

East Fork Lewis River
Partnership
for clean water





Welcome!

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Thank You!

**Washington Department of Fish and Wildlife
Kessina Lee – Region 5 Director**

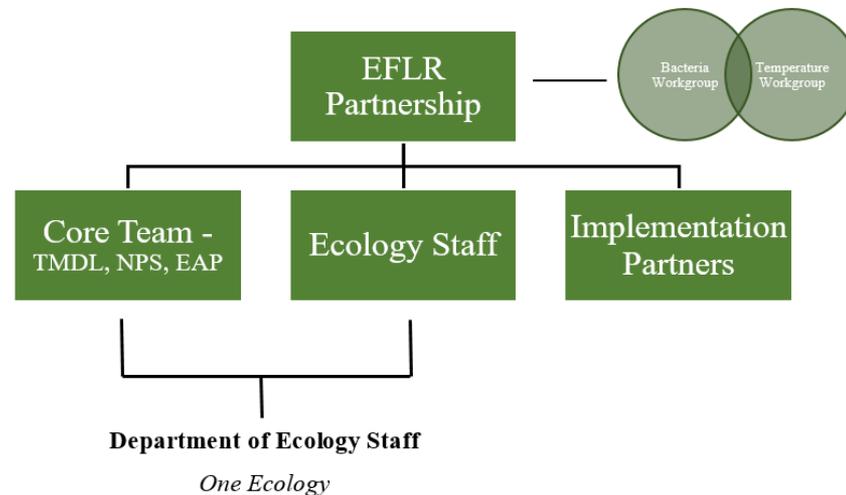
Agenda

- 1. Welcome and Introductions - Housekeeping**
- 2. Water Quality in the East Fork Lewis River**
- 3. Ongoing Efforts to Improve Water Quality**
- 4. Work Session – Building the TMDL Alternative**
 - Facilitated Discussion (15 Minutes)
 - Opportunities Analysis (25 Minutes)
 - Needs Assessment (15 Minutes)
- 5. Report Out & Next Steps**
 - Feedback

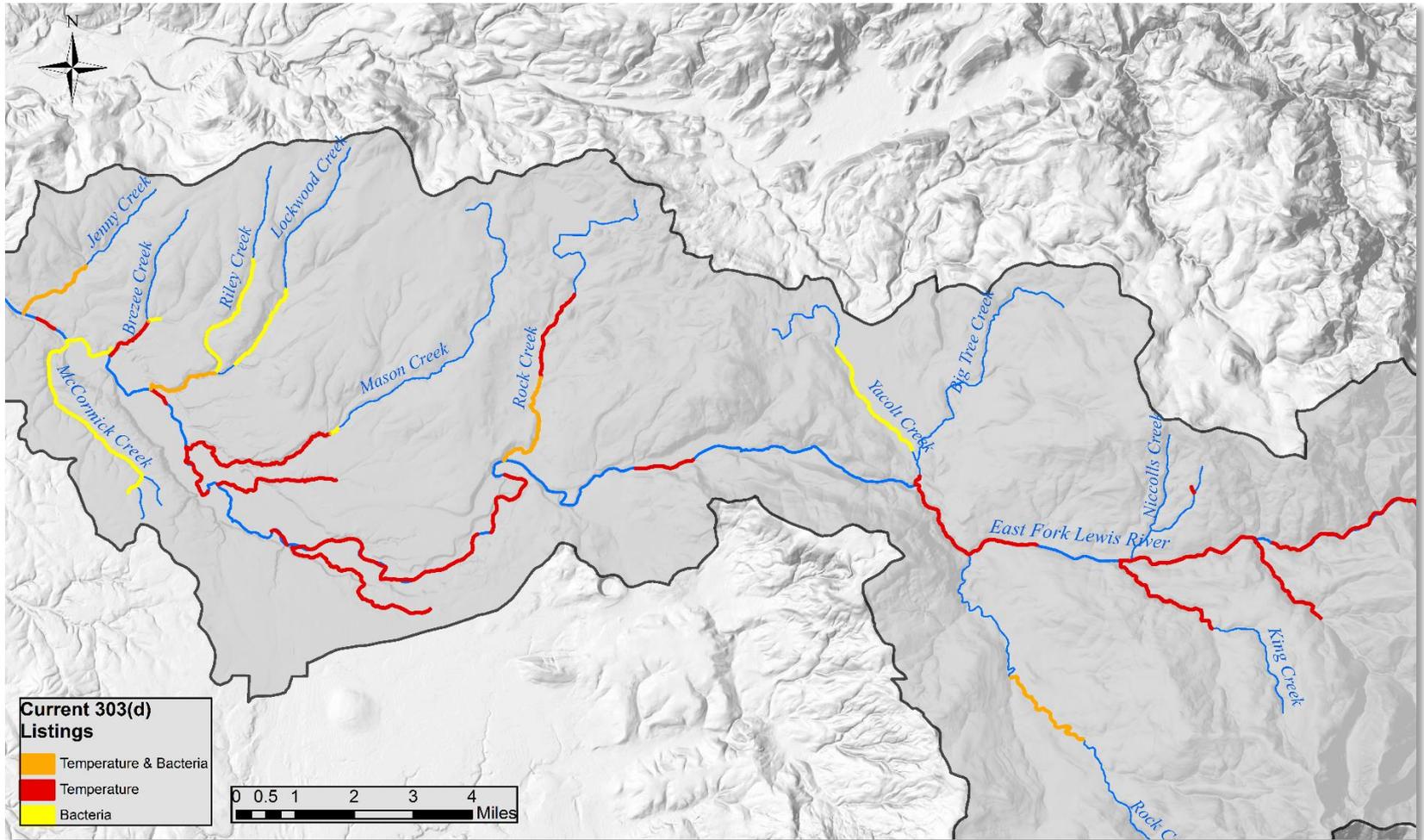


Kickoff Meeting Recap

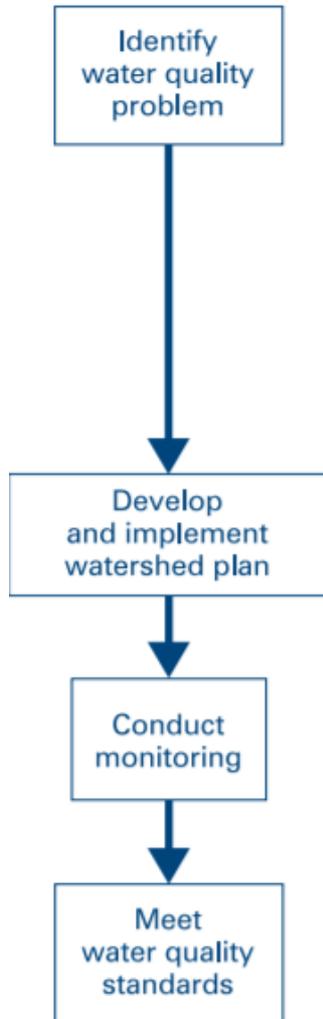
- **What is the East Fork Lewis River Partnership?**
 - *Collaboration of local, state, tribal, and federal governments; non-profits, private industry, and landowners*



Impairments



Watershed plan is developed in the absence of a completed TMDL. If monitoring indicates WQS attainment, there is no need for a TMDL.



What is a Water Cleanup Plan?

- Watersheds with non-point sources - TMDL Alternative
 - Non-regulatory
 - Voluntary
 - Implementation dependent
- TMDL Required for Polluted Waters on 303(d) list

East Fork Lewis River TMDL Alternative

9 Element Watershed Plan



1. Build Partnerships
2. Characterize the Watershed
3. Finalize Goals and Identify Solutions
4. Design an Implementation Program
5. Implement Watershed Plan
6. Measure Progress and Make Adjustments

****Education & Monitoring****



Goals

- 1. Develop project list to address bacteria and temperature impairments by Summer 2019**
- 2. Meet water quality standards (WQS) and support all beneficial uses in watershed - in the absence of a traditional TMDL**
- 3. Solidify watershed eligibility for 319 funding**
- 4. Strengthen partnerships**
- 5. Support existing projects and plans**



Kickoff Meeting Recap

47 Partners from
28 organizations
came to the first
meeting!



Kickoff Meeting Recap

- **Source Assessment Report**
- **Partner Presentations**
 - Clark County Legacy Lands Program & Columbia Land Trust
 - Clark County Public Works
 - Lower Columbia Estuary Partnership
 - Washington State University Extension
 - Department of Ecology Grant Program
- **Facilitated Discussion: Getting to Clean Water in the East Fork**



Kickoff Meeting Recap

Getting to Clean Water in the East Fork

- **What are some historical challenges?**
 - Industrial issues – turbidity, erosion, debris
 - Surface Gravel Mining
 - Compliance and enforcement
 - Changes in forested areas
 - Funding availability
 - Funding projects on private land
 - Landowner engagement and willingness
 - Development and expanding urban growth boundaries
 - Political environment
 - Maintaining momentum



Kickoff Meeting Recap

Getting to Clean Water in the East Fork

- **What are some ongoing challenges?**
 - Diverse population and land use
 - Making contact with private landowners
 - Climate change – impacts on hydrologic regimes, snow pack, baseflow
 - Differing value systems – private property rights vs. public impact; turf wars



Kickoff Meeting Recap

Getting to Clean Water in the East Fork

- What are some **next steps**?
 - Develop common strategy & shared vision for East Fork Lewis River
 - Collaboration between agencies, non-profits, private landowners
 - Outreach and community building
 - Develop strategies to balance water quality with urban growth & development
 - Connecting ecological restoration to economy



Kickoff Meeting Recap

Getting to Clean Water in the East Fork

- What are some **next steps**?
 - Investigating sources of bacteria
 - Establish metrics for new E. coli bacteria standard
 - More monitoring and long-term data collection
 - Identifying opportunities to utilize volunteer data



Kickoff Meeting Recap

Getting to Clean Water in the East Fork

- What are some **next steps**?
 - Understanding temperature in tributaries - shade deficits
 - Width to depth ratio of the river
 - Culverts and removing fish barriers
 - Identifying endpoint or goal for monitoring and accomplishing clean water



Kickoff Meeting Recap

Getting to Clean Water in the East Fork

- What are the **next steps**?
 - Collaborative partnerships with landowners
 - Education for developers and private land owners
 - Incentives for implementation and behavior change
 - Early partnerships for mining reclamation
 - Support for Conservation District



Bacteria Workgroup

- **Goal**
 - Learn about implementation efforts
 - Identify critical areas
 - Identify priority implementation actions
 - Discuss opportunities
 - Build relationships
 - Exchange information
 - Start building the TMDL Alternative



Introductions

- **Who are you?**
 - Name & organization you're representing
- **What is one thing you have done recently to protect, restore, or enhance water quality?**



Water Quality in the East Fork Lewis River

Fecal Coliform Bacteria



Water Quality Standards & Beneficial Uses

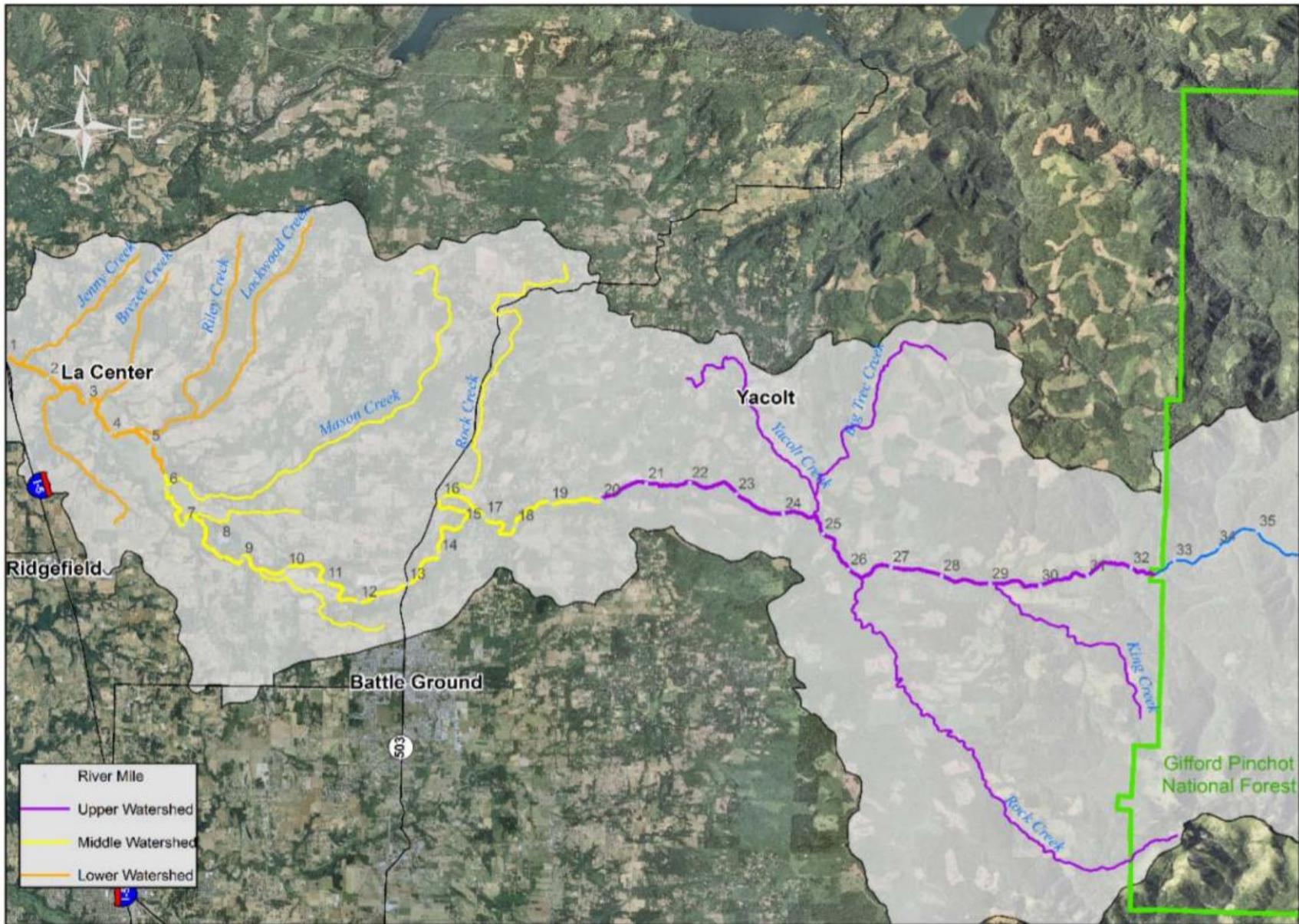


- **Recreation Uses – Bacteria**

Waterbody Reach	Recreation Uses	Bacteria Criteria
EF Lewis River from mouth to Moulton falls	Primary Contact	Geometric Mean: 100 cfu/100 ml; 10% samples not to exceed 200 cfu/100 ml
EF Lewis River from Moulton Falls to headwaters	Extraordinary Primary Contact	Geometric Mean: 50 cfu/100 ml; 10% samples not to exceed 100 cfu/100 ml

- **Water Quality for Public Health**
Bacteria increases risks to people swimming, wading, or fishing.





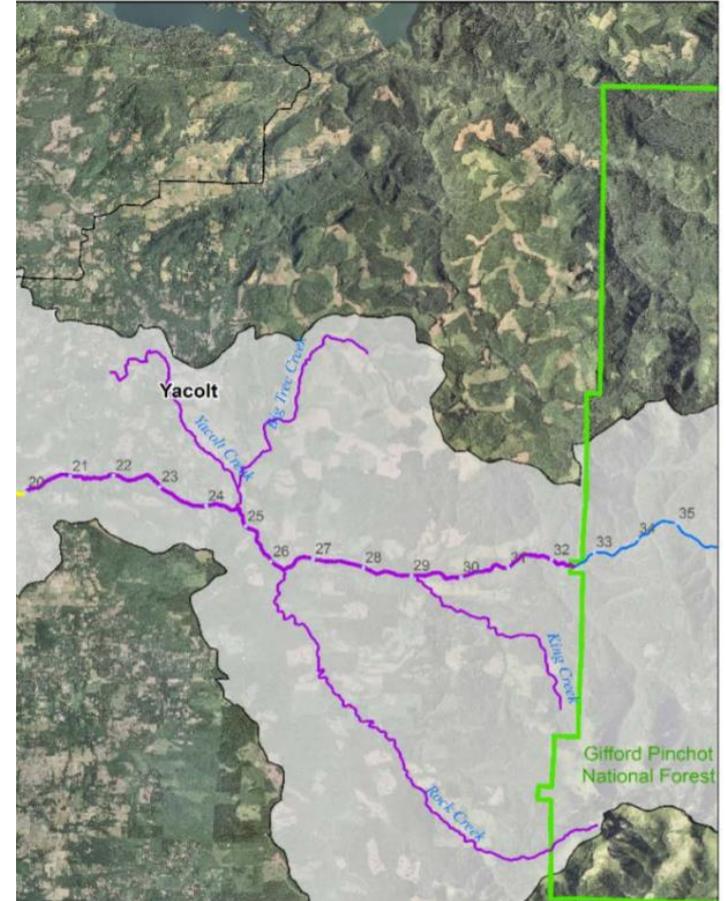
Lower
Mouth to RM 5.7

Middle
RM 5.7 – 20.3

Upper
RM 20.3 – 32.3

Upper Watershed

- **River Miles: 20 - 32.3**
 - **Land use**
 - Forested – public and private
 - Active timber management
 - Forestry practices
 - Residential and commercial
 - **Municipalities**
 - Yacolt

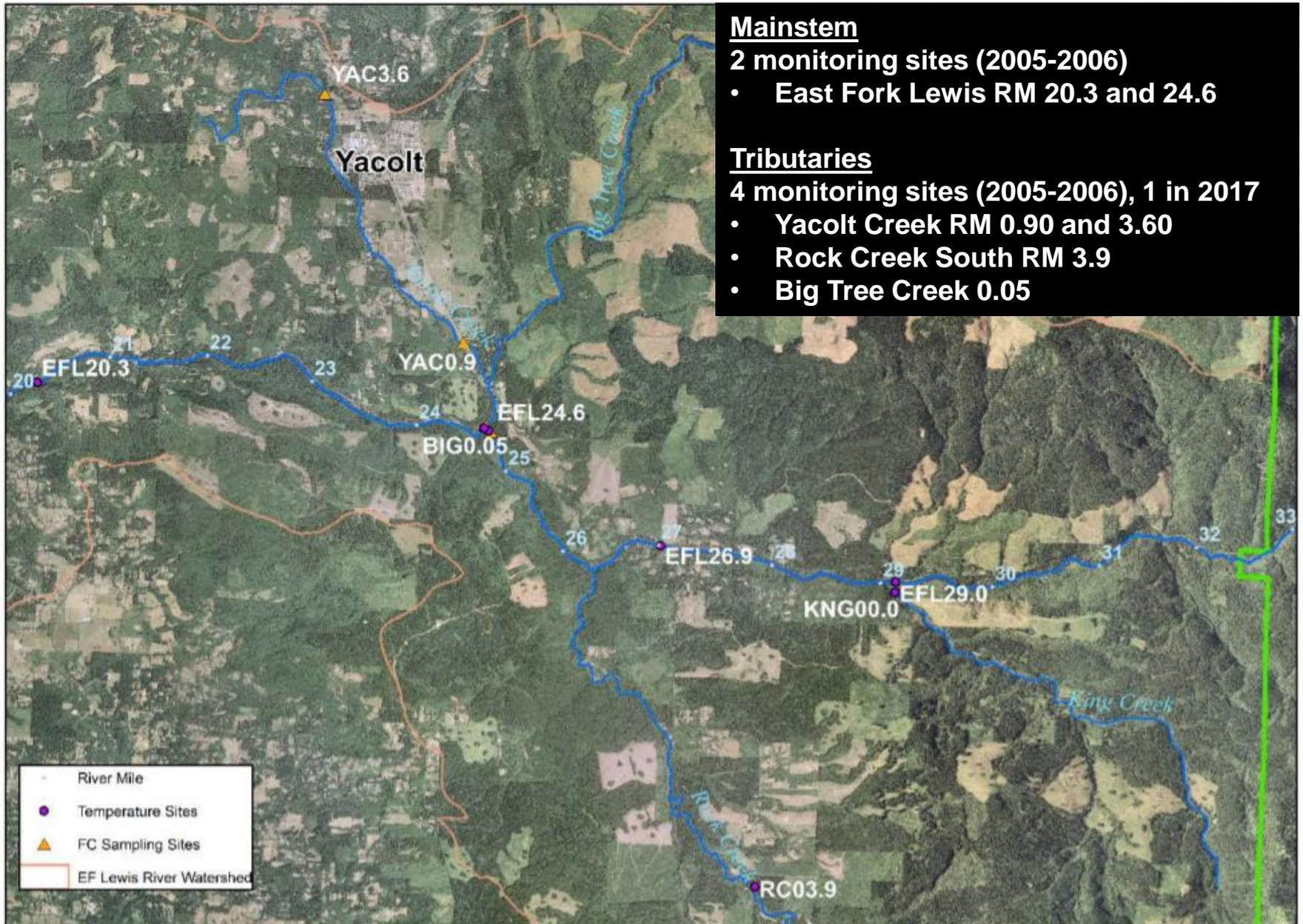


Upper Watershed (RM 20-32.3)

- **Extraordinary Primary Contact**
 - 50 cfu/100 ml; 10% samples not to exceed 100 cfu/100 ml
- **Mainstem**
 - 2 monitoring sites (2005-2006)
 - RM 20.3 and 24.6
- **Tributaries**
 - 4 monitoring sites (2005-2006), 1 in 2017
 - Yacolt Creek RM 0.90 and 3.60
 - Rock Creek South RM 3.9
 - Big Tree Creek RM 0.05



Upper Watershed (RM 20-32.3)



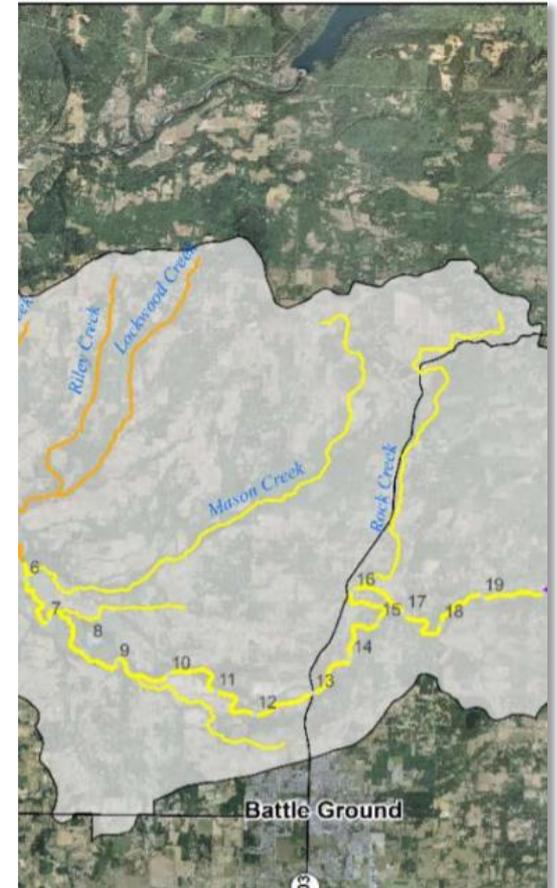
Upper Watershed (RM 20-32.3)

- **Overall**
 - Met water quality criteria
 - No significant exceedances
- **In 2017**
 - Higher geometric means
 - Over 10% exceeded 90th percentile criteria in dry and wet season
 - Generally still met criteria



Middle Watershed (RM 5.7-20.3)

- **River Miles: 5.7 – 20.3**
 - **Land use**
 - Forest dominated
 - Mixed-use
 - Agriculture, residential and commercial
 - **Multiple parks**
 - Lewisville, Daybreak, County Legacy Lands
 - **Municipalities**
 - City of Battle Ground
 - **Surface Gravel Mining**
 - Ridgefield Gravel pits – RM 8.0



Middle Watershed (RM 5.7-20.3)

- **Mainstem**

- **One monitoring site (2005-2006)**

- **RM10.3 – Daybreak Park**

- Generally met criteria
- Only exceedance occurred in wet season in 2005-2006
- Low FC overall



Middle Watershed (RM 5.7-20.3)

- **Tributaries - Rock Creek and Mason**
 - **6 monitoring sites in 2005-2006**
 - **Rock Creek North** RM 0.65 & 2.8
 - **Mason Creek** RM 0.25, 1.23, 3.19 and 4.57
 - **Exceedances at all sites in dry or wet seasons**
 - **Wet and dry exceedances at**
 - Rock Creek North RM 0.65 & Mason RM 3.19
 - **Highest dry season concentrations**
 - Mason RM 0.25
 - **60%** dry season FC reduction recommended
 - Rock Creek North RM 2.8
 - **44%** dry season FC reduction recommended



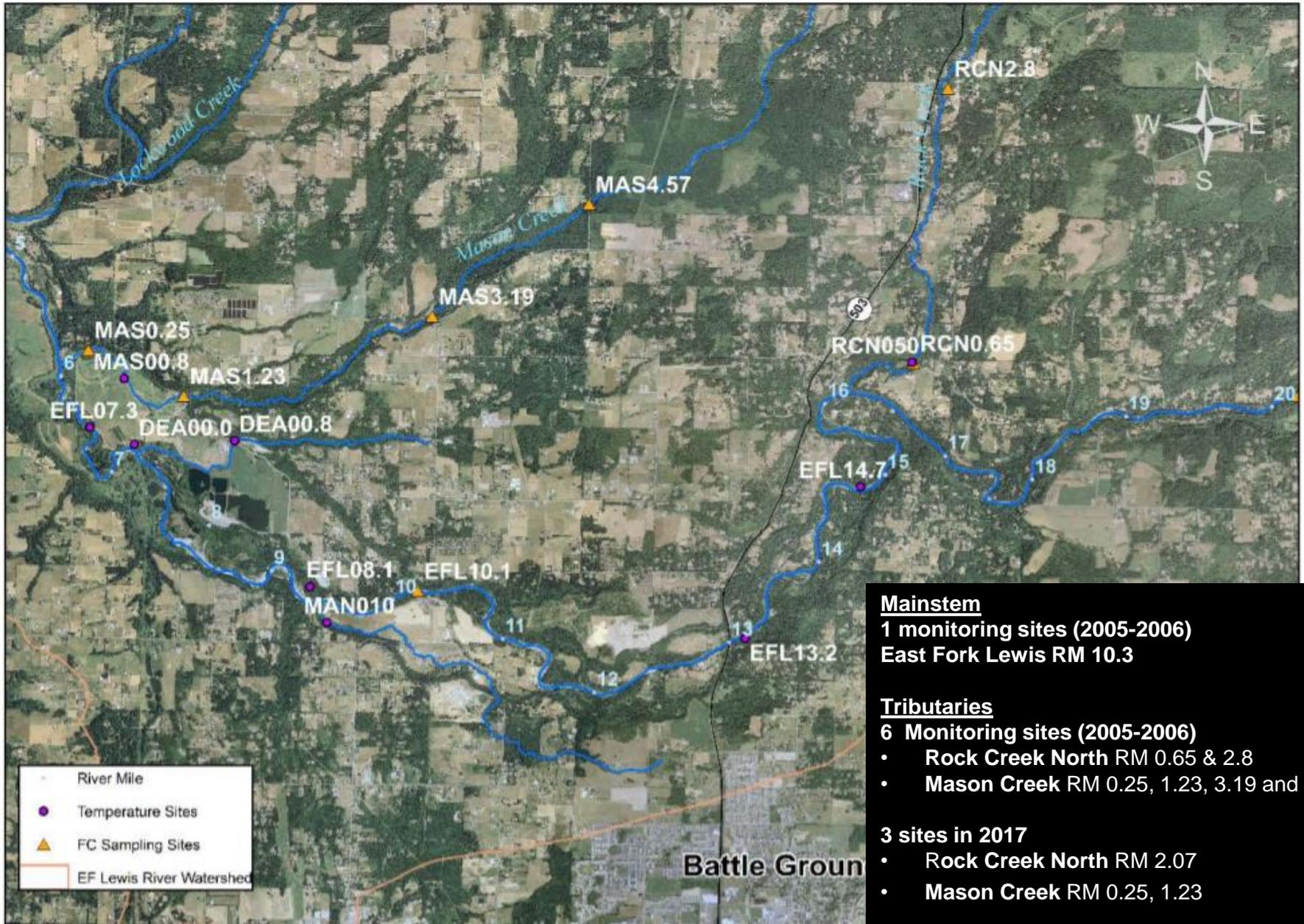
Middle Watershed (RM 5.7-20.3)

Tributaries - Rock Creek and Mason

- **3 monitoring sites in 2017**
 - **Rock Creek North** RM 2.07
 - **Mason Creek** RM 1.11 and 3.19
- FC concentrations higher in 2017
- Rock Creek North RM 2.07 highest FC concentrations overall

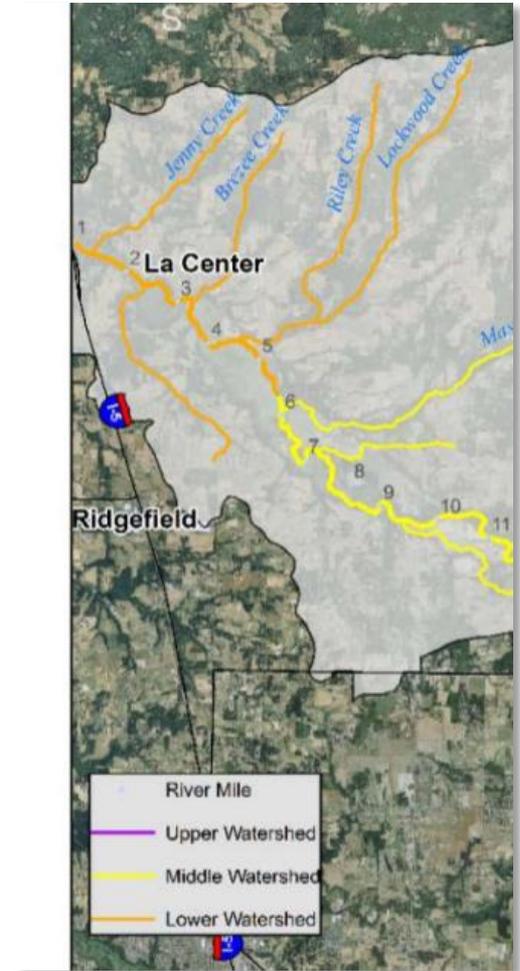


Middle Watershed (RM 5.7-20.3)



Lower Watershed (RM 0-5.7)

- **River Miles – Mouth to 5.7**
 - **Land Use**
 - More agricultural use
 - Mixed use - Forest land, developed and residential areas
 - **Municipality**
 - City of La Center
 - **Legacy Lands**
 - Significant riparian connectivity and public ownership



Lower Watershed (RM 0-5.7)

- **Mainstem**

- 2 monitoring sites in 2005-2006

- **RM 0.75 (Paradise Point) and 3.15**

- Only mainstem sites to exceed annual FC criteria
 - Exceeded criteria in wet season
 - RM 0.75 – higher, also exceeded during dry season

- 2 monitoring sites in 2017

- **RM 0.75 and 3.35**

- RM 0.75 exceeded seasonally and annually



Lower Watershed (RM 0-5.7)

Tributaries

- **14 sampling sites in 2005-2006**
 - **Lockwood, Riley, Brezee, McCormick, Jenny, La Center WWTP**
 - All sites exceeded one criteria in dry season
 - Majority also exceeded in wet season
 - Met criteria at La Center WWTP
 - Highest FC in McCormick and Breeze
 - Dry season FC higher than wet season in most
 - Loading highest in wet season vs. dry season
 - Lockwood RM 3.15 had higher dry season loads
 - **83%** FC reduction recommended at Lockwood 3.15

Lower Watershed (RM 0-5.7)

- **Tributaries**

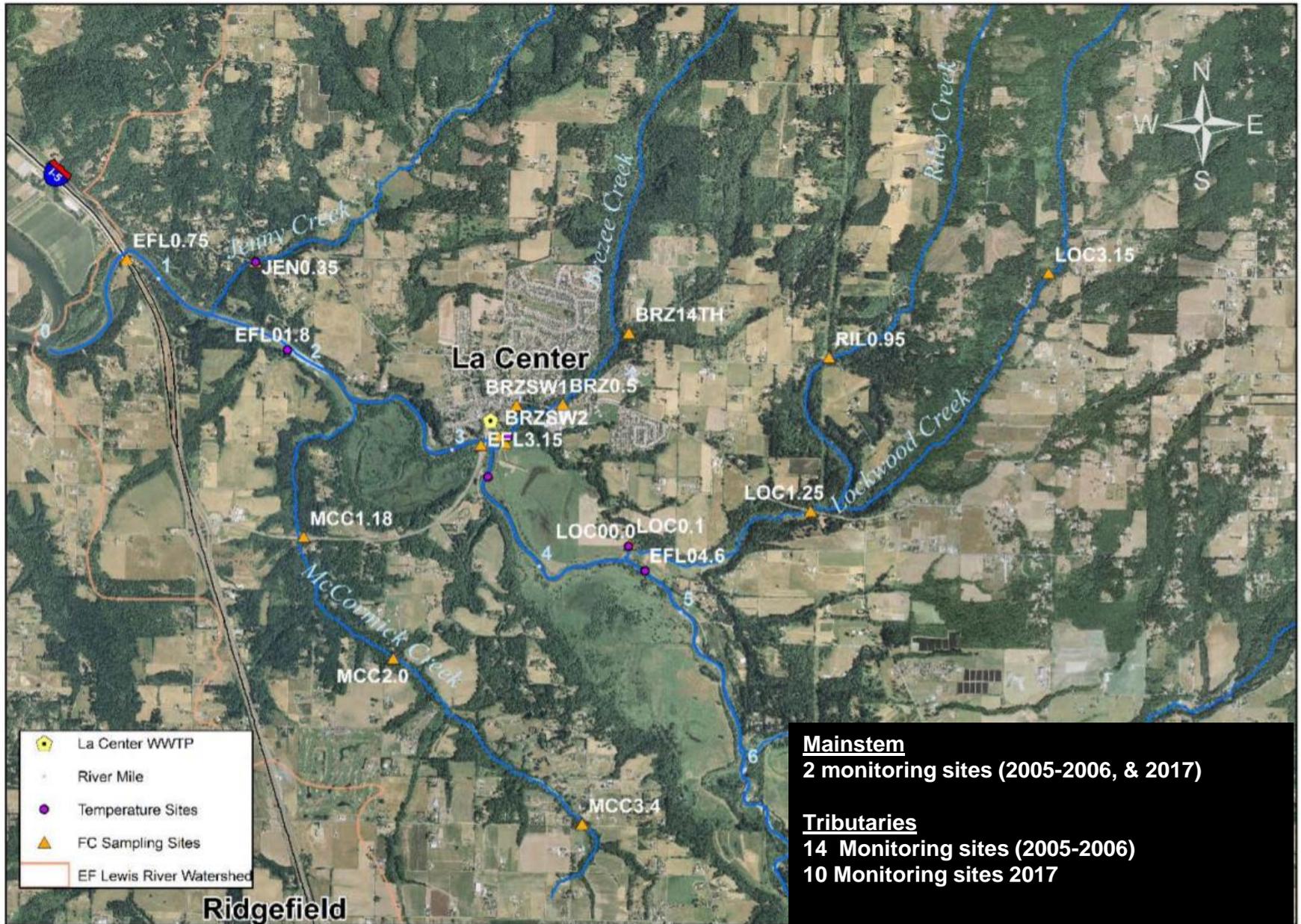
- **10 monitoring sites in 2017**

- **Lockwood, Riley, Brezee, Jenny, McCormick**

- All sites exceeded both criteria in wet season; at least one criteria in dry season
 - All had higher FC concentrations in dry season
 - McCormick RM 3.4 → Wet season higher
 - Highest FC in McCormick and Brezee Creeks



Lower Watershed (RM 0-5.7)



Fecal Coliform Summary

- **FC Concentrations increased in 2017**
- **Mainstem generally met WQS**
- **Tributary FC concentrations and exceedances highest in Dry Season**
- **FC Loads generally higher in wet season than dry season**
- **Priority = McCormick & Brezee Creek**



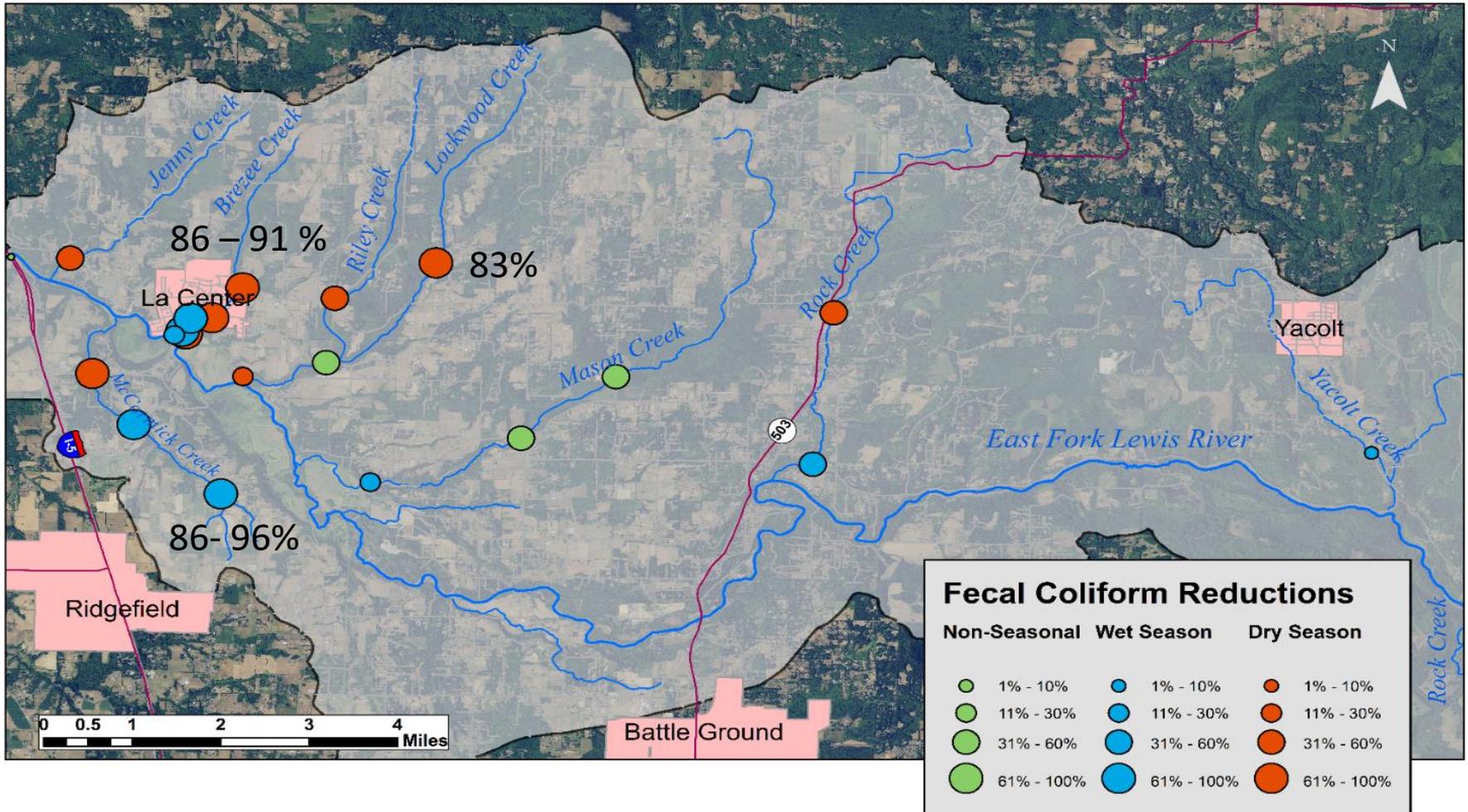
Fecal Coliform Summary

FC Load Reductions >80%

- **Wet Season FC Load Reduction Recommendations**
 - **96%** McCormick RM 3.4
 - **81%** McCormick RM 2.0
 - **90%** Brezee Stormwater 1
 - **91%** Brezee Stormwater 2
- **Dry Season FC Load Reductions**
 - **86-87%** Brezee14th, RM 0.5 and 0.7; and McCormick RM 1.18
 - **83%** Lockwood RM 3.15



Bacteria Recommended Reductions



Completed using Statistical Rollback Analysis

Implementation Recommendations

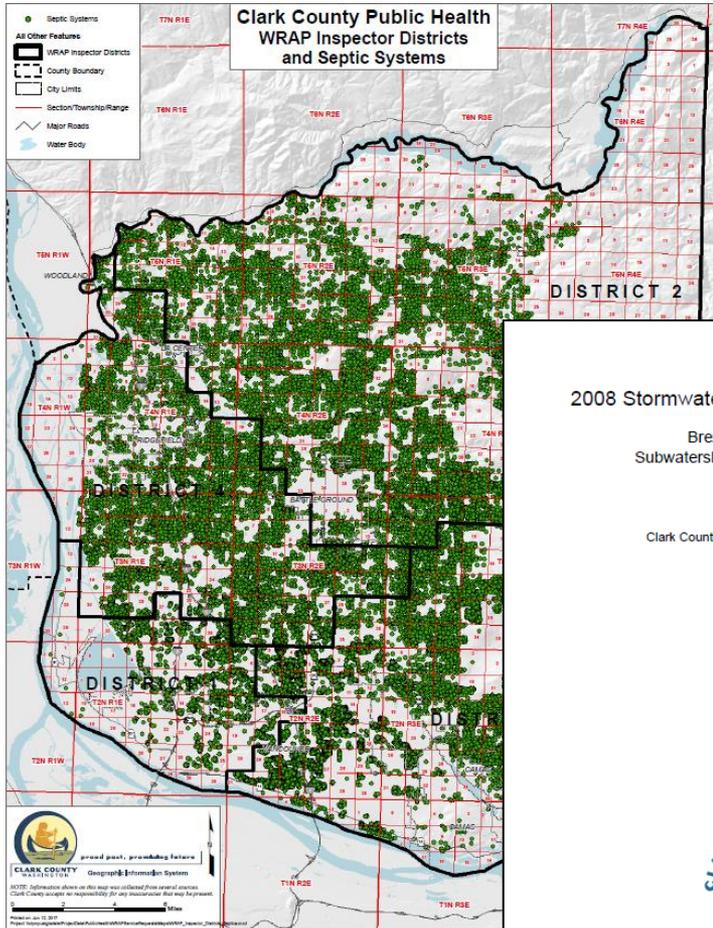
Reduce Fecal Coliform Bacteria and Improve Water Quality



- **Nonpoint source –**
 - Implement agricultural BMPs
 - Continue education and outreach work
- **Infrastructure –**
 - **Stormwater** - Conduct investigative stream walks to identify and sample unknown or unmapped outfalls, pipes, or culverts.
 - **Wastewater** - Fix failing Onsite Septic Systems (OSS).
- **Priority Areas – Brezee and McCormick Creeks**



Other Considerations? Infrastructure & Land Use

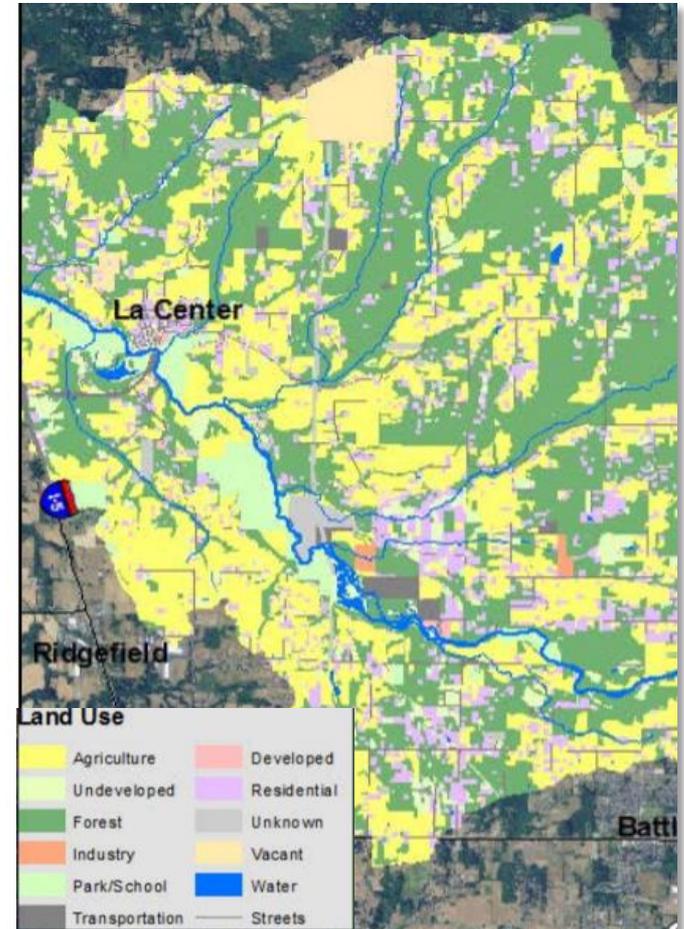


2008 Stormwater Needs Assessment Program

Breeze Creek/Jenny Creek
Subwatershed Needs Assessment Report

Clark County Public Works Clean Water Program

April 2009





Questions?



Work Session: Building the TMDL Alternative



Partnership Principles

SOPs for Success



- **Relationship Building**
- **Mutual Respect**
- **Focus on Future Solutions**
- **Keep Water Quality Central**



Facilitated Discussion (15 minutes)

1. What's working well?
2. What's not working well?
3. What's needed?
 - Short-term opportunities (low-hanging fruit)
 - Long-term opportunities
 - Additional analyses?
 - Public Education and outreach
 - Monitoring



Opportunities Analysis (25 Minutes)

Using the map, identify priority areas for implementation and take note of:

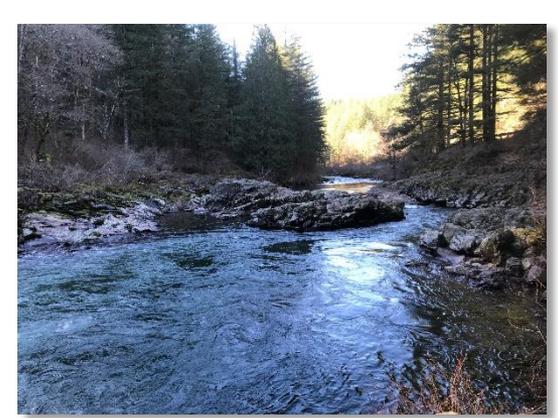
- 1. Critical Areas**
- 2. Priority Implementation Actions**
- 3. Opportunities**
 - Implementation
 - Partnerships
 - Monitoring
 - Public Education etc.



Feedback

- **Thoughts on the East Fork Lewis River Partnership**
 - **What's working well?**
 - **What could we do better?**
 - Kickoff Meeting
 - Workgroup Meeting
 - Presentations
 - Meeting Topics
 - Facilitated Discussion
 - Communication
 - Meeting location
- **Next Steps?**



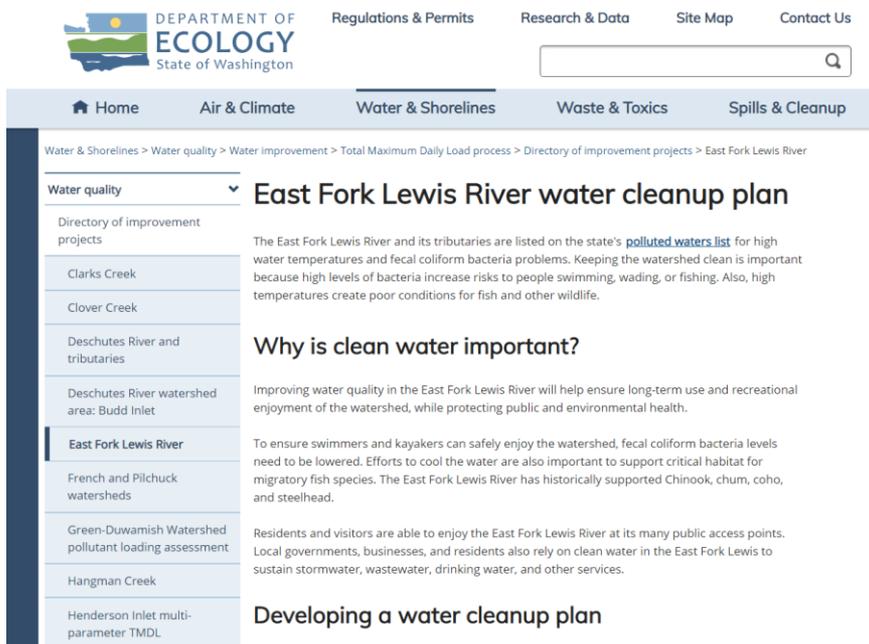


Next Steps



East Fork Lewis River Website

Stay up to date!



DEPARTMENT OF ECOLOGY
State of Washington

Regulations & Permits Research & Data Site Map Contact Us

Home Air & Climate Water & Shorelines Waste & Toxics Spills & Cleanup

Water & Shorelines > Water quality > Water improvement > Total Maximum Daily Load process > Directory of improvement projects > East Fork Lewis River

Water quality **East Fork Lewis River water cleanup plan**

Directory of improvement projects

- Clarks Creek
- Clover Creek
- Deschutes River and tributaries
- Deschutes River watershed area: Budd Inlet
- East Fork Lewis River**
- French and Pilchuck watersheds
- Green-Duwamish Watershed pollutant loading assessment
- Hangman Creek
- Henderson Inlet multi-parameter TMDL

The East Fork Lewis River and its tributaries are listed on the state's [polluted waters list](#) for high water temperatures and fecal coliform bacteria problems. Keeping the watershed clean is important because high levels of bacteria increase risks to people swimming, wading, or fishing. Also, high temperatures create poor conditions for fish and other wildlife.

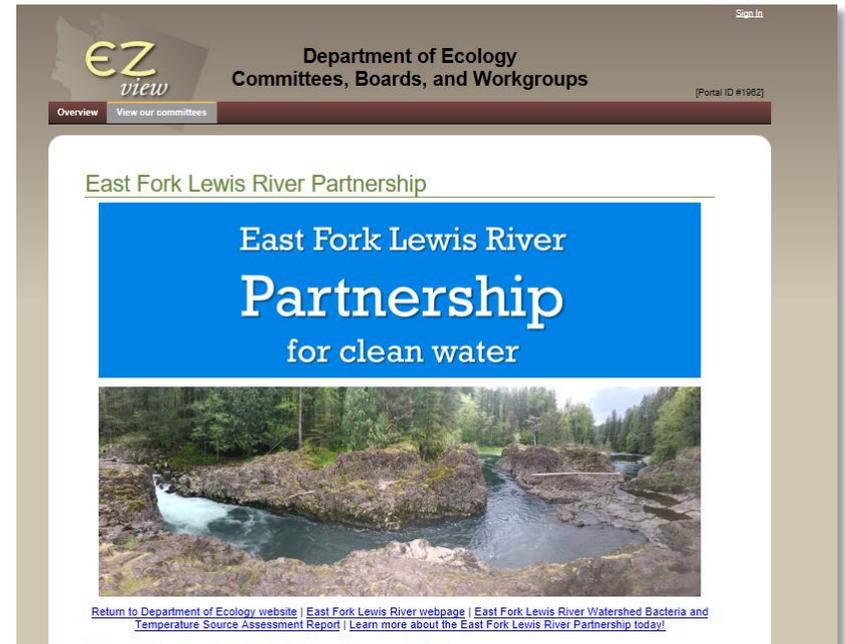
Why is clean water important?

Improving water quality in the East Fork Lewis River will help ensure long-term use and recreational enjoyment of the watershed, while protecting public and environmental health.

To ensure swimmers and kayakers can safely enjoy the watershed, fecal coliform bacteria levels need to be lowered. Efforts to cool the water are also important to support critical habitat for migratory fish species. The East Fork Lewis River has historically supported Chinook, chum, coho, and steelhead.

Residents and visitors are able to enjoy the East Fork Lewis River at its many public access points. Local governments, businesses, and residents also rely on clean water in the East Fork Lewis to sustain stormwater, wastewater, drinking water, and other services.

Developing a water cleanup plan



Department of Ecology
Committees, Boards, and Workgroups

Overview View our committees

East Fork Lewis River Partnership

East Fork Lewis River Partnership

for clean water



[Return to Department of Ecology website](#) | [East Fork Lewis River webpage](#) | [East Fork Lewis River Watershed Bacteria and Temperature Source Assessment Report](#) | [Learn more about the East Fork Lewis River Partnership today!](#)



Water Quality Combined Funding Update

- **FY2020 Applications**
 - **December 2018** - Screening and evaluating
 - **January 2019** - Draft funding list expected
 - 30 day public comment period
 - Draft funding to legislature for approval
 - **July 2019** - Final funding list and letters expected
 - Following budget approval
 - **Prepare to apply next year!**
 - Guidelines and application don't often change much!



Call for Projects

Creating a project pipeline

- **More information TBA in 2019**
- **Goals**
 - Project pipeline
 - Grant pre-proposal
 - Early planning and coordination
 - Support from Ecology – TMDL, NPS, Grants staff





Thank You!

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