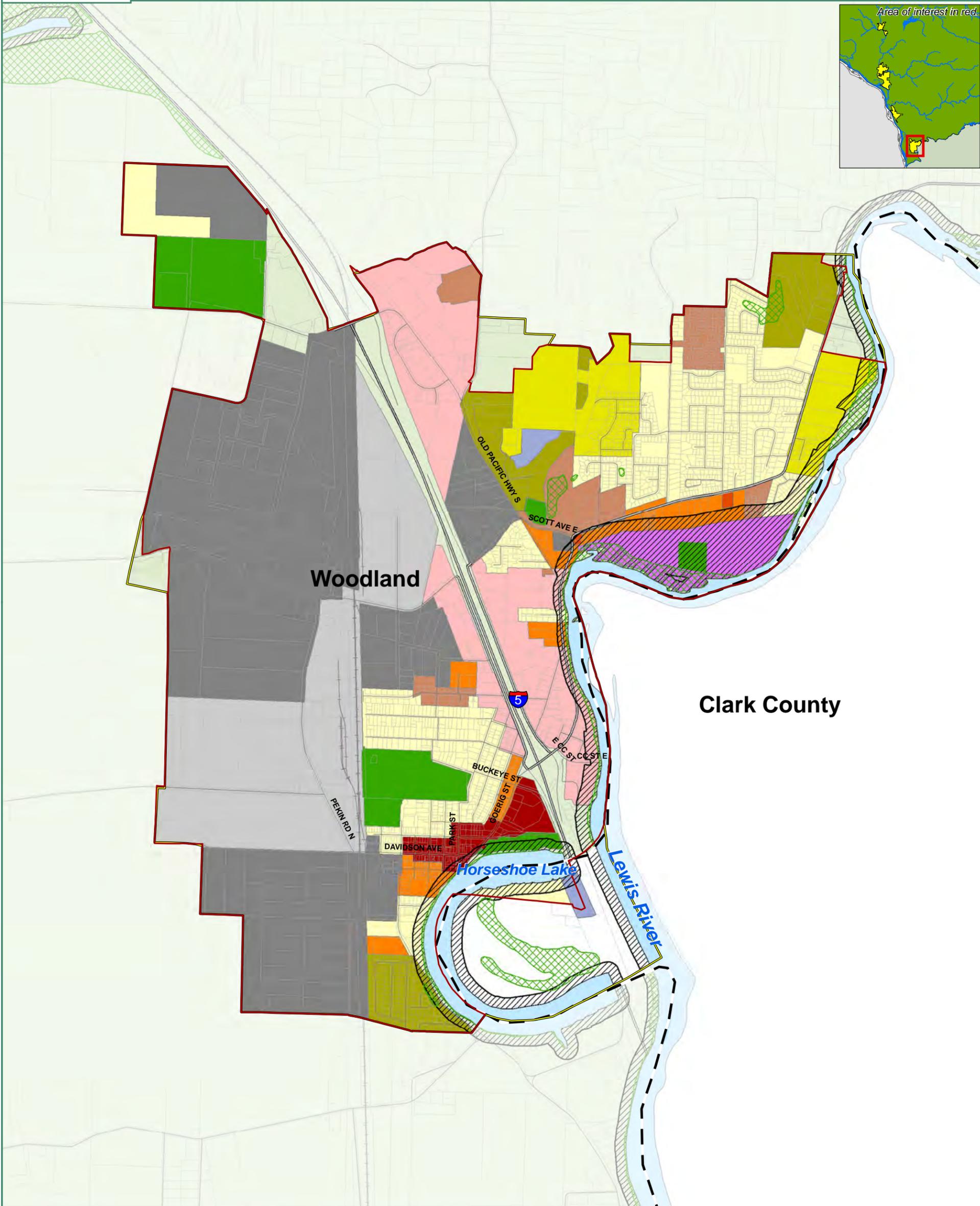
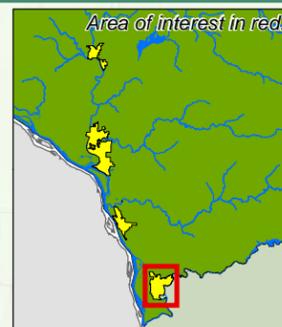
- Central Business District
- Highway Commercial
- Industrial
- Multi-Family Residential
- Single-Family Residential
- Two-Family Residential

- Kalama Overlay Zones**
- Professional Service Commercial (overlay)
  - Public Quasi Public (overlay)
  - Sexually Oriented Business (overlay)



Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source: Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.



- SMP Stream
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- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

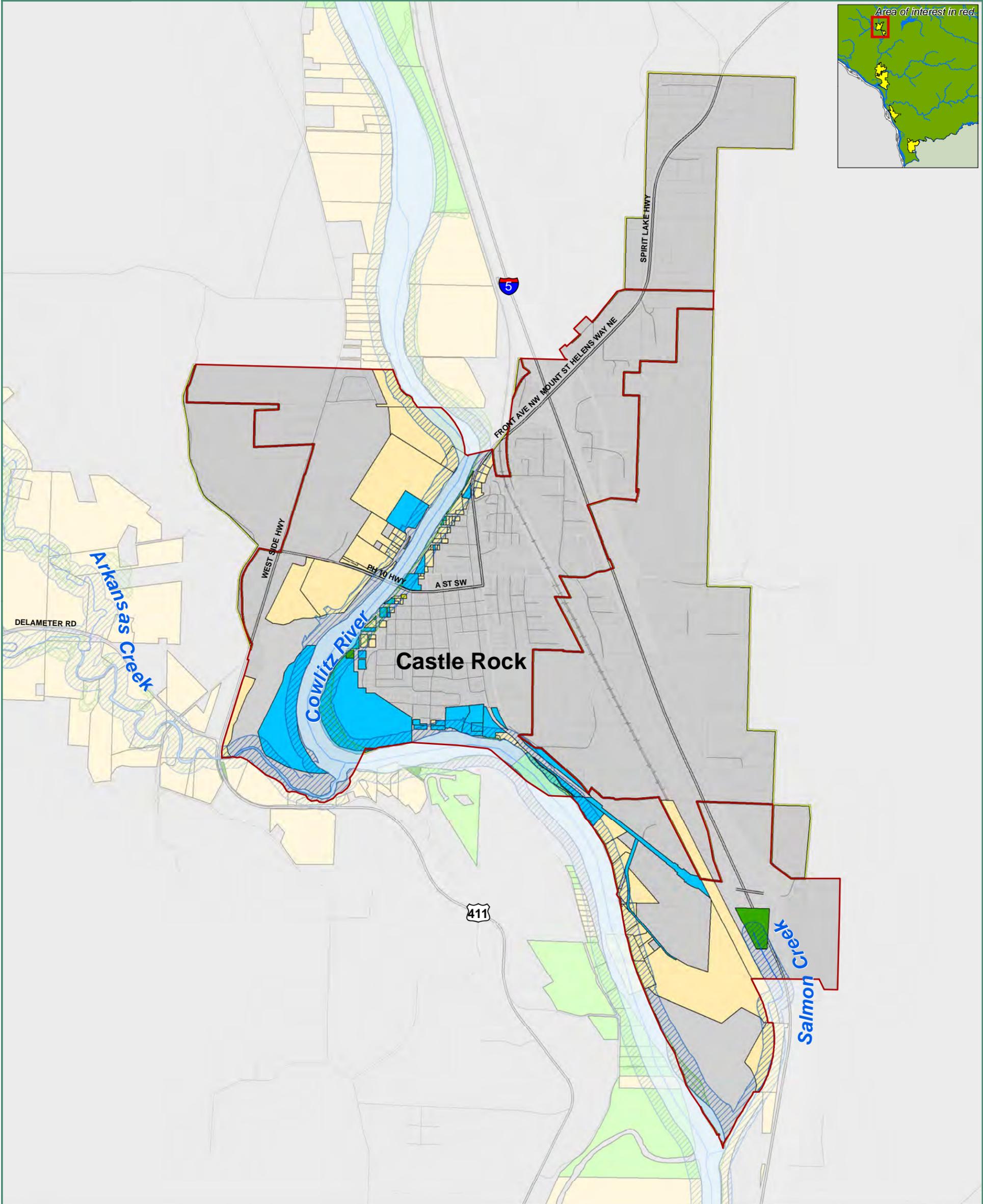
- C-1- Central Business District
- C-2- Highway Commercial/Light Industrial
- C-3- Neighborhood Commercial
- FW- Floodway Use District
- HDR- High Density Residential
- I-1- Light Industrial

- I-2
- LDR-6- Low Density Residential
- LDR-7.2- Low Density Residential
- LDR-8.5- Low Density Residential
- MDR- Medium Density Residential
- P/Q-P/I
- UZ- Unzoned



Original Scale=1:20,400 @ 11x17 layout.  
Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

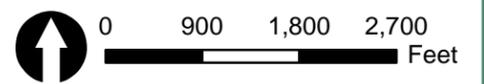


**Parcel Ownership<sup>1</sup>**

- City
- Cowlitz County
- Diking District
- Department of Natural Resources
- Federal

- Port
- State - Other
- State - DOT
- State - WDFW
- Utilities
- Private
- Parcel outside Shoreline Jurisdiction

- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary



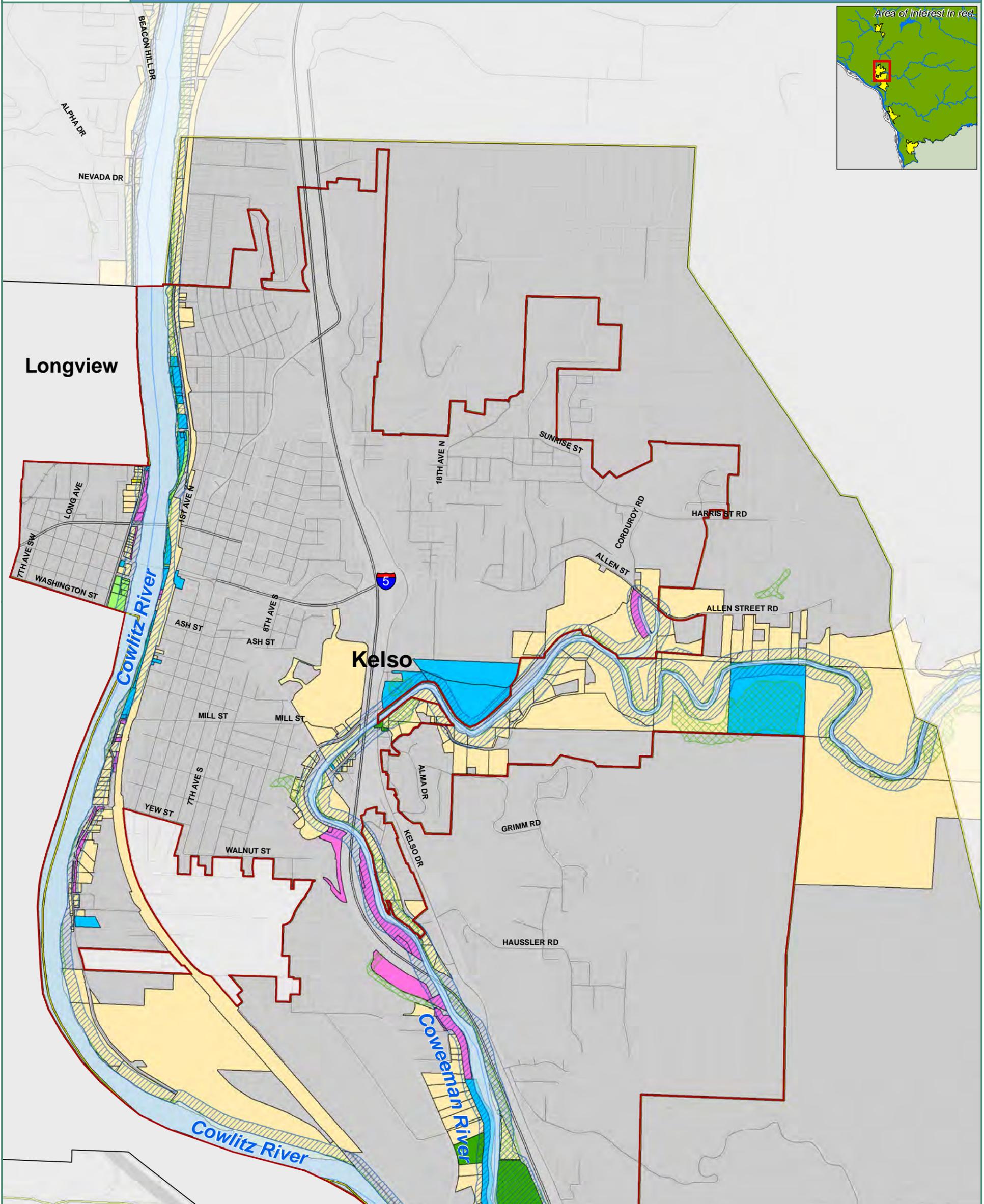
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Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

Note:  
<sup>1</sup> Ownership information derived from county parcel data.

FIGURE 5. LAND OWNERSHIP IN SHORELINE JURISDICTION

DRAFT

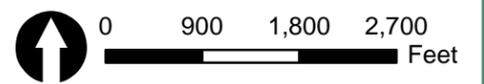


Parcel Ownership<sup>1</sup>

- City
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- Federal

- Port
- State - Other
- State - DOT
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- Private
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- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
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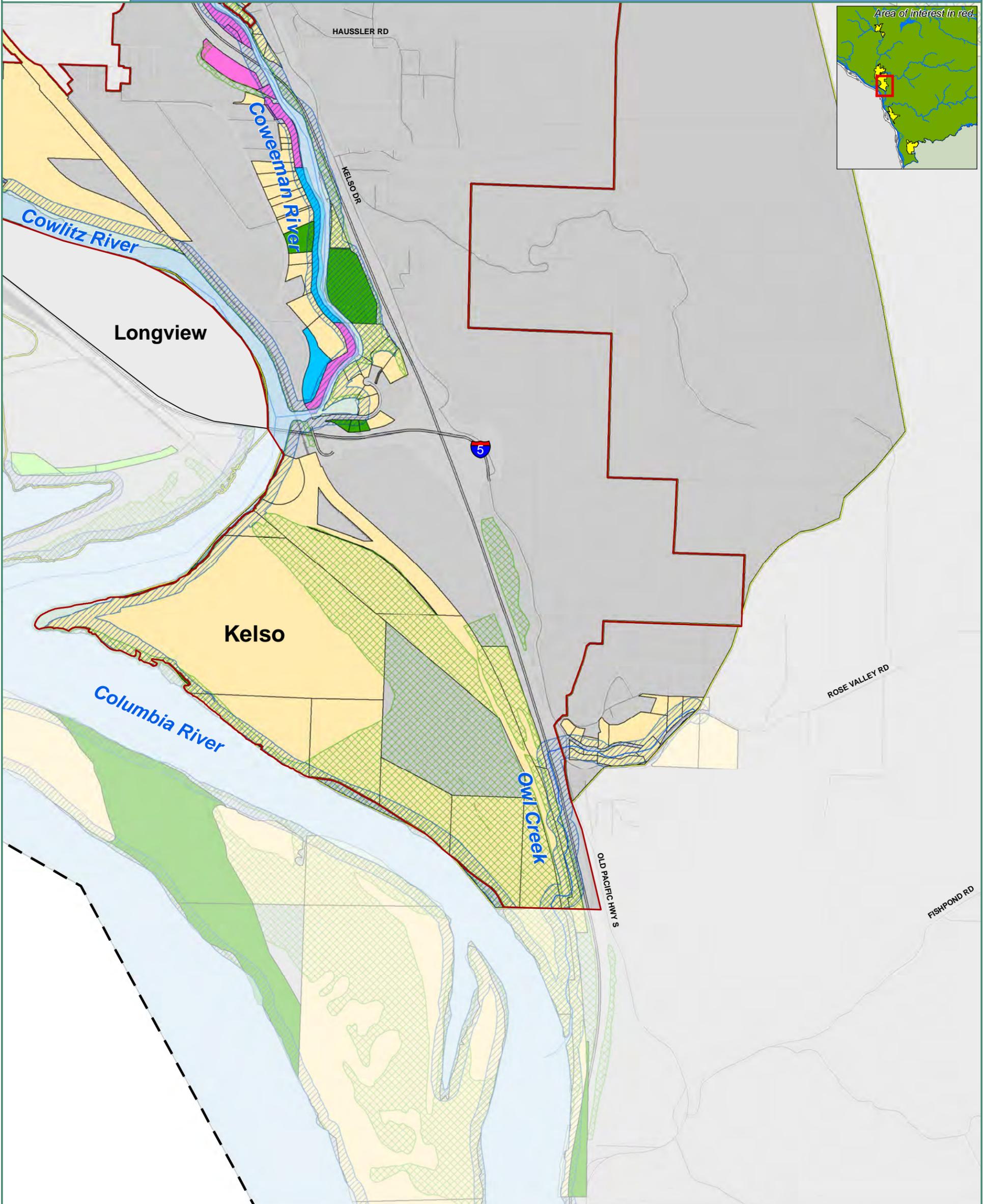
Original Scale=1:20,400 @ 11x17 layout.  
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Data source:  
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Note:  
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FIGURE 5. LAND OWNERSHIP IN SHORELINE JURISDICTION

DRAFT

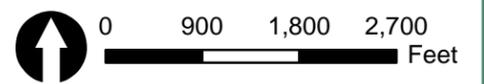


Parcel Ownership<sup>1</sup>

- City
- Cowlitz County
- Diking District
- Department of Natural Resources
- Federal

- Port
- State - Other
- State - DOT
- State - WDFW
- Utilities
- Private
- Parcel outside Shoreline Jurisdiction

- ~ SMP Stream
- SMP Waterbody
- ▨ Proposed Shoreline Jurisdiction
- ▩ Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- └┘ County Boundary



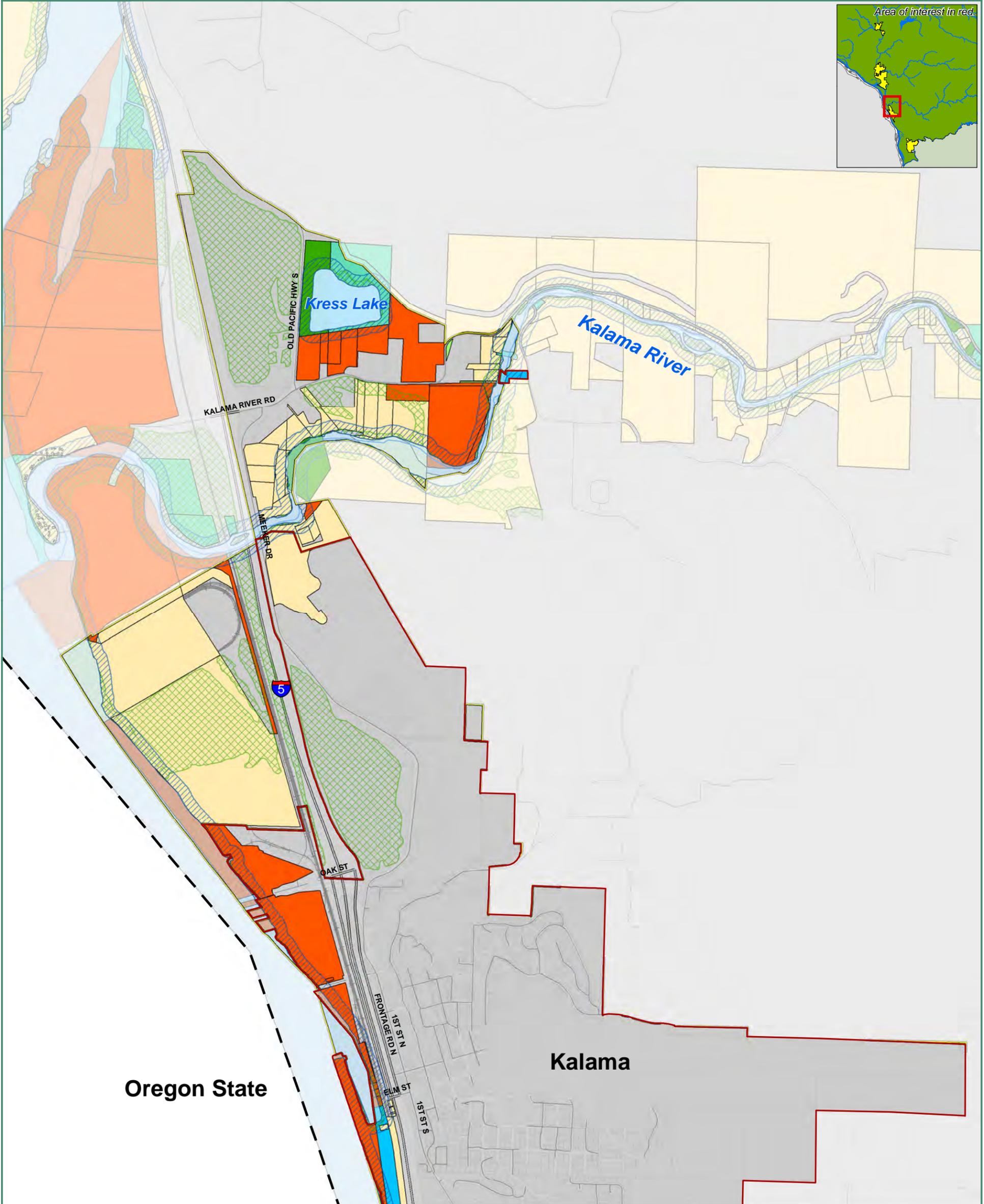
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FIGURE 5. LAND OWNERSHIP IN SHORELINE JURISDICTION

DRAFT

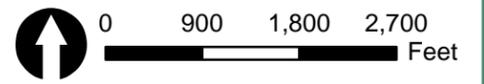


Parcel Ownership<sup>1</sup>

- City
- Cowlitz County
- Diking District
- Department of Natural Resources
- Federal

- Port
- State - Other
- State - DOT
- State - WDFW
- Utilities
- Private
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- SMP Stream
- SMP Waterbody
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- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary



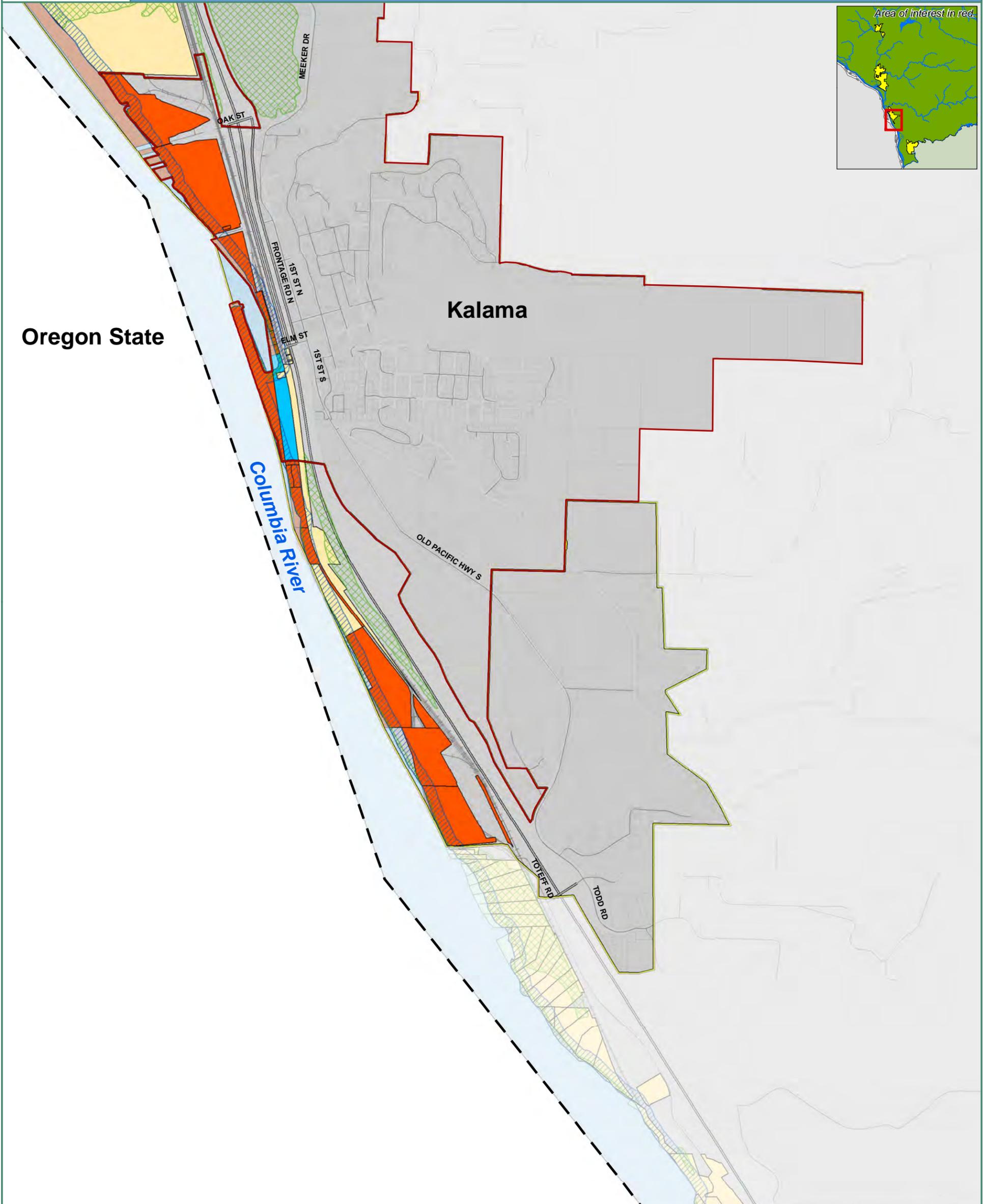
Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source: Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

Note:  
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FIGURE 5. LAND OWNERSHIP IN SHORELINE JURISDICTION

DRAFT

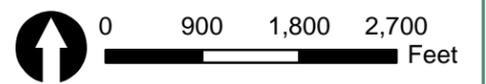


Parcel Ownership<sup>1</sup>

- City
- Cowlitz County
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- Department of Natural Resources
- Federal

- Port
- State - Other
- State - DOT
- State - WDFW
- Utilities
- Private
- Parcel outside Shoreline Jurisdiction

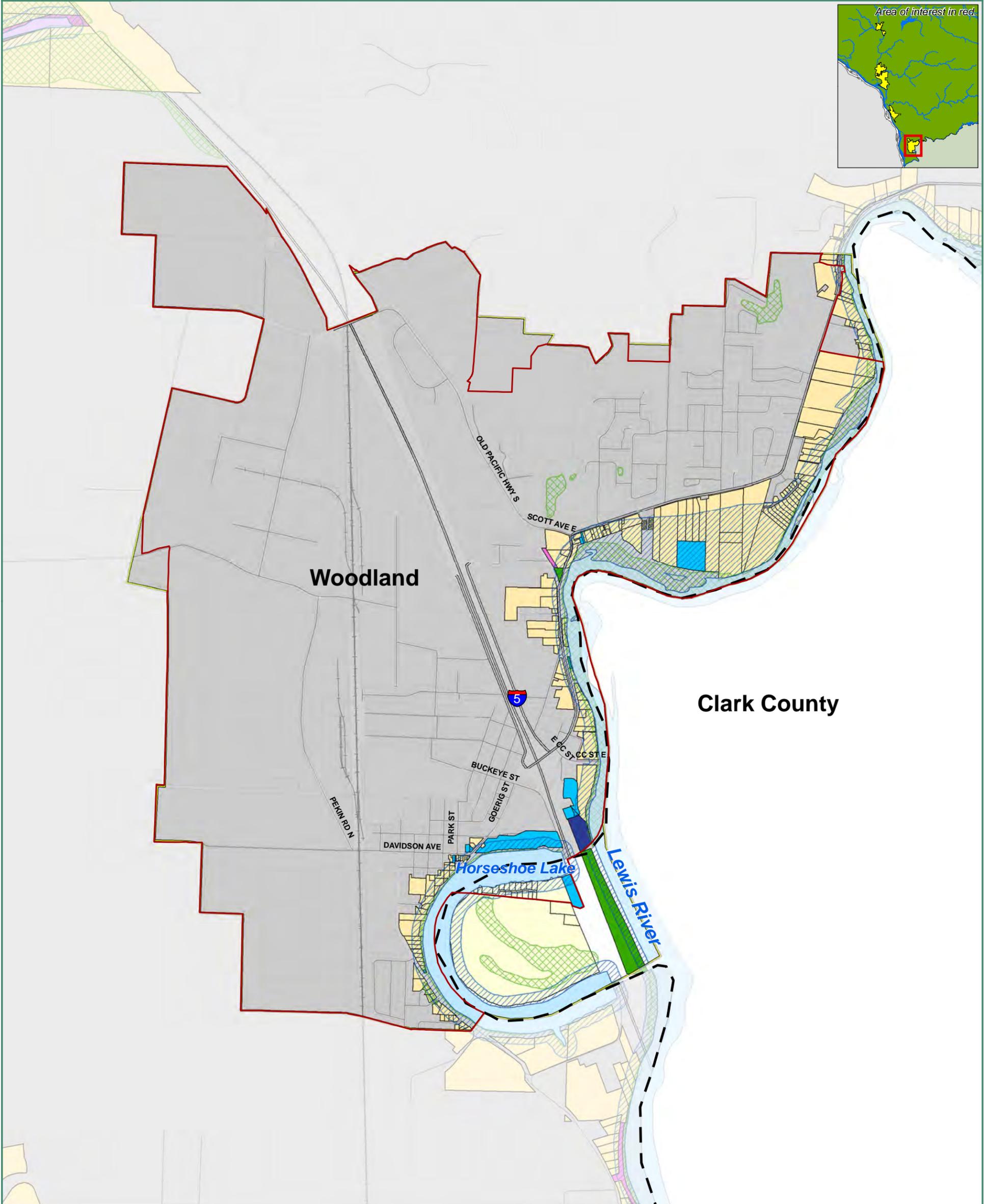
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
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- County Boundary



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Data source:  
Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

Note:  
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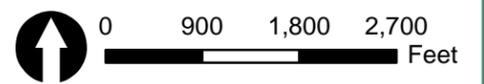


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- State - DOT
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- Private
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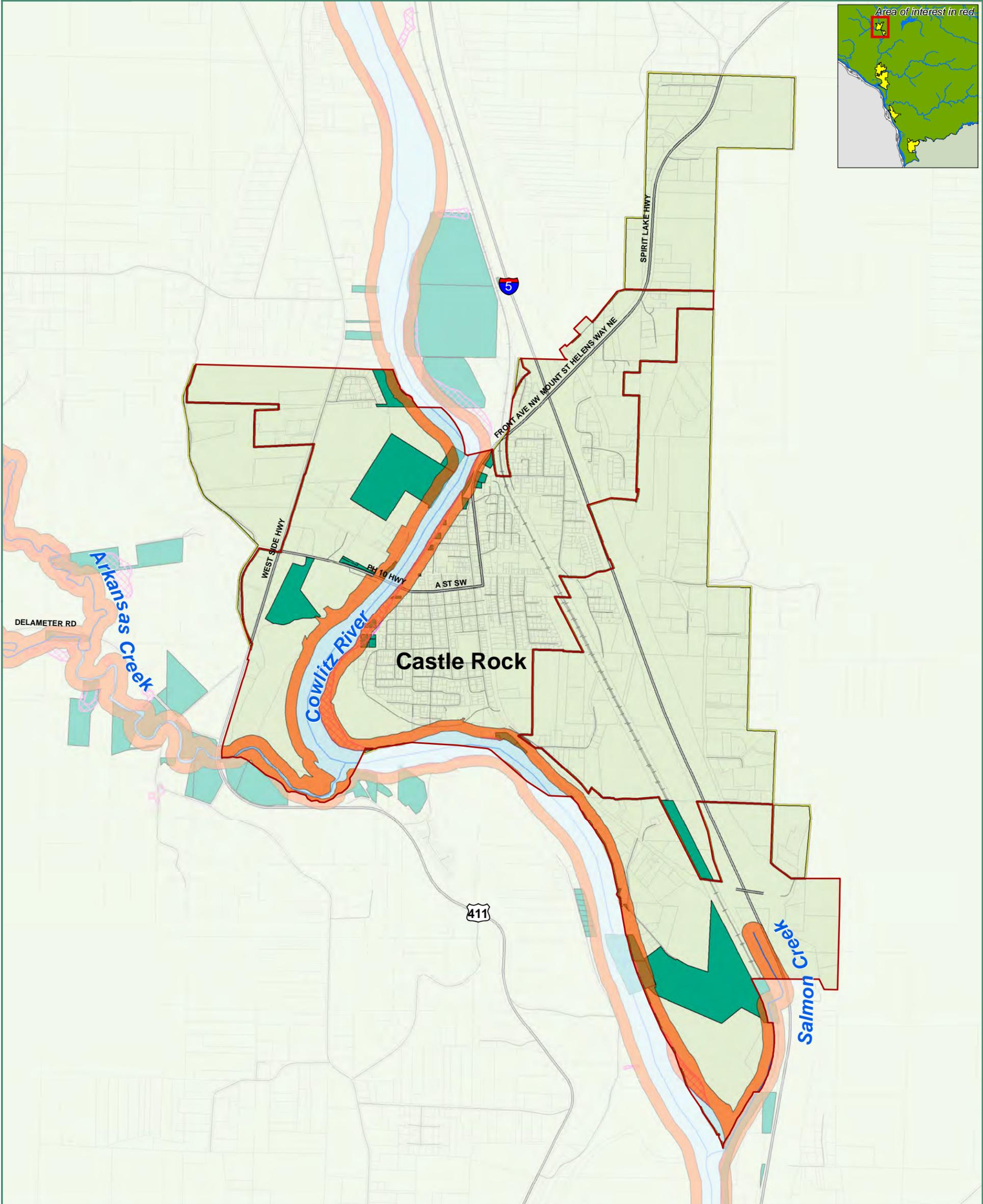
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Data source:  
Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

Note:  
<sup>1</sup> Ownership information derived from county parcel data.



- Vacant Parcels<sup>1</sup>
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

Notes:

<sup>1</sup> A parcel is considered vacant if:

**[1] It has less than \$10,000 improvement market value based on 2012 County Assessor data, UNLESS:**

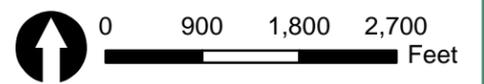
**[2] It is in public ownership, OR**

**[3] It is classified as one of the following:**

- 405 - HIGHWAY/STREET ROW
- 450 - DIKING RIGHT OF WAY
- 610 - CEMETERY

**[3] (continued)**

- 706 - PARK
- 801 - AGRICULTURE (NOT IN OS)
- 803 - AGRICULTURE (OPEN SPACE)
- 804 - FISHING ACTIVITIES
- 806 - FORESTLAND (PTN ONLY)
- 807 - OSTL (PTN ONLY)
- 808 - OPEN SPACE-OPEN SPACE
- 810 - ENTIRE PARCEL DFL
- 811 - ENTIRE PARCEL OSTL
- 908 - TIDELANDS

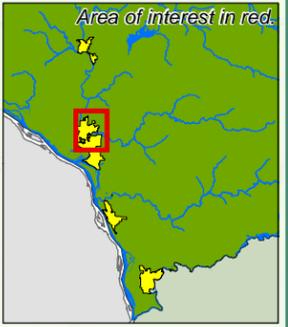
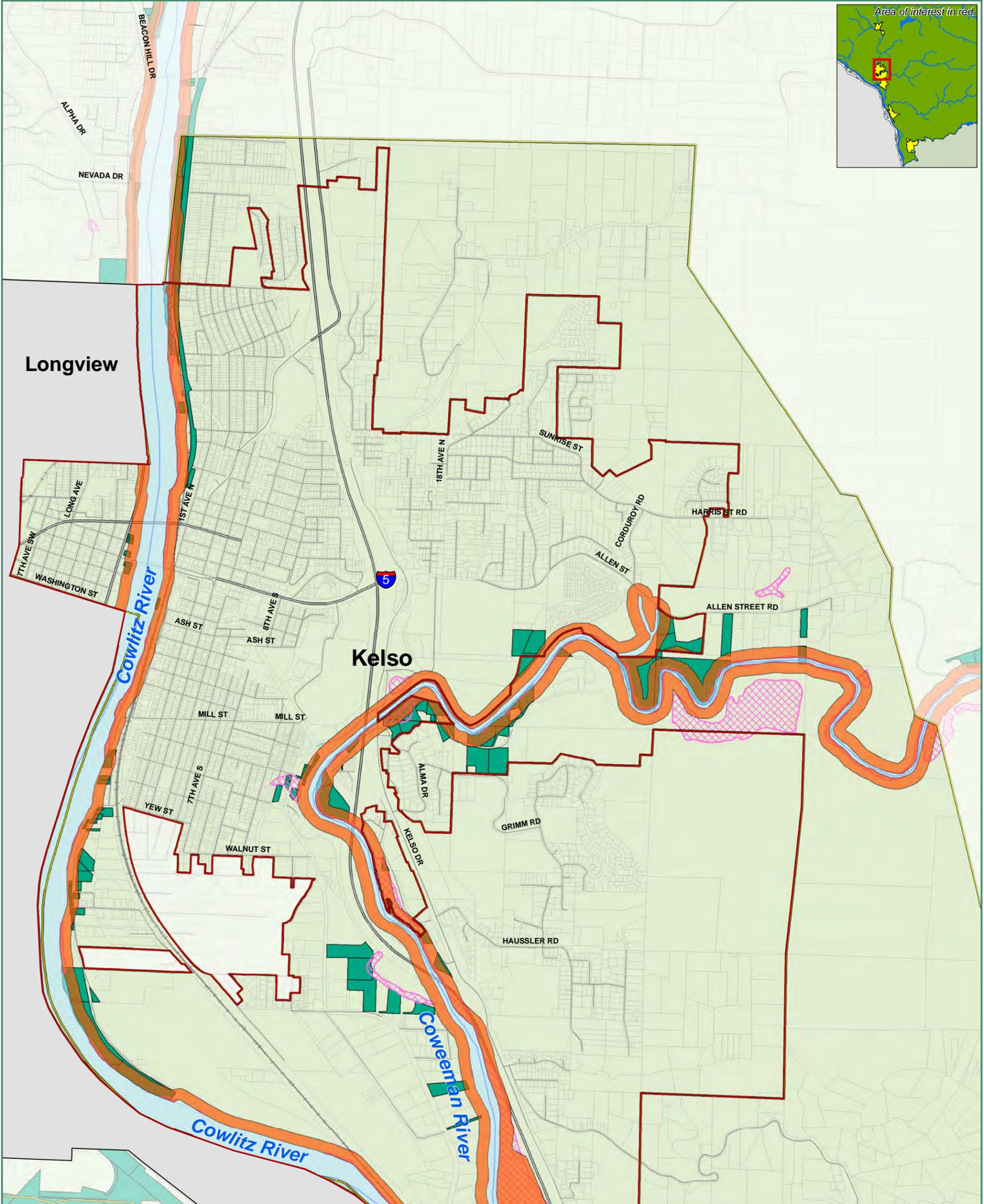


Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

FIGURE 6. VACANT PARCELS IN SHORELINE JURISDICTION

DRAFT



- Vacant Parcels<sup>1</sup>
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

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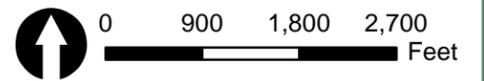
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- 405 - HIGHWAY/STREET ROW
- 450 - DIKING RIGHT OF WAY
- 610 - CEMETERY

**[3] (continued)**

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- 803 - AGRICULTURE (OPEN SPACE)
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- 808 - OPEN SPACE-OPEN SPACE
- 810 - ENTIRE PARCEL DFL
- 811 - ENTIRE PARCEL OSTL
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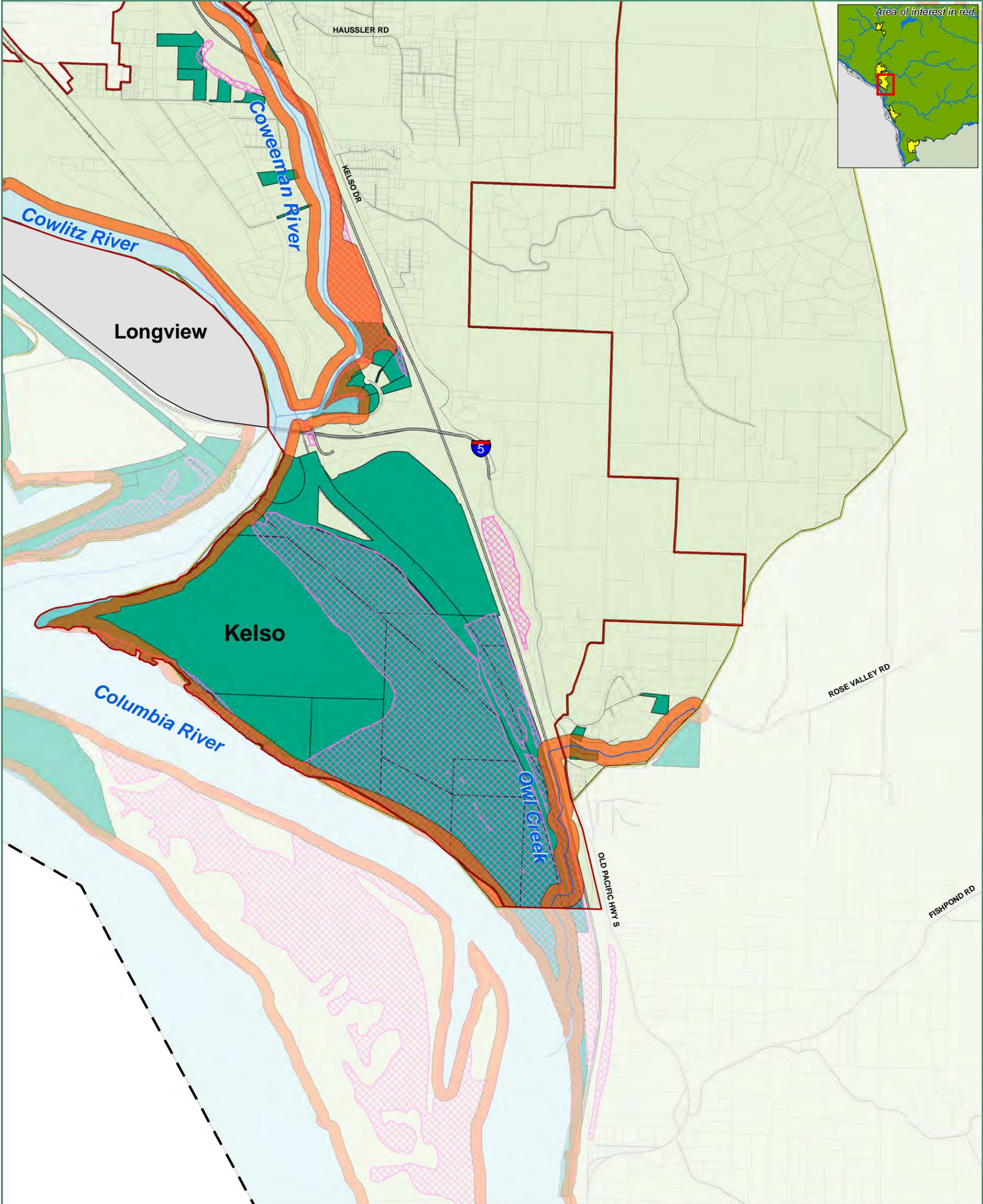


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FIGURE 6. VACANT PARCELS IN SHORELINE JURISDICTION

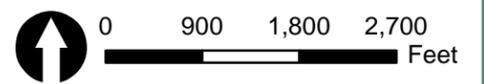
DRAFT



- Vacant Parcels<sup>1</sup>
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

Notes:  
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**[3] (continued)**  
 706 - PARK  
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 908 - TIDELANDS

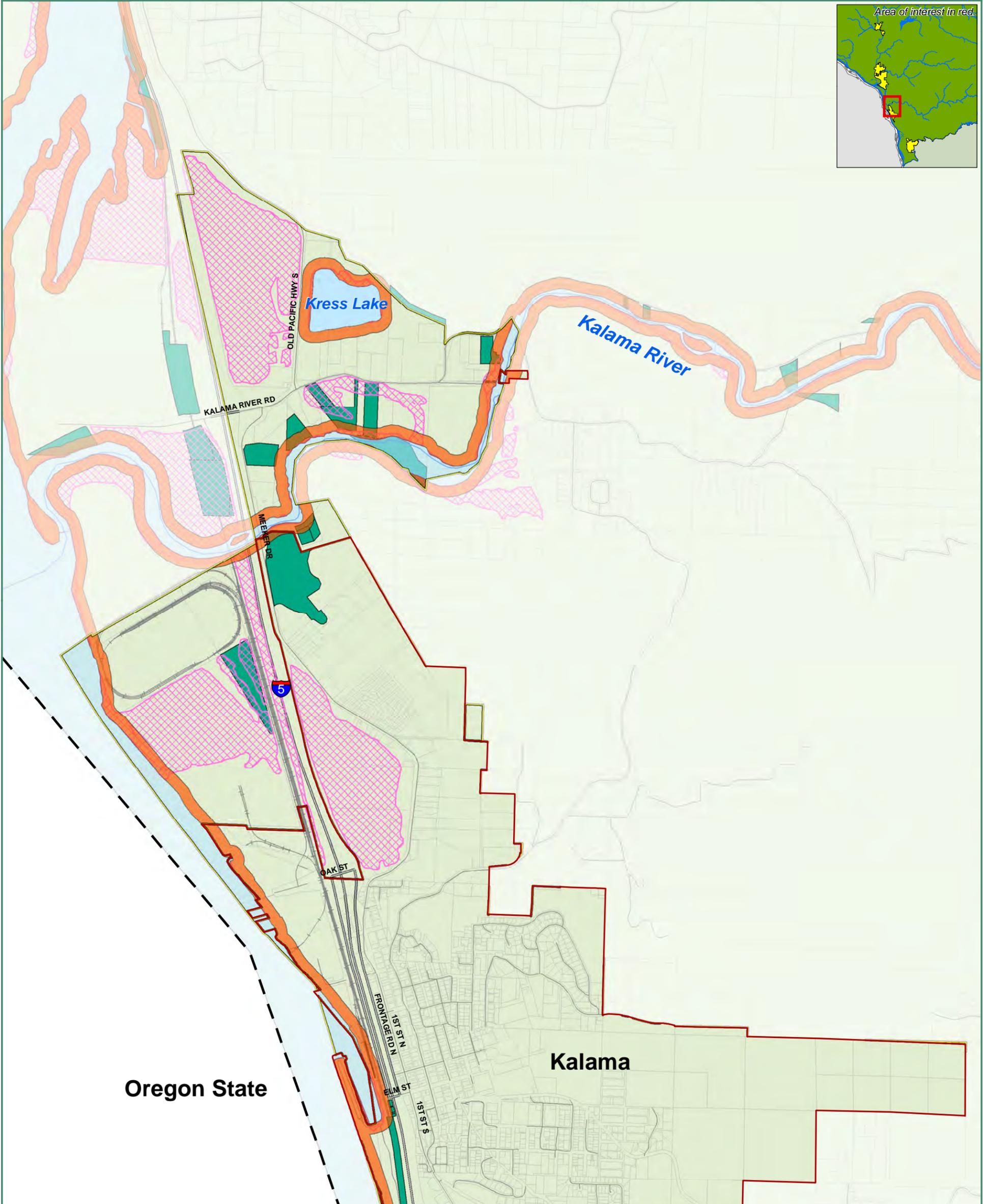


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FIGURE 6. VACANT PARCELS IN SHORELINE JURISDICTION

DRAFT



- Vacant Parcels<sup>1</sup>
- SMP Stream
- SMP Waterbody
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- City Boundary
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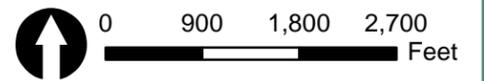
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- 450 - DIKING RIGHT OF WAY
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**[3] (continued)**

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- 801 - AGRICULTURE (NOT IN OS)
- 803 - AGRICULTURE (OPEN SPACE)
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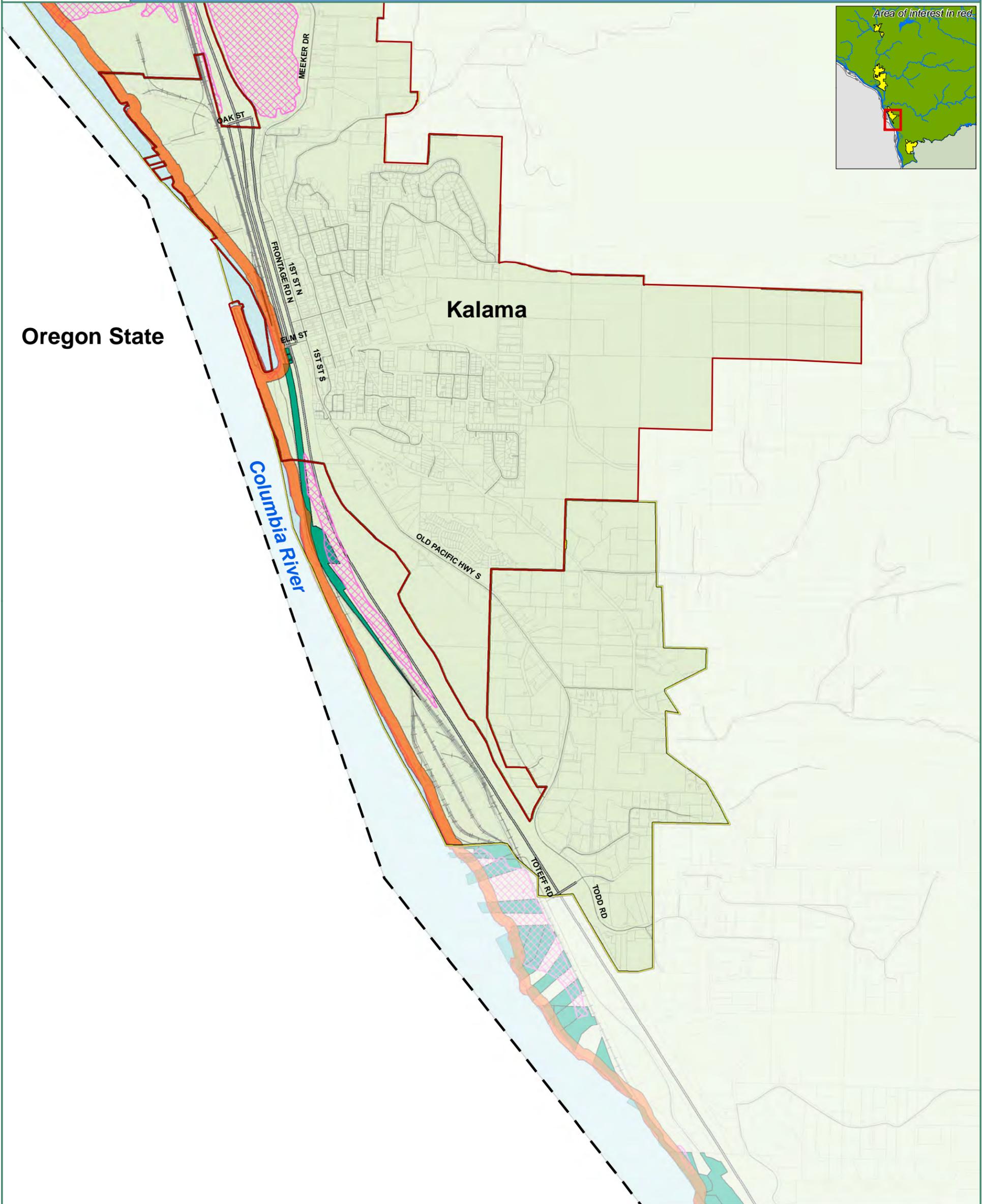


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FIGURE 6. VACANT PARCELS IN SHORELINE JURISDICTION

DRAFT



- Vacant Parcels<sup>1</sup>
- SMP Stream
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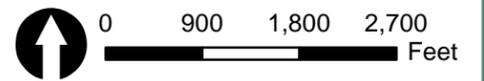
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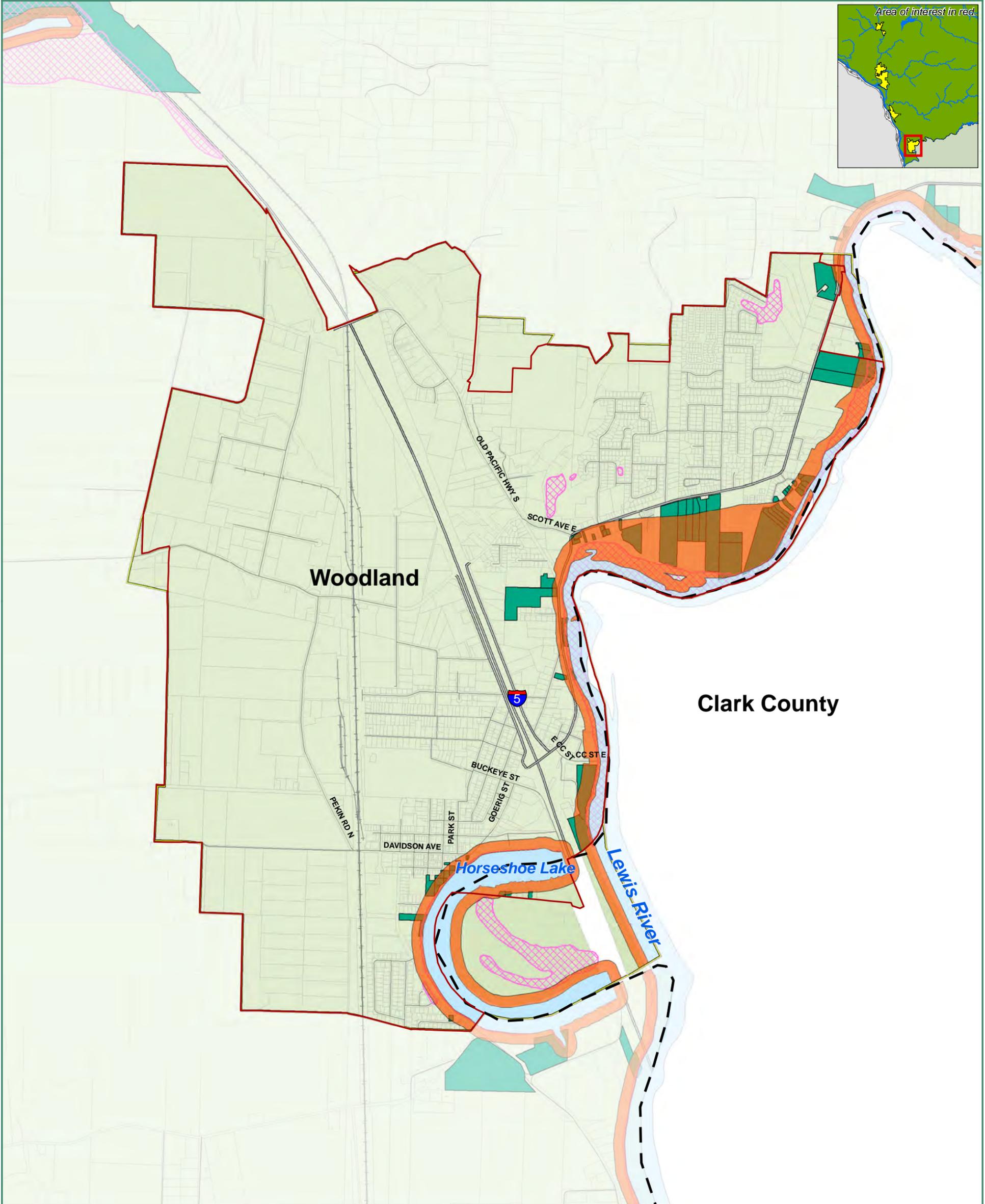
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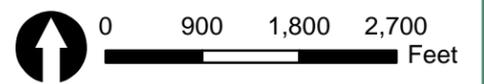
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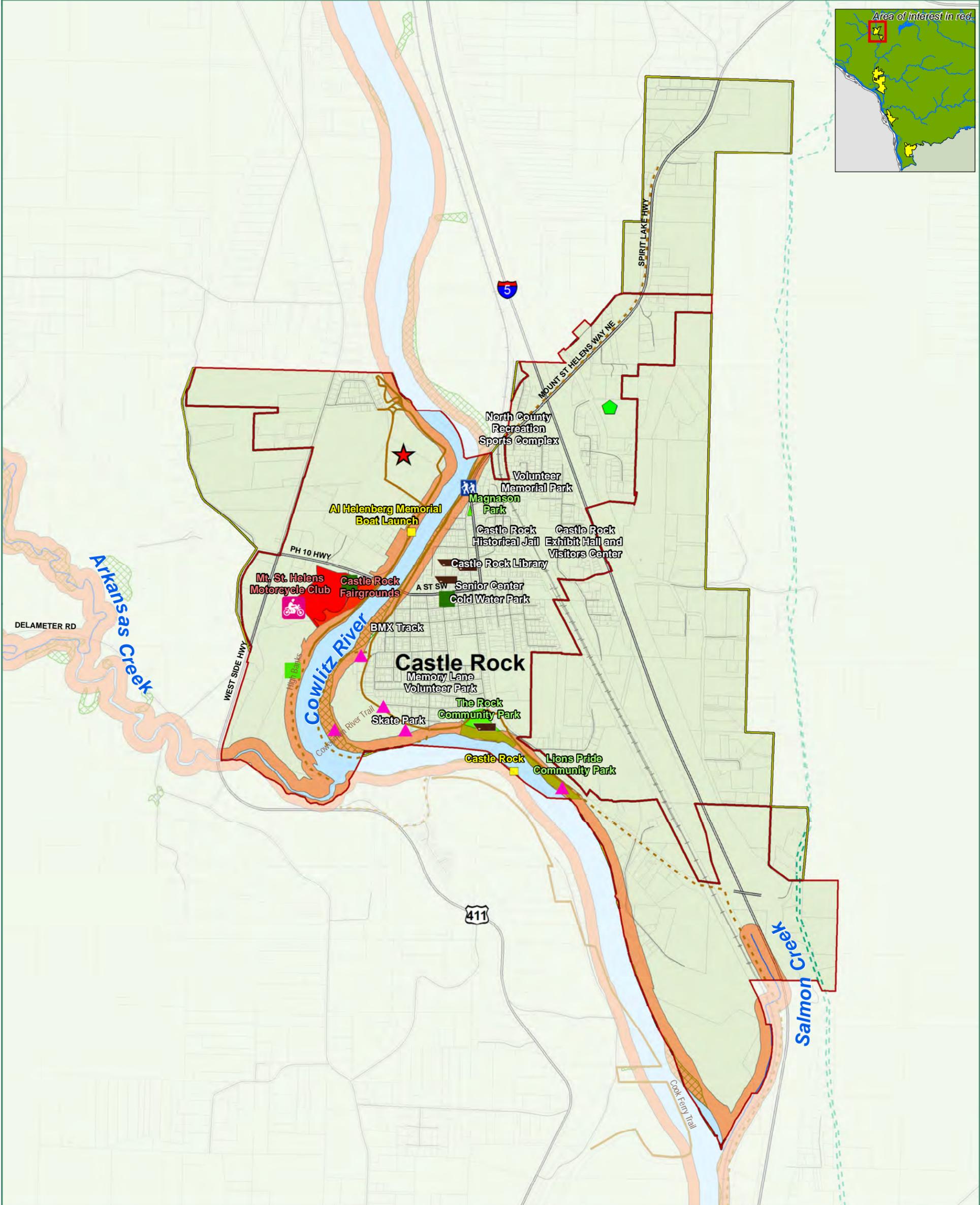
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- 706 - PARK
- 801 - AGRICULTURE (NOT IN OS)
- 803 - AGRICULTURE (OPEN SPACE)
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Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

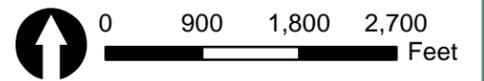


- Boat Launch (City study area)
- Boat Launch (County study area)

- Trail<sup>1</sup>**
- Existing
  - - - Proposed

- City Park
- Cowlitz Park
- Private Park
- Washington State Park
- - - Utilities Corridor

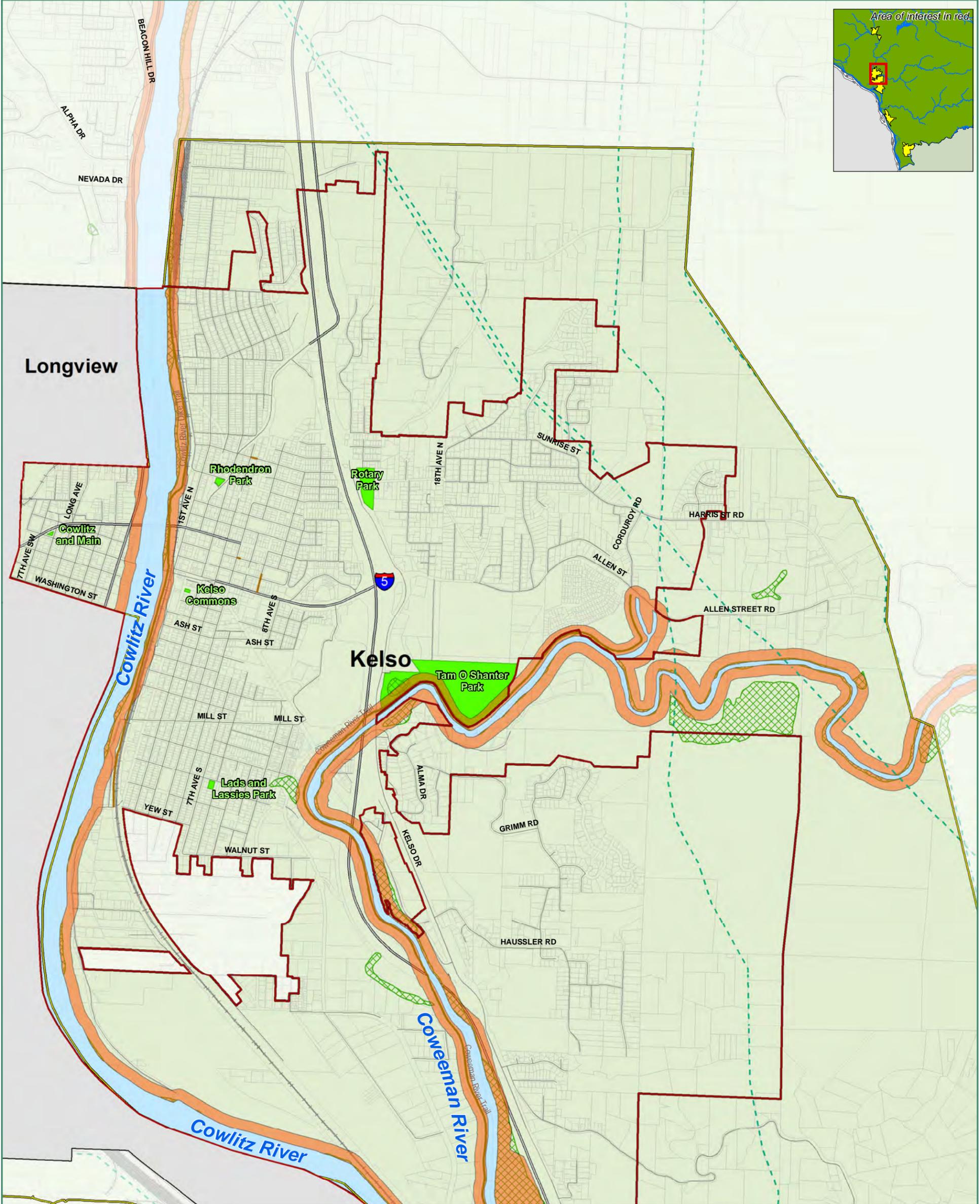
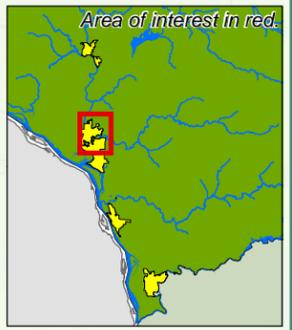
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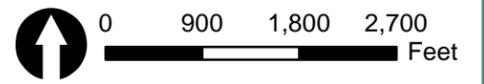
Original Scale=1:20,400 @ 11x17 layout.  
Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Washington State Parks, US Forest Service, Department of Ecology, The Watershed Company.

Note:  
<sup>1</sup> Trails data includes bicycle and recreational trails, main bicycle routes, signed bicycle routes, boardwalks, stairways, and other facilities.



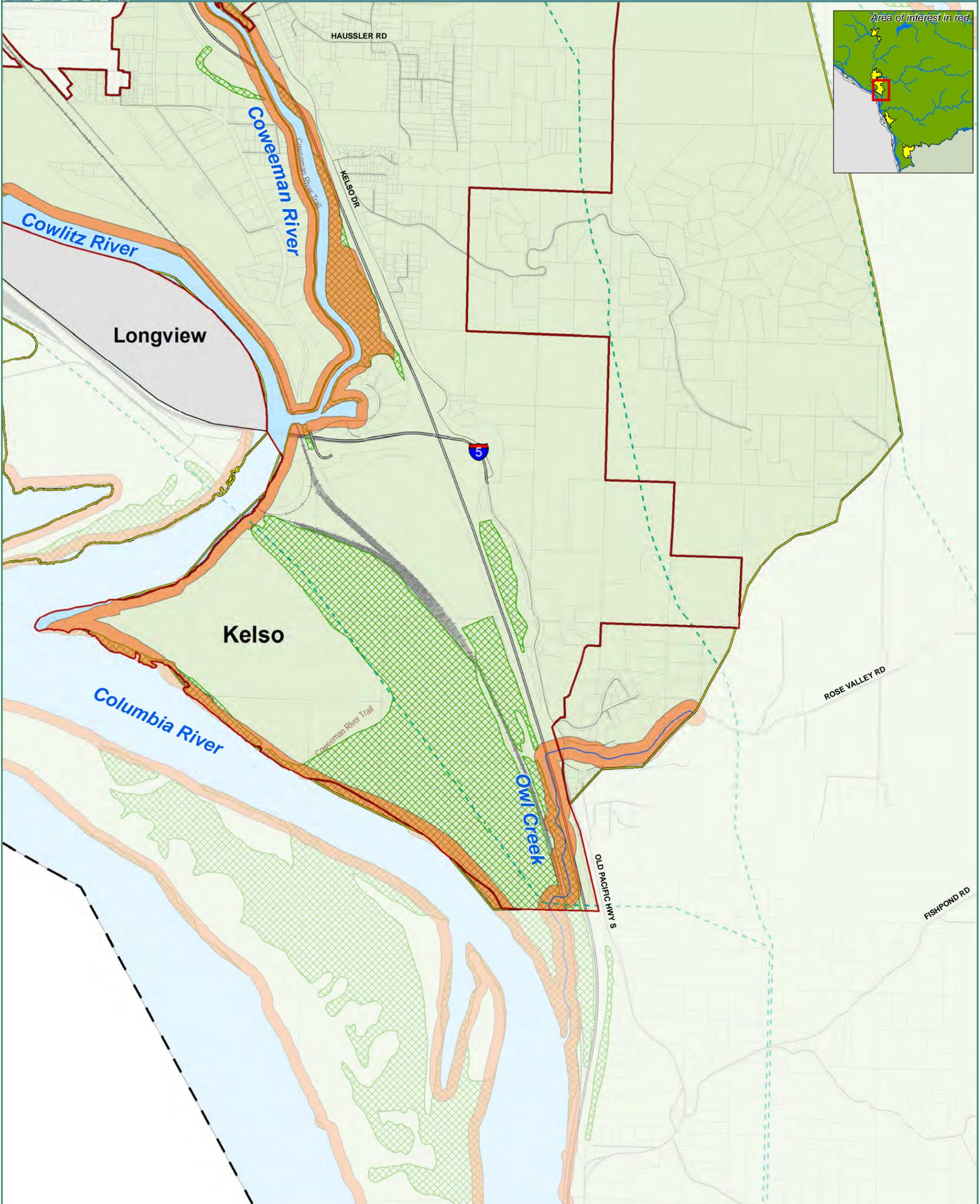
- |                                 |                       |                                 |
|---------------------------------|-----------------------|---------------------------------|
| Boat Launch (City study area)   | City Park             | SMP Stream                      |
| Boat Launch (County study area) | Cowlitz Park          | SMP Waterbody                   |
| <b>Trail<sup>1</sup></b>        | Private Park          | Proposed Shoreline Jurisdiction |
| Existing                        | Washington State Park | Potentially Associated Wetland  |
| Proposed                        | Utilities Corridor    | City Boundary                   |
|                                 |                       | UGA/UGB/PAB                     |
|                                 |                       | County Boundary                 |



Original Scale=1:20,400 @ 11x17 layout.  
Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Washington State Parks, US Forest Service, Department of Ecology, The Watershed Company.

Note:  
<sup>1</sup> Trails data includes bicycle and recreational trails, main bicycle routes, signed bicycle routes, boardwalks, stairways, and other facilities.

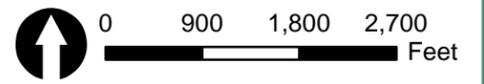


- Boat Launch (City study area)
- Boat Launch (County study area)

- Trail<sup>1</sup>**
- Existing
  - - - Proposed

- City Park
- Cowlitz Park
- Private Park
- Washington State Park
- - - Utilities Corridor

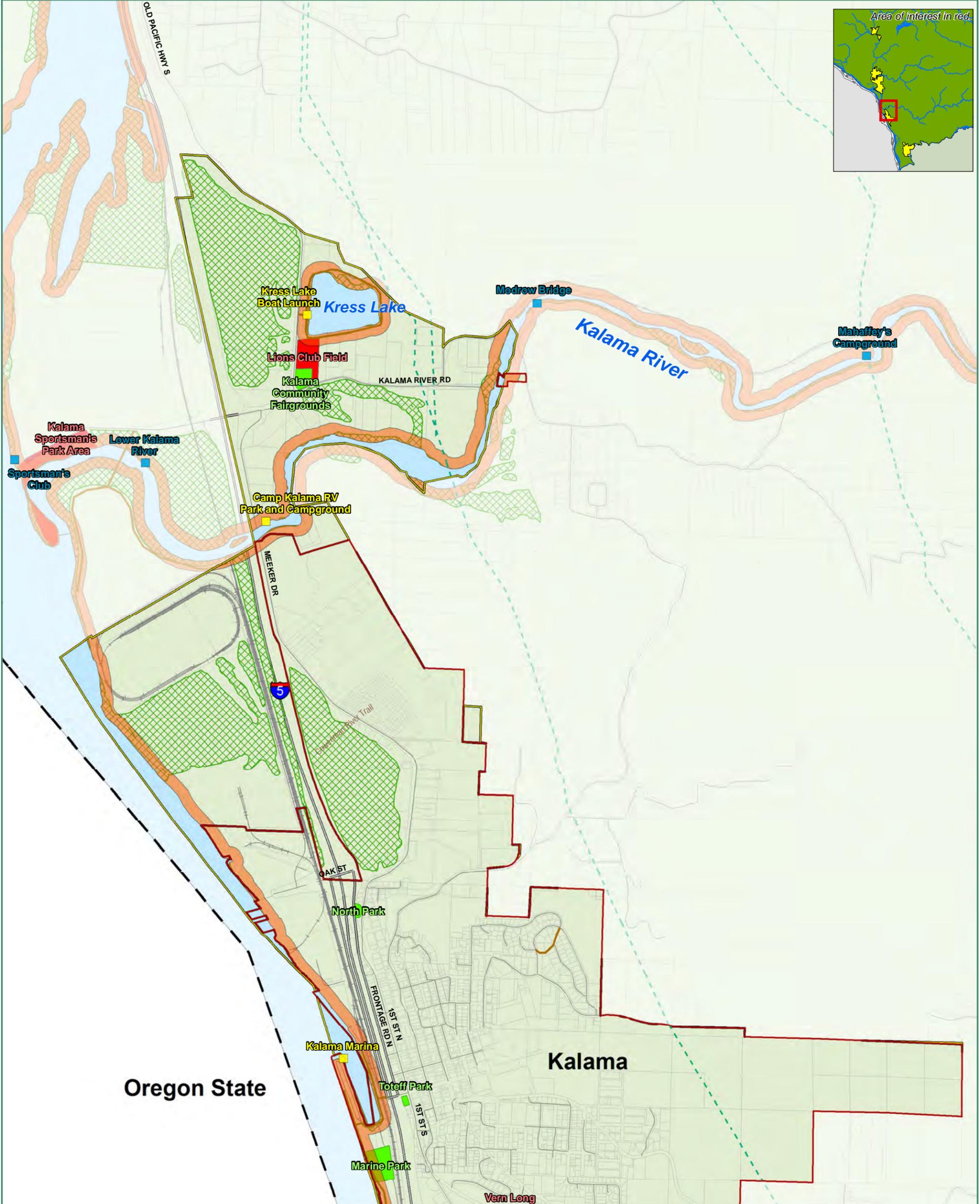
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- ▨ Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- └┘ County Boundary



Original Scale=1:20,400 @ 11x17 layout.  
Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Washington State Parks, US Forest Service, Department of Ecology, The Watershed Company.

Note:  
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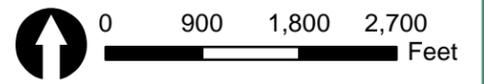


- Boat Launch (City study area)
- Boat Launch (County study area)

- Trail<sup>1</sup>**
- Existing
  - - - Proposed

- City Park
- Cowlitz Park
- Private Park
- Washington State Park
- - - Utilities Corridor

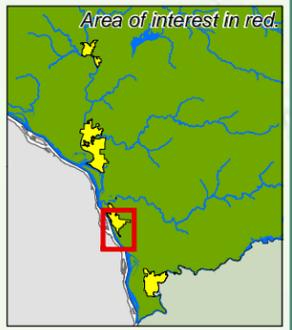
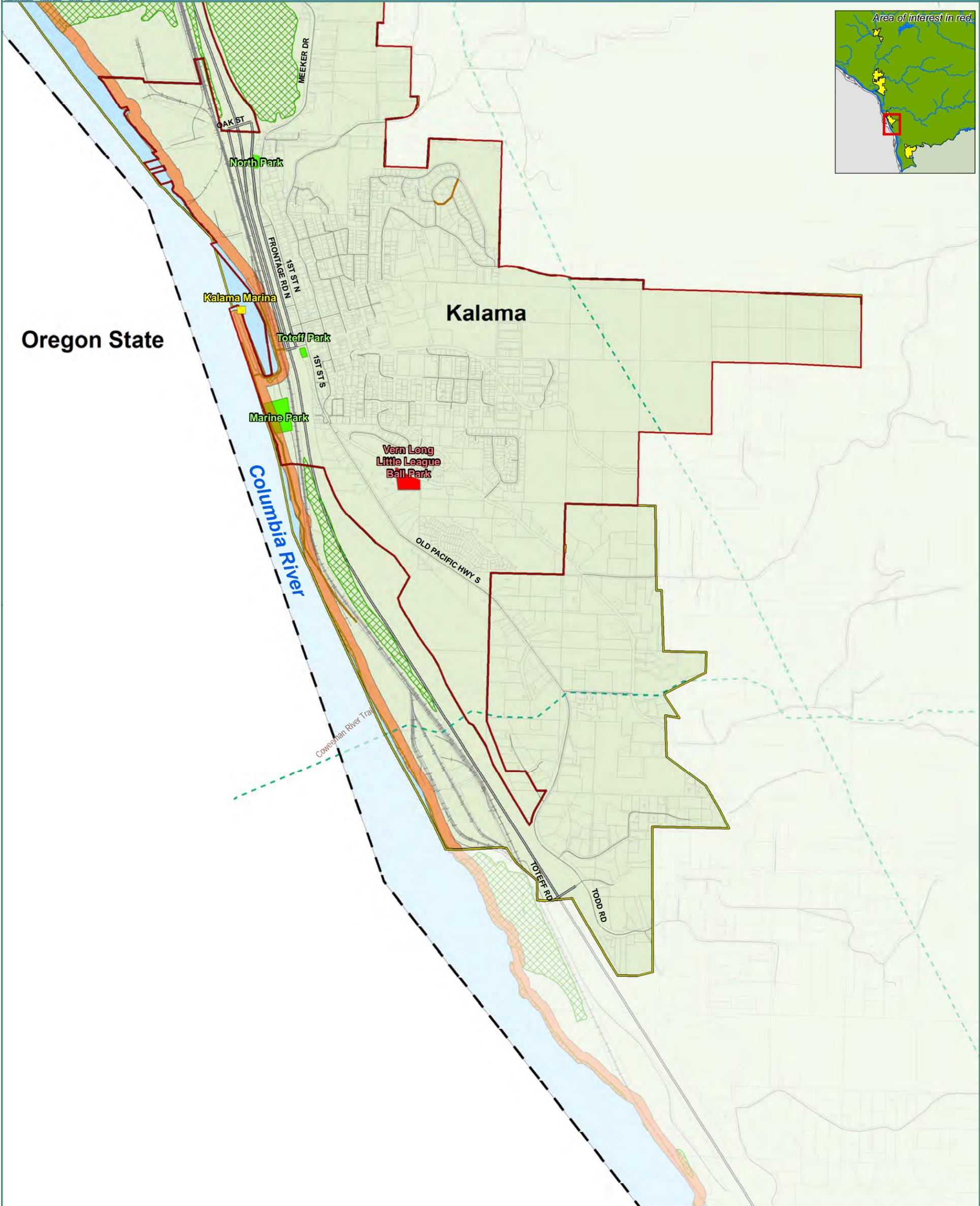
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- └┘ County Boundary



Original Scale=1:20,400 @ 11x17 layout.  
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Data source:  
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Note:  
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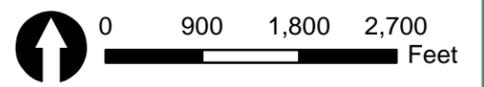


- Boat Launch (City study area)
- Boat Launch (County study area)

- Trail<sup>1</sup>**
- Existing
  - - - Proposed

- City Park
- Cowlitz Park
- Private Park
- Washington State Park
- - - Utilities Corridor

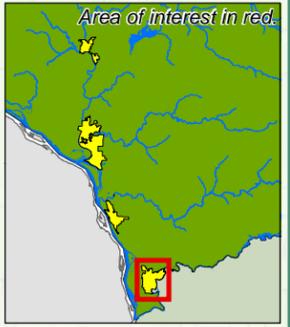
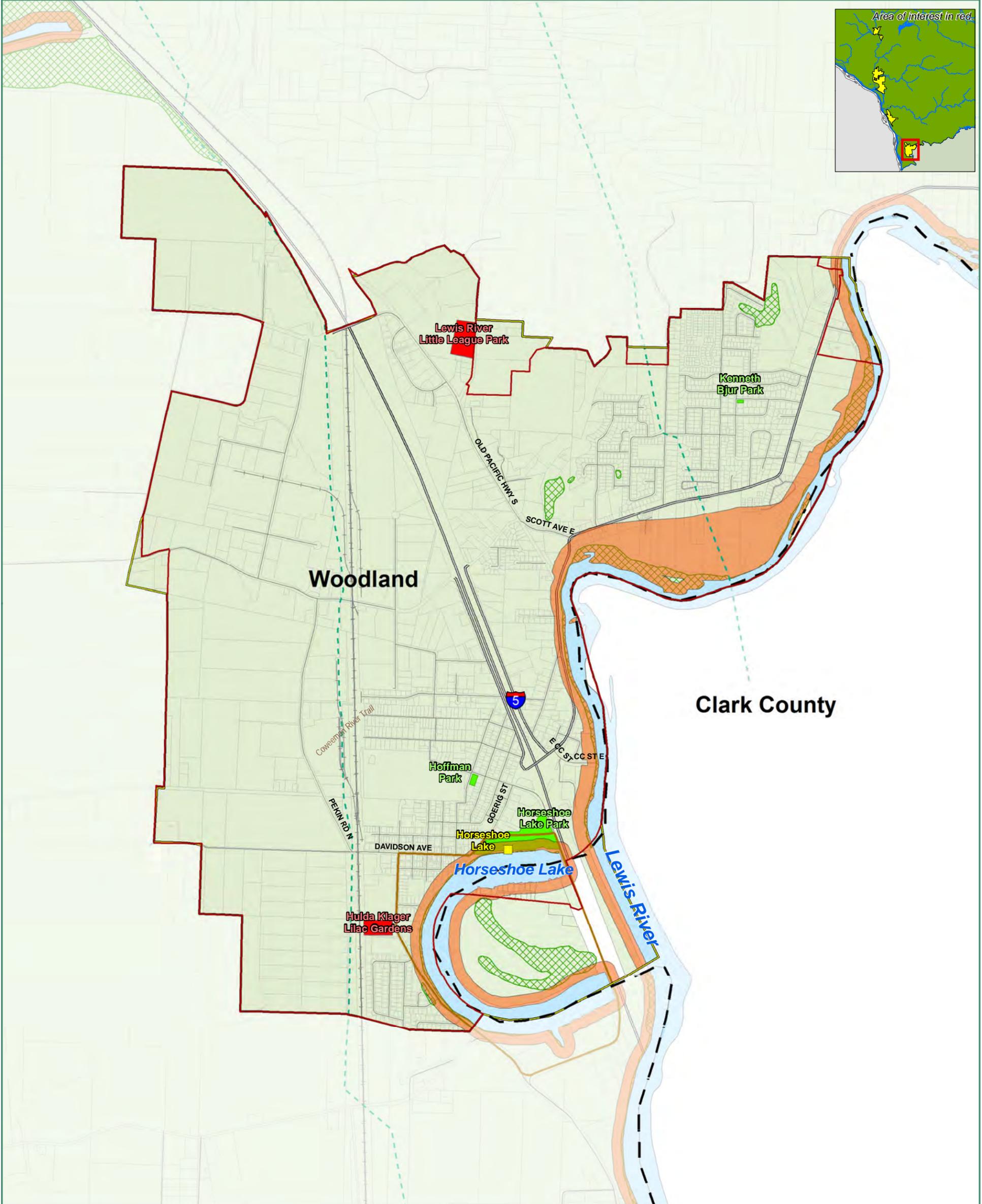
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- ▨ Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- └┘ County Boundary



Original Scale=1:20,400 @ 11x17 layout.  
Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Washington State Parks, US Forest Service, Department of Ecology, The Watershed Company.

Note:  
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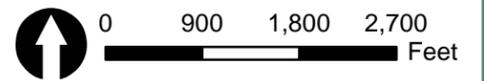


- Boat Launch (City study area)
- Boat Launch (County study area)

- Trail<sup>1</sup>**
- Existing
  - - - Proposed

- City Park
- Cowlitz Park
- Private Park
- Washington State Park
- - - Utilities Corridor

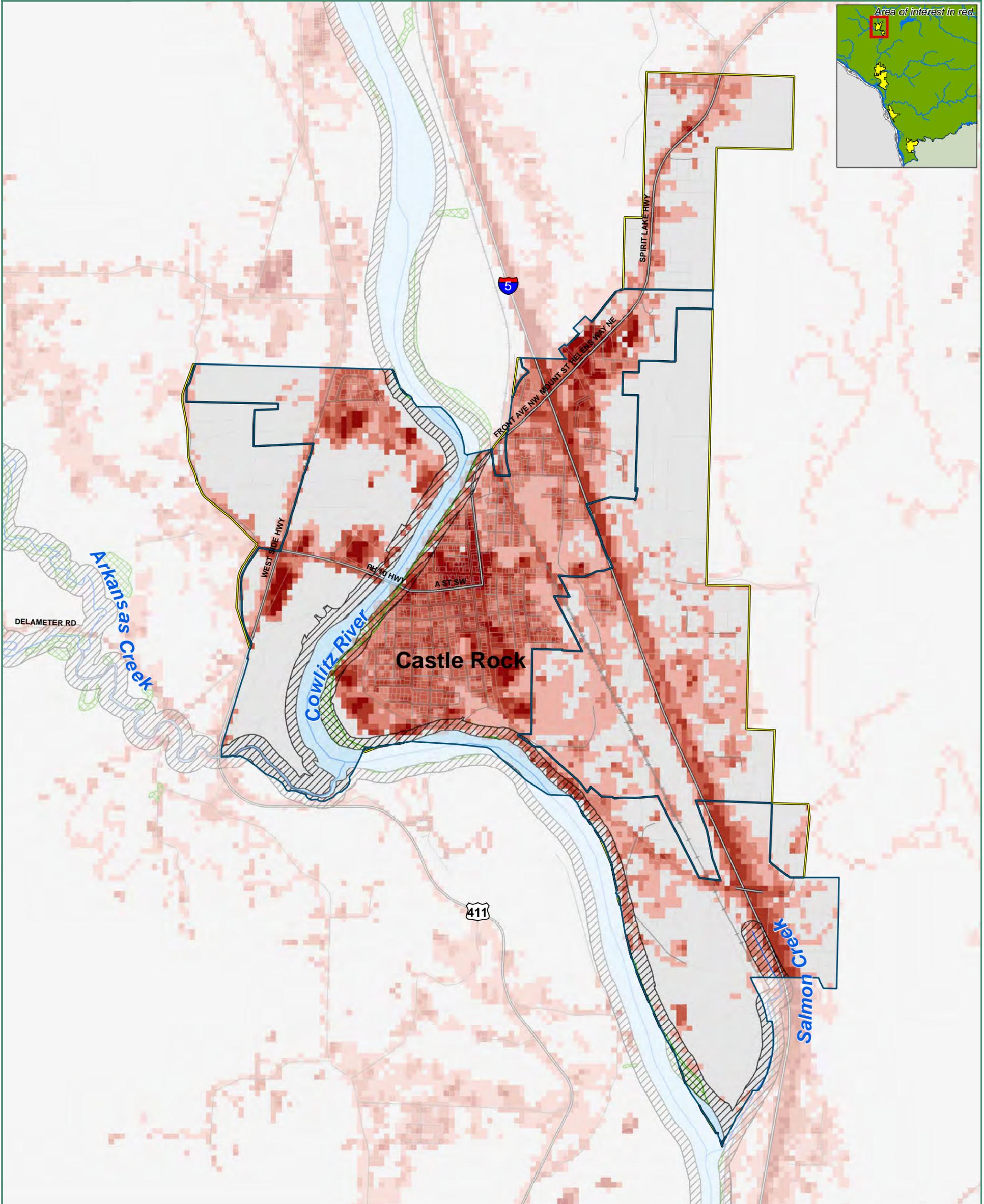
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- SMP Waterbody
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- ▨ Potentially Associated Wetland
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Note:  
<sup>1</sup> Trails data includes bicycle and recreational trails, main bicycle routes, signed bicycle routes, boardwalks, stairways, and other facilities.

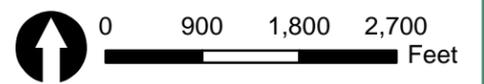


Percent Impervious<sup>1</sup>

- 0
- 1 - 20
- 21 - 40
- 41 - 60
- 61 - 80
- 81 - 100

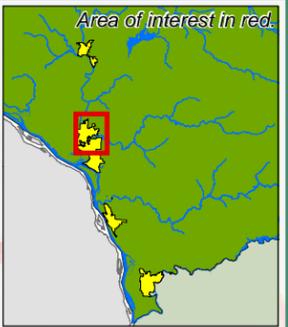
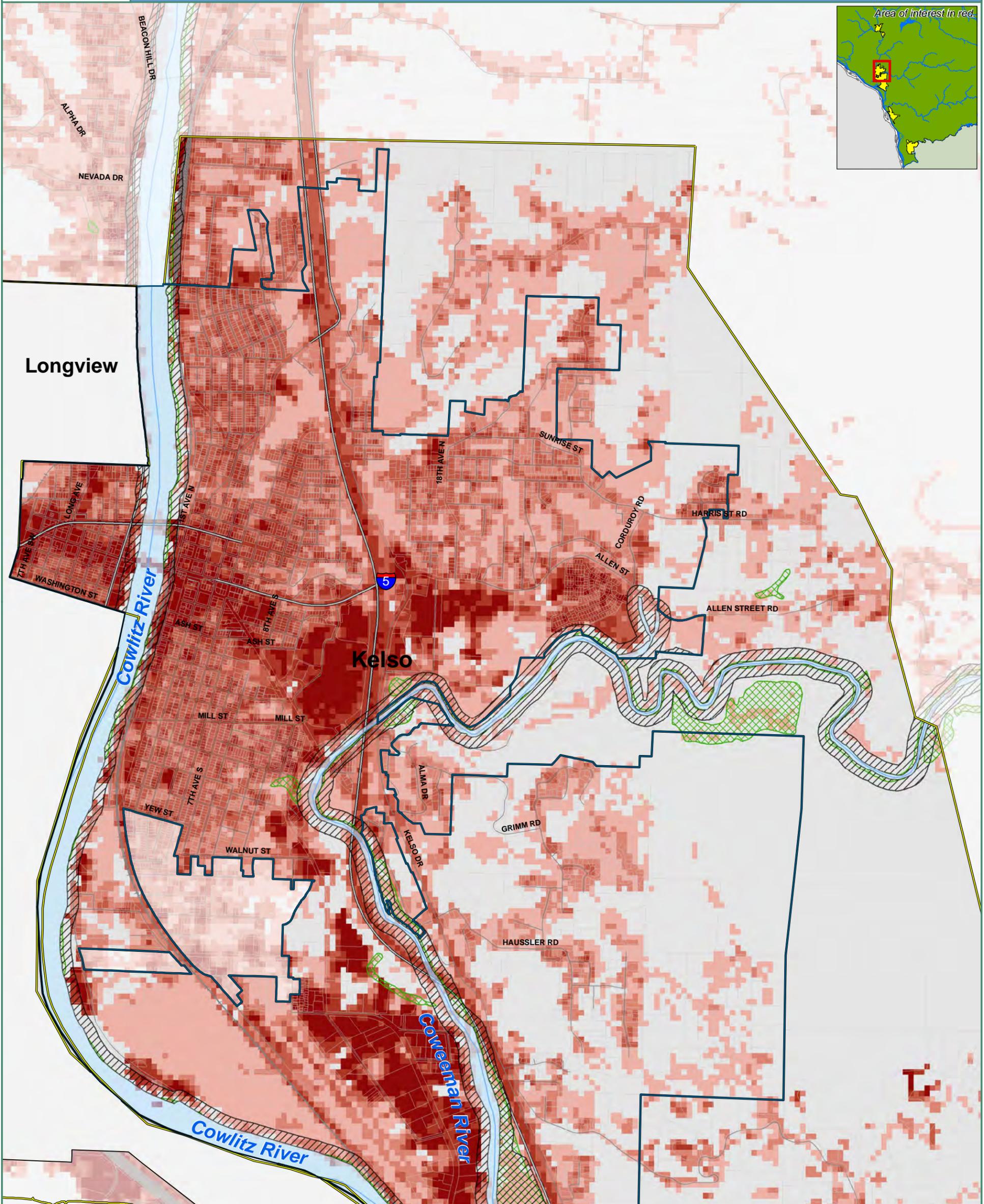
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

Note:  
<sup>1</sup> Percent impervious data comes from NOAA C-CAP, and was derived from 2006 Landsat Thematic Mapper imagery.



Original Scale=1:20,400 @ 11x17 layout.  
Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Department of Ecology, NOAA, The Watershed Company.

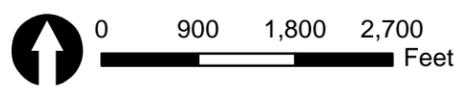


**Percent Impervious<sup>1</sup>**

|          |
|----------|
| 0        |
| 1 - 20   |
| 21 - 40  |
| 41 - 60  |
| 61 - 80  |
| 81 - 100 |

- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

Note:  
<sup>1</sup> Percent impervious data comes from NOAA C-CAP, and was derived from 2006 Landsat Thematic Mapper imagery.

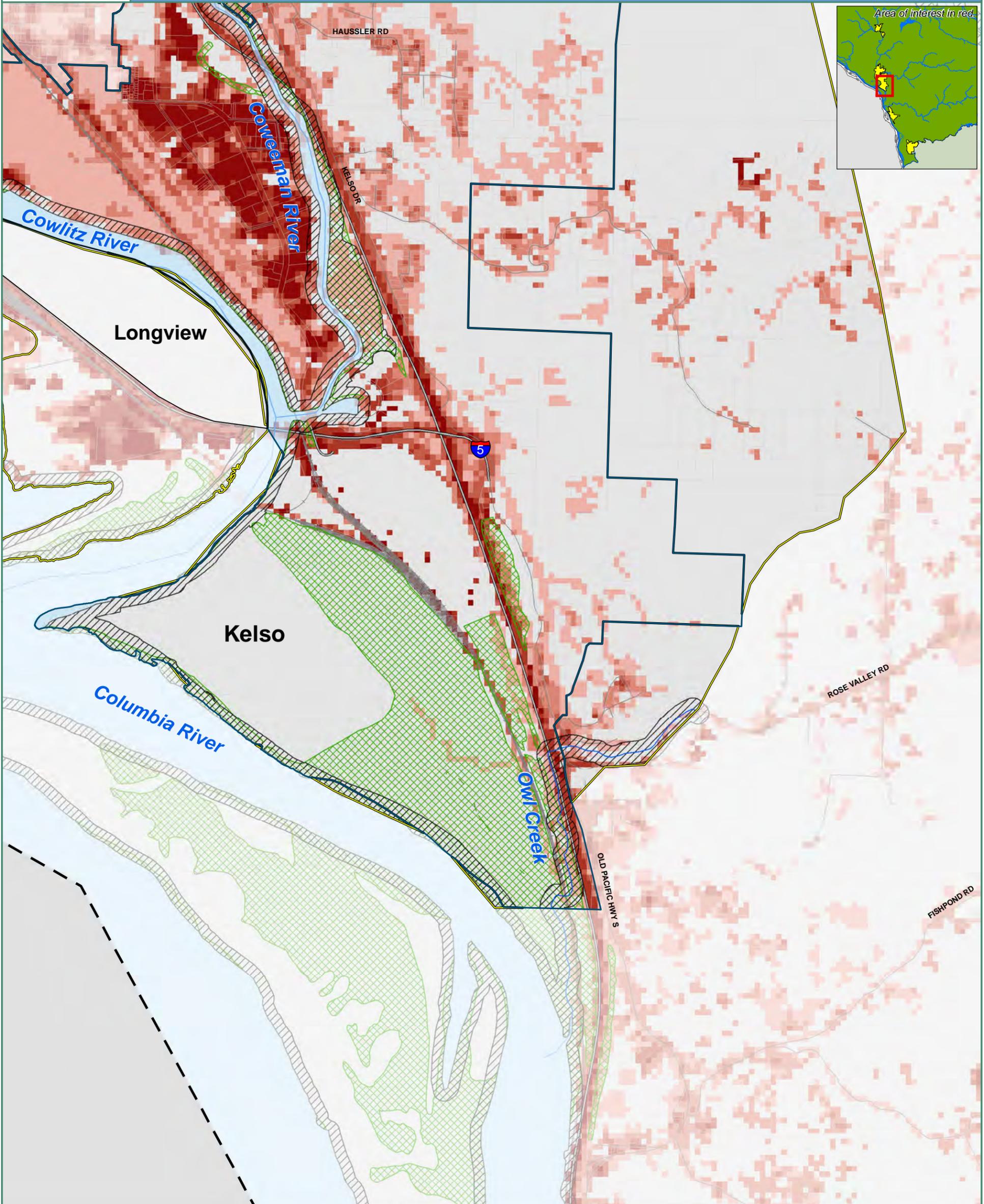


Original Scale=1:20,400 @ 11x17 layout.  
Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Department of Ecology, NOAA, The Watershed Company.

FIGURE 8. IMPERVIOUS SURFACE

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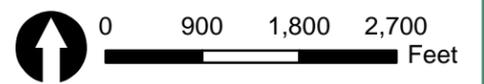


Percent Impervious<sup>1</sup>

- 0
- 1 - 20
- 21 - 40
- 41 - 60
- 61 - 80
- 81 - 100

- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

Note:  
<sup>1</sup> Percent impervious data comes from NOAA C-CAP, and was derived from 2006 Landsat Thematic Mapper imagery.

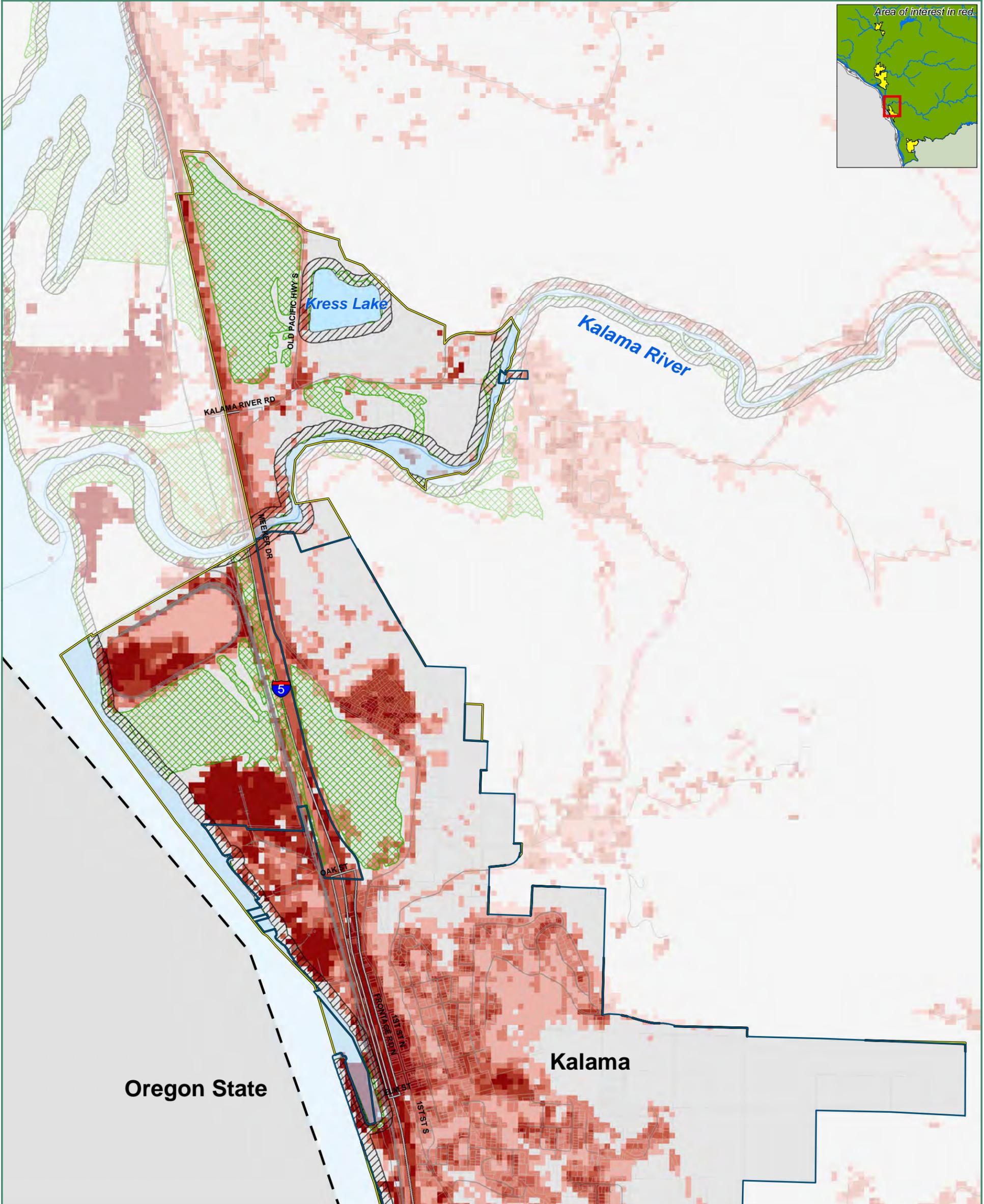
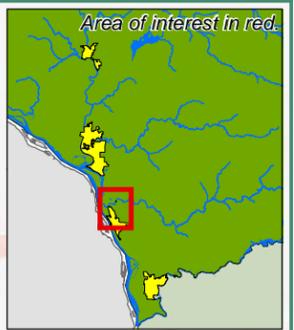


Original Scale=1:20,400 @ 11x17 layout.  
Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Department of Ecology, NOAA, The Watershed Company.

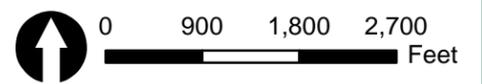
FIGURE 8. IMPERVIOUS SURFACE

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- |                                       |                                 |
|---------------------------------------|---------------------------------|
| <b>Percent Impervious<sup>1</sup></b> | ~ SMP Stream                    |
| 0                                     | SMP Waterbody                   |
| 1 - 20                                | Proposed Shoreline Jurisdiction |
| 21 - 40                               | Potentially Associated Wetland  |
| 41 - 60                               | City Boundary                   |
| 61 - 80                               | UGA/UGB/PAB                     |
| 81 - 100                              | County Boundary                 |

Note:  
<sup>1</sup> Percent impervious data comes from NOAA C-CAP, and was derived from 2006 Landsat Thematic Mapper imagery.

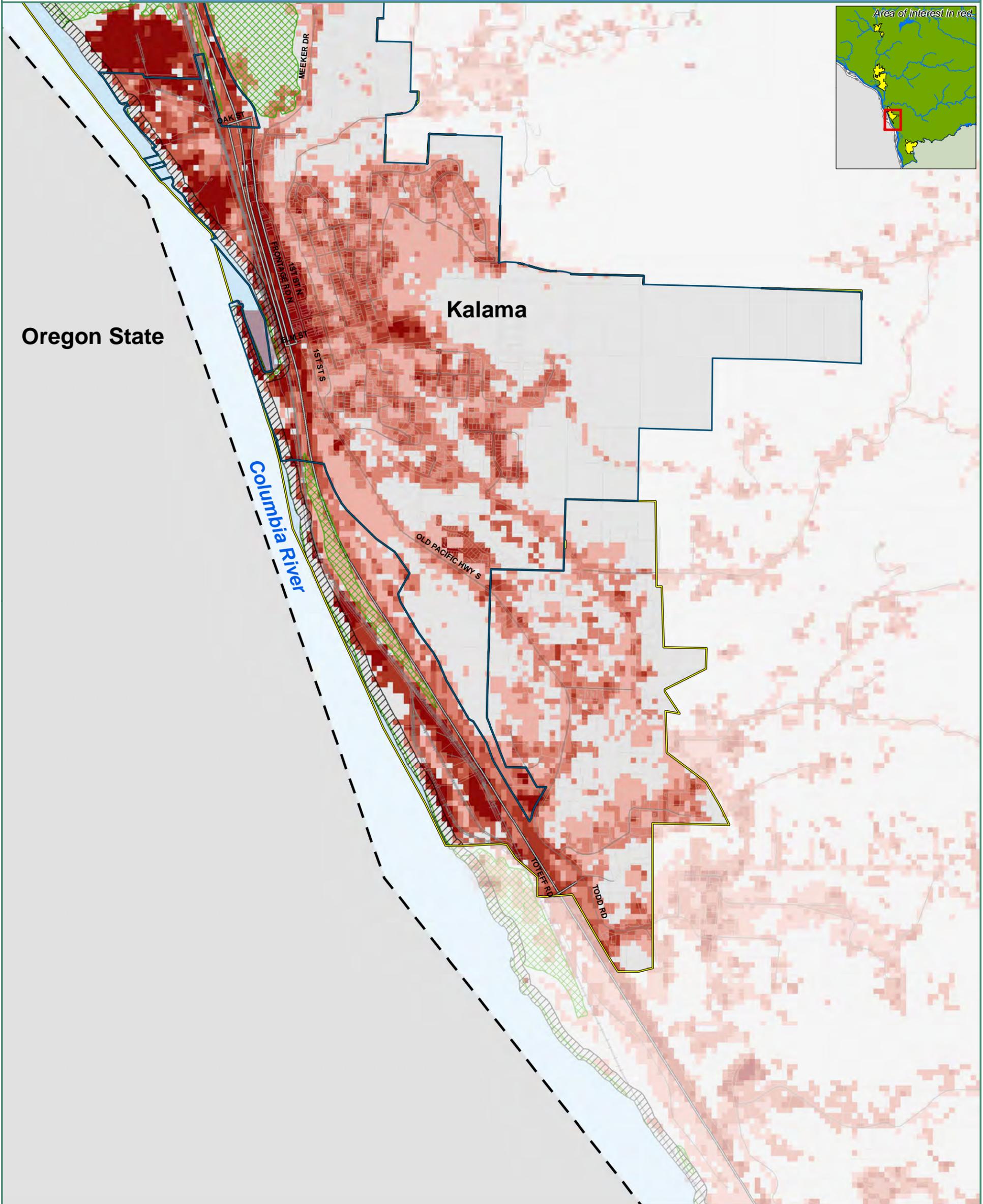


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FIGURE 8. IMPERVIOUS SURFACE

DRAFT

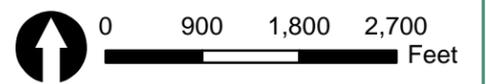


Percent Impervious<sup>1</sup>

- 0
- 1 - 20
- 21 - 40
- 41 - 60
- 61 - 80
- 81 - 100

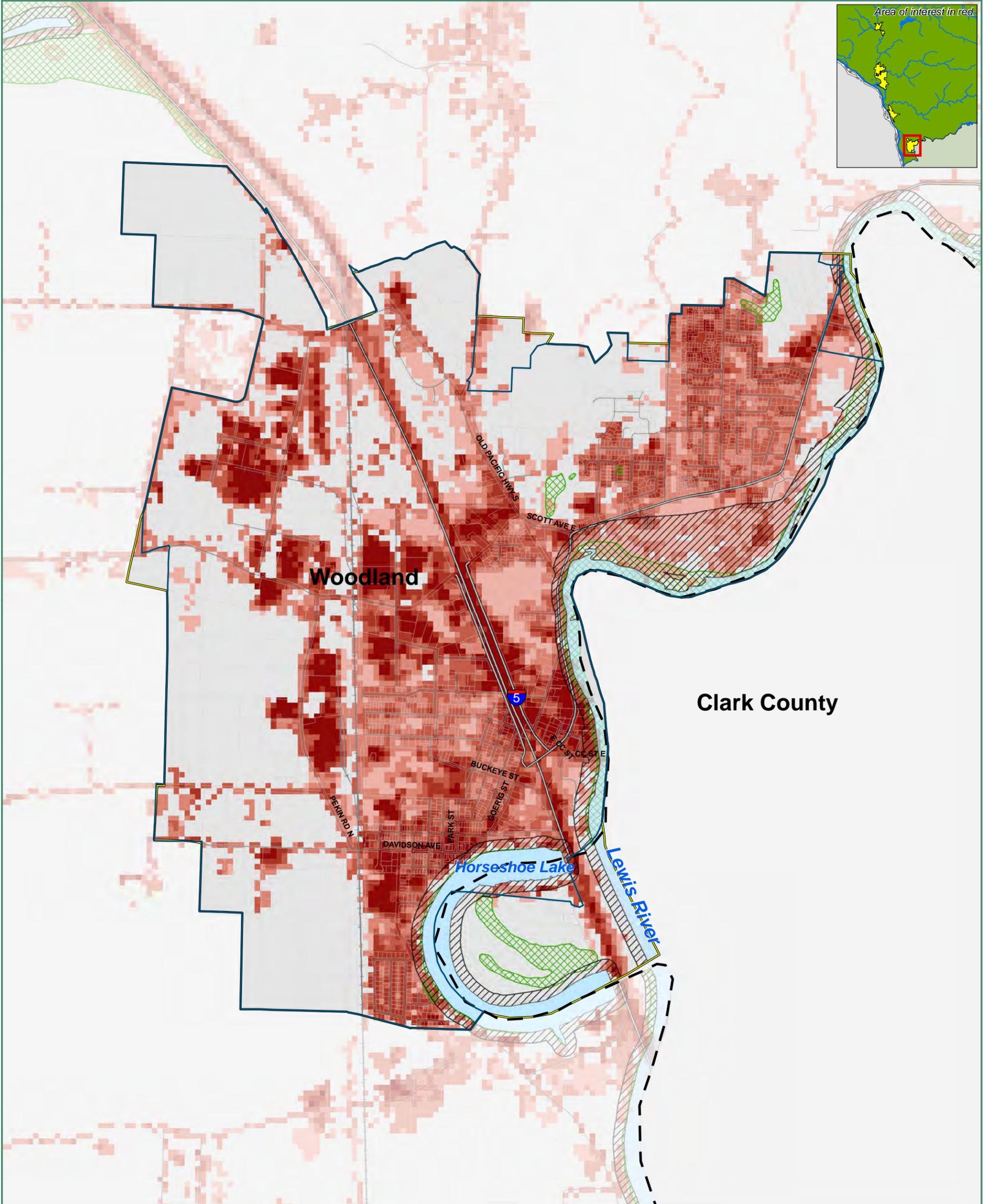
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
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Note:  
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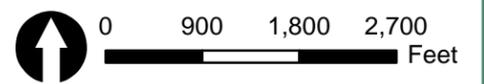


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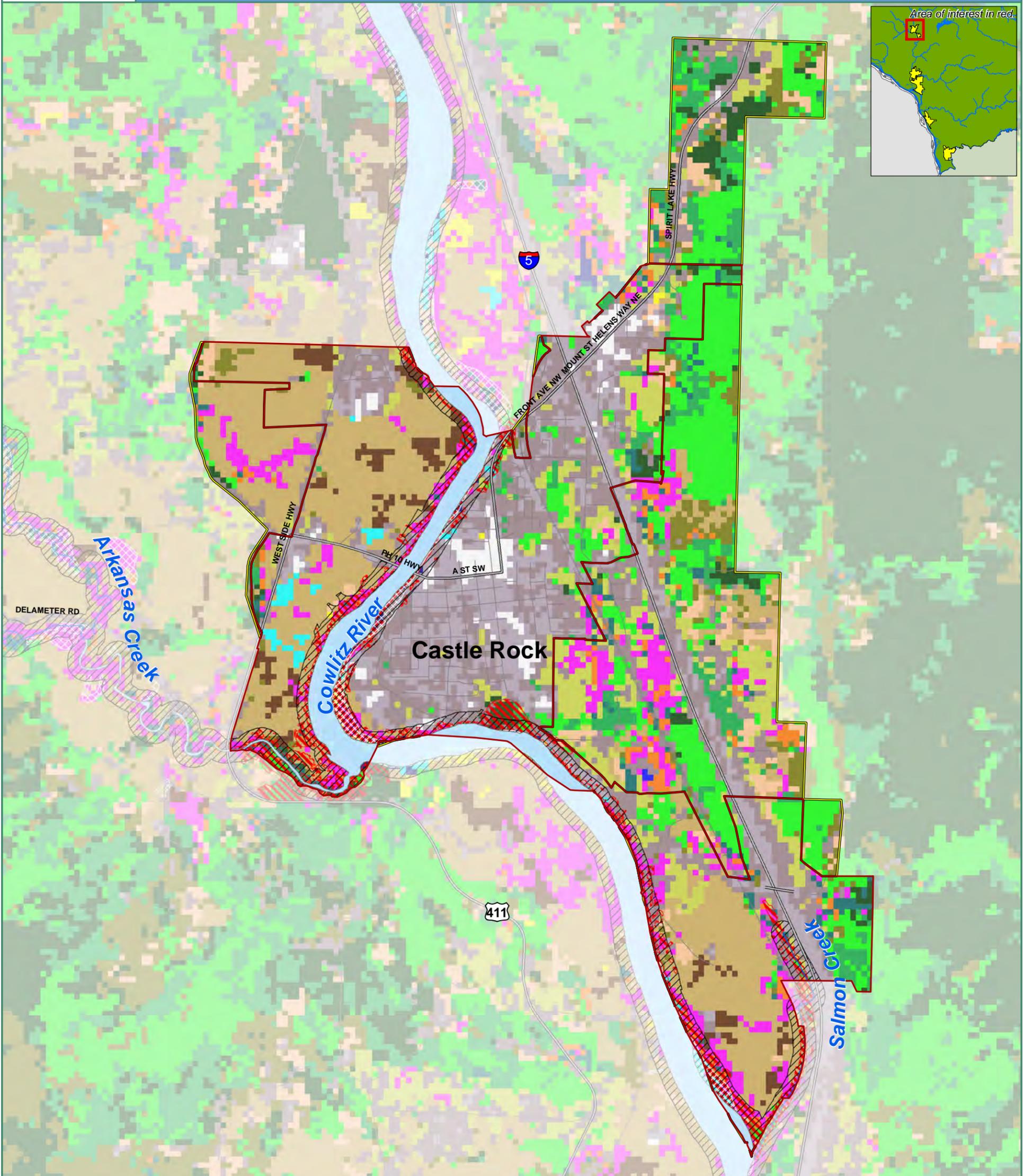
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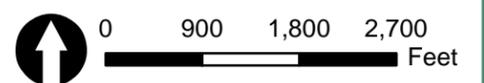


**C-CAP Landcover Classification<sup>1</sup>**

- Bare Land
- Cultivated
- Deciduous Forest
- Developed Open Space
- Estuarine Aquatic Bed
- Estuarine Emergent Wetland
- Evergreen Forest
- Grassland
- High Intensity Developed
- Low Intensity Developed

- Medium Intensity Developed
- Mixed Forest
- Palustrine Aquatic Bed
- Palustrine Emergent Wetland
- Palustrine Forested Wetland
- Palustrine Shrub/Scrub Wetland
- Pasture/Hay
- Shrub/Scrub
- Snow/Ice
- Unconsolidated Shore
- Water

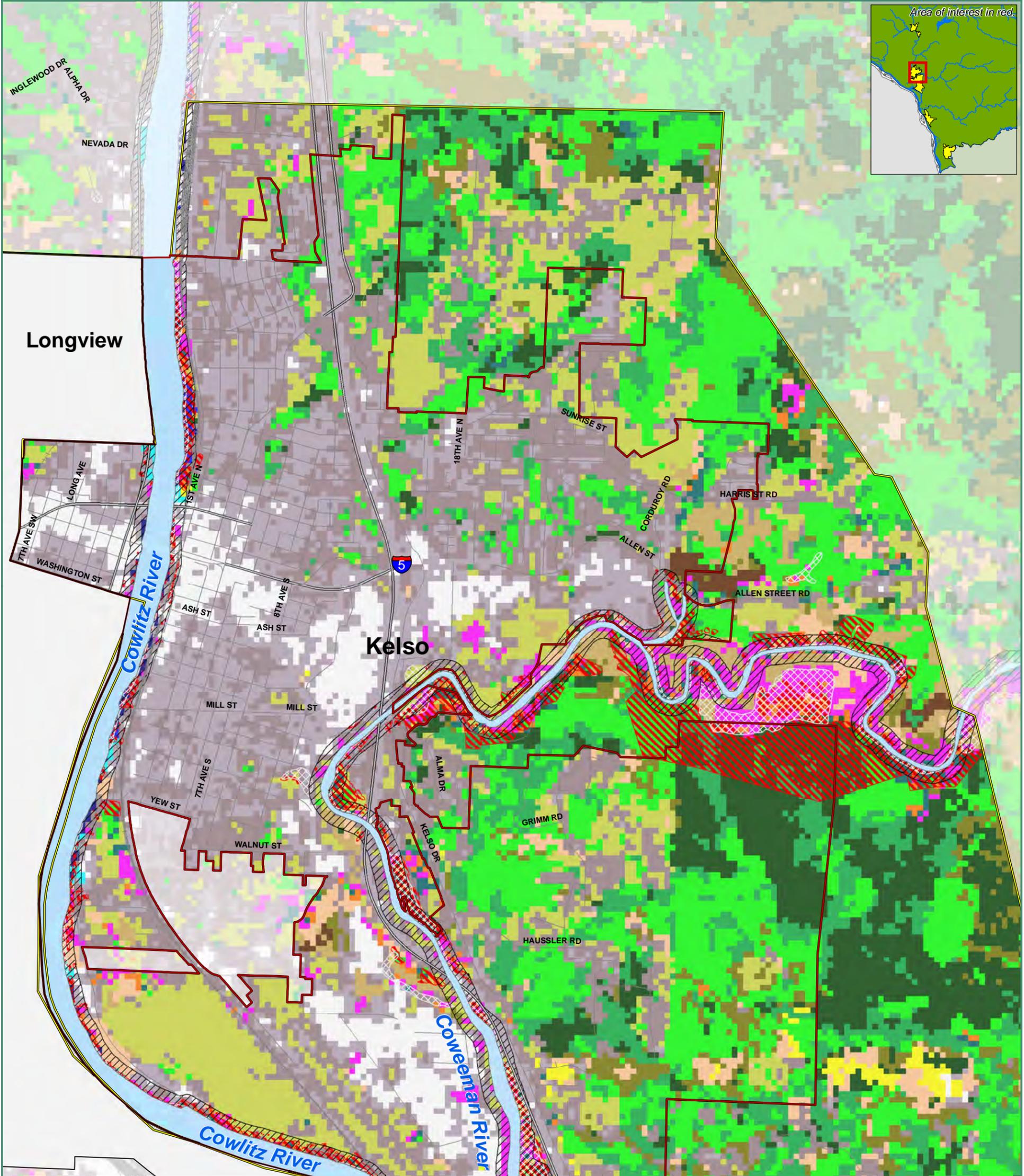
- Tree Cover<sup>2</sup>
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary



Original Scale=1:20,400 @ 11x17 layout.  
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Notes:  
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<sup>2</sup> Tree cover was digitized from 2011 National Agriculture Imagery Program (NAIP) aerial data.

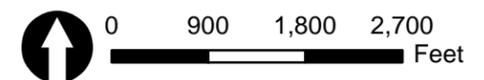


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- Tree Cover<sup>2</sup>
- SMP Stream
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- Proposed Shoreline Jurisdiction
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- City Boundary
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- County Boundary



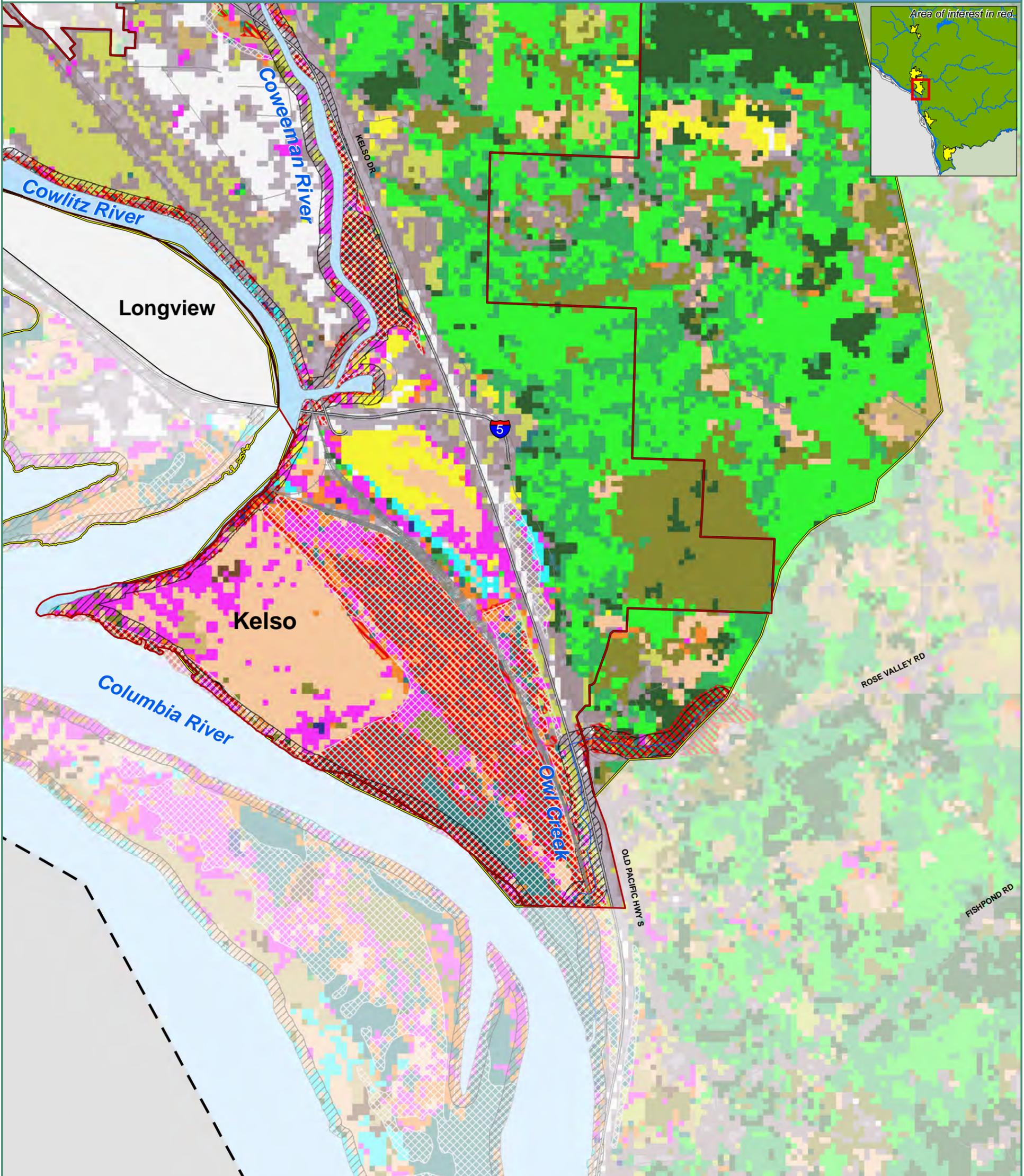
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<sup>2</sup> Tree cover was digitized from 2011 National Agriculture Imagery Program (NAIP) aerial data.

FIGURE 9. NOAA C-CAP LANDCOVER

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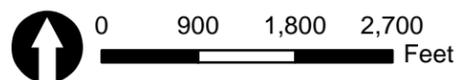


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- Shrub/Scrub
- Snow/Ice
- Unconsolidated Shore
- Water

- Tree Cover<sup>2</sup>
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary



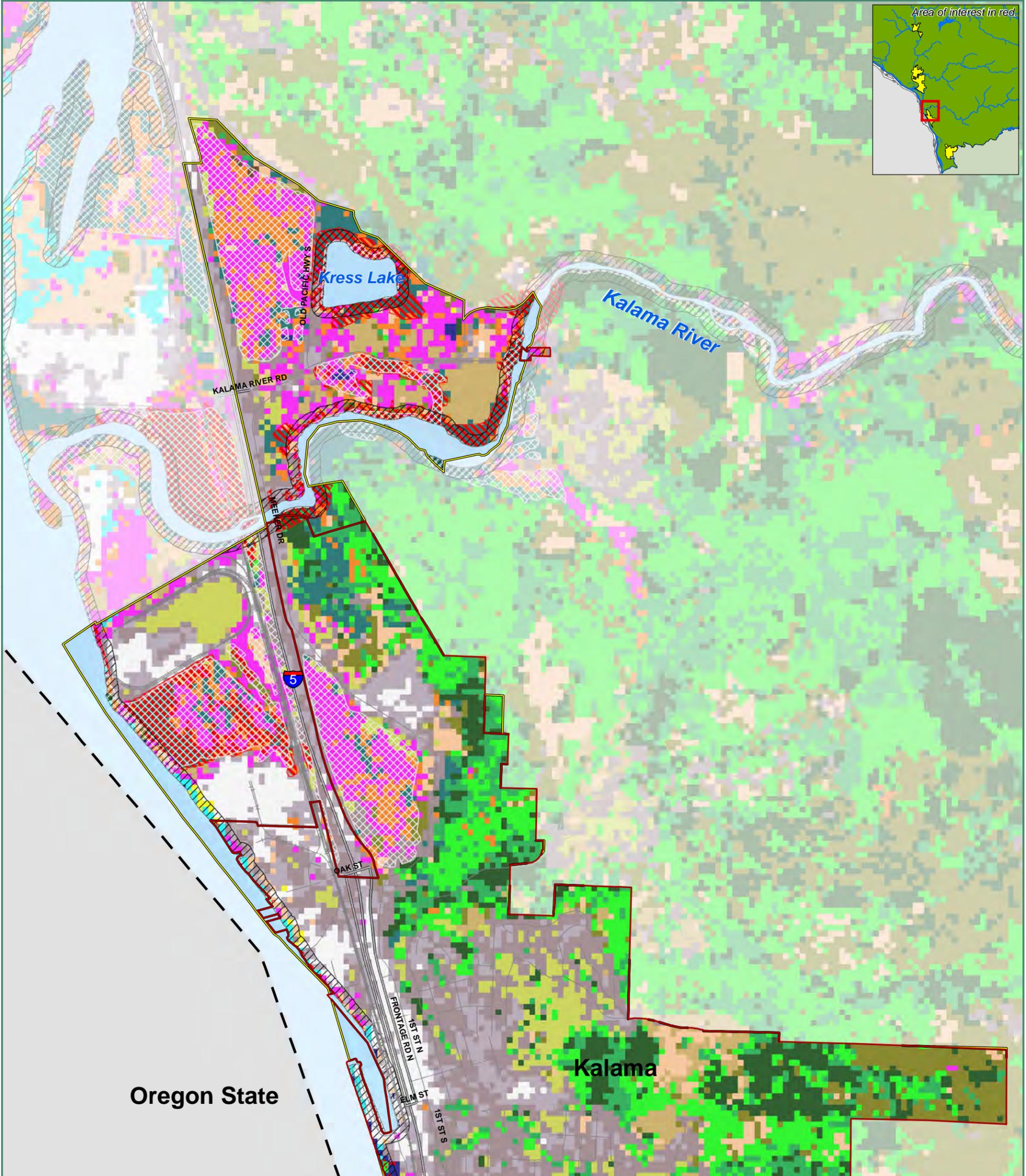
Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source: Cowlitz County, CWCOG, NOAA, Department of Ecology, The Watershed Company.

Notes:  
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FIGURE 9. NOAA C-CAP LANDCOVER

DRAFT

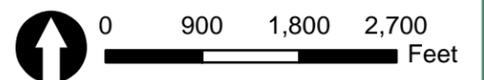


C-CAP Landcover Classification<sup>1</sup>

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- Cultivated
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- Developed Open Space
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- Estuarine Emergent Wetland
- Evergreen Forest
- Grassland
- High Intensity Developed
- Low Intensity Developed

- Medium Intensity Developed
- Mixed Forest
- Palustrine Aquatic Bed
- Palustrine Emergent Wetland
- Palustrine Forested Wetland
- Palustrine Shrub/Scrub Wetland
- Pasture/Hay
- Shrub/Scrub
- Snow/Ice
- Water

- Tree Cover<sup>2</sup>
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary



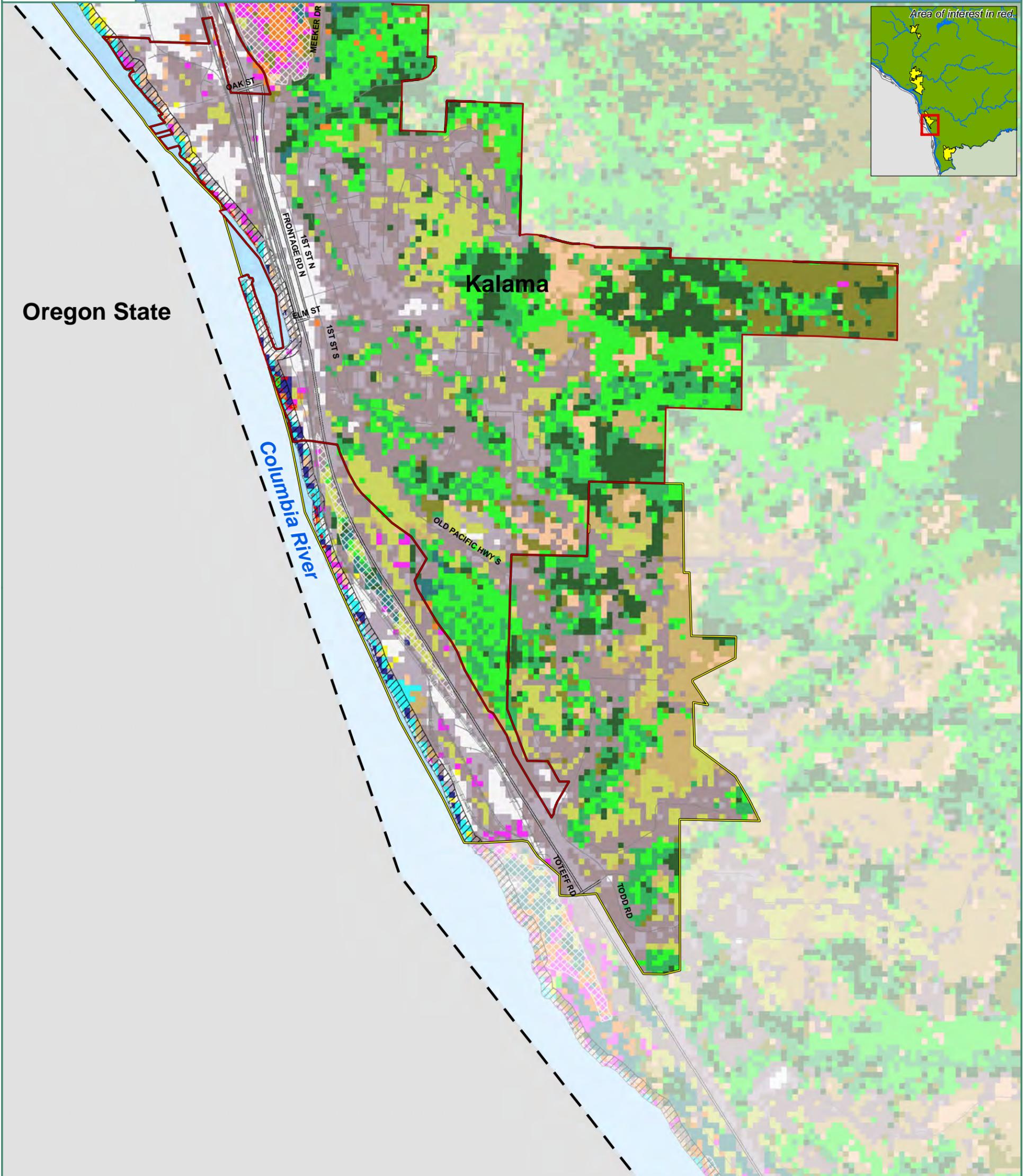
Original Scale=1:20,400 @ 11x17 layout.  
Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, NOAA,  
Department of Ecology, The Watershed  
Company.

Notes:  
<sup>1</sup> Landcover data is sourced from NOAA C-CAP, 2006. Classification were derived from Landsat scenes analyzed according to the C-CAP protocol to determine land cover.  
<sup>2</sup> Tree cover was digitized from 2011 National Agriculture Imagery Program (NAIP) aerial data.

FIGURE 9. NOAA C-CAP LANDCOVER

DRAFT

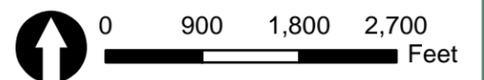


C-CAP Landcover Classification<sup>1</sup>

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- Cultivated
- Deciduous Forest
- Developed Open Space
- Estuarine Aquatic Bed
- Estuarine Emergent Wetland
- Evergreen Forest
- Grassland
- High Intensity Developed
- Low Intensity Developed

- Medium Intensity Developed
- Mixed Forest
- Palustrine Aquatic Bed
- Palustrine Emergent Wetland
- Palustrine Forested Wetland
- Palustrine Shrub/Scrub Wetland
- Pasture/Hay
- Shrub/Scrub
- Snow/Ice
- Unconsolidated Shore
- Water

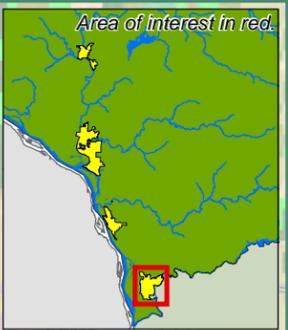
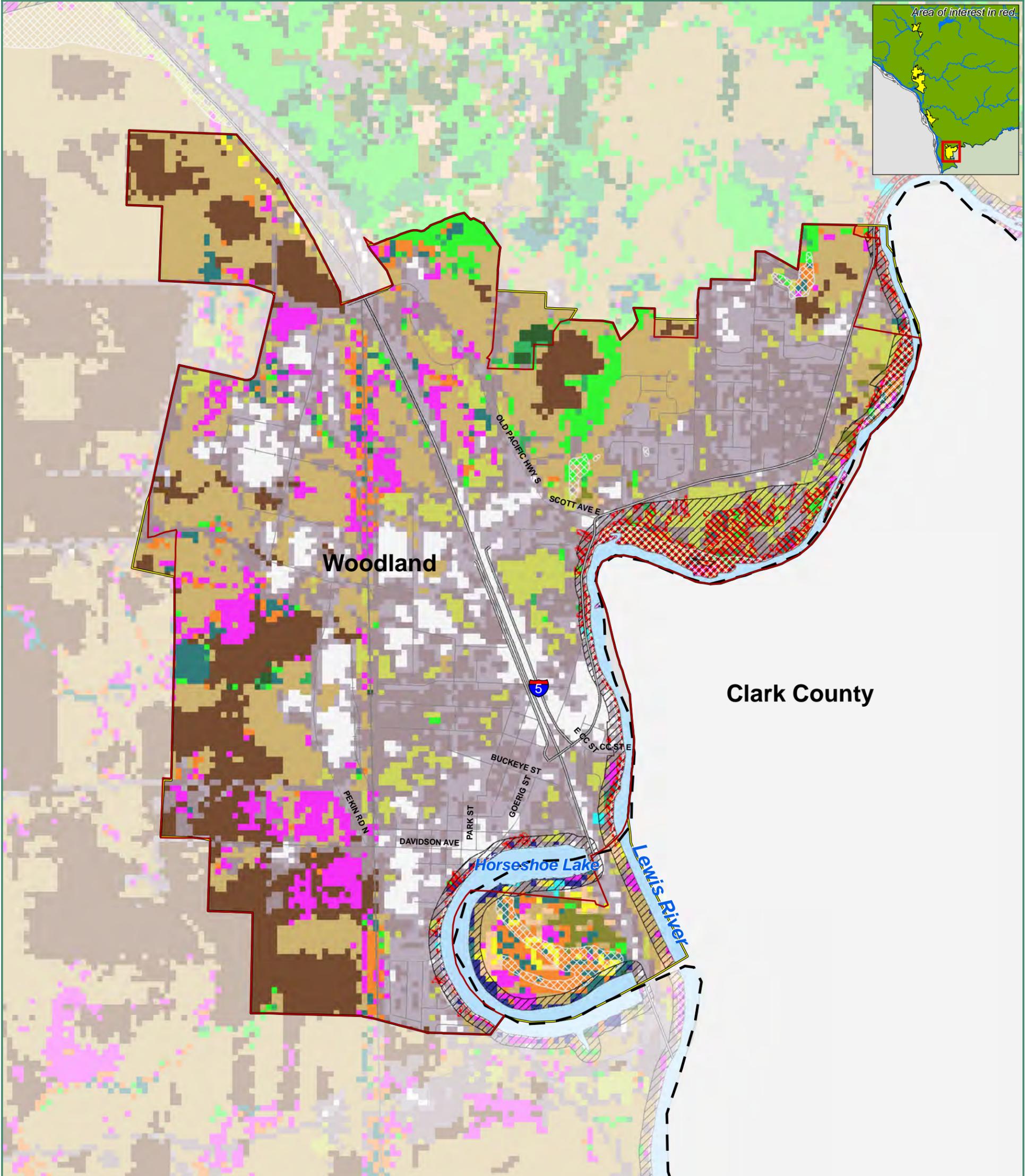
- Tree Cover<sup>2</sup>
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary



Original Scale=1:20,400 @ 11x17 layout.  
Please scale accordingly.

Data source:  
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Department of Ecology, The Watershed  
Company.

Notes:  
<sup>1</sup> Landcover data is sourced from NOAA C-CAP, 2006. Classification were derived from Landsat scenes analyzed according to the C-CAP protocol to determine land cover.  
<sup>2</sup> Tree cover was digitized from 2011 National Agriculture Imagery Program (NAIP) aerial data.

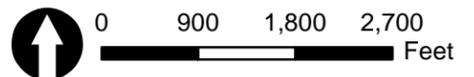


**C-CAP Landcover Classification<sup>1</sup>**

- Bare Land
- Cultivated
- Deciduous Forest
- Developed Open Space
- Estuarine Aquatic Bed
- Estuarine Emergent Wetland
- Evergreen Forest
- Grassland
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- Pasture/Hay
- Shrub/Scrub
- Snow/Ice
- Unconsolidated Shore
- Water

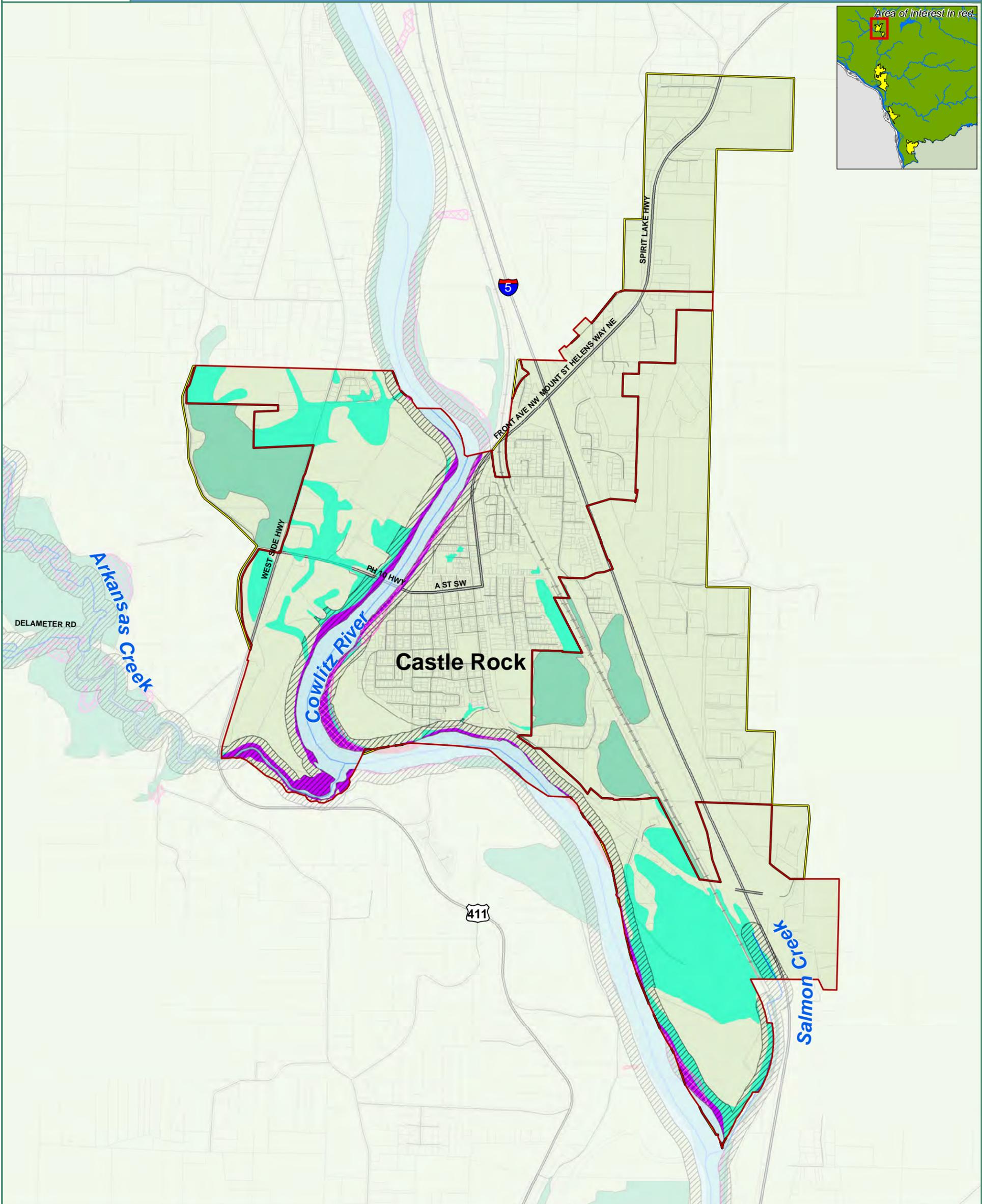
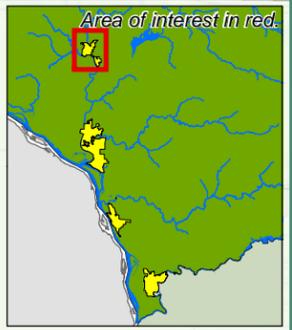
- Tree Cover<sup>2</sup>
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary



Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source: Cowlitz County, CWCOG, NOAA, Department of Ecology, The Watershed Company.

Notes:  
<sup>1</sup> Landcover data is sourced from NOAA C-CAP, 2006. Classification were derived from Landsat scenes analyzed according to the C-CAP protocol to determine land cover.  
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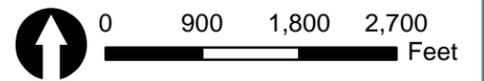


- DFIRM Floodway<sup>1</sup>
- DFIRM Floodplain<sup>1</sup>
- Adopted Floodway<sup>2</sup>
- Adopted Floodplain<sup>2</sup>
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

Notes:

<sup>1</sup> Preliminary Digital Flood Insurance Rate Maps (DFIRM) data drafted by FEMA was used to determine shoreline jurisdiction boundary in City of Castle Rock, Kelso, Kalama, and Woodland. Boundaries of both floodway and floodplain have not been formally adopted.

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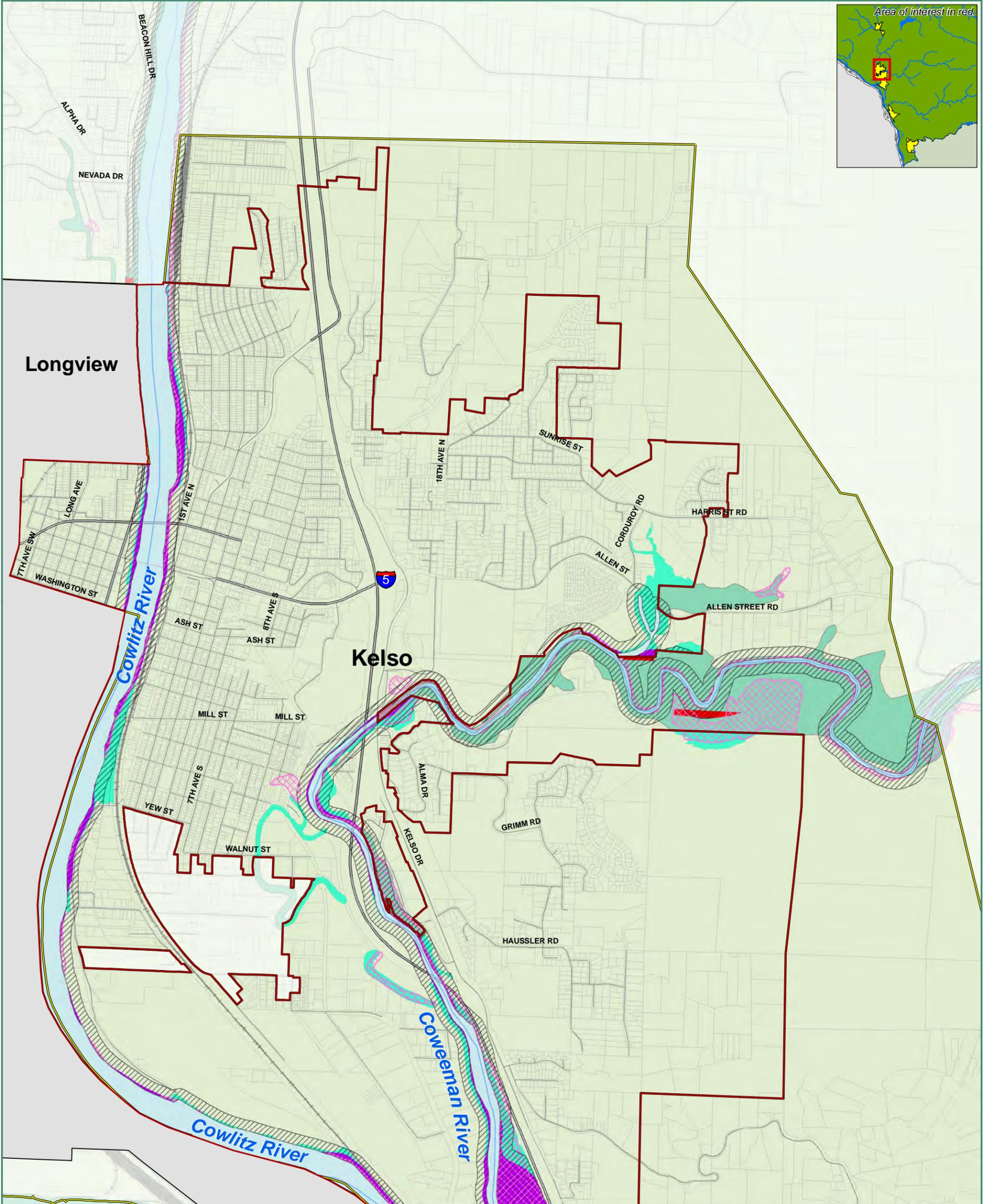


Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source: Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

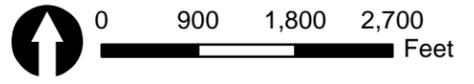
FIGURE 10. FLOODPLAIN AND FLOODWAY

DRAFT



- DFIRM Floodway<sup>1</sup>
- DFIRM Floodplain<sup>1</sup>
- Adopted Floodway<sup>2</sup>
- Adopted Floodplain<sup>2</sup>
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

Notes:  
<sup>1</sup> Preliminary Digital Flood Insurance Rate Maps (DFIRM) data drafted by FEMA was used to determine shoreline jurisdiction boundary in City of Castle Rock, Kelso, Kalama, and Woodland. Boundaries of both floodway and floodplain have not been formally adopted.  
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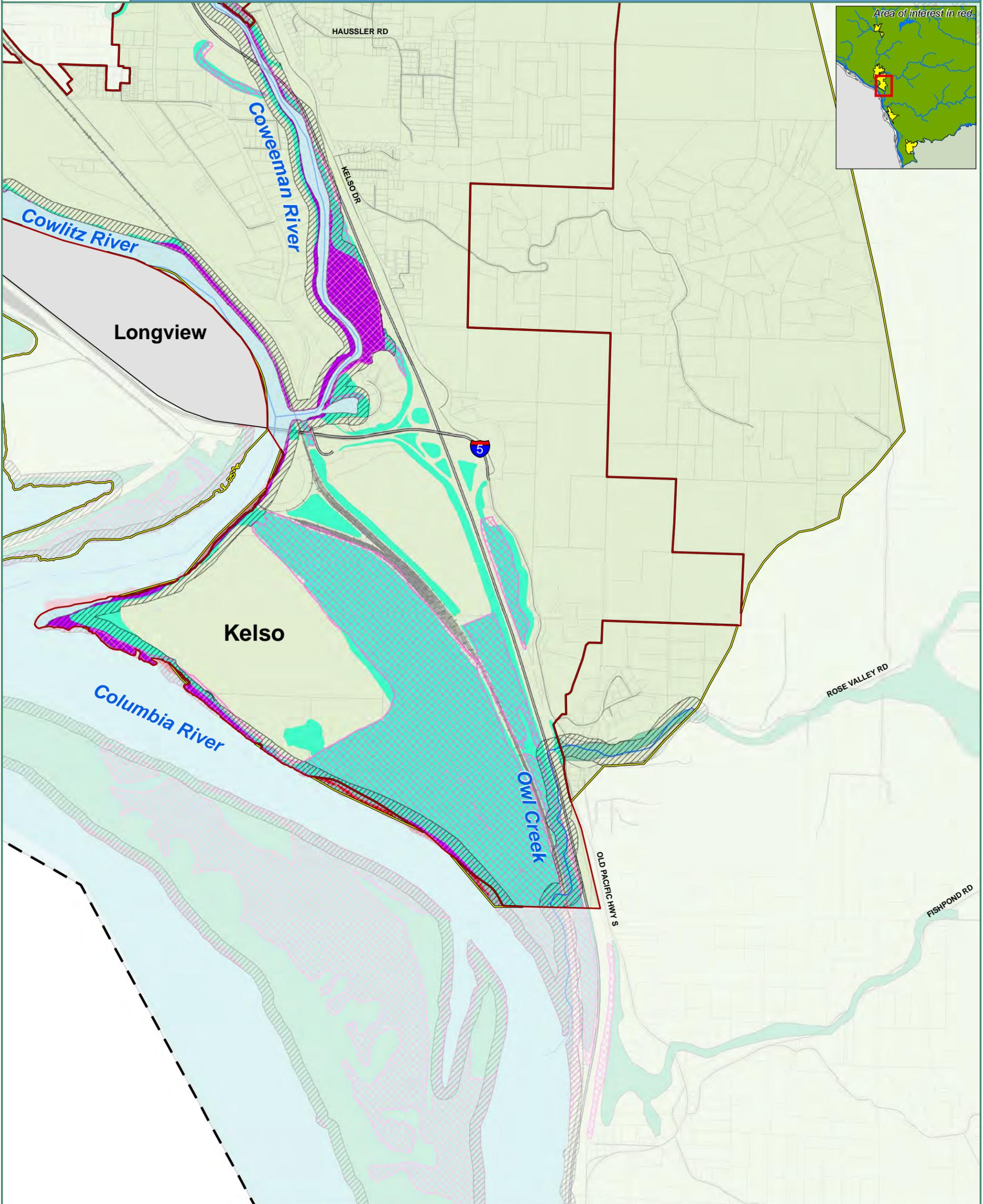


Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source: Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

FIGURE 10. FLOODPLAIN AND FLOODWAY

DRAFT

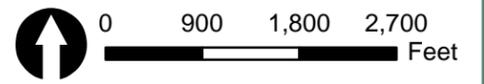


- DFIRM Floodway<sup>1</sup>
- DFIRM Floodplain<sup>1</sup>
- Adopted Floodway<sup>2</sup>
- Adopted Floodplain<sup>2</sup>
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
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- County Boundary

Notes:

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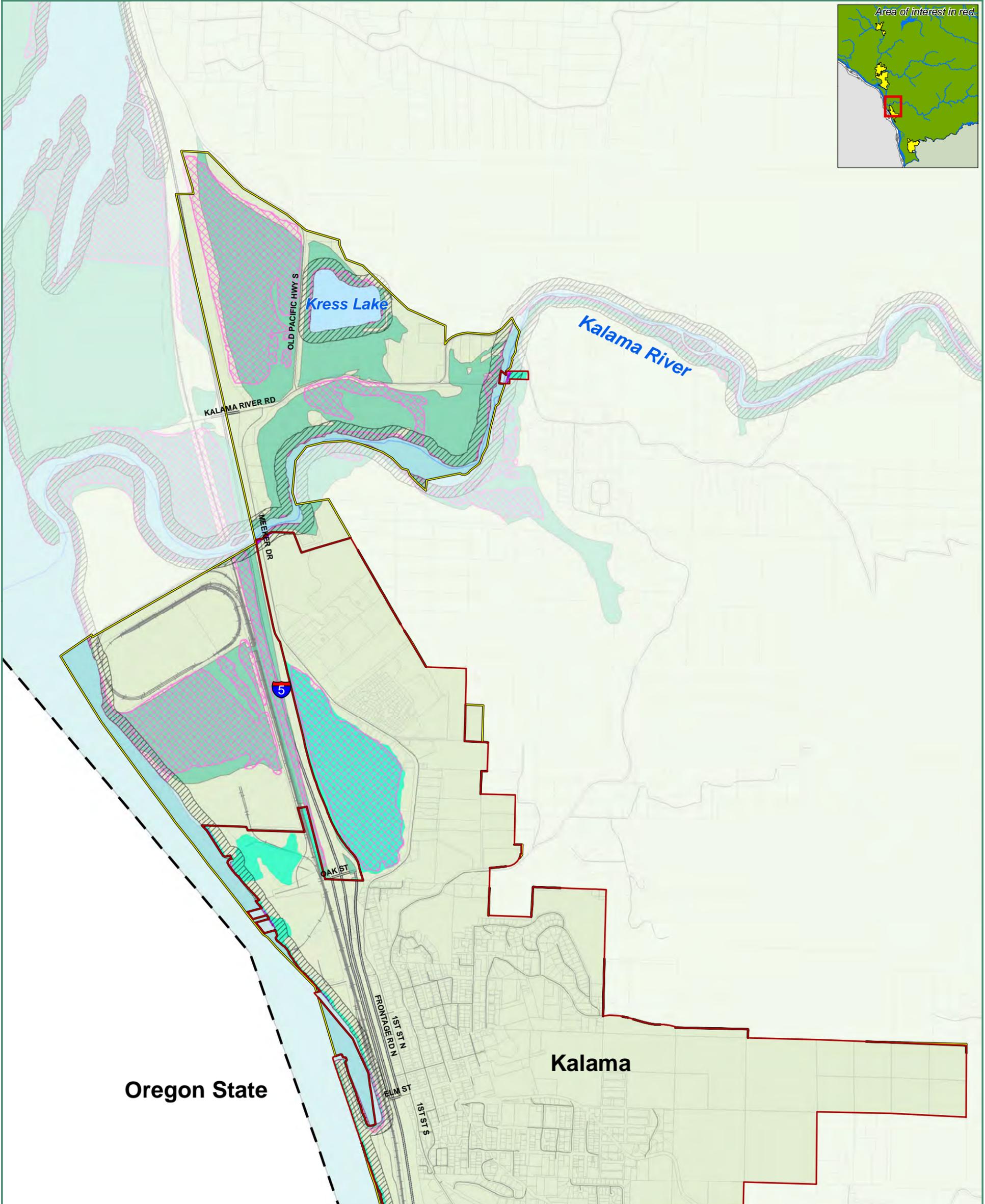
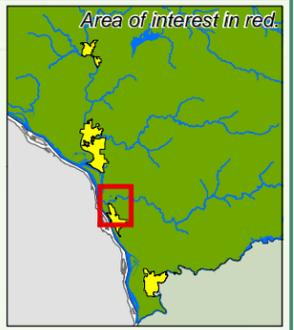


Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source: Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

FIGURE 10. FLOODPLAIN AND FLOODWAY

DRAFT

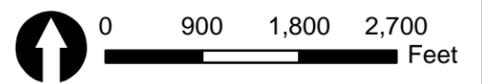


- DFIRM Floodway<sup>1</sup>
- DFIRM Floodplain<sup>1</sup>
- Adopted Floodway<sup>2</sup>
- Adopted Floodplain<sup>2</sup>
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

Notes:

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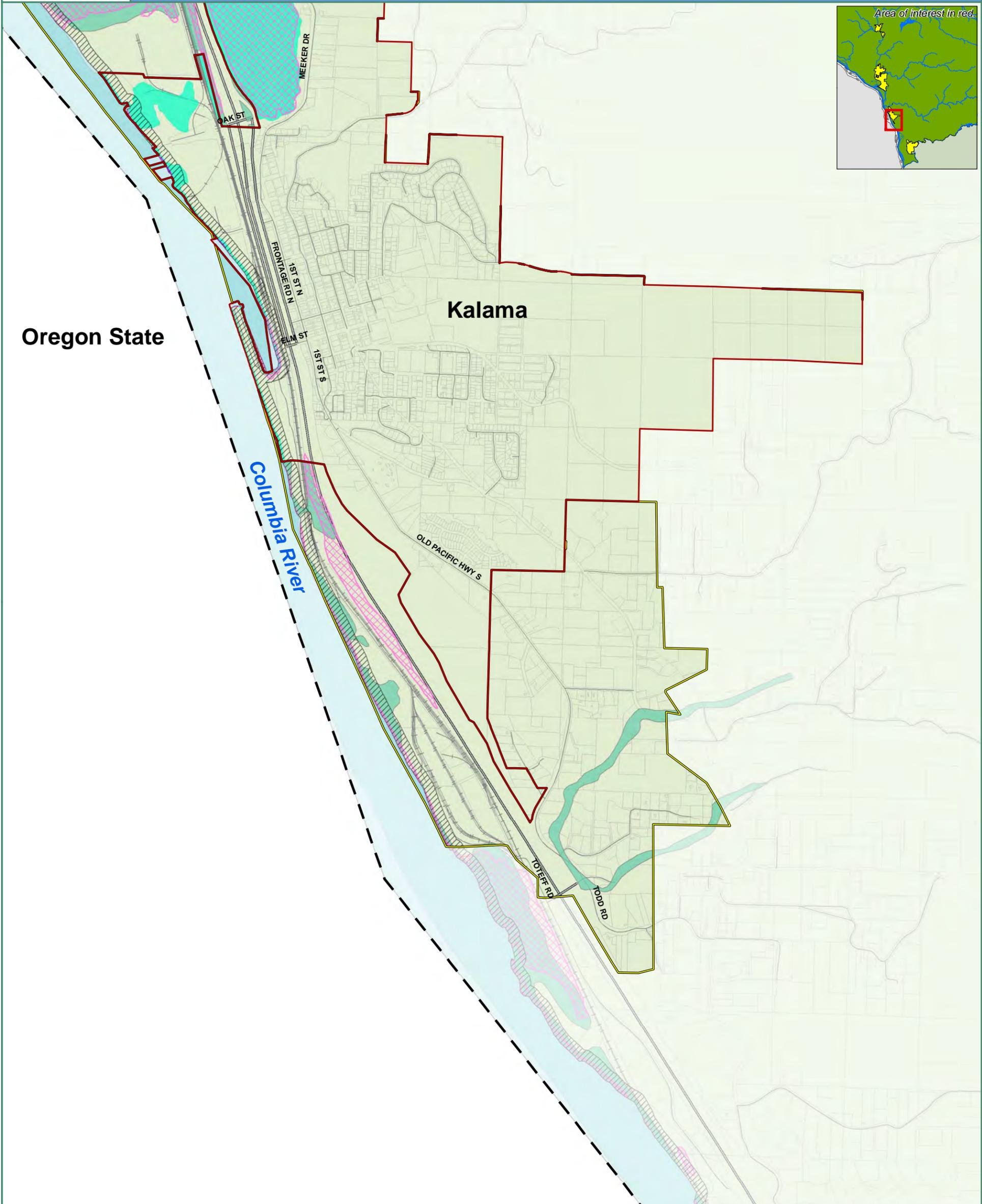


Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source: Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

FIGURE 10. FLOODPLAIN AND FLOODWAY

**DRAFT**

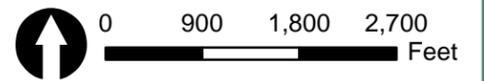


- DFIRM Floodway<sup>1</sup>
- DFIRM Floodplain<sup>1</sup>
- Adopted Floodway<sup>2</sup>
- Adopted Floodplain<sup>2</sup>
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

Notes:

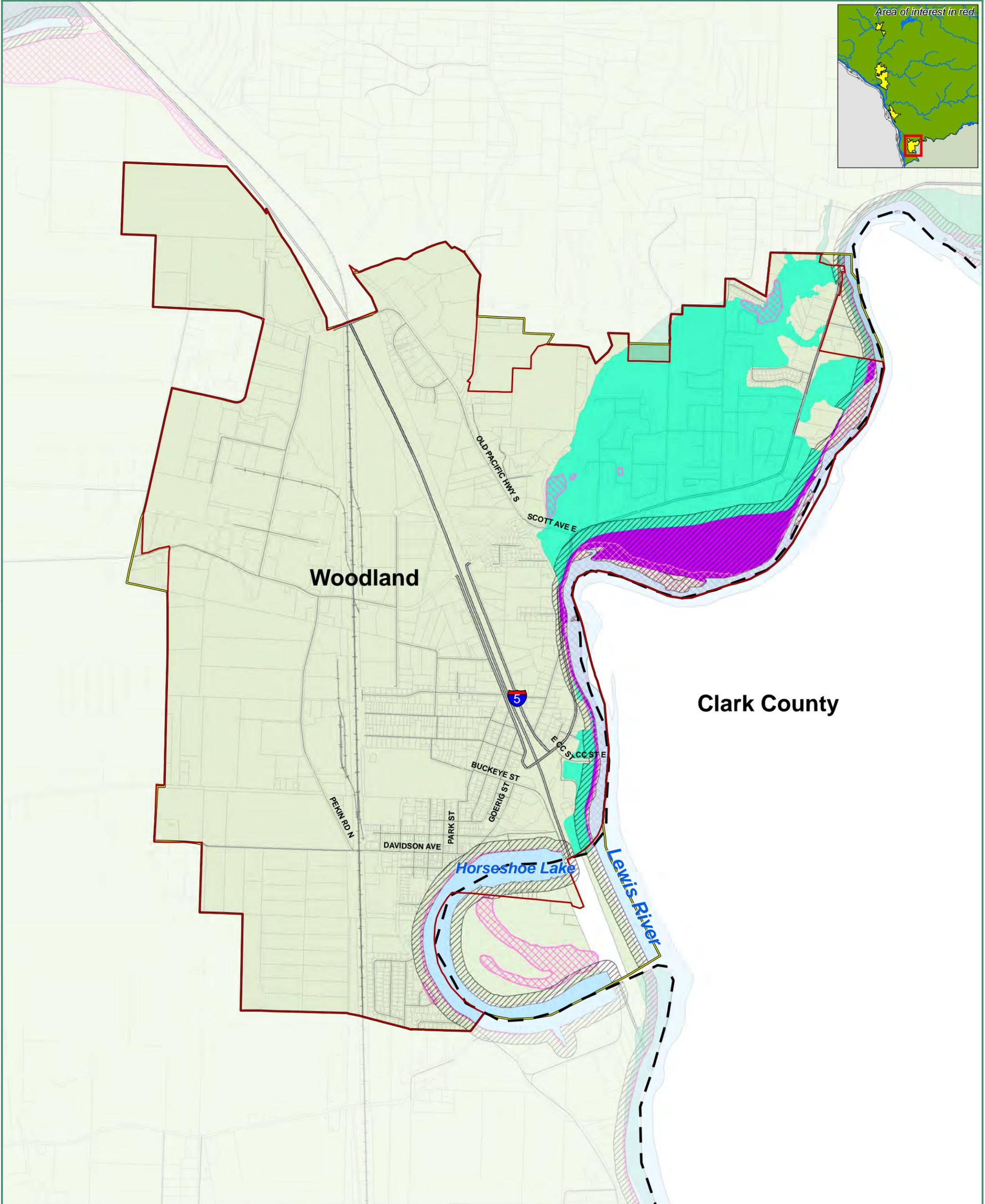
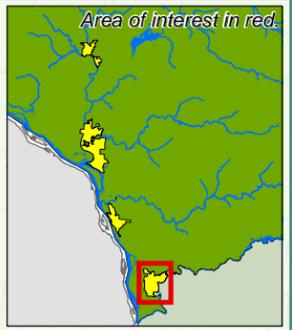
<sup>1</sup> Preliminary Digital Flood Insurance Rate Maps (DFIRM) data drafted by FEMA was used to determine shoreline jurisdiction boundary in City of Castle Rock, Kelso, Kalama, and Woodland. Boundaries of both floodway and floodplain have not been formally adopted.

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Data source: Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

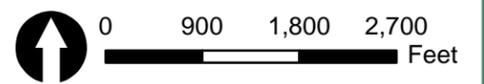


- DFIRM Floodway<sup>1</sup>
- DFIRM Floodplain<sup>1</sup>
- Adopted Floodway<sup>2</sup>
- Adopted Floodplain<sup>2</sup>
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

Notes:

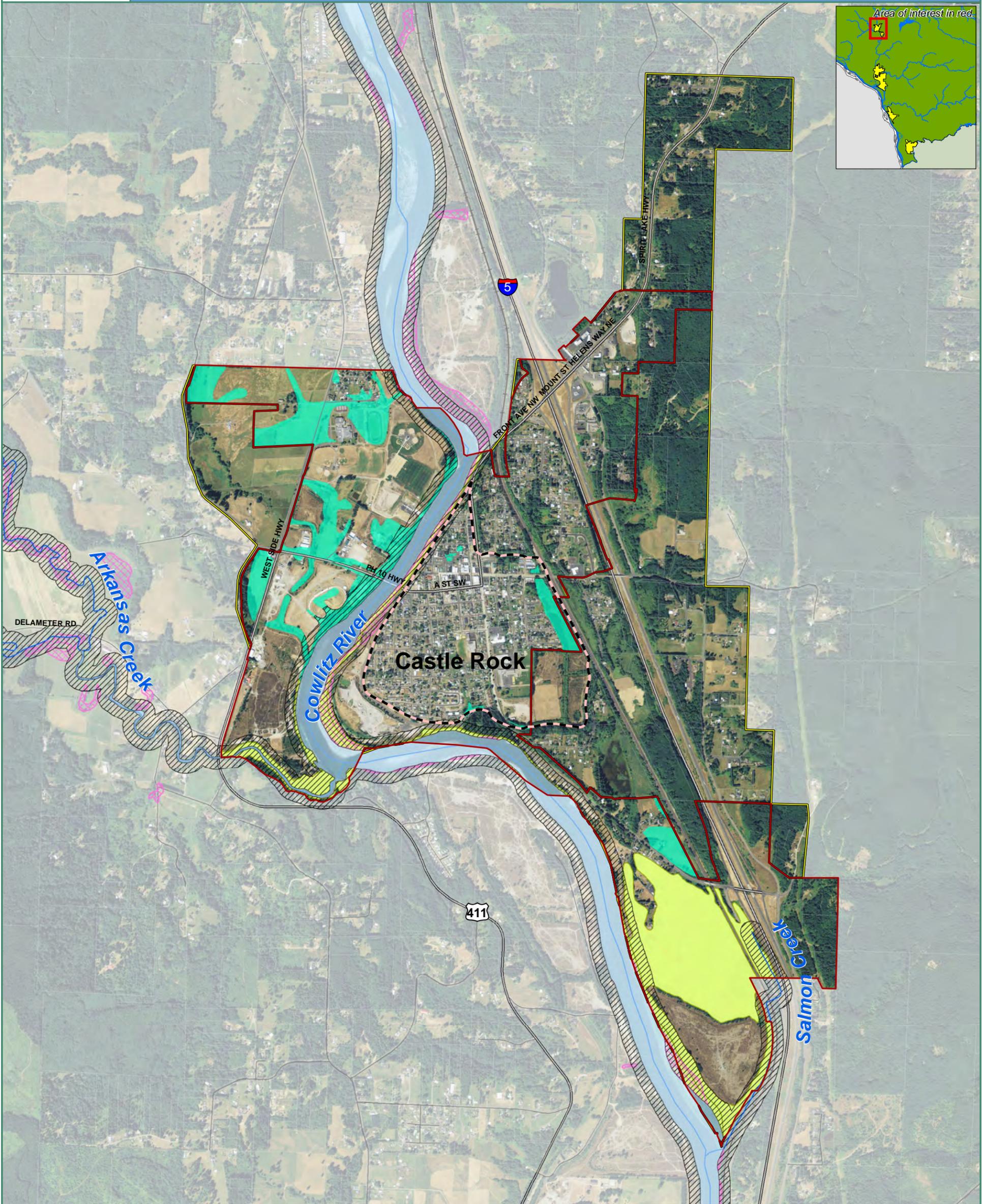
<sup>1</sup> Preliminary Digital Flood Insurance Rate Maps (DFIRM) data drafted by FEMA was used to determine shoreline jurisdiction boundary in City of Castle Rock, Kelso, Kalama, and Woodland. Boundaries of both floodway and floodplain have not been formally adopted.

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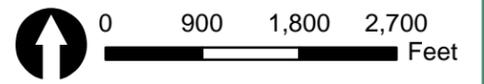
Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source: Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.



- Levee
- Channel Migration Zone
- DFIRM Floodplain<sup>1</sup>
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- SMP Stream
- SMP Waterbody
- City Boundary
- UGA/UGB/PAB
- County Boundary

Note:  
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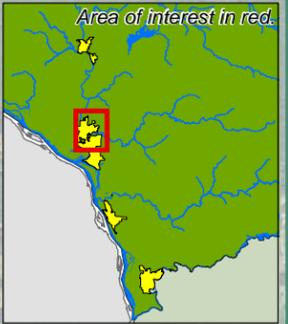
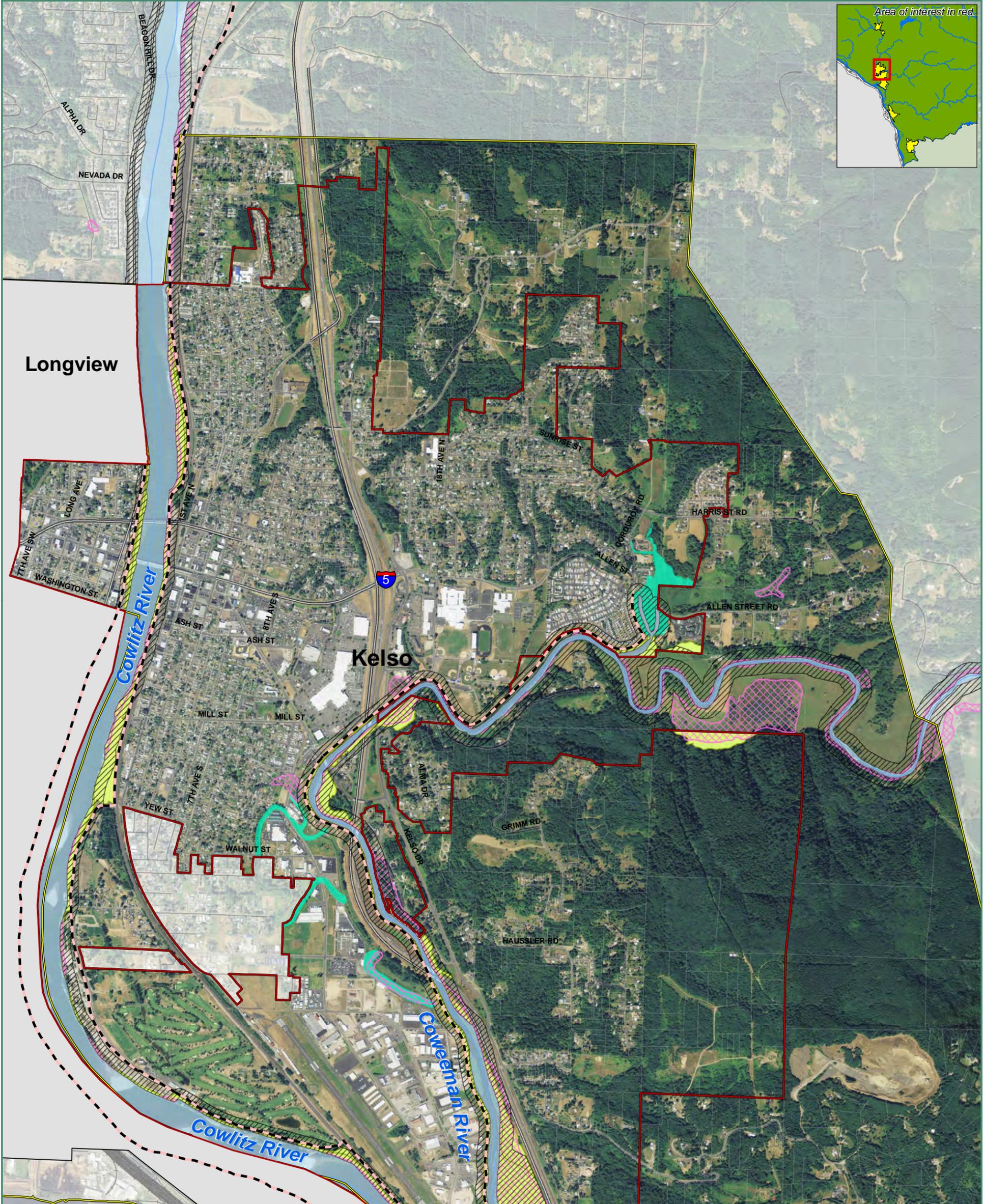


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Please scale accordingly.

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Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

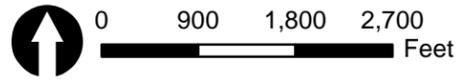
FIGURE 11. CHANNEL MIGRATION ZONE

DRAFT



- Levee
- Channel Migration Zone
- DFIRM Floodplain<sup>1</sup>
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- SMP Stream
- SMP Waterbody
- City Boundary
- UGA/UGB/PAB
- County Boundary

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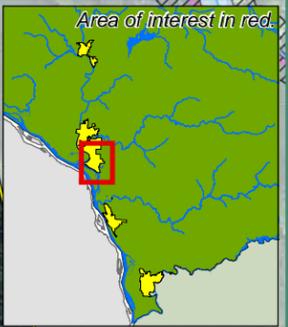
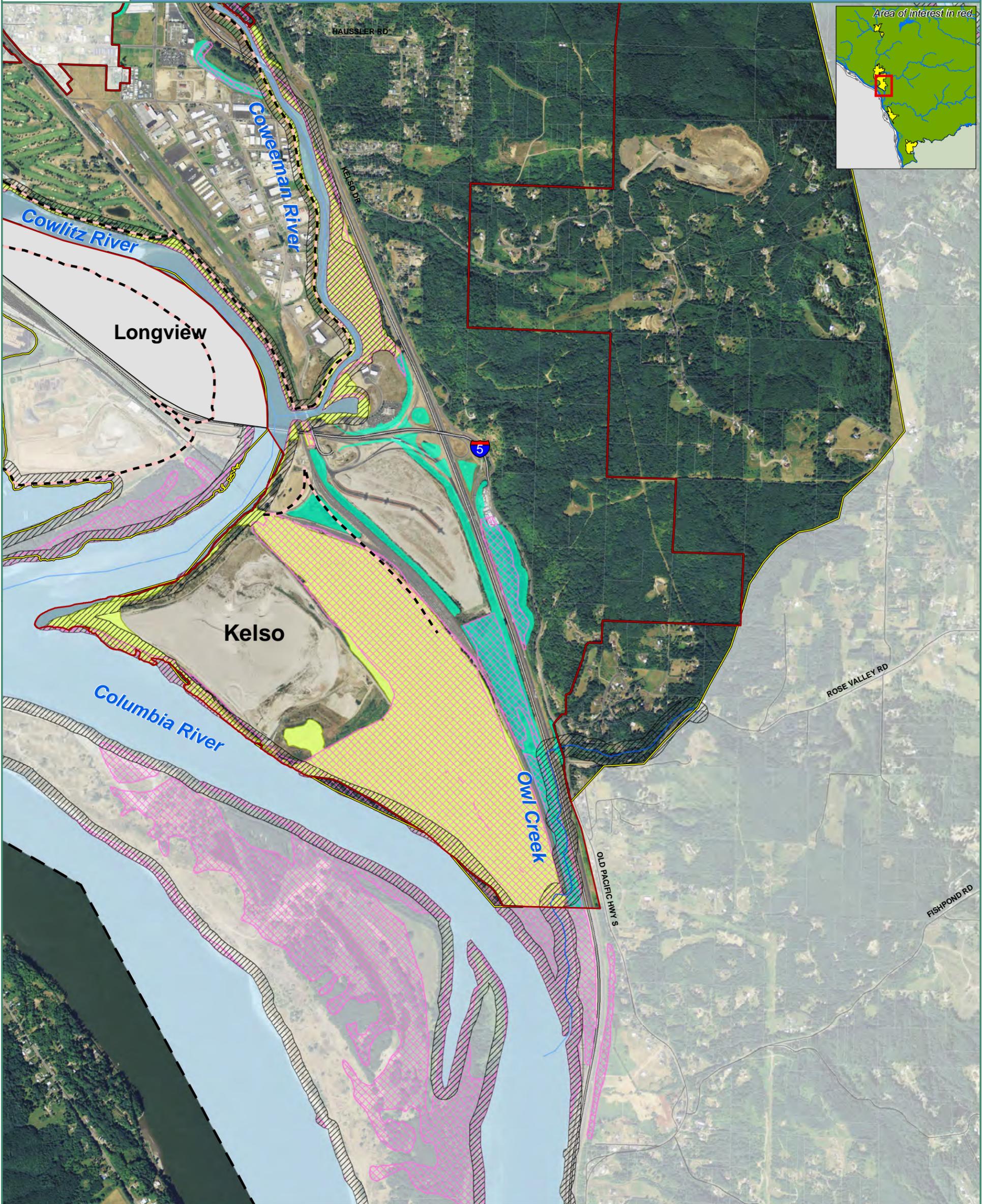


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Data source:  
Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

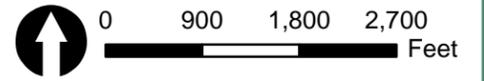
FIGURE 11. CHANNEL MIGRATION ZONE

DRAFT



- Levee
- Channel Migration Zone
- DFIRM Floodplain<sup>1</sup>
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- SMP Stream
- SMP Waterbody
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- County Boundary

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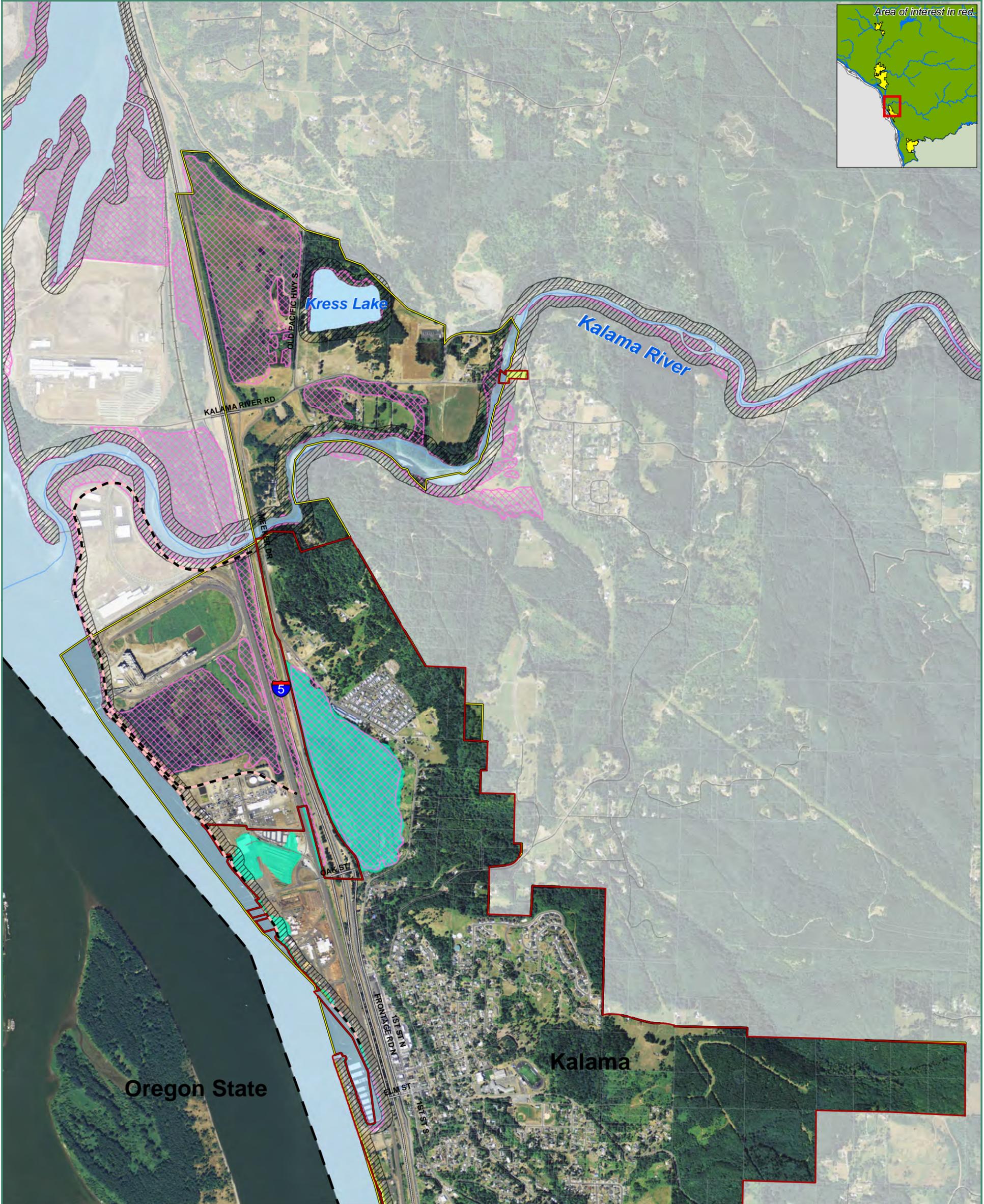
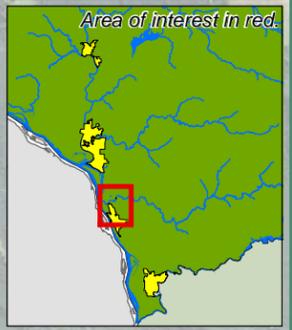


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Data source:  
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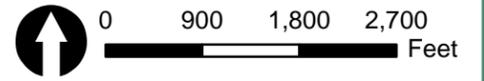
FIGURE 11. CHANNEL MIGRATION ZONE

DRAFT



-  Levee
-  Channel Migration Zone
-  DFIRM Floodplain<sup>1</sup>
-  Proposed Shoreline Jurisdiction
-  Potentially Associated Wetland
-  SMP Stream
-  SMP Waterbody
-  City Boundary
-  UGA/UGB/PAB
-  County Boundary

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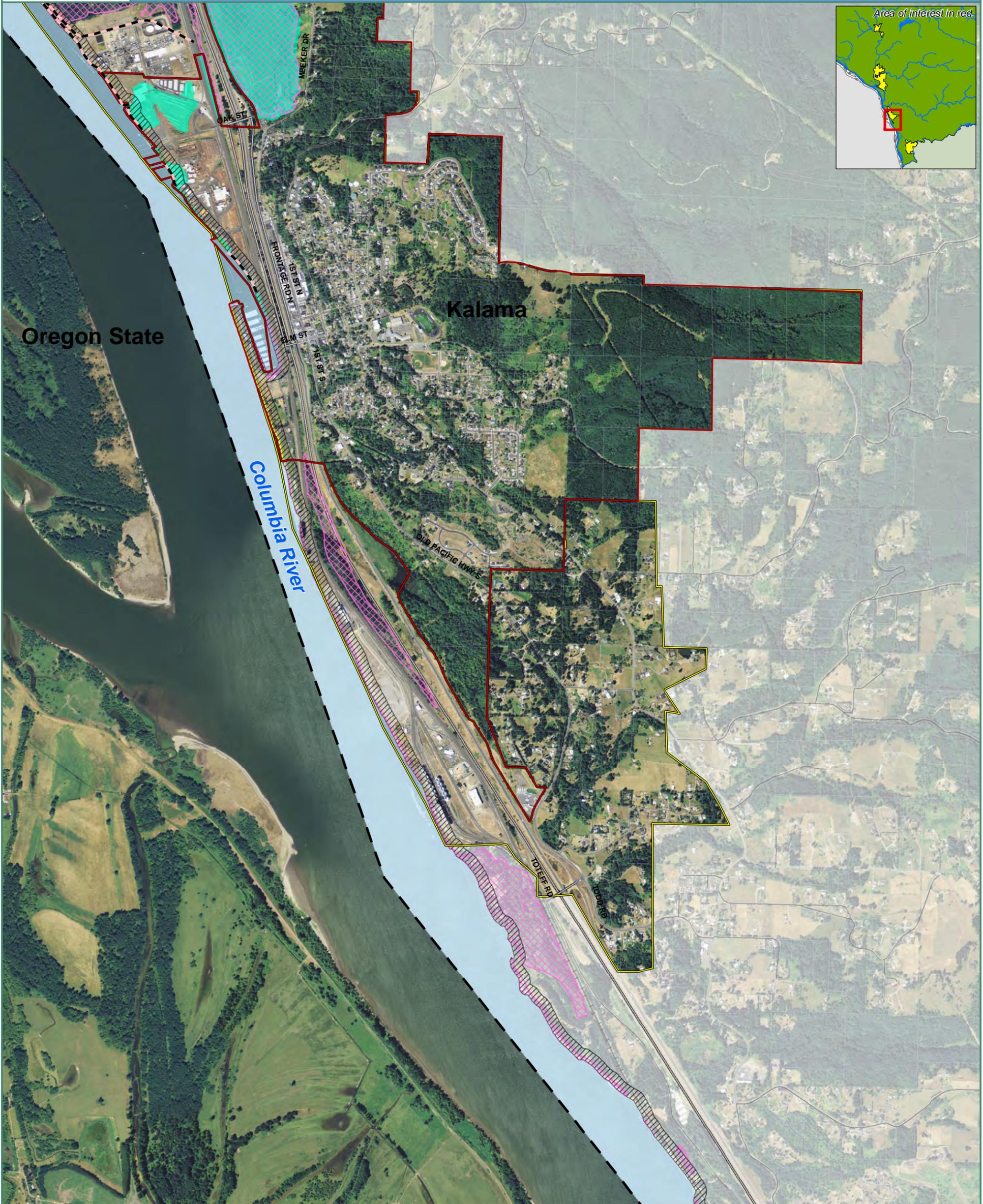


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Data source:  
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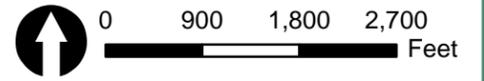
FIGURE 11. CHANNEL MIGRATION ZONE

**DRAFT**



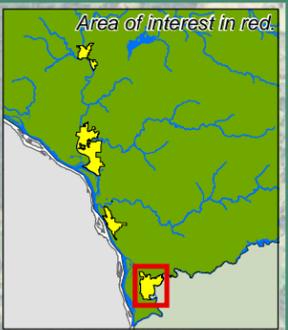
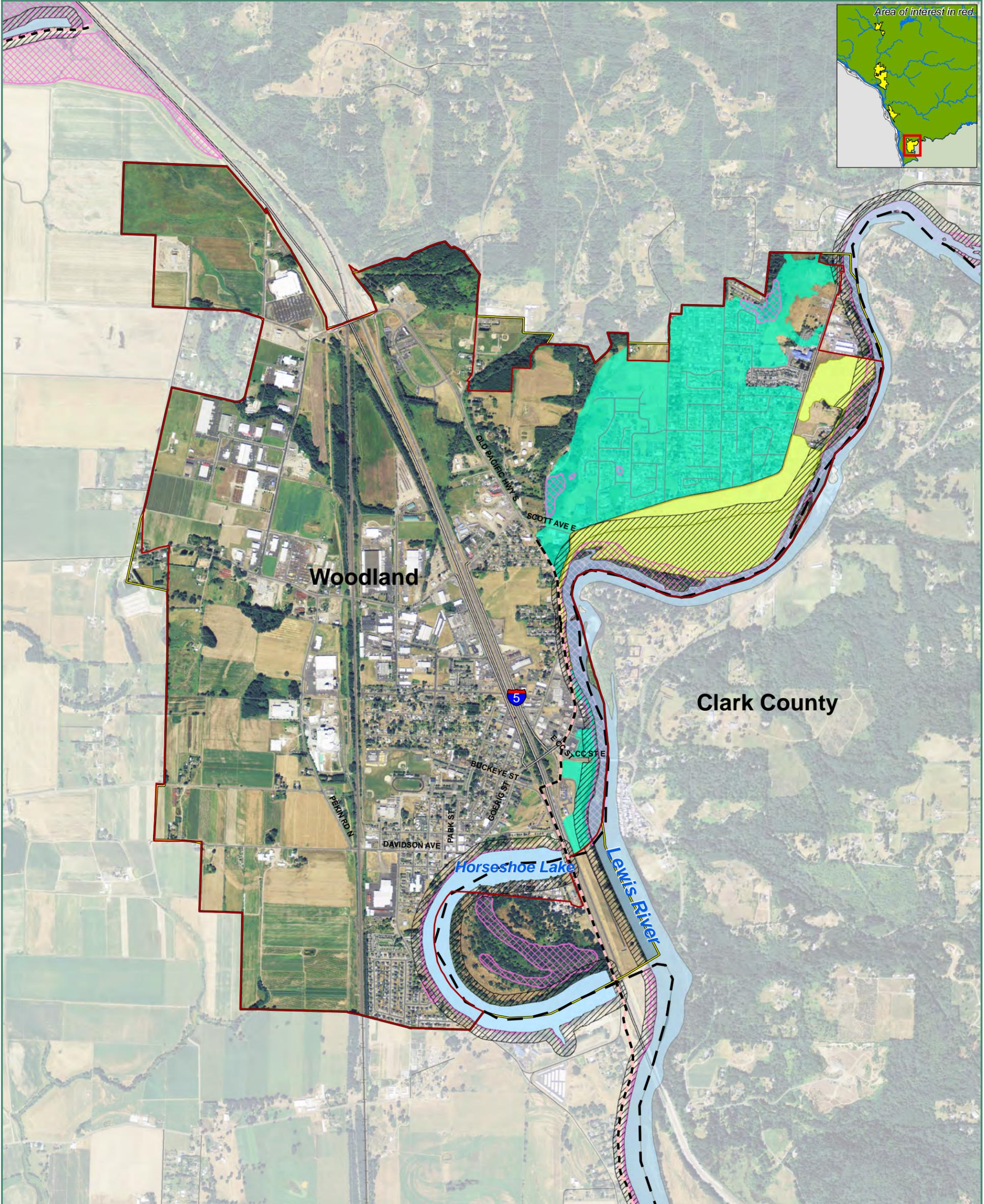
-  Levee
-  Channel Migration Zone
-  DFIRM Floodplain<sup>1</sup>
-  Proposed Shoreline Jurisdiction
-  Potentially Associated Wetland
-  SMP Stream
-  SMP Waterbody
-  City Boundary
-  UGA/UGB/PAB
-  County Boundary

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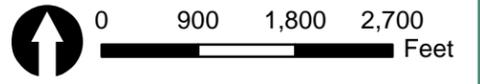
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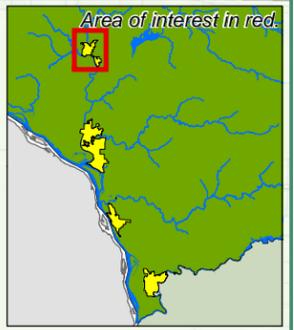
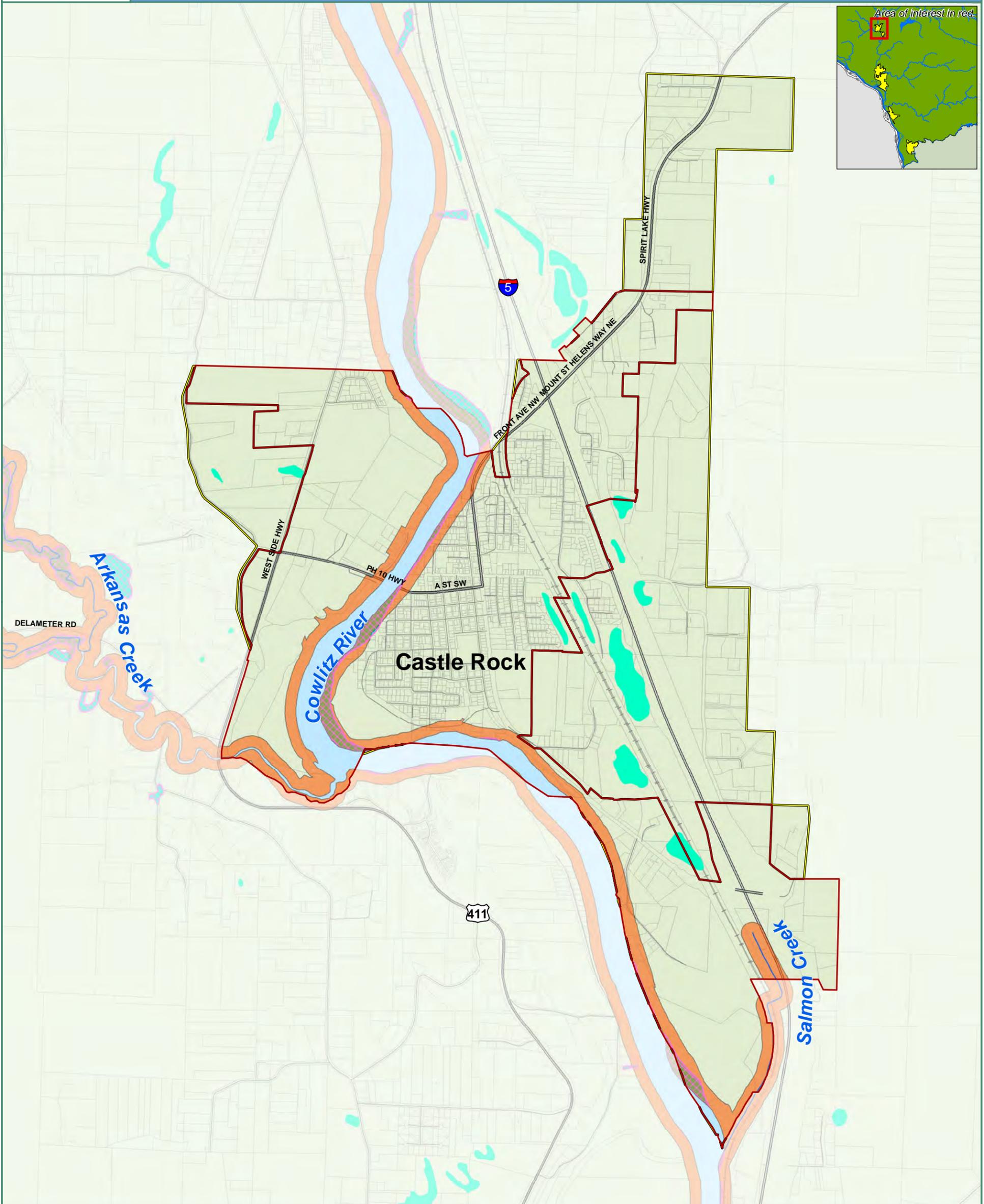
- Levee
- Channel Migration Zone
- DFIRM Floodplain<sup>1</sup>
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- SMP Stream
- SMP Waterbody
- City Boundary
- UGA/UGB/PAB
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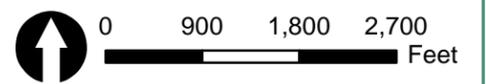


Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

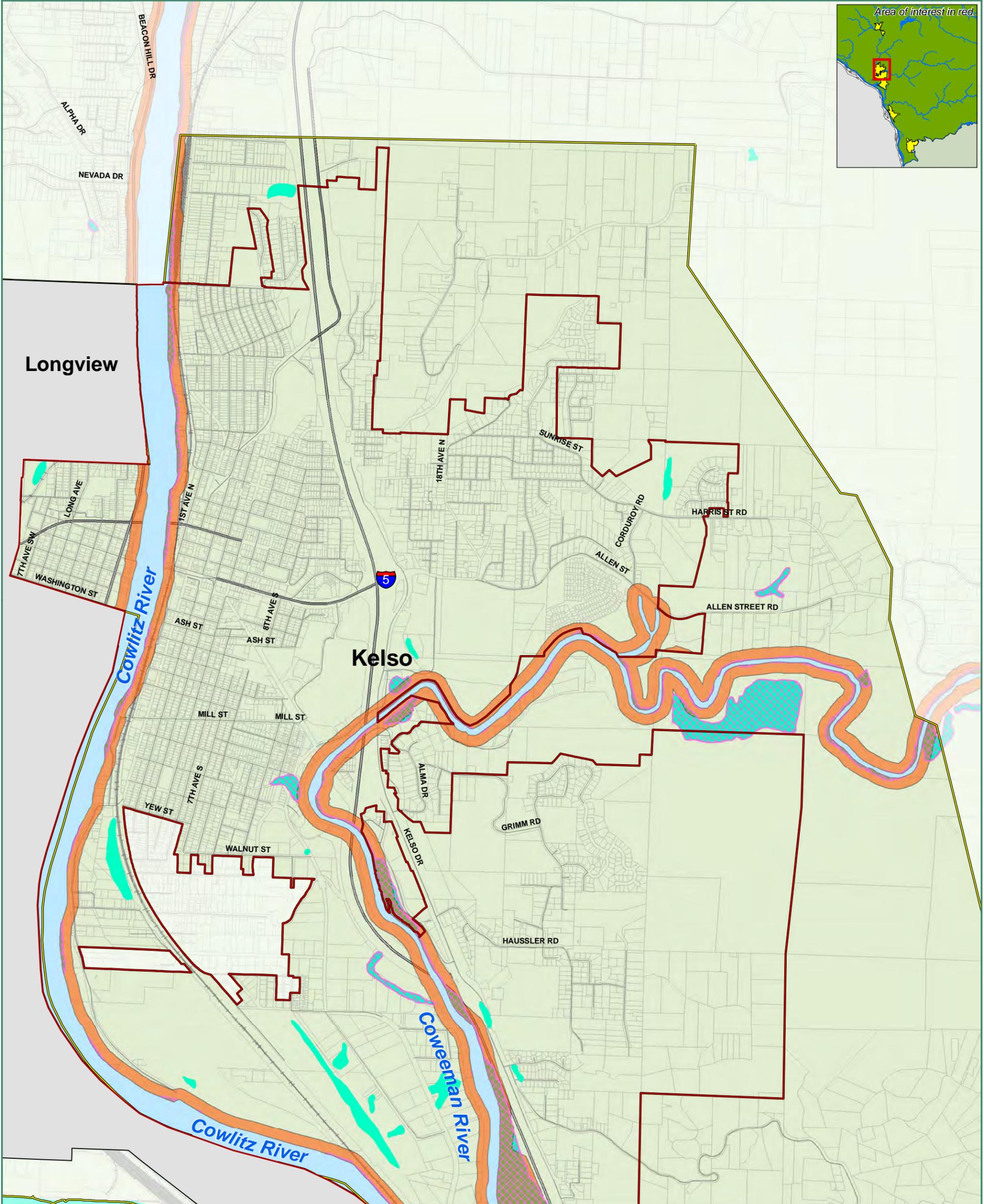


- NWI Wetland
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

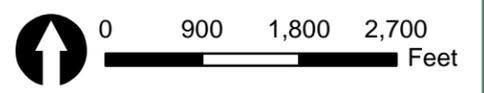


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Data source:  
Cowlitz County, CWCOG, US Fish and Wildlife, Department of Ecology, The Watershed Company.



- NWI Wetland
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
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- County Boundary

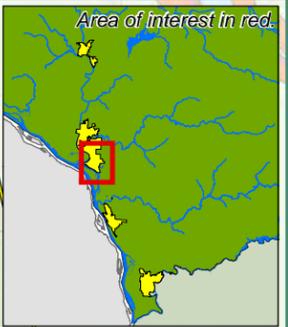
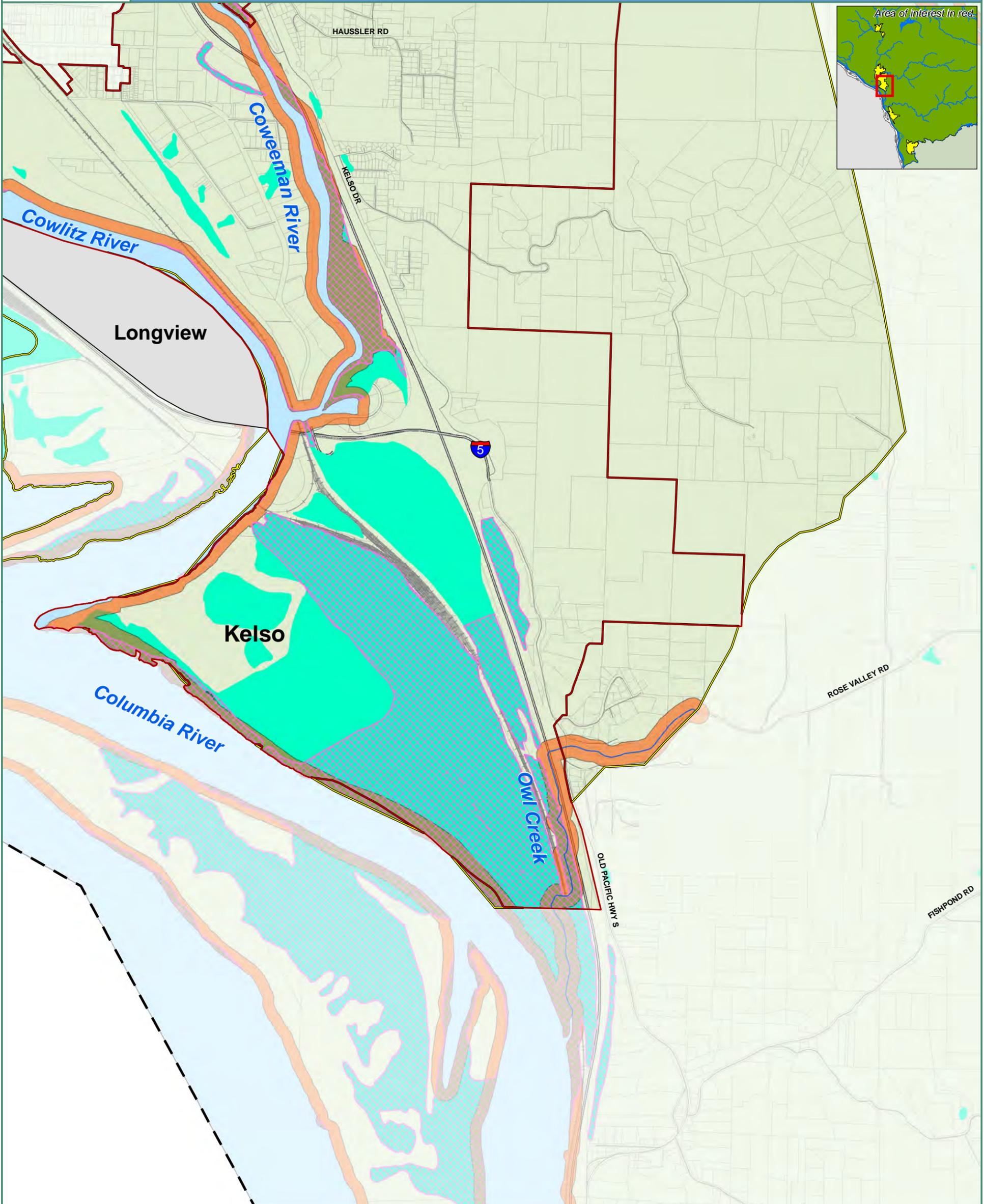


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Please scale accordingly.

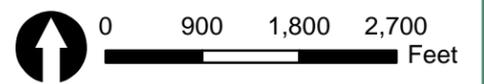
Data source:  
Cowlitz County, CWCOG, US Fish and Wildlife, Department of Ecology, The Watershed Company.

FIGURE 12. NWI WETLANDS

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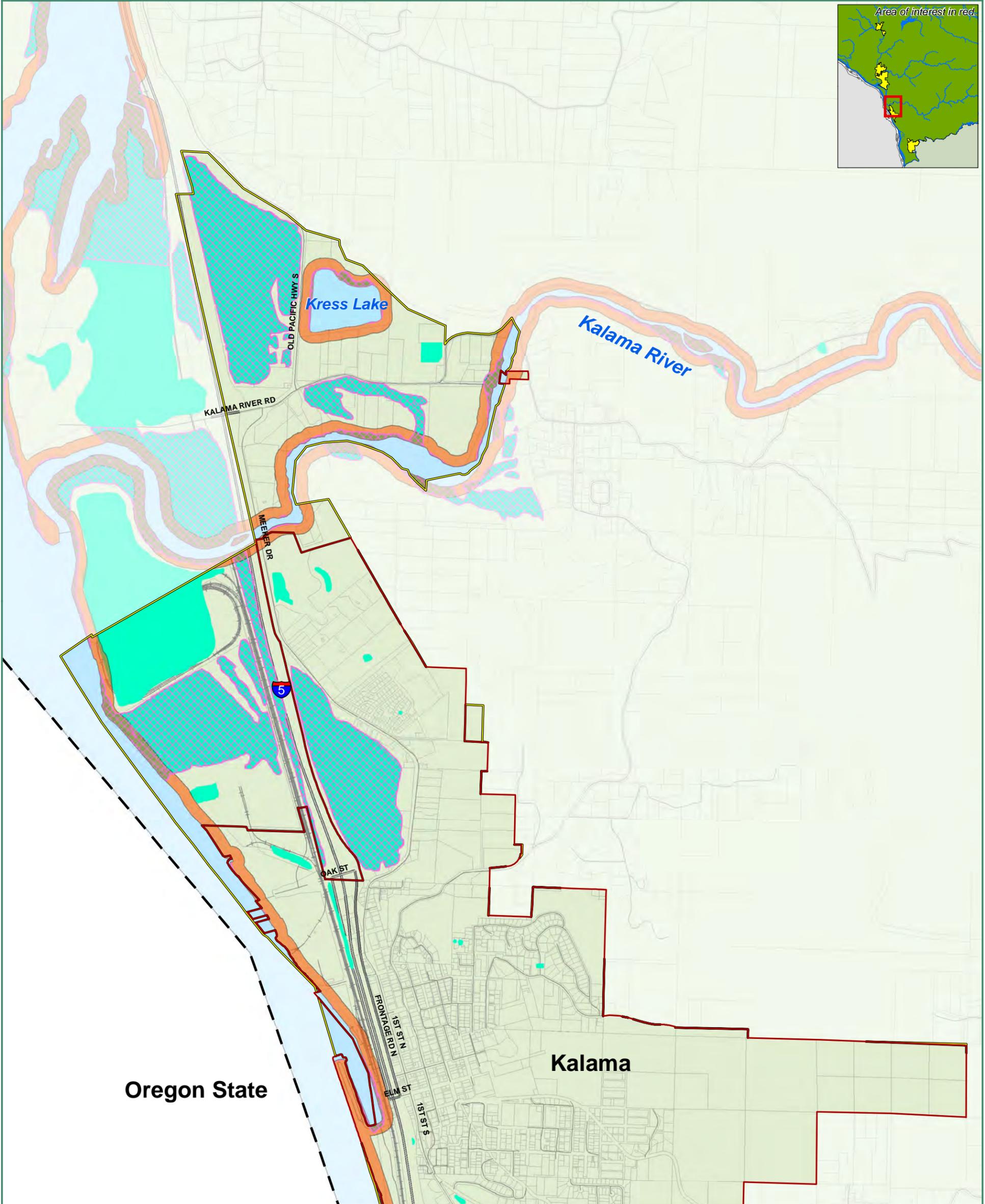
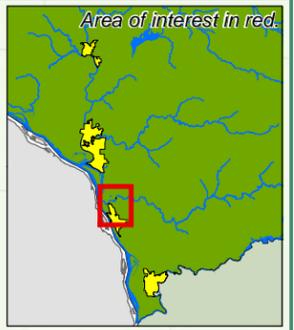


- NWI Wetland
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

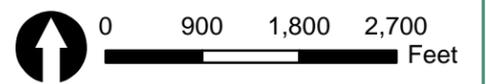


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Data source:  
Cowlitz County, CWCOG, US Fish and Wildlife, Department of Ecology, The Watershed Company.

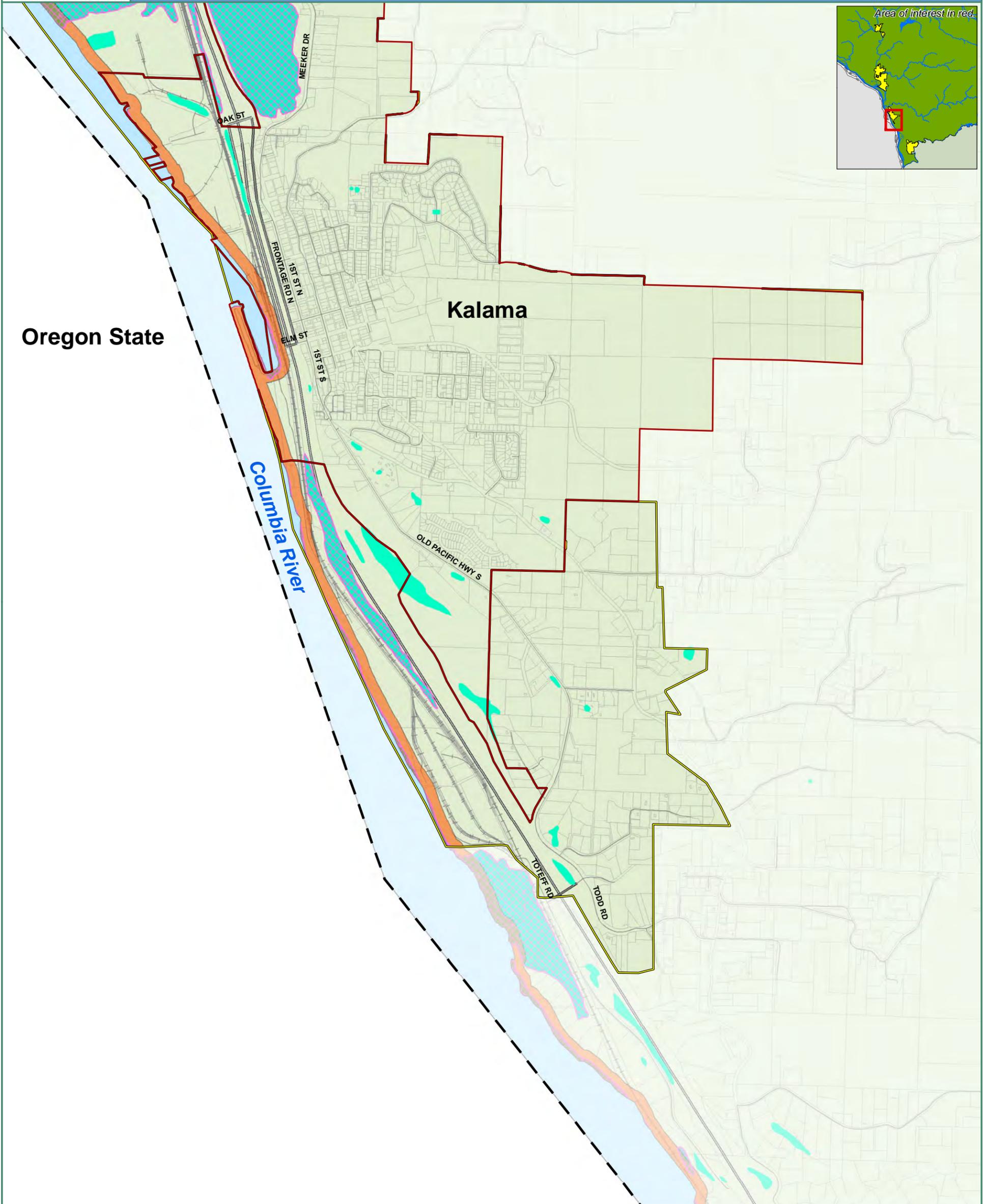


- NWI Wetland
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

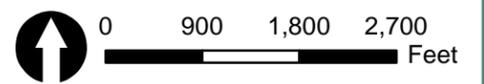


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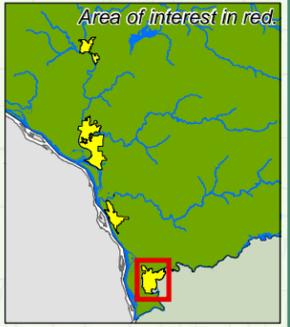
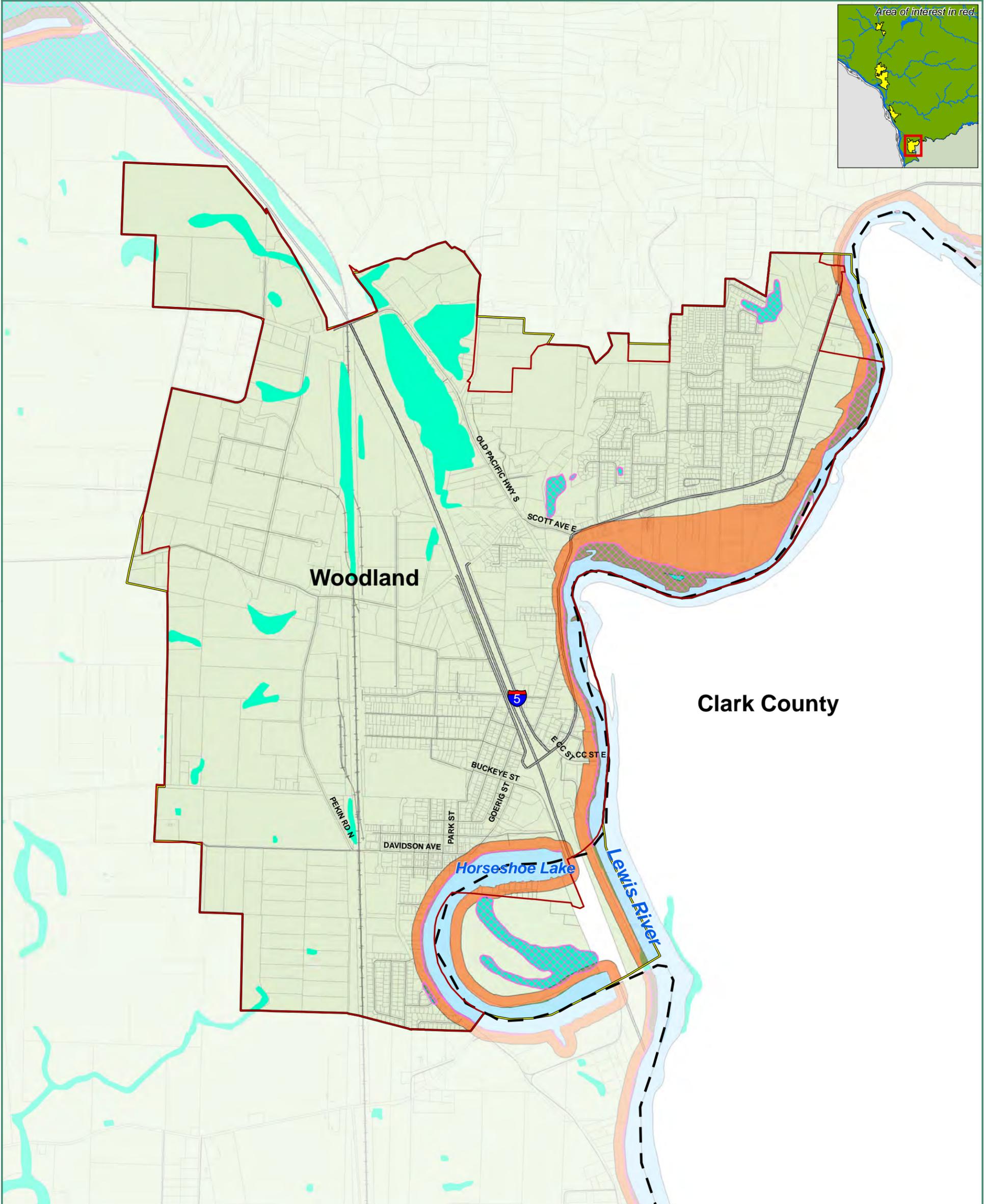


- NWI Wetland
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

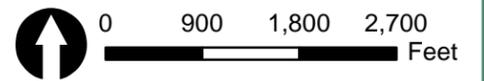


Original Scale=1:20,400 @ 11x17 layout.  
Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, US Fish and Wildlife, Department of Ecology, The Watershed Company.

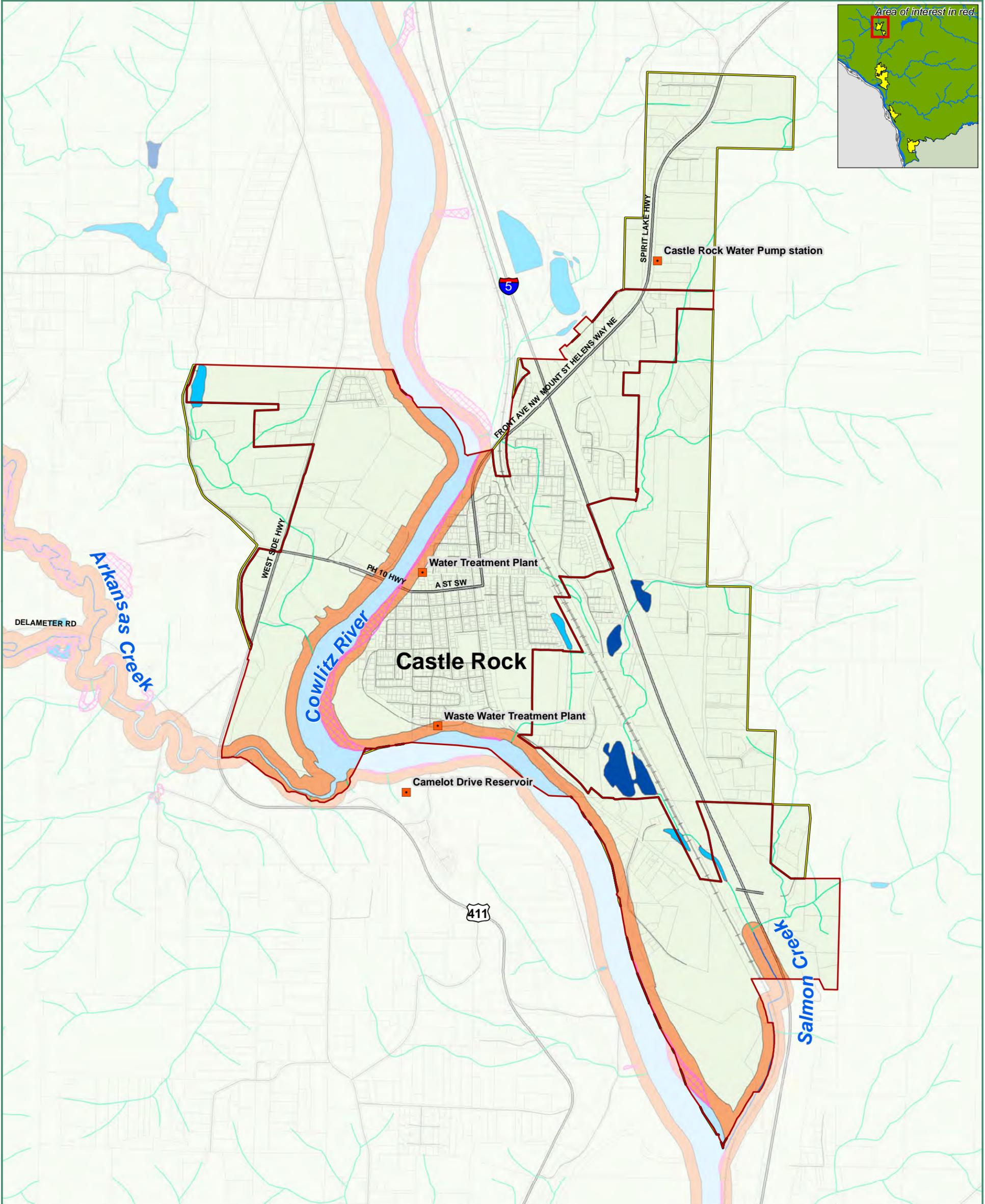


- NWI Wetland
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

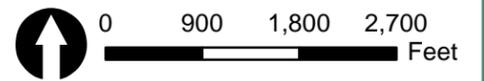


Original Scale=1:20,400 @ 11x17 layout.  
Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, US Fish and Wildlife, Department of Ecology, The Watershed Company.



|                     |                                   |                                  |
|---------------------|-----------------------------------|----------------------------------|
| <b>Watercourses</b> | <b>Waterbodies</b>                | <b>Water/Wastewater Location</b> |
| ~ Artificial/Path   | ■ Lake/Pond                       | ~ SMP Stream                     |
| ~ Canal/Ditch       | ■ Reservoir                       | ■ SMP Waterbody                  |
| ~ Connector         | ■ Proposed Shoreline Jurisdiction | ■ Potentially Associated Wetland |
| ~ Stream/River      | ■ City Boundary                   | ■ UGA/UGB/PAB                    |
|                     | ■ County Boundary                 |                                  |

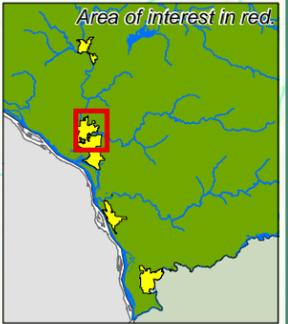
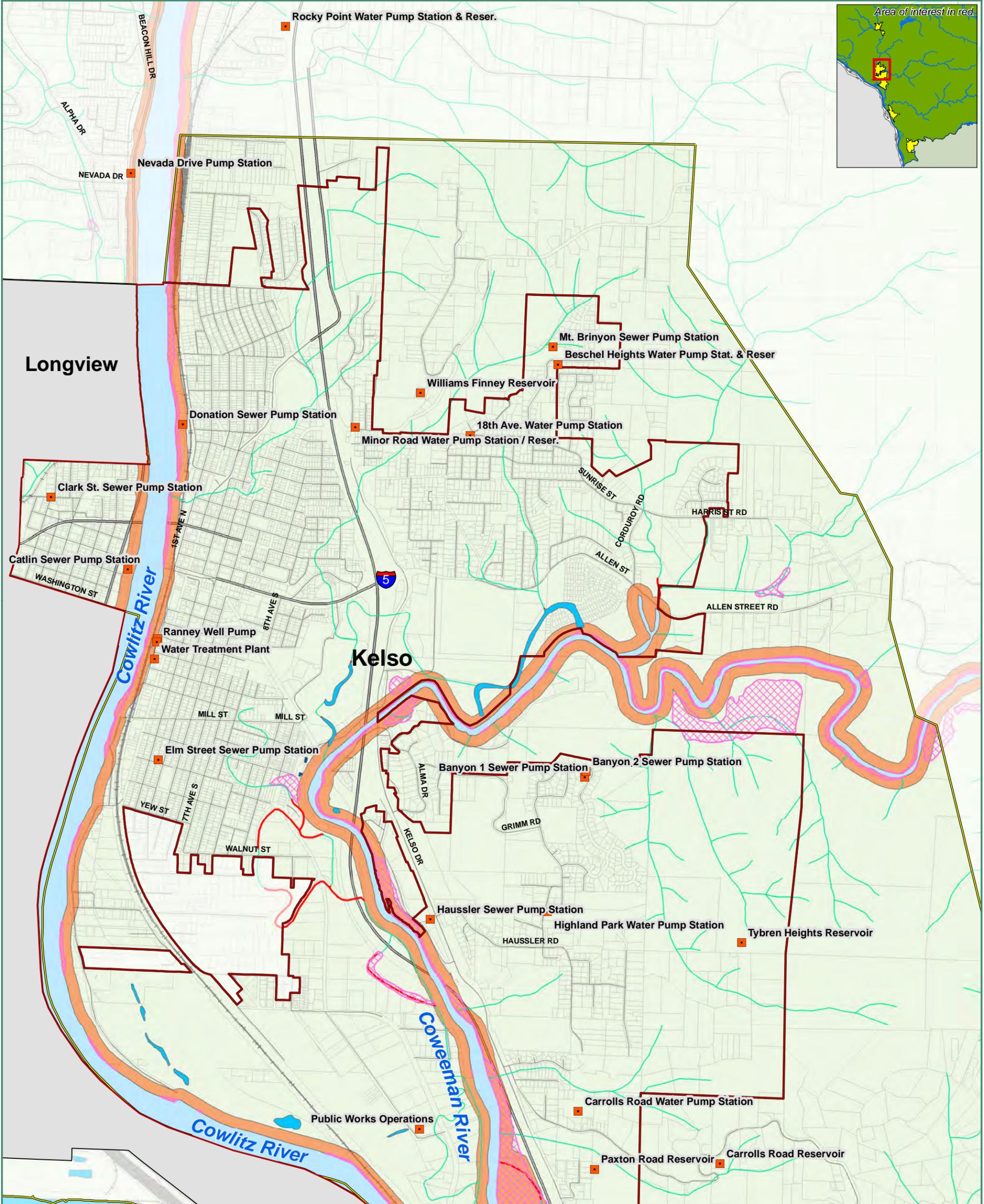


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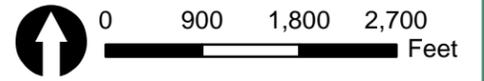
Data source:  
Cowlitz County, CWCOG, USGS NHD,  
Department of Ecology, The Watershed  
Company.

FIGURE 13. SURFACE WATER SYSTEM

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- |                     |                    |                                   |
|---------------------|--------------------|-----------------------------------|
| <b>Watercourses</b> | <b>Waterbodies</b> | <b>Water/Wastewater Location</b>  |
| ~ Artificial/Path   | ■ Lake/Pond        | ~ SMP Stream                      |
| ~ Canal/Ditch       | ■ Reservoir        | ■ SMP Waterbody                   |
| ~ Connector         |                    | ■ Proposed Shoreline Jurisdiction |
| ~ Stream/River      |                    | ■ Potentially Associated Wetland  |
|                     |                    | ■ City Boundary                   |
|                     |                    | ■ UGA/UGB/PAB                     |
|                     |                    | └┘ County Boundary                |

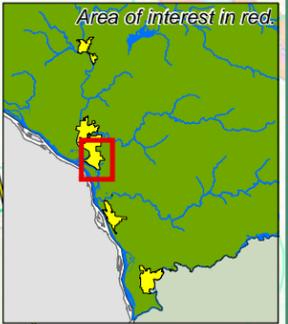
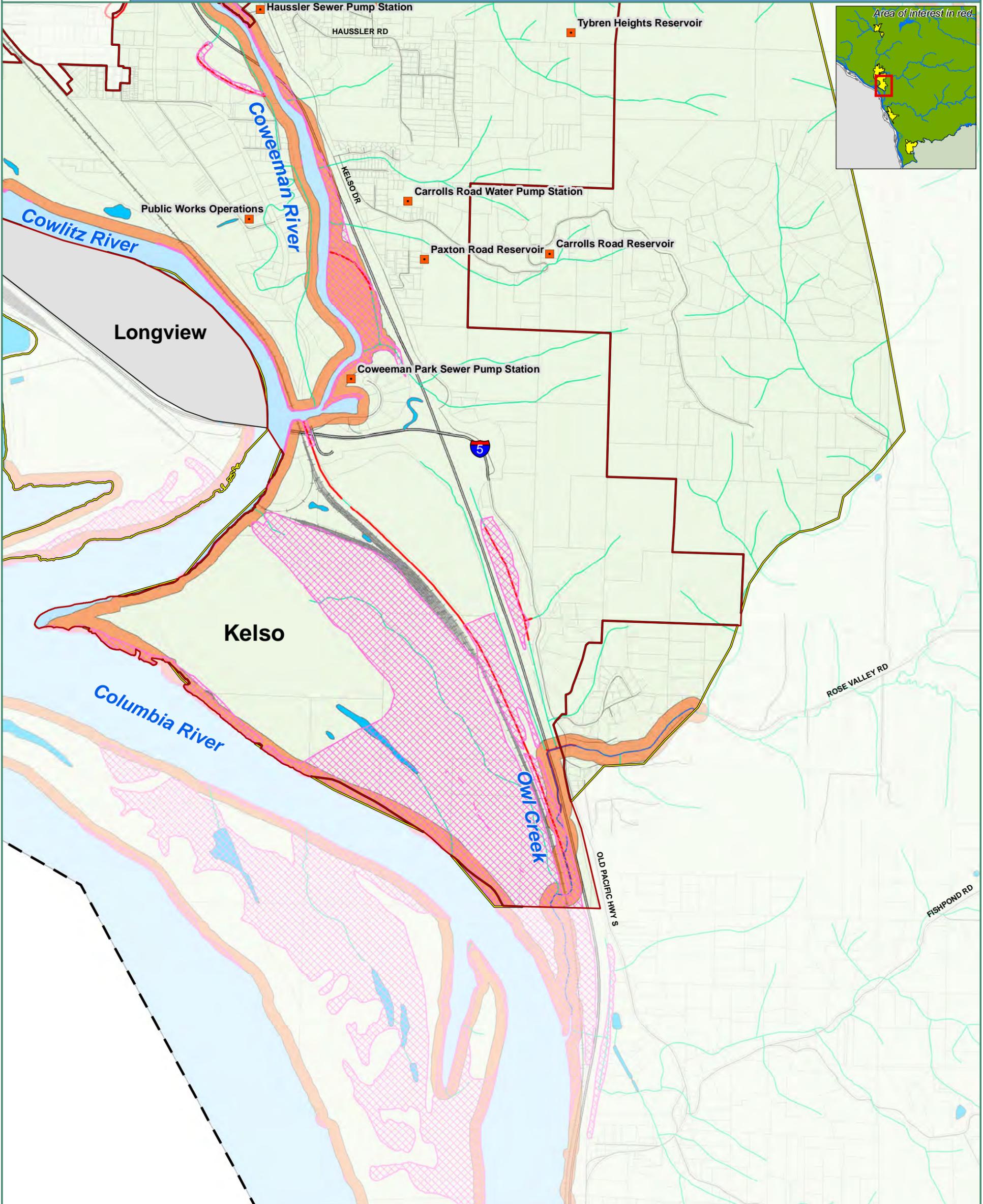


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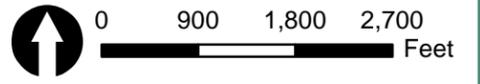
Data source:  
Cowlitz County, CWCOG, USGS NHD,  
Department of Ecology, The Watershed  
Company.

FIGURE 13. SURFACE WATER SYSTEM

DRAFT



- |                     |                                   |                                  |
|---------------------|-----------------------------------|----------------------------------|
| <b>Watercourses</b> | <b>Waterbodies</b>                | <b>Water/Wastewater Location</b> |
| ~ Artificial/Path   | ■ Lake/Pond                       | ~ SMP Stream                     |
| ~ Canal/Ditch       | ■ Reservoir                       | ■ SMP Waterbody                  |
| ~ Connector         | ■ Proposed Shoreline Jurisdiction | ■ Potentially Associated Wetland |
| ~ Stream/River      | ■ City Boundary                   | ■ UGA/UGB/PAB                    |
|                     | ■ County Boundary                 |                                  |

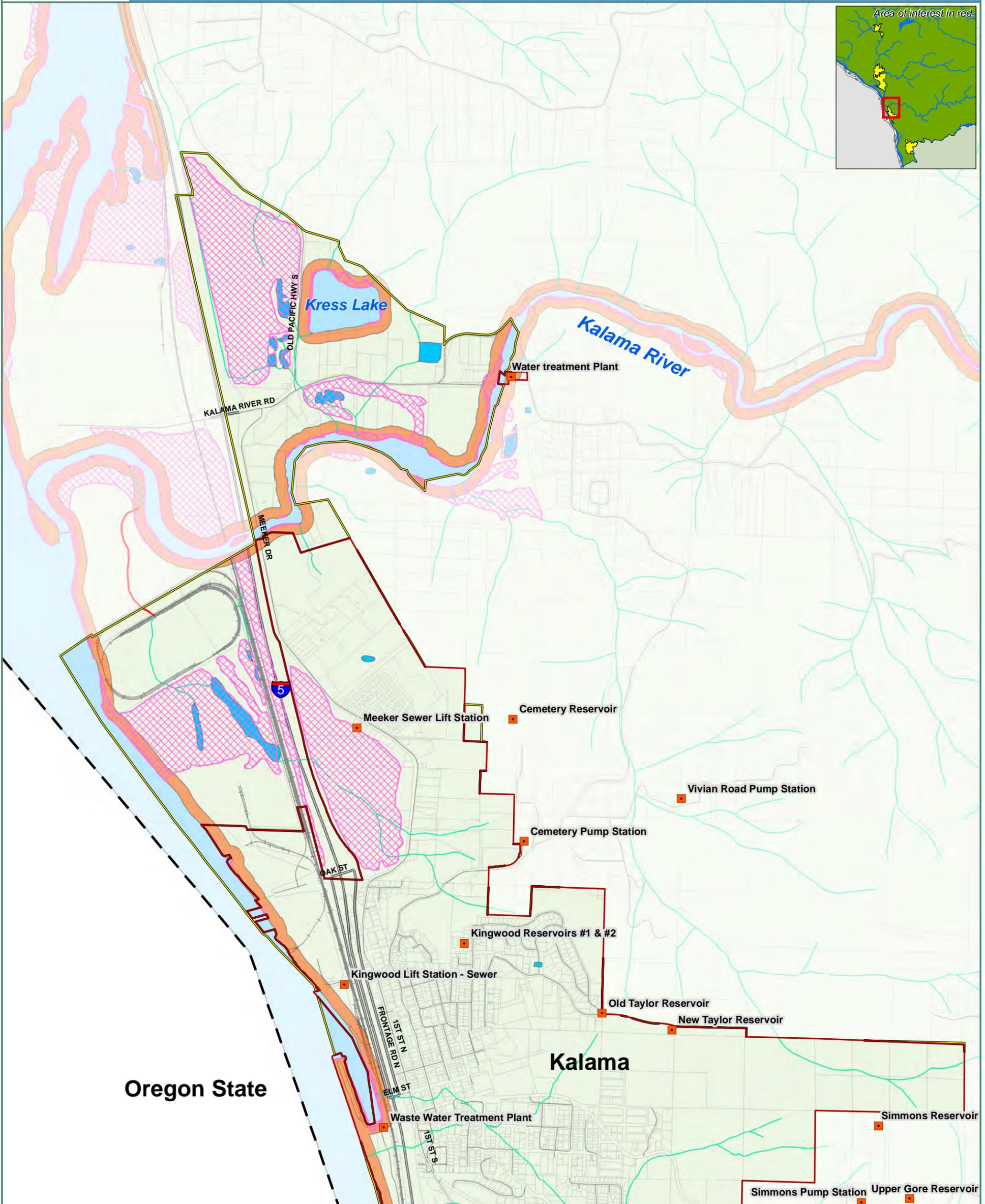
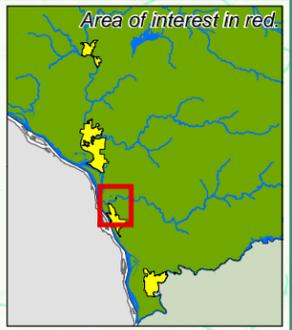


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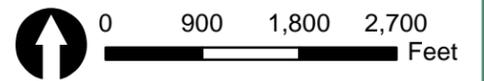
Data source:  
Cowlitz County, CWCOG, USGS NHD, Department of Ecology, The Watershed Company.

FIGURE 13. SURFACE WATER SYSTEM

DRAFT



- |                     |                                  |                                   |
|---------------------|----------------------------------|-----------------------------------|
| <b>Watercourses</b> | <b>Waterbodies</b>               | <b>Water/Wastewater Location</b>  |
| ~ Artificial/Path   | ■ Lake/Pond                      | ~ SMP Stream                      |
| ~ Canal/Ditch       | ■ Reservoir                      | ■ SMP Waterbody                   |
| ~ Connector         | ■ Potentially Associated Wetland | ■ Proposed Shoreline Jurisdiction |
| ~ Stream/River      | ■ City Boundary                  | ■ UGA/UGB/PAB                     |
|                     | ■ County Boundary                |                                   |

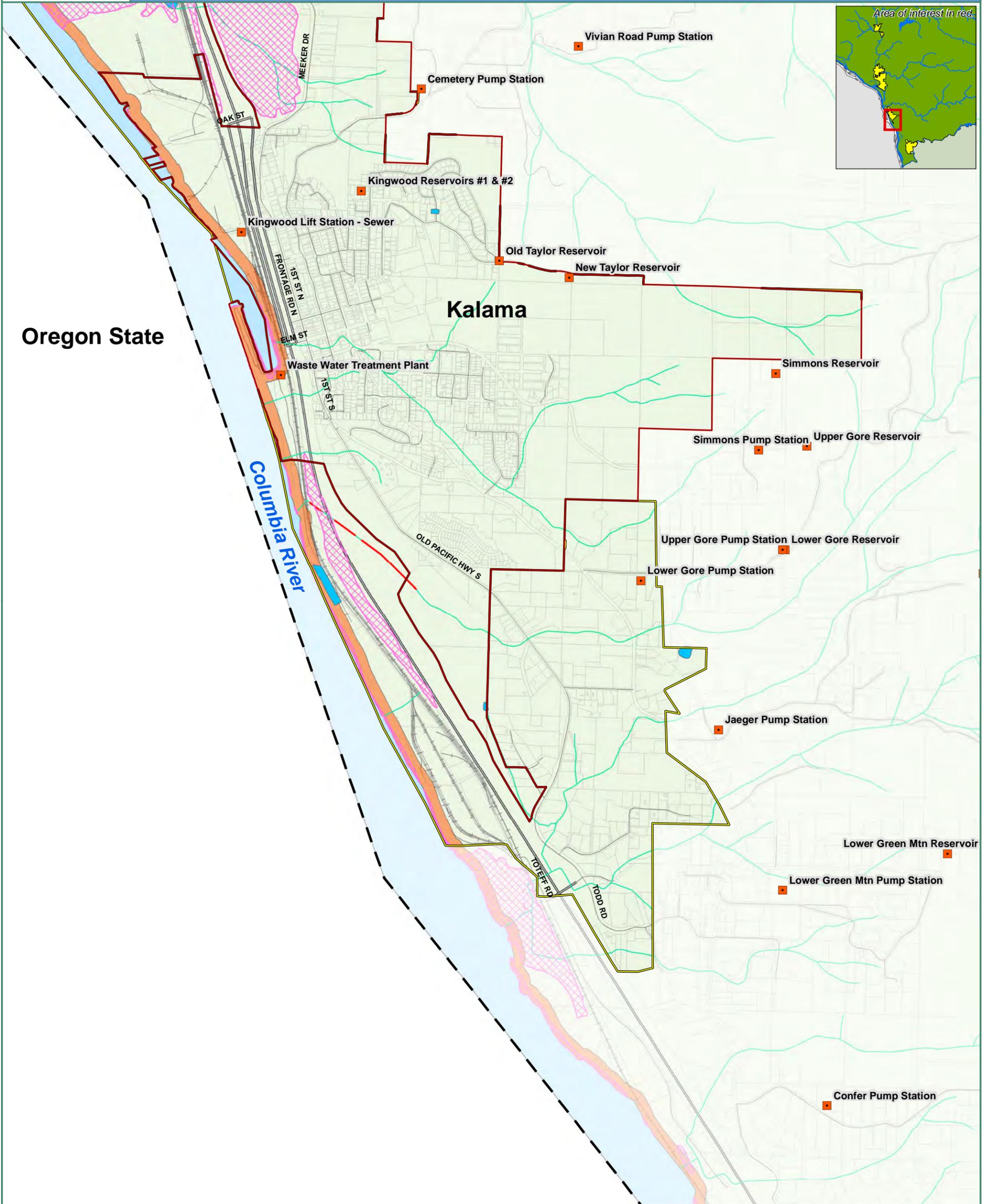


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Please scale accordingly.

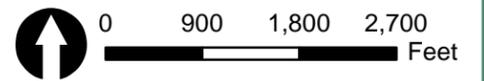
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Cowlitz County, CWCOG, USGS NHD,  
Department of Ecology, The Watershed  
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FIGURE 13. SURFACE WATER SYSTEM

DRAFT

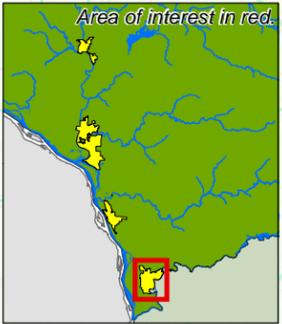
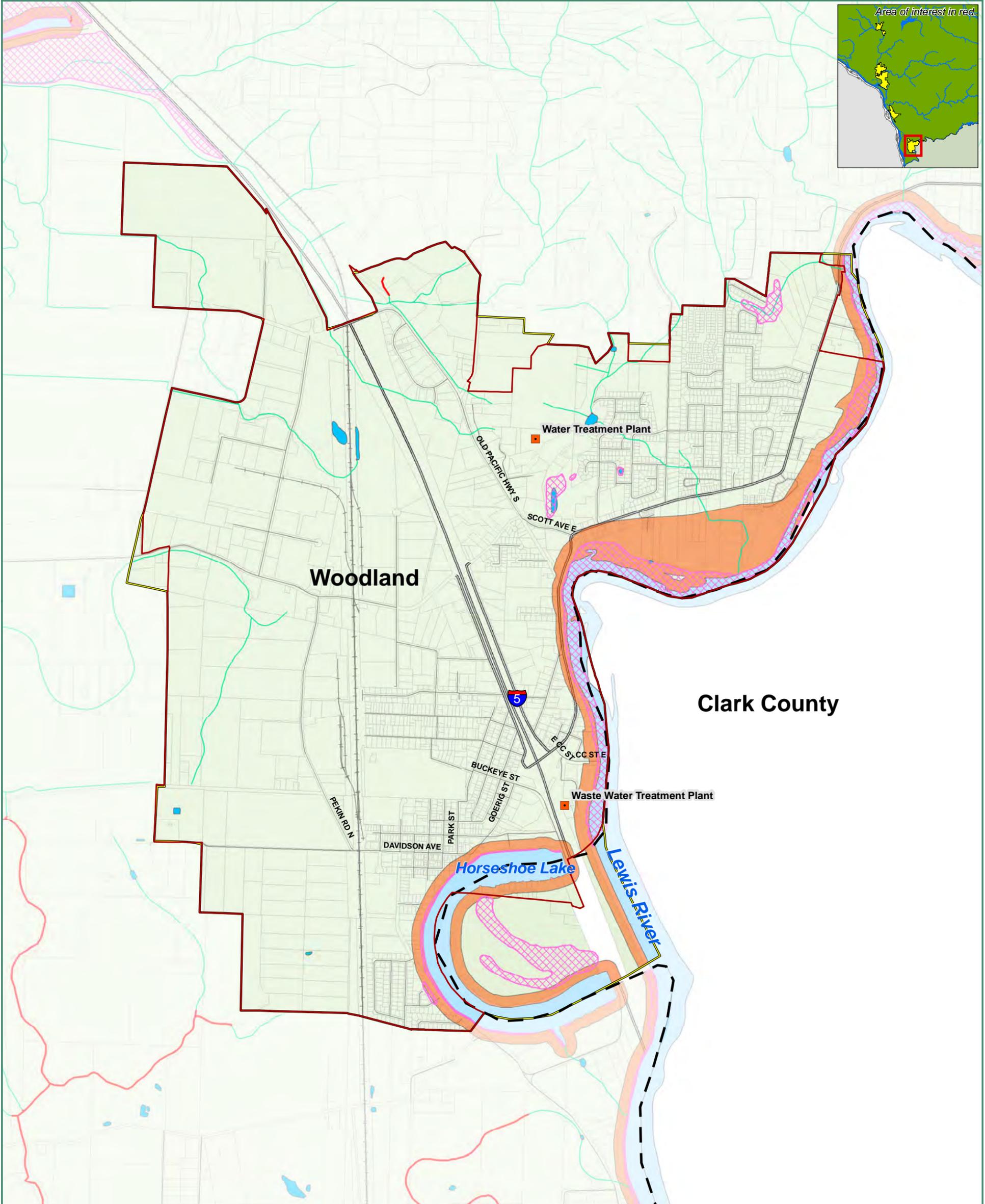


|                     |                                  |                                   |
|---------------------|----------------------------------|-----------------------------------|
| <b>Watercourses</b> | <b>Waterbodies</b>               | <b>Water/Wastewater Location</b>  |
| ~ Artificial/Path   | ■ Lake/Pond                      | ~ SMP Stream                      |
| ~ Canal/Ditch       | ■ Reservoir                      | ■ SMP Waterbody                   |
| ~ Connector         | ■ Potentially Associated Wetland | ■ Proposed Shoreline Jurisdiction |
| ~ Stream/River      | ■ City Boundary                  | ■ UGA/UGB/PAB                     |
|                     | ■ County Boundary                |                                   |

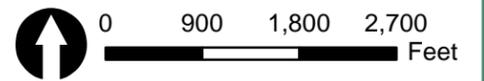


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Data source:  
Cowlitz County, CWCOG, USGS NHD,  
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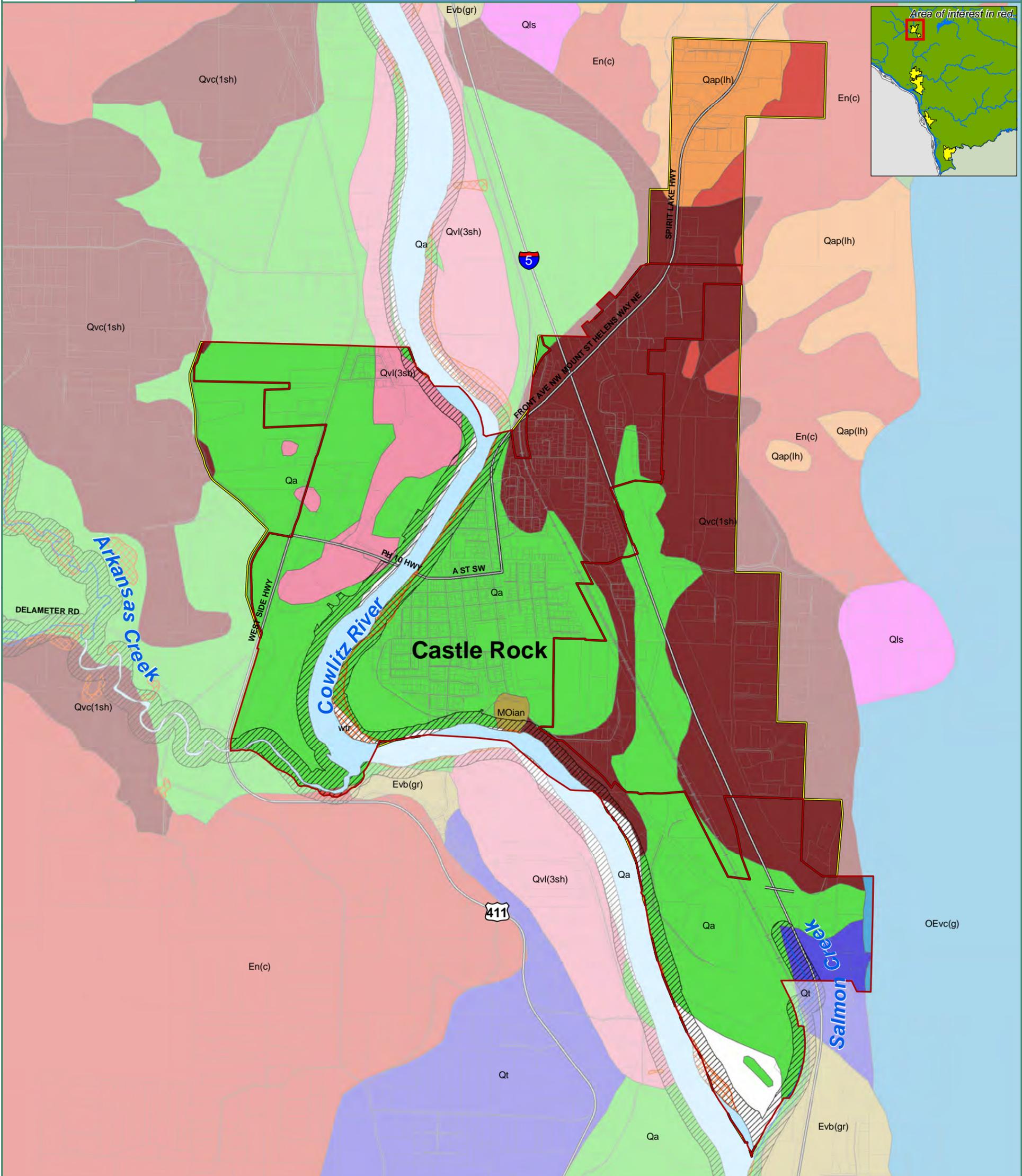


- |                     |                                   |                                  |
|---------------------|-----------------------------------|----------------------------------|
| <b>Watercourses</b> | <b>Waterbodies</b>                | <b>Water/Wastewater Location</b> |
| ~ Artificial/Path   | ■ Lake/Pond                       | ~ SMP Stream                     |
| ~ Canal/Ditch       | ■ Reservoir                       | ■ SMP Waterbody                  |
| ~ Connector         | ■ Proposed Shoreline Jurisdiction | ■ Potentially Associated Wetland |
| ~ Stream/River      | ■ City Boundary                   | ■ UGA/UGB/PAB                    |
|                     | ■ County Boundary                 |                                  |



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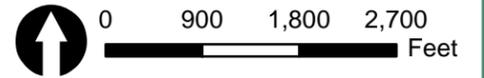


**Surficial Geology Units**

- En(c) - nearshore sedimentary rocks
- Evb(gr) - basalt flows
- MOian - intrusive andesite
- Mc(w) - continental sedimentary deposits or rocks
- OEva(g) - andesite flows
- OEvba(g) - basaltic andesite flows
- OEvc(1) - volcaniclastic deposits or rocks
- OEvc(g) - volcaniclastic deposits or rocks

- PLMc(t) - continental sedimentary deposits or rocks
- QMvb(t) - basalt flows
- Qa - alluvium
- Qap(lh) - alpine glacial drift, pre-Fraser
- Qfs - outburst flood deposits, sand and silt, late Wisconsinan
- Qls - mass-wasting deposits, mostly landslides
- Qt - terraced deposits
- Qvc(1sh) - volcaniclastic deposits or rocks

- Qvc(2sh) - volcaniclastic deposits or rocks
- Qvl(3sh) - lahars
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

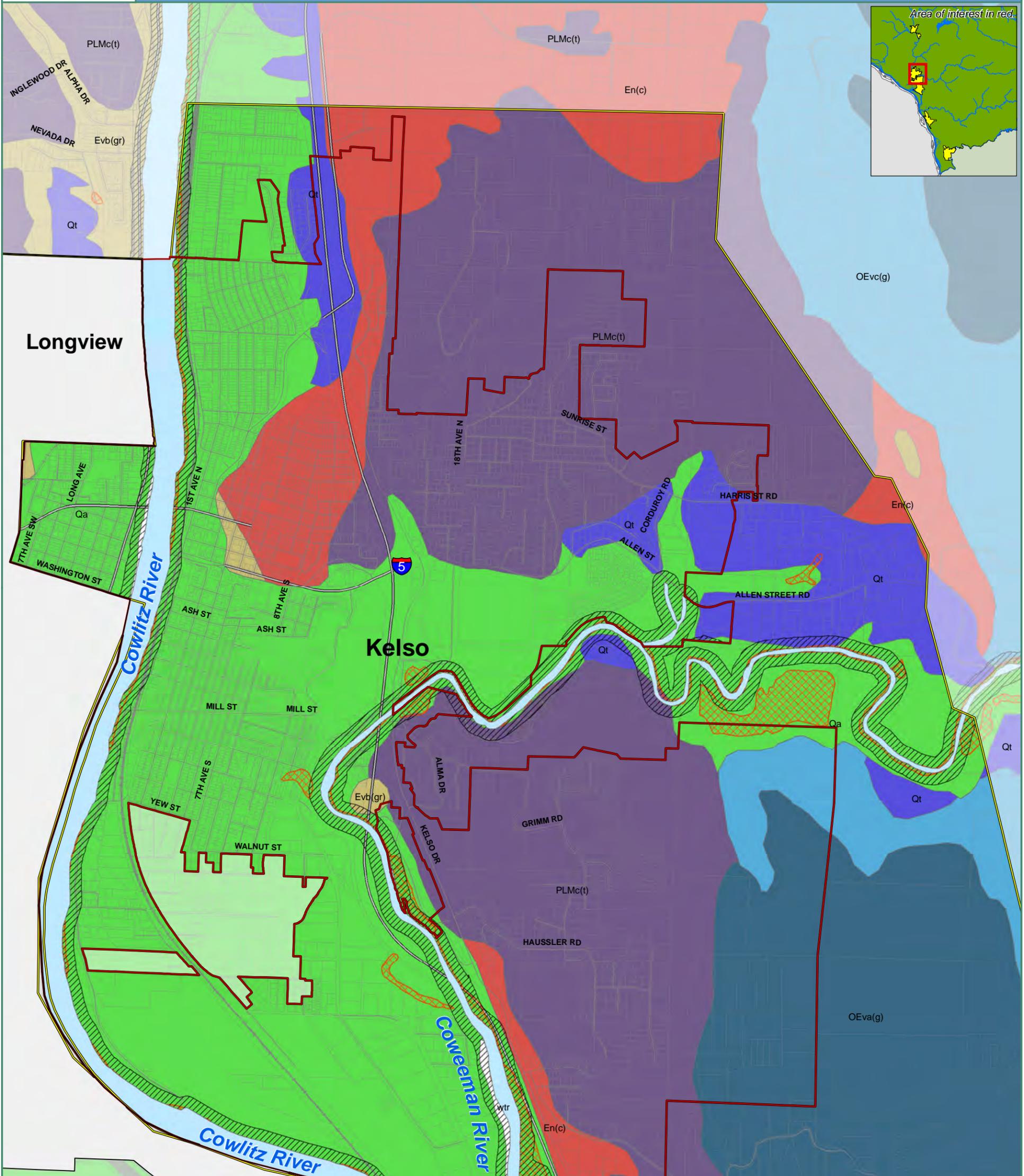


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Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Department of Natural Resources, Department of Ecology, The Watershed Company.

FIGURE 14. SURFICIAL GEOLOGY

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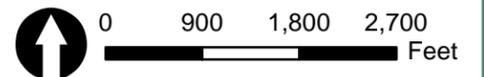


**Surficial Geology Units**

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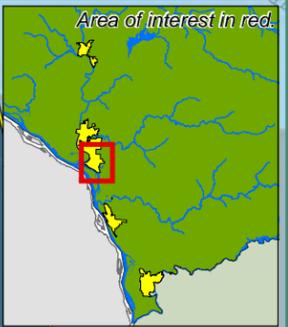
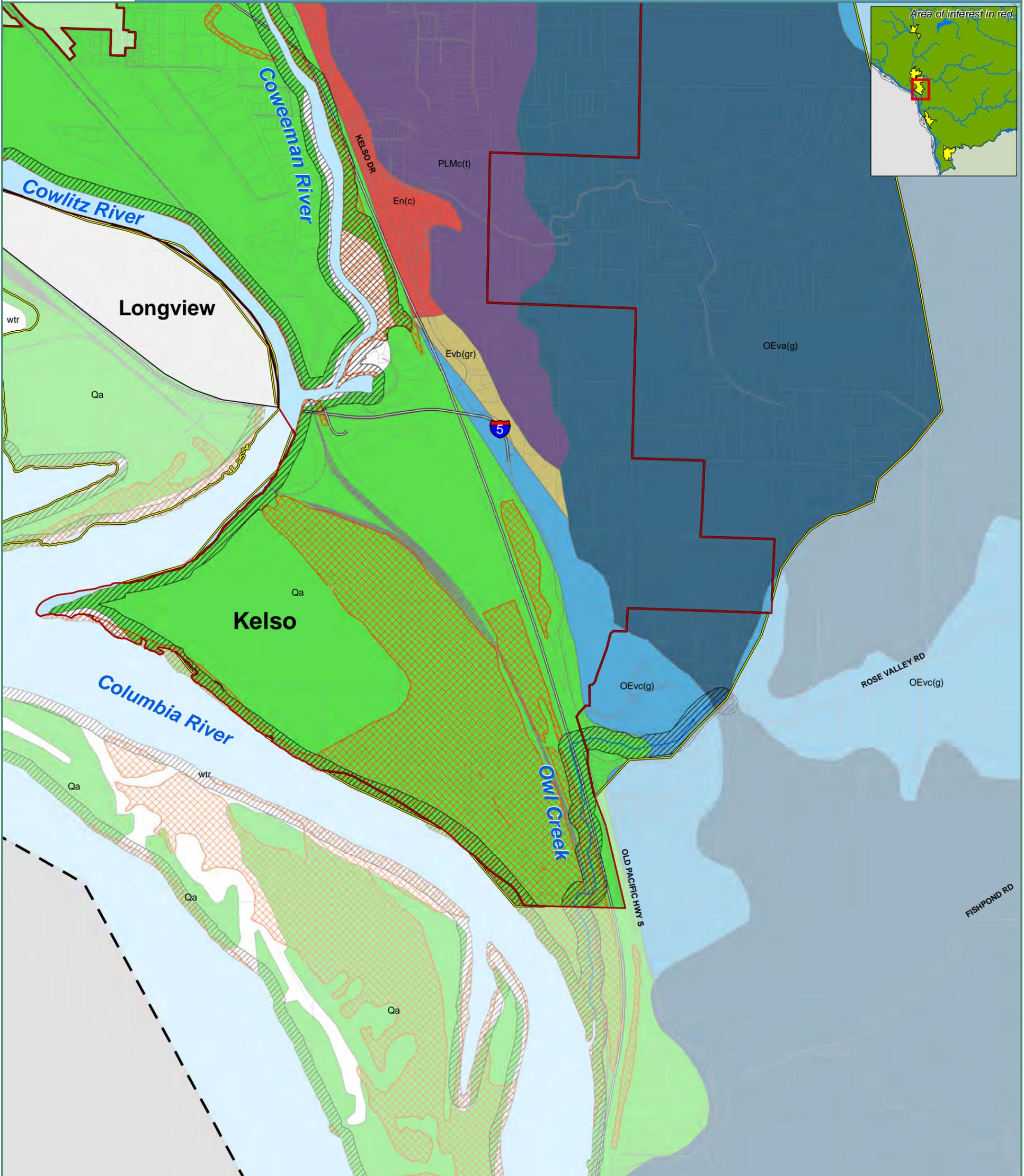


Original Scale=20,400 @ 11x17 layout. Please scale accordingly.

Data source: Cowlitz County, CWCOG, Department of Natural Resources, Department of Ecology, The Watershed Company.

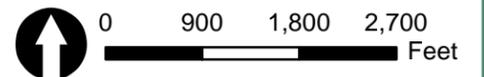
FIGURE 14. SURFICIAL GEOLOGY

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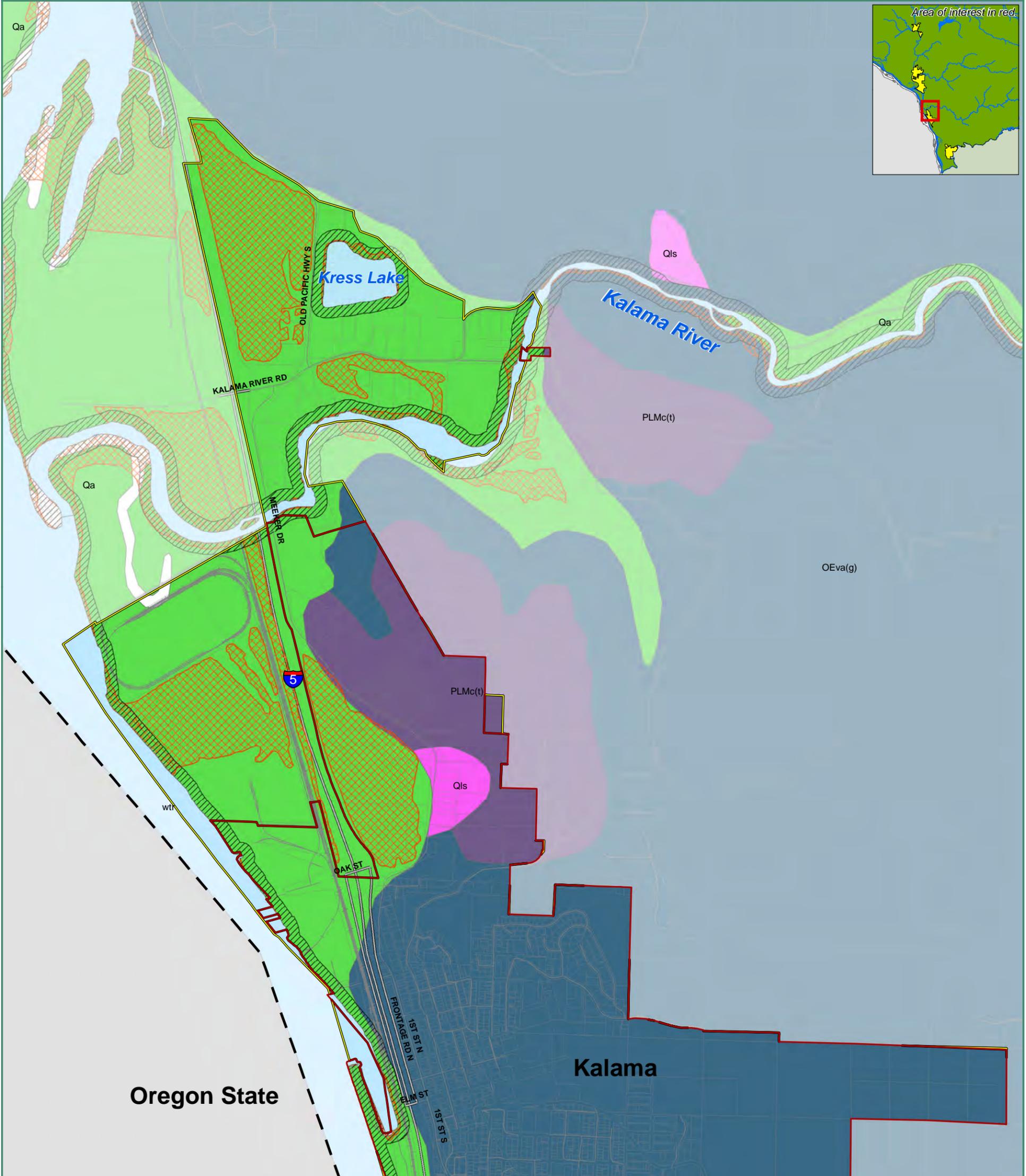
**Surficial Geology Units**

- |   |  |   |
|---|--|---|
| En(c) - nearshore sedimentary rocks               | PLMc(t) - continental sedimentary deposits or rocks            | Qvc(2sh) - volcanoclastic deposits or rocks |
| Evb(gr) - basalt flows                            | QMvb(t) - basalt flows   | Qvl(3sh) - lahars                           |
| MOian - intrusive andesite                        | Qa - alluvium  | SMP Stream                                  |
| Mc(w) - continental sedimentary deposits or rocks | Qap(lh) - alpine glacial drift, pre-Fraser                     | SMP Waterbody                               |
| OEva(g) - andesite flows                          | Qfs - outburst flood deposits, sand and silt, late Wisconsinan | Proposed Shoreline Jurisdiction             |
| OEvba(g) - basaltic andesite flows                | Qls - mass-wasting deposits, mostly landslides                 | Potentially Associated Wetland              |
| OEvc(1) - volcanoclastic deposits or rocks        | Qt - terraced deposits   | City Boundary                               |
| OEvc(g) - volcanoclastic deposits or rocks        | Qvc(1sh) - volcanoclastic deposits or rocks                    | UGA/UGB/PAB                                 |
|   |  | County Boundary                             |



Original Scale=20,400 @ 11x17 layout.  
Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Department of Natural Resources, Department of Ecology, The Watershed Company.

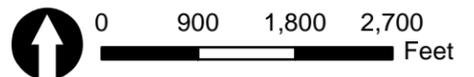


**Surficial Geology Units**

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- MOian - intrusive andesite
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- OEv(1) - volcaniclastic deposits or rocks
- OEv(g) - volcaniclastic deposits or rocks

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- County Boundary

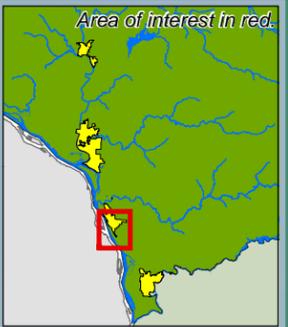
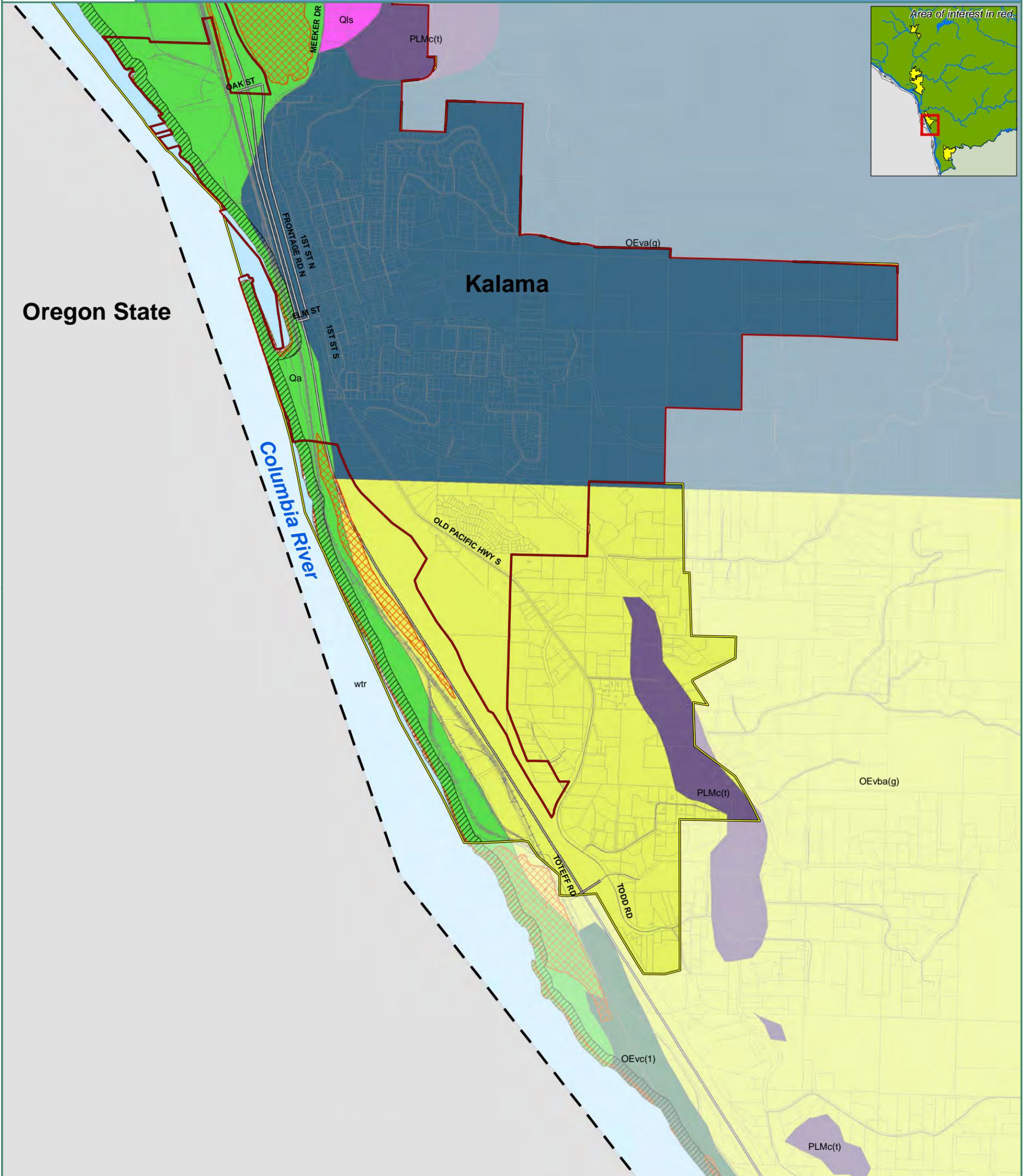


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Data source: Cowlitz County, CWCOG, Department of Natural Resources, Department of Ecology, The Watershed Company.

FIGURE 14. SURFICIAL GEOLOGY

DRAFT

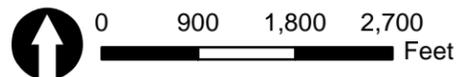


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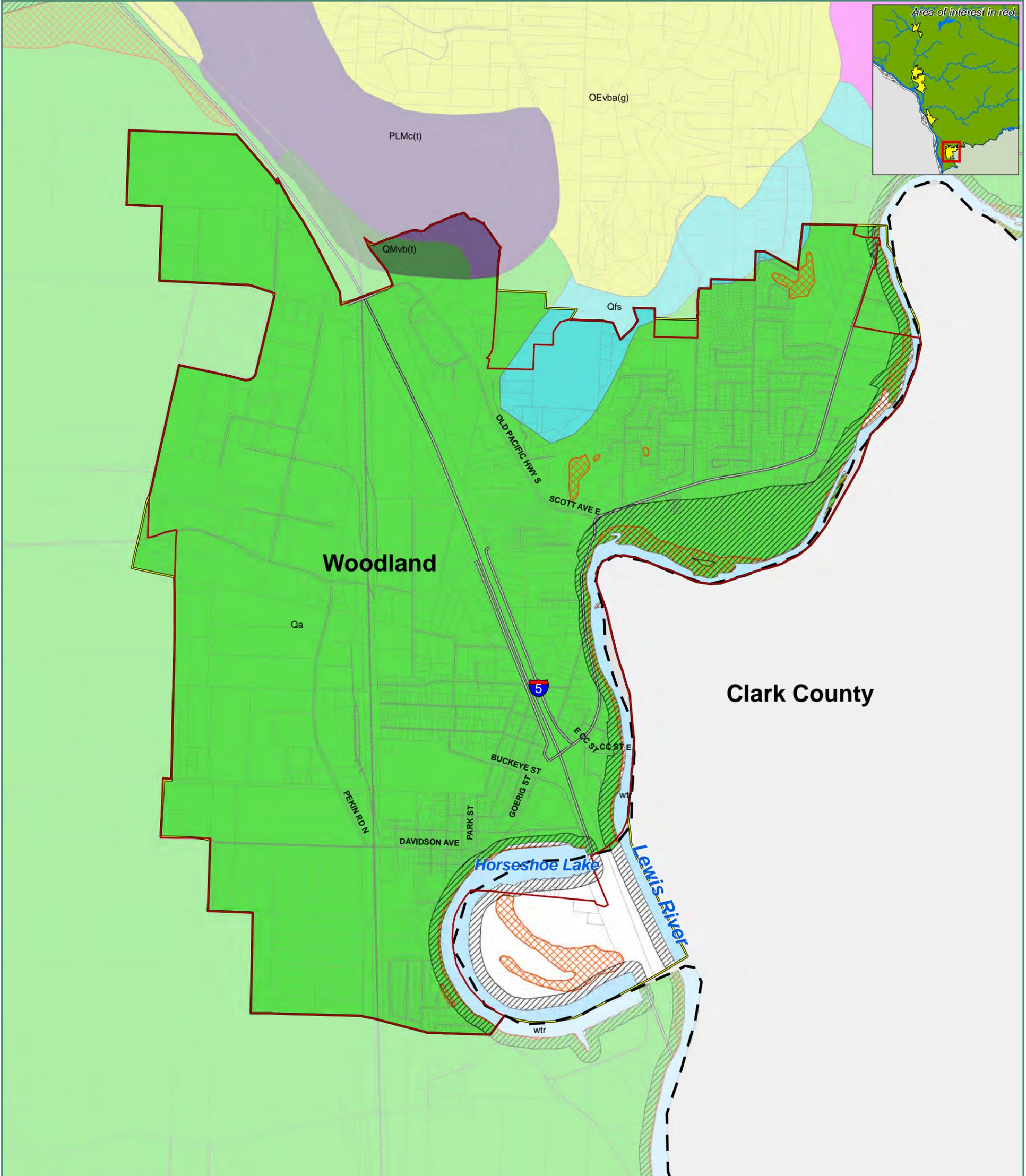
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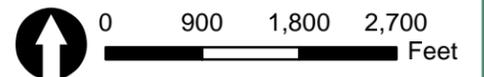


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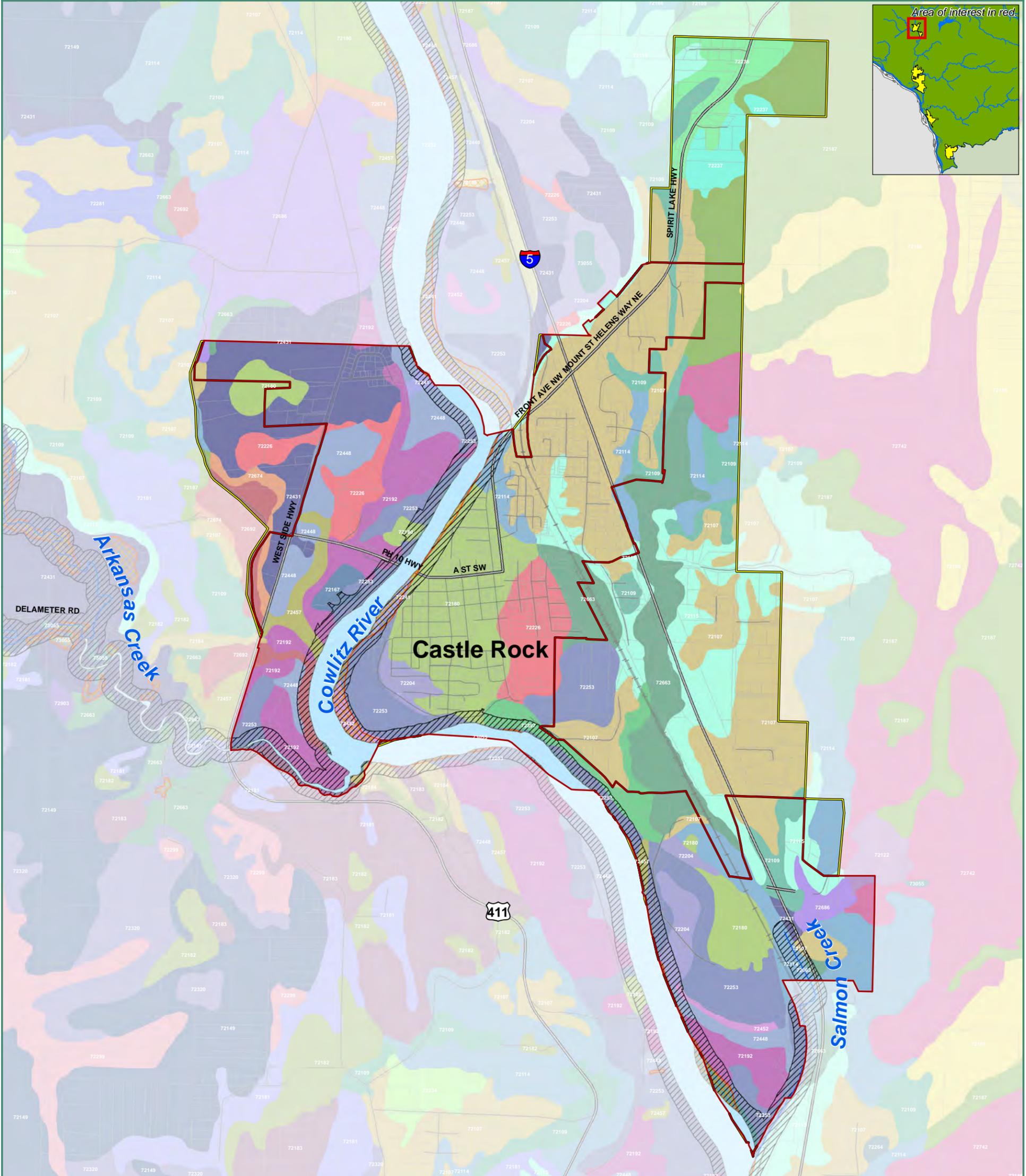
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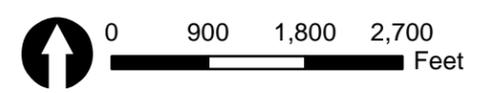
**SSURGO Soils**

- 72107 - Kelso silt loam, 0 to 8 percent slopes
- 72109 - Kelso silt loam, 8 to 15 percent slopes
- 72114 - Kelso silt loam, 15 to 30 percent slopes
- 72157 - Mart silt loam, 8 to 20 percent slopes
- 72158 - Mart silt loam, 20 to 30 percent slopes
- 72160 - Maytown silt loam, 0 to 3 percent slopes

- 72180 - Newberg fine sandy loam, 0 to 3 percent slopes
- 72204 - Pilchuck loamy fine sand, 0 to 8 percent slopes
- 72205 - Pits
- 72226 - Caples silty clay loam, 0 to 3 percent slopes
- 72232 - Riverwash
- 72254 - Schneider-Rock outcrop complex, 15 to 65 percent slopes
- 72283 - Stella silt loam, 15 to 30 percent slopes

- 72431 - Clato silt loam, 0 to 3 percent slopes
- 72482 - Dobbs gravelly silt loam, 30 to 65 percent slopes
- 72663 - Godfrey silt loam, 0 to 3 percent slopes
- 72692 - Greenwater fine sandy loam, 0 to 8 percent slopes
- 72741 - Hazeldell gravelly silt loam, 20 to 30 percent slopes
- 72903 - Kalama gravelly loam, 30 to 60 percent slopes
- 73055 - Water
- SMP Stream
- SMP Waterbody

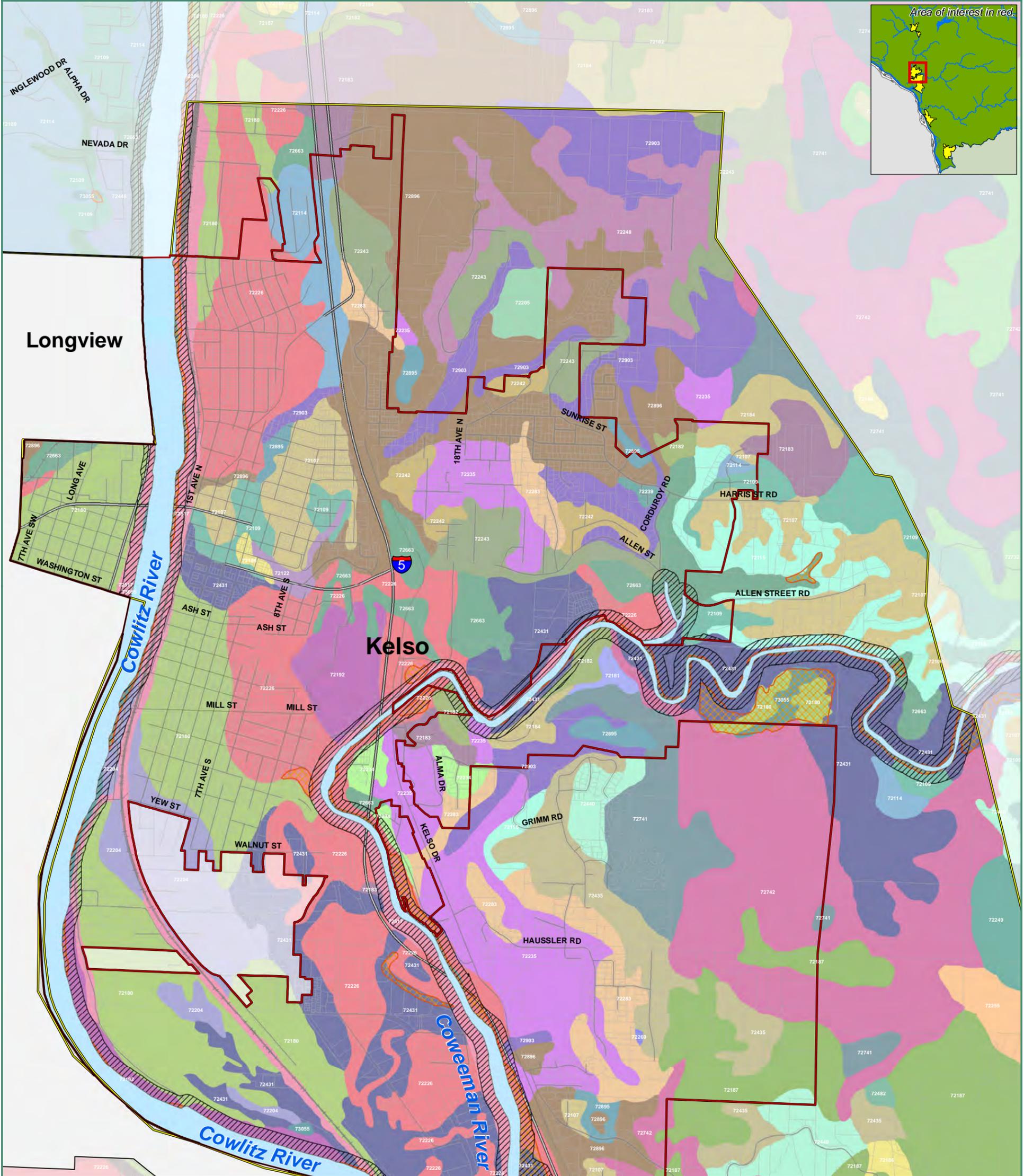
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary



Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source: Cowlitz County, CWCOG, Natural Resources Conservation Service, Department of Ecology, The Watershed Company.

Date: 4/10/2014  
Name: Fig15\_soils\_cities



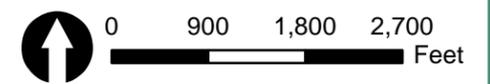
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- 72114 - Kelso silt loam, 15 to 30 percent slopes
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- 72158 - Mart silt loam, 20 to 30 percent slopes
- 72160 - Maytown silt loam, 0 to 3 percent slopes

- 72180 - Newberg fine sandy loam, 0 to 3 percent slopes
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- 72205 - Pits
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- 73055 - Water
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- SMP Waterbody

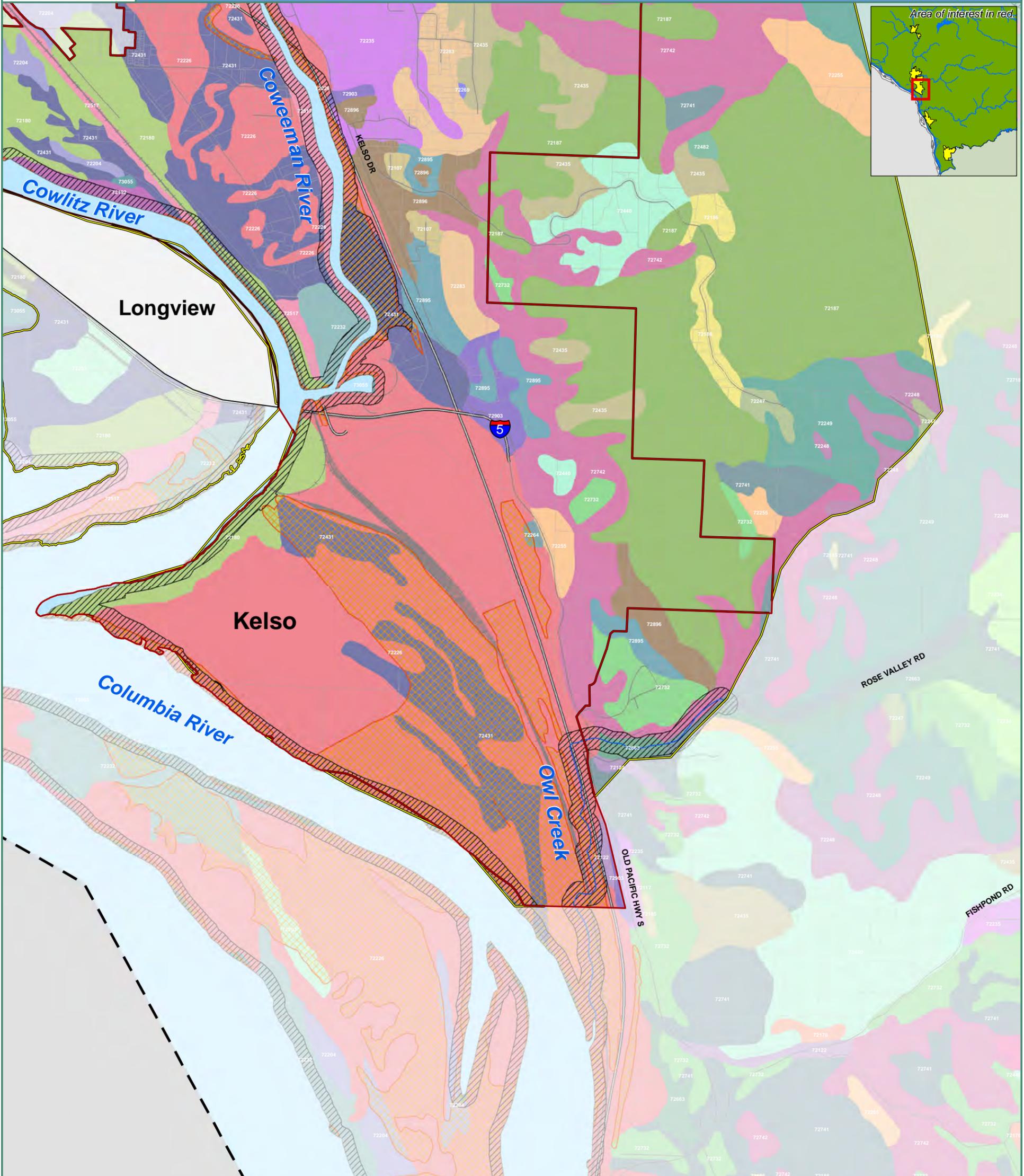
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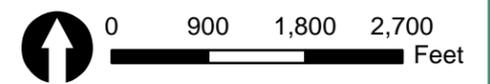
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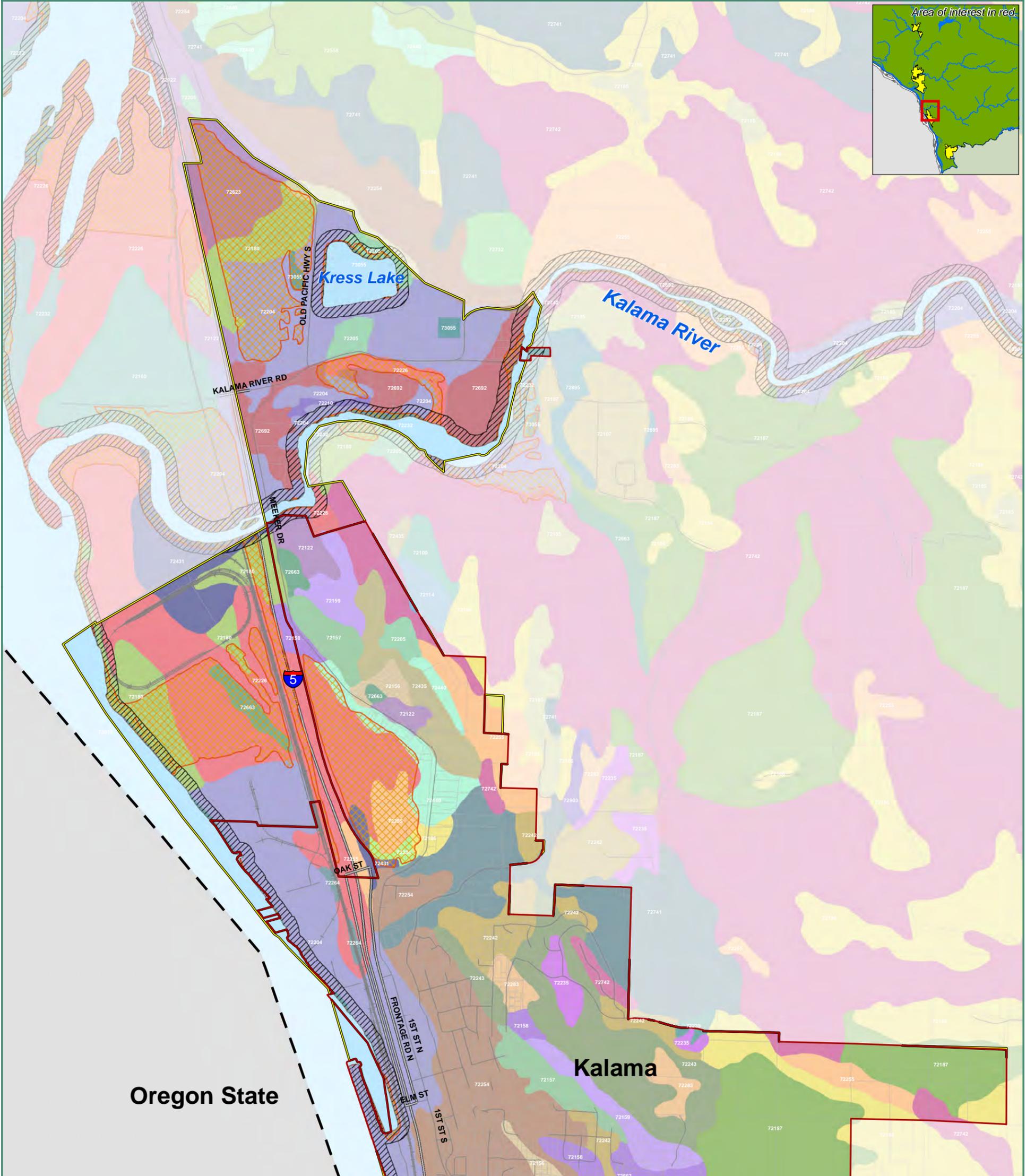
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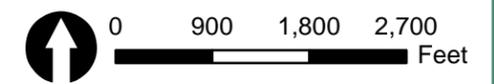
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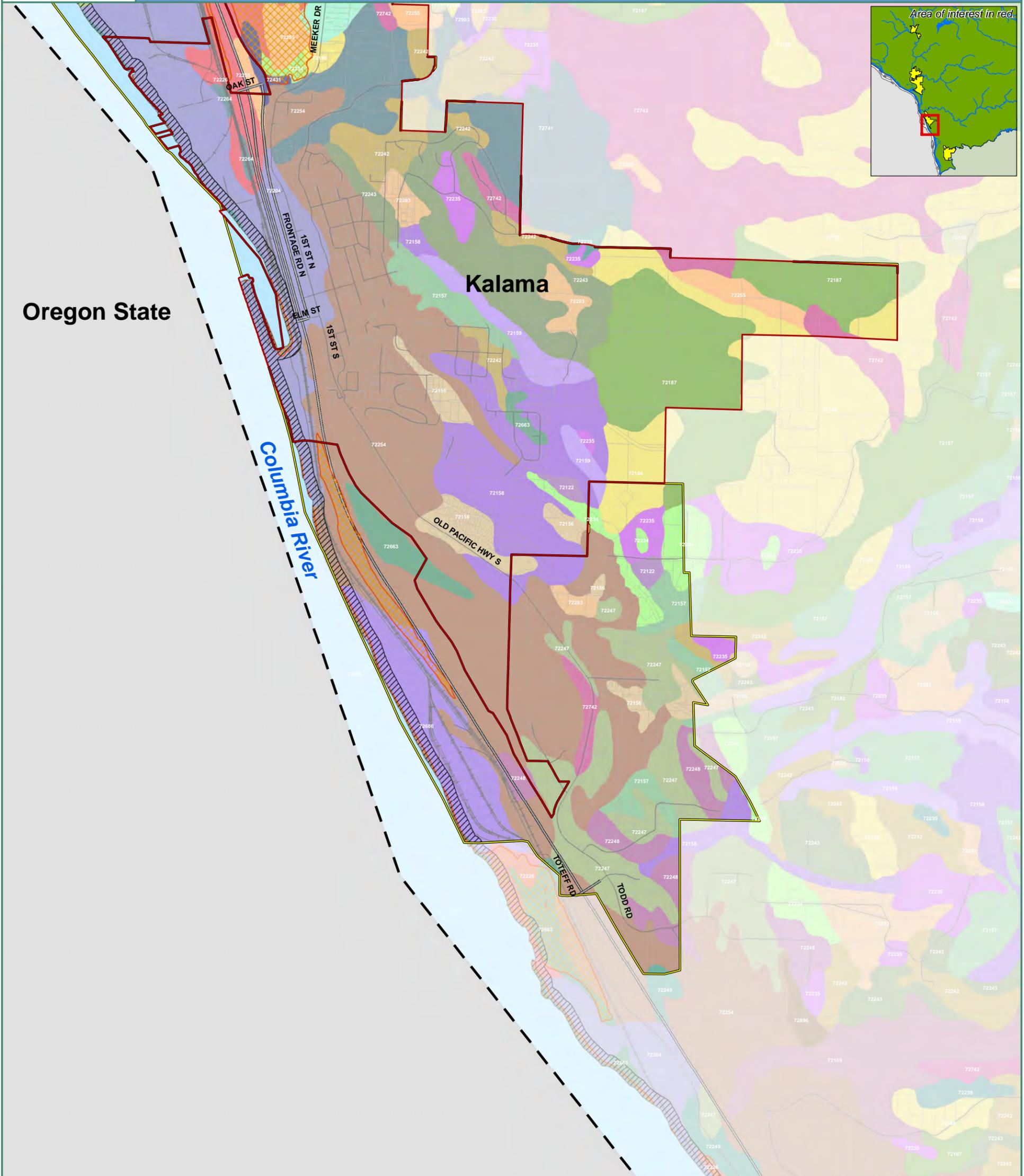
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- UGA/UGB/PAB
- County Boundary



Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Natural Resources Conservation Service, Department of Ecology, The Watershed Company.

Date: 4/10/2014  
Name: Fig15\_soils\_cities



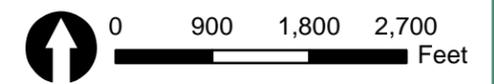
**SSURGO Soils**

- 72107 - Kelso silt loam, 0 to 8 percent slopes
- 72109 - Kelso silt loam, 8 to 15 percent slopes
- 72114 - Kelso silt loam, 15 to 30 percent slopes
- 72157 - Mart silt loam, 8 to 20 percent slopes
- 72158 - Mart silt loam, 20 to 30 percent slopes
- 72160 - Maytown silt loam, 0 to 3 percent slopes

- 72180 - Newberg fine sandy loam, 0 to 3 percent slopes
- 72204 - Pilchuck loamy fine sand, 0 to 8 percent slopes
- 72205 - Pits
- 72226 - Caples silty clay loam, 0 to 3 percent slopes
- 72232 - Riverwash
- 72254 - Schneider-Rock outcrop complex, 15 to 65 percent slopes
- 72283 - Stella silt loam, 15 to 30 percent slopes

- 72431 - Clato silt loam, 0 to 3 percent slopes
- 72482 - Dobbs gravelly silt loam, 30 to 65 percent slopes
- 72663 - Godfrey silt loam, 0 to 3 percent slopes
- 72692 - Greenwater fine sandy loam, 0 to 8 percent slopes
- 72741 - Hazeldell gravelly silt loam, 20 to 30 percent slopes
- 72903 - Kalama gravelly loam, 30 to 60 percent slopes
- 73055 - Water
- SMP Stream
- SMP Waterbody

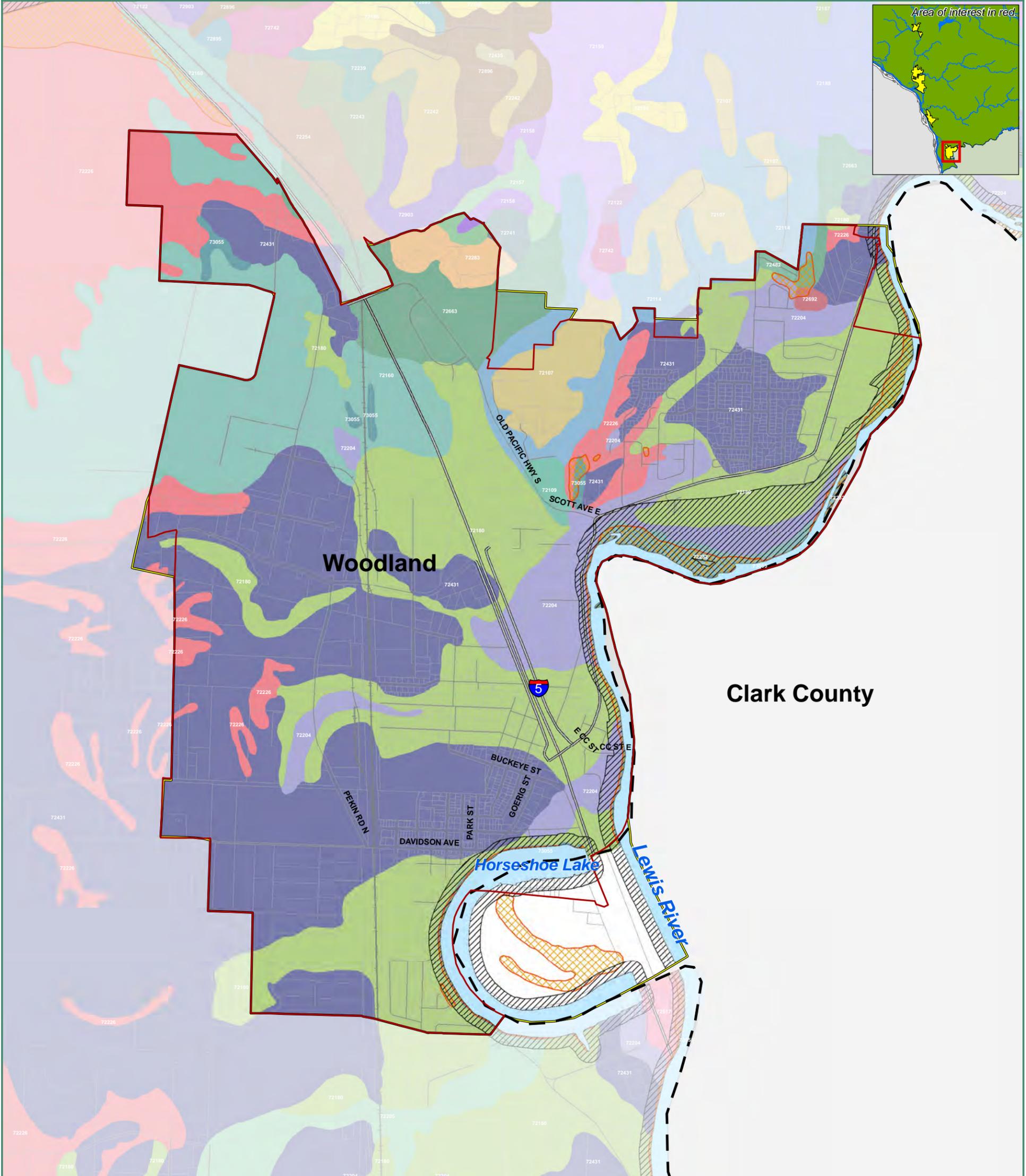
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary



Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Natural Resources Conservation Service, Department of Ecology, The Watershed Company.

Date: 4/10/2014  
Name: Fig15\_soils\_cities



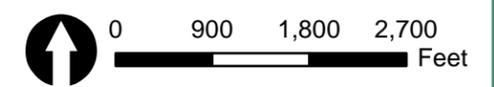
**SSURGO Soils**

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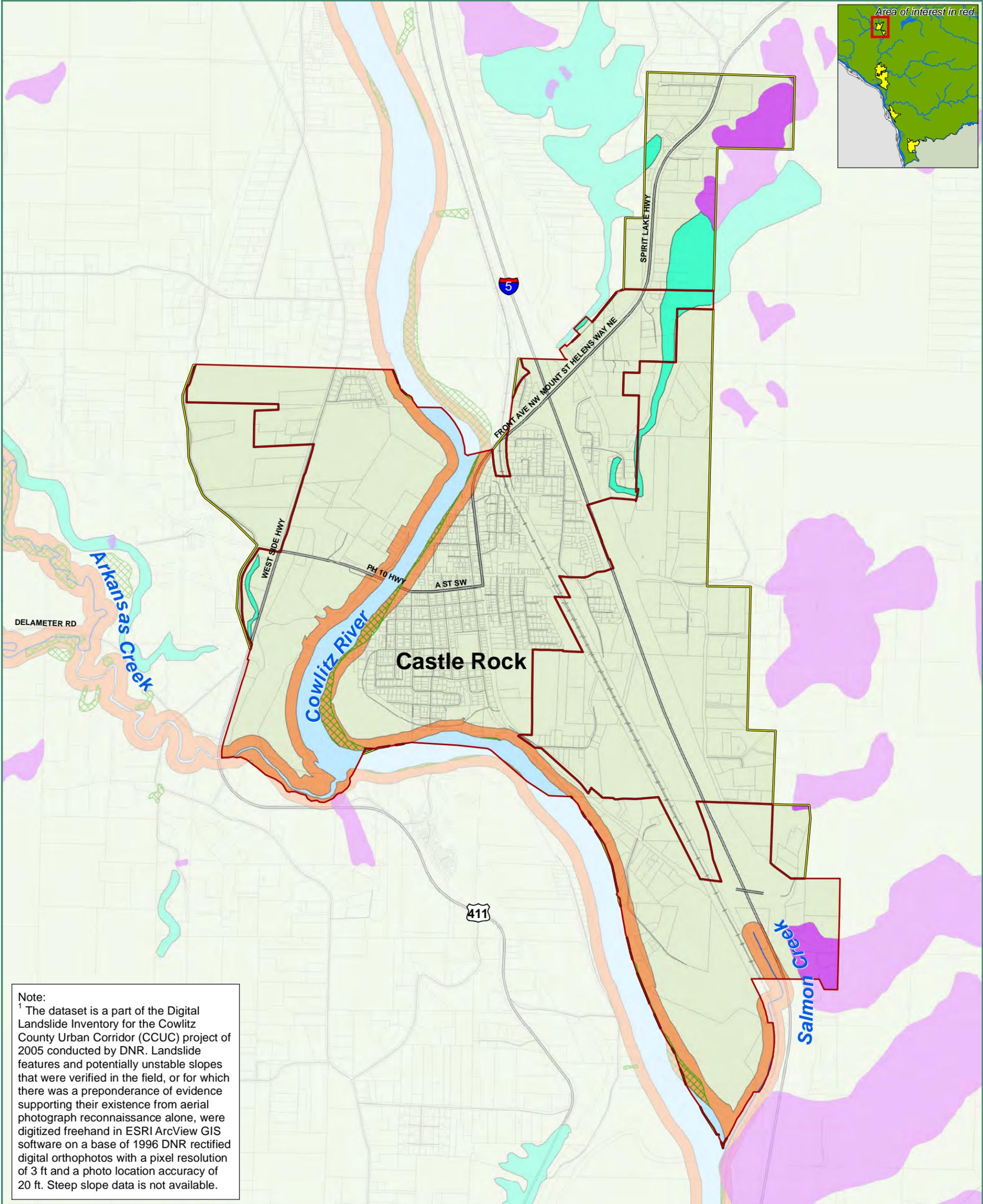
- Proposed Shoreline Jurisdiction
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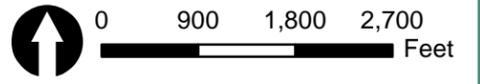
Data source:  
Cowlitz County, CWCOG, Natural Resources Conservation Service, Department of Ecology, The Watershed Company.

Date: 4/10/2014  
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Note:  
<sup>1</sup> The dataset is a part of the Digital Landslide Inventory for the Cowlitz County Urban Corridor (CCUC) project of 2005 conducted by DNR. Landslide features and potentially unstable slopes that were verified in the field, or for which there was a preponderance of evidence supporting their existence from aerial photograph reconnaissance alone, were digitized freehand in ESRI ArcView GIS software on a base of 1996 DNR rectified digital orthophotos with a pixel resolution of 3 ft and a photo location accuracy of 20 ft. Steep slope data is not available.

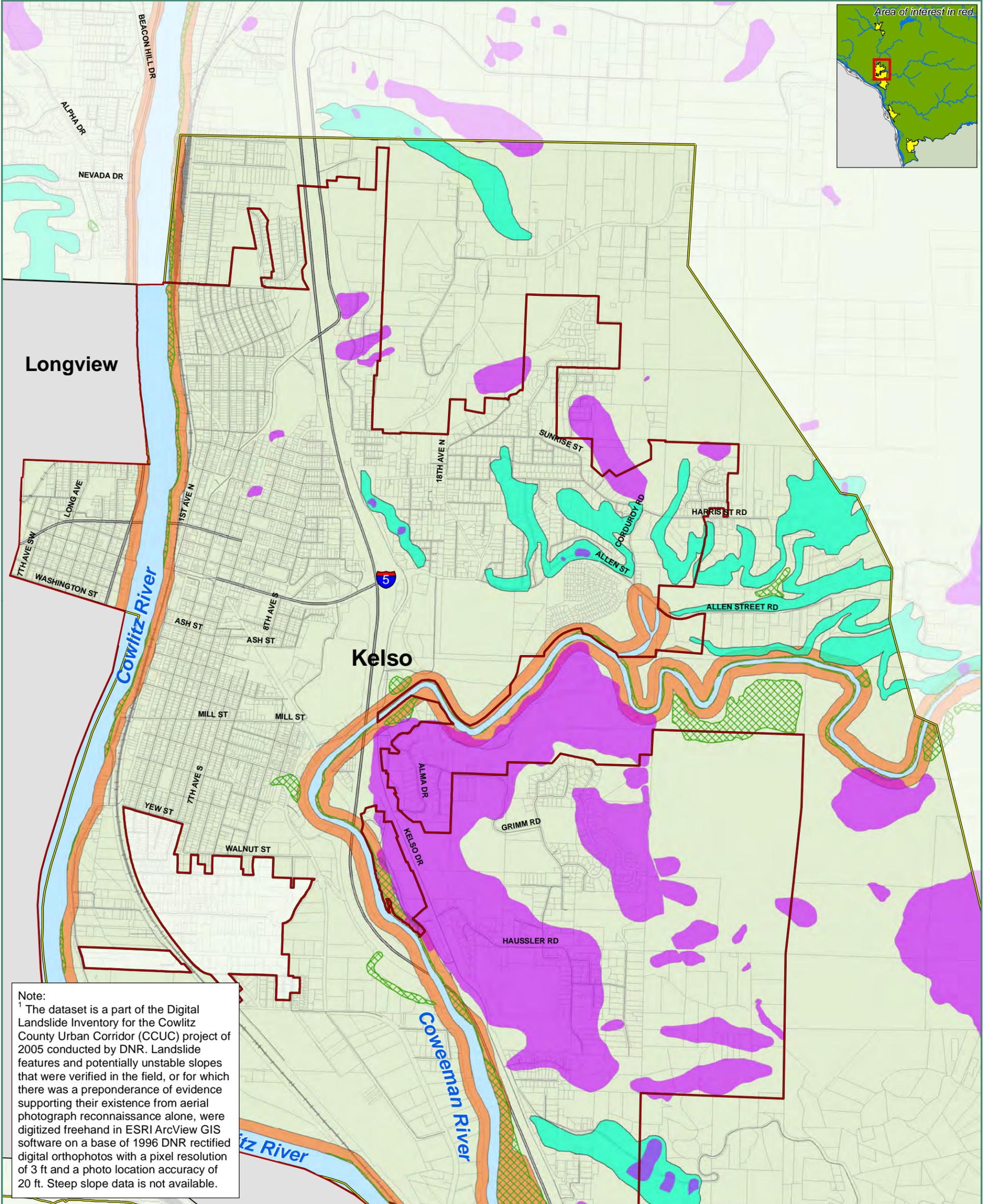
- Fault Line
- Study Area of the Digital Landslide Inventory for the Cowlitz County Urban Corridor (CCUC)<sup>1</sup>
- Deep Seated Landslide<sup>1</sup>
- Potentially Unstable Slope<sup>1</sup>
- Landslide Area Outside of CCUC Inventory
- SMP Stream
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- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
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Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.  
 Data source:  
 Cowlitz County, CWCOG, Department of Natural Resources, Department of Ecology, The Watershed Company.

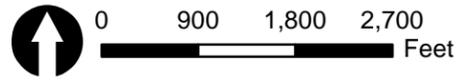
FIGURE 16. GEOLOGIC HAZARDS

DRAFT



Note:  
 1 The dataset is a part of the Digital Landslide Inventory for the Cowlitz County Urban Corridor (CCUC) project of 2005 conducted by DNR. Landslide features and potentially unstable slopes that were verified in the field, or for which there was a preponderance of evidence supporting their existence from aerial photograph reconnaissance alone, were digitized freehand in ESRI ArcView GIS software on a base of 1996 DNR rectified digital orthophotos with a pixel resolution of 3 ft and a photo location accuracy of 20 ft. Steep slope data is not available.

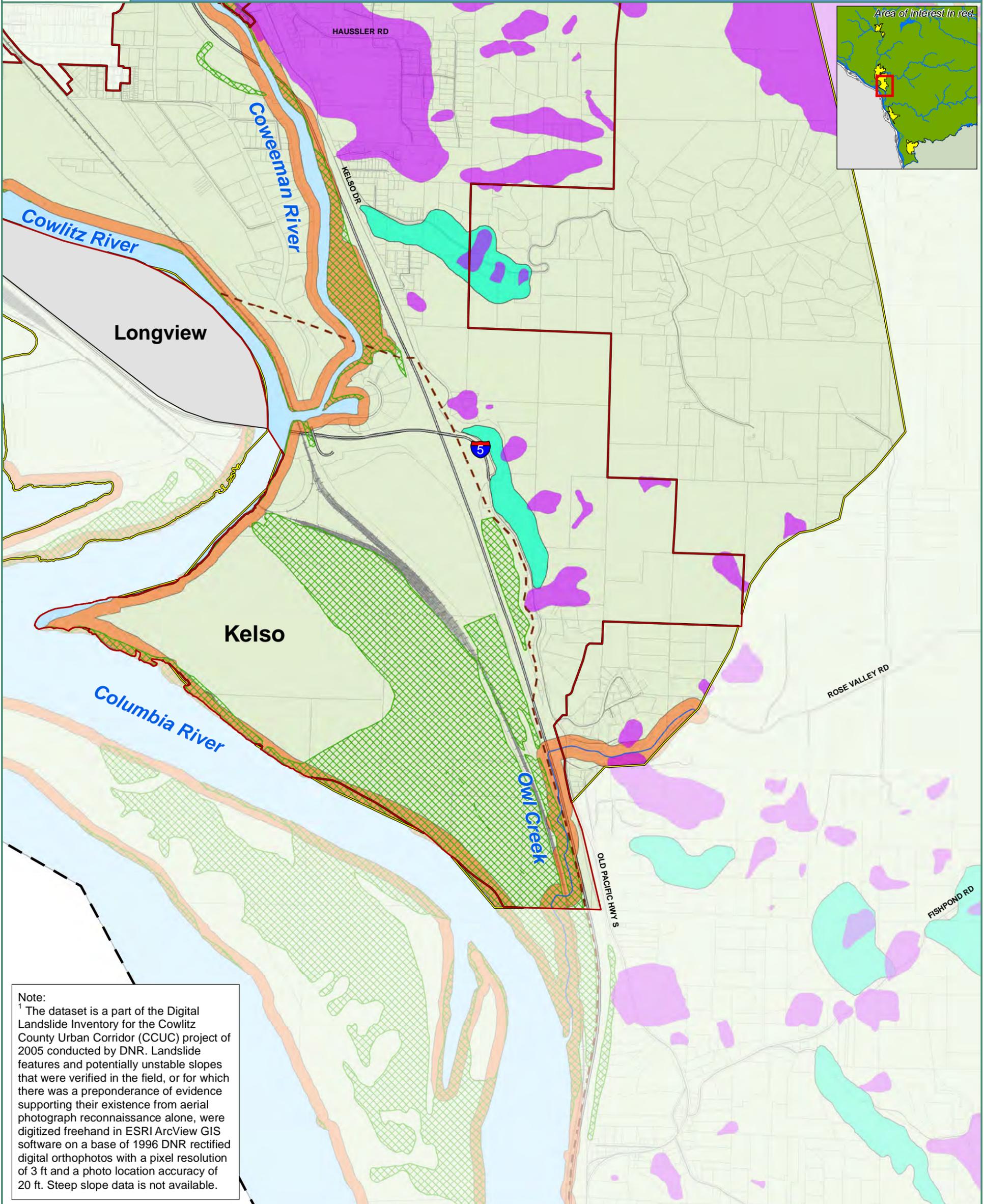
- Fault Line
- Study Area of the Digital Landslide Inventory for the Cowlitz County Urban Corridor (CCUC)<sup>1</sup>
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- Potentially Unstable Slope<sup>1</sup>
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Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.  
 Data source: Cowlitz County, CWCOG, Department of Natural Resources, Department of Ecology, The Watershed Company.

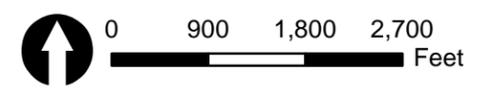
FIGURE 16. GEOLOGIC HAZARDS

DRAFT



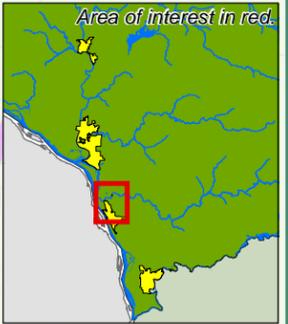
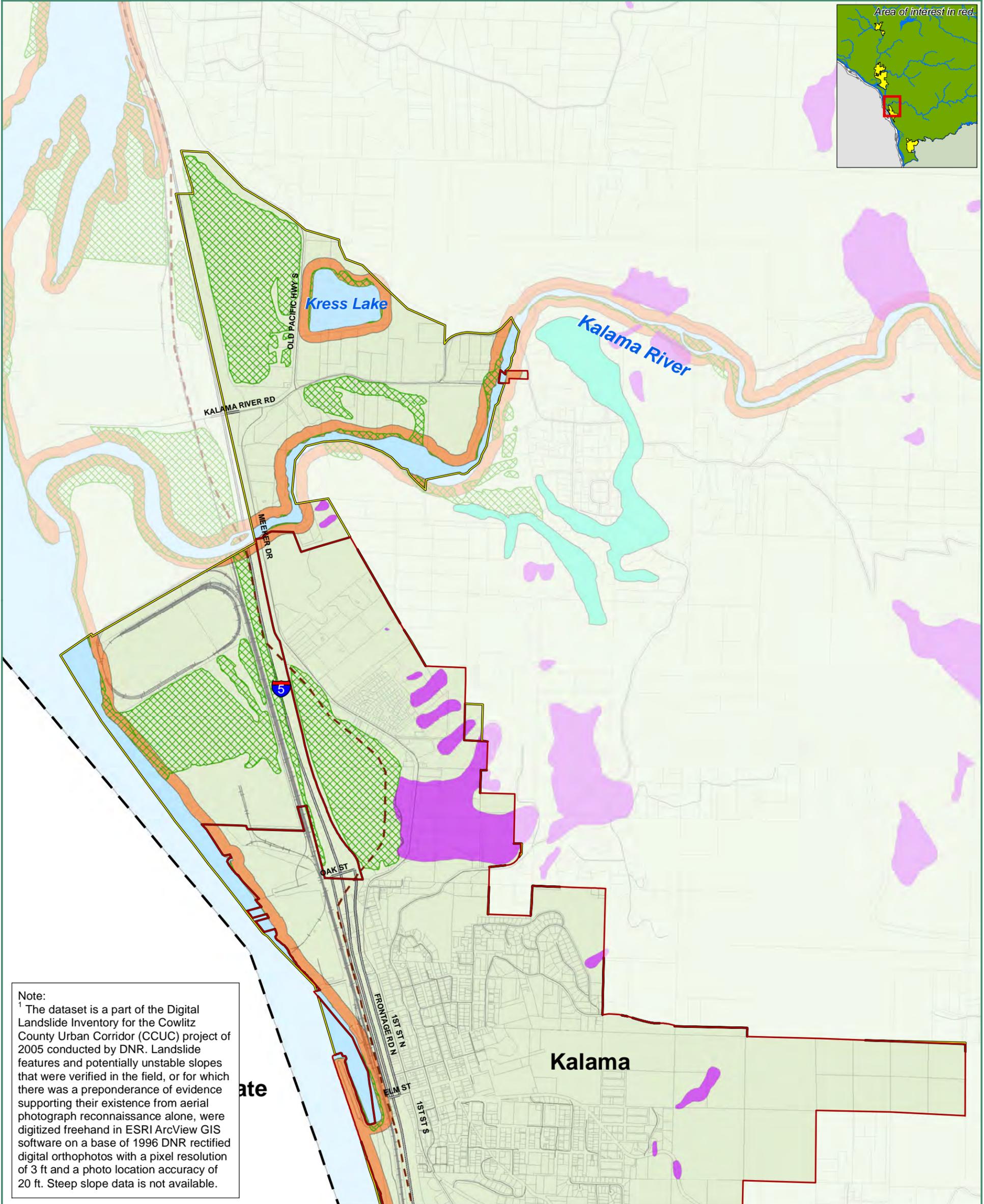
Note:  
<sup>1</sup> The dataset is a part of the Digital Landslide Inventory for the Cowlitz County Urban Corridor (CCUC) project of 2005 conducted by DNR. Landslide features and potentially unstable slopes that were verified in the field, or for which there was a preponderance of evidence supporting their existence from aerial photograph reconnaissance alone, were digitized freehand in ESRI ArcView GIS software on a base of 1996 DNR rectified digital orthophotos with a pixel resolution of 3 ft and a photo location accuracy of 20 ft. Steep slope data is not available.

- Fault Line
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- Potentially Unstable Slope<sup>1</sup>
- Landslide Area Outside of CCUC Inventory
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
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- City Boundary
- UGA/UGB/PAB
- County Boundary



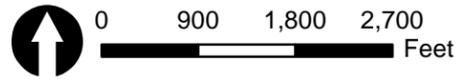
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Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Department of Natural Resources, Department of Ecology, The Watershed Company.



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- City Boundary
- UGA/UGB/PAB
- County Boundary

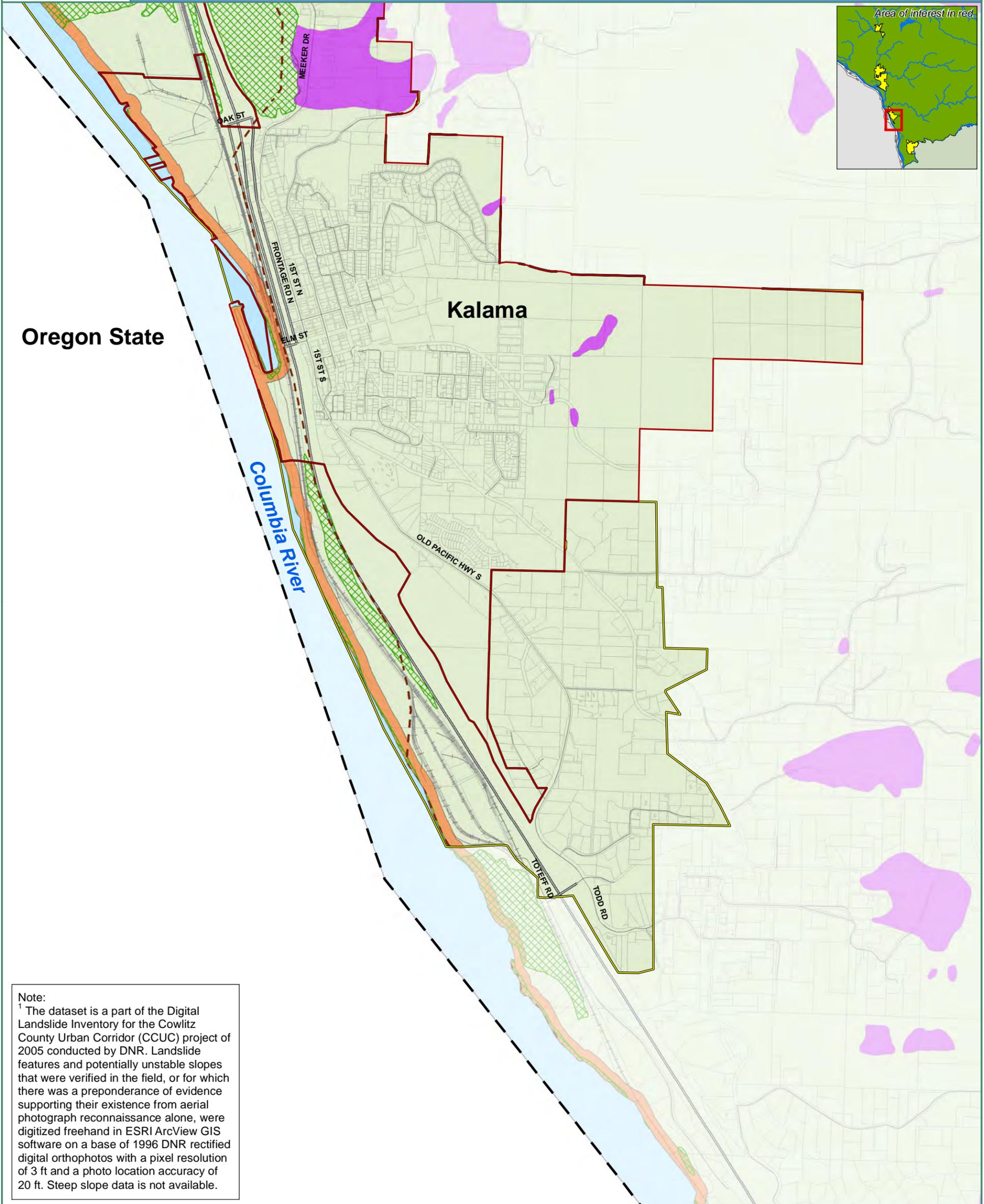


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Data source:  
 Cowlitz County, CWCOG, Department of Natural Resources, Department of Ecology, The Watershed Company.

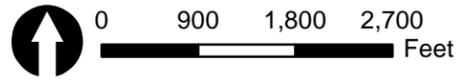
FIGURE 16. GEOLOGIC HAZARDS

DRAFT



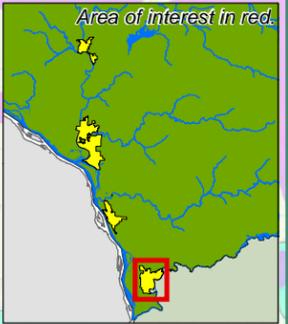
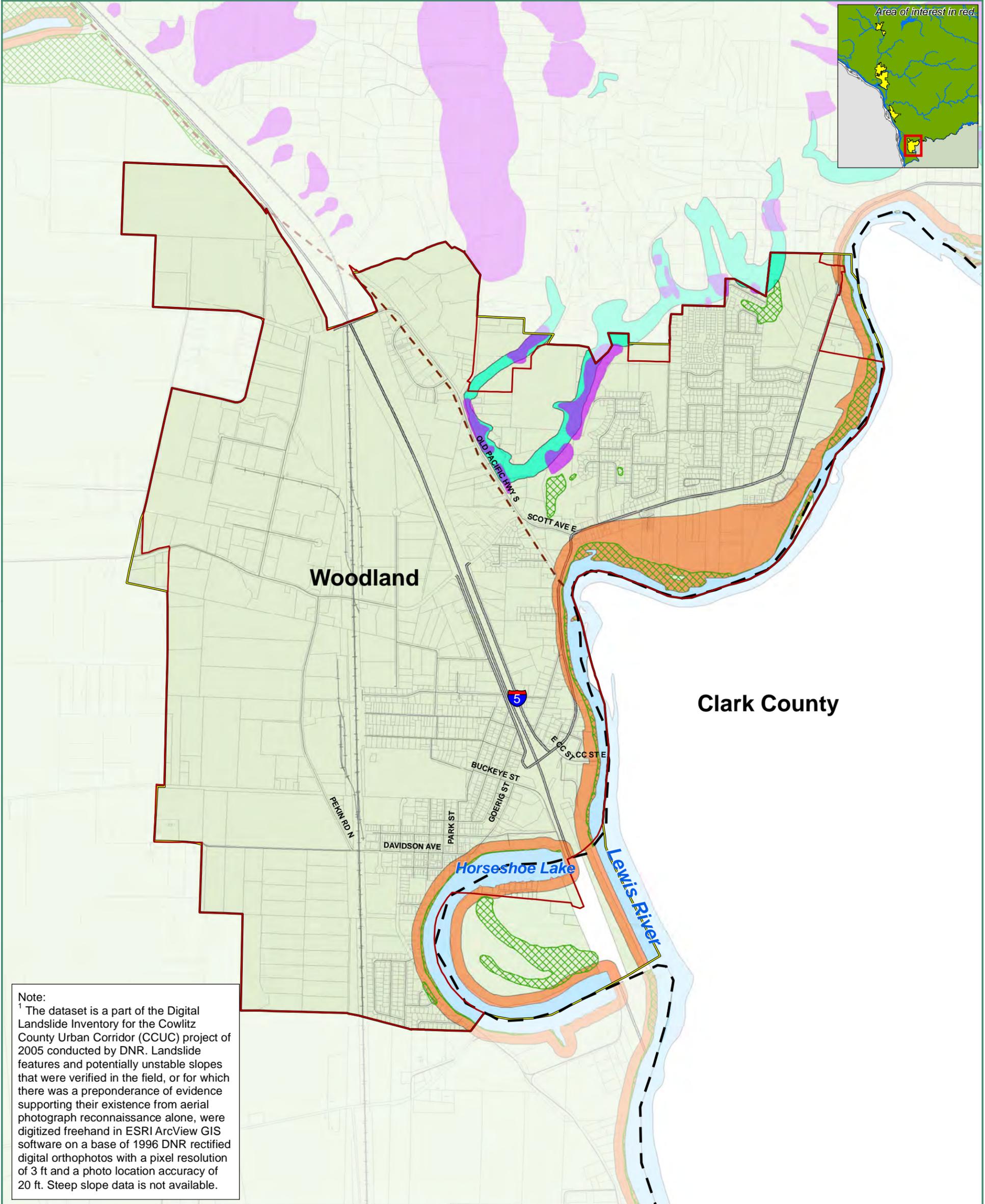
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<sup>1</sup> The dataset is a part of the Digital Landslide Inventory for the Cowlitz County Urban Corridor (CCUC) project of 2005 conducted by DNR. Landslide features and potentially unstable slopes that were verified in the field, or for which there was a preponderance of evidence supporting their existence from aerial photograph reconnaissance alone, were digitized freehand in ESRI ArcView GIS software on a base of 1996 DNR rectified digital orthophotos with a pixel resolution of 3 ft and a photo location accuracy of 20 ft. Steep slope data is not available.

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- Landslide Area Outside of CCUC Inventory
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary



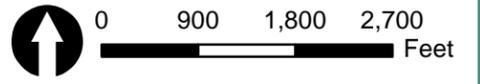
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Data source:  
 Cowlitz County, CWCOG, Department of Natural Resources, Department of Ecology, The Watershed Company.



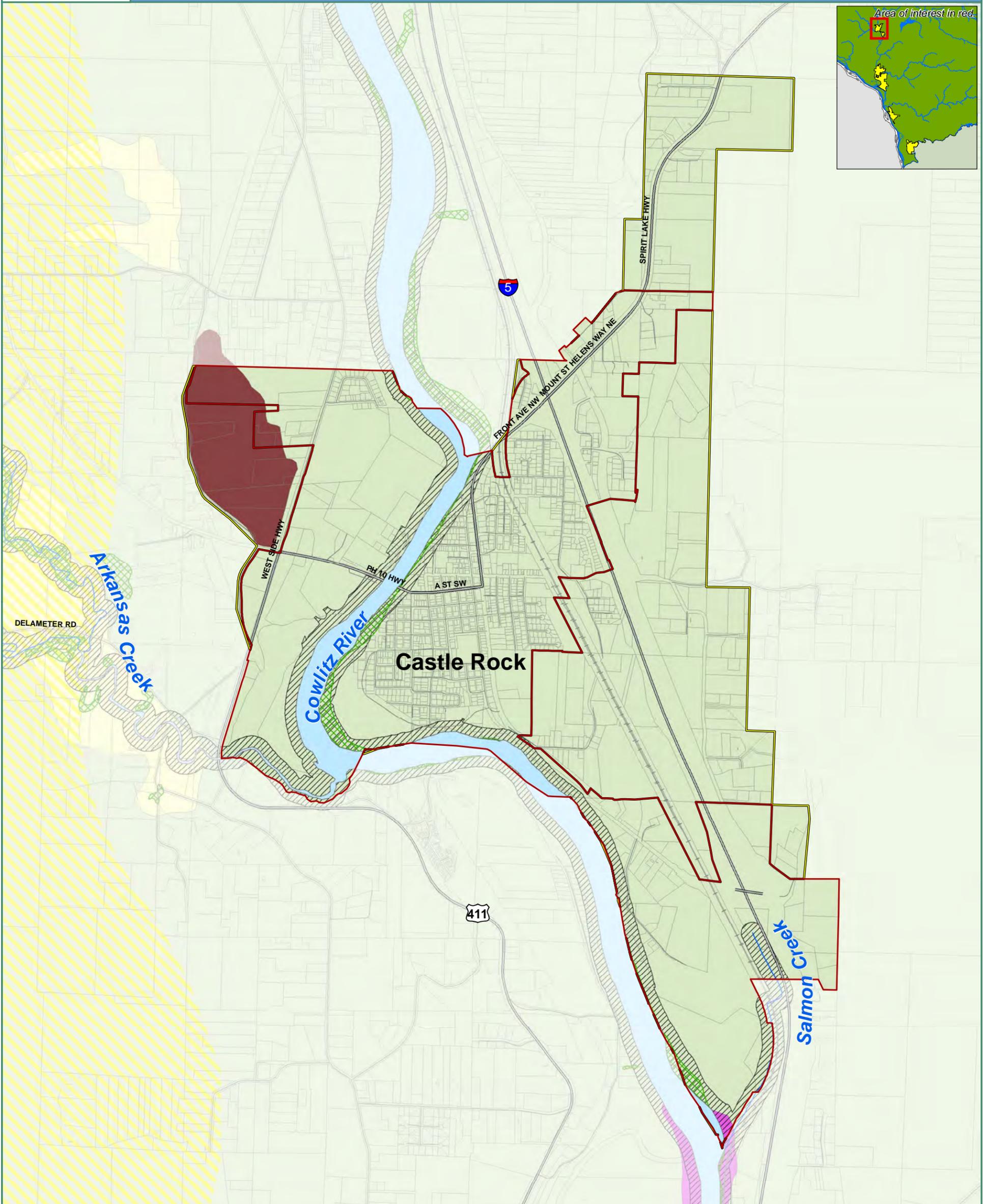
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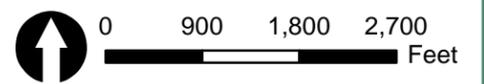


Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source:  
 Cowlitz County, CWCOG, Department of Natural Resources, Department of Ecology, The Watershed Company.



- |                                 |                            |                          |                                 |
|---------------------------------|----------------------------|--------------------------|---------------------------------|
| Biodiversity Areas and Corridor | Herbaceous Bald            | Talus Slopes             | SMP Stream                      |
| Bald Eagle                      | Islands                    | Waterfowl Concentrations | SMP Waterbody                   |
| Canada Goose                    | Mule and Black-tailed Deer | Wetland Habitats         | Proposed Shoreline Jurisdiction |
| Cavity-nesting Ducks            | Oak Woodland               | Roosevelt Elk            | Potentially Associated Wetland  |
| Cliffs/bluffs                   | Shepard's Parnassian       | Elk                      | City Boundary                   |
| Great Blue Heron                | Shorebird Concentrations   |                          | UGA/UGB/PAB                     |
| Harbor Seal                     | Snag-rich Areas            |                          | County Boundary                 |

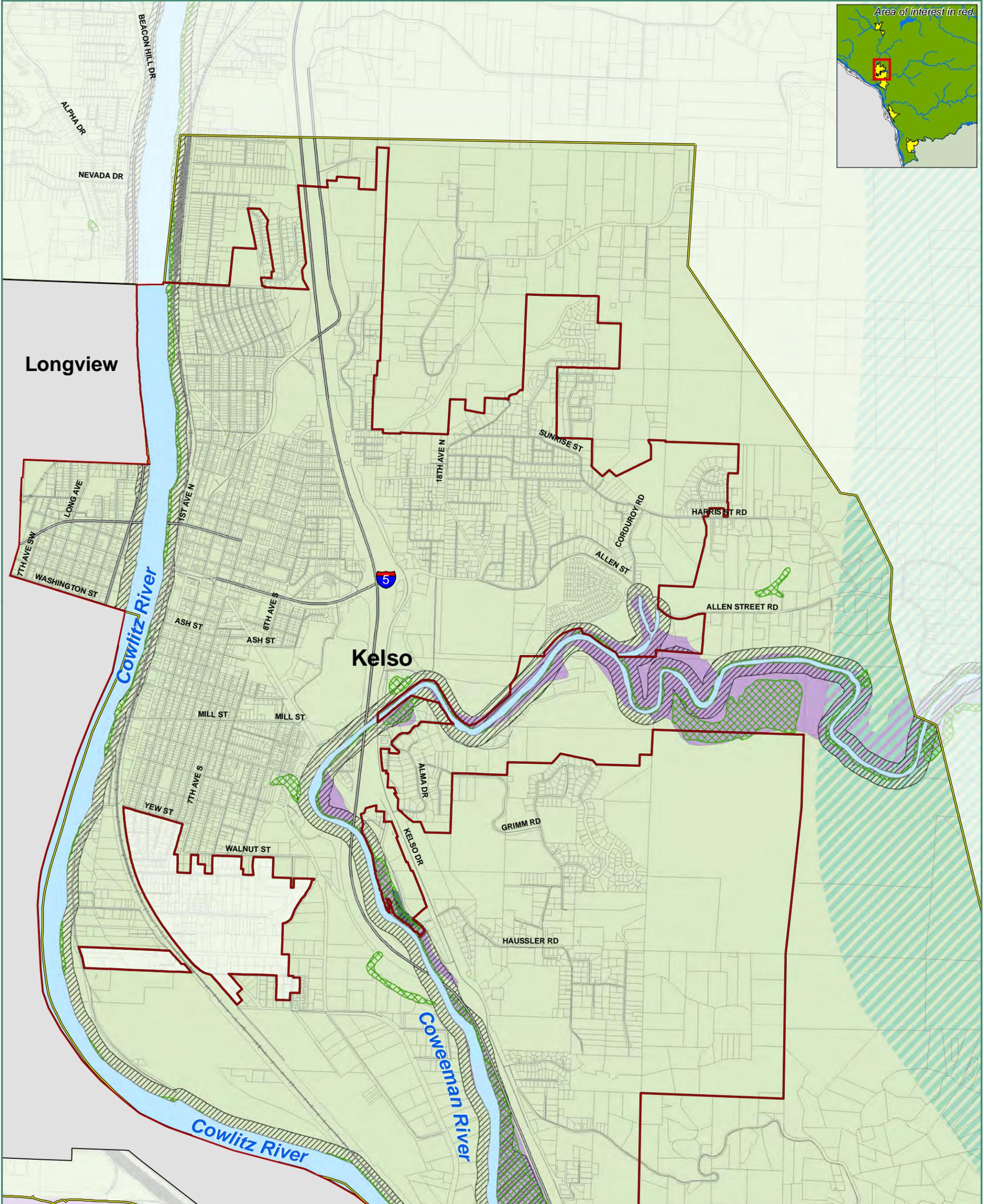


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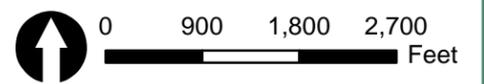
Data source:  
Cowlitz County, CWCOG, Washington Department of Fish and Wildlife, Department of Ecology, The Watershed Company.

FIGURE 17. WDFW PRIORITY HABITAT REGIONS

DRAFT



- |                                 |                            |                          |                                 |
|---------------------------------|----------------------------|--------------------------|---------------------------------|
| Biodiversity Areas and Corridor | Herbaceous Bald            | Talus Slopes             | SMP Stream                      |
| Bald Eagle                      | Islands                    | Waterfowl Concentrations | SMP Waterbody                   |
| Canada Goose                    | Mule and Black-tailed Deer | Wetland Habitats         | Proposed Shoreline Jurisdiction |
| Cavity-nesting Ducks            | Oak Woodland               | Roosevelt Elk            | Potentially Associated Wetland  |
| Cliffs/bluffs                   | Shepard's Parnassian       | Elk                      | City Boundary                   |
| Great Blue Heron                | Shorebird Concentrations   | County Boundary          |                                 |
| Harbor Seal                     | Snag-rich Areas            |                          |                                 |

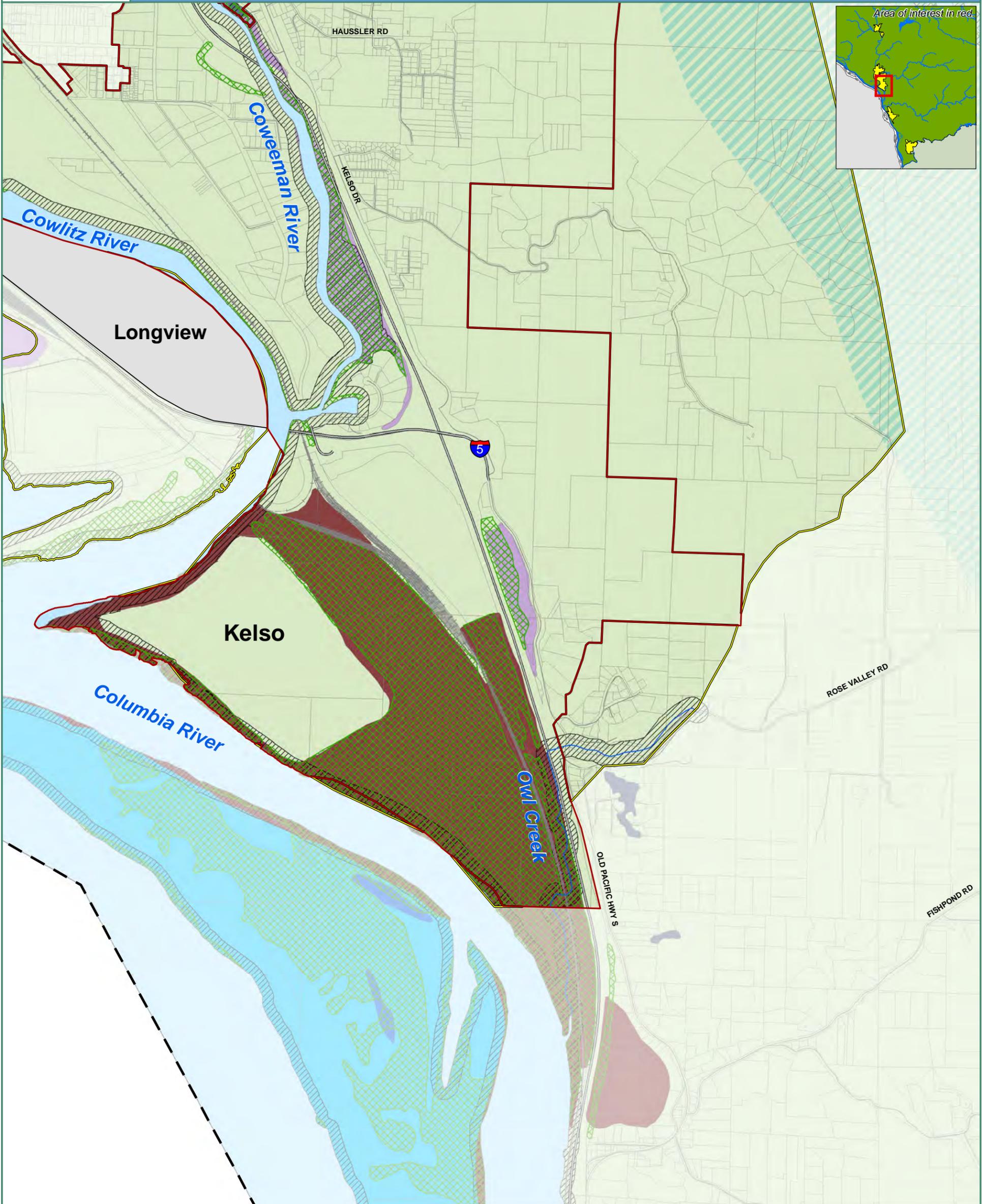


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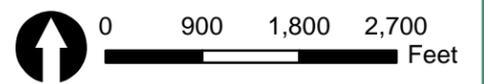
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FIGURE 17. WDFW PRIORITY HABITAT REGIONS

DRAFT



- |                                 |                            |                          |                                 |
|---------------------------------|----------------------------|--------------------------|---------------------------------|
| Biodiversity Areas and Corridor | Herbaceous Bald            | Talus Slopes             | SMP Stream                      |
| Bald Eagle                      | Islands                    | Waterfowl Concentrations | SMP Waterbody                   |
| Canada Goose                    | Mule and Black-tailed Deer | Wetland Habitats         | Proposed Shoreline Jurisdiction |
| Cavity-nesting Ducks            | Oak Woodland               | Roosevelt Elk            | Potentially Associated Wetland  |
| Cliffs/bluffs                   | Shepard's Parnassian       | Elk                      | City Boundary                   |
| Great Blue Heron                | Shorebird Concentrations   | County Boundary          | UGA/UGB/PAB                     |
| Harbor Seal                     | Snag-rich Areas            |                          |                                 |

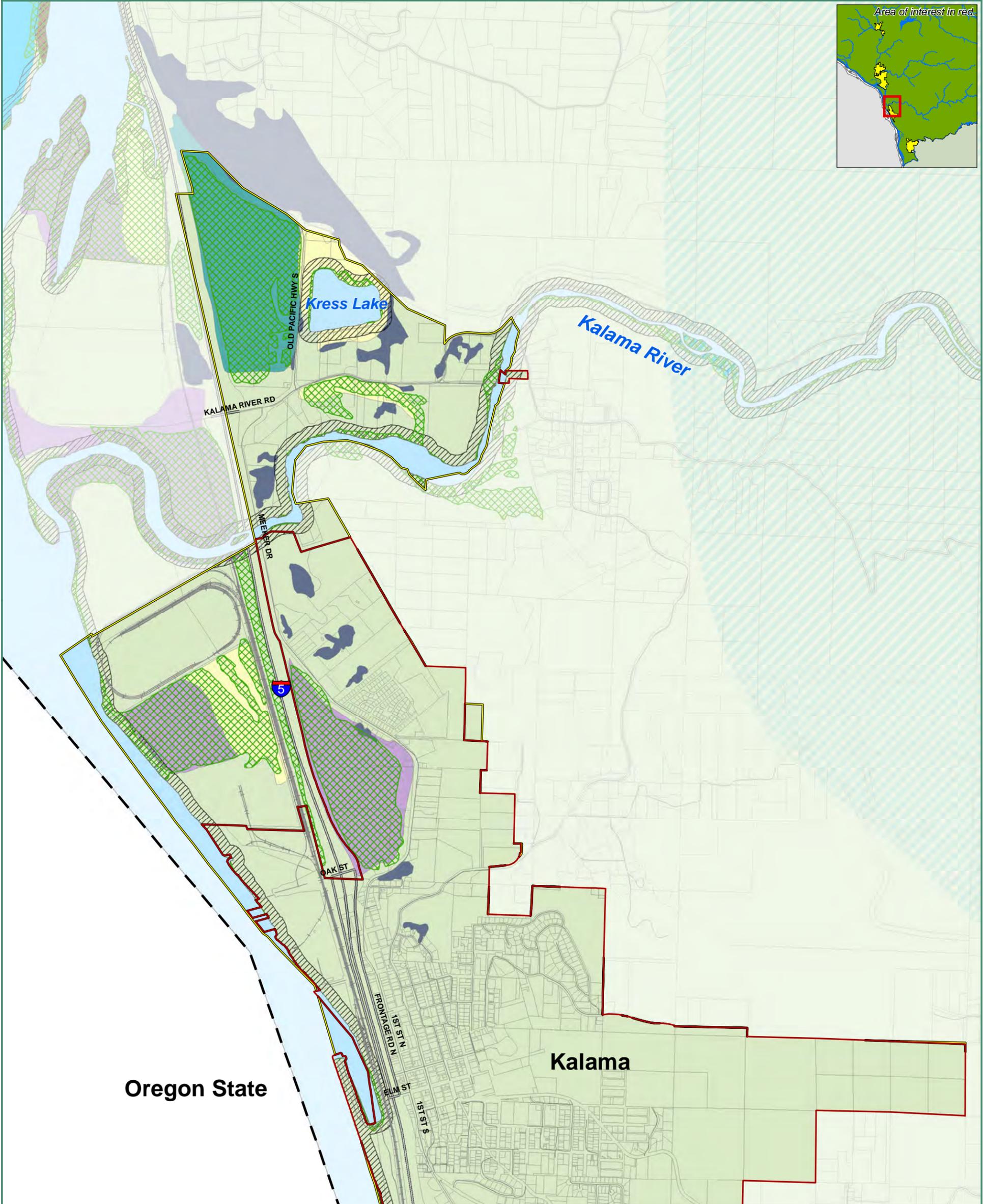


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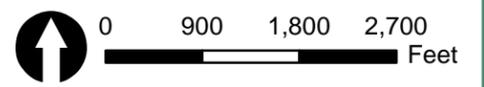
Data source:  
Cowlitz County, CWCOG, Washington Department of Fish and Wildlife, Department of Ecology, The Watershed Company.

FIGURE 17. WDFW PRIORITY HABITAT REGIONS

DRAFT



- |                                 |                            |                          |                                 |
|---------------------------------|----------------------------|--------------------------|---------------------------------|
| Biodiversity Areas and Corridor | Herbaceous Bald            | Talus Slopes             | SMP Stream                      |
| Bald Eagle                      | Islands                    | Waterfowl Concentrations | SMP Waterbody                   |
| Canada Goose                    | Mule and Black-tailed Deer | Wetland Habitats         | Proposed Shoreline Jurisdiction |
| Cavity-nesting Ducks            | Oak Woodland               | Roosevelt Elk            | Potentially Associated Wetland  |
| Cliffs/bluffs                   | Shepard's Parnassian       | Elk                      | City Boundary                   |
| Great Blue Heron                | Shorebird Concentrations   | County Boundary          |                                 |
| Harbor Seal                     | Snag-rich Areas            |                          |                                 |

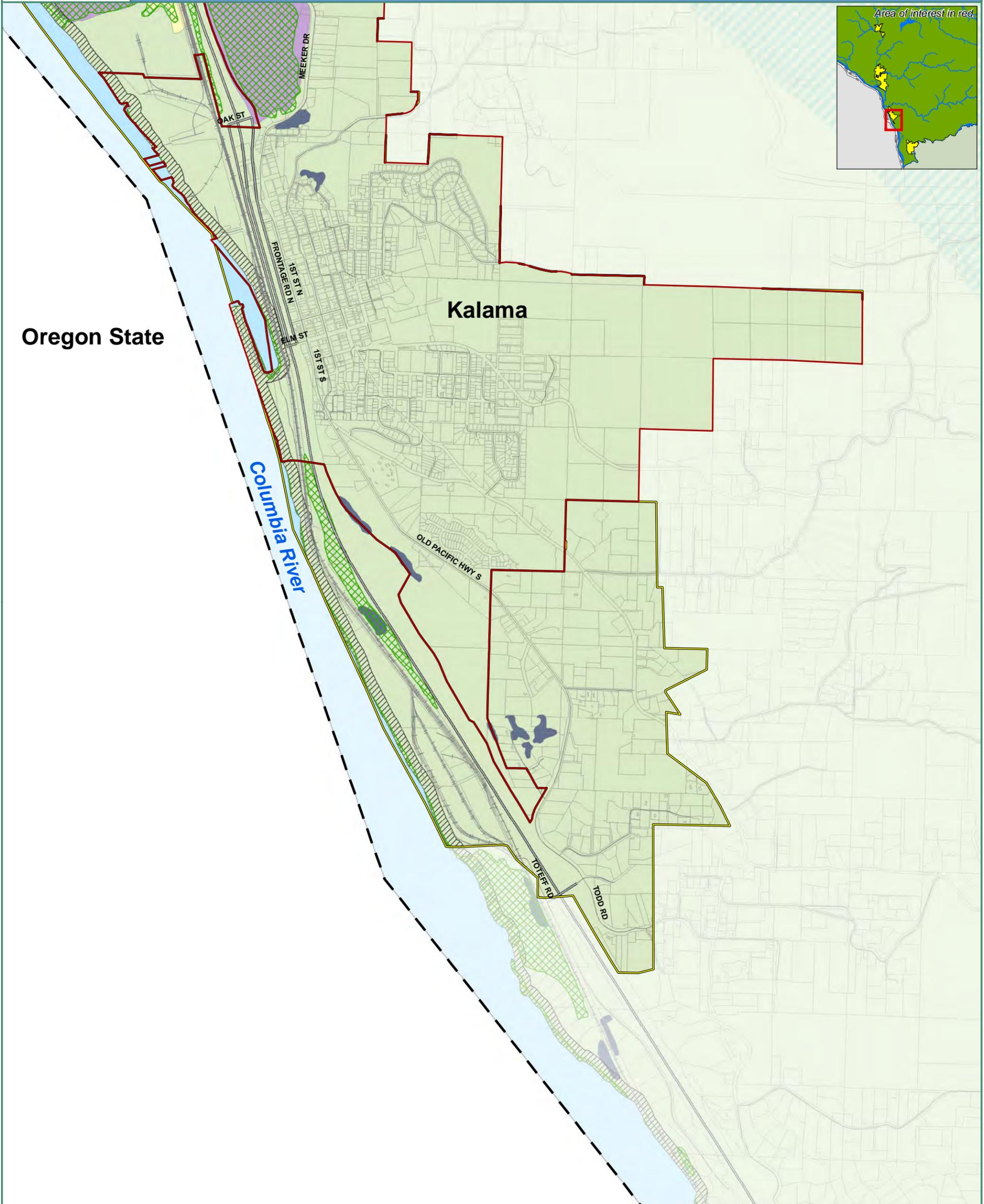


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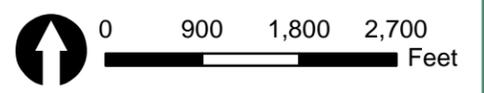
Data source: Cowlitz County, CWCOG, Washington Department of Fish and Wildlife, Department of Ecology, The Watershed Company.

FIGURE 17. WDFW PRIORITY HABITAT REGIONS

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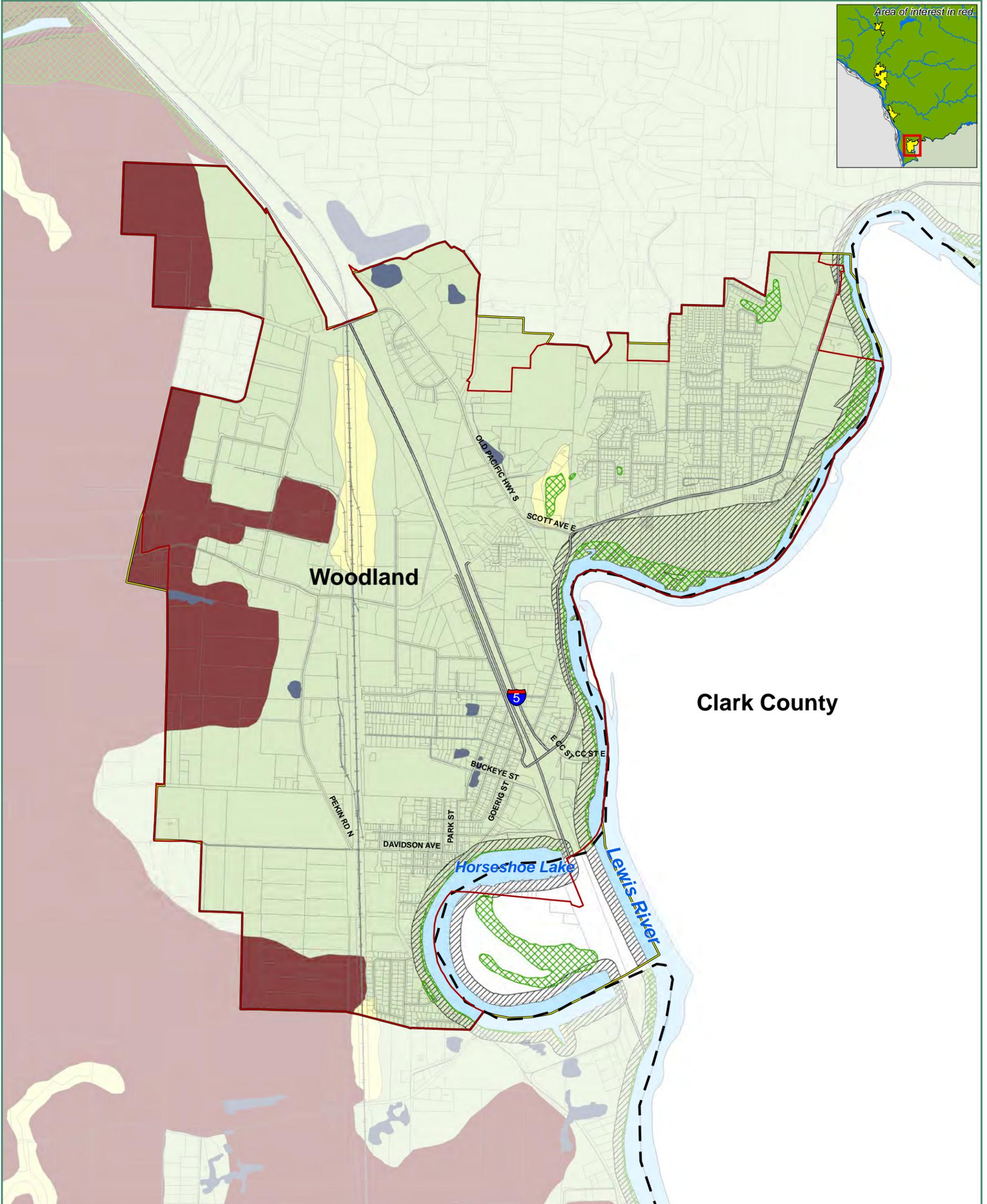
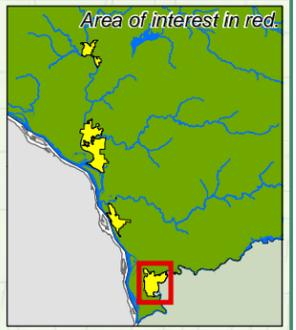


- |                                 |                            |                          |                                 |
|---------------------------------|----------------------------|--------------------------|---------------------------------|
| Biodiversity Areas and Corridor | Herbaceous Bald            | Talus Slopes             | SMP Stream                      |
| Bald Eagle                      | Islands                    | Waterfowl Concentrations | SMP Waterbody                   |
| Canada Goose                    | Mule and Black-tailed Deer | Wetland Habitats         | Proposed Shoreline Jurisdiction |
| Cavity-nesting Ducks            | Oak Woodland               | Roosevelt Elk            | Potentially Associated Wetland  |
| Cliffs/bluffs                   | Shepard's Parnassian       | Elk                      | City Boundary                   |
| Great Blue Heron                | Shorebird Concentrations   | County Boundary          | UGA/UGB/PAB                     |
| Harbor Seal                     | Snag-rich Areas            |                          |                                 |

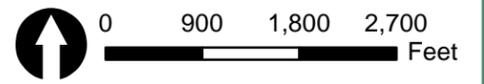


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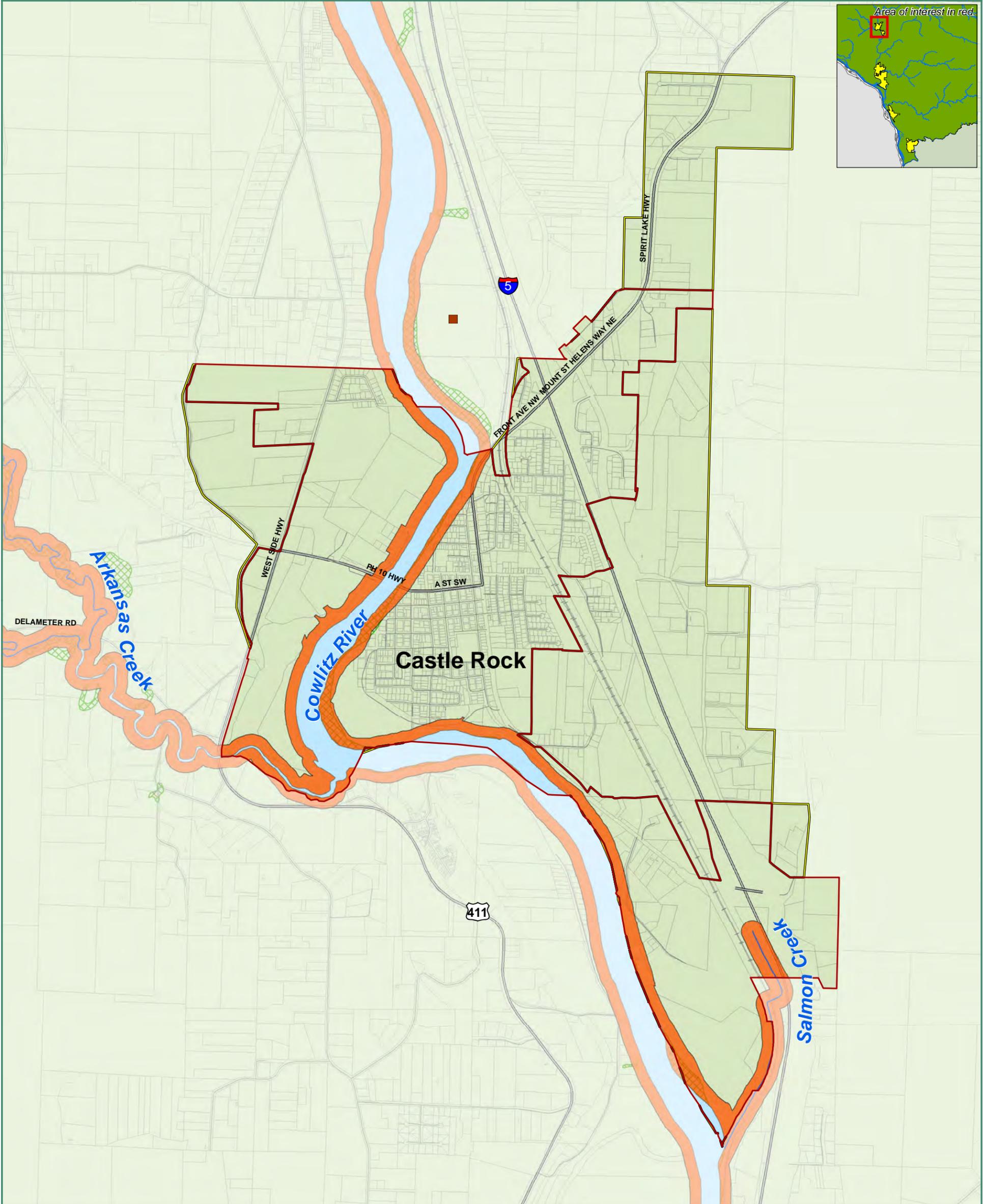


- |                                 |                            |                          |                                 |
|---------------------------------|----------------------------|--------------------------|---------------------------------|
| Biodiversity Areas and Corridor | Herbaceous Bald            | Talus Slopes             | SMP Stream                      |
| Bald Eagle                      | Islands                    | Waterfowl Concentrations | SMP Waterbody                   |
| Canada Goose                    | Mule and Black-tailed Deer | Wetland Habitats         | Proposed Shoreline Jurisdiction |
| Cavity-nesting Ducks            | Oak Woodland               | Roosevelt Elk            | Potentially Associated Wetland  |
| Cliffs/bluffs                   | Shepard's Parnassian       | Elk                      | City Boundary                   |
| Great Blue Heron                | Shorebird Concentrations   | County Boundary          |                                 |
| Harbor Seal                     | Snag-rich Areas            |                          |                                 |



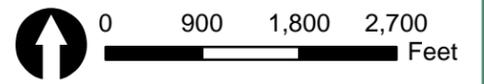
Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source: Cowlitz County, CWCOG, Washington Department of Fish and Wildlife, Department of Ecology, The Watershed Company.



**WDFW Species**

- |                       |                               |                          |                                   |
|-----------------------|-------------------------------|--------------------------|-----------------------------------|
| ● Seal and sealion    | ● Harbor seal                 | □ Spotted Owl Presence   | ■ Proposed Shoreline Jurisdiction |
| ■ Bald eagle          | ▲ Cope's giant salamander     | ■ Great Egret Colony     | ■ Potentially Associated Wetland  |
| ■ Eastern wild turkey | ● Leopard dace                | ▨ Bald Eagle Nest Buffer | □ City Boundary                   |
| ■ Osprey              | ● Sand roller                 | ~ SMP Stream             | □ UGA/UGB/PAB                     |
| ● California sea lion | ★ Columbian white-tailed deer | ■ SMP Waterbody          | □ County Boundary                 |

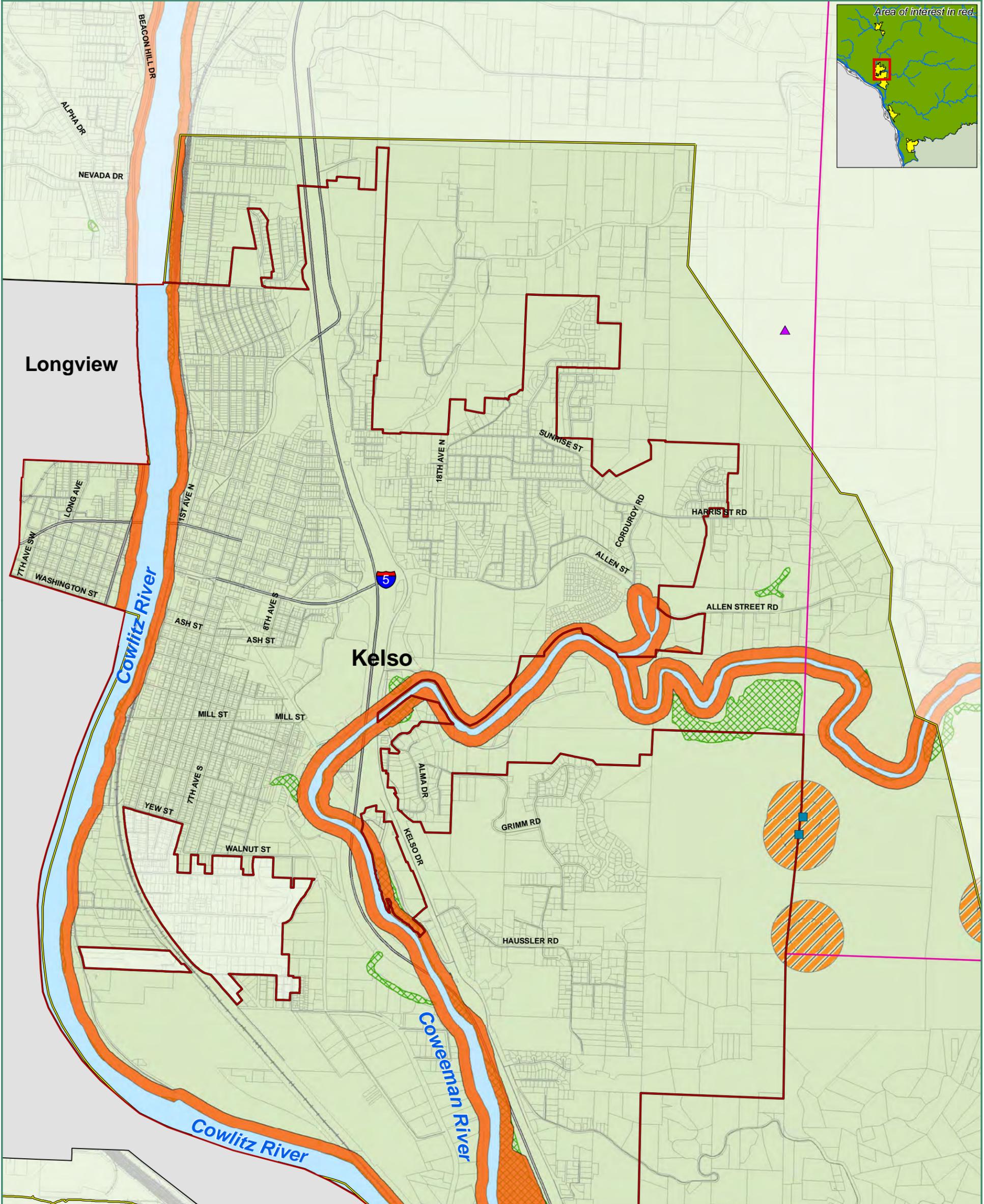


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Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Washington Department of Fish and Wildlife, Department of Ecology, The Watershed Company.

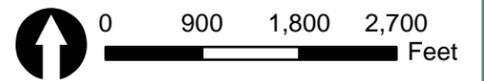
FIGURE 18. WDFW PRIORITY HABITAT SPECIES

DRAFT



WDFW Species

- |                       |                               |                          |                                   |
|-----------------------|-------------------------------|--------------------------|-----------------------------------|
| ● Seal and sealion    | ● Harbor seal                 | □ Spotted Owl Presence   | ■ Proposed Shoreline Jurisdiction |
| ■ Bald eagle          | ▲ Cope's giant salamander     | ■ Great Egret Colony     | ■ Potentially Associated Wetland  |
| ■ Eastern wild turkey | ● Leopard dace                | ▨ Bald Eagle Nest Buffer | ~ SMP Stream                      |
| ■ Osprey              | ● Sand roller                 | ~ SMP Waterbody          | □ City Boundary                   |
| ● California sea lion | ★ Columbian white-tailed deer | □ UGA/UGB/PAB            | □ County Boundary                 |

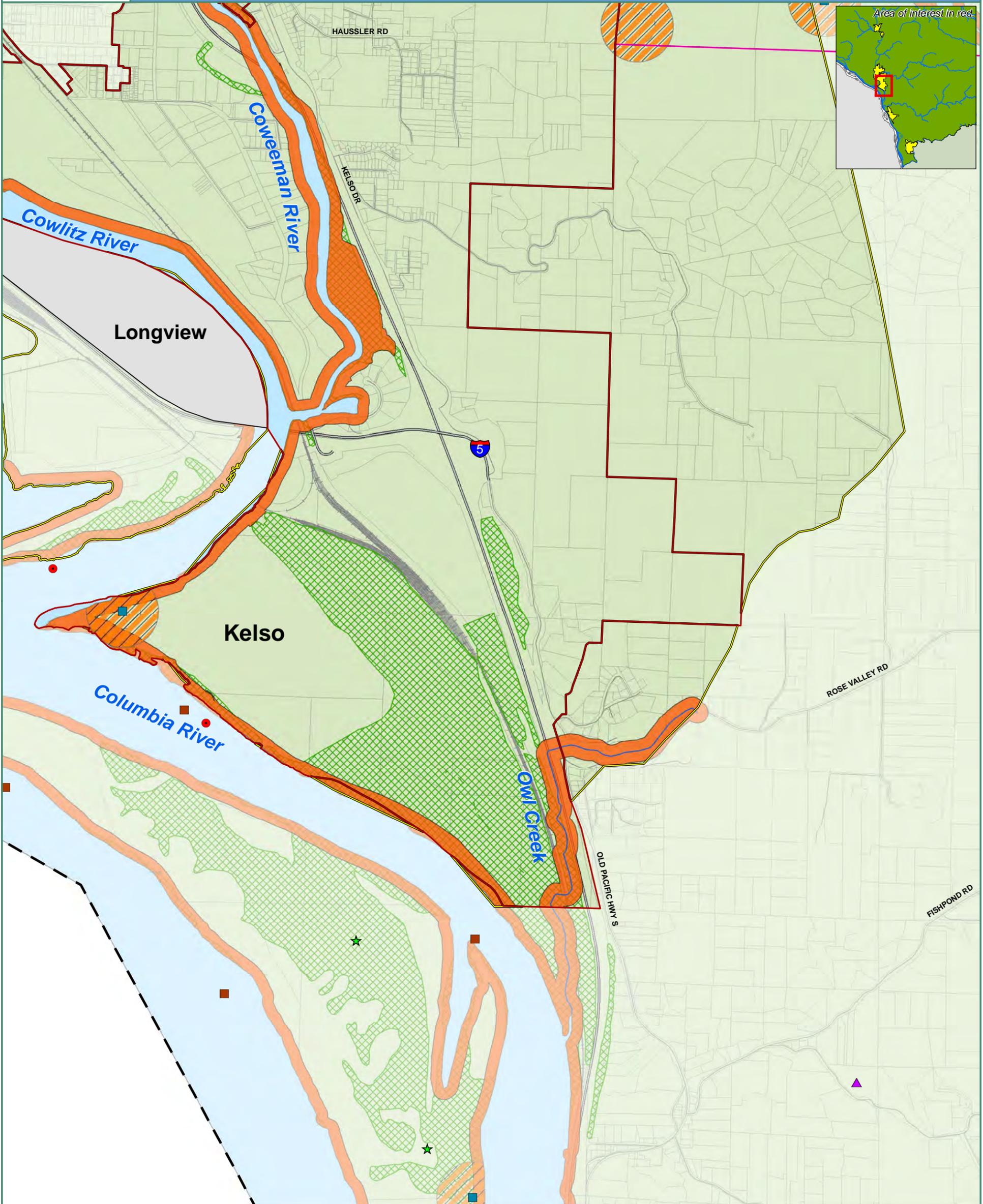


Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source: Cowlitz County, CWCOG, Washington Department of Fish and Wildlife, Department of Ecology, The Watershed Company.

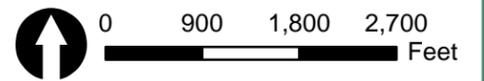
FIGURE 18. WDFW PRIORITY HABITAT SPECIES

DRAFT



WDFW Species

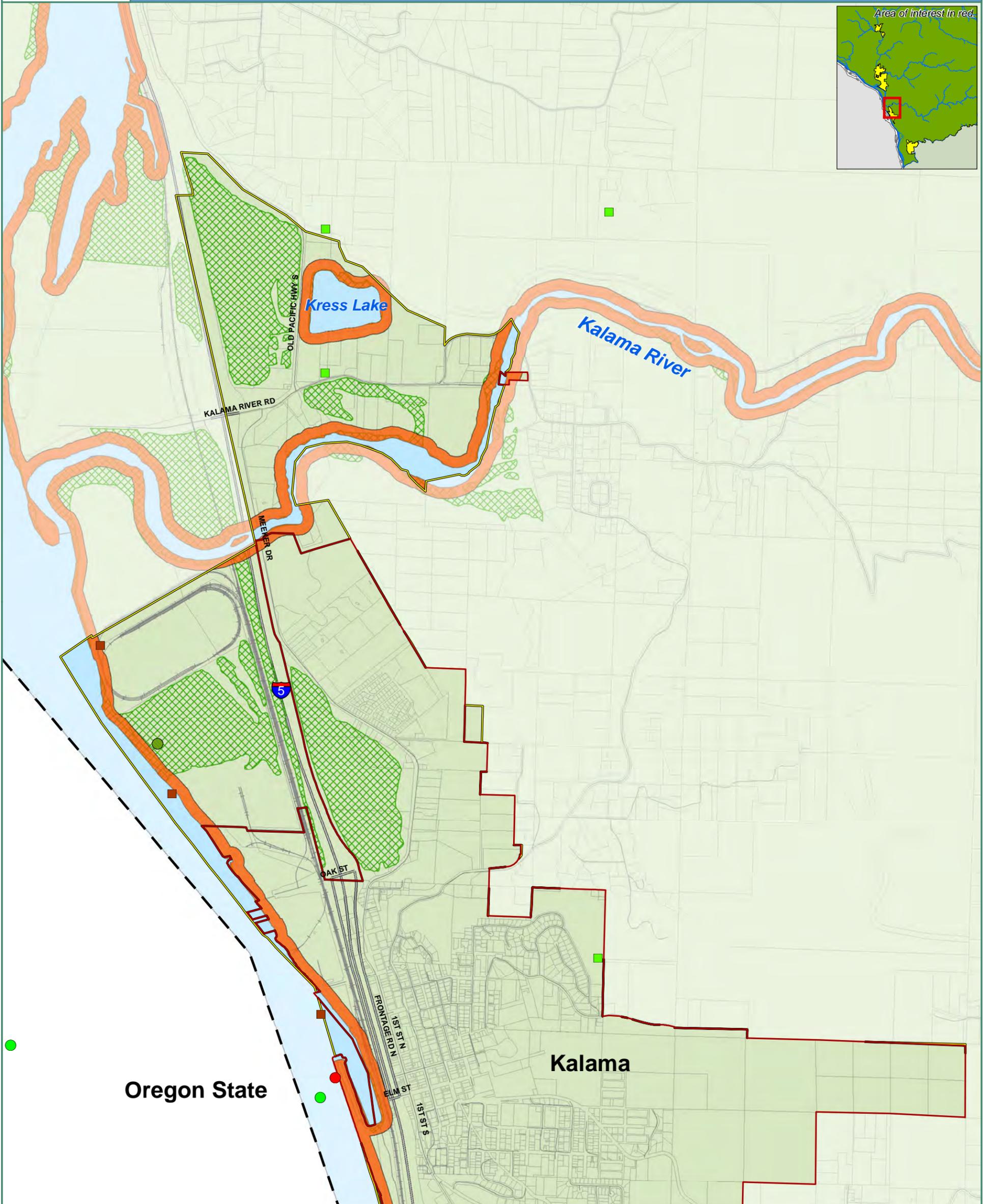
- |                       |                               |                          |                                   |
|-----------------------|-------------------------------|--------------------------|-----------------------------------|
| ● Seal and sealion    | ● Harbor seal                 | □ Spotted Owl Presence   | ■ Proposed Shoreline Jurisdiction |
| ■ Bald eagle          | ▲ Cope's giant salamander     | ■ Great Egret Colony     | ■ Potentially Associated Wetland  |
| ■ Eastern wild turkey | ● Leopard dace                | ▨ Bald Eagle Nest Buffer | ~ SMP Stream                      |
| ■ Osprey              | ● Sand roller                 | ~ SMP Waterbody          | □ City Boundary                   |
| ● California sea lion | ★ Columbian white-tailed deer | □ UGA/UGB/PAB            | □ County Boundary                 |



Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.  
Data source: Cowlitz County, CWCOG, Washington Department of Fish and Wildlife, Department of Ecology, The Watershed Company.

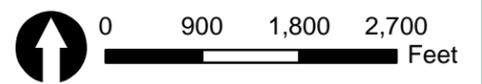
FIGURE 18. WDFW PRIORITY HABITAT SPECIES

DRAFT



WDFW Species

- |                       |                               |                          |                                   |
|-----------------------|-------------------------------|--------------------------|-----------------------------------|
| ● Seal and sealion    | ● Harbor seal                 | □ Spotted Owl Presence   | ■ Proposed Shoreline Jurisdiction |
| ■ Bald eagle          | ▲ Cope's giant salamander     | ■ Great Egret Colony     | ■ Potentially Associated Wetland  |
| ■ Eastern wild turkey | ● Leopard dace                | ▨ Bald Eagle Nest Buffer | ~ SMP Stream                      |
| ■ Osprey              | ● Sand roller                 | ~ SMP Waterbody          | □ City Boundary                   |
| ● California sea lion | ★ Columbian white-tailed deer | □ UGA/UGB/PAB            | □ County Boundary                 |

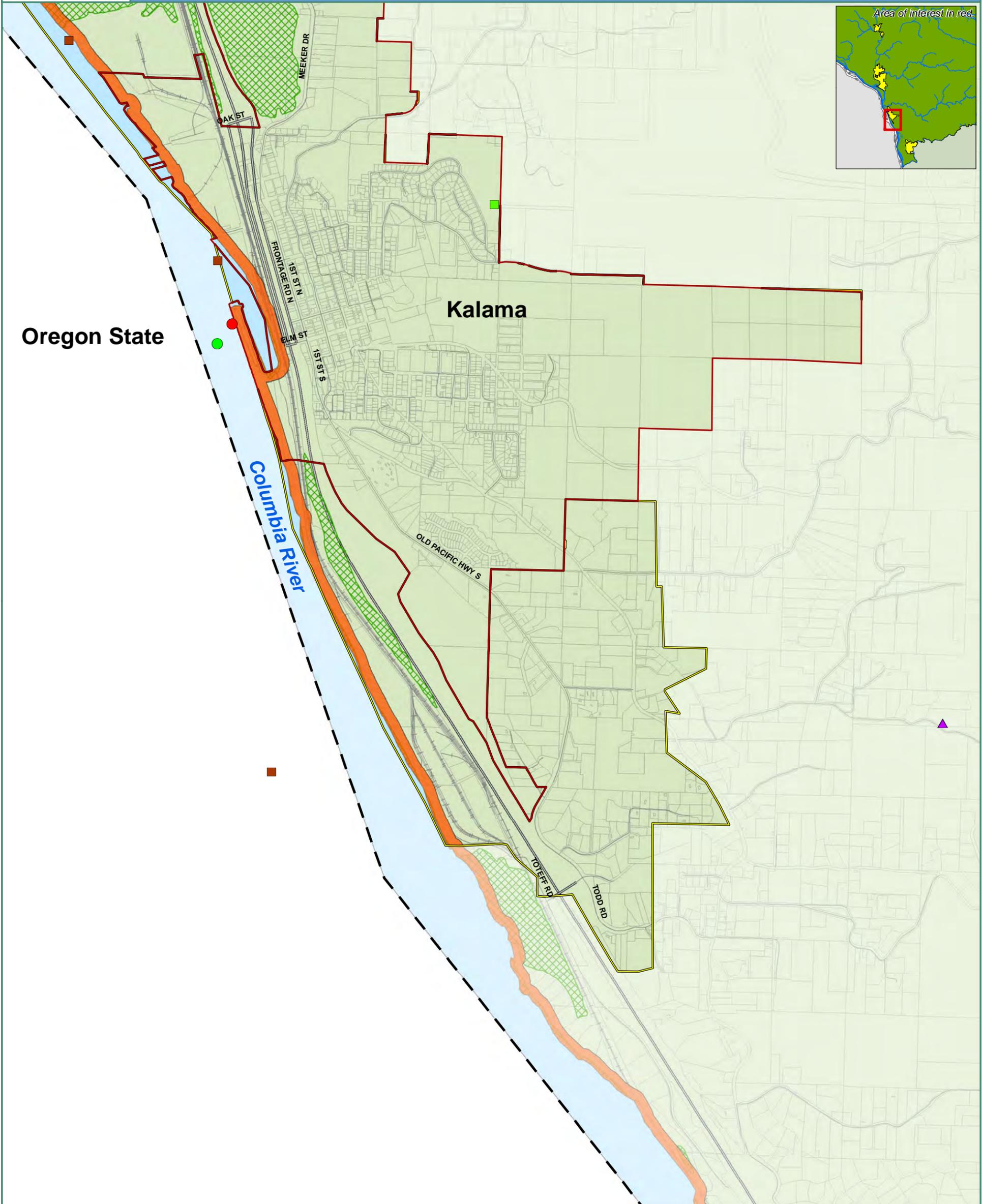


Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Washington Department of Fish and Wildlife, Department of Ecology, The Watershed Company.

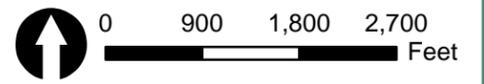
FIGURE 18. WDFW PRIORITY HABITAT SPECIES

DRAFT



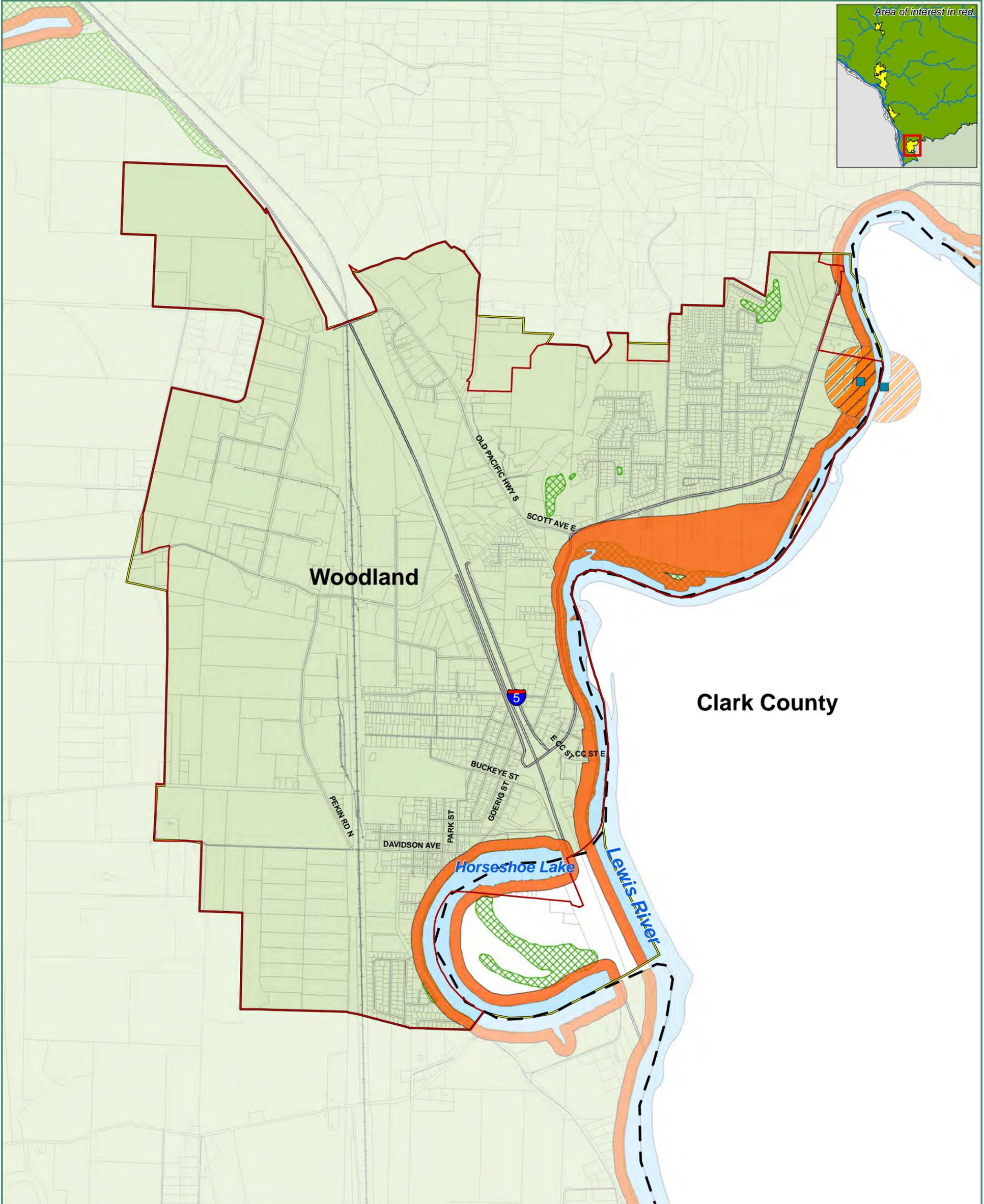
WDFW Species

- |                       |                               |                          |                                   |
|-----------------------|-------------------------------|--------------------------|-----------------------------------|
| ● Seal and sealion    | ● Harbor seal                 | □ Spotted Owl Presence   | ■ Proposed Shoreline Jurisdiction |
| ■ Bald eagle          | ▲ Cope's giant salamander     | ■ Great Egret Colony     | ■ Potentially Associated Wetland  |
| ■ Eastern wild turkey | ● Leopard dace                | ▨ Bald Eagle Nest Buffer | □ City Boundary                   |
| ■ Osprey              | ● Sand roller                 | ~ SMP Stream             | □ UGA/UGB/PAB                     |
| ● California sea lion | ★ Columbian white-tailed deer | □ SMP Waterbody          | □ County Boundary                 |



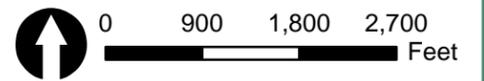
Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source: Cowlitz County, CWCOG, Washington Department of Fish and Wildlife, Department of Ecology, The Watershed Company.



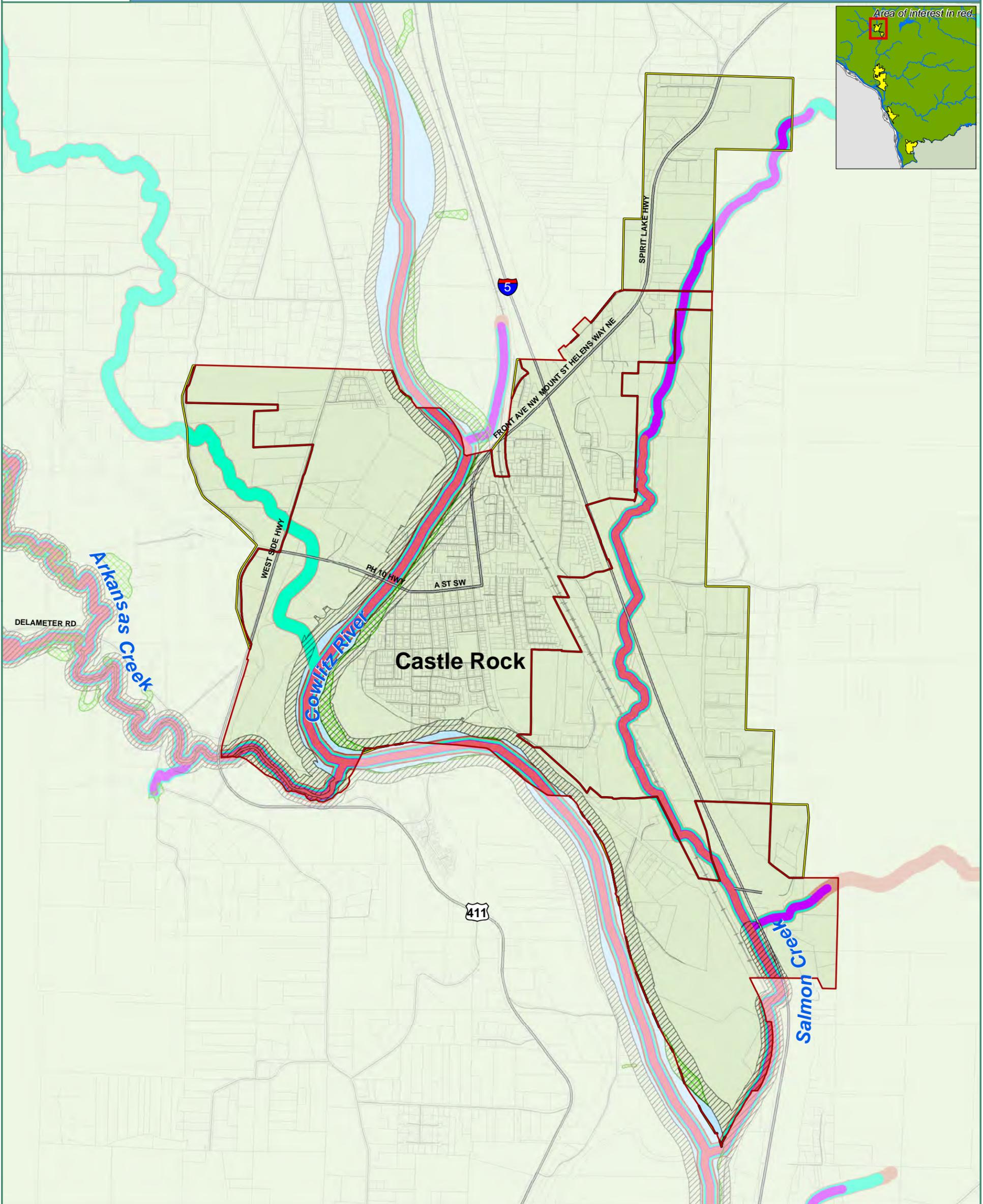
**WDFW Species**

- |                       |                               |                          |                                   |
|-----------------------|-------------------------------|--------------------------|-----------------------------------|
| ● Seal and sealion    | ● Harbor seal                 | □ Spotted Owl Presence   | ■ Proposed Shoreline Jurisdiction |
| ■ Bald eagle          | ▲ Cope's giant salamander     | ■ Great Egret Colony     | ■ Potentially Associated Wetland  |
| ■ Eastern wild turkey | ● Leopard dace                | ▨ Bald Eagle Nest Buffer | ~ SMP Stream                      |
| ■ Osprey              | ● Sand roller                 | ~ SMP Waterbody          | □ City Boundary                   |
| ● California sea lion | ★ Columbian white-tailed deer | □ UGA/UGB/PAB            | ┌┐ County Boundary                |



Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Washington Department of Fish and Wildlife, Department of Ecology, The Watershed Company.



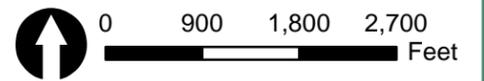
**Priority Fish Distribution**

- Smallmouth Bass
- Walleye
- White Sturgeon
- Green Sturgeon
- American Shad
- Chinook Salmon
- Chum Salmon

- Sockeye
- Pink Salmon
- Coho Salmon
- Steelhead Trout
- Coast Resident Cutthroat
- Rainbow Trout

- Bull Trout
- Mountain Whitefish
- Largemouth Bass
- Kokanee Salmon

- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

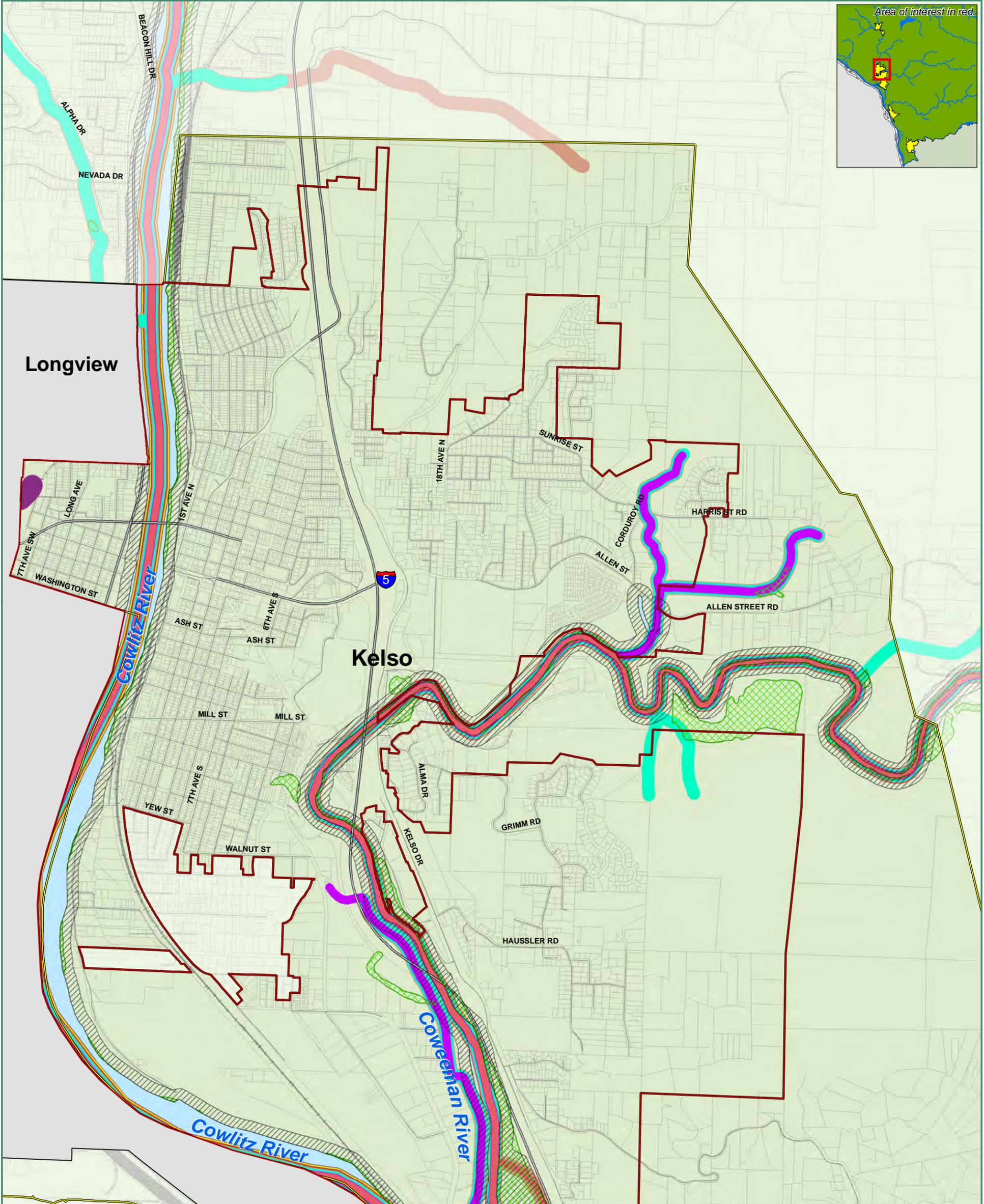


Original Scale=1:20,400 @ 11x17 layout.  
Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Washington Department of Fish and Wildlife, Department of Ecology, The Watershed Company.

FIGURE 19. WDFW PRIORITY FISH DISTRIBUTION

DRAFT



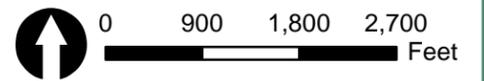
Priority Fish Distribution

- Smallmouth Bass
- Walleye
- White Sturgeon
- Green Sturgeon
- American Shad
- Chinook Salmon
- Chum Salmon

- Sockeye
- Pink Salmon
- Coho Salmon
- Steelhead Trout
- Coast Resident Cutthroat
- Rainbow Trout

- Bull Trout
- Mountain Whitefish
- Largemouth Bass
- Kokanee Salmon

- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

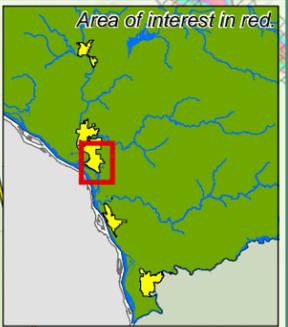
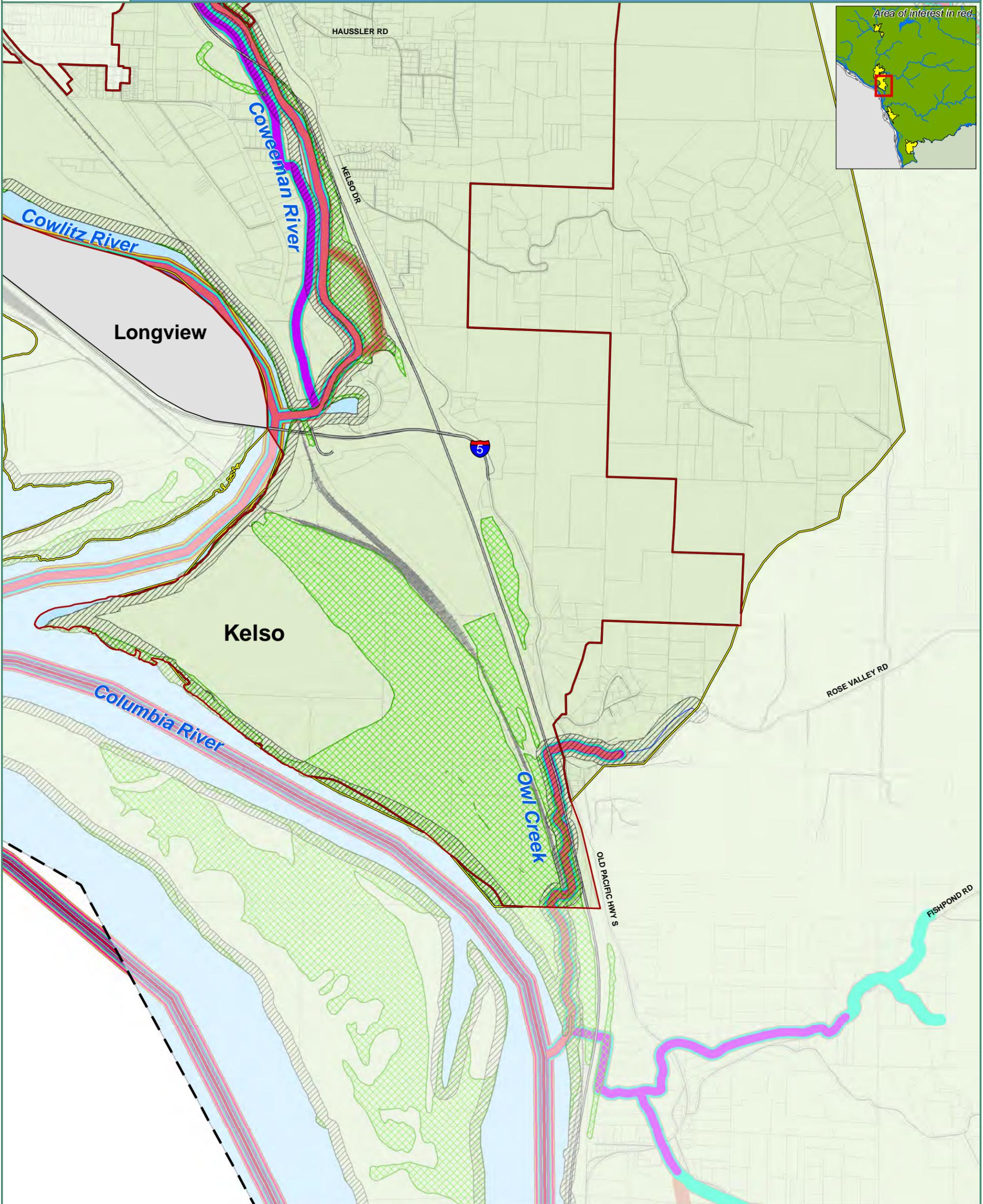


Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source: Cowlitz County, CWCOG, Washington Department of Fish and Wildlife, Department of Ecology, The Watershed Company.

FIGURE 19. WDFW PRIORITY FISH DISTRIBUTION

DRAFT



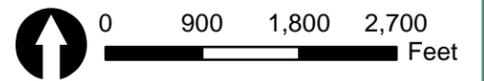
Priority Fish Distribution

- Smallmouth Bass
- Walleye
- White Sturgeon
- Green Sturgeon
- American Shad
- Chinook Salmon
- Chum Salmon

- Sockeye
- Pink Salmon
- Coho Salmon
- Steelhead Trout
- Coast Resident Cutthroat
- Rainbow Trout

- Bull Trout
- Mountain Whitefish
- Largemouth Bass
- Kokanee Salmon

- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

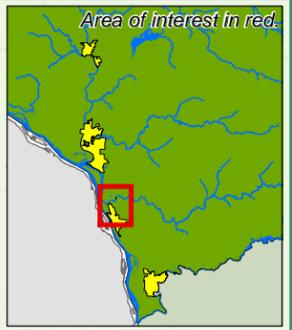


Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source: Cowlitz County, CWCOG, Washington Department of Fish and Wildlife, Department of Ecology, The Watershed Company.

FIGURE 19. WDFW PRIORITY FISH DISTRIBUTION

DRAFT



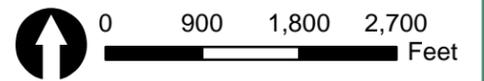
Priority Fish Distribution

- Smallmouth Bass
- Walleye
- White Sturgeon
- Green Sturgeon
- American Shad
- Chinook Salmon
- Chum Salmon

- Sockeye
- Pink Salmon
- Coho Salmon
- Steelhead Trout
- Coast Resident Cutthroat
- Rainbow Trout

- Bull Trout
- Mountain Whitefish
- Largemouth Bass
- Kokanee Salmon

- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

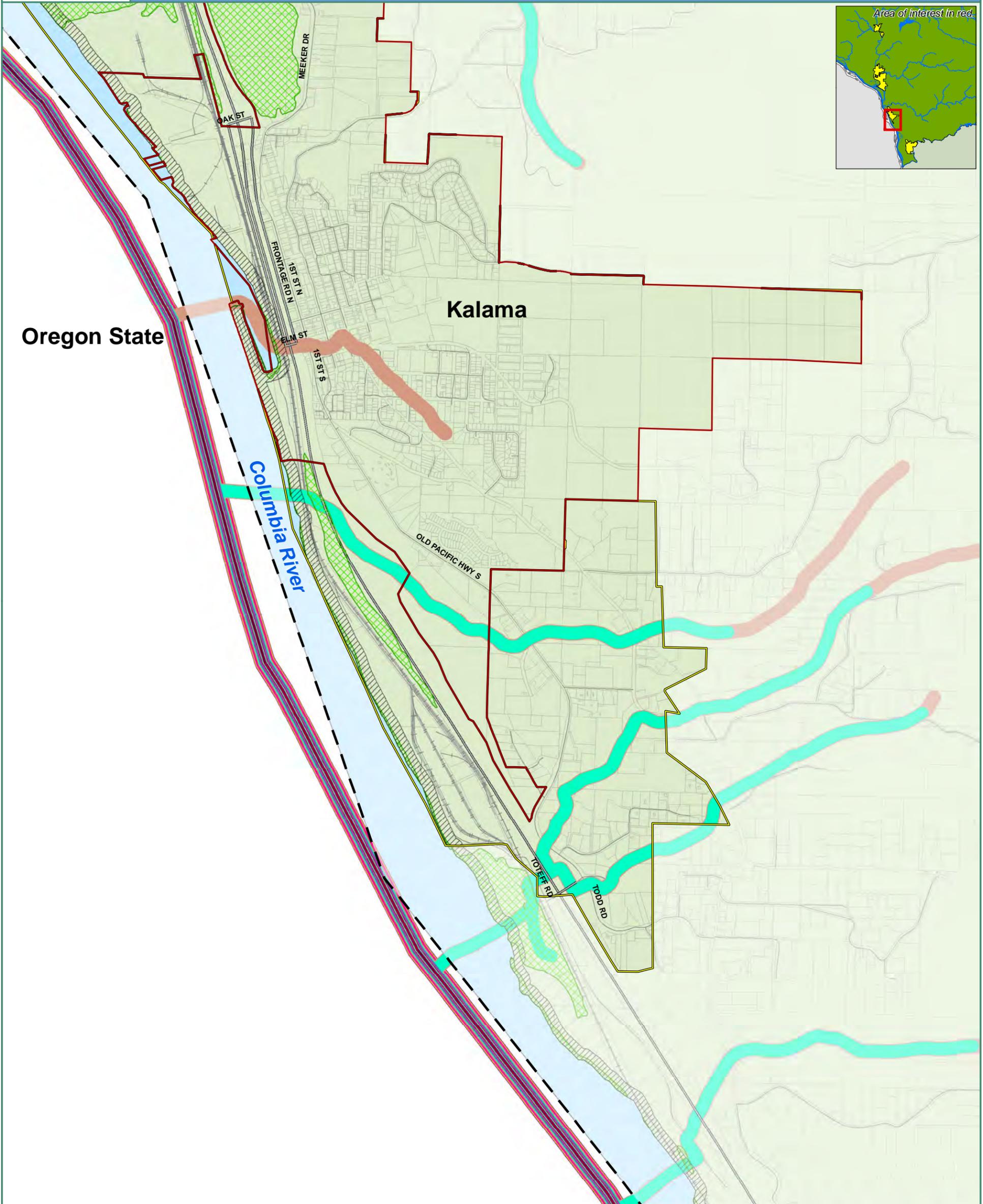


Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source: Cowlitz County, CWCOG, Washington Department of Fish and Wildlife, Department of Ecology, The Watershed Company.

FIGURE 19. WDFW PRIORITY FISH DISTRIBUTION

DRAFT



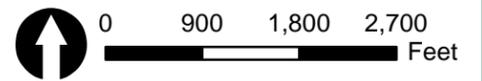
Priority Fish Distribution

- Smallmouth Bass
- Walleye
- White Sturgeon
- Green Sturgeon
- American Shad
- Chinook Salmon
- Chum Salmon

- Sockeye
- Pink Salmon
- Coho Salmon
- Steelhead Trout
- Coast Resident Cutthroat
- Rainbow Trout

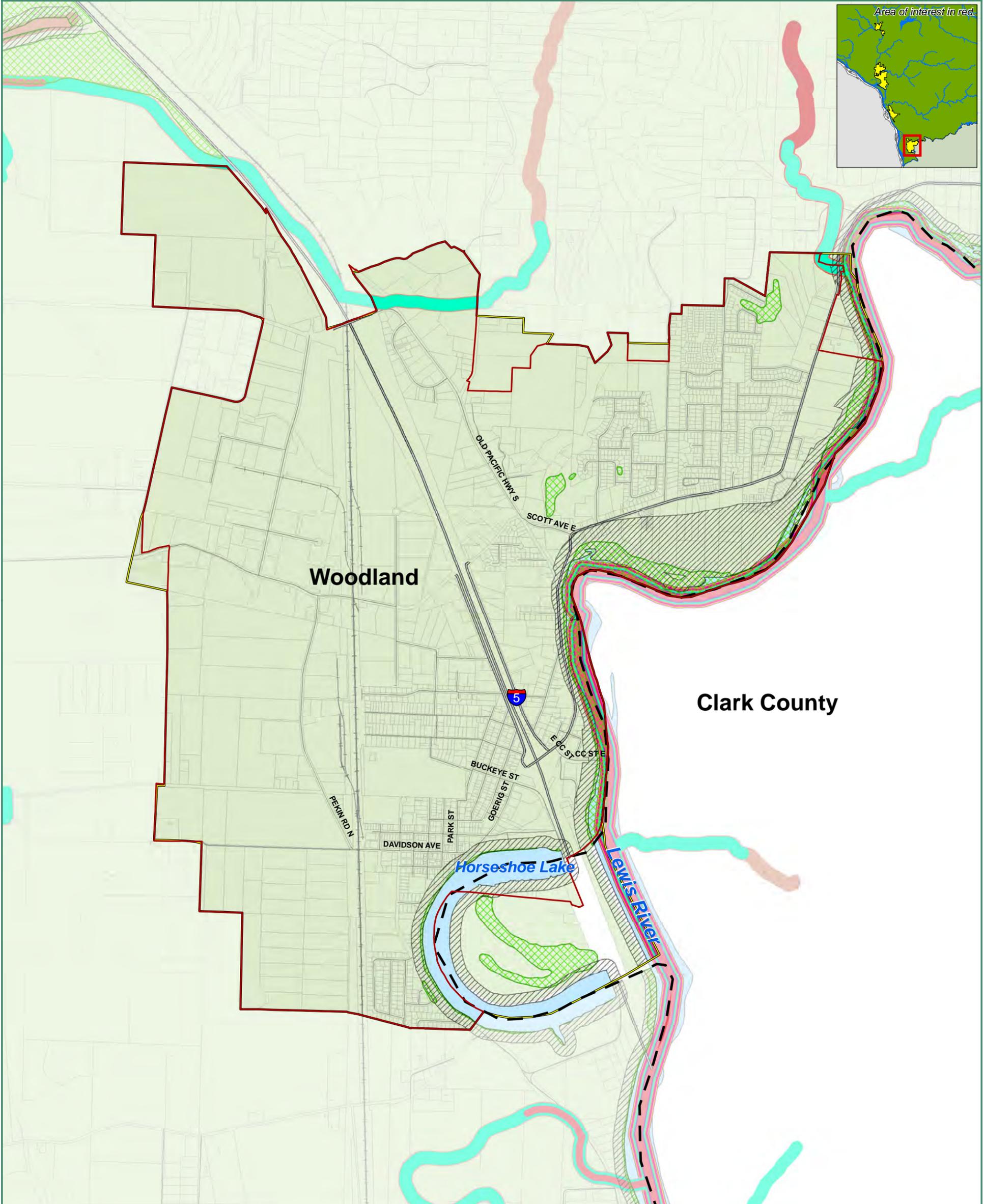
- Bull Trout
- Mountain Whitefish
- Largemouth Bass
- Kokanee Salmon

- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary



Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source: Cowlitz County, CWCOG, Washington Department of Fish and Wildlife, Department of Ecology, The Watershed Company.



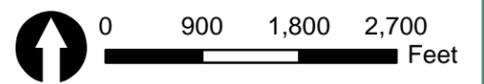
**Priority Fish Distribution**

- Smallmouth Bass
- Walleye
- White Sturgeon
- Green Sturgeon
- American Shad
- Chinook Salmon
- Chum Salmon

- Sockeye
- Pink Salmon
- Coho Salmon
- Steelhead Trout
- Coast Resident Cutthroat
- Rainbow Trout

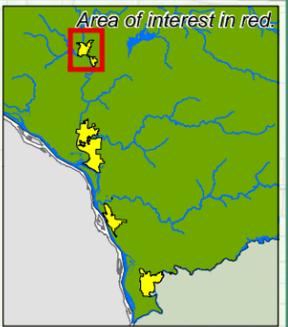
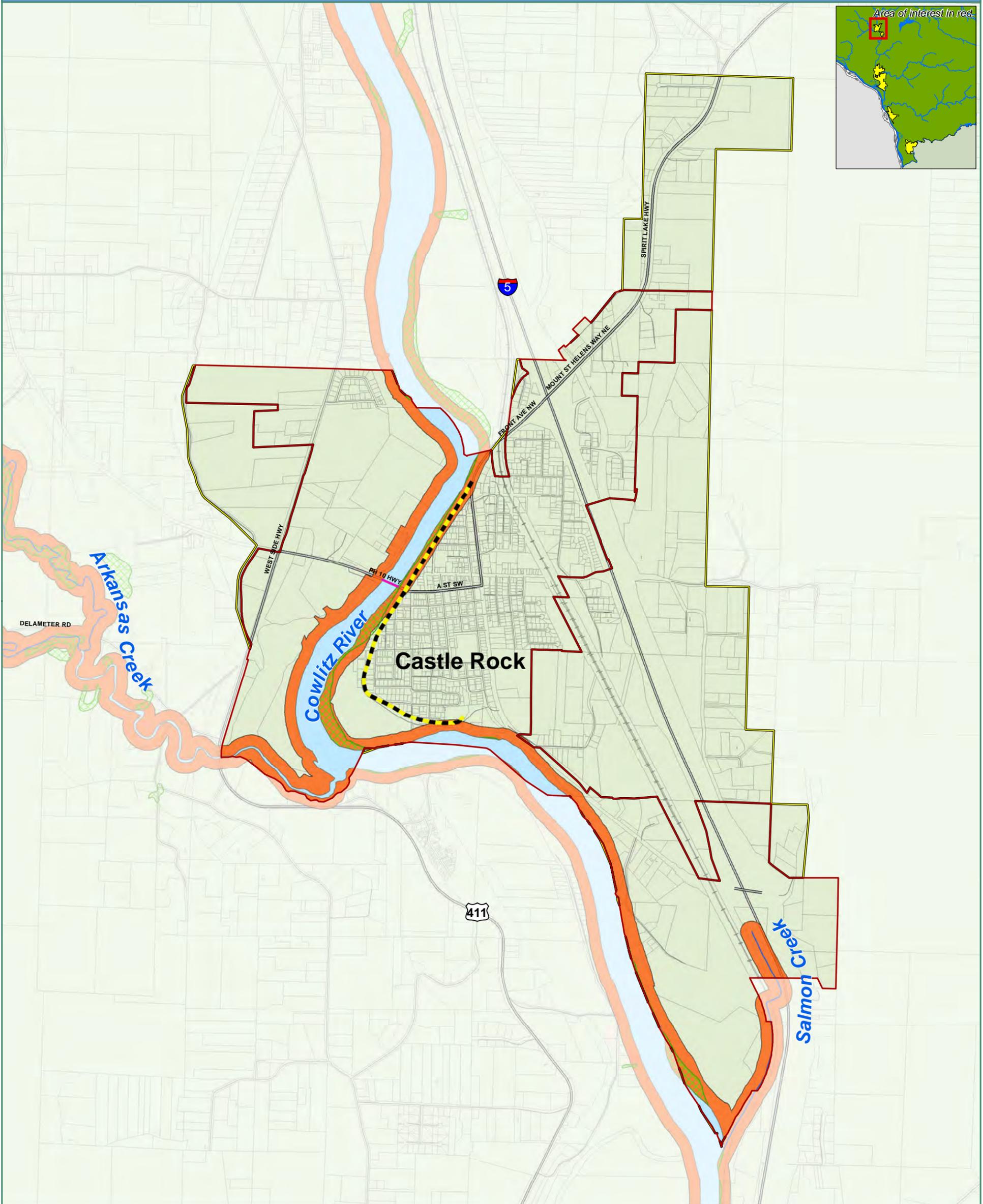
- Bull Trout
- Mountain Whitefish
- Largemouth Bass
- Kokanee Salmon

- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

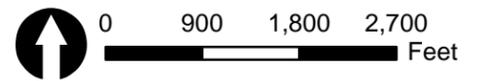


Original Scale=1:20,400 @ 11x17 layout.  
Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Washington  
Department of Fish and Wildlife, Department  
of Ecology, The Watershed Company.



- Dam
- FEMA Certified Levee
- Other Public Levee<sup>1</sup>
- Overwater Structure<sup>2</sup>
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary



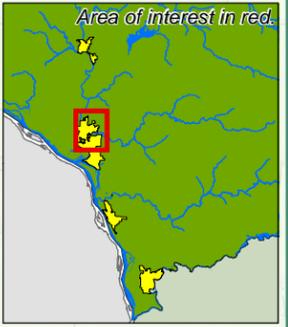
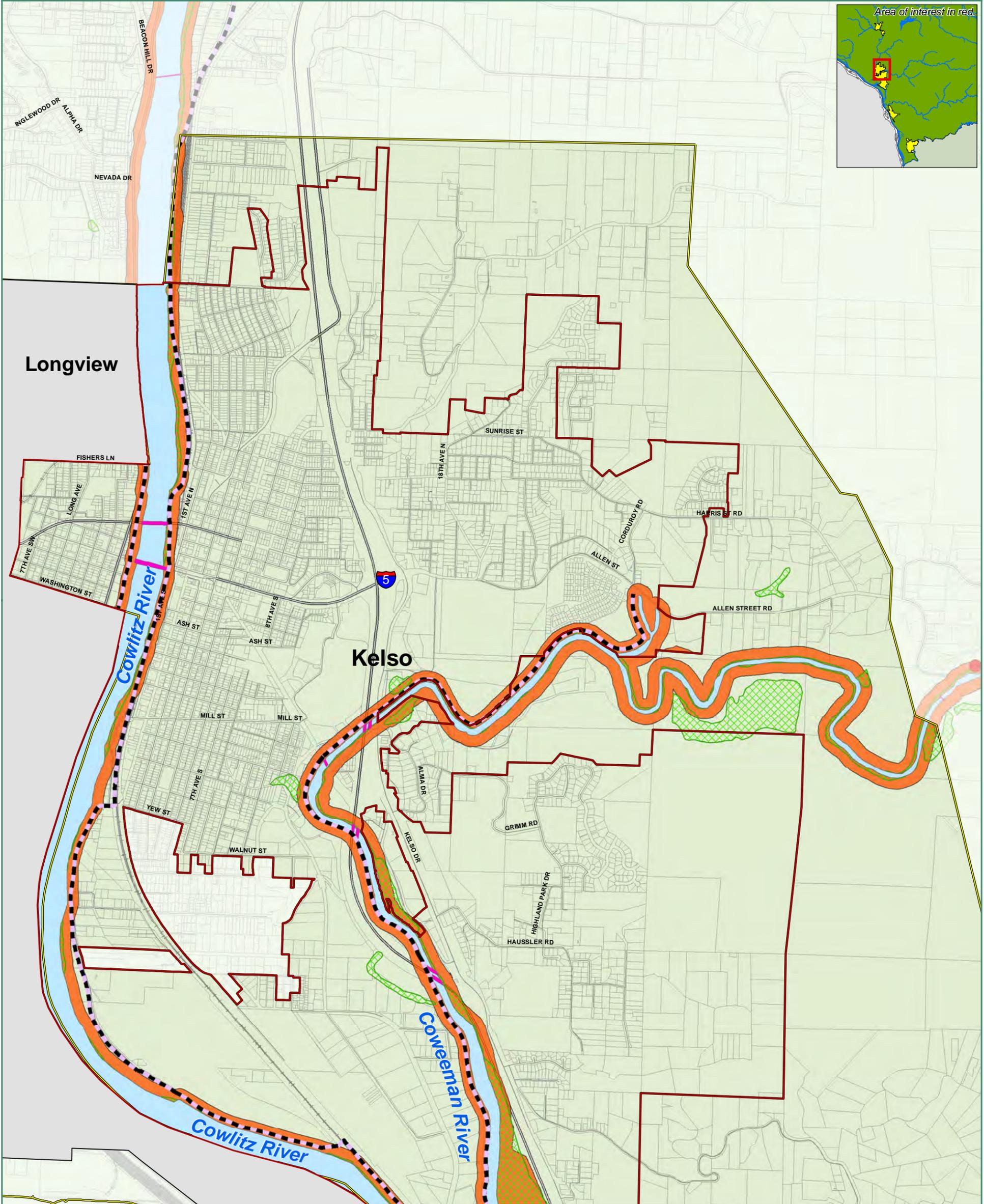
Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Department of Natural Resources, Department of Ecology, The Watershed Company.

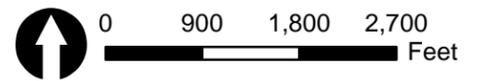
Note:  
<sup>1</sup> Other public levees for which FEMA certification is actively being pursued.  
<sup>2</sup> Overwater structure data is shown as provided by Department of Natural Resources. It does not represent an accurate County-wide depiction of overwater structures.

FIGURE 20. LEVEES, DAMS, OVERWATER STRUCTURES

DRAFT



- Dam
- SMP Stream
- City Boundary
- FEMA Certified Levee
- SMP Waterbody
- UGA/UGB/PAB
- Other Public Levee<sup>1</sup>
- Proposed Shoreline Jurisdiction
- County Boundary
- Overwater Structure<sup>2</sup>
- Potentially Associated Wetland



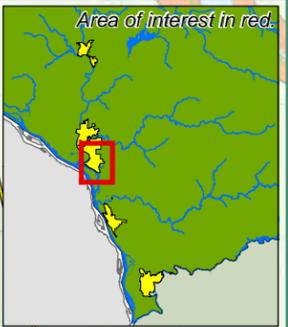
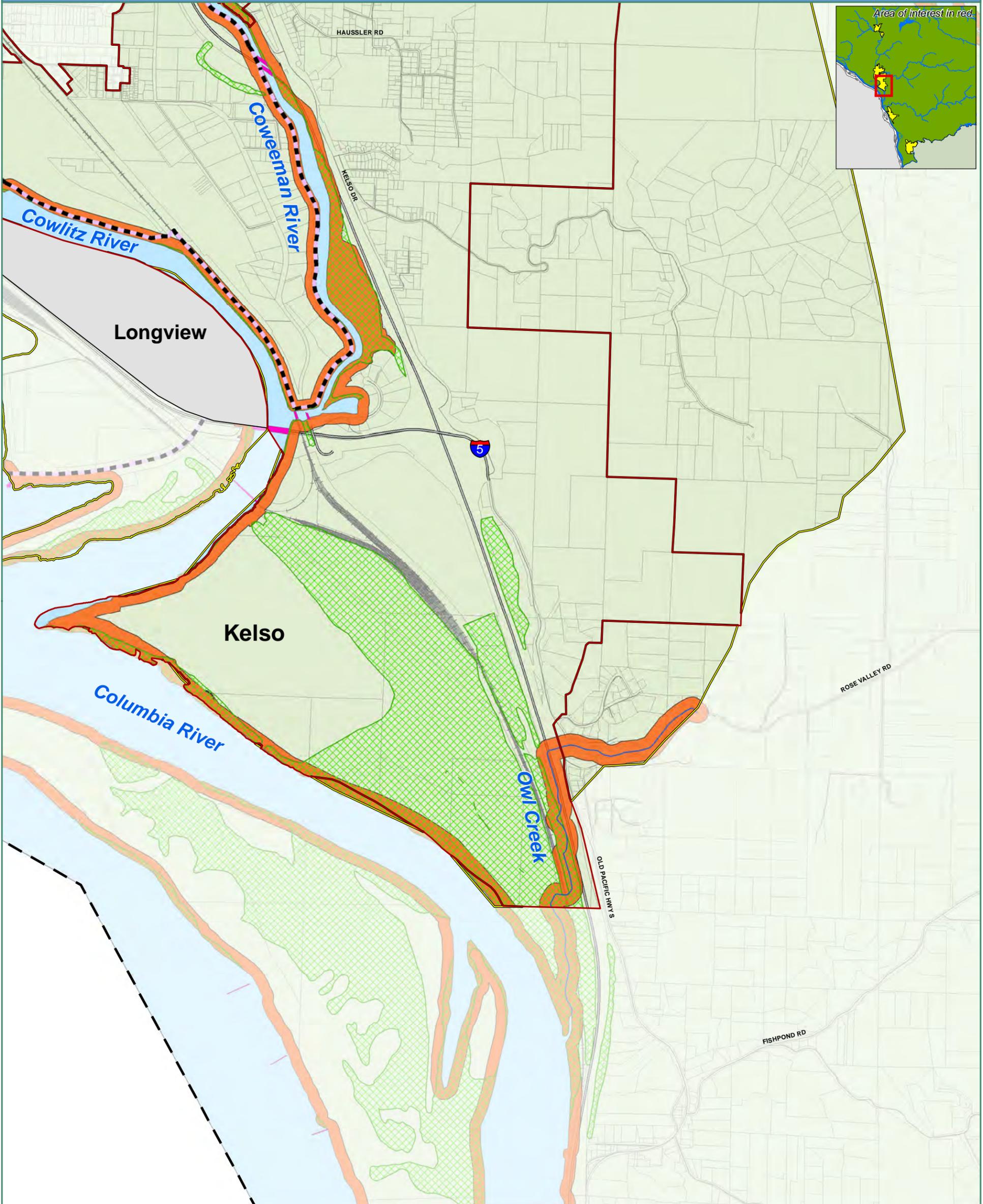
Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source: Cowlitz County, CWCOG, Department of Natural Resources, Department of Ecology, The Watershed Company.

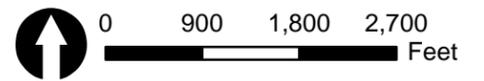
Note:  
<sup>1</sup> Other public levees for which FEMA certification is actively being pursued.  
<sup>2</sup> Overwater structure data is shown as provided by Department of Natural Resources. It does not represent an accurate County-wide depiction of overwater structures.

FIGURE 20. LEVEES, DAMS, OVERWATER STRUCTURES

DRAFT



- Dam
- SMP Stream
- City Boundary
- FEMA Certified Levee
- SMP Waterbody
- UGA/UGB/PAB
- Other Public Levee<sup>1</sup>
- Proposed Shoreline Jurisdiction
- County Boundary
- Overwater Structure<sup>2</sup>
- Potentially Associated Wetland



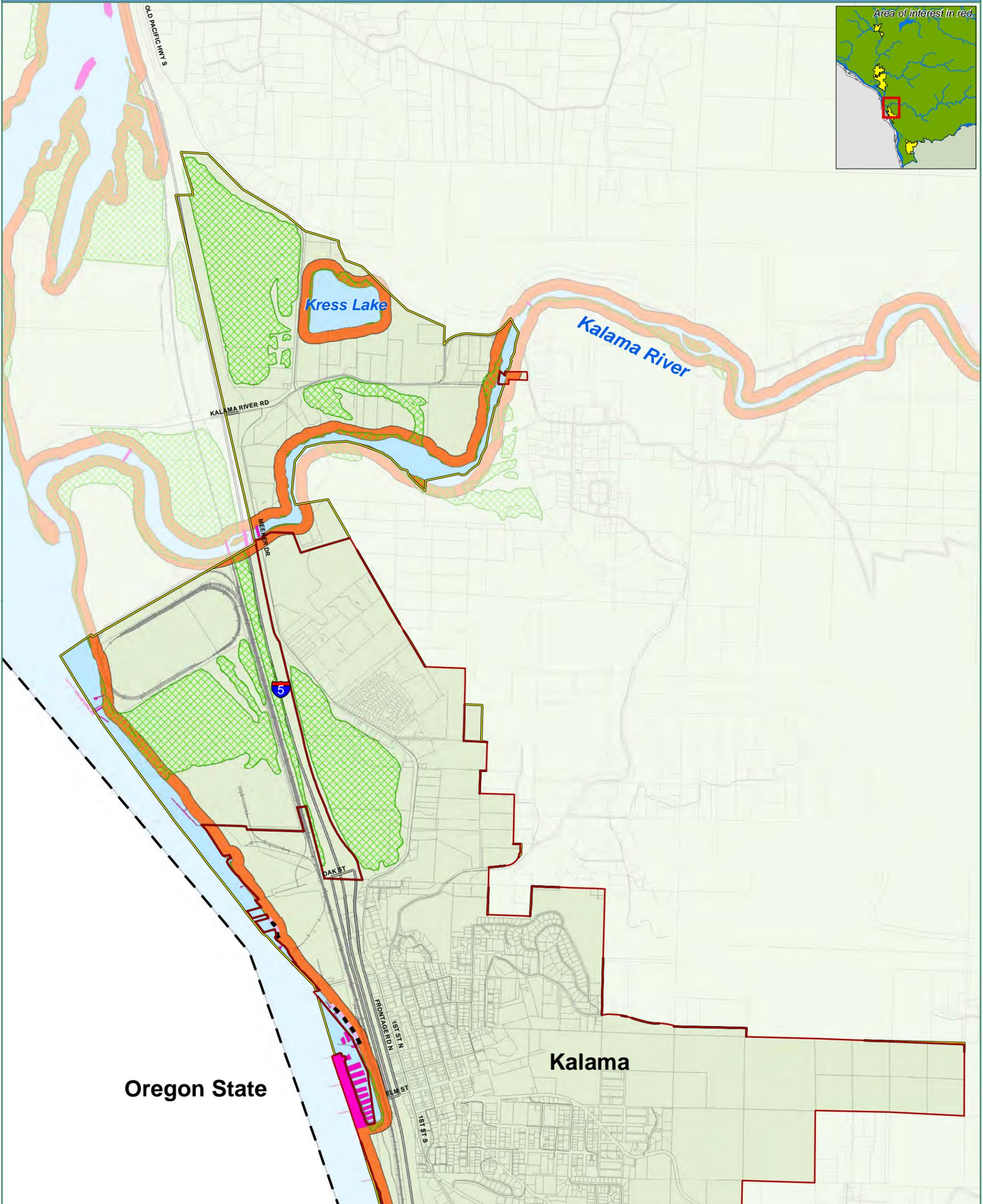
Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Department of Natural Resources, Department of Ecology, The Watershed Company.

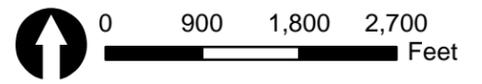
Note:  
<sup>1</sup> Other public levees for which FEMA certification is actively being pursued.  
<sup>2</sup> Overwater structure data is shown as provided by Department of Natural Resources. It does not represent an accurate County-wide depiction of overwater structures.

FIGURE 20. LEVEES, DAMS, OVERWATER STRUCTURES

DRAFT



- Dam
- ▬ FEMA Certified Levee
- ▬ Other Public Levee<sup>1</sup>
- ▬ Overwater Structure<sup>2</sup>
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- ▨ Potentially Associated Wetland
- ▭ City Boundary
- ▭ UGA/UGB/PAB
- ▭ County Boundary



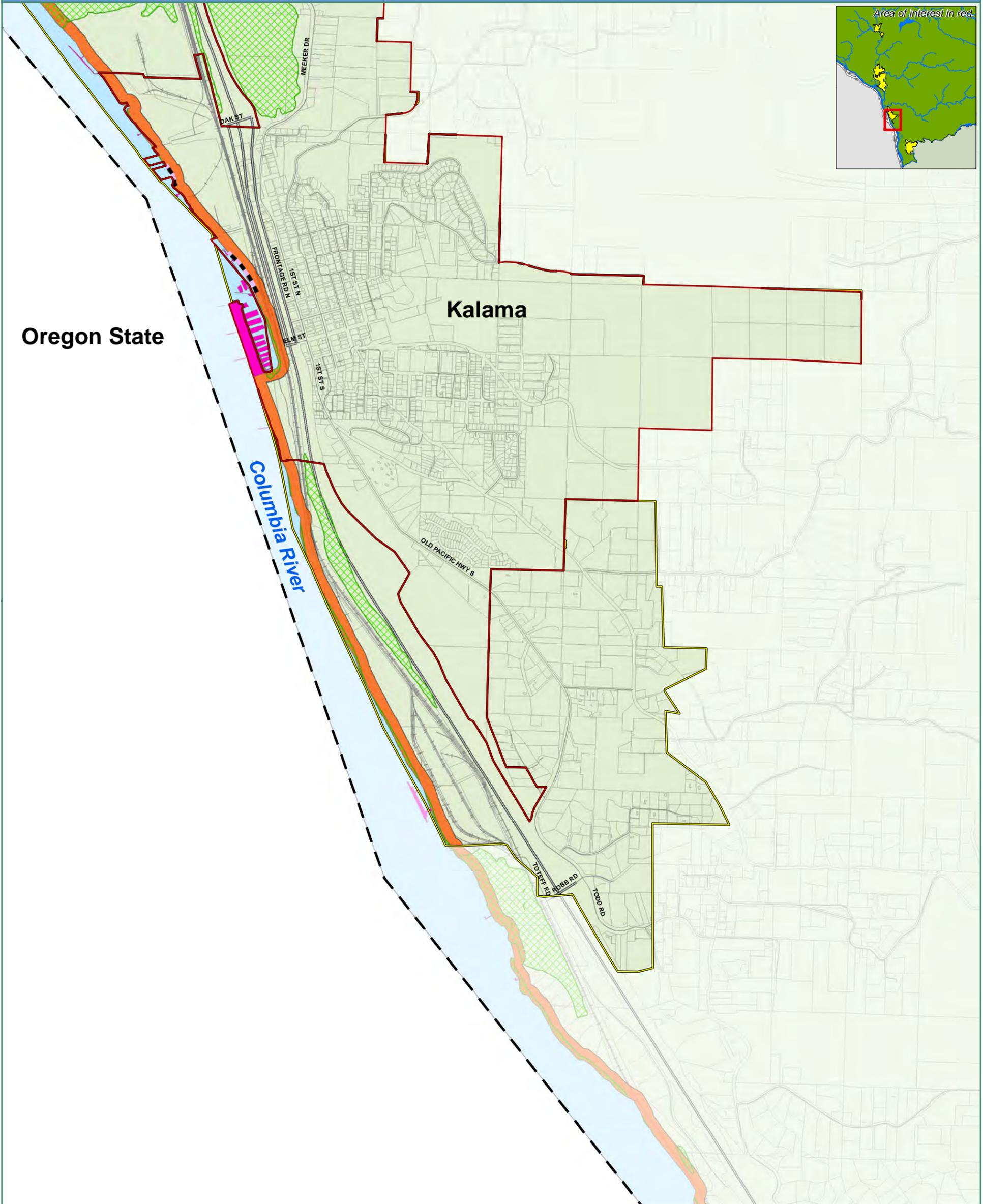
Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Department of Natural Resources, Department of Ecology, The Watershed Company.

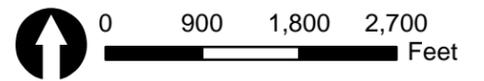
Note:  
<sup>1</sup> Other public levees for which FEMA certification is actively being pursued.  
<sup>2</sup> Overwater structure data is shown as provided by Department of Natural Resources. It does not represent an accurate County-wide depiction of overwater structures.

FIGURE 20. LEVEES, DAMS, OVERWATER STRUCTURES

DRAFT



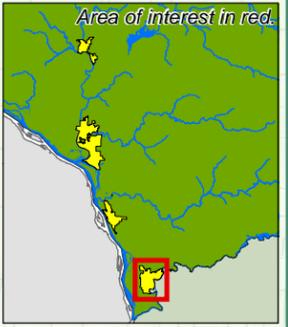
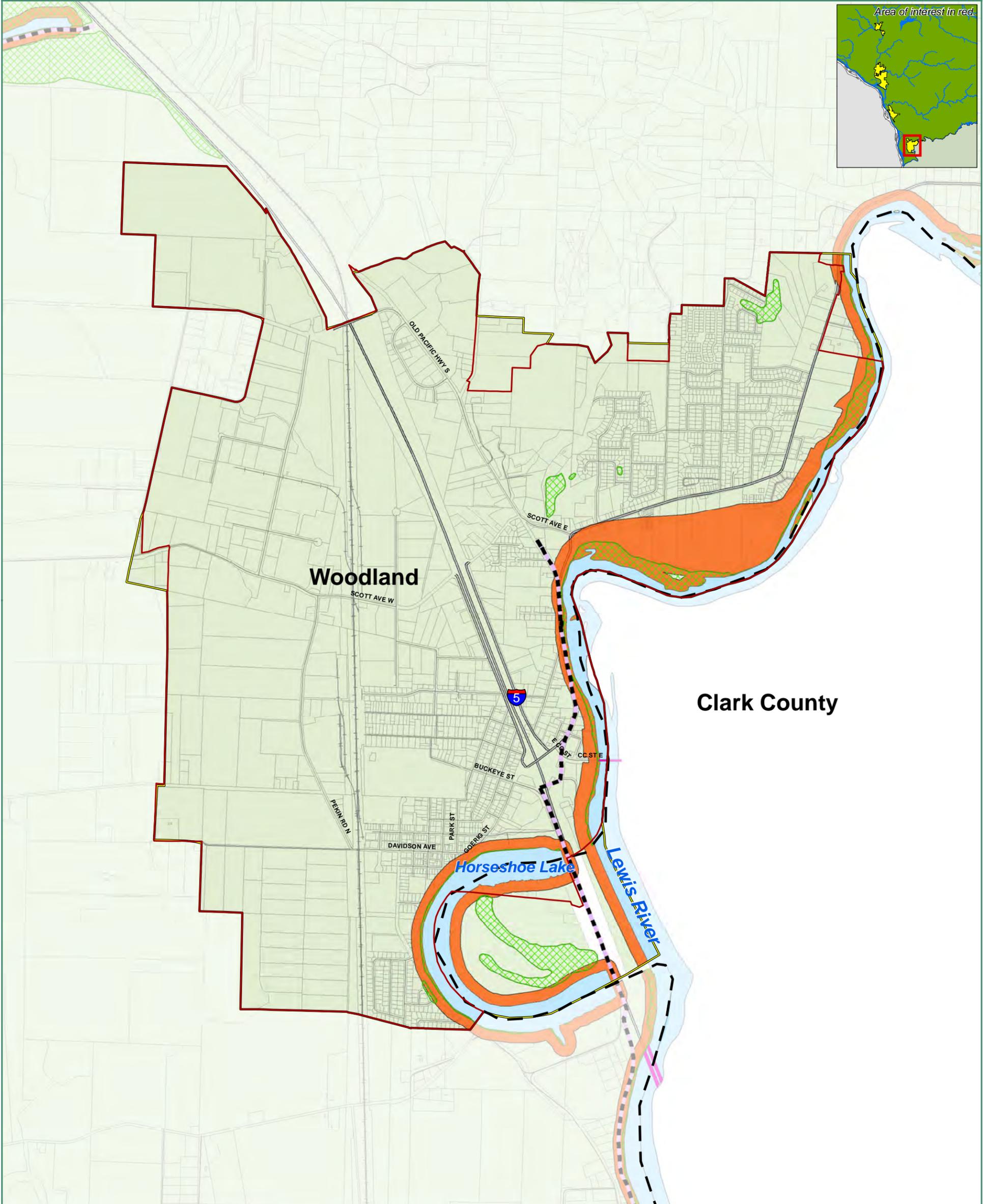
- Dam
- ▬ FEMA Certified Levee
- ▬ Other Public Levee<sup>1</sup>
- ▬ Overwater Structure<sup>2</sup>
- SMP Stream
- ▭ SMP Waterbody
- ▭ Proposed Shoreline Jurisdiction
- ▭ Potentially Associated Wetland
- ▭ City Boundary
- ▭ UGA/UGB/PAB
- ▭ County Boundary



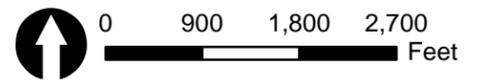
Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Department of Natural Resources, Department of Ecology, The Watershed Company.

Note:  
<sup>1</sup> Other public levees for which FEMA certification is actively being pursued.  
<sup>2</sup> Overwater structure data is shown as provided by Department of Natural Resources. It does not represent an accurate County-wide depiction of overwater structures.



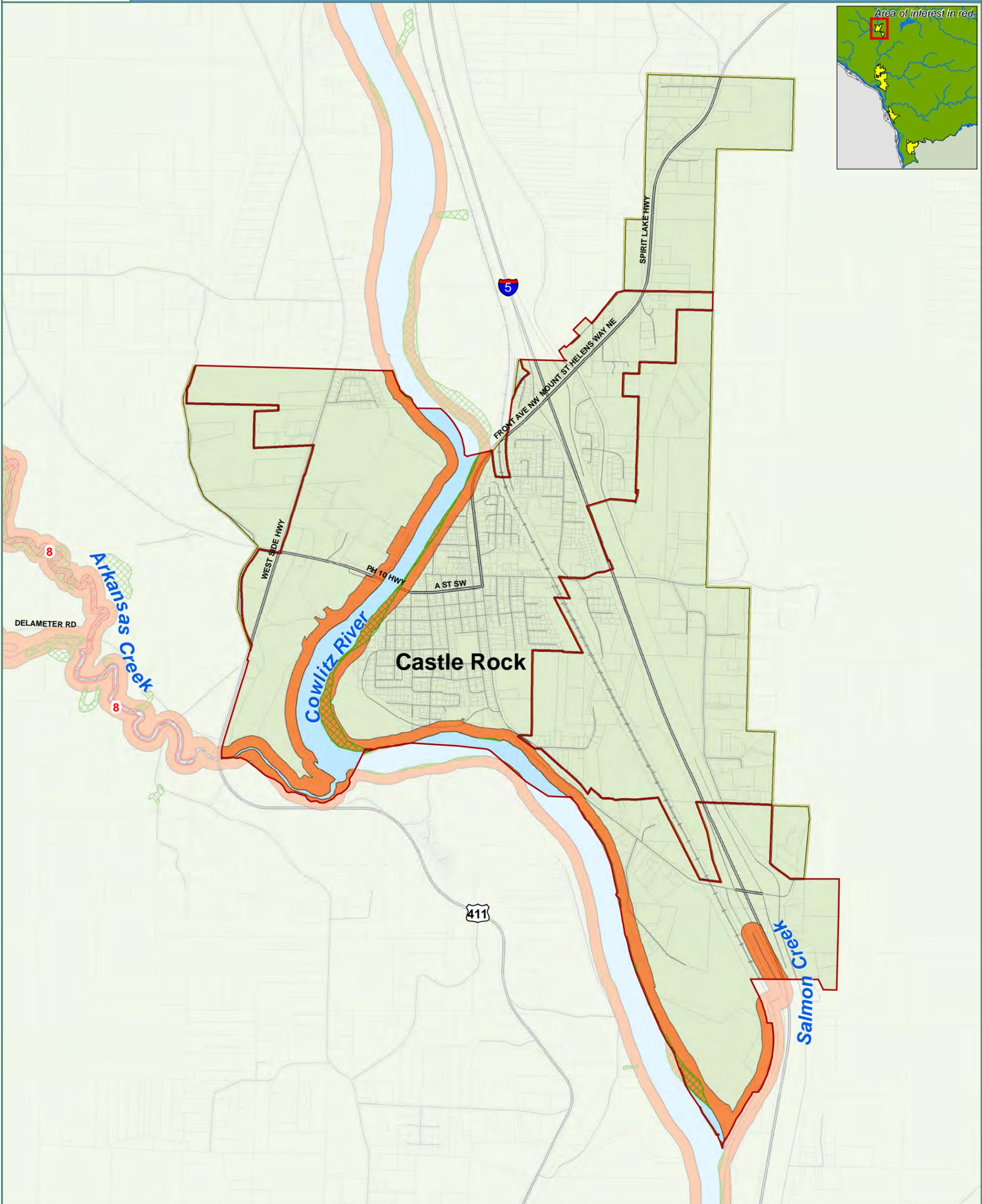
- Dam
- FEMA Certified Levee
- Other Public Levee<sup>1</sup>
- Overwater Structure<sup>2</sup>
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary



Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Department of Natural Resources, Department of Ecology, The Watershed Company.

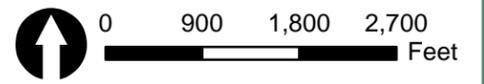
Note:  
<sup>1</sup> Other public levees for which FEMA certification is actively being pursued.  
<sup>2</sup> Overwater structure data is shown as provided by Department of Natural Resources. It does not represent an accurate County-wide depiction of overwater structures. Overwater structure data not provided for Horseshoe Lake.



- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

- Water Quality**
- Category 5 Water
  - Category 4 Water

- Water Quality Parameters**
- 1 - 2,3,7,8-TCDD
  - 2 - Dieldrin
  - 3 - Dioxin
  - 4 - Fecal Coliform
  - 5 - Invasive Exotic Species
  - 6 - Mercury
  - 7 - PCB
  - 8 - Temperature
  - 9 - Total Dissolved Gas

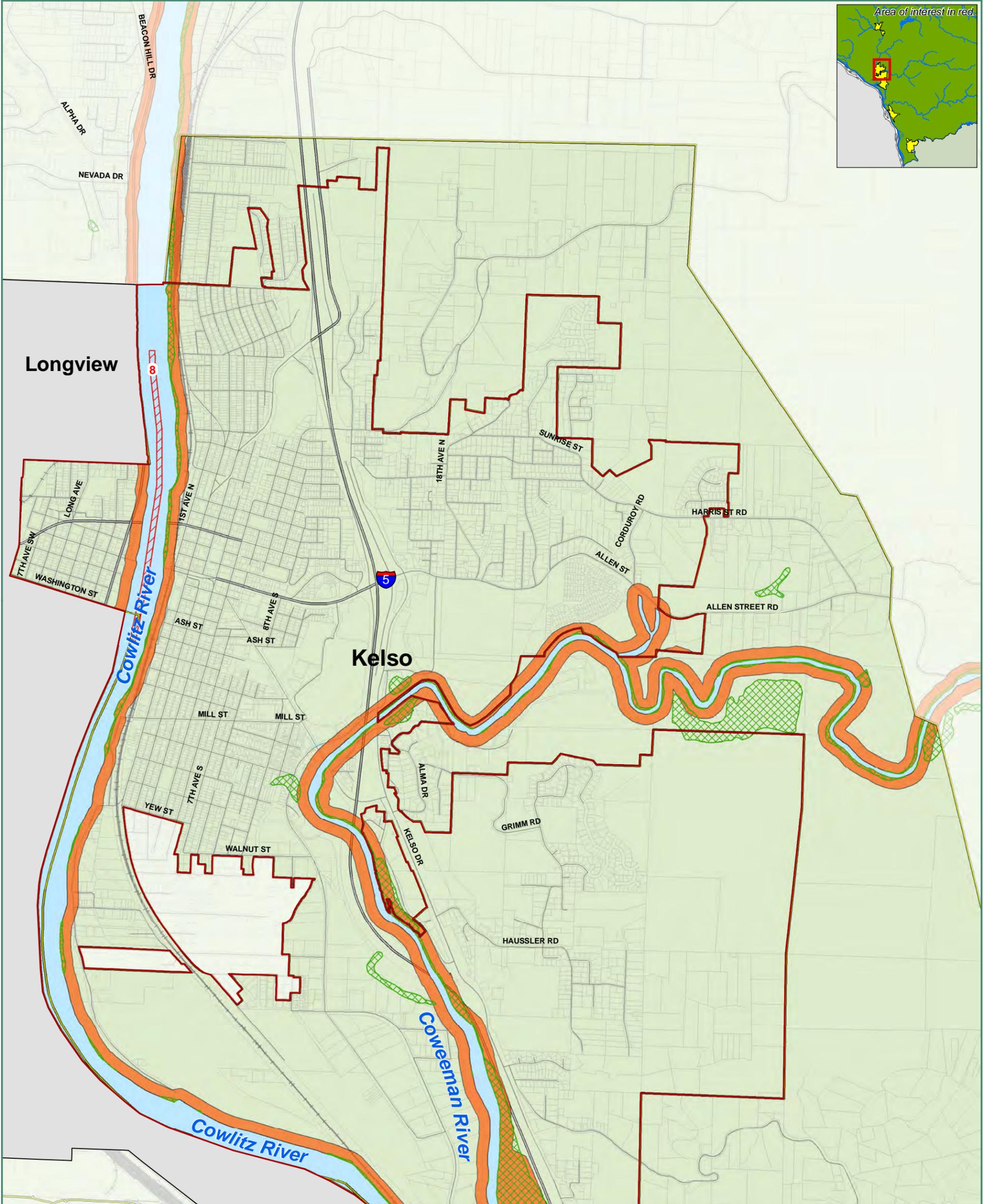


Original Scale=1:20,400 @ 11x17 layout.  
Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

FIGURE 21. WATER QUALITY

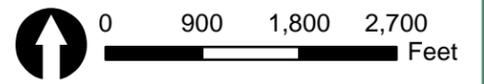
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- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

- Water Quality**
- Category 5 Water
  - Category 4 Water

- Water Quality Parameters**
- 1 - 2,3,7,8-TCDD
  - 2 - Dieldrin
  - 3 - Dioxin
  - 4 - Fecal Coliform
  - 5 - Invasive Exotic Species
  - 6 - Mercury
  - 7 - PCB
  - 8 - Temperature
  - 9 - Total Dissolved Gas

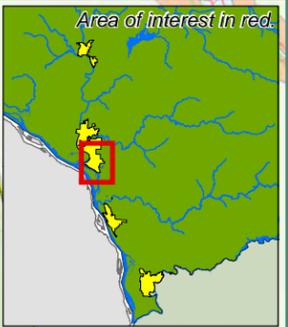
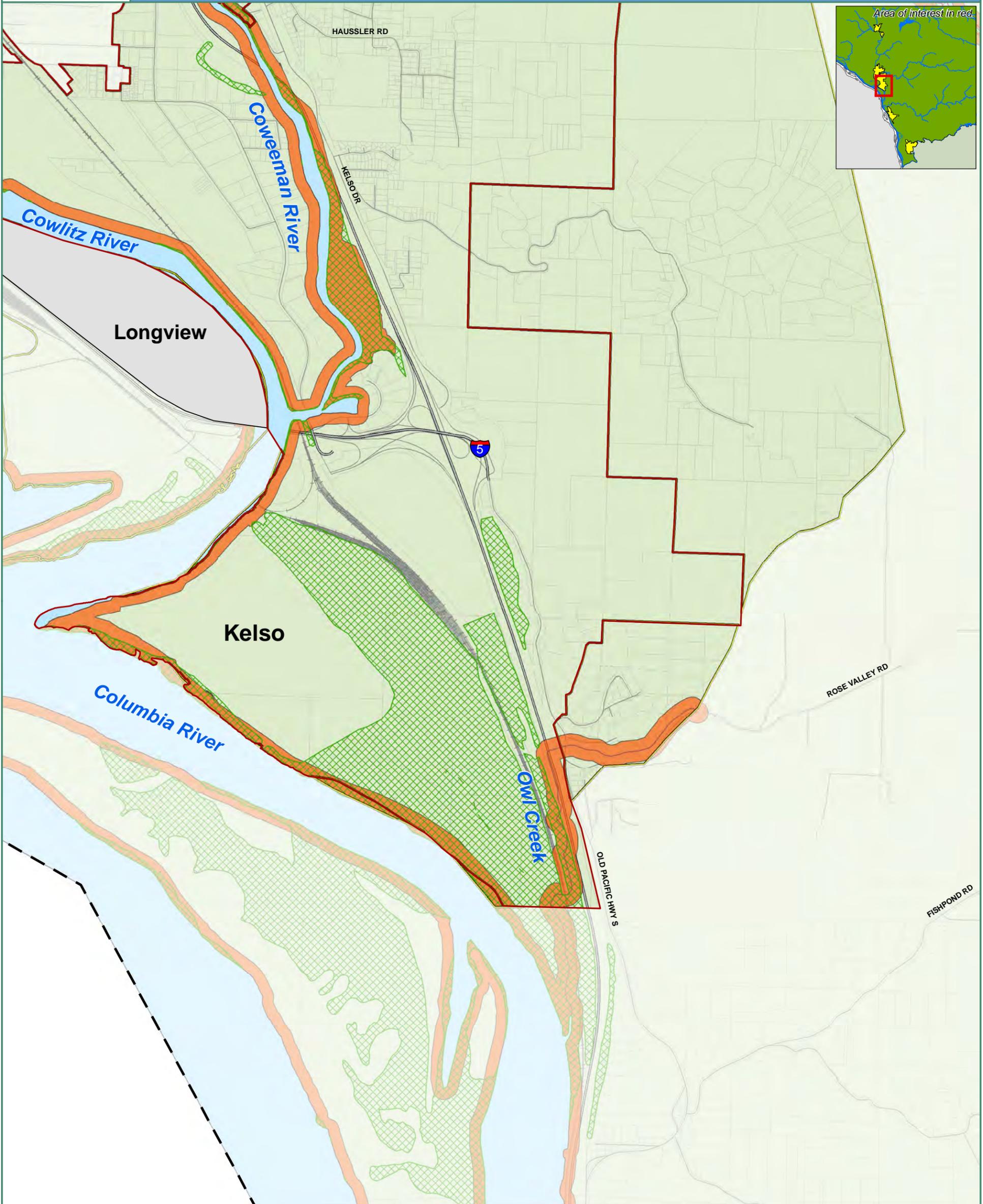


Original Scale=1:20,400 @ 11x17 layout.  
Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

FIGURE 21. WATER QUALITY

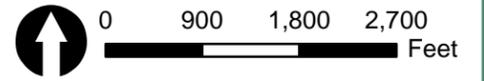
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- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

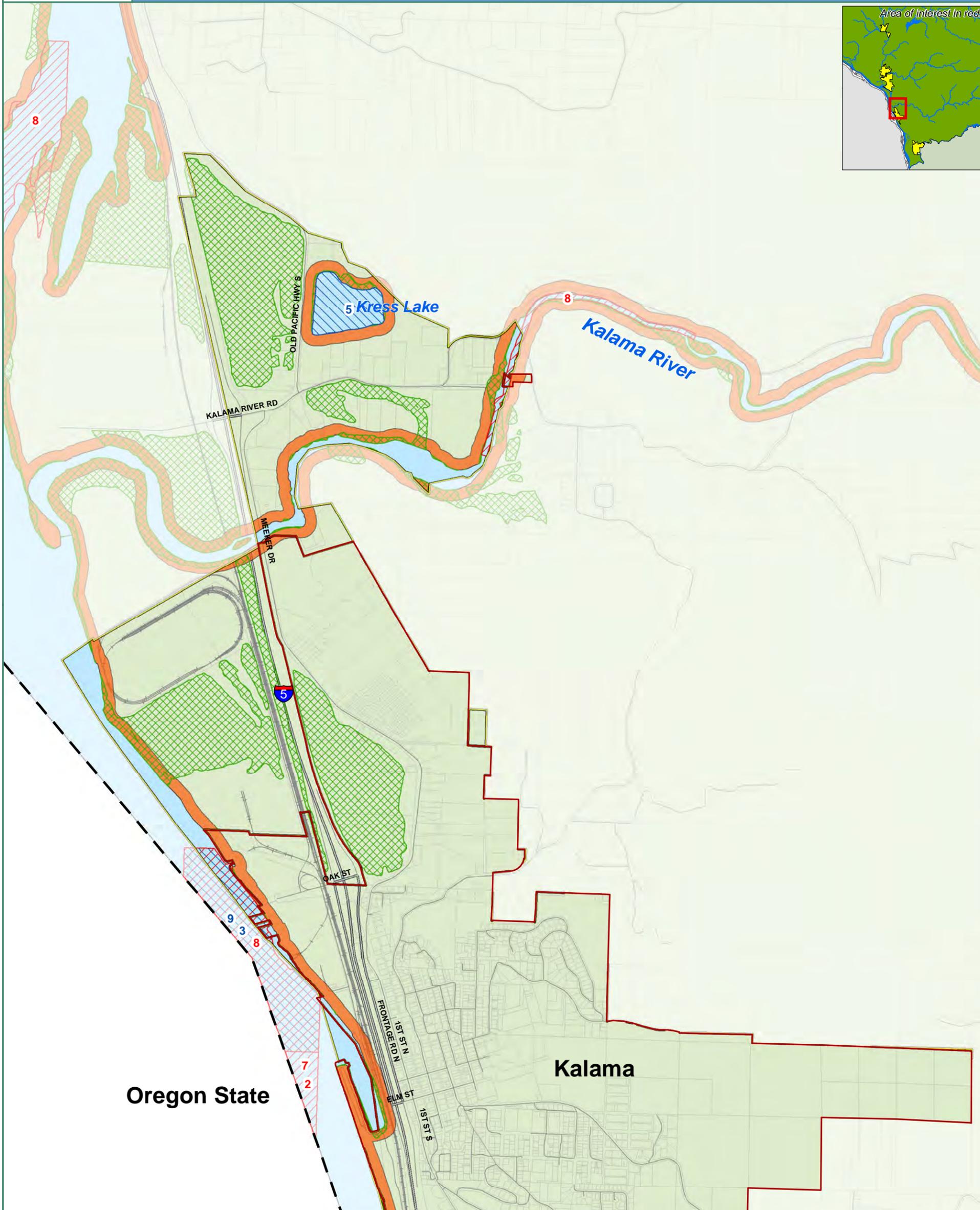
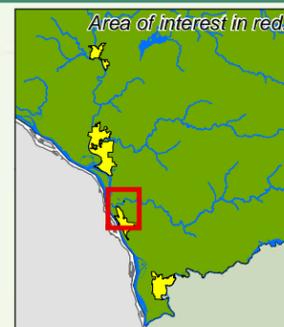
- Water Quality**
- Category 5 Water
  - Category 4 Water

- Water Quality Parameters**
- 1 - 2,3,7,8-TCDD
  - 2 - Dieldrin
  - 3 - Dioxin
  - 4 - Fecal Coliform
  - 5 - Invasive Exotic Species
  - 6 - Mercury
  - 7 - PCB
  - 8 - Temperature
  - 9 - Total Dissolved Gas



Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source:  
Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.



- SMP Stream
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- Potentially Associated Wetland
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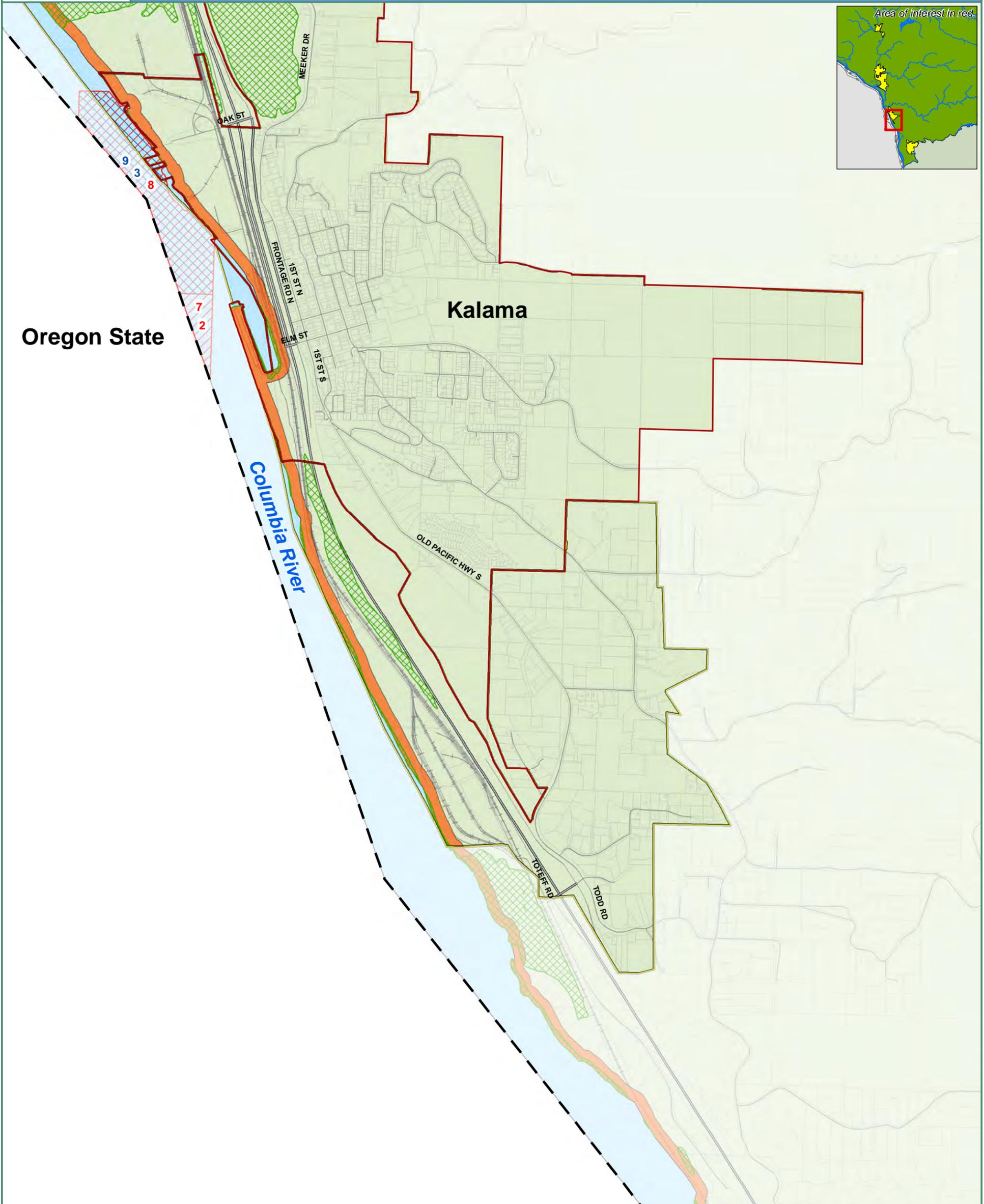
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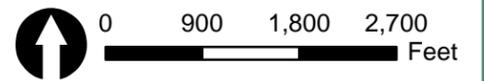
Data source:  
Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.



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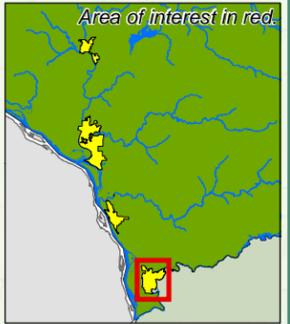
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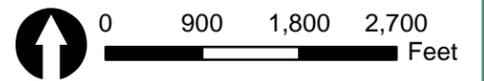
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- County Boundary

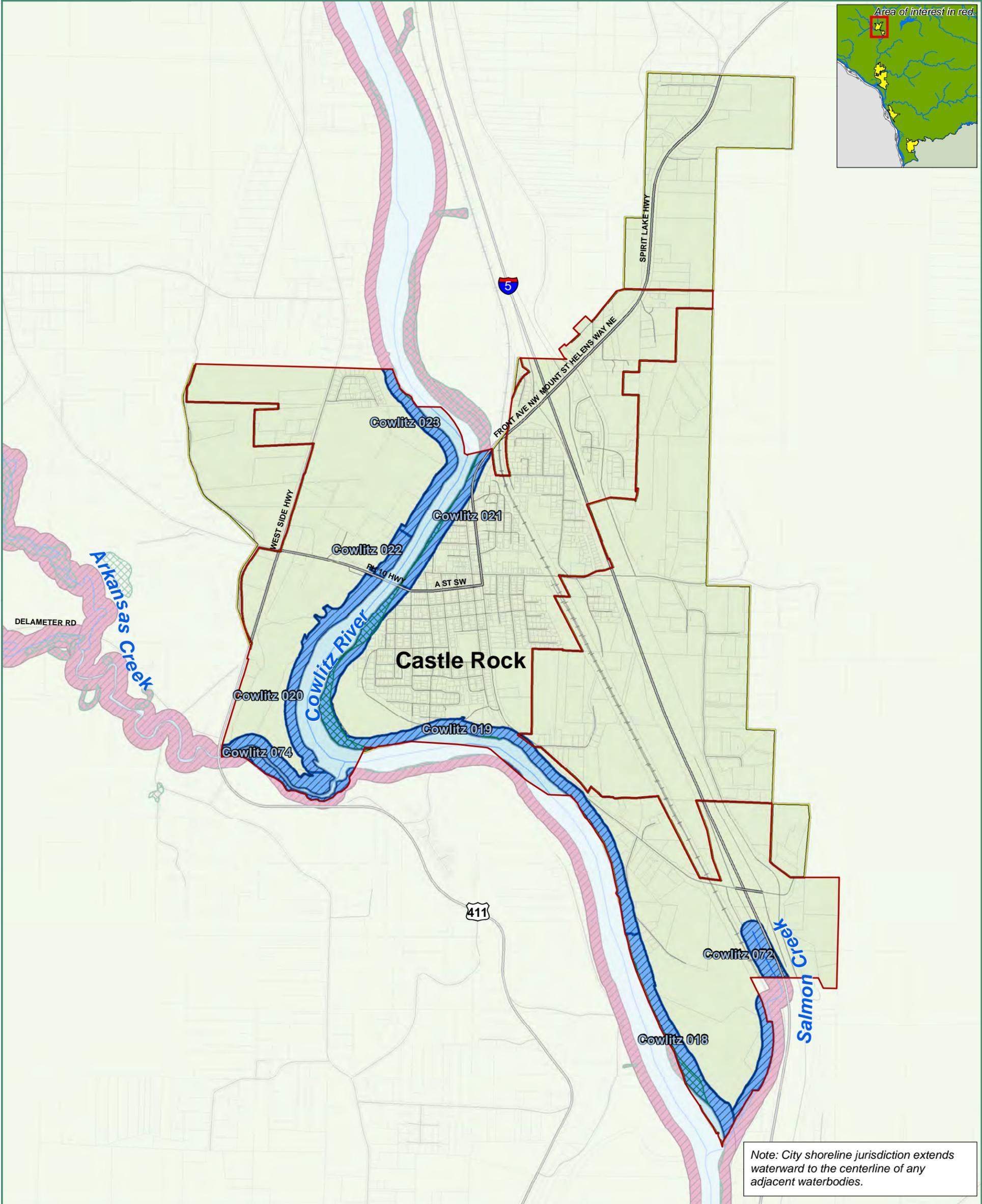
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- Category 5 Water
  - Category 4 Water

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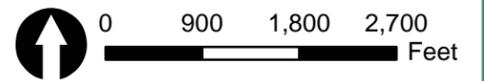
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**Shoreline Reaches**

- City
- County
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

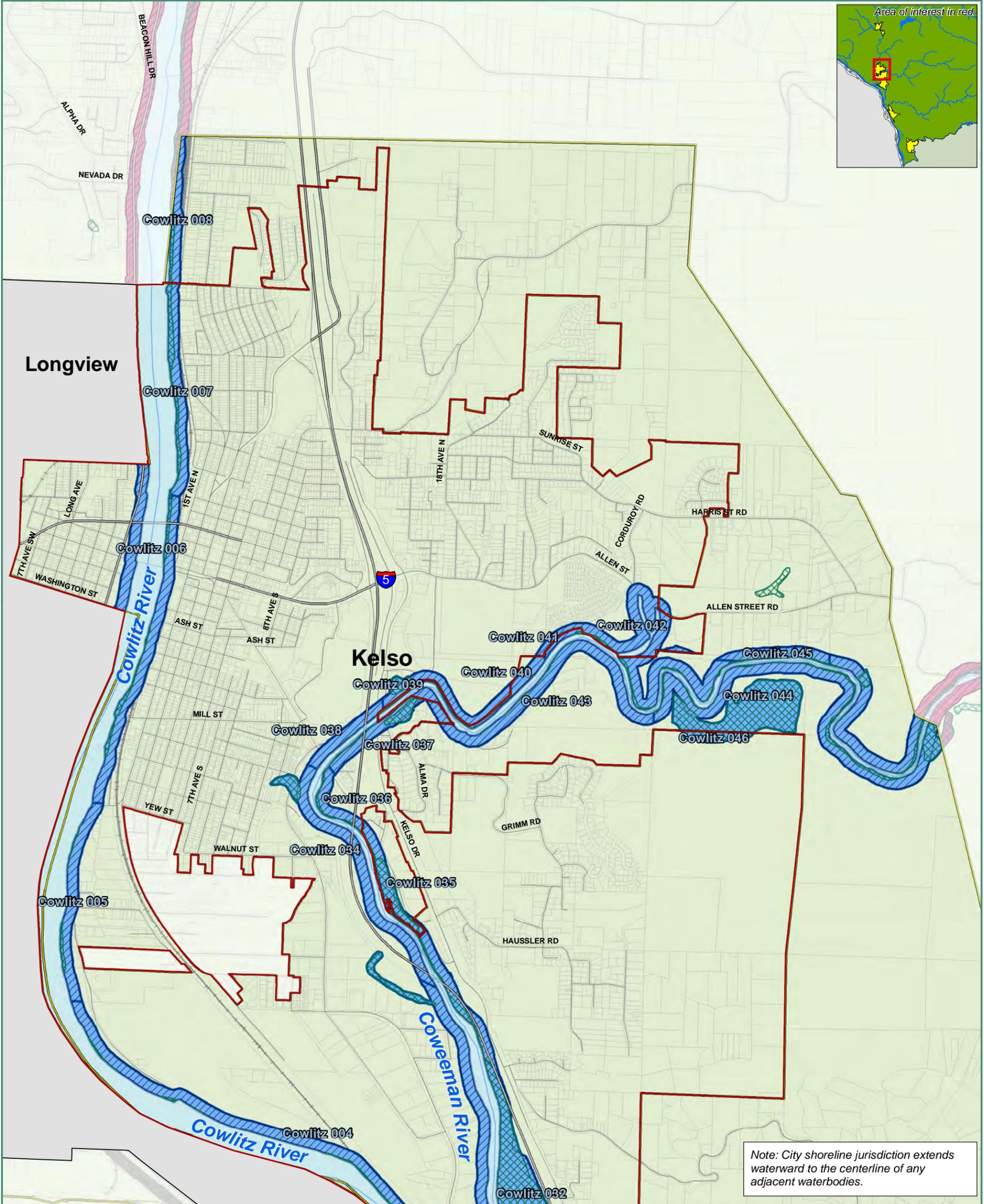


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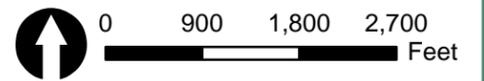
FIGURE 22. SHORELINE REACHES

DRAFT



Note: City shoreline jurisdiction extends waterward to the centerline of any adjacent waterbodies.

- Shoreline Reaches**
- ~ SMP Stream
  - City
  - SMP Waterbody
  - County
  - Proposed Shoreline Jurisdiction
  - Potentially Associated Wetland
  - City Boundary
  - UGA/UGB/PAB
  - County Boundary

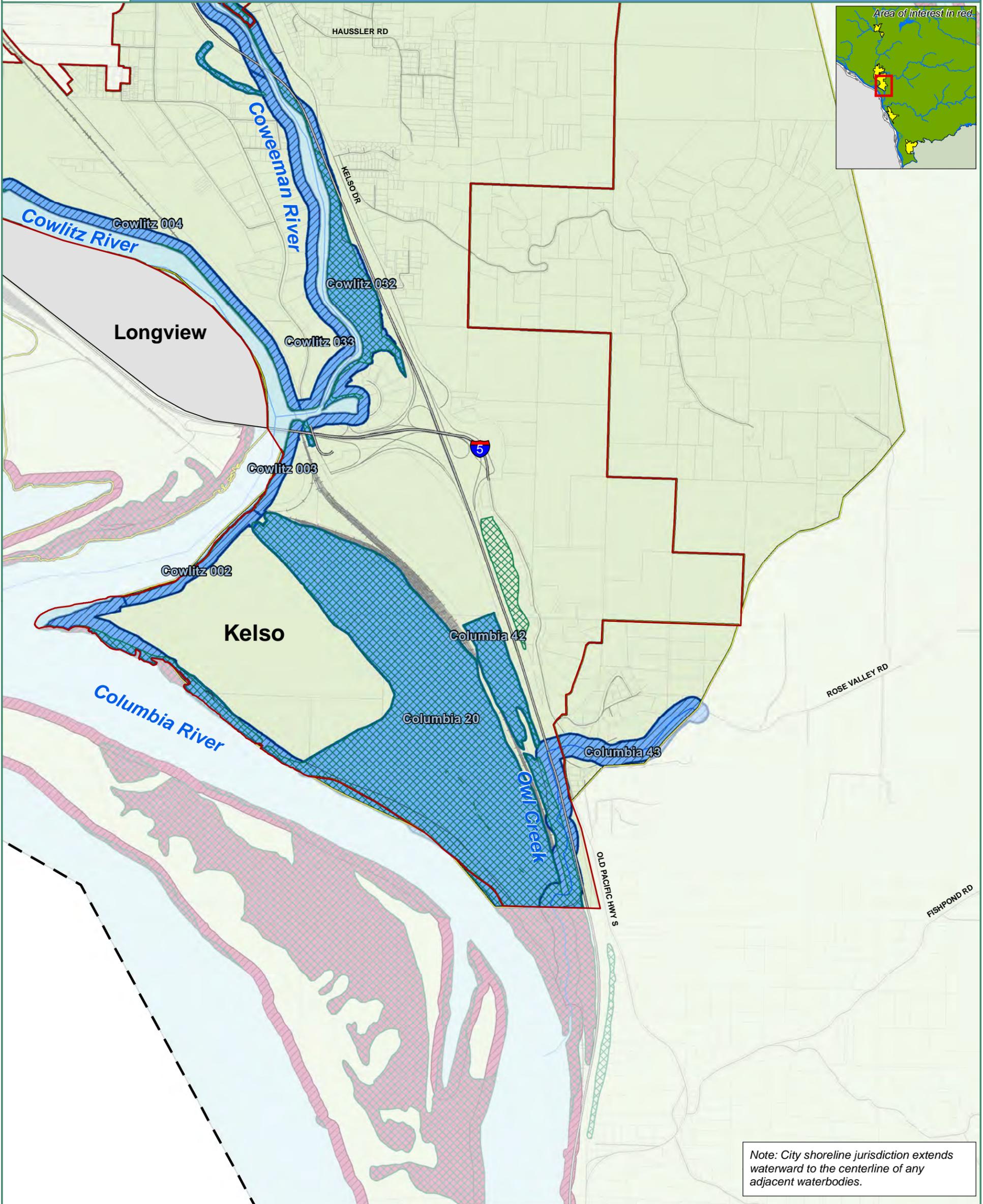


Original Scale=1:20,400 @ 11x17 layout. Please scale accordingly.

Data source: Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

FIGURE 22. SHORELINE REACHES

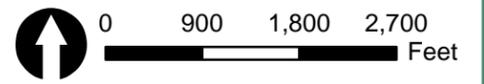
DRAFT



Note: City shoreline jurisdiction extends waterward to the centerline of any adjacent waterbodies.

Shoreline Reaches

- City
- County
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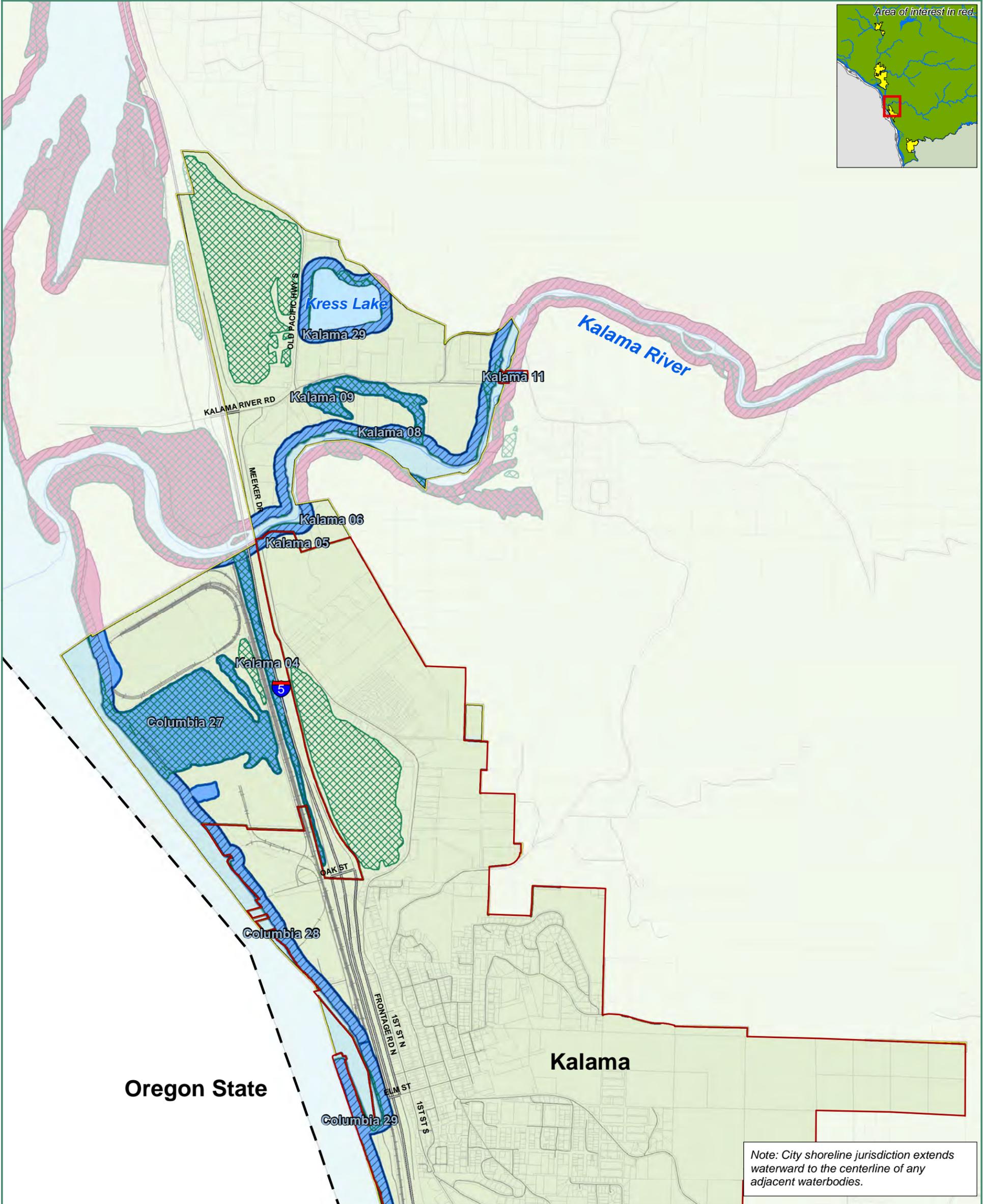
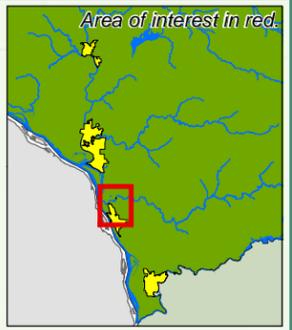


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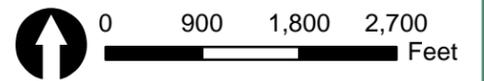
FIGURE 22. SHORELINE REACHES

DRAFT



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- City
  - County
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  - SMP Waterbody
  - Proposed Shoreline Jurisdiction
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  - City Boundary
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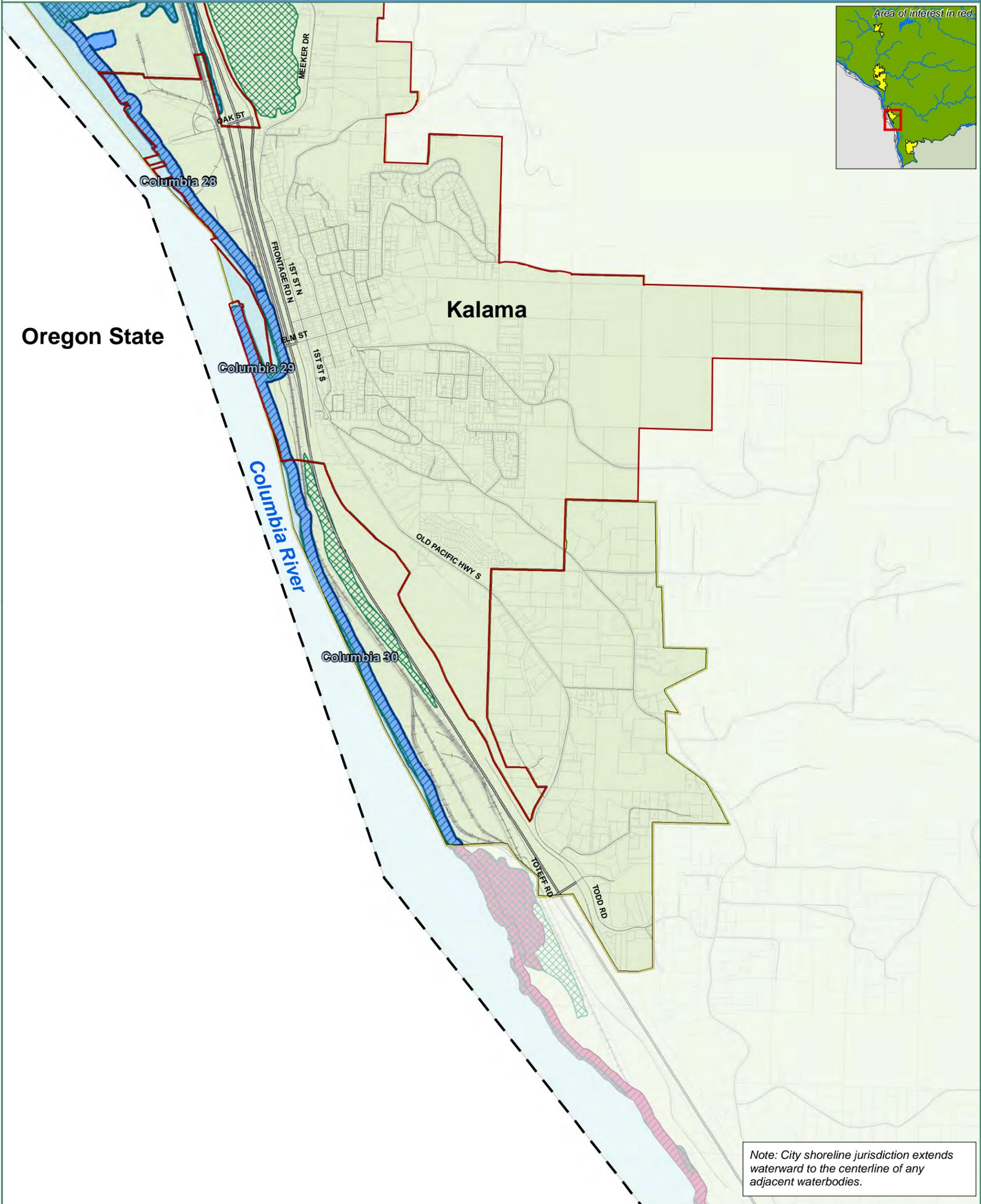


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Data source:  
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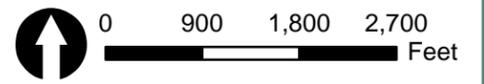
FIGURE 22. SHORELINE REACHES

DRAFT



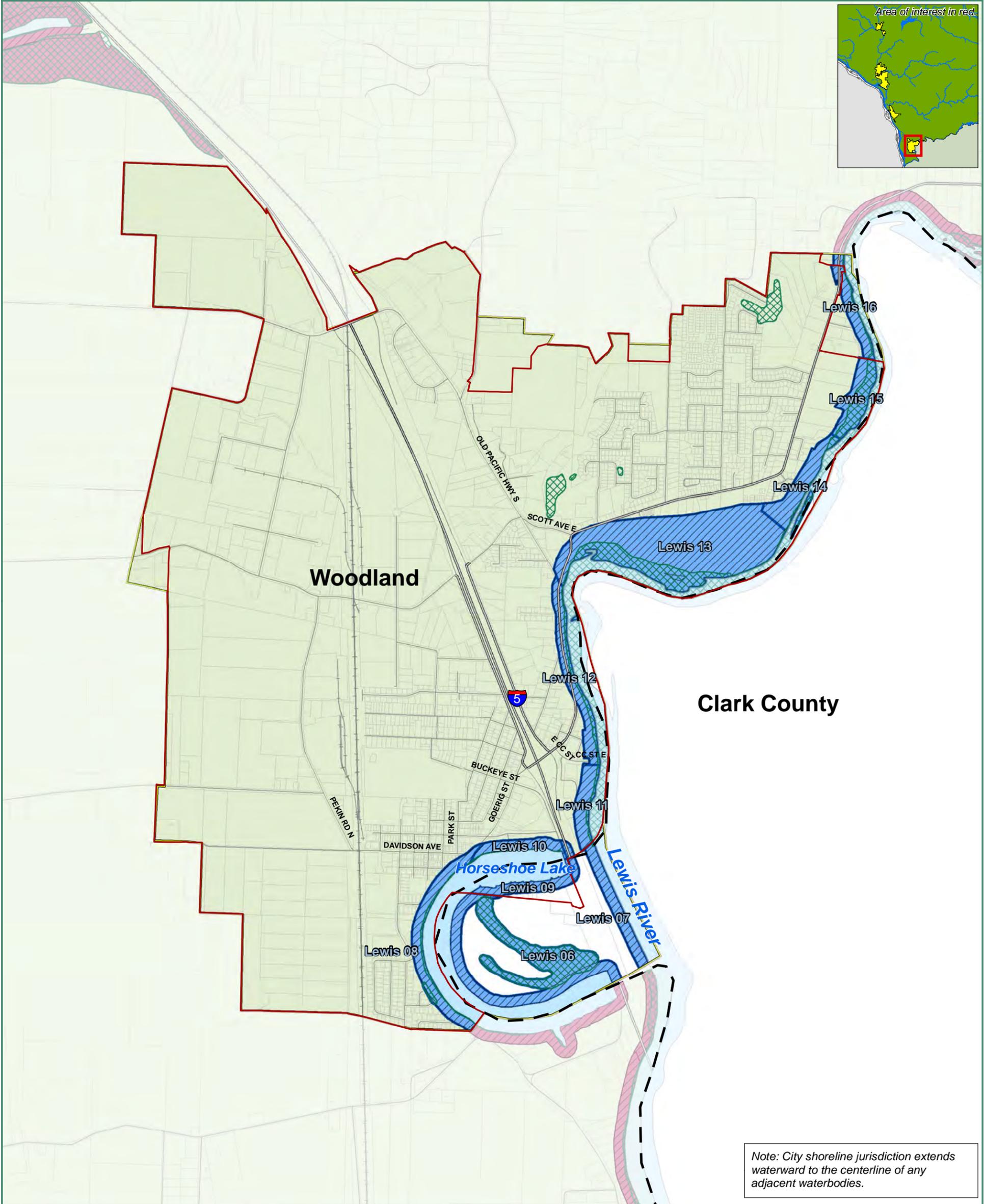
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- City
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  - SMP Stream
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  - City Boundary
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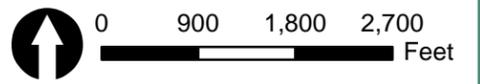
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Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.



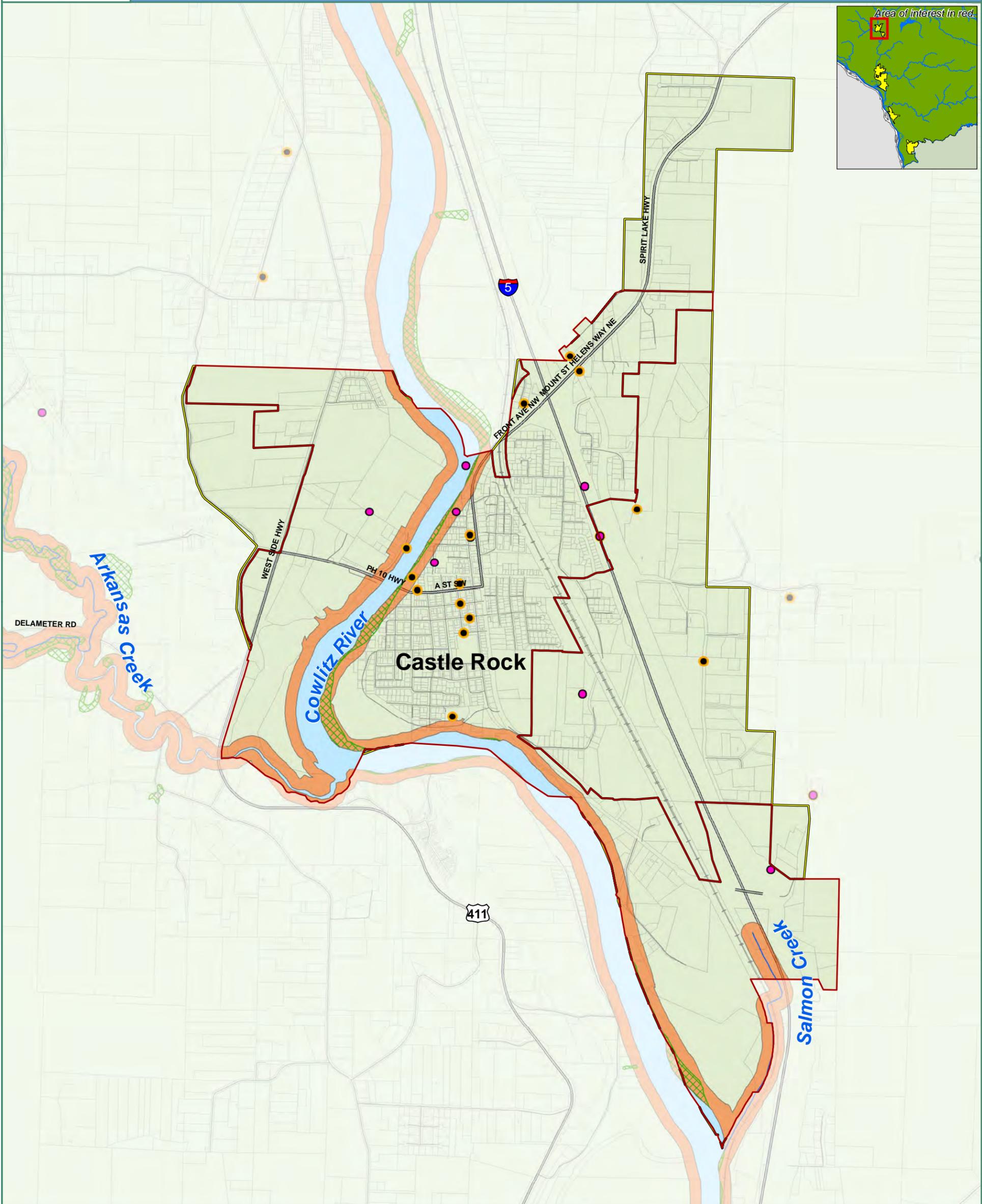
**Shoreline Reaches**

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- SMP Stream
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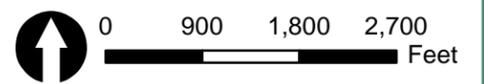


Facility/Site Database <sup>1</sup>

- Hazardous
- Toxic

<sup>1</sup> Ecology's regulated facilities only. Locations and definitions are based on the Department of Ecology Facility/Site Database, March 11, 2013.

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- ▨ Potentially Associated Wetland
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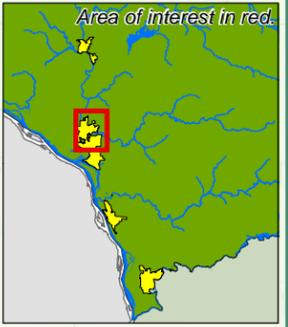
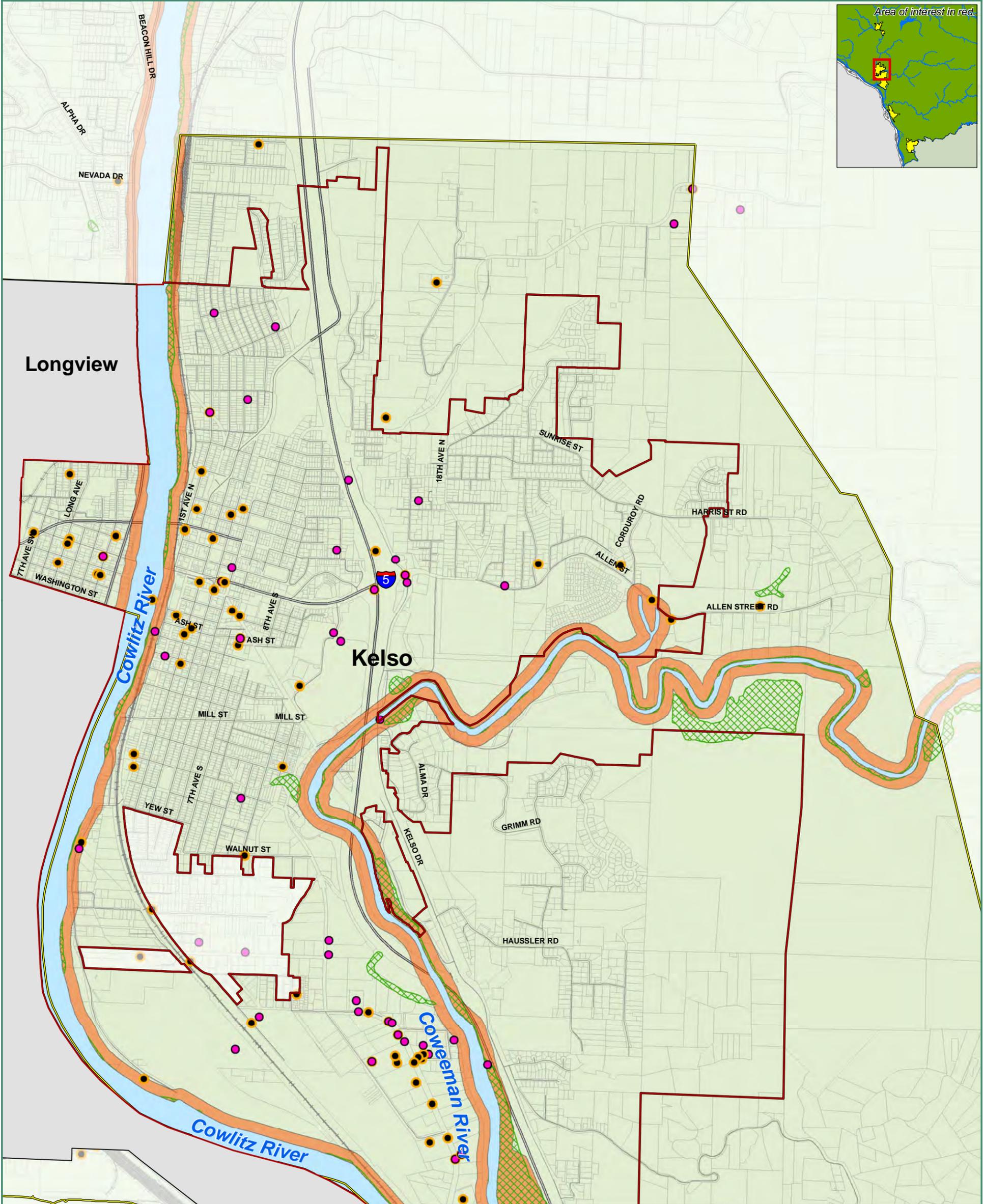


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Data source:  
Cowlitz County, CWCOG, Department of Ecology, The Watershed Company.

FIGURE 23. TOXIC/HAZARDOUS SITES

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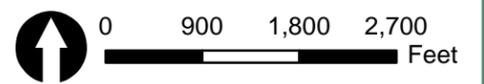


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- Potentially Associated Wetland
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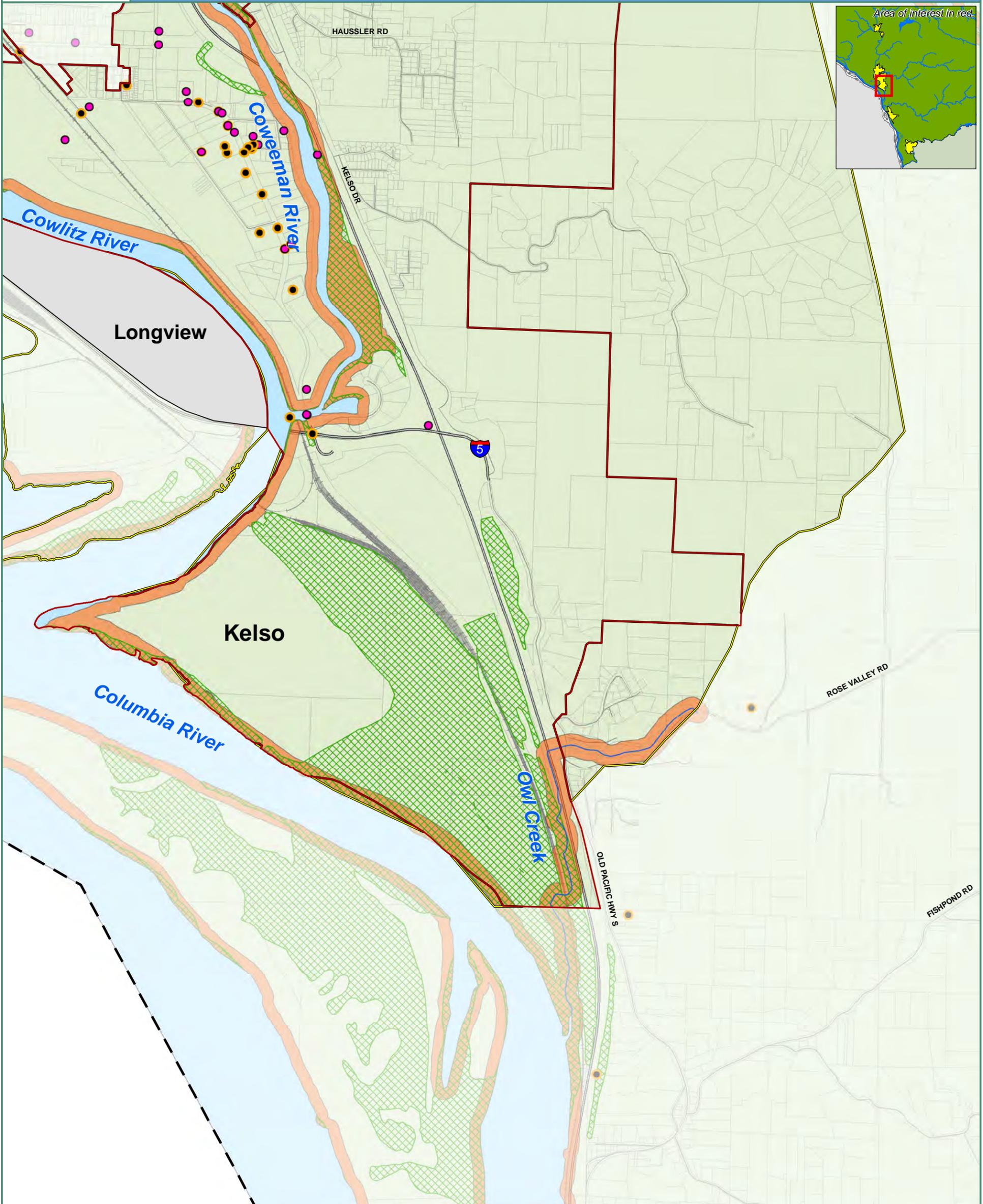


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FIGURE 23. TOXIC/HAZARDOUS SITES

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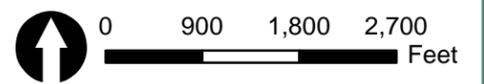


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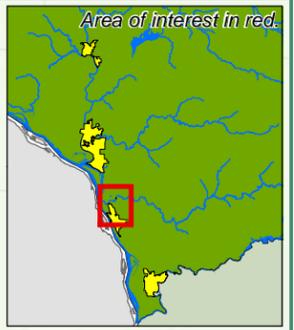


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FIGURE 23. TOXIC/HAZARDOUS SITES

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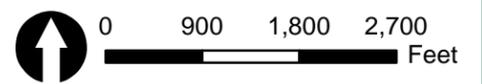


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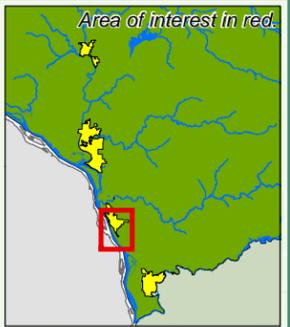
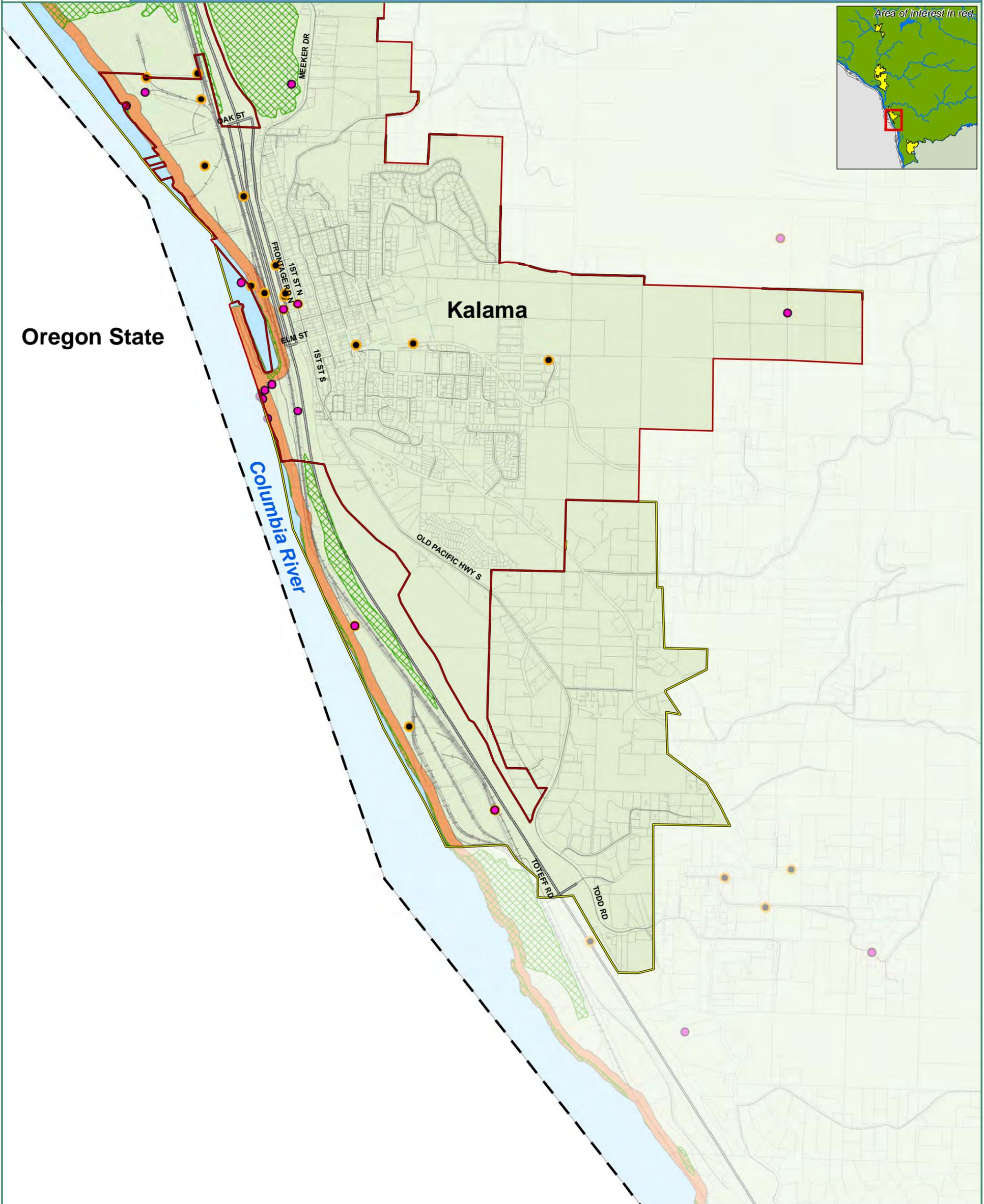


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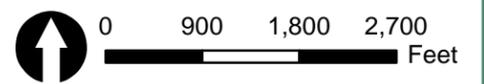


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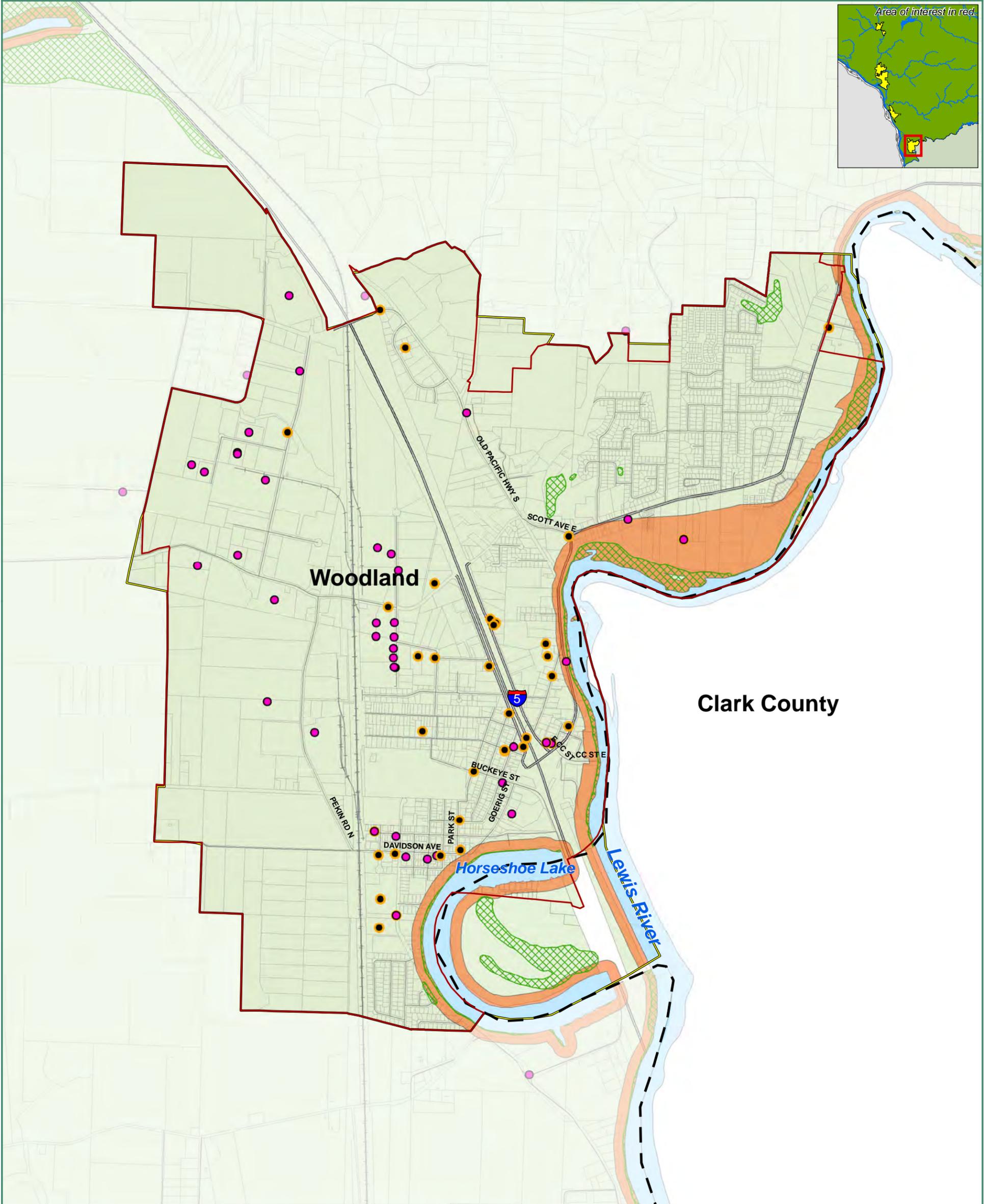
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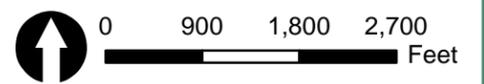


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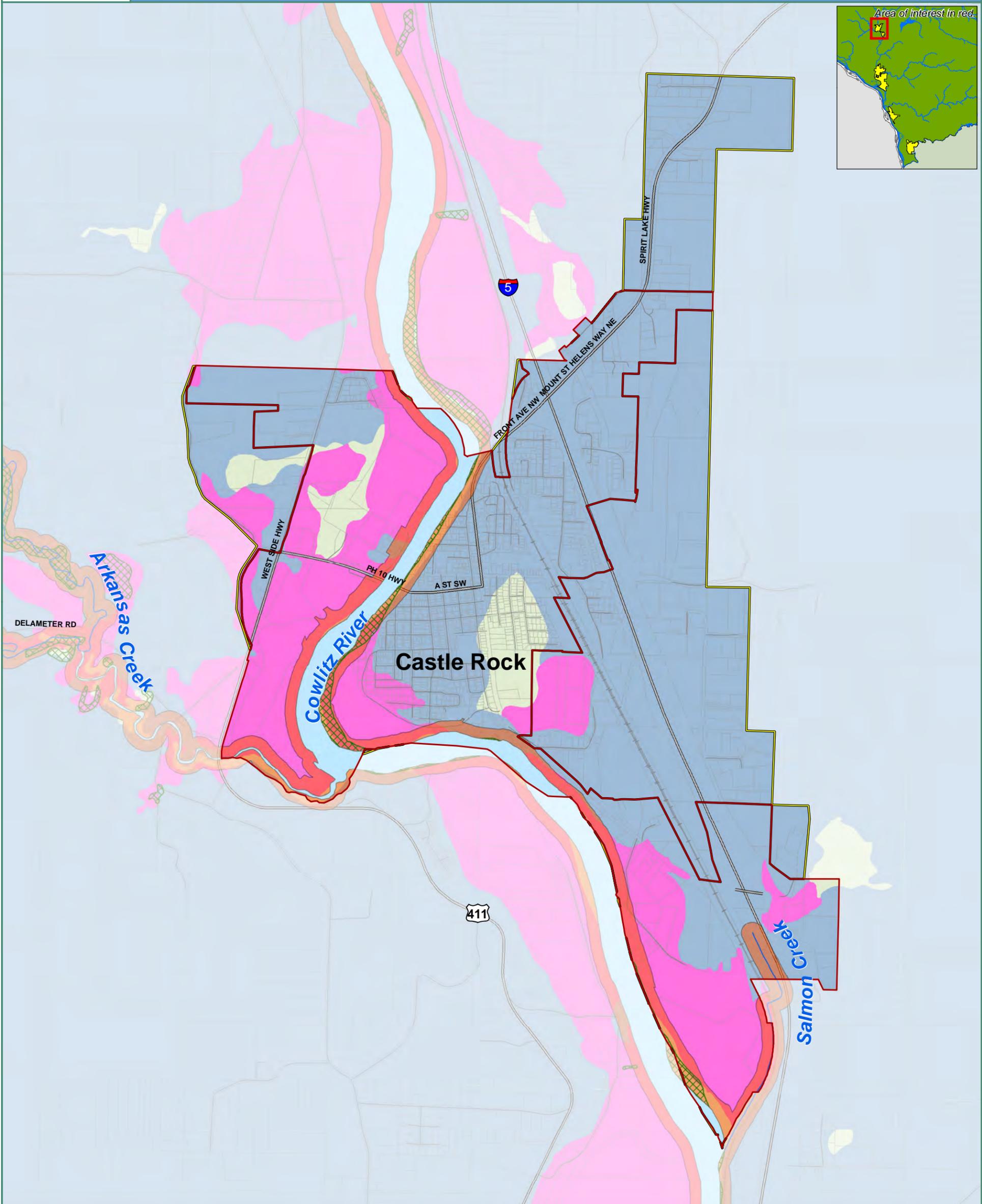
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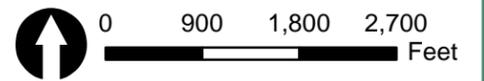
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**New CAO Aquifer Recharge Areas**

- CARA -Moderate Sensitivity
- CARA - Severe Sensitivity
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

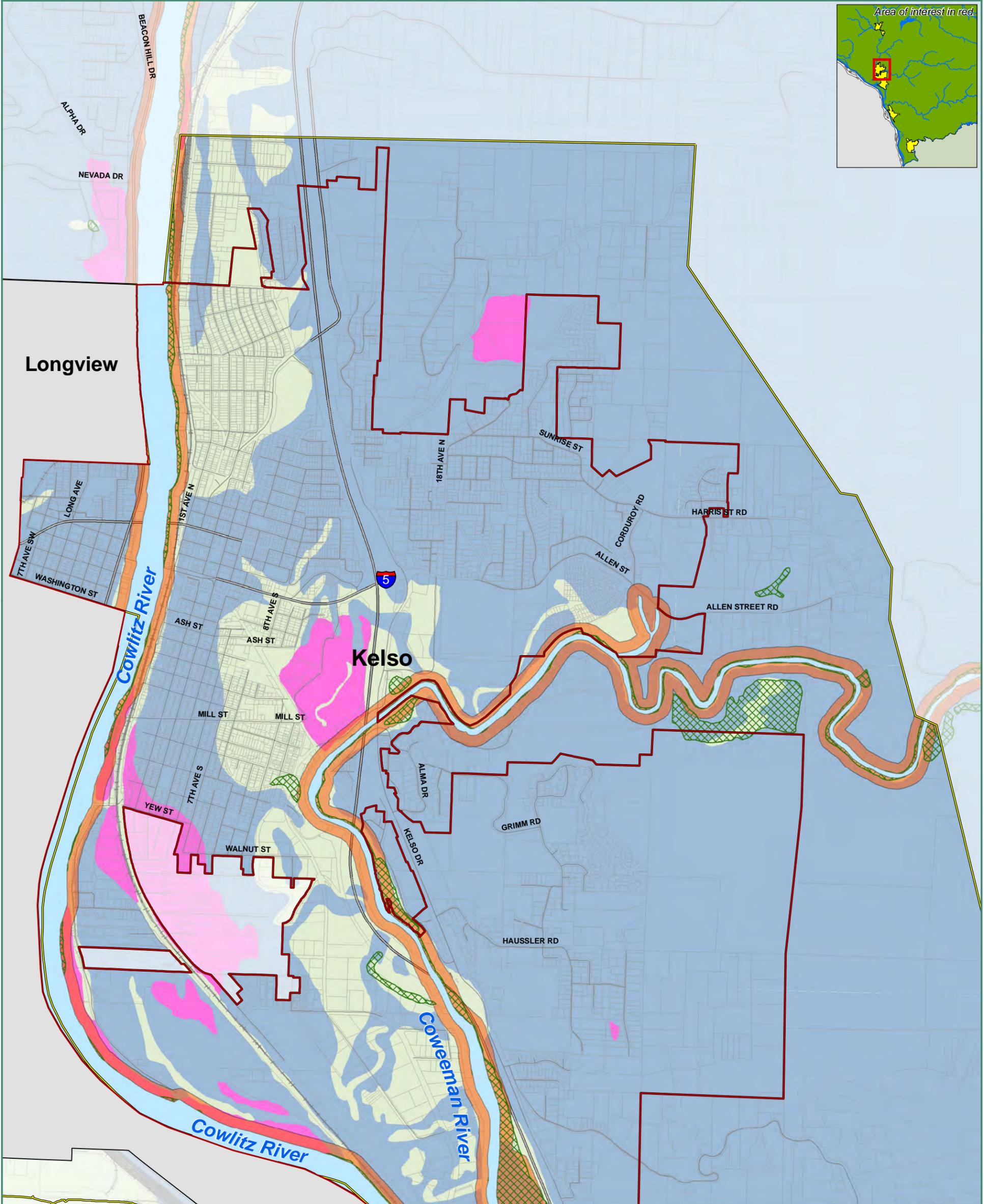


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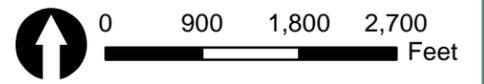
FIGURE 24. AQUIFER RECHARGE AREA

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New CAO Aquifer Recharge Areas

- CARA -Moderate Sensitivity
- CARA - Severe Sensitivity
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
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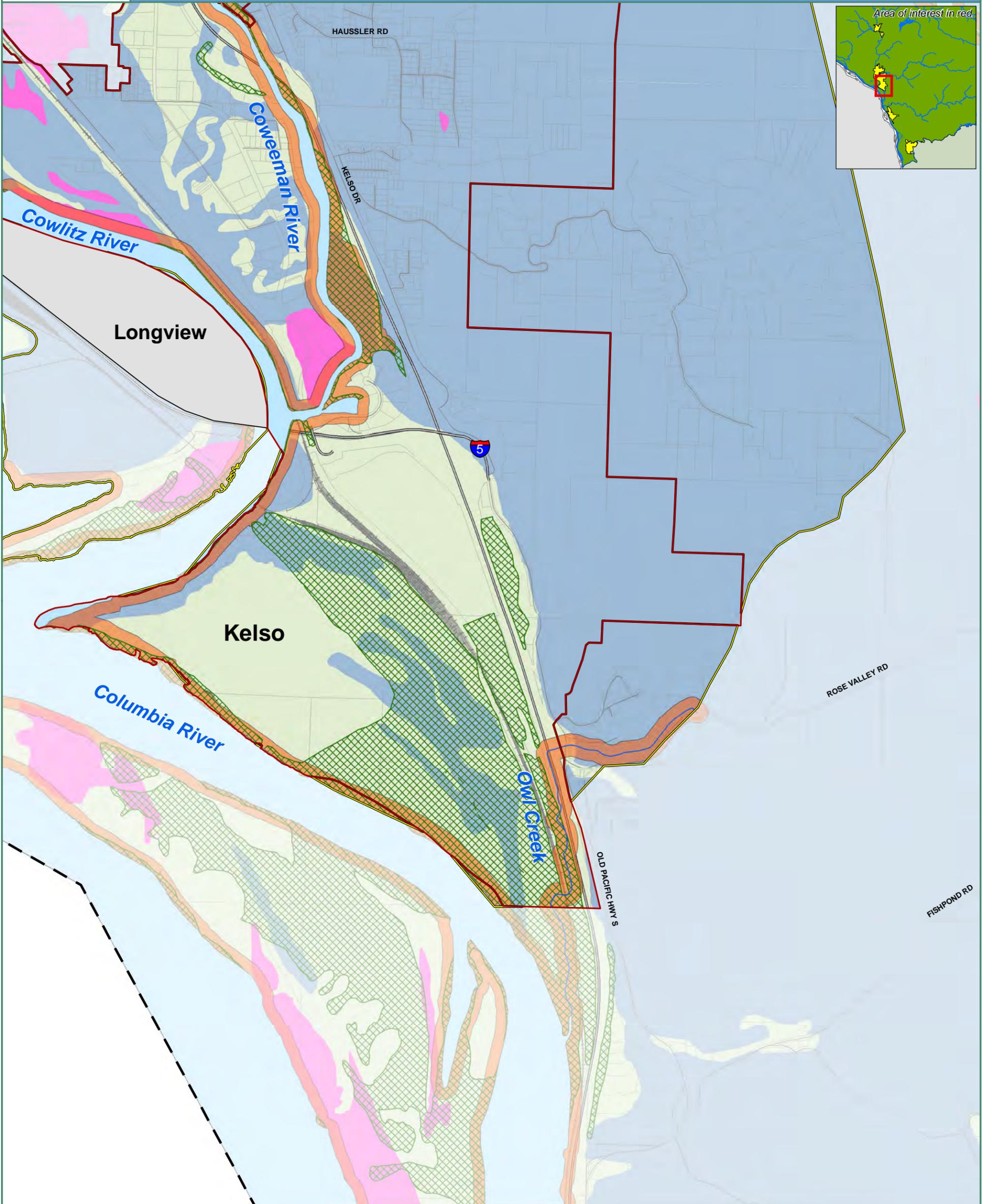


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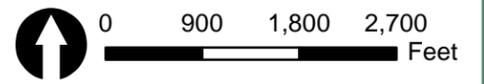
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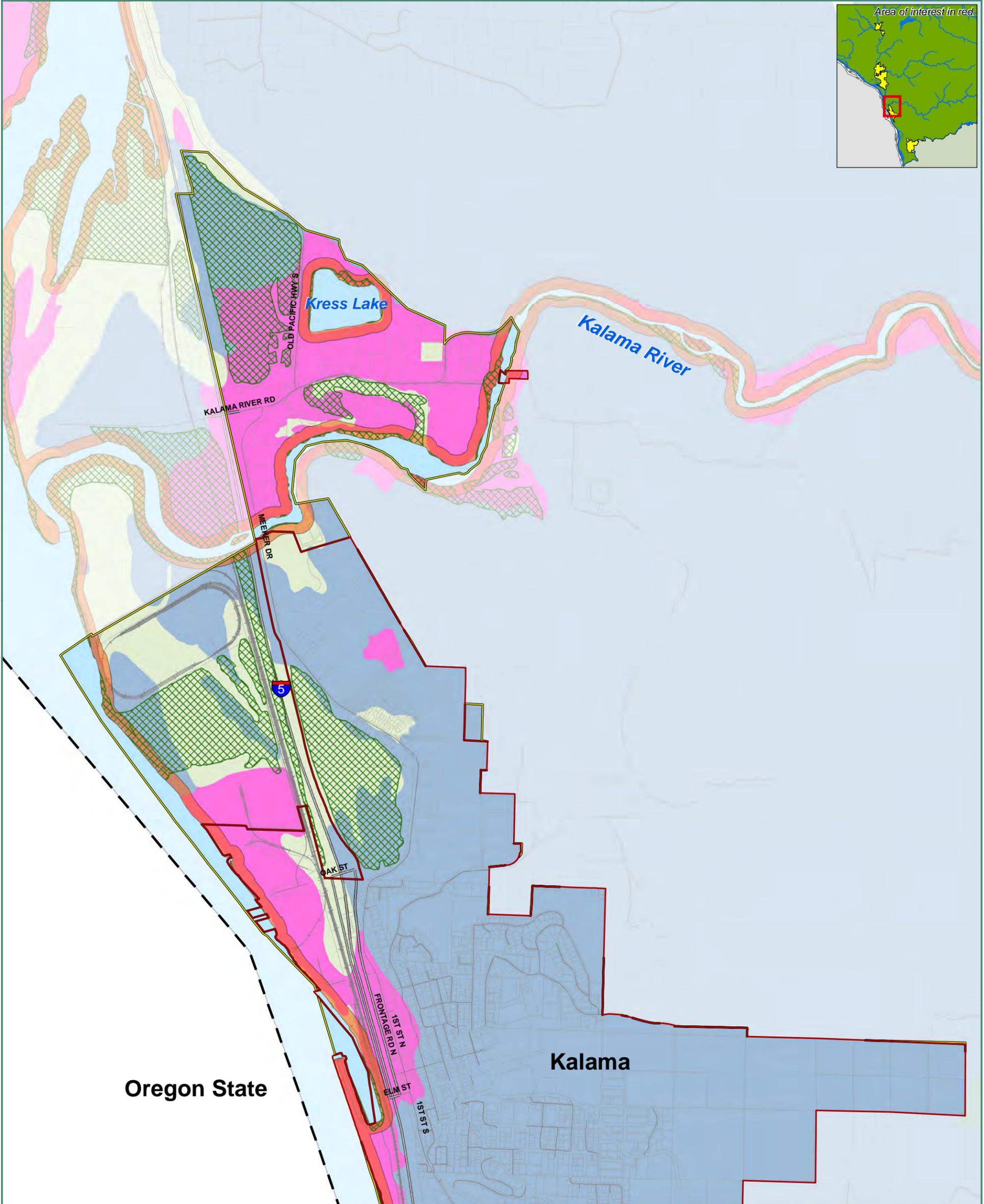
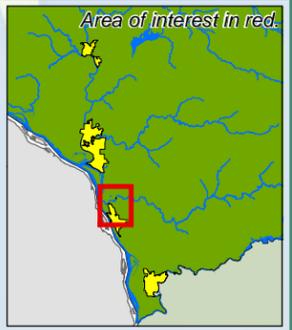


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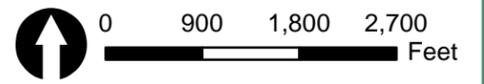
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DRAFT



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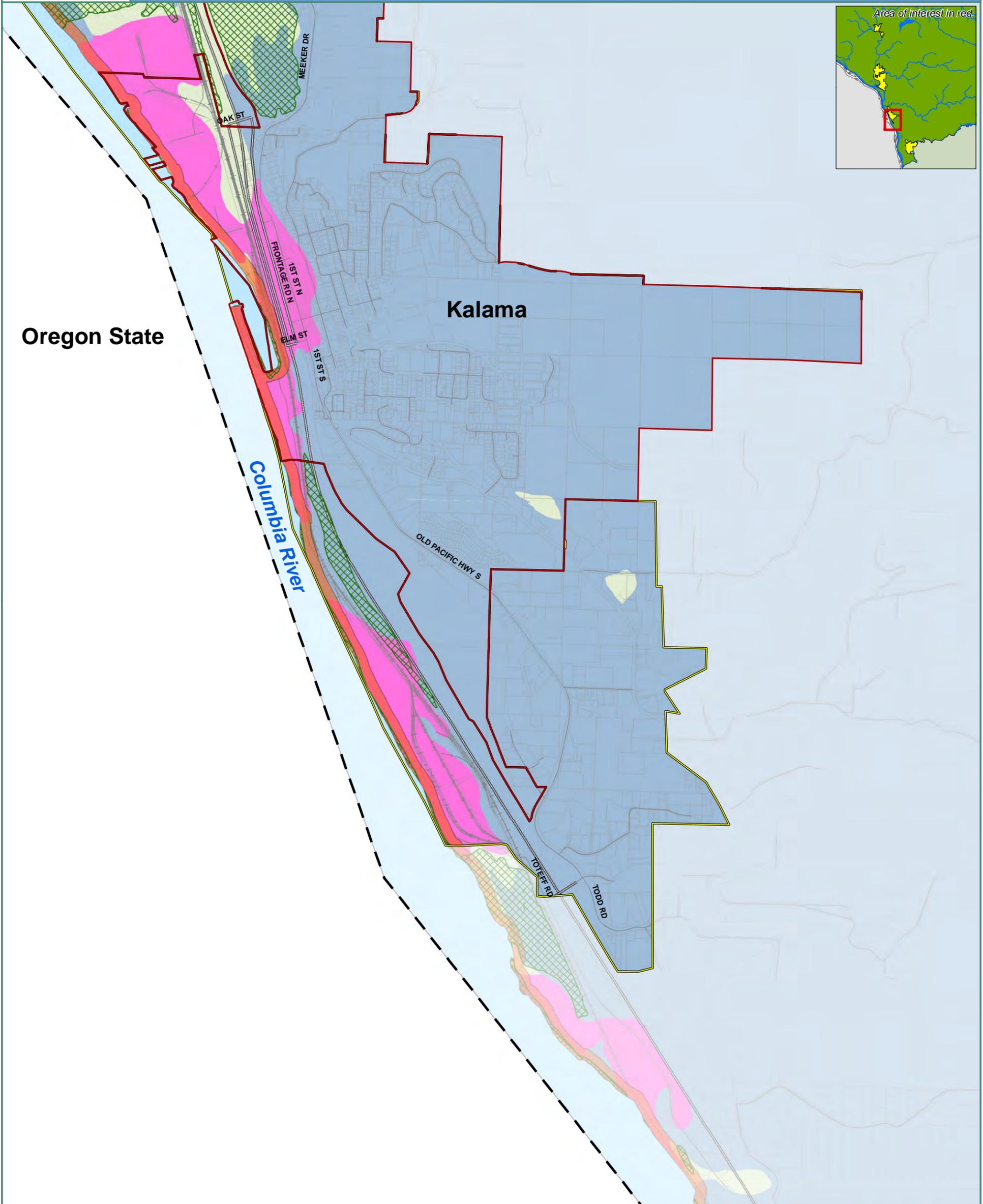


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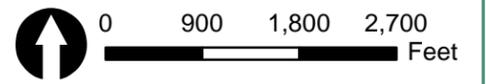
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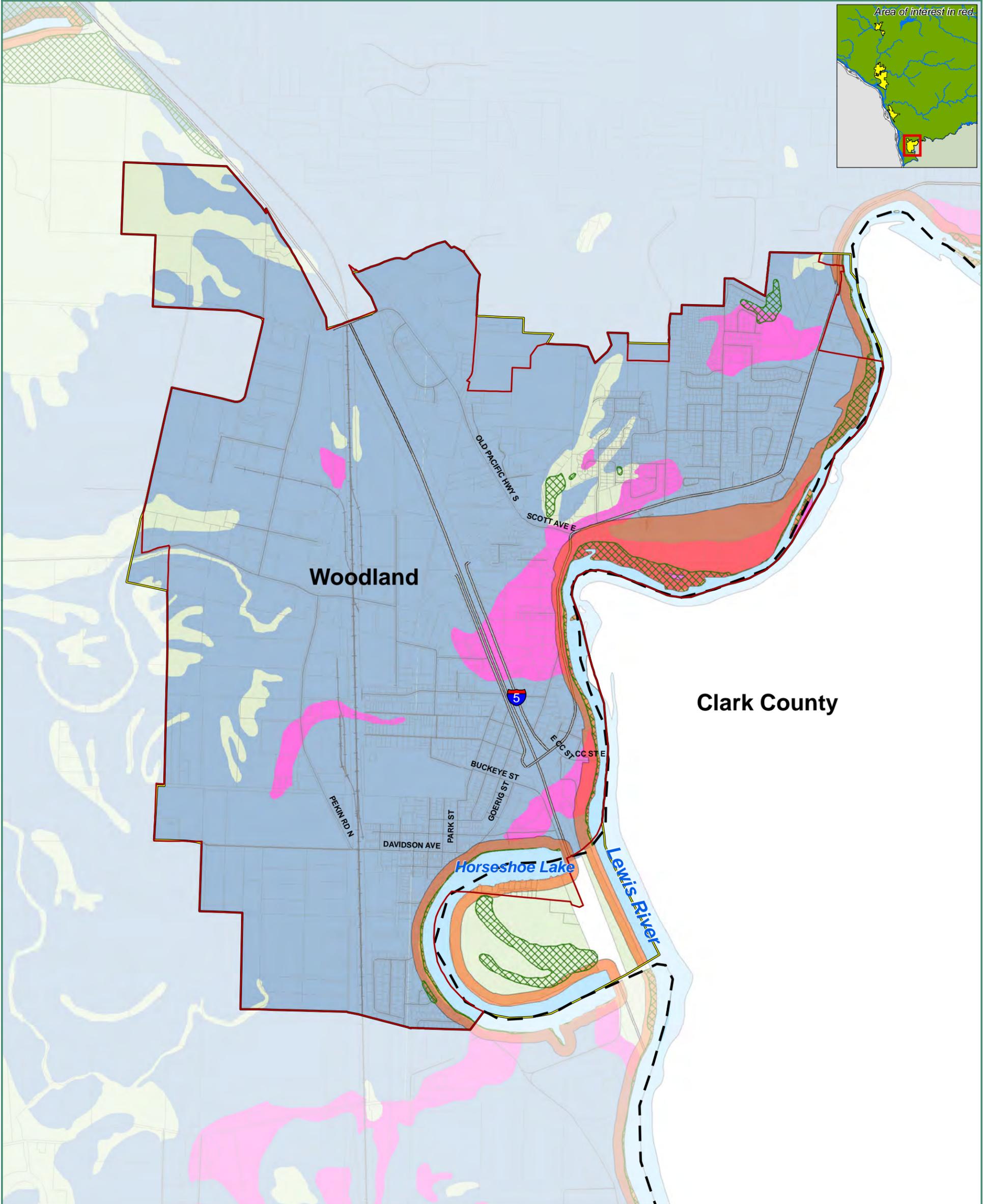
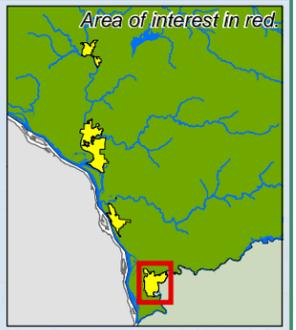
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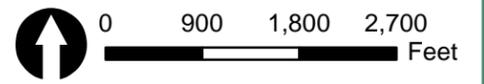
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- County Boundary
- SMP Stream



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