An aerial photograph of a volcanic landscape. In the foreground, a large, dark blue lake (Spirit Lake) is nestled in a valley. The surrounding terrain is rugged and rocky, with some patches of snow or light-colored ash. In the background, a large, conical mountain (Mount St. Helens) rises prominently, its slopes showing signs of erosion and volcanic activity. The sky is clear and blue.

Spirit Lake/Toutle-Cowlitz River Systemwide Collaboration

September 8th, 2022

Agenda In Brief

Meeting Purposes:

- Updates from Steering Committee and participating organizations
- Decide on October Meeting Site visits / field tour
- Hear about Cowlitz County Conservation work
- Continue discussing and developing work plan
- Continuing discussions around riparian restoration projects (bank stabilization)

9:30 am: Get Technology Working & Get Everyone into the Meeting

9:35 am: Welcome, Introductions

9:40 am: Updates from Participating Orgs

9:50 am: Discuss and decide upon October 13th field tour

10:10 am: Update from Steering Committee

10:30 am: Cowlitz Conservation District Riverbank Restoration

11:00 am: Workplan Check-in / Goals for Year Two

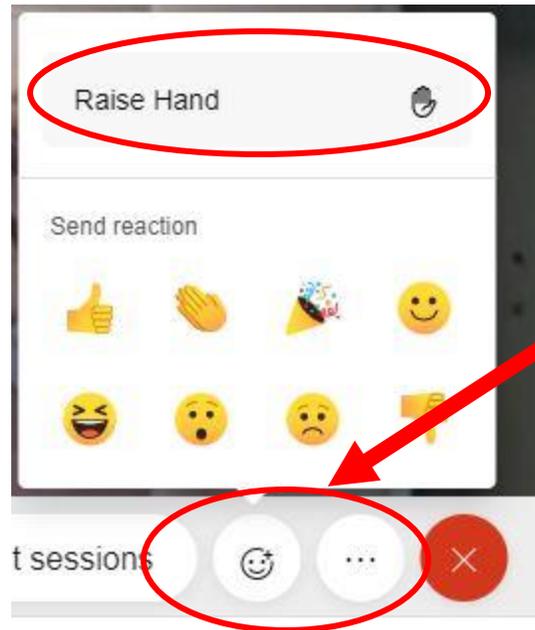
12:00pm: Adjourn

Webex: Virtual Meeting Participation

When you want to speak: To avoid talking over one another, we ask that those on video use the “raise your hand function”. The Facilitation Team will monitor this and call on folks individually, similar to how we use table tents during in-person meetings.

To access the “raise your hand function” and other reactions:

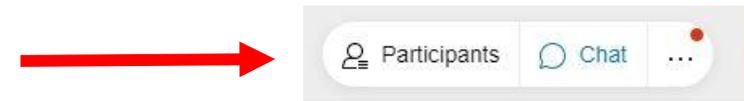
Click on the “reactions” icon. Then “raise hand” button.



To lower “raised hand”: click “reactions” icon.

Then “lower hand” button.

To view the chat window and participants click on the lower right hand corner.



A large orange circle on the left side of the slide, containing the title text.

Spirit Lake/ Toutle-Cowlitz River Systemwide Collaboration

INTRODUCTIONS – *(via chat)*

- Your name
 - Your organizational affiliation (if you have one) or interest area
 - **What are you looking forward to this fall?**
- 
- A decorative yellow dashed line in the bottom right corner of the slide, consisting of several curved segments.

Ground Rules

Be Constructive

- State your piece briefly so all have a chance to speak
- Make clear what your organization can do and provide
- Overall: focus on mutual gains – solutions that work for ALL parties
- Participate proactively – collaboration needs all constituencies to participate to work well

Virtual Meetings

- Keep yourself on mute unless speaking
- Keep video on (as bandwidth & needs allow)
- One primary representative (and one secondary representative) from each organization
- Raise your hand and/or wait to be recognized before speaking

Be Respectful & Honest

- Respect everyone's expertise and contribution – this is an important but complex discussion

- Listen carefully so that you and ALL your colleagues can be heard
- Work to minimize power dynamics in a collaborative that includes vastly different stakeholders
- Recognize: each party brings legitimate interests

Show Leadership

- Focus on the future and encourage one another to look forward
- Look first for areas of agreement – then use disagreement to build understanding and learn

Engage, respect, and learn with one another – and enjoy the discussion

FOR NOW: Simple “is ANYONE opposed?” question to advance decisions / agreements for the group

Work in Year One

Finalized:

- Declaration of Cooperation (19 of 20 signatures)
- Operating Protocols (w/Vision & Mission Statements)
- Set of Shared Values
- Secured \$90,000 from WA Legislature
- Generated \$25,000 in pledges toward future work
- Created Finance → Steering Committee, Info Workgroup

Received Info on & Discussed:

- Hydro-Geomorphologic Dynamics of the System
- NASEM Recommendations for Collaboration
- Downstream Communities' Safety & Econ. Vitality
- Army Corps of Engineers' Work in the Watershed
- Sediment Management Strategies
- Missions, Mandates, Authorities, & Projects
- Toutle River Fish Runs & Recovery

Begun:

- DRAFT Workplan of Project Ideas for Whole System
- Open communication, regular conversations, rebuilding trust
- Riparian restoration/bank stabilization workgroup

Common Interests / Shared Values (in Declaration of Cooperation)

Holistic and systemic management, using a collaborative approach to planning, engagement, and participation focused on multiple benefits including:

- human health and safety via sediment management
- tribal historical, natural, and cultural resources
- flood risk management
- ecological restoration, fish and wildlife recovery, and resiliency
- economic development and thriving, resilient communities
- recreational opportunities
- research integrity & educational opportunities

Healthy Ecosystems – Safe Communities – Healthy Economy
(Vision Statement)

Field Tour Options for October 13th

- All three tours have the same first two stops:
 - Fish Collection Facility
 - SRS
- Options 1-2 have third stop at EcoPark
 - Option 1 fourth stop at WDFW wildlife area
 - Option 2 fourth stop = lunch meeting with panel discussion
- Option 3 third stop at Forest Learning Center
 - Option 3 fourth stop at EcoPark

So: Option 1 adds WDFW wildlife area; Option 2 adds lunch panel; Option 3 adds Forest Learning Center
What do folks prefer?

Updates/Requests from Participating Organizations/Entities

Updates from Working Groups

- **Steering Committee.**

Cowlitz County Conservation District

- Darin Houpt

Cowlitz River Channel Migration

Project Opportunity

Cowlitz River Channel Migration Project Opportunity

Aerial Photography: Google Earth 6/2021

Map Prepared: 2/14/2022



Encompasses 7 parcels along westside hwy (sr 411) just north of the Green Acres subdivision.

Bar accumulating in center of Cowlitz River is rougher than the dredge spoil material deposited along river right resulting in lateral migration. Riverbank held its own for many years until vegetation (root strength) was recruited to river.

Property boundaries show edge at time of parcel assessment; red line is bank edge as depicted on 2009 aerial; Blue line is bank edge as depicted on June 2021 aerial. Migration at Silveira property:

Property boundary – 2009 = 45 feet

2009 boundary – 6/2021 = 32 feet

6/2021 – 2/2022 = 10 feet

Total Migration in about 16 years = 87 feet.

Deposition upstream is quickly becoming vegetated and is considered relatively stable.

Black Cottonwood trees on right bank downstream of 6th parcel has been maintaining bank stability. Likely to change as bar continues to grow.

Winter 2022 stormflows appears to have scoured left channel around bar but also appears to have eroded right bank about 10 additional feet.

Note: Rock groin up upper right-hand side of photo (river left) appears man made and effectively nudging river flow toward right bank.

River Right Photos



Looking upstream along right bank through access road on Silveira property. Note bar deposit and vegetation. Bank migration initiating just upstream of access road. Rock at access road effectively nudging flow off of bank.



Downstream of Silveira road access: Note: flow upstream along toe of slope; the nudge is effective about 70+ feet downstream of road. Gravel from dredge deposit is accumulating at toe of slope. Erosion mobilizing sand.



Looking downstream through second nudge point. Flow tight to bank upstream of nudge.



Nudge consists of concrete slabs placed along toe. Photo shows effective nudge toward center of river with slack water immediately adjacent to bank downstream of nudge.



Vertical bank with less gravel accumulation at toe. Bank about 15 feet high with river cutting at bottom about 2 feet above water surface in photo. Cottonwood at downstream end of raw bank are undercut and about to fall into river . Ladder is fishing access to land fish.



Black drainpipe appears to be downspout drain. White pvc is thought to be water supply to old fishing shack and fish cleaning station (per landowner). Some silty sand capped by sand. Not root depth in bank (thought to be cottonwood claimed by river this winter. Landowner stated cottonwood was highly used by bald eagles as perch tree.



Upper end of mid channel bar. Slack (smooth) water depicts upper extent of bar. Rock going on left bank would be in far left of photo but is underwater at these flows. Debris on bar is apparently from efforts to remove debris accumulation at train trestle crossing upstream.



Downstream end of mid channel bar. Note accumulation expanded at location where bank avulsion has been greatest. Note left bank apparently at flood flow the left channel scoured as noted by vertical raw bank and numerous down cottonwood.



Example Piling Structures

Pile installed with vibratory pile driving head mounted on excavator.

Note: At time of project river was tight against right bank. Hard corner upstream of excavator pile head was about 30 feet deep.



1st year post project

Note: sediment accumulation above, between, and downstream of piling structure.

Hard corner above upper piling structure was about 30 feet deep; filled with sediment to only 4 feet deep.

River slot migrated to tip of piling structures; no longer along toe of river bank.

Stacy Cowlitz River & Riparian Restoration



Project includes 1 non-industrial private ownership and a small parcel of Burlington Northern Railroad Right of Way

Riparian function is proposed for establishment on about a 100 foot buffer width

Stacy River Bank Migration

Photography: 2021 Google Earth Image

Location: Section 26, T9N, R2W



Stacy River Bank Migration

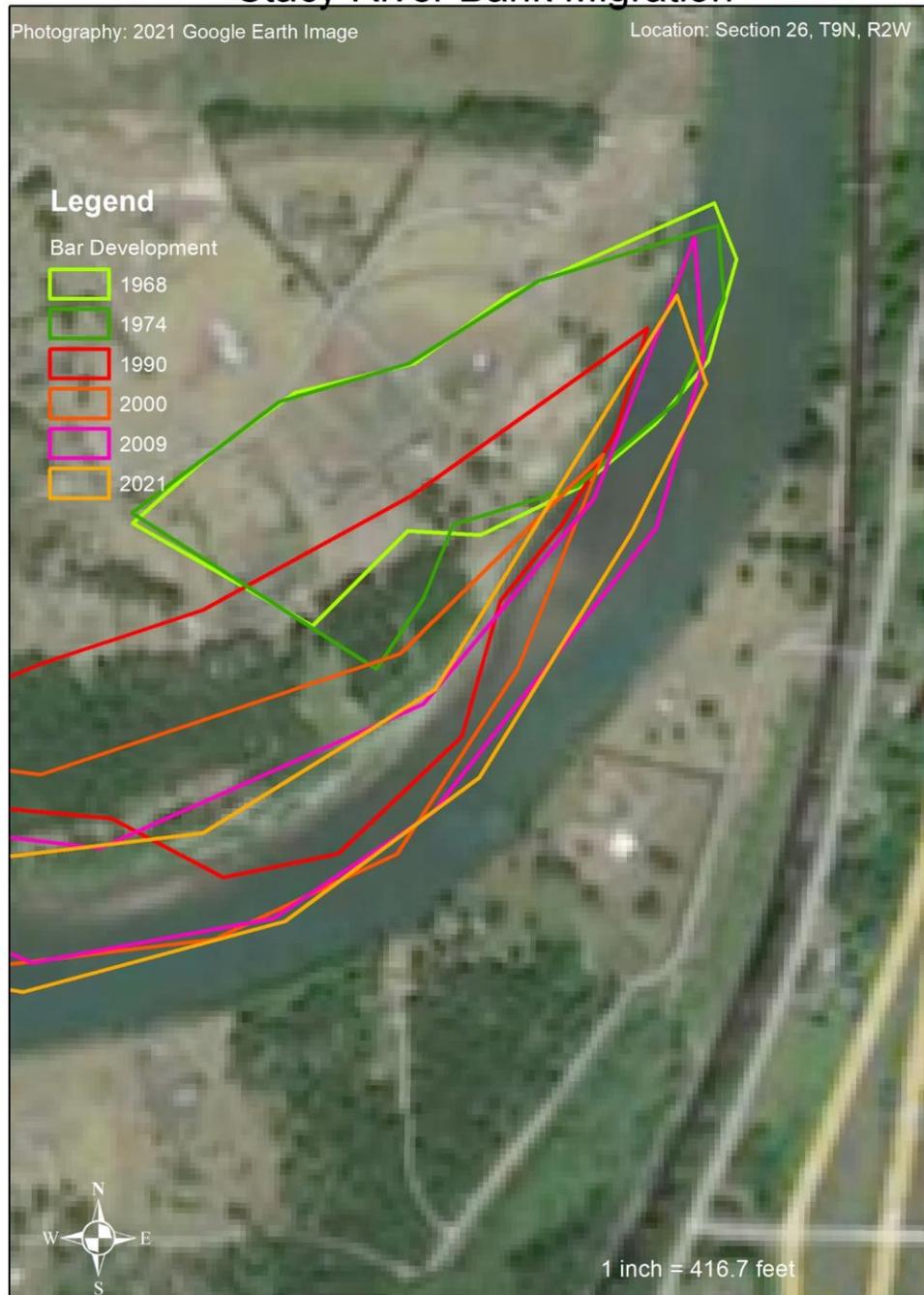
Photography: 2021 Google Earth Image

Location: Section 26, T9N, R2W

Legend

Bar Development

- 1968
- 1974
- 1990
- 2000
- 2009
- 2021

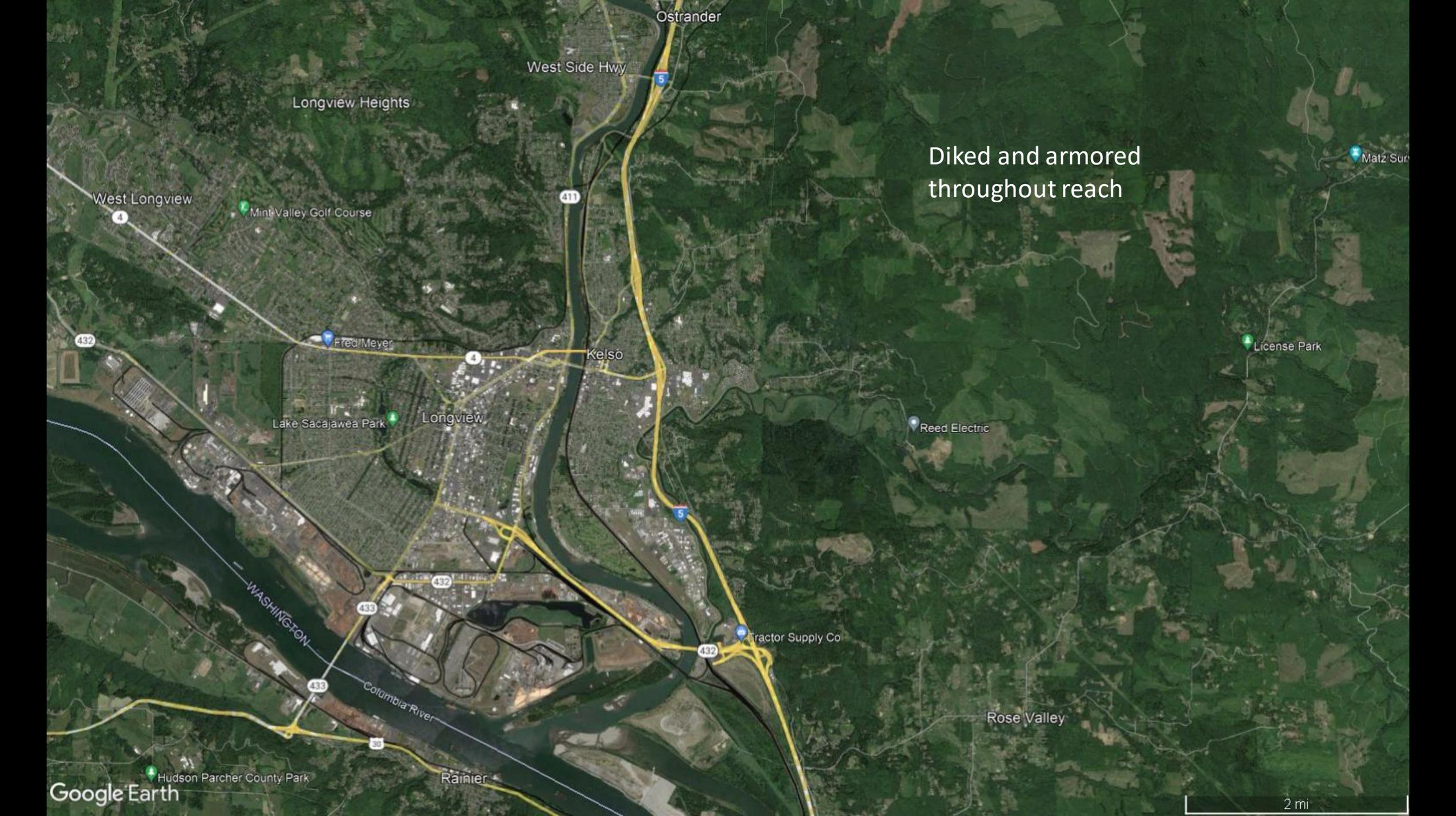




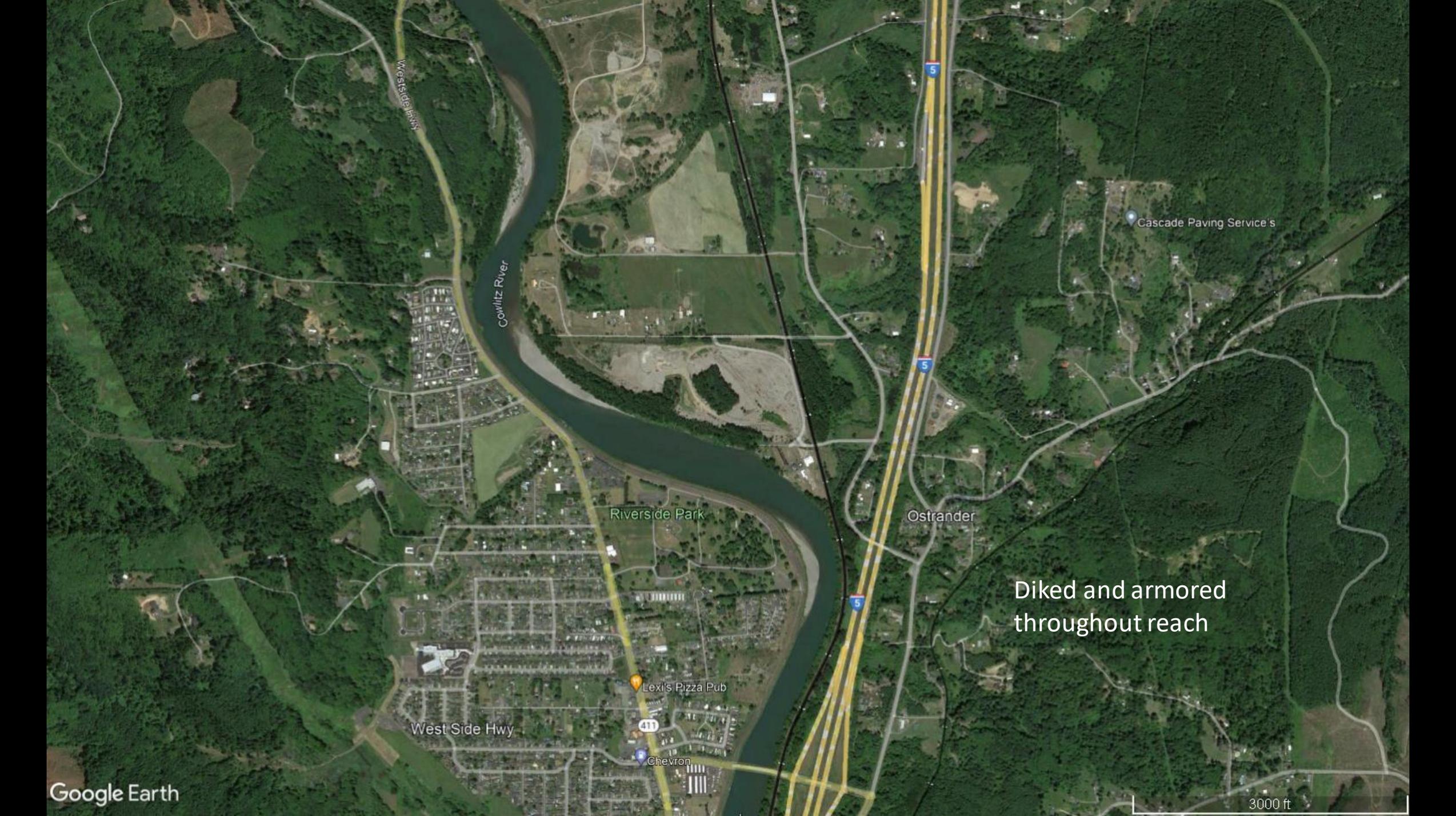








Diked and armored
throughout reach



Cowlitz River

West Side Hwy

Riverside Park

Ostrander

Cascade Paving Service's

Lexi's Pizza Pub

West Side Hwy

Chevron

Diked and armored
throughout reach

Some minor hotspots Diked
Mass wasting concern just upstream
From Hazeldell rd. Could be river
Undercutting bank

Karin Haderly

411

Cowitz River

Pleasant Hill

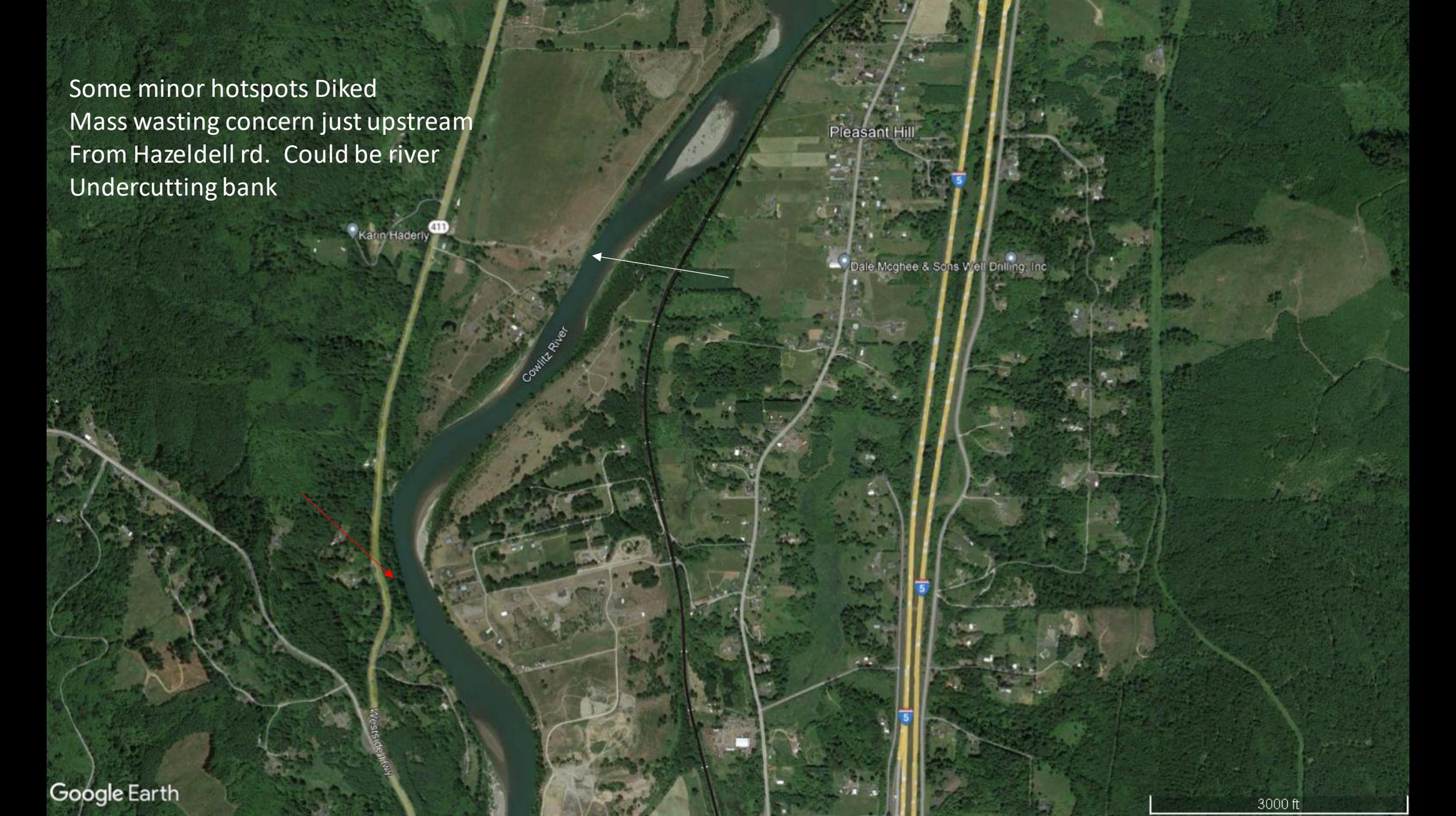
Dale McGhee & Sons Well Drilling, Inc

5

5

5

Westside Hwy





Project Opportunity

Developing Ground

Armored River Bank

Cowlitz River

411

5

5

5

2FastMX

Cedar's RV Park

Magnum Power



Small hotspots could continue to evolve
Little infrastructure

Google Earth

3000 ft



Longview North / Mount St Helens KOA

504

Through the A street bridge the Reach is armored
Three hotspots exist up to the Confluence with Toutle

Cowlitz

Westside Hwy

Old Pacific Hwy N

Briney's Tree Service

Westside Hwy

Cowlitz River

Old Pacific Hwy N

504

Castle Rock Lavender

Westside Hwy

Castle Rock High School

McDonald's

Huntington Ave W

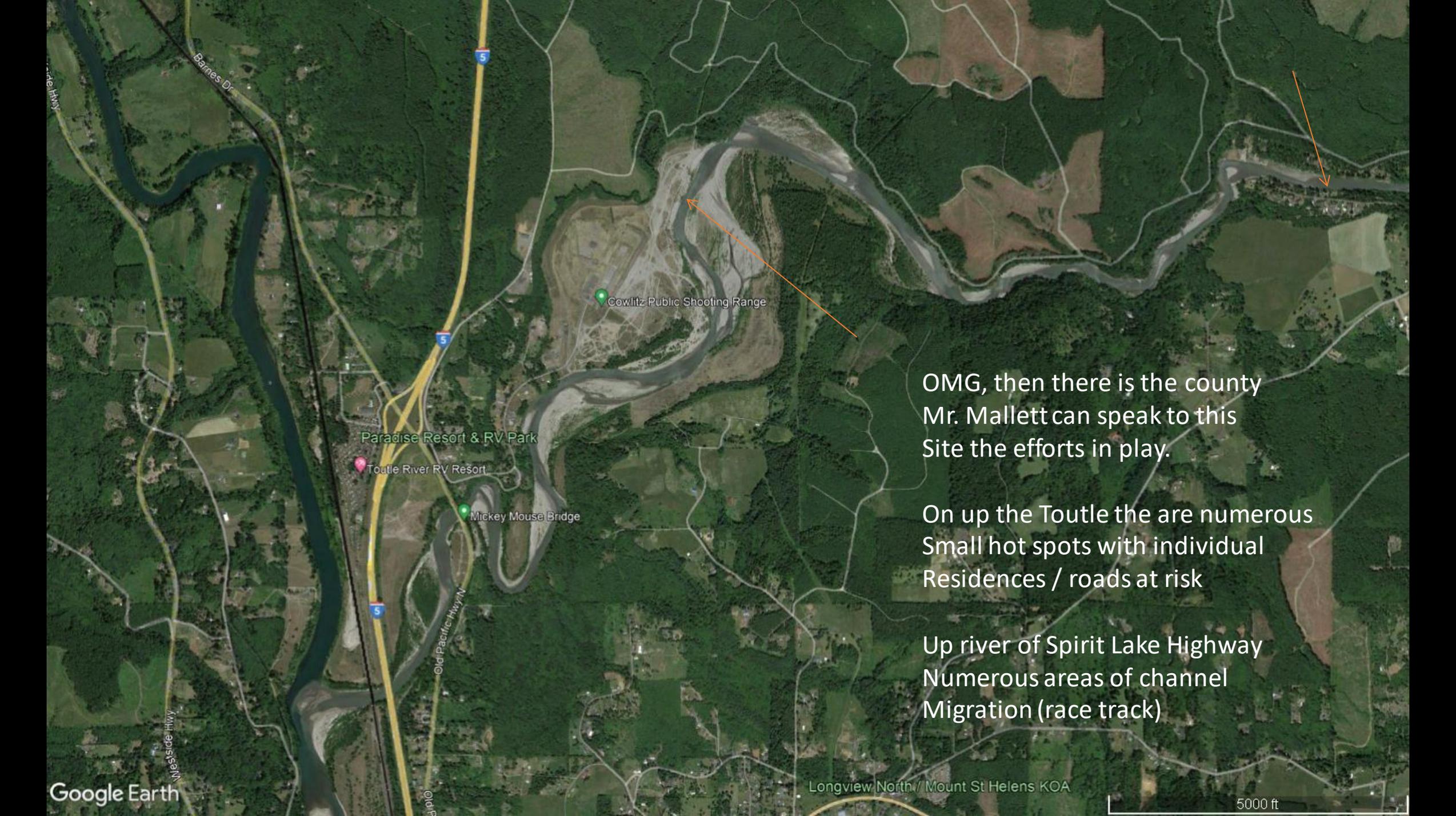
Mt St Helens Creation Center

Castle Rock

A St

Google Earth

5000 ft



Cowlitz Public Shooting Range

Paradise Resort & RV Park

Toutle River RV Resort

Mickey Mouse Bridge

Old Pacific Hwy N

Longview North / Mount St Helens KOA

OMG, then there is the county Mr. Mallett can speak to this Site the efforts in play.

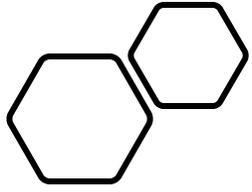
On up the Toutle the are numerous Small hot spots with individual Residences / roads at risk

Up river of Spirit Lake Highway Numerous areas of channel Migration (race track)

USFS Presentation

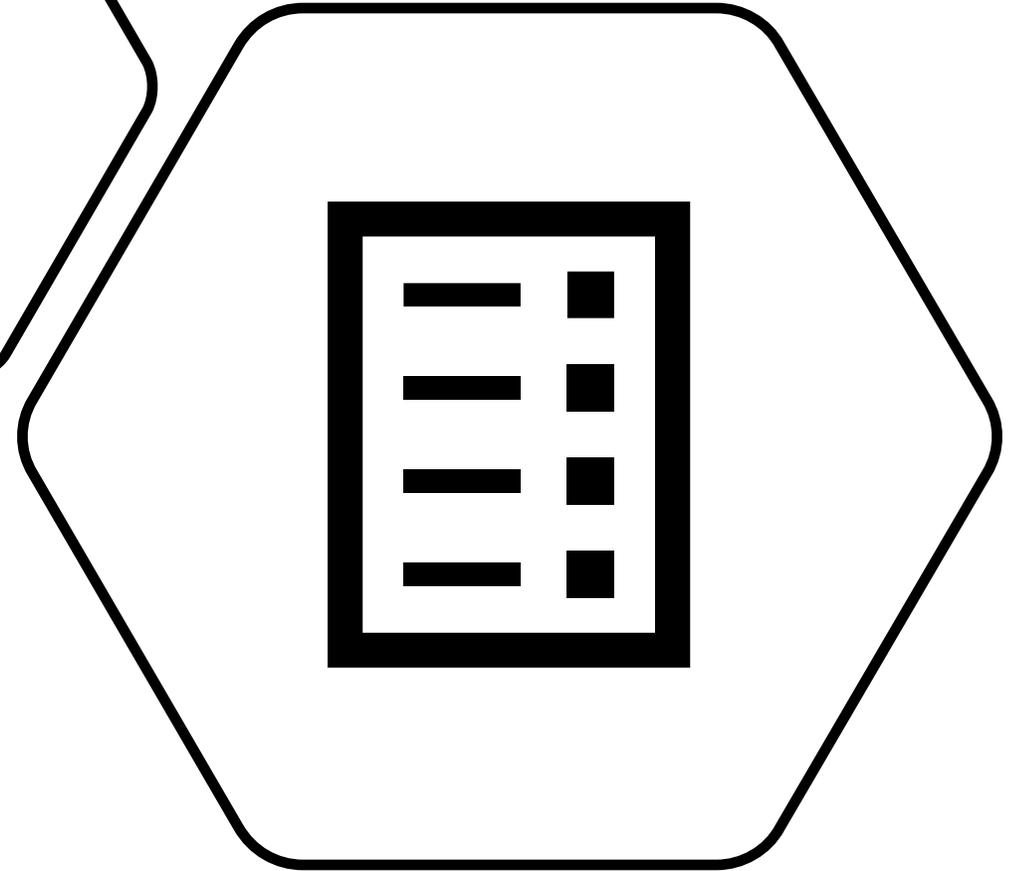
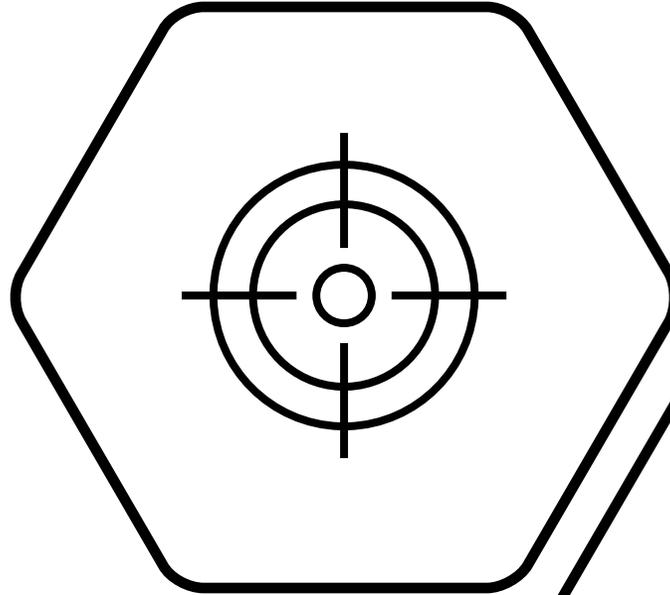
Workplan Update

- Collected ideas
- Asked participants for their priorities
- Discussed at two meetings of full group to build understanding of each project idea, see what it would take to advance (and gauge interest in) each, and start to move toward prioritization
- Awaiting updates from USFS and others
- Resume discussion in September, ideally in person—perhaps in small groups?
- Goal: prioritized set of projects, with involved parties (ideally a manageable number of projects the group can help advance)



Goals for Year Two?

- Complete workplan with prioritized list of projects / actions
- Launch 2-3 discrete projects
- Secure resources for 2023-2024



October 13th Field Tour Options

Option A

ARRIVE: 9:00 AM - First Stop

- Fish Collection Facility,(FCF) Operated by WDFW, Located at approx the 22 mile marker SR 504, near the mouth of the Green River and N. Fork Toutle.
- Large parking areas, short walk to see structure, brief narrative of operation, by WDFW.

ARRIVE: 9:45 – Second Stop

- Sediment Retention Structure (SRS), Operated by the US Army Corp. located approx 22 mile marker SR 504, at the end of Sediment Dam Rd.
- With US Army Corp Permission, we can go through gate and drive to the top of the SRS, for US Army briefing. Estimated 45:00 Min.

ARRIVE: 10:45 Third Stop

- Eco Park Resort, Privately owned by Mark and Dawn Smith, located at the 24 mile marker SR 504. Access to the WDFW Wildlife Area and Mudflow back up behind SRS.
- Rest stop for bathrooms at Backwoods Café, (first building on the left)
- Here we break into small 8-10 people groups to be driven to the view points below the park on WDFW Property..
- E. Pullen Creek, to meadows, views of Cross Valley and Island Structure.
- Brief by US Army Corp and or WDFW.

ARRIVE 12:45

- 3100 Road, to WDFW Wildlife Area, drive to the river valley below, see sediment stabilization, fish recovery and wildlife enhancement. Brief from WDFW and Cowlitz Tribe.
- End of Tour, approx 45 min back to Castle Rock and I-5, arrive 2:15

Option B

ARRIVE: 9:00 AM - First Stop

- Fish Collection Facility,(FCF) Operated by WDFW, Located at approx the 22 mile marker SR 504, near the mouth of the Green River and N. Fork Toutle.
- Large parking areas, short walk to see structure, brief narrative of operation, by WDFW.
- ARRIVE: 9:45 – Second Stop
 - Sediment Retention Structure (SRS), Operated by the US Army Corp. located approx 22 mile marker SR 504, at the end of Sediment Dam Rd.
 - With US Army Corp Permission, we can go through gate and drive to the top of the SRS, for US Army briefing. Estimated 45:00 Min.
- ARRIVE: 10:45 Third Stop
 - Eco Park Resort, Privately owned by Mark and Dawn Smith, located at the 24 mile marker SR 504. Access to the WDFW Wildlife Area and Mudflow back up behind SRS.
 - Rest stop for bathrooms at Backwoods Café, (first building on the left)
 - Here we break into small 8-10 people groups to be driven to the view points below the park on WDFW Property. A view, of back up to native soil and Beaver dam encroachment, requires walking ½ mile with 200 ft elevation gain and wet feet possible.
 - E. Pullen Creek, to meadows, views of Cross Valley and Island Structure
 - Brief by US Army Corp and or WDFW.
 - LUNCHEON MEETING at the BACK WOODS CAFE, with panel review of WDFW, USGS, US Army Corp and US Forest Service and other collaborative members for review, question and discussion. From 12:30 – 2:00
- DEPART 2:00 PM (approx 35 min from Castle Rock and I-5)

Option C

ARRIVE: 9:00 AM - First Stop

- Fish Collection Facility,(FCF) Operated by WDFW, Located at approx the 22 mile marker SR 504, near the mouth of the Green River and N. Fork Toutle.
- Large parking areas, short walk to see structure, brief narrative of operation, by WDFW.

ARRIVE: 9:45 – Second Stop

- Sediment Retention Structure (SRS), Operated by the US Army Corp. located approx 22 mile marker SR 504, at the end of Sediment Dam Rd.
- With US Army Corp Permission, we can go through gate and drive to the top of the SRS, for US Army briefing. Estimated 45:00 Min.

ARRIVE: 11:15 Third Stop

- Forest Learning Center, View of the N. Fork Toutle River Valley below, see sediment stabilization, fish recovery and wildlife enhancement projects from a distance. Brief from, WDFW, USGA, and Cowlitz Tribe.
- End of Tour, approx 45 min back to Castle Rock and I-5, arrive 2:15
- Stops one two and three will provide an update and snapshot of what we are dealing with today on the upper N Fork Toutle River. For additional information and experience we could offer an optional fourth stop; (see Below)
- OPTION: Fourth STOP AT; Eco Park Resort

Next Steps and Action Items

October meeting will be field tours – Continue to meet on second Thursday of month. (Will need to meet a different day in December.)

- **Continue developing Work Plan for the next phase of the collaborative; field tour**
- **IDEAS for Agenda Topics/Presentations:**
 - **Cowlitz/Columbia confluence floodplain issues (DNR Aquatics, FEMA, Diking District, USACE...?)**
 - **Feds: FEMA (risk mapping), USGS (sensors, flow monitors, temp gages), USFS (multiple projects)**
 - **Tribal perspectives (Cowlitz Indian Tribe, Yakama Nation)**
 - **WA State agencies: DNR, Ecology, DFW**
 - **Cowlitz County statement of vision, goals, etc. (aka Collaborative Critique)**
 - **What else?**

Website meeting documents, research, other info—send items to kmwhitman@wsu.edu



Riparian Restoration
/ Bank Stabilization
Workgroup meet
(all welcome)