INVENTORY MAP FOLIO - COVER SHEET

Cowlitz County Partnership
Shoreline Master Program Update
COWLITZ COUNTY • CASTLE ROCK • KALAMA • KELSO • WOODLAND

COWLITZ COUNTY SHORELINE MASTER PROGRAM

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SMP Stream
SMP Waterbody
City Boundary
County Boundary

Cities
Castle Rock
Kalama
Kelso
Woodland
Longview (Not included in study)

INDEX OF MAP SHEETS

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Date: 4/10/2014
Name: Fig00_cover

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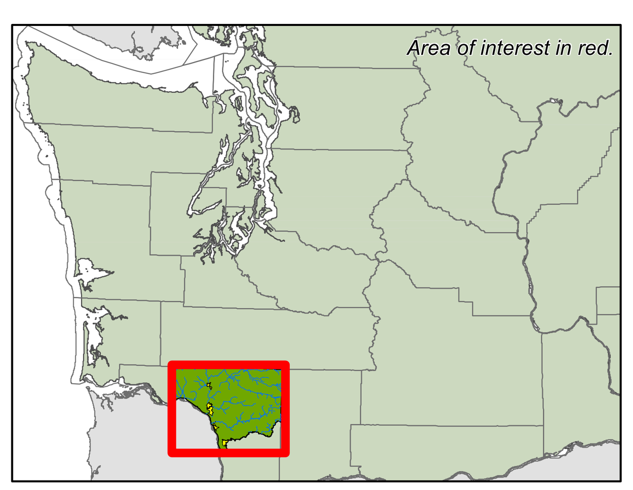

The Watershed Company
Parametrix

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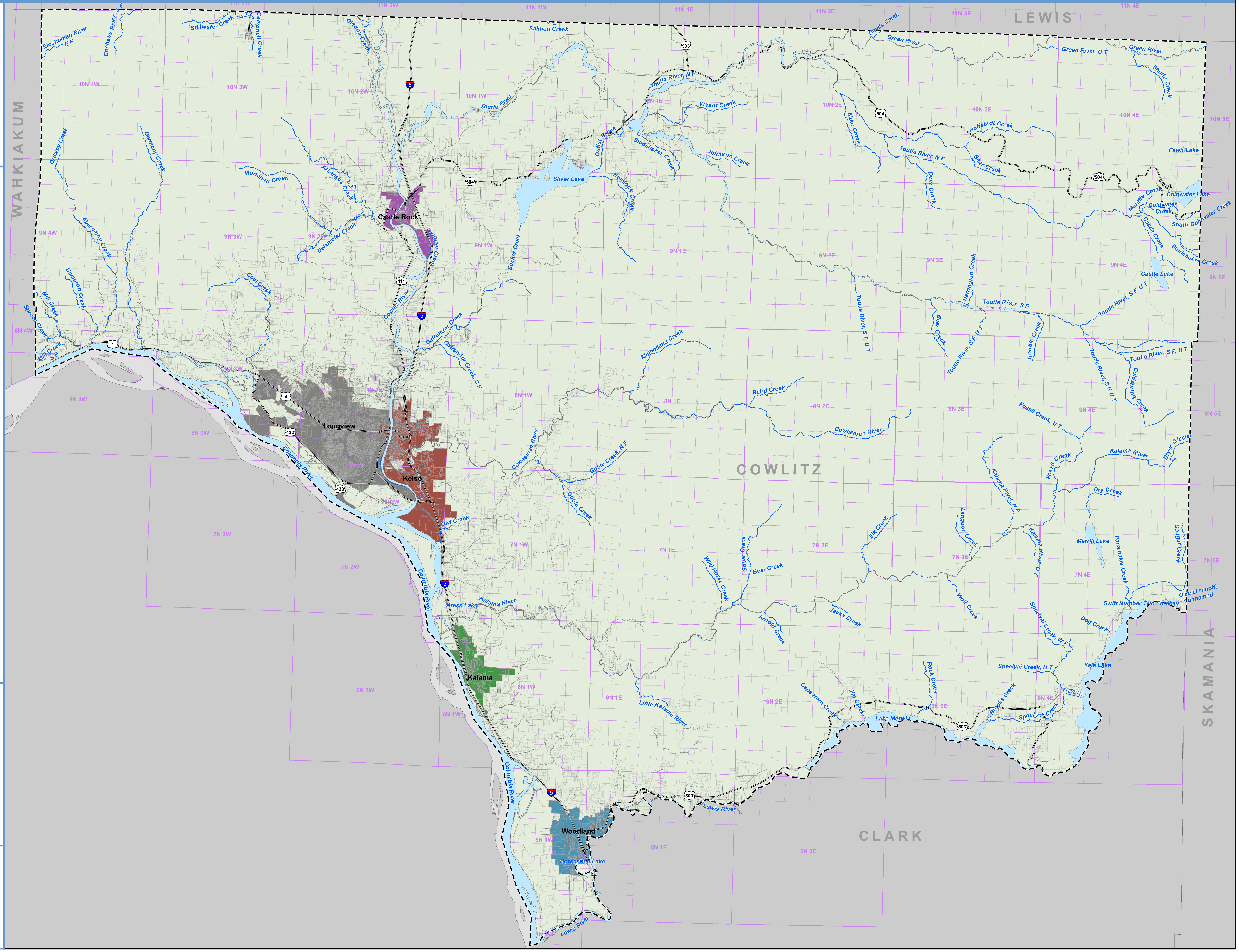

FIGURE 1. SHORELINE JURISDICTION

COWLITZ COUNTY
SHORELINE MASTER PROGRAM

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

Date: 4/10/2014
Name: Fig01_shoreline_jurisdiction

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

0 8,000 16,000 32,000 Feet

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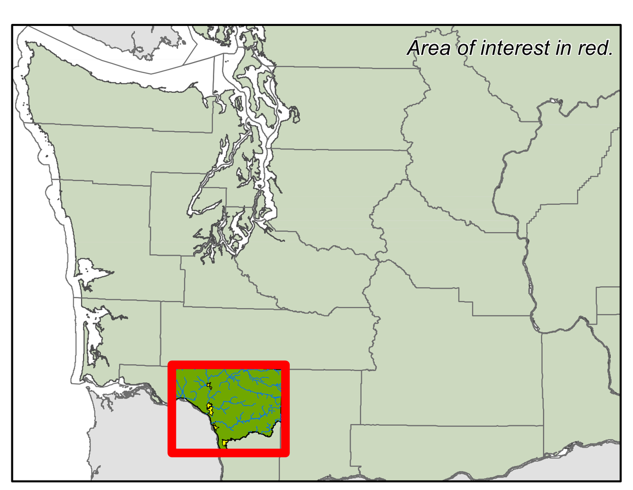

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FIGURE 2. CURRENT LAND USE

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Current Land Use

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

Date: 4/10/2014
Name: Fig02_current_landuse

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

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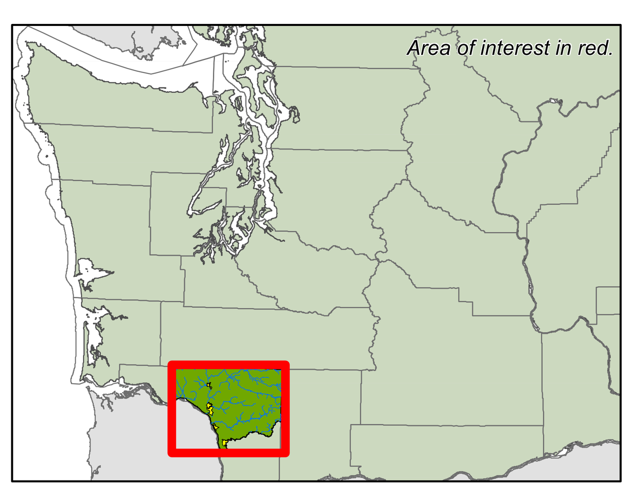
Original Scale=1:108,000 @ 24 x 36 layout. Please scale accordingly.



The Watershed Company

Parametrix

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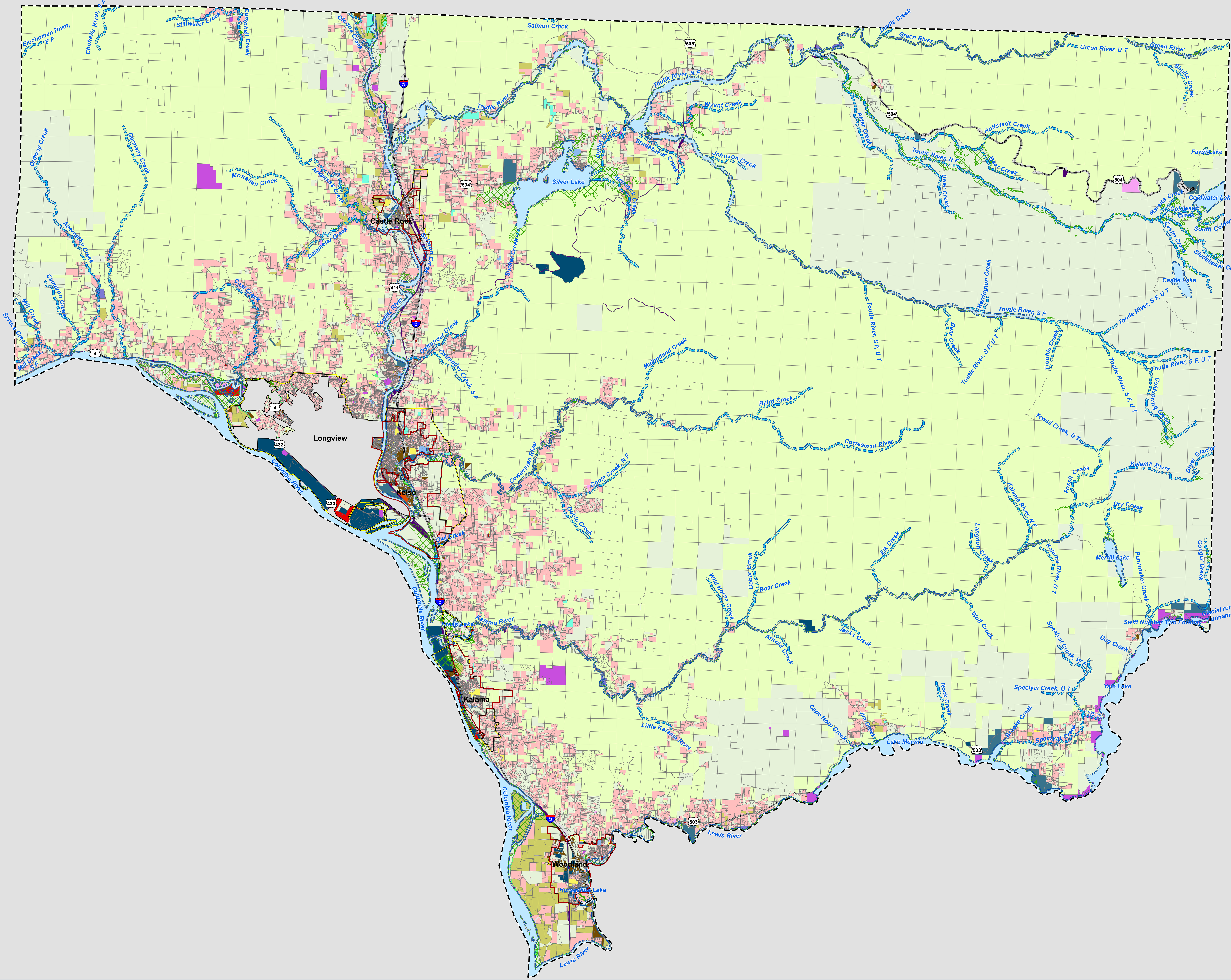

FIGURE 3. LAND OWNERSHIP IN SHORELINE JURISDICTION

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Shoreline Parcel Ownership[1]

- City
- Cowlitz County
- Diking District
- Department of Natural Resources
- Federal
- Port
- State - Other
- State - DOT
- State - WDFW
- Utilities
- State - Park[2]
- Private
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisidiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

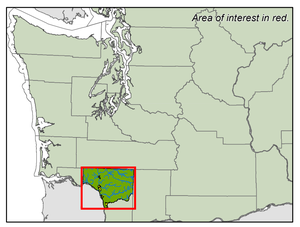
Notes:
[1] Ownership information derived from county parcel data.
[2] Data is provided by Washington State Parks, 2012.

Date: 4/10/2014
Name: Fig03_land_ownership

Data sources:
Cowlitz County, Washington State Parks, Department of Ecology, The Watershed Company.

0 8,000 16,000 32,000 Feet

Original Scale=1:108,000 @ 24 x 36 layout. Please scale accordingly.



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Parametrix

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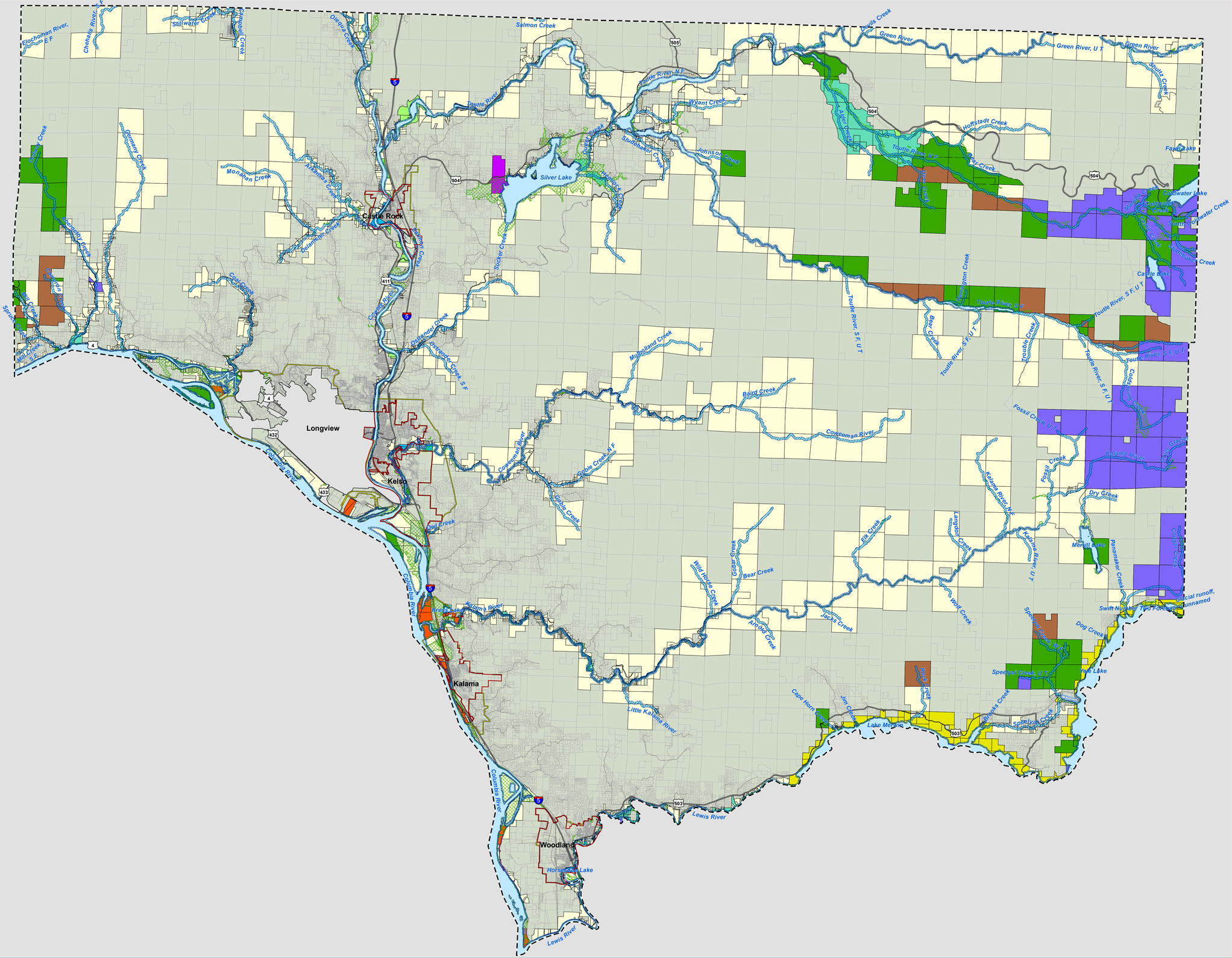

FIGURE 4. VACANT PARCELS

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- Vacant Parcels[1]
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisidiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

Notes:
[1] 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

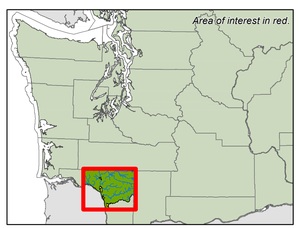
[3] It is classified as one of the following:
405 - HIGHWAY/STREET ROW
450 - DIKING RIGHT OF WAY
610 - CEMETERY
706 - PARK
801 - AGRICULTURE (NOT IN OS)
803 - AGRICULTURE (OPEN SPACE)
804 - FISHING ACTIVITIES
806 - FORESTLAND (PTN ONLY)
807 - OSTL (PTN ONLY)
808 - OPEN SPACE-OPEN SPACE

Date: 4/10/2014
Name: Fig04_vacant_parcels_v2

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

0 8,000 16,000 32,000 Feet

Original Scale=1:108,000 @ 24 x 36 layout. Please scale accordingly.



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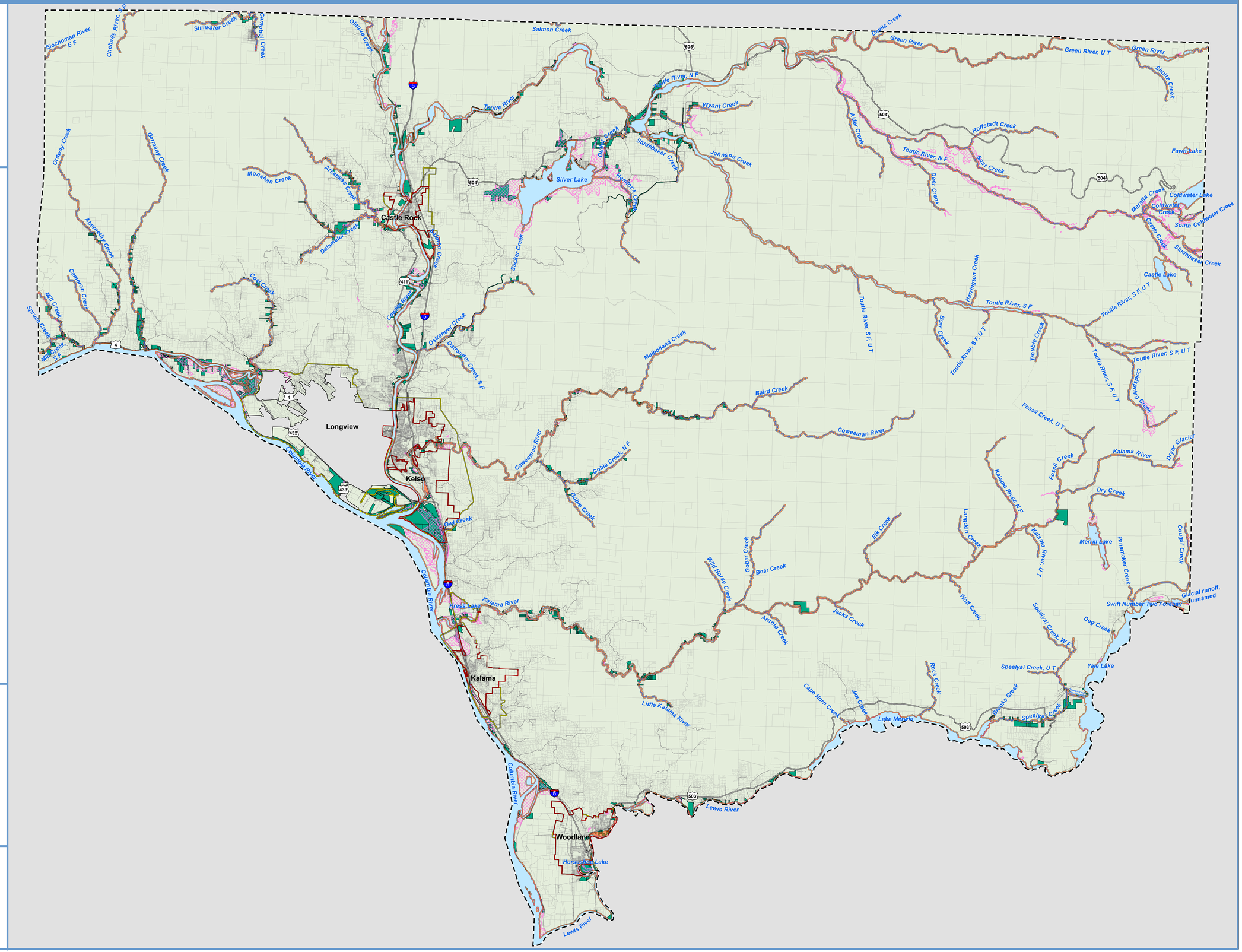

FIGURE 5. PUBLIC ACCESS

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- Boat Launch[1]
- City Park
- Cowlitz Park
- Private Park
- Washington State Park
- US National Forest
- Utilities Corridor
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisidiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

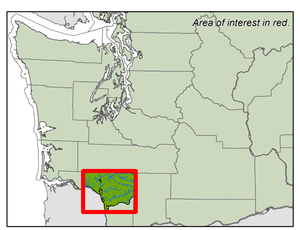
Notes:
[1] See list of boat laucch site name at bottom left of this map.

Date: 4/10/2014
Name: Fig05_public_access

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

0 8,000 16,000 32,000 Feet

Original Scale=1:108,000 @ 24 x 36 layout. Please scale accordingly.



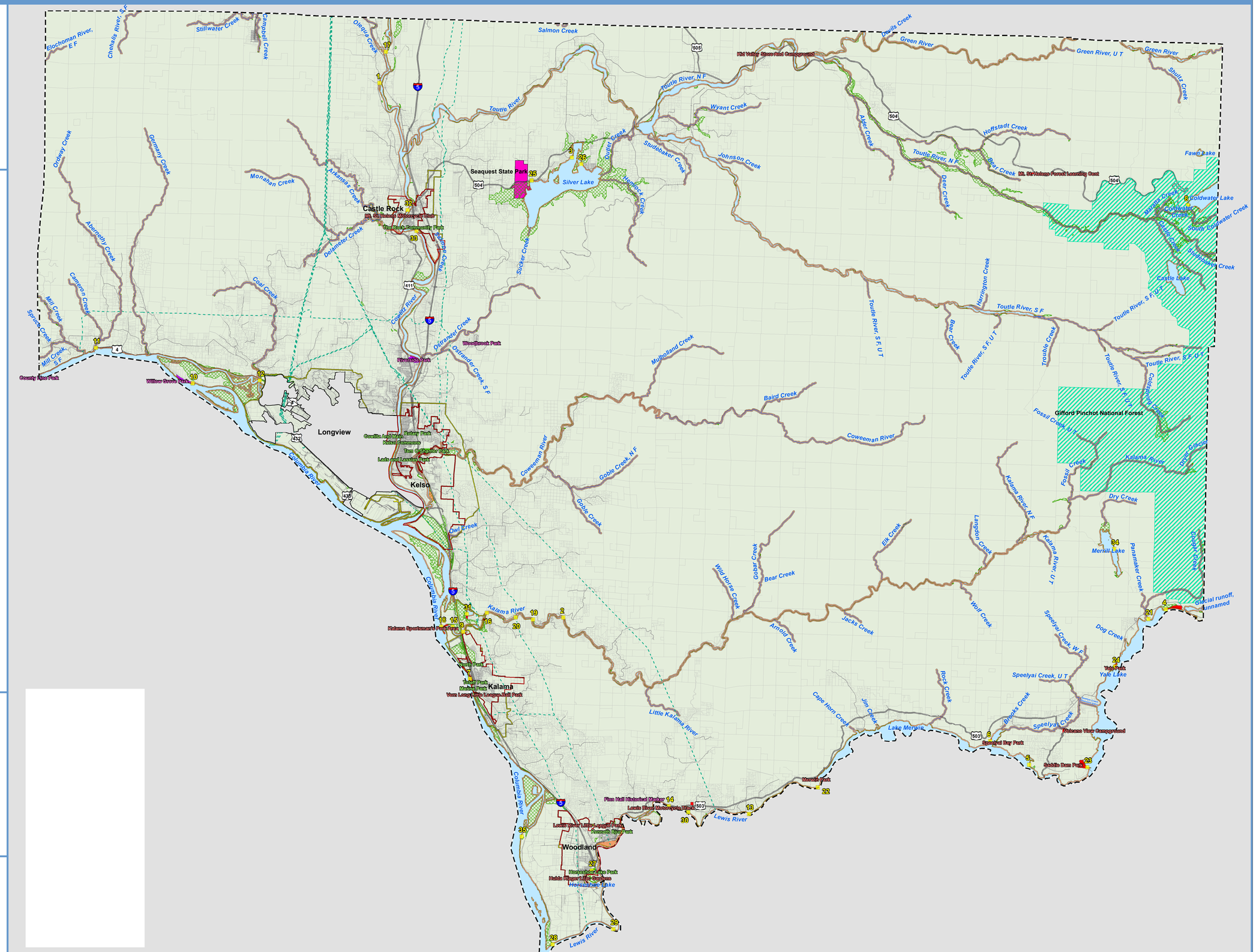


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FIGURE 6. IMPERVIOUS SURFACE

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Percent Impervious[1]

- 0
- 1 - 20
- 21 - 40
- 41 - 60
- 61 - 80
- 81 - 100
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisidiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

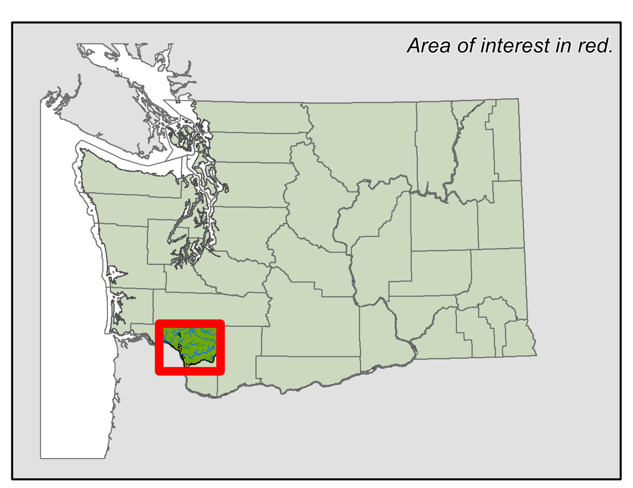
Notes:
[1] Percent impervious data comes from NOAA C-CAP, and was dervied from 2006 Landsat Thematic Mapper imagery.

Date: 4/10/2014
Name: Fig06_impervious

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

0 8,000 16,000 32,000 Feet

Original Scale=1:108,000 @ 24 x 36 layout. Please scale accordingly.



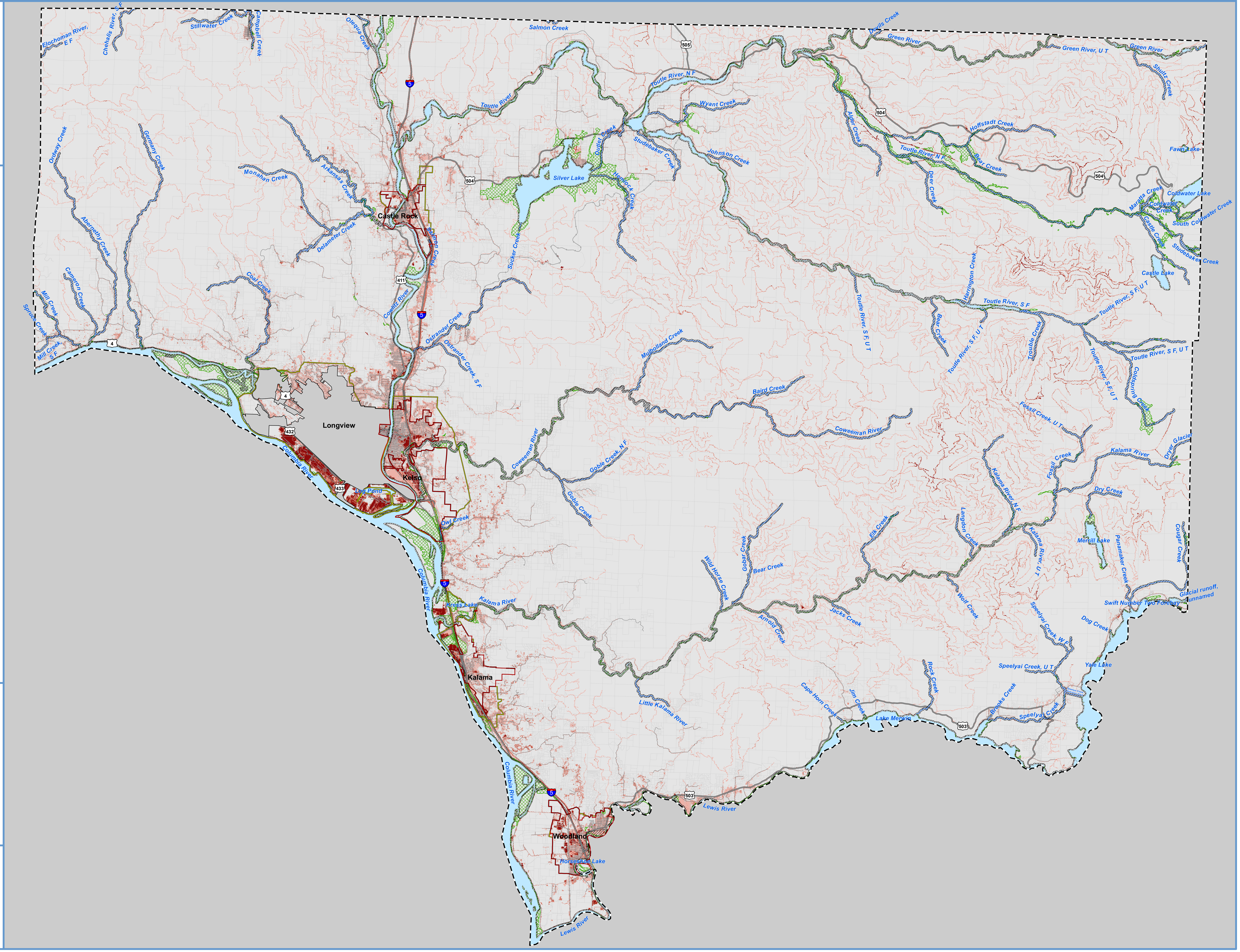


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FIGURE 7. NOAA C-CAP LANDCOVER

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C-CAP Landcover Classification[1]

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

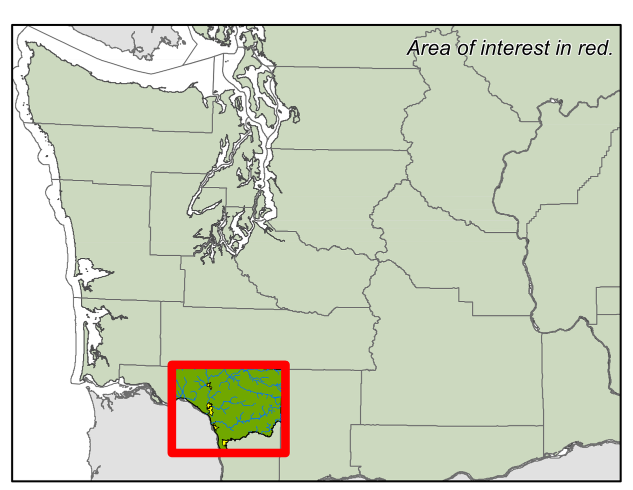
Notes:
[1] Landcover data is sourced from NOAA C-CAP, 2006. Classification were dervied from Landsat scenes analyzed according to the C-CAP protocol to determine land cover.

Date: 4/10/2014
Name: Fig07_landcover

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

0 8,000 16,000 32,000 Feet

Original Scale=1:108,000 @ 24 x 36 layout. Please scale accordingly.



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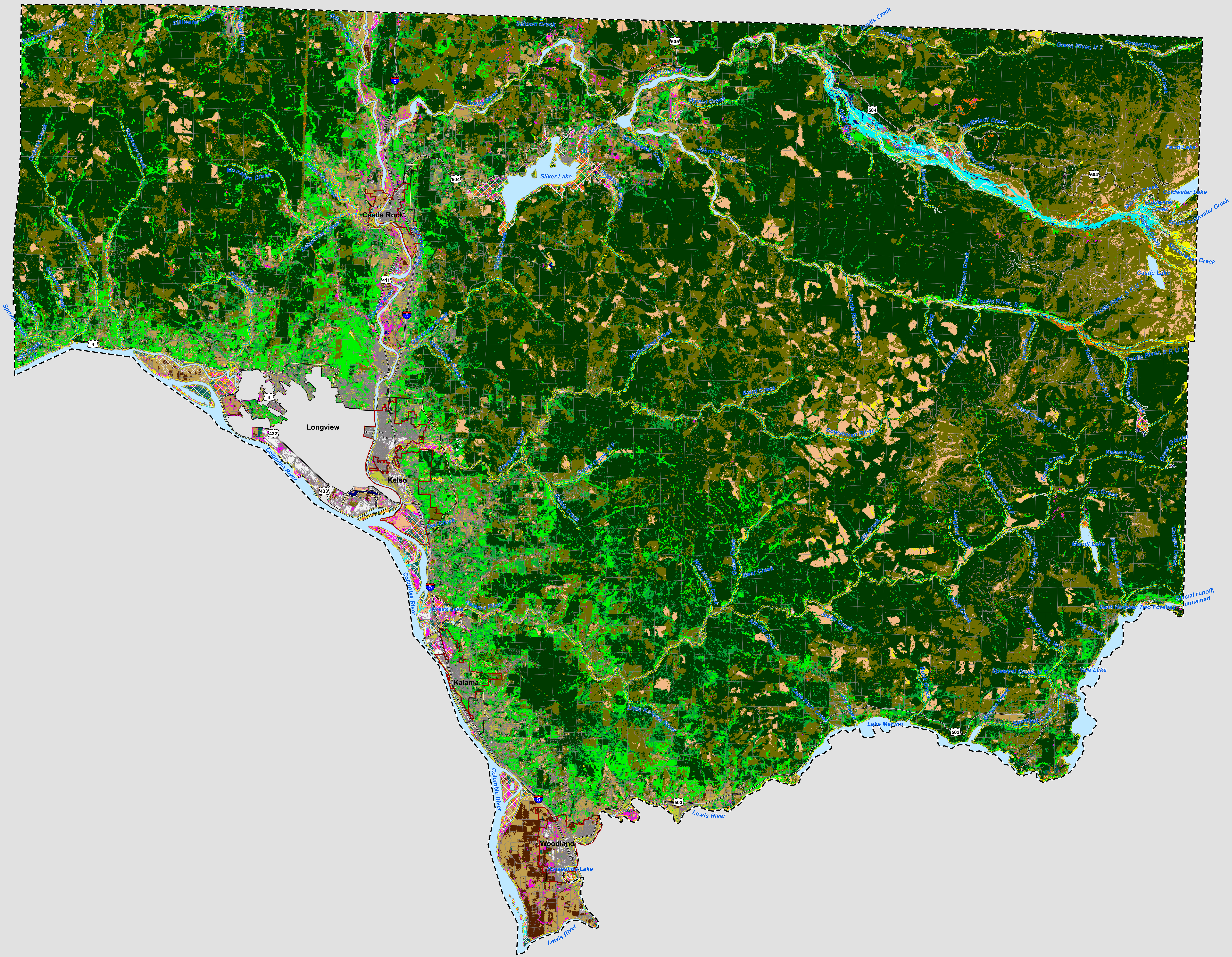

FIGURE 8. FLOODPLAIN AND FLOODWAY

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- DFIRM Floodway[1]
- DFIRM Floodplain[1]
- Adopted Floodway[2]
- Adopted Floodplain[2]
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisidiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

Notes:

[1] 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.

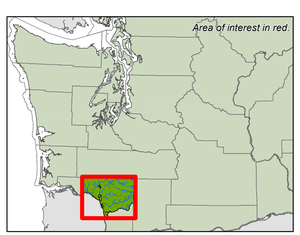
[2] Based on Flood Insurance Rate Maps (FIRMS) published by the Federal Emergency Management Agency (FEMA) in 1996. The data was used to determine shoreline jurisdiction boundary of the County and areas within the County but outside of incorporated city limit (i.e. UGB, UGA or PAB areas).

Date: 4/10/2014
Name: Fig08_floodplain_floodway

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

0 8,000 16,000 32,000 Feet

Original Scale=1:108,000 @ 24 x 36 layout. Please scale accordingly.



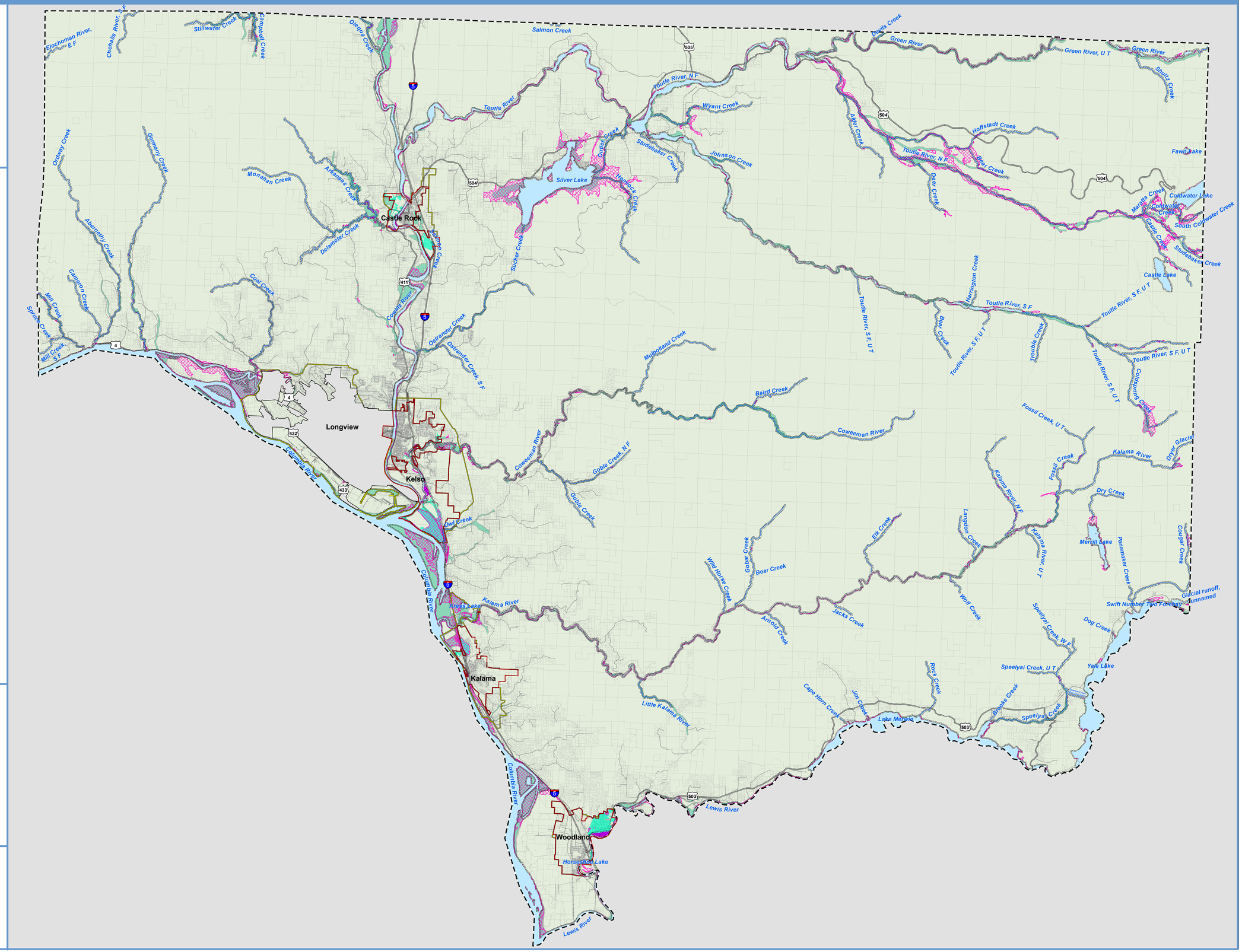


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FIGURE 9. CHANNEL MIGRATION ZONE

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- Levee
- Channel Migration Zone
- Adopted Floodplain[1]
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- SMP Stream
- SMP Waterbody
- City Boundary
- UGA/UGB/PAB
- County Boundary

Note:

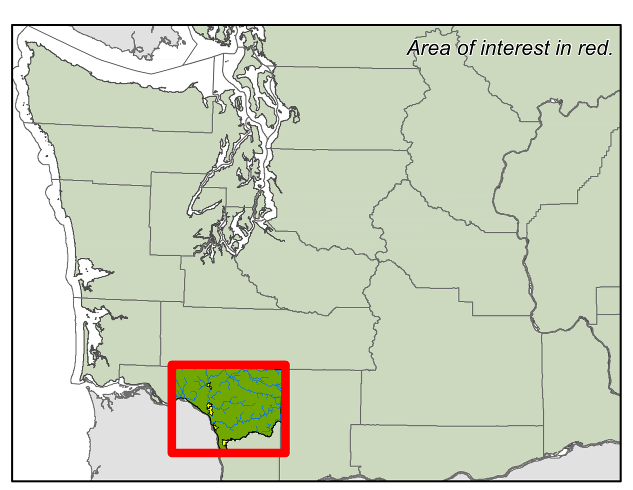
[1] Based on Flood Insurance Rate Maps (FIRMS) published by the Federal Emergency Management Agency (FEMA) in 1996. The data was used to determine shoreline jurisdiction boundary of the County and areas within the County but outside of incorporated city limit (i.e. UGB, UGA or PAB areas).

Date: 4/10/2014
Name: Fig09_CMZ

Data sources:
Cowlitz County, USGS, Department of Ecology, The Watershed Company.

0 8,000 16,000 32,000 Feet

Original Scale=1:108,000 @ 24 x 36 layout. Please scale accordingly.



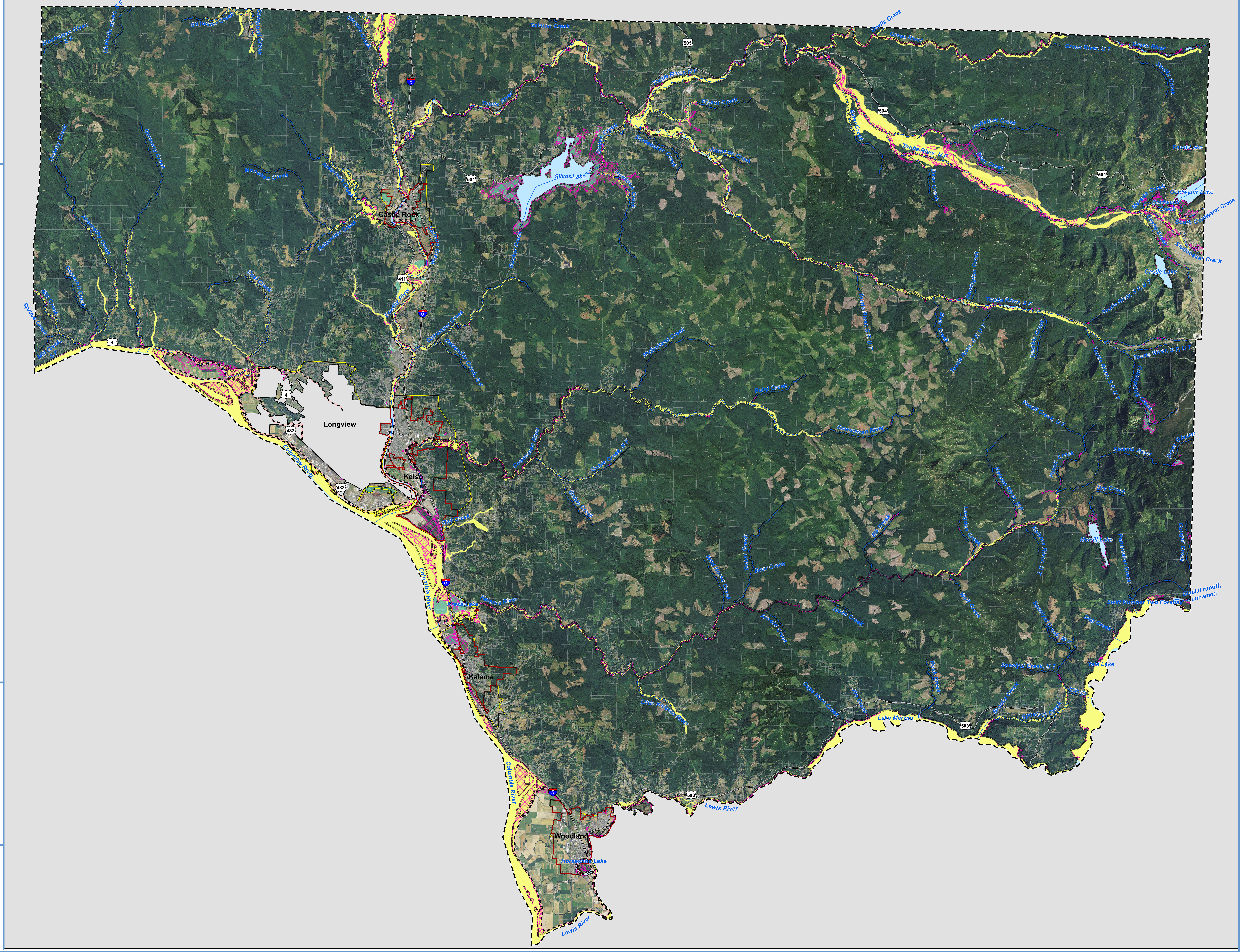


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FIGURE 10. NWI WETLANDS

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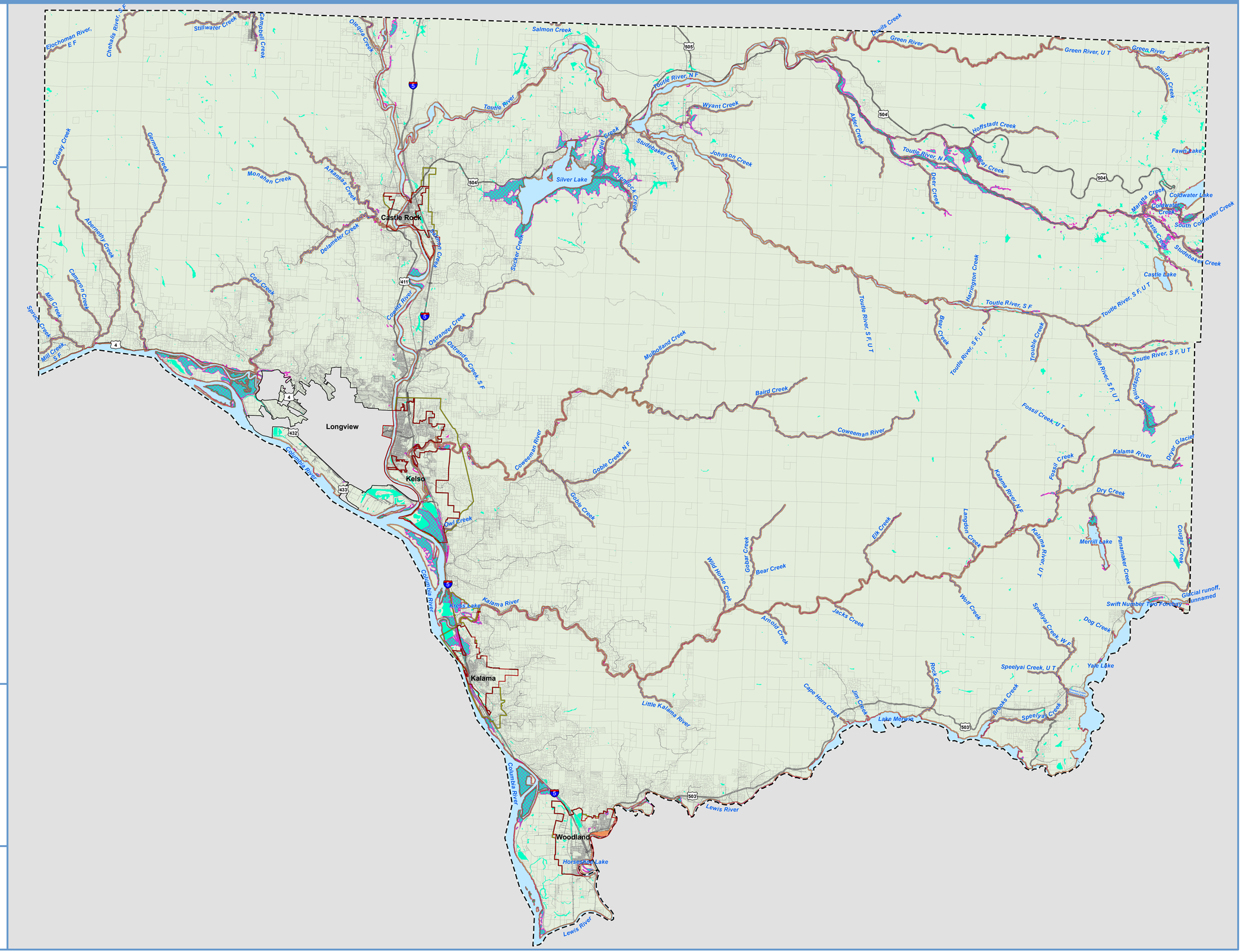
- NWI Wetland
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisidiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary



Date: 4/11/2014
Name: Fig10_wetlands

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

0 8,000 16,000 32,000 Feet

Original Scale=1:108,000 @ 24 x 36 layout. Please scale accordingly.

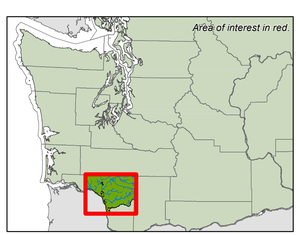


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FIGURE 11. SURFACE WATER SYSTEM

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Watercourses

- ArtificialPath
- CanalDitch
- Connector
- StreamRiver

Waterbodies

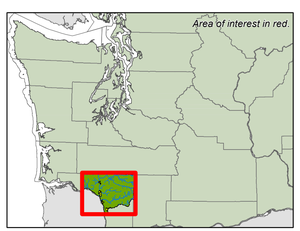
- LakePond
- Reservoir
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisidiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

Date: 4/10/2014
Name: Fig11_surface_water_v3

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

0 8,000 16,000 32,000 Feet

Original Scale=1:108,000 @ 24 x 36 layout. Please scale accordingly.



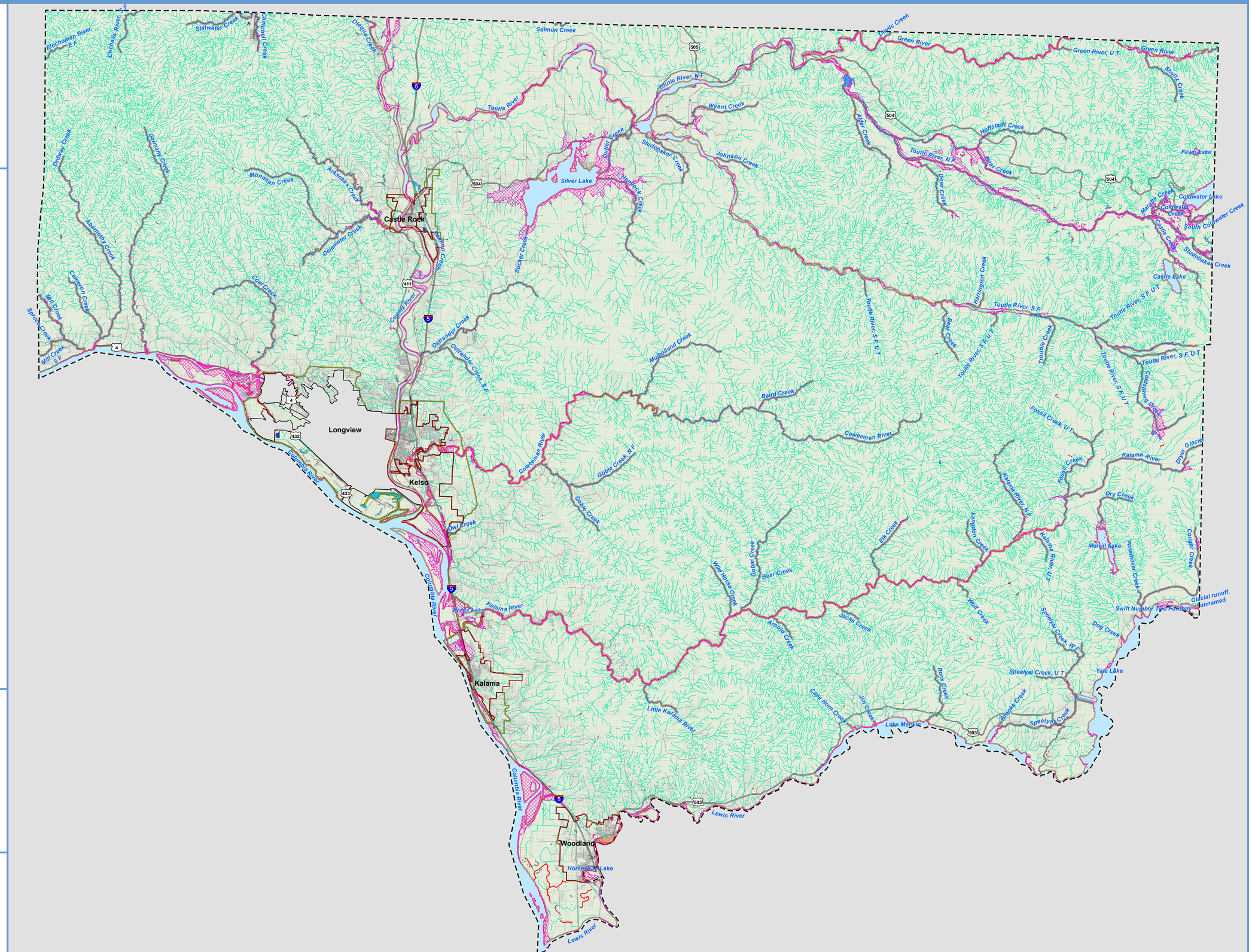


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FIGURE 12. SURFICIAL GEOLOGY

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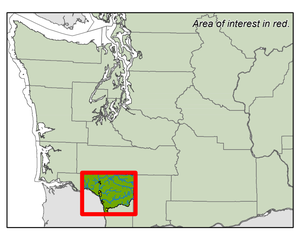
- SMP Stream
- SMP Waterbody
- City Boundary
- Proposed Shoreline Jurisidiction
- Potentially Associated Wetland
- UGA/UGB/PAB
- County Boundary

Date: 4/11/2014
Name: Fig12_surficial_geology

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

0 8,000 16,000 32,000 Feet

Original Scale=1:108,000 @ 24 x 36 layout. Please scale accordingly.



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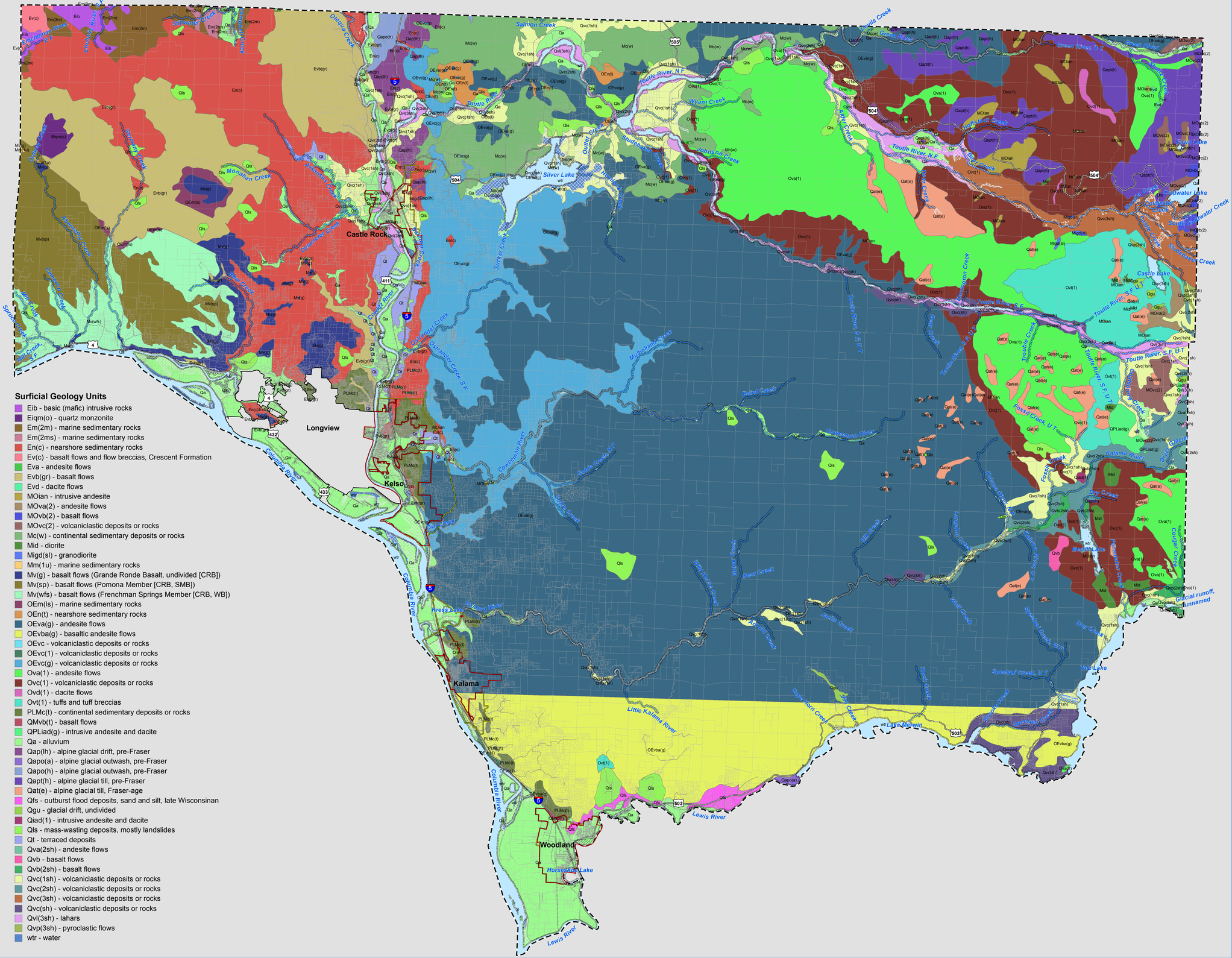

Surficial Geology Units

- Eib - basic (mafic) intrusive rocks
- Eiqm(o) - quartz monzonite
- Em(2m) - marine sedimentary rocks
- Em(2ms) - marine sedimentary rocks
- En(c) - nearshore sedimentary rocks
- Ev(c) - basalt flows and flow breccias, Crescent Formation
- Eva - andesite flows
- Evb(gr) - basalt flows
- Evd - dacite flows
- MOian - intrusive andesite
- MOva(2) - andesite flows
- MOvb(2) - basalt flows
- MOvc(2) - volcaniclastic deposits or rocks
- Mc(w) - continental sedimentary deposits or rocks
- Mid - diorite
- Migd(sl) - granodiorite
- Mm(1u) - marine sedimentary rocks
- Mv(g) - basalt flows (Grande Ronde Basalt, undivided [CRB])
- Mv(sp) - basalt flows (Pomona Member [CRB, SMB])
- Mv(wfs) - basalt flows (Frenchman Springs Member [CRB, WB])
- OEm(ls) - marine sedimentary rocks
- OEn(t) - nearshore sedimentary rocks
- OEva(g) - andesite flows
- OEvba(g) - basaltic andesite flows
- OEvc - volcaniclastic deposits or rocks
- OEvc(1) - volcaniclastic deposits or rocks
- OEvc(g) - volcaniclastic deposits or rocks
- Ova(1) - andesite flows
- Ovc(1) - volcaniclastic deposits or rocks
- Ovd(1) - dacite flows
- Ovt(1) - tuffs and tuff breccias
- PLMc(t) - continental sedimentary deposits or rocks
- QMvb(t) - basalt flows
- QPLiad(g) - intrusive andesite and dacite
- Qa - alluvium
- Qap(lh) - alpine glacial drift, pre-Fraser
- Qapo(a) - alpine glacial outwash, pre-Fraser
- Qapo(h) - alpine glacial outwash, pre-Fraser
- Qapt(h) - alpine glacial till, pre-Fraser
- Qat(e) - alpine glacial till, Fraser-age
- Qfs - outburst flood deposits, sand and silt, late Wisconsinan
- Qgu - glacial drift, undivided
- Qiad(1) - intrusive andesite and dacite
- Qls - mass-wasting deposits, mostly landslides
- Qt - terraced deposits
- Qva(2sh) - andesite flows
- Qvb - basalt flows
- Qvb(2sh) - basalt flows
- Qvc(1sh) - volcaniclastic deposits or rocks
- Qvc(2sh) - volcaniclastic deposits or rocks
- Qvc(3sh) - volcaniclastic deposits or rocks
- Qvc(sh) - volcaniclastic deposits or rocks
- Qvl(3sh) - lahars
- Qvp(3sh) - pyroclastic flows
- wtr - water

SSURGO SOILS LEGEND

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Note:
Refer to Figure 12 for soil distribution and pattern in Cowlitz County.

SSURGO SOILS

- 72104 - Andaquepts, 0 to 3 percent slopes
- 72106 - Beigle silt loam, 30 to 65 percent slopes
- 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
- 72115 - Kelso silt loam, 30 to 50 percent slopes
- 72116 - Kosmos silt loam, 0 to 3 percent slopes
- 72117 - Lacamas silt loam, 0 to 6 percent slopes
- 72118 - Lates silt loam, 5 to 30 percent slopes
- 72119 - Lates silt loam, 30 to 65 percent slopes
- 72120 - Lates-Rock outcrop complex, 65 to 90 percent slopes
- 72122 - Lithic Haplumbrepts, 50 to 100 percent slopes
- 72129 - Boistfort silt loam, 5 to 30 percent slopes
- 72130 - Lithic Umbric Vitrandepts, 0 to 15 percent slopes
- 72136 - Lonestar sand, 30 to 65 percent slopes
- 72139 - Lonestar loamy sand, overblown, 5 to 30 percent slopes
- 72140 - Lonestar loamy sand, overblown, 30 to 65 percent slopes
- 72141 - Lonestar loamy sand, overblown, 65 to 90 percent slopes
- 72142 - Lonestar sandy loam, 5 to 30 percent slopes
- 72143 - Lonestar sandy loam, 30 to 65 percent slopes
- 72144 - Lonestar sandy loam, 65 to 90 percent slopes
- 72145 - Lonestar sandy loam, tuff substratum, 5 to 30 percent slopes
- 72146 - Loper silt loam, 20 to 30 percent slopes
- 72149 - Buckpeak silt loam, 30 to 65 percent slopes
- 72150 - Loper silt loam, 30 to 65 percent slopes
- 72151 - Lytell silt loam, 5 to 30 percent slopes
- 72152 - Lytell silt loam, 30 to 75 percent slopes
- 72156 - Mart silt loam, 0 to 8 percent slopes
- 72157 - Mart silt loam, 8 to 20 percent slopes
- 72158 - Mart silt loam, 20 to 30 percent slopes
- 72159 - Mart silt loam, 30 to 65 percent slopes
- 72160 - Maytown silt loam, 0 to 3 percent slopes
- 72161 - Melbourne loam, 8 to 20 percent slopes
- 72162 - Melbourne loam, 20 to 30 percent slopes
- 72165 - Buckpeak silt loam, 65 to 90 percent slopes
- 72166 - Minniece silt loam, 0 to 8 percent slopes
- 72167 - Mountsolo gravelly sand, 0 to 1 percent slopes
- 72168 - Mulholland silt loam, 5 to 30 percent slopes
- 72169 - Murnen silt loam, 5 to 30 percent slopes
- 72170 - Natal silty clay loam, 0 to 4 percent slopes
- 72171 - Newaukum gravelly silt loam, tuff substratum, 8 to 30 percent slopes
- 72172 - Newaukum gravelly silt loam, tuff substratum, 30 to 65 percent slopes
- 72173 - Newaukum cobbly silt loam, 5 to 30 percent slopes
- 72174 - Newaukum cobbly silt loam, 30 to 65 percent slopes
- 72175 - Newaukum cobbly silt loam, 65 to 90 percent slopes
- 72178 - Bunker silt loam, 5 to 30 percent slopes
- 72179 - Newaukum-Rock outcrop complex, 15 to 65 percent slopes
- 72180 - Newberg fine sandy loam, 0 to 3 percent slopes
- 72181 - Olequa silt loam, 0 to 8 percent slopes
- 72182 - Olequa silt loam, 8 to 20 percent slopes
- 72183 - Olequa silt loam, 20 to 30 percent slopes
- 72184 - Olequa silt loam, 30 to 65 percent slopes
- 72185 - Olympic silt loam, 2 to 8 percent slopes
- 72186 - Olympic silt loam, 8 to 20 percent slopes
- 72187 - Olympic silt loam, 20 to 30 percent slopes
- 72188 - Olympic silt loam, 30 to 65 percent slopes
- 72190 - Bunker silt loam, 30 to 65 percent slopes
- 72191 - Olympic silt loam, tuff substratum, 5 to 30 percent slopes
- 72192 - Panamaker gravelly sand, 0 to 3 percent slopes
- 72193 - Panamaker gravelly sand, flooded, 0 to 1 percent slopes
- 72194 - Pheeney gravelly silt loam, 5 to 30 percent slopes
- 72195 - Pheeney gravelly silt loam, 30 to 65 percent slopes
- 72196 - Pheeney gravelly silt loam, 65 to 90 percent slopes
- 72197 - Pheeney-Beigle complex, 5 to 30 percent slopes
- 72198 - Pheeney-Beigle complex, 30 to 65 percent slopes
- 72199 - Pheeney-Rock outcrop complex, 30 to 65 percent slopes
- 72200 - Pheeney-Rock outcrop complex, 65 to 90 percent slopes
- 72203 - Camas cobbly loam, 0 to 3 percent slopes
- 72204 - Pilchuck loamy fine sand, 0 to 8 percent slopes
- 72205 - Pits
- 72206 - Polepatch loamy sand, overblown, 0 to 30 percent slopes
- 72207 - Polepatch very cobbly loamy sand, 0 to 30 percent slopes
- 72208 - Polepatch very cobbly loamy sand, 50 to 90 percent slopes
- 72209 - Polepatch extremely bouldery loamy sand, 0 to 30 percent slopes
- 72210 - Prather silty clay loam, 0 to 5 percent slopes
- 72213 - Prather silty clay loam, 5 to 15 percent slopes
- 72219 - Raught silt loam, 20 to 30 percent slopes
- 72220 - Raught silt loam, 30 to 65 percent slopes
- 72226 - Caples silty clay loam, 0 to 3 percent slopes
- 72227 - Raught silt loam, 65 to 90 percent slopes
- 72228 - Reichel silt loam, 5 to 30 percent slopes
- 72232 - Riverwash
- 72233 - Rock outcrop-Rubble land complex
- 72234 - Rose Valley silt loam, 0 to 8 percent slopes
- 72235 - Rose Valley silt loam, 8 to 15 percent slopes
- 72236 - Salkum silt loam, 2 to 8 percent slopes
- 72237 - Salkum silt loam, 8 to 20 percent slopes
- 72238 - Salkum silt loam, 20 to 30 percent slopes
- 72239 - Sara silt loam, 0 to 8 percent slopes
- 72241 - Carrolls sand, flooded, 0 to 2 percent slopes
- 72242 - Sara silt loam, 8 to 15 percent slopes
- 72243 - Sara silt loam, 15 to 40 percent slopes
- 72244 - Sara silty clay loam, 0 to 8 percent slopes
- 72245 - Sarazan very gravelly silt loam, 5 to 30 percent slopes
- 72246 - Sarazan very gravelly silt loam, 30 to 65 percent slopes
- 72247 - Sauvola loam, 0 to 8 percent slopes
- 72248 - Sauvola loam, 8 to 15 percent slopes
- 72249 - Sauvola loam, 15 to 30 percent slopes
- 72250 - Schneider very gravelly loam, 5 to 30 percent slopes
- 72251 - Schneider very gravelly loam, 30 to 65 percent slopes
- 72253 - Carrolls loamy sand, 0 to 2 percent slopes
- 72254 - Schneider-Rock outcrop complex, 15 to 65 percent slopes
- 72255 - Schneider-Rock outcrop complex, 65 to 90 percent slopes
- 72256 - Seaquest silt loam, 0 to 8 percent slopes
- 72257 - Seaquest silt loam, 8 to 20 percent slopes
- 72259 - Seaquest silt loam, 20 to 30 percent slopes
- 72260 - Semiahmoo muck, 0 to 1 percent slopes
- 72261 - Siouxon very cobbly silt loam, 5 to 30 percent slopes
- 72262 - Siouxon very cobbly silt loam, 30 to 65 percent slopes
- 72263 - Siouxon-Rock outcrop complex, 65 to 90 percent slopes
- 72264 - Snohomish silty clay loam, 0 to 1 percent slopes
- 72265 - Andic Cryaquepts-Rock outcrop complex, 50 to 90 percent slopes
- 72267 - Carrolls fine sandy loam, overwash, 0 to 1 percent slopes
- 72268 - Solo gravelly loamy sand, 0 to 8 percent slopes
- 72269 - Speelyai gravelly loamy sand, 0 to 8 percent slopes
- 72270 - Speelyai gravelly loamy sand, 15 to 60 percent slopes
- 72271 - Spodic Cryopsamments, 0 to 30 percent slopes
- 72272 - Stahl very gravelly silt loam, 30 to 65 percent slopes
- 72273 - Stahl-Reichel complex, 5 to 30 percent slopes
- 72274 - Stahl-Reichel complex, 30 to 65 percent slopes
- 72275 - Stahl-Rock outcrop complex, 30 to 75 percent slopes
- 72276 - Stella silt loam, 3 to 8 percent slopes
- 72277 - Stella silt loam, 8 to 15 percent slopes
- 72281 - Centralia silt loam, 0 to 8 percent slopes
- 72283 - Stella silt loam, 15 to 30 percent slopes
- 72285 - Studebaker very gravelly loamy sand, 0 to 20 percent slopes
- 72287 - Swem cobbly silt loam, 5 to 30 percent slopes
- 72289 - Swem cobbly silt loam, 30 to 65 percent slopes
- 72291 - Swift loamy sand, overblown, 30 to 65 percent slopes
- 72292 - Swift loamy sand, overblown, 65 to 90 percent slopes
- 72293 - Swift sandy loam, 5 to 30 percent slopes
- 72294 - Swift sandy loam, 30 to 65 percent slopes
- 72295 - Swift sandy loam, 65 to 90 percent slopes
- 72296 - Swift-Rock outcrop complex, 30 to 65 percent slopes
- 72299 - Centralia silt loam, 8 to 20 percent slopes
- 72300 - Swift-Rock outcrop complex, 65 to 90 percent slopes
- 72302 - Swift, overblown-Rock outcrop complex, 40 to 90 percent slopes
- 72306 - Vader loam, 5 to 30 percent slopes
- 72309 - Vader loam, 30 to 65 percent slopes
- 72314 - Vanson loamy sand, overblown, 5 to 30 percent slopes
- 72315 - Vanson loamy sand, overblown, 30 to 65 percent slopes
- 72316 - Vanson loamy sand, overblown, 65 to 90 percent slopes
- 72317 - Vanson loamy sand, till substratum, overblown, 5 to 30 percent slopes
- 72318 - Vanson loamy sand, till substratum, overblown, 30 to 65 percent slopes
- 72319 - Vanson sandy loam, 5 to 30 percent slopes
- 72320 - Centralia silt loam, 20 to 30 percent slopes
- 72322 - Vanson sandy loam, 30 to 65 percent slopes
- 72326 - Vanson sandy loam, 65 to 90 percent slopes
- 72328 - Vanson sandy loam, tuff substratum, 5 to 30 percent slopes
- 72331 - Vanson sandy loam, tuff substratum, 30 to 65 percent slopes
- 72332 - Vanson cobbly sandy loam, till substratum, 5 to 30 percent slopes
- 72333 - Vanson cobbly sandy loam, till substratum, 30 to 65 percent slopes
- 72334 - Vanson-Hatchet, loamy sands, overblown, 5 to 30 percent slopes
- 72335 - Vanson-Hatchet loamy sands, overblown, 30 to 65 percent slopes
- 72336 - Vanson-Hatchet loamy sands, overblown, 65 to 90 percent slopes
- 72337 - Vanson-Hatchet complex, 5 to 30 percent slopes
- 72338 - Cinebar loamy sand, overblown, 5 to 30 percent slopes
- 72340 - Vanson-Hatchet complex, 30 to 65 percent slopes
- 72343 - Vanson-Hatchet complex, 65 to 90 percent slopes
- 72346 - Vanson-Rock outcrop complex, 30 to 65 percent slopes
- 72349 - Vanson-Rock outcrop complex, 65 to 90 percent slopes
- 72351 - Vanson, overblown-Rock outcrop complex, 30 to 65 percent slopes
- 72361 - Vanson, overblown-Rock outcrop complex, 65 to 90 percent slopes
- 72363 - Voight silt loam, 5 to 30 percent slopes
- 72364 - Winston silt loam, 0 to 8 percent slopes
- 72365 - Wyant loam, 5 to 30 percent slopes
- 72370 - Wyant loam, 30 to 65 percent slopes
- 72373 - Cinebar silt loam, 0 to 5 percent slopes
- 72375 - Xana loamy sand, 5 to 30 percent slopes
- 72378 - Xana loamy sand, 30 to 65 percent slopes
- 72379 - Xeno silt loam, 5 to 30 percent slopes
- 72380 - Xeno silt loam, 30 to 65 percent slopes
- 72381 - Xerorthents, 50 to 90 percent slopes
- 72382 - Yalelake sandy loam, 5 to 30 percent slopes
- 72383 - Yalelake sandy loam, 30 to 65 percent slopes
- 72384 - Yalelake sandy loam, 65 to 90 percent slopes
- 72385 - Zenker silt loam, 30 to 65 percent slopes
- 72386 - Zenker silt loam, 65 to 90 percent slopes
- 72387 - Cinebar silt loam, 5 to 20 percent slopes
- 72389 - Zymer sandy loam, 30 to 65 percent slopes
- 72392 - Zymer-Rock outcrop complex, 65 to 90 percent slopes
- 72395 - Zynbar silt loam, 5 to 30 percent slopes
- 72397 - Cinebar silt loam, 20 to 30 percent slopes
- 72400 - Cinebar silt loam, 30 to 65 percent slopes
- 72407 - Cinnamon sandy loam, 5 to 30 percent slopes
- 72421 - Andic Cryumbrepts-Rock outcrop complex, 50 to 90 percent slopes
- 72423 - Cinnamon sandy loam, 30 to 65 percent slopes
- 72425 - Cinnamon sandy loam, 65 to 90 percent slopes
- 72431 - Clato silt loam, 0 to 3 percent slopes
- 72435 - Coweeman silt loam, 5 to 15 percent slopes
- 72440 - Coweeman silty clay loam, 3 to 30 percent slopes
- 72445 - Cowlitz very gravelly sand, 0 to 1 percent slopes
- 72448 - Cowlitz extremely gravelly sand, disturbed, 0 to 5 percent slopes
- 72452 - Cowlitz extremely gravelly sand, disturbed, 5 to 15 percent slopes
- 72457 - Cowlitz extremely gravelly sand, disturbed, 15 to 30 percent slopes
- 72473 - Delameter extremely gravelly loamy sand, 0 to 20 percent slopes
- 72476 - Andic Cryumbrepts, overblown-Rock outcrop complex, 50 to 90 percent slopes
- 72477 - Dobbs gravelly silt loam, 5 to 30 percent slopes
- 72482 - Dobbs gravelly silt loam, 30 to 65 percent slopes
- 72483 -
- 72488 - Domell sandy loam, 5 to 30 percent slopes
- 72498 - Domell sandy loam, 30 to 70 percent slopes
- 72499 - Domell stony sandy loam, 5 to 30 percent slopes
- 72500 - Domell stony sandy loam, 30 to 65 percent slopes
- 72508 - Edgewick silt loam, 0 to 3 percent slopes
- 72514 - Elkprairie loamy sand, 0 to 30 percent slopes
- 72516 - Elochoman silt loam, 5 to 30 percent slopes
- 72517 - Arents, 0 to 5 percent slopes
- 72519 - Ferteg silt loam, 0 to 8 percent slopes
- 72528 - Ferteg silt loam, 8 to 30 percent slopes
- 72534 - Forsyth very cobbly loamy sand, 0 to 30 percent slopes
- 72540 - Forsyth very cobbly loamy sand, 50 to 90 percent slopes
- 72546 - Germany silt loam, 0 to 8 percent slopes
- 72558 - Germany silt loam, 8 to 20 percent slopes
- 72560 - Germany silt loam, 20 to 30 percent slopes
- 72594 - Germany silt loam, 30 to 65 percent slopes
- 72600 - Germany silt loam, tuff substratum, 8 to 20 percent slopes
- 72620 - Germany silt loam, tuff substratum, 20 to 30 percent slopes
- 72622 - Astoria silt loam, 5 to 30 percent slopes
- 72623 - Germany silt loam, tuff substratum, 30 to 65 percent slopes
- 72637 - Gobar silt loam, 5 to 30 percent slopes
- 72651 - Gobar silt loam, 30 to 65 percent slopes
- 72653 - Gobar silt loam, 65 to 90 percent slopes
- 72656 - Gobar silt loam, 5 to 45 percent slopes, dissected
- 72663 - Godfrey silt loam, 0 to 3 percent slopes
- 72674 - Greenwater loamy sand, 8 to 45 percent slopes
- 72683 - Greenwater loamy sand, overblown, 0 to 8 percent slopes
- 72686 - Greenwater gravelly loamy sand, 0 to 8 percent slopes
- 72692 - Greenwater fine sandy loam, 0 to 8 percent slopes
- 72693 - Baumgard silt loam, 5 to 30 percent slopes
- 72694 - Hatchet loamy sand, overblown, 30 to 65 percent slopes
- 72695 - Hatchet loamy sand, overblown, 65 to 90 percent slopes
- 72708 - Hatchet very cobbly sandy loam, 30 to 65 percent slopes
- 72716 - Hatchet-Rock outcrop complex, 30 to 65 percent slopes
- 72718 - Hatchet-Rock outcrop complex, 65 to 90 percent slopes
- 72724 - Hatchet, overblown-Rock outcrop complex, 65 to 90 percent slopes
- 72732 - Hazeldell gravelly silt loam, 8 to 20 percent slopes
- 72741 - Hazeldell gravelly silt loam, 20 to 30 percent slopes
- 72742 - Hazeldell gravelly silt loam, 30 to 65 percent slopes
- 72743 - Hazeldell gravelly silt loam, tuff substratum, 5 to 30 percent slopes
- 72744 - Baumgard silt loam, 30 to 65 percent slopes
- 72745 - Hazeldell gravelly silt loam, tuff substratum, 30 to 65 percent slopes
- 72762 - Histic Cryaquepts, 0 to 1 percent slopes
- 72785 - Histic Humaquepts, 0 to 3 percent slopes
- 72793 - Hoffstadt loamy sand, overblown, 5 to 30 percent slopes
- 72794 - Hoffstadt loamy sand, overblown, 30 to 70 percent slopes
- 72847 - Hoffstadt very gravelly sandy loam, 5 to 30 percent slopes
- 72853 - Hoffstadt very gravelly sandy loam, 30 to 65 percent slopes
- 72859 - Hoffstadt-Rock outcrop complex, 30 to 65 percent slopes
- 72878 - Hoffstadt-Rock outcrop complex, 65 to 90 percent slopes
- 72882 - Hoffstadt, overblown-Rock outcrop complex, 30 to 65 percent slopes
- 72883 - Beigle silt loam, 5 to 30 percent slopes
- 72884 - Hoffstadt, overblown-Rock outcrop complex, 65 to 90 percent slopes
- 72888 - Jonas silt loam, 5 to 30 percent slopes
- 72894 - Jonas silt loam, 30 to 65 percent slopes
- 72895 - Kalama gravelly loam, 8 to 15 percent slopes
- 72896 - Kalama gravelly loam, 15 to 30 percent slopes
- 72903 - Kalama gravelly loam, 30 to 60 percent slopes
- 72904 - Katula very cobbly loam, 30 to 65 percent slopes
- 72908 - Katula very cobbly loam, 65 to 90 perecent slopes
- 72909 - Katula-Bunker complex, 30 to 65 percent slopes
- 72917 - Katula-Bunker complex, 65 to 90 percent slopes
- 73055 - Water
- 736538 - Dam
- 736625 - Stimson silt loam
- 736626 - Chehalis silty clay
- 736627 - Cloquato silt loam
- 736628 - Klaber silt loam
- 736629 - Melbourne loam, 0 to 8 percent slopes
- 736630 - Wilkeson loam, 0 to 8 percent slopes
- 736631 - Wilkeson loam, 8 to 30 percent slopes

Date: 4/10/2014
Name: Fig13_soil_legend

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

The Watershed Company

Parametrix

All features depicted on this map are approximate. They have not been formally delineated or surveyed and are intended for planning purposes only. Additional site-specific evaluation may be needed to confirm/ verify information shown on this map.

FIGURE 13. SOILS

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COWLITZ COUNTY
SHORELINE MASTER PROGRAM

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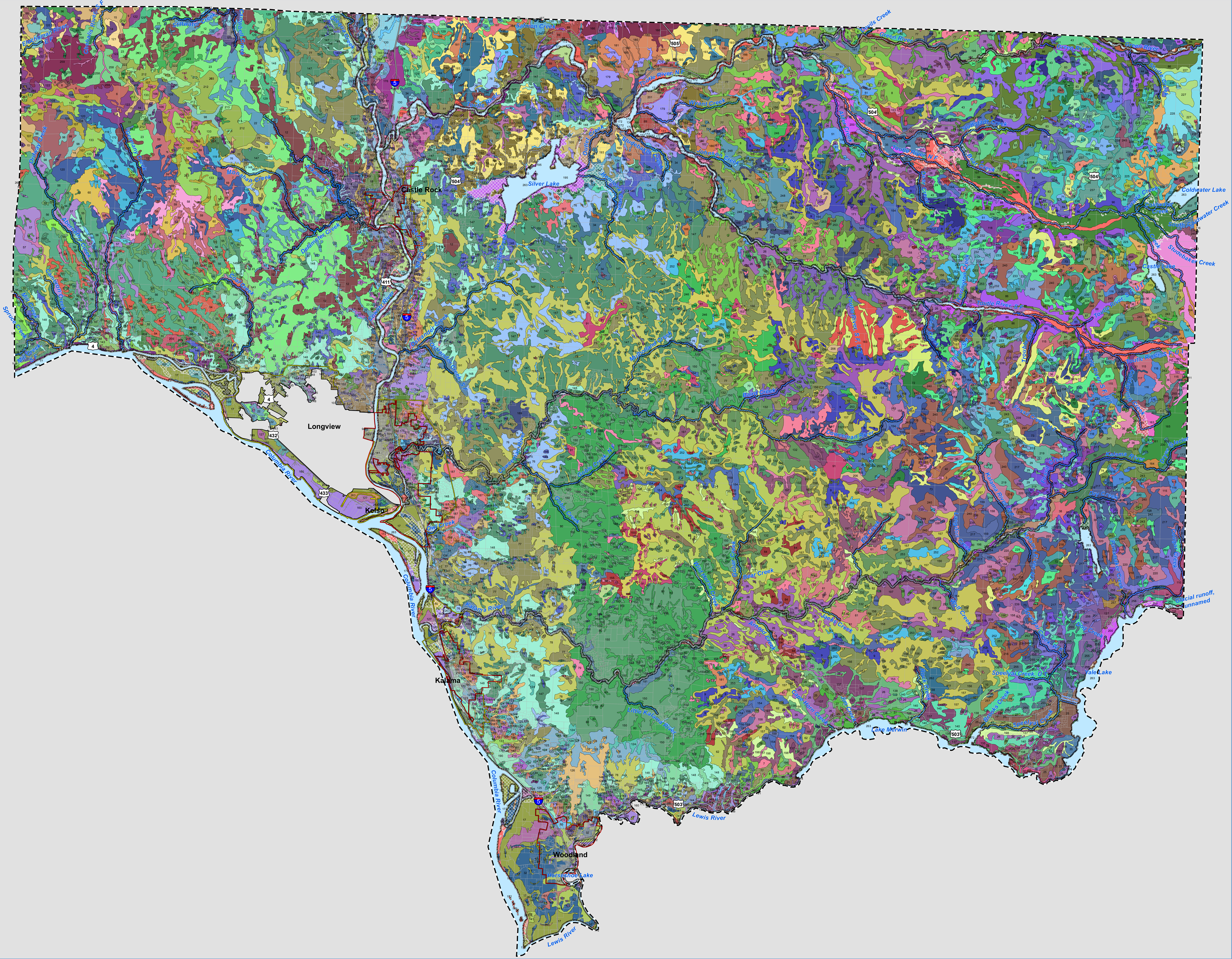


- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

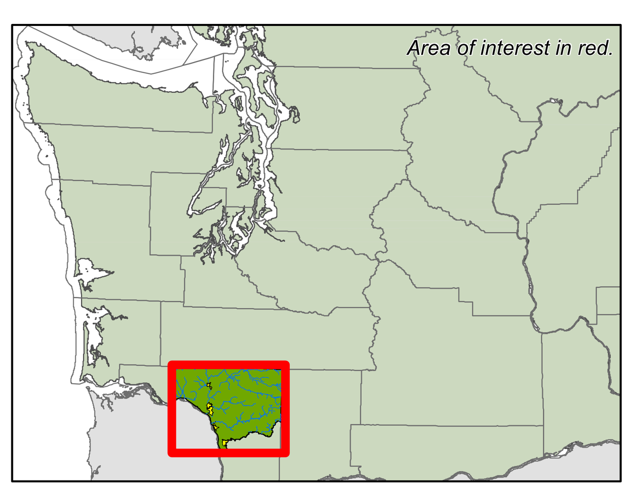
Notes:
See Soil Legend sheet for soil types.

Date: 4/10/2014
Name: Fig13_soils

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

0 8,000 16,000 32,000 Feet

Original Scale=1:108,000 @ 24 x 36 layout. Please scale accordingly.



The Watershed Company

Parametrix

All features depicted on this map are approximate. They have not been formally delineated or surveyed and are intended for planning purposes only. Additional site-specific evaluation may be needed to confirm/ verify information shown on this map.

FIGURE 14. GEOLOGIC HAZARDS

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- Earthquake Location
- Fault Line
- Study Area of the Digital Landslide Inventory for the Cowlitz County Urban Corridor (CCUC)[1]
- Deep Seated Landslide[1]
- Potentially Unstable Slope[1]
- Landslide Area Outside of CCUC Inventory
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisdiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

Notes:
[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.

Date: 4/10/2014
Name: Fig14_geologic_hazard

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

0 8,000 16,000 32,000 Feet

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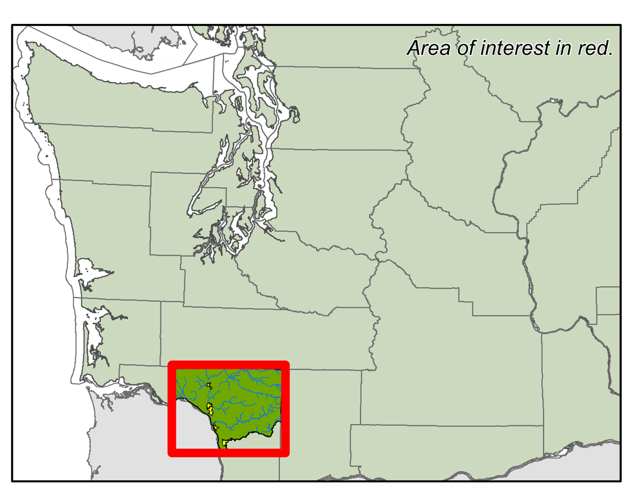

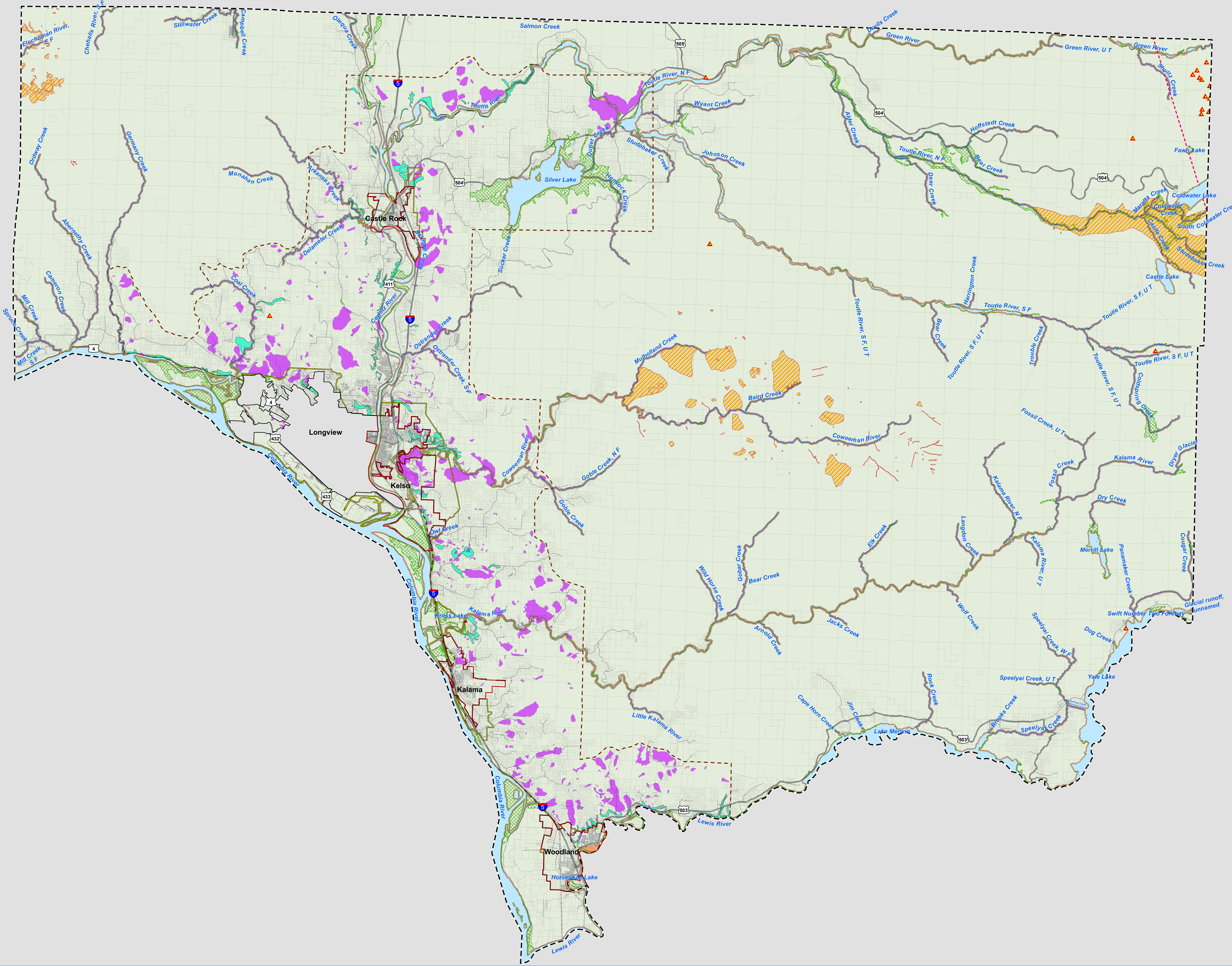

The Watershed Company
Parametrix

All features depicted on this map are approximate. They have not been formally delineated or surveyed and are intended for planning purposes only. Additional site-specific evaluation may be needed to confirm/ verify information shown on this map.

FIGURE 15. WDFW PRIORITY HABITAT REGIONS

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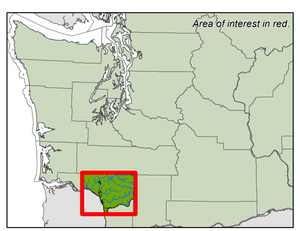
- Biodiversity Areas And Corridor
- Bald Eagle
- Canada Goose
- Cavity-nesting Ducks
- Cliffs/bluffs
- Great Blue Heron
- Harbor Seal
- Herbaceous Bald
- Islands
- Mule And Black-tailed Deer
- Oak Woodland
- Shepard's Parnassian
- Shorebird Concentrations
- Snag-rich Areas
- Talus Slopes
- Waterfowl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

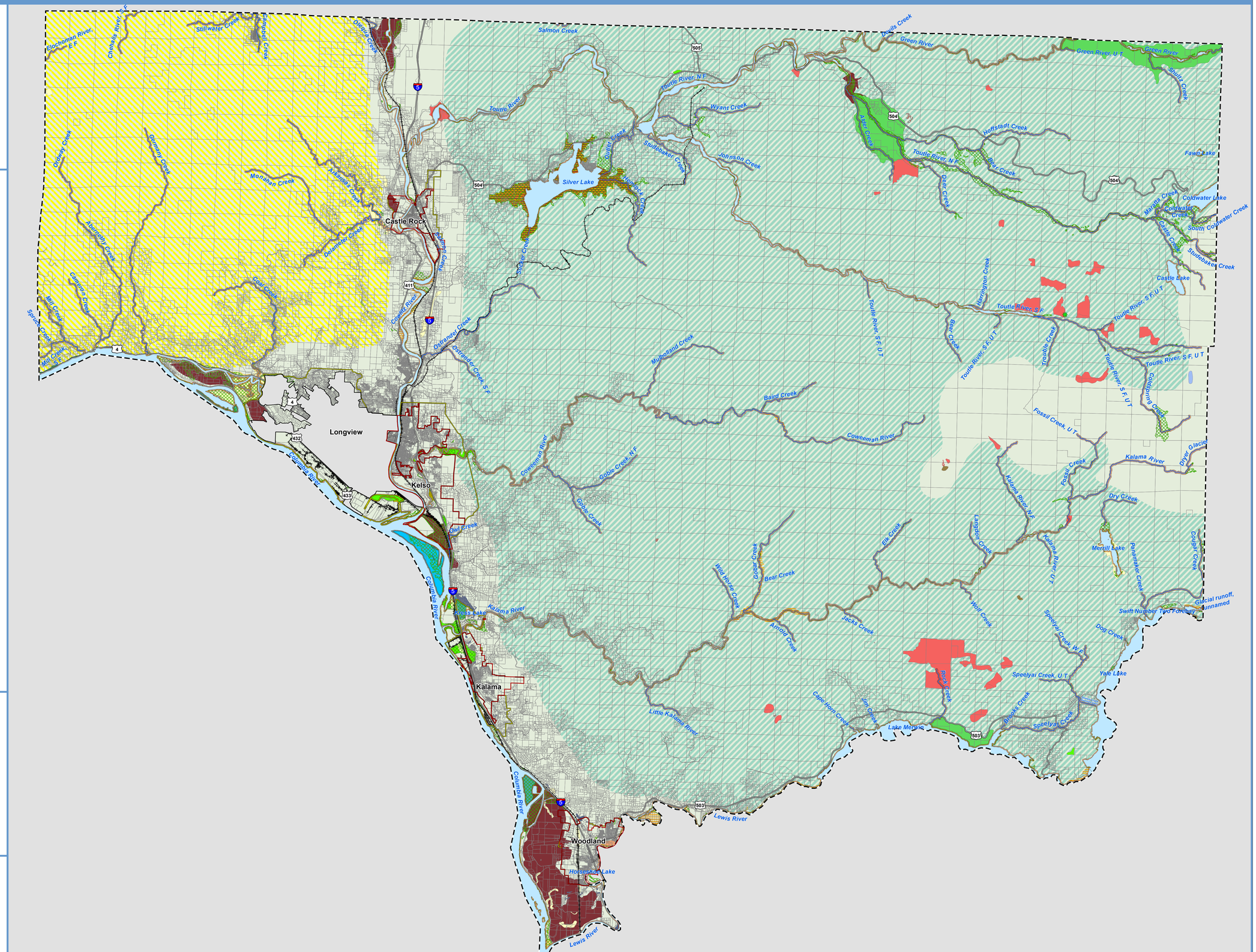
Date: 4/10/2014
Name: Fig15_phs_regions

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

0 8,000 16,000 32,000 Feet

Original Scale=1:108,000 @ 24 x 36 layout. Please scale accordingly.





THE WATERSHED COMPANY

Parametrix

All features depicted on this map are approximate. They have not been formally delineated or surveyed and are intended for planning purposes only. Additional site-specific evaluation may be needed to confirm/ verify information shown on this map.

FIGURE 16. WDFW PRIORITY SPECIES

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

WDFW Species

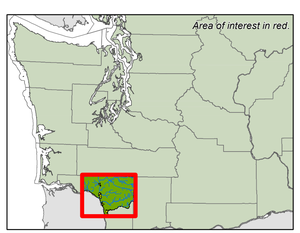
- Seal and sealion
- Bald eagle
- Eastern wild turkey
- Great gray owl
- Harlequin duck
- Marbled murrelet
- Mountain quail
- Northern goshawk
- Osprey
- Peregrine falcon
- Pileated woodpecker
- Purple martin
- Western bluebird
- California sea lion
- Harbor seal
- Cascades frog
- Tailed frog
- Western toad
- Cascade torrent salamander
- Columbia torrent salamander
- Cope's giant salamander
- Dunn's salamander
- Larch mountain salamander
- Van dyke's salamander
- Leopard dace
- Mountain sucker
- Pacific lamprey
- Reticulate sculpin
- Riffle sculpin
- Sand roller
- Western pearlshell
- Shepard's parnassian
- Columbian white-tailed deer
- Bad Eagle Nest Buffer
- Murrelet 3/4 mil buffer
- Murrelet Presence
- Spotted Owl Presence
- Great Egret Colony

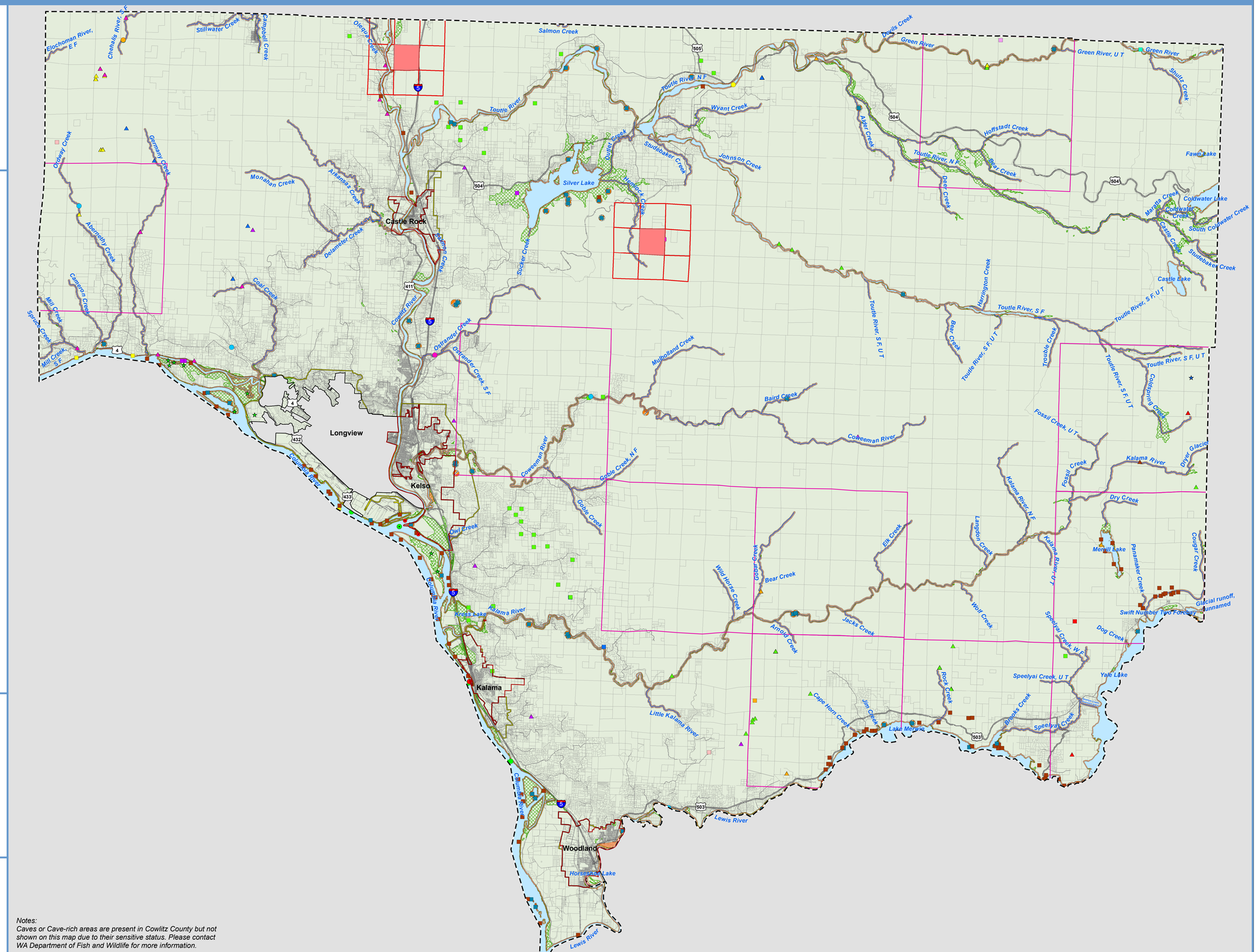
Date: 4/10/2014
Name: Fig16_phs_species

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

0 8,000 16,000 32,000 Feet

Original Scale=1:108,000 @ 24 x 36 layout. Please scale accordingly.





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Parametrix

All features depicted on this map are approximate. They have not been formally delineated or surveyed and are intended for planning purposes only. Additional site-specific evaluation may be needed to confirm/ verify information shown on this map.

Notes:
Caves or Cave-rich areas are present in Cowlitz County but not shown on this map due to their sensitive status. Please contact WA Department of Fish and Wildlife for more information.

FIGURE 17. WDFW PRIORITY FISH DISTRIBUTION

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Shoreline Master Program Update
COWLITZ COUNTY • CASTLE ROCK • KALAMA • KELSO • WOODLAND

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Priority Fish Distribution

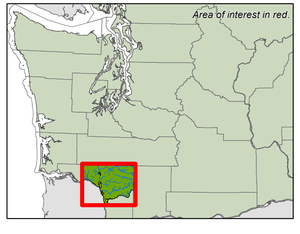
- Smallmouth Bass
- Walleye
- White Sturgeon
- Green Sturgeon
- American Shad
- Chinook Salmon
- Chum Salmon
- Sockeye
- Pink Salmon
- Coho Salmon
- Steelhead Trout
- Coast Resident Cutthroat
- Rainbow Trout
- Bull Trout
- Mountain Whitefish
- Largemouth Bass
- Kokanee Salmon
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisidiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

Date: 4/10/2014
Name: Fig17_phs_fish

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

0 8,000 16,000 32,000 Feet

Original Scale=1:108,000 @ 24 x 36 layout. Please scale accordingly.



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Parametrix

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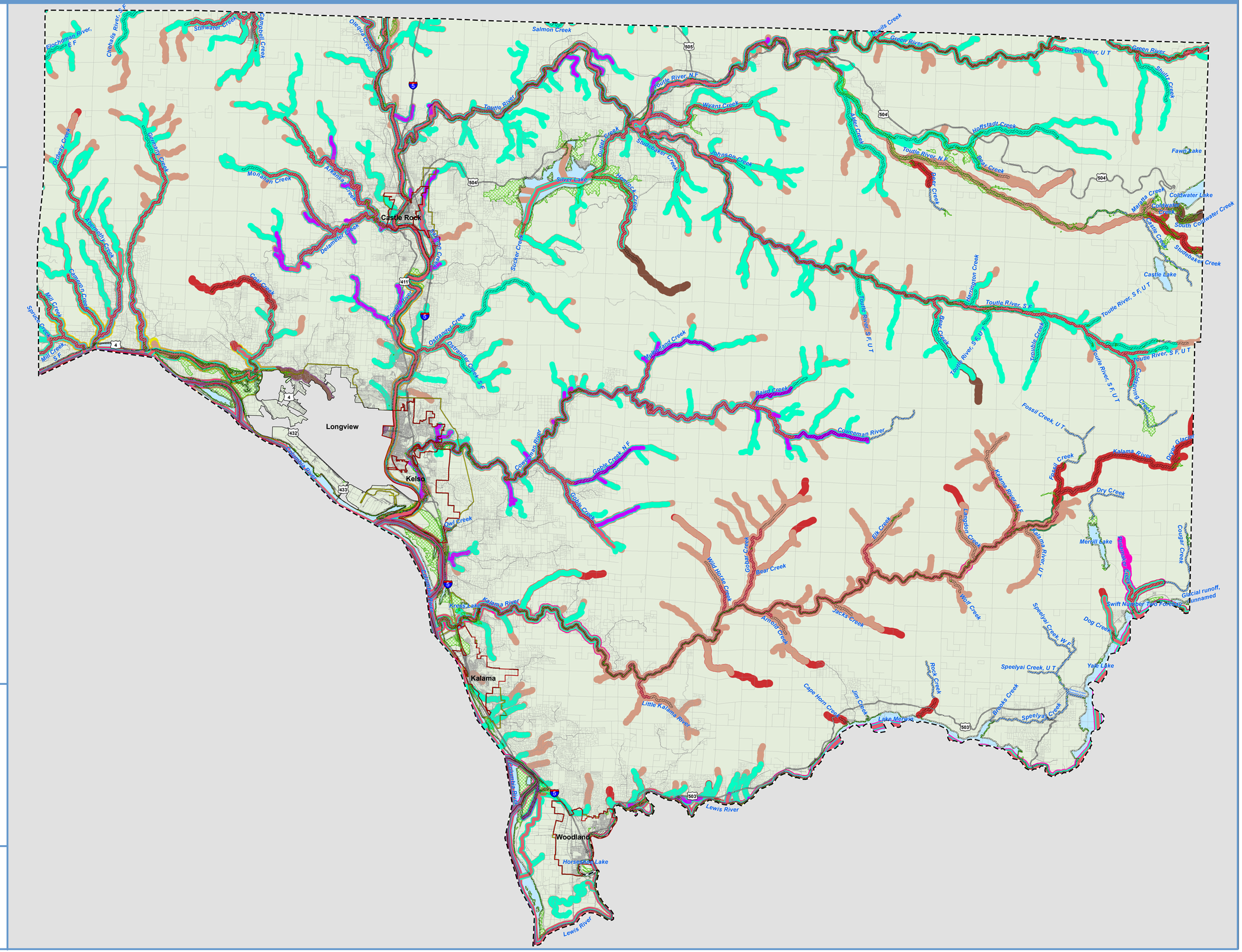

FIGURE 18. LEVEES, DAMS, AND OVERWATER STRUCTURES

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COWLITZ COUNTY • CASTLE ROCK • KALAMA • KELSO • WOODLAND

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

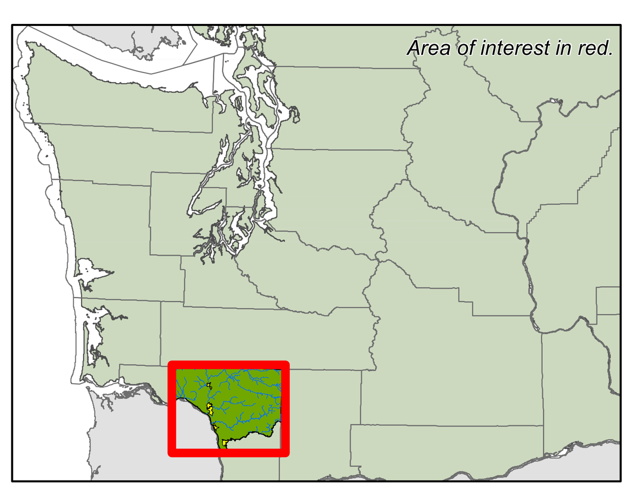
Notes:
[1] Other public levees for which FEMA certification is actively being pursued.
[2] Overwater structure data is shown as provided by Department of Natural Resources. It does not represent an accurate County-wide depiction of overwater structures.

Date: 4/10/2014
Name: Fig18_LeveeDamOvrStruc

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

0 8,000 16,000 32,000 Feet

Original Scale=1:108,000 @ 24 x 36 layout. Please scale accordingly.



The Watershed Company
Parametrix

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FIGURE 19. WATER QUALITY

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Shoreline Master Program Update
COWLITZ COUNTY • CASTLE ROCK • KALAMA • KELSO • WOODLAND

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Water Quality
- Category 5 Water
- Category 4 Water
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisidiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

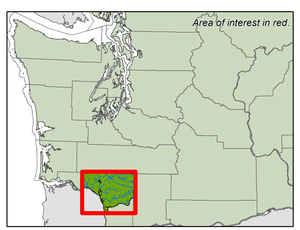
Water Quality Parameters
1 - 2,3,7,8-TCDD
2 - Dieldrin
3 - Dioxin
4 - Fecal Coliform
5 - Invasive Exotic Species
6 - Mercury
7 - PCB
8 - Temperature
9 - Total Dissolved Gas

Date: 4/10/2014
Name: Fig19_water_quality

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

0 8,000 16,000 32,000 Feet

Original Scale=1:108,000 @ 24 x 36 layout. Please scale accordingly.



THE WATERSHED COMPANY
Parametrix

All features depicted on this map are approximate. They have not been formally delineated or surveyed and are intended for planning purposes only. Additional site-specific evaluation may be needed to confirm/ verify information shown on this map.

FIGURE 20. SHORELINE ASSESSMENT UNITS

Cowlitz County Partnership
Shoreline Master Program Update
COWLITZ COUNTY • CASTLE ROCK • KALAMA • KELSO • WOODLAND

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Assessment Units

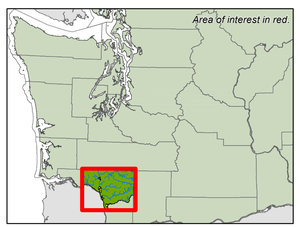
- City of Castle Rock
- City of Kalama
- City of Kelso
- City of Woodland
- Columbia
- Cowlitz
- Kalama
- Lewis
- Mill, Abernethy, Germany
- Upper Chehalis
- SMP Stream
- SMP Waterbody
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

Date: 4/10/2014
Name: Fig20_assessment_unit

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

0 8,000 16,000 32,000 Feet

Original Scale=1:108,000 @ 24 x 36 layout. Please scale accordingly.



THE WATERSHED COMPANY

Parametrix

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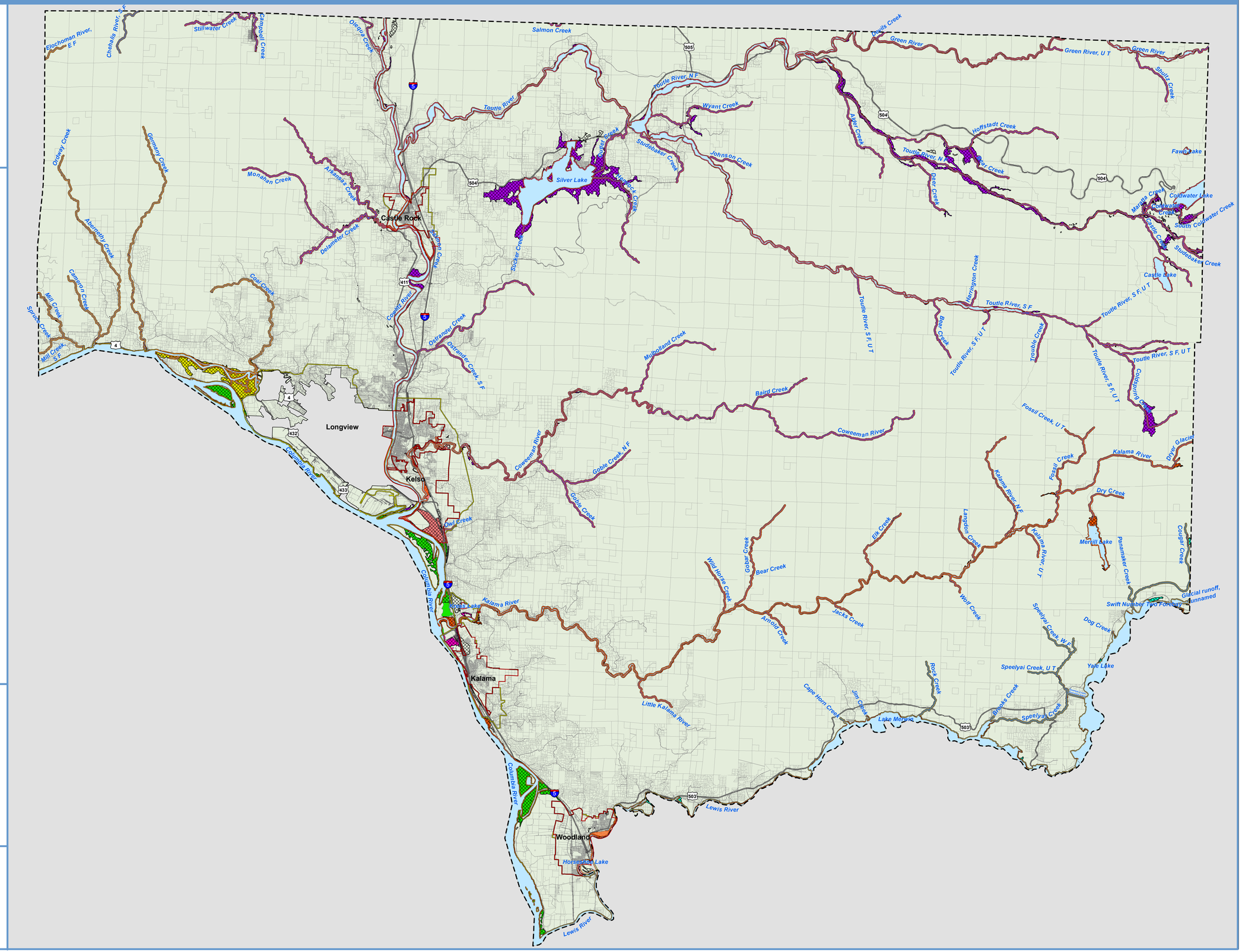

FIGURE 21. SHORELINE REACHES

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Shoreline Master Program Update
COWLITZ COUNTY • CASTLE ROCK • KALAMA • KELSO • WOODLAND

COWLITZ COUNTY SHORELINE MASTER PROGRAM

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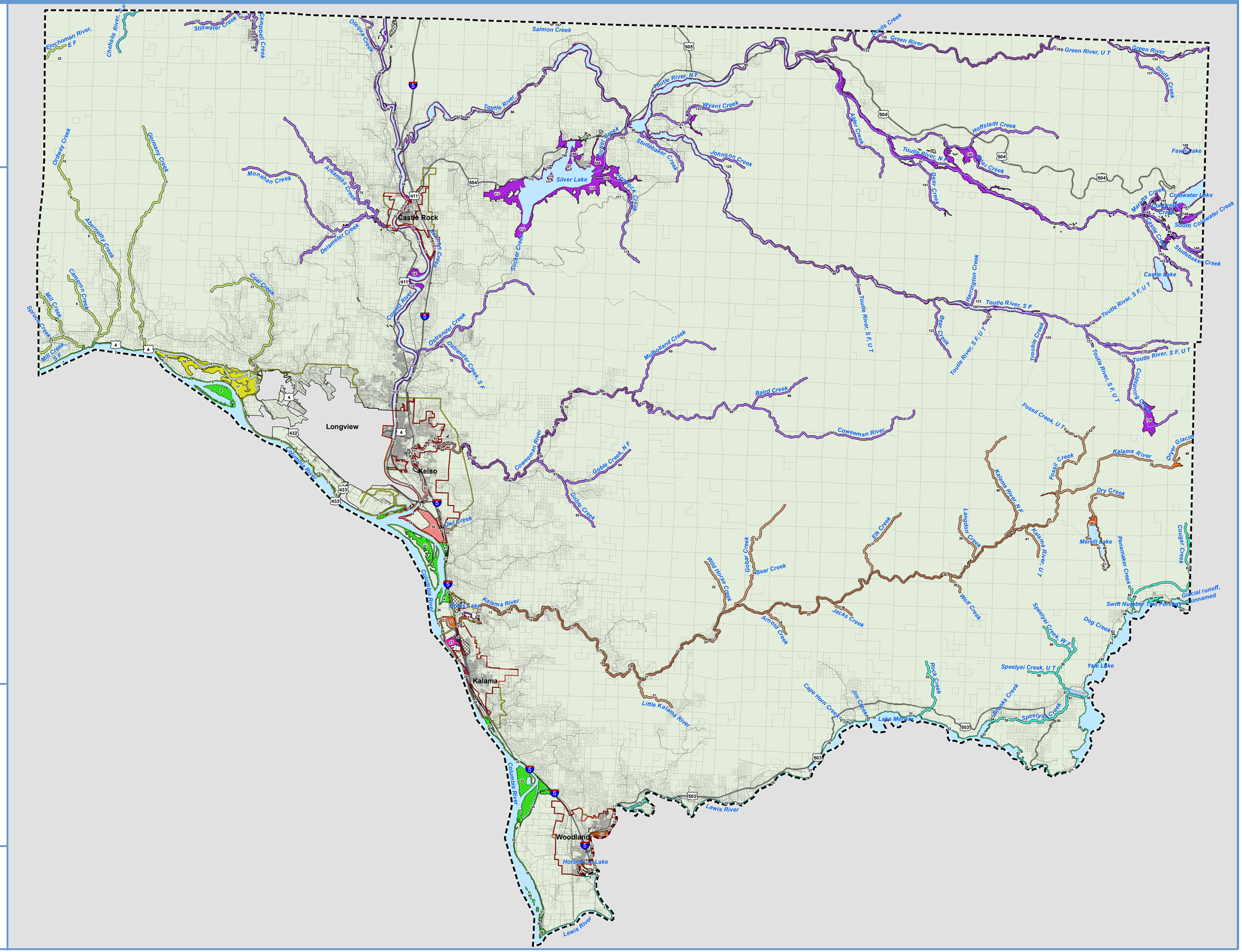
Assessment Unit
- City of Castle Rock
- City of Kalama
- City of Kelso
- City of Woodland
- Columbia
- Cowlitz
- Kalama
- Lewis
- Mill, Abernethy, Germany
- Upper Chehalis
- SMP Stream
- SMP Waterbody
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

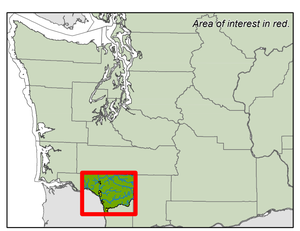


Date: 5/1/2014
Name: Fig21_reach_breaks

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

0 8,000 16,000 32,000 Feet

Original Scale=1:108,000 @ 24 x 36 layout. Please scale accordingly.



The Watershed Company
Parametrix

All features depicted on this map are approximate. They have not been formally delineated or surveyed and are intended for planning purposes only. Additional site-specific evaluation may be needed to confirm/ verify information shown on this map.

FIGURE 22. RESTORATION OPPORTUNITIES

Cowlitz County Partnership
Shoreline Master Program Update
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Cowlitz Subbasins EDT Reach Tiers[1]

- No Tier
- Tier 1
- Tier 2
- Tier 3
- Tier 4
- Active Restoration Project[2]
  - 1 - Abernathy LWD/Riparian Restoration Project
  - 2 - Monahan Creek Restoration
  - 3 - North Fork Toutle Reach 13 Restoration
  - 4 - Zmrahl/Rauth Coweeman Restoration
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisidiction
- Potentially Associated Wetland
- City Boundary
- UGA/UGB/PAB
- County Boundary

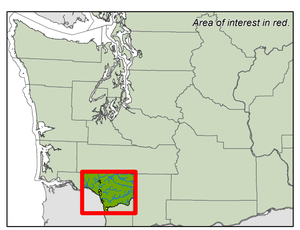
Notes:
[1] Tier classification is provided by the Lower Columbia Fish Recovery Board and might include or exclude SMP streams.

[2] Project locations are estimated only. Please refer to Habitat Work Schedule online mapping tool [http://hws.ekosystem.us/] for more details.

Date: 4/10/2014
Name: Fig22_restoration_opportunities

Data sources:
Cowlitz County, Lower Columbia Fish Recovery Board, Habitat Work Schedule, Department of Ecology, The Watershed Company.

0 8,000 16,000 32,000 Feet



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Parametrix

All features depicted on this map are approximate. They have not been formally delineated or surveyed and are intended for planning purposes only. Additional site-specific evaluation may be needed to confirm/ verify information shown on this map.

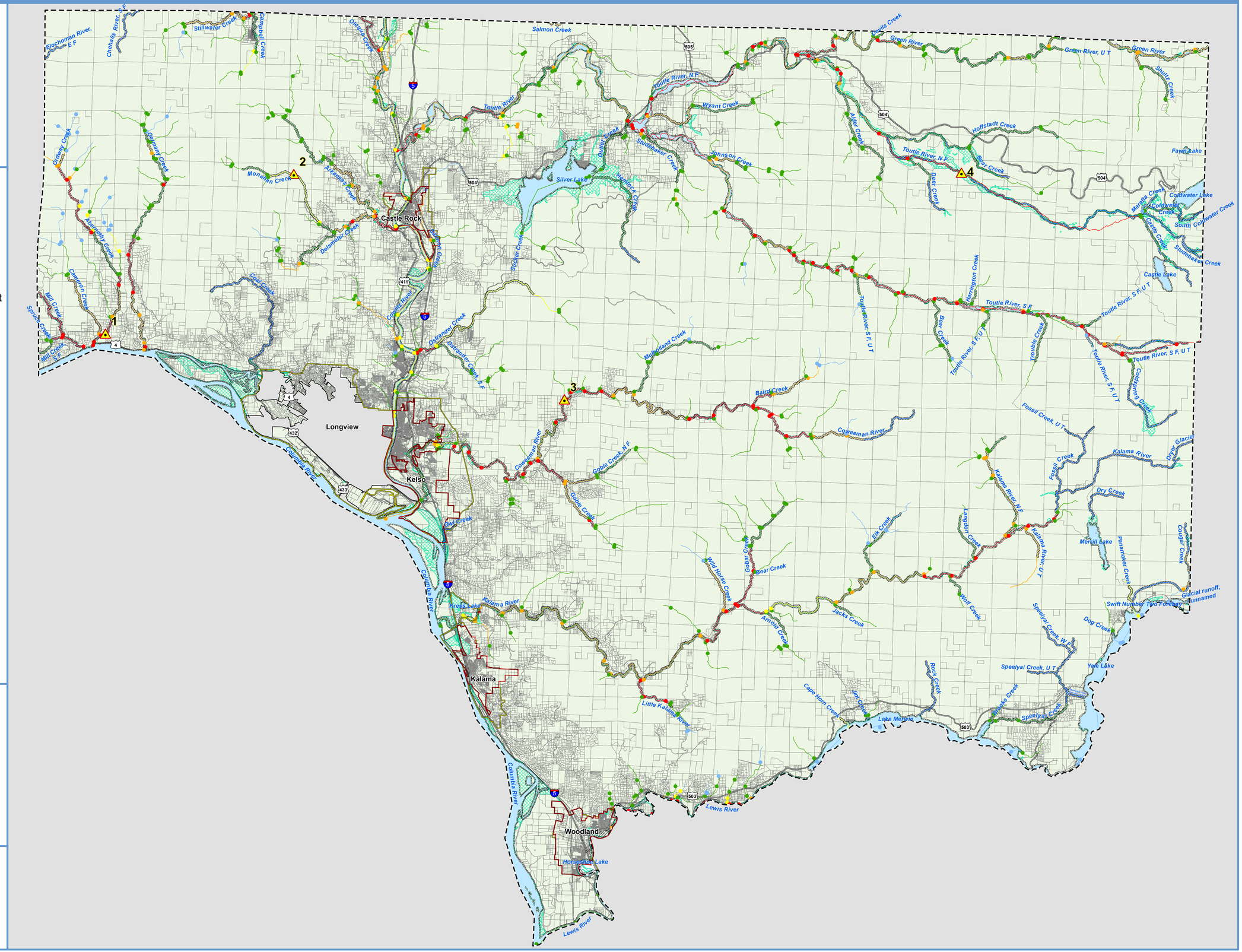

FIGURE 23. TOXIC AND HAZARDOUS SITES

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Shoreline Master Program Update
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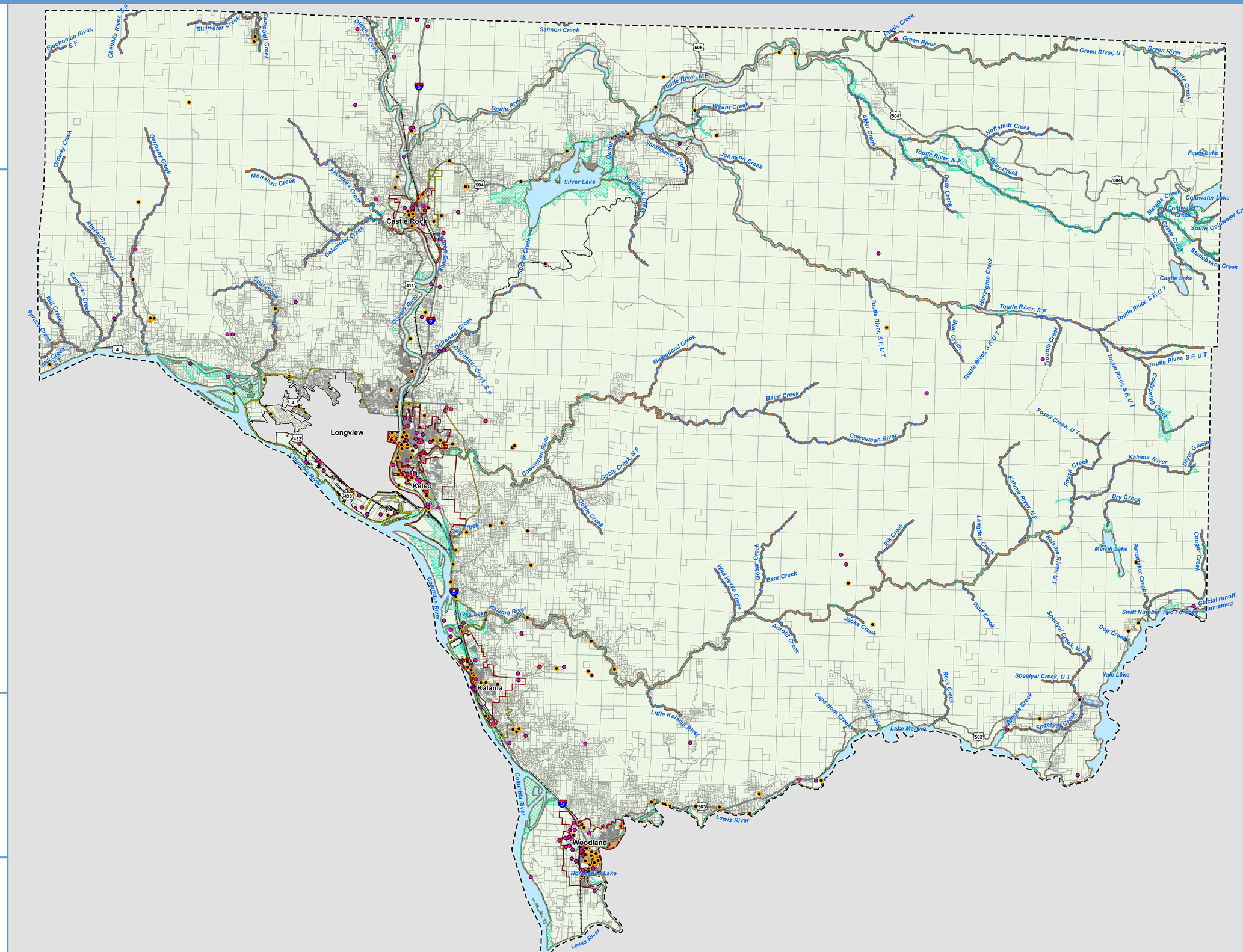
Facility/Site Database [1]

- Hazardous
- Toxic
- SMP Stream
- SMP Waterbody
- Potentially Associated Wetland
- City Boundary
- UGB/PAB
- County Boundary

Notes:
[1] Ecology's regulated facilities only. Locations and definitions are based on the Department of Ecology Facility/Site Database, March 11, 2013.



Date: 3/11/2013
Name: Fig23_toxic_hazardous

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

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Parametrix

All features depicted on this map are approximate. They have not been formally delineated or surveyed and are intended for planning purposes only. Additional site-specific evaluation may be needed to confirm/ verify information shown on this map.

FIGURE 24. AQUIFER RECHARGE AREA

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New CAO Aquifer Recharge Areas

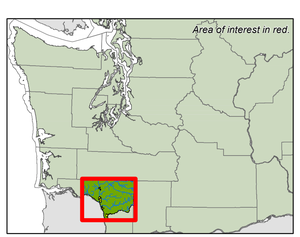
- CARA -Moderate Sensitivity
- CARA - Severe Sensitivity
- SMP Stream
- SMP Waterbody
- Proposed Shoreline Jurisidiction
- City Boundary
- UGA/UGB/PAB
- County Boundary

Date: 4/10/2014
Name: Fig24_aquifer_recharge

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

0 8,000 16,000 32,000 Feet

Original Scale=1:108,000 @ 24 x 36 layout. Please scale accordingly.



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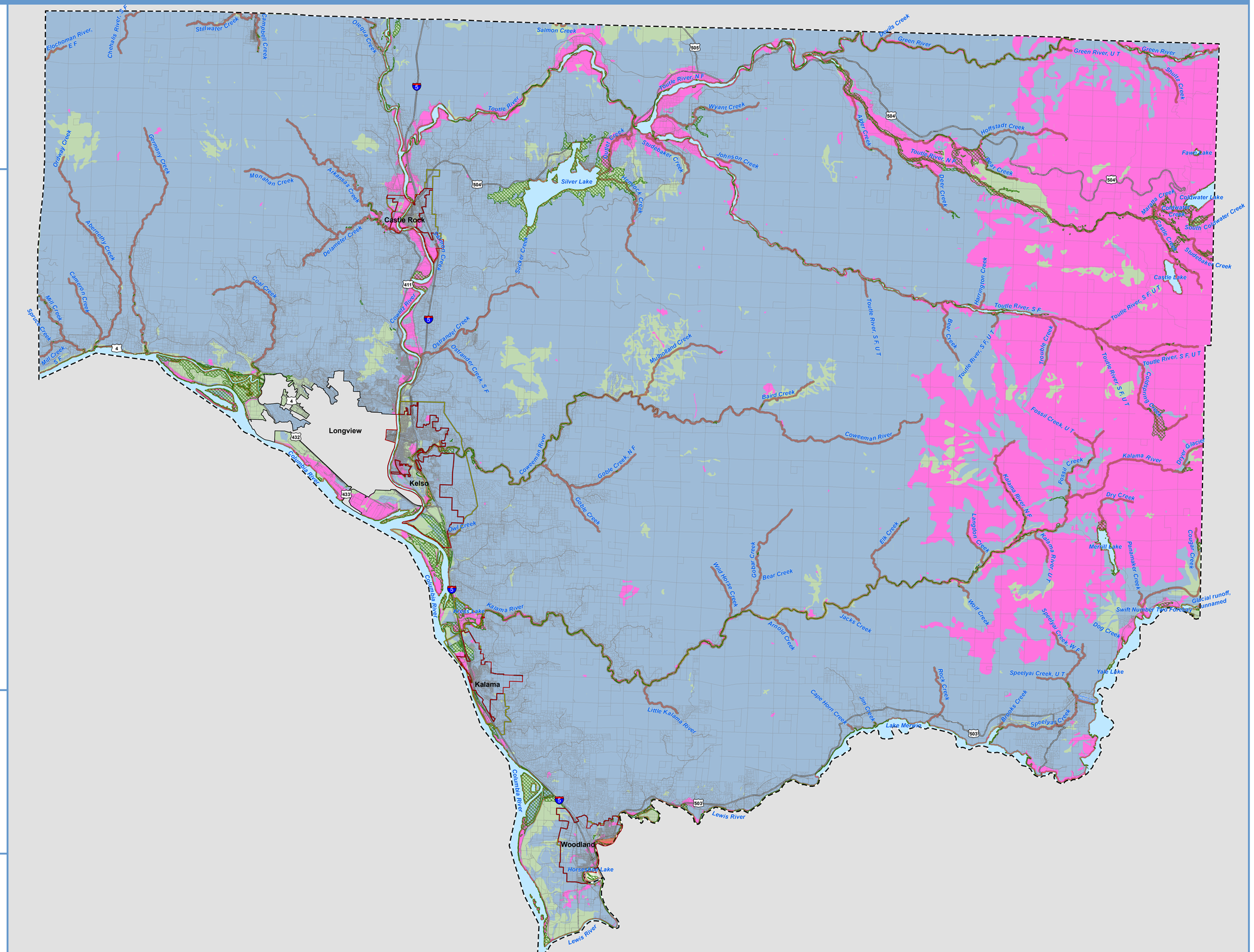
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