



# Puyallup-White River LIO Update

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STORMWATER AND WATER QUALITY MEETING | JUNE 29<sup>TH</sup> 2020 | PRESENTERS: ELIZABETH MCMANUS  
& MARIO COLÓN

# Discussion Topics

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LIO plan approach and development

Project timeline

Review and input on goals for Stormwater and Water Quality

Input on next steps and engagement going forward

# WRIA 10 Ecosystem Recovery Plan (ERP)

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Plan lays out the focus areas, goals, and strategies the P-WR LIO will work in support of

Idea is to compile this information from existing plans (not new analysis)

# Focus Areas

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**Estuaries** - Protecting and restoring estuaries.

**Floodplains** - Protecting and restoring floodplains and in support of healthy fish, vibrant farms, and flood hazard reduction.

**Salmon** - Protecting and restoring healthy salmon runs adequate to meet ecosystem needs and support harvest.

**Farms and Agricultural Lands** - Maintaining and expanding vibrant, viable agricultural areas and protecting soil health to ensure healthy food for people and for open space benefits.

**Stormwater / Water Quality** - Managing stormwater and preventing pollution in support of clean water for people and fish

**Forests** - Keeping forested lands in forest for ecosystem and human benefits, improving the health of forested lands, and increasing urban and rural forest cover.

**Climate Change** - Understanding and responding to the impacts of climate change

**Sense of Place and Human Connection** - Building all peoples sense of their oneness with the natural world and commitment to a healthy environment for human and ecological benefits.

# Elements of the plan

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**Description** of the watershed

Overview of **major pressures / limiting factors / threats** in the Puyallup-White Watershed

Overview of **major strategies being used**

For each focus area:

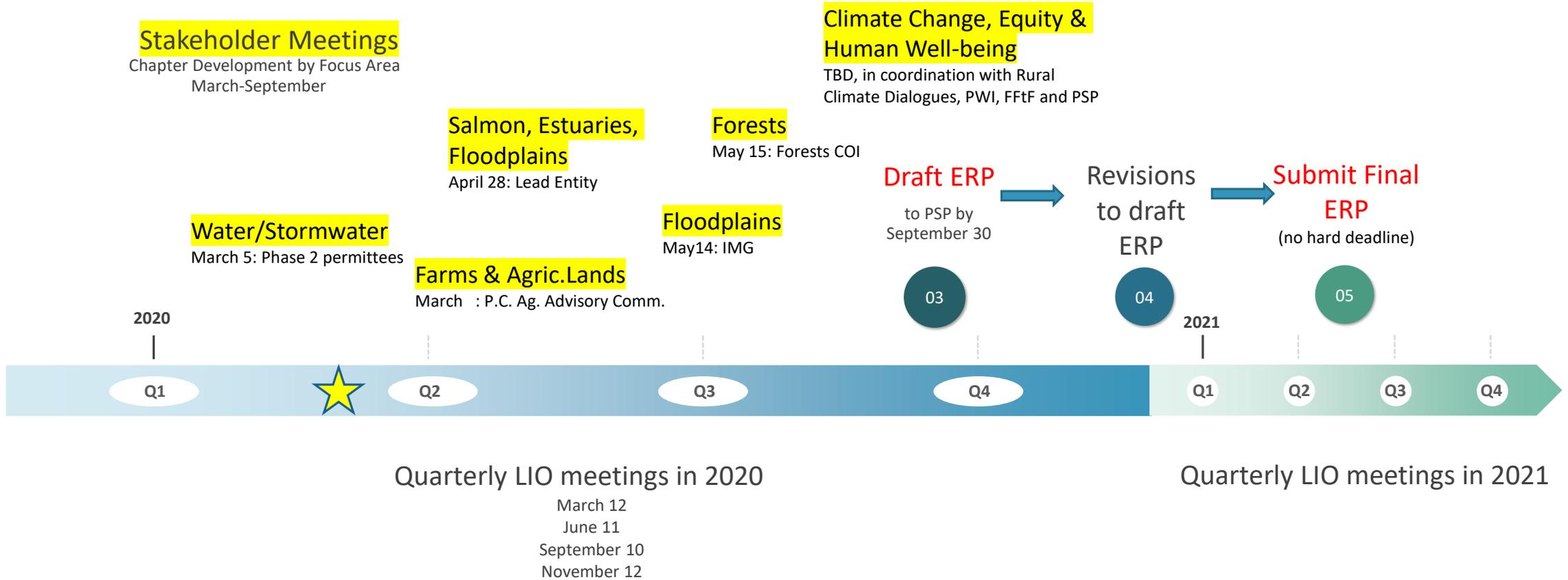
- **Brief description of each focus area status** (to the extent available)
- **Goals and targets** – from existing plans if available
- **Key pressures and strategies**
- **Ongoing program and identified actions**

**Data gaps and key uncertainties**

How to use the strategy to **guide decisions and actions**

**Adaptive management** and updating the strategy over time

# Puyallup-White River LIO ERP 2020 – 2021 Timeline



# Sources

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- Adopted Basin Plans
  - Clear Clarks Creek (2006)
  - Clover Creek (2005)
  - Gig Harbor (2005)
  - Hylebos-Browns Point-Dash Point (2006)
  - Key Peninsula (2006)
  - Mid Puyallup (2005)
  - Muck Creek (2005)
  - Nisqually (2014)
  - Swan Creek Watershed Characterization and Action Plan (2015)
  - White River (2013)

# Sources

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- Clarks Creek Elodea Removal (2019)
- Clark Creek Restoration Plan (2017)
- Hylebos Watershed Plan (2016)
- Puyallup River Watershed Assessment (2014)
- Pierce County Stormwater Management Program Plan (2019)
- Pierce County Surface Water Improvement Program (2018 – 2023)

# Adopted Basin Plans Goals and Objectives

Goal	Objective
Reduce flood hazards	<ul style="list-style-type: none"> <li>• Incidents of property loss and repeat damage are reduced.</li> <li>• Streams will not be adversely impacted by flood events.</li> <li>• Pierce County standing under the Federal Emergency Management Agency Community Rating System is improved.</li> <li>• New development is located outside of flood-prone area.</li> </ul>
Improve fish & wildlife habitat	<ul style="list-style-type: none"> <li>• Number of stream miles available for wild, native fish populations is increased.</li> <li>• Population numbers of species listed as endangered or threatened under the Federal Endangered Species Act (ESA) are maintained or increased.</li> <li>• Quality and quantity of available wetland, riparian, and upland habitat is improved.</li> </ul>
Improve water quality	<ul style="list-style-type: none"> <li>• State Surface Water Quality Standards (WAC 173-201a) are met or exceeded.</li> <li>• Number of impaired (303d listed) waterbodies is reduced.</li> <li>• Pierce County is in compliance with its NPDES permit for stormwater by meeting permit terms and conditions to the maximum extent practicable.</li> <li>• Risk of groundwater contamination is reduced.</li> <li>• Rates of erosion are reduced.</li> </ul>
Demonstrate coordinated & responsible use of public resources	<ul style="list-style-type: none"> <li>• Cost of maintaining stormwater facilities is reduced.</li> <li>• Project value is favorable when measured against costs and benefits.</li> <li>• Polls demonstrate that public awareness of flooding, habitat, and water quality issues has increased.</li> <li>• Monitoring and enforcement programs demonstrate an increase in services per dollar spent.</li> <li>• Basin plan implementation also implements elements of other Pierce County plans.</li> <li>• Other agencies and jurisdictions use basin plan findings in planning their activities</li> </ul>
Influence location & methods for new development	<ul style="list-style-type: none"> <li>• New development in flood-prone, riparian, or significant habitat areas is prohibited.</li> <li>• Low Impact Development techniques are widely used.</li> <li>• Effective BMPs are identified and widely used.</li> </ul>

# Clarks Creek Elodea Removal (2019)

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This project includes removing elodea and invasive, curly-leaved pond weed from a 3-mile stretch of Clarks Creek by a diver-assisted suction harvesting (DASH) method. Removal of overgrowth of elodea from Clarks Creek has been an on-going project in which the City, Pierce County, Puyallup Tribe of Indians, WDFW, and Ecology have worked together for many years to address.

Issued Date: May 22, 2018

Project End Date: May 21, 2023



# Clark Creek Restoration Plan (2017)

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The **Plan** presents the initial phase of a program specifically designed to achieve the TMDL's targets:

- 50% reduction in untreated stormflow volume Dissolved Oxygen Deficit (DOD), and/or a combination of flow and DOD reduction
- 66% reduction in sediment baseload assigned to Pierce County
- 85% increase in riparian shade
- 75% instream reduction of Elodea.
- Reduce Nonpoint Sediment Load from General Load Allocation (LA) Parcels located within the County's Jurisdiction

# Hylebos Watershed Plan (2016)

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## Problems and Solutions

- Unify the Stakeholder Vision
  - Gather/meet with key stakeholders across jurisdictional boundaries
  - Garner broad community support and input
  - **Identify and prioritize goals**
- Characterize the Watershed
  - Review existing data sets and site plans - compile, analyze, map; determine gap
  - Determine property ownership and land use of high priority parcels
  - Assess existing conditions of sites and ecological processes
- Find Solutions
  - Review current best practices, review past mistakes
  - Identify limits: resources available, political will, regulations (or lack of)
  - Prioritize and sequence actions

# Hylebos Watershed Plan (2016)

Problem	Solution
Urban development causes reduction, splintering and/or degradation of habitat	<ul style="list-style-type: none"> <li>• Conserve and restore high priority parcels</li> <li>• Promote sustainable development</li> <li>• Implement Green Stormwater Infrastructure (GSI) management</li> </ul>
Lack of connectivity of existing habitat areas	<ul style="list-style-type: none"> <li>• Conserve and restore parcels for connectivity</li> <li>• Remove barriers to fish passage throughout the watershed</li> </ul>
Degraded forest conditions and processes	<ul style="list-style-type: none"> <li>• Establish native plant communities and evergreen canopies on public and private land</li> </ul>
Non-native invasive plant proliferation	<ul style="list-style-type: none"> <li>• Identify and control invasive plants on public and private land using Integrated Pest Management</li> </ul>
Degraded instream conditions	<ul style="list-style-type: none"> <li>• Restore broad-scale sediment delivery and hydrologic processes</li> <li>• Restore local-scale sediment delivery and hydrologic processes in high gradient streams</li> <li>• Restore local-scale sediment delivery and hydrologic processes in moderate and low gradient stream</li> <li>• Implement GSI management</li> </ul>
Lack of benthic invertebrates and other food sources for salmon	<ul style="list-style-type: none"> <li>• Restore habitat for an abundance and diversity of salmon prey</li> </ul>
Poor water quality	<ul style="list-style-type: none"> <li>• Centralize a database for updated water quality data</li> <li>• Implement GSI management</li> <li>• Restore vegetative riparian buffers</li> <li>• Enforce compliance with point source pollution regulations</li> </ul>
Flooding, increasingly high peak flows, lack of floodplain and storage capacity	<ul style="list-style-type: none"> <li>• Re-connect floodplains to creek</li> <li>• Restore vegetative riparian buffers</li> <li>• Reduce stormwater flows</li> <li>• Implement GSI management</li> </ul>
Climate Change	<ul style="list-style-type: none"> <li>• Improve plasticity and resilience of natural systems</li> </ul>

# Puyallup River Watershed Assessment (2014)

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Threats identified by Puyallup/Commencement Bay Scientists (Pierce County 2008)

Two of seven threats related to **water quality**:

- Stormwater impacts on natural systems –hydrologic alteration of streams and delivery of pollutants/toxics to receiving waters causing impacts on freshwater, estuarine and marine ecosystems
- Nonpoint source pollution –water quality impacts from urban activities, transportation (vehicle usage), septic systems, agricultural and forestry activities

Six solutions or approaches, two of which address **water quality** issues:

- Ban or substantially reduce phosphorus products, phthalates and copper products; use public education to reduce pollutant sources
- Use Low Impact Development (LID) techniques and approaches on new development and redevelopment to address stormwater impacts, reduce flooding and recharge groundwater

# Puyallup River Watershed Assessment (2014)

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Six Total Maximum Daily Load (TMDL) for the Puyallup River Watershed:

## Upper White River Sediment and Temperature TMDL

- Recommendations in the implementation plan were to plant riparian areas and remove forest service roads

## Lower White River pH TMDL

## Puyallup River Fecal Coliform Bacteria TMDL

- Phase I and Phase II communities are working on illicit discharge detection programs to minimize fecal contamination reaching streams through stormwater conveyances
- The King and Pierce County Conservation Districts are working with local farmers to minimize manure reaching streams.
- Bowman and Pussyfoot Creeks are currently being monitored by Ecology to determine fecal coliform sources

## Clarks Creek Fecal Coliform Bacteria TMDL

- Riparian plantings, programs to keep residents from feeding ducks at DeCoursey Pond, and frequent stormwater sweepings are some of the implementation actions underway.

## South Prairie Creek Fecal Coliform and Temperature TMDL

## Clarks Creek Dissolved Oxygen and Sediment TMDL

- Reduce the amount of elodea / Increasing streamside shade / Reducing urban stormwater / Reducing sediment inputs

# Pierce County Stormwater Management Program Plan (2020)

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Organization of the SWMP Plan follows the established format of the NPDES Phase I MS4 Permit:

- Legal Authority (S5.C.1)
- MS4 Mapping and Documentation (S5.C.2)
- Coordination (S5.C.3)
- Public Involvement and Participation (S5.C.4)
- Control of Runoff from New Development, Redevelopment and Construction Sites (S5.C.5)
- Stormwater Planning (S5.C.6)
- Structural Stormwater Controls (S5.C.7)
- Source Control Program for Existing Development (S5.C.8)
- Illicit Connections and Illicit Discharges Detection and Elimination (S5.C.9)
- Operation and Maintenance Program (S5.C.10)
- Education and Outreach Program (S5.C.11)
- Compliance with Total Maximum Daily Load Requirements (S7)
- Monitoring and Assessment (S8)

# Pierce County Surface Water Improvement Program (2018 – 2023)

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## Goal of SWM Utility:

- Protect people and infrastructure by reducing impacts of flooding
- Protect people and the environment by reducing impacts of water pollution
- Execute sound financial management to meet current and emerging needs
- Promote broader understanding of the functions and values of Pierce County's water resources and services provided by SWM
- Foster highly-effective employees and teams

The 2018 – 2023 SWIP includes **46 capital projects** with a total estimated 6-year project cost of nearly \$88 million.

# Discussion

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Thoughts or questions on the plan, process, or schedule

Any comments or clarifications on the goals

Thoughts on pressures to highlight

How would you like to be engaged in draft review moving forward