

Puget Sound Drainages Basin Plan Council Discussion

March 20, 2017

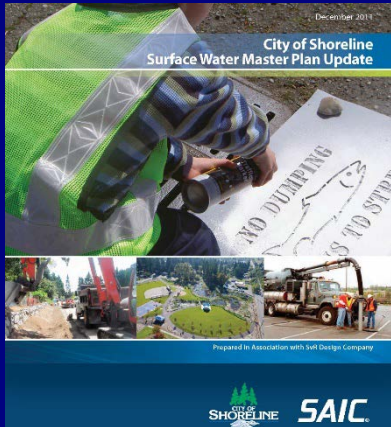


Purpose

- Present the results of the Puget Sound drainage basins plan
- Discuss plan recommendations and next steps
- Present the Citywide basin planning program findings and implications

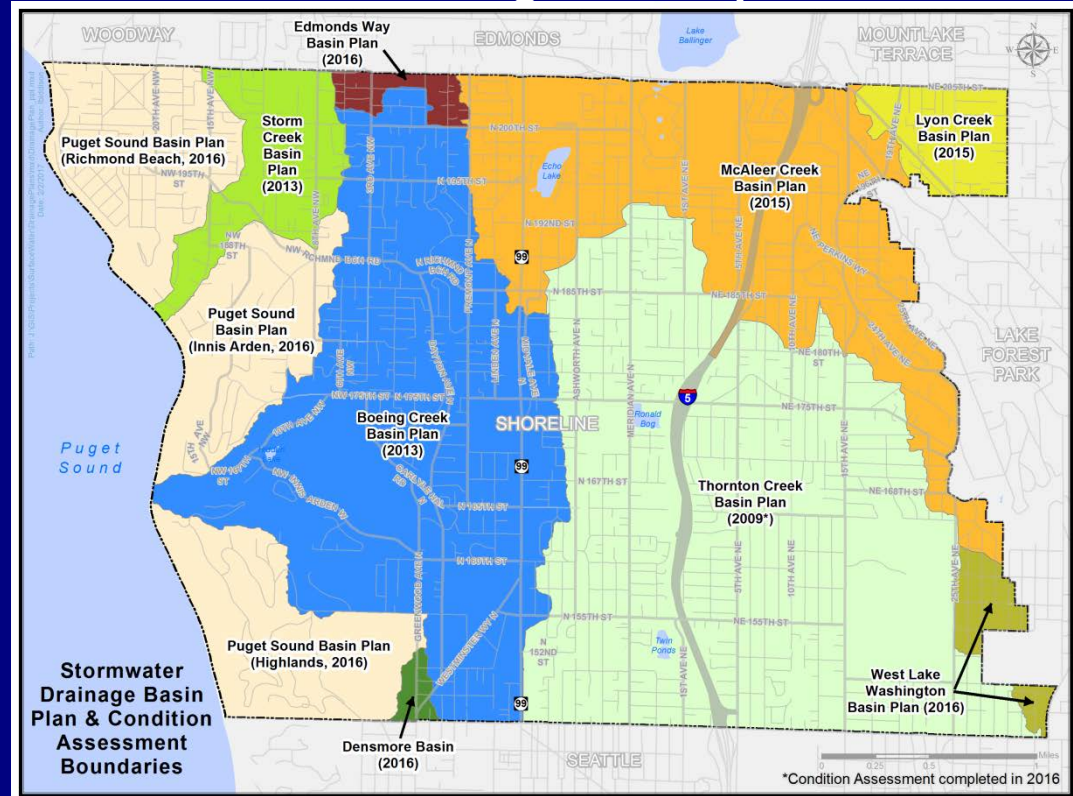
Planning Overview

Basin Plans & Condition Assessment
Shoreline.wa.gov/basinplan



Projects
Strategies
Policies

2011 Surface Water
Master Plan
(Currently being
updated 2017)

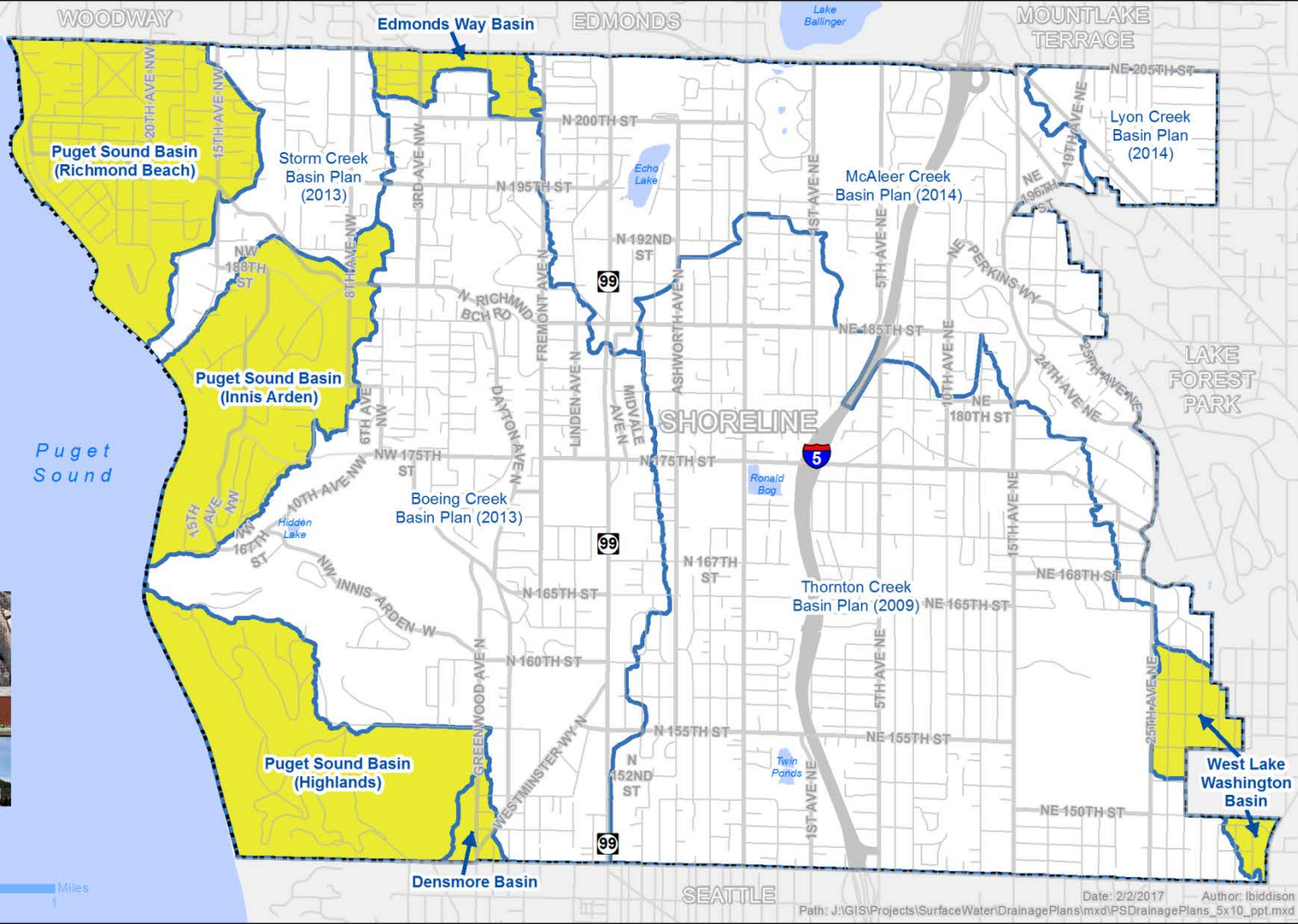
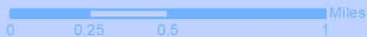


Puget Sound Drainage Basin Plan Locations

Legend

Drainages Basin Plan Locations

- Puget Sound
- Other Basin Plans
- City Limit



Timeline

2009	2010	2011	2012	2013	2014	2015	2016	2017
------	------	------	------	------	------	------	------	------

Thornton Creek
Basin Plan (1)

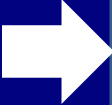
Surface Water
Master Plan

Storm Creek
Basin Plan(2)

McAleer Creek
Basin Plan(4)

Puget Sound
Drainages
Basin Plan*(6)

Pipe Condition
Assessment Starts in
2012



Boeing Creek
Basin Plan (3)

Lyon Creek
Basin Plan (5)

Surface Water
Master Plan
Update

Thornton Creek
Condition Assessment



Shorelinewa.gov/basinplan

*Pipe condition assessment included structure assessment

Puget Sound Drainage Basin Planning Elements

- Drainage issue assessment
- Natural resources assessment
- Stormwater pipe and structure condition assessment

Drainage Issue Assessment

NW 199th and
21st Ave NW
Broken Pipe



Springdale Ct. NW Flooding



Natural Resources Assessment



Coyote Creek
Outfall

Wetlands near Coyote Creek

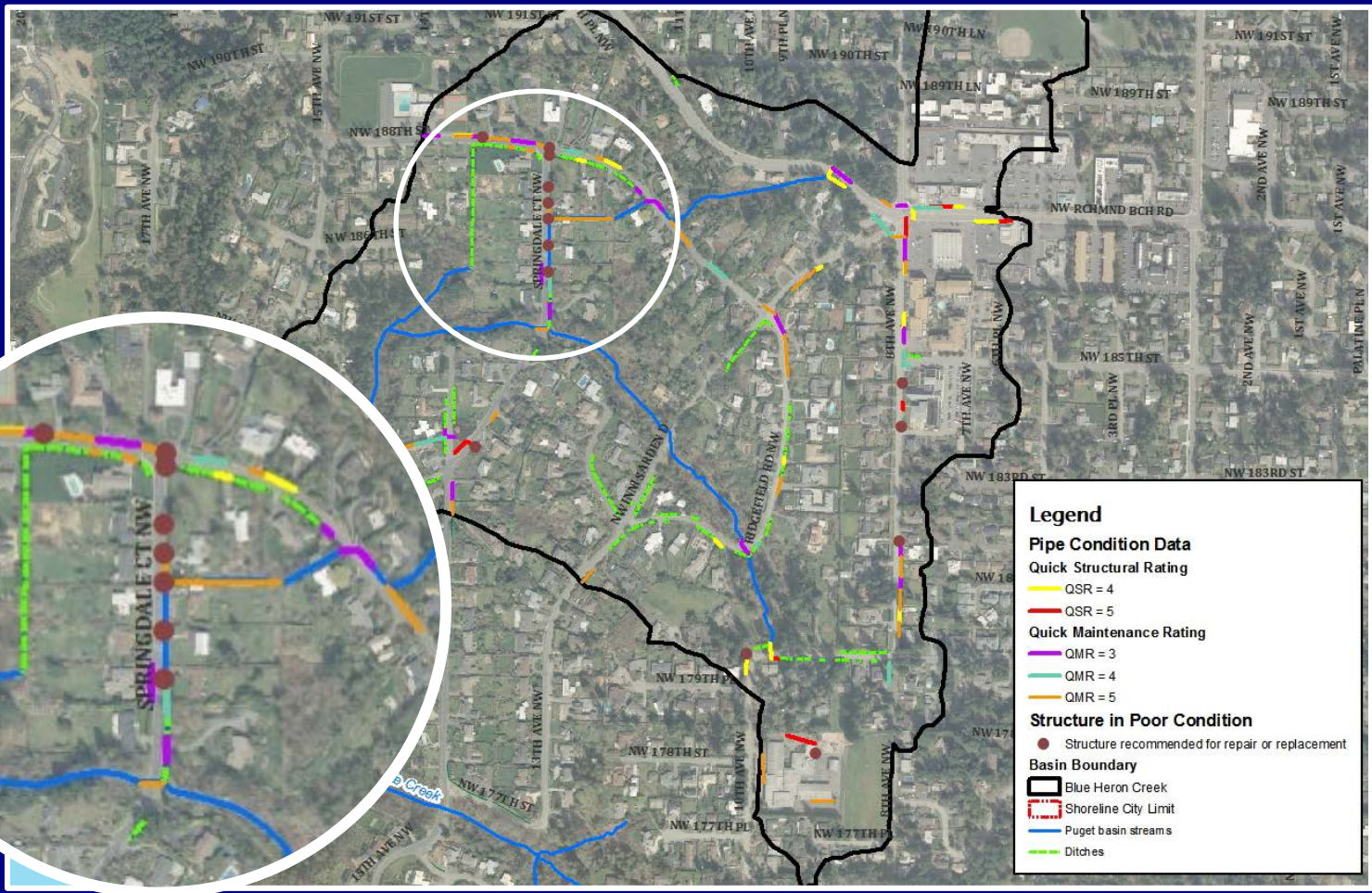


Blue Heron Creek
near Mouth



Primary Issues

- Stormwater pipes in poor or failing condition (~ 10 %)
- Local flooding and drainage issues
- Lack of easements for pipes not in the right-of-way



Condition Assessment Results- Heron Creek Basin Example

Easement Acquisition or Pipe Re-routing



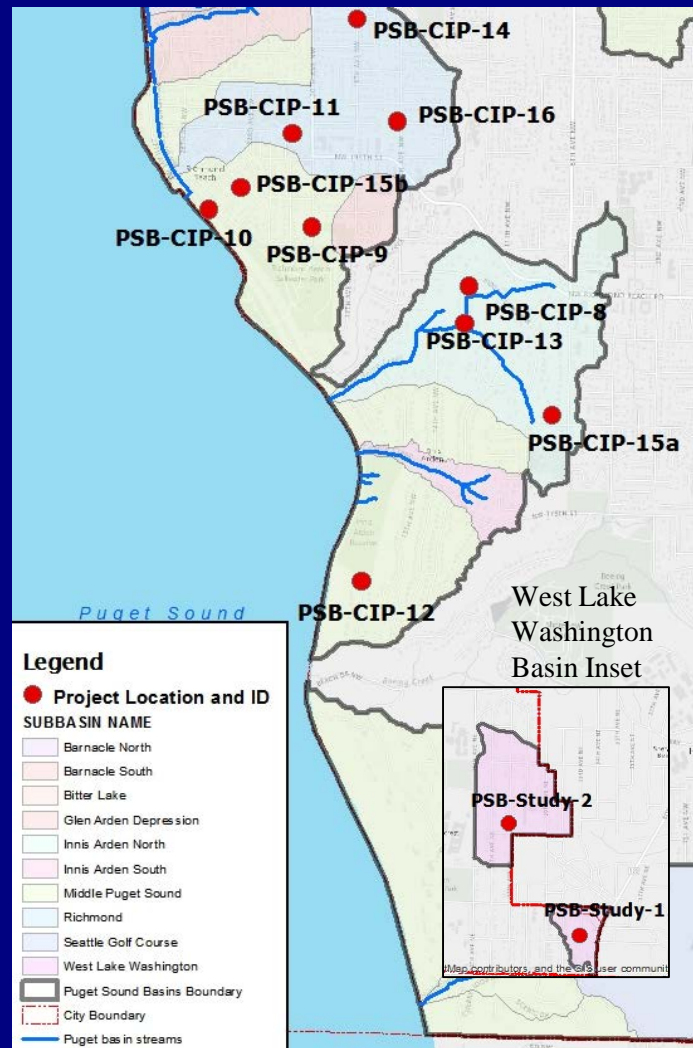
Easement Acquisition



Move to right-of-way

Recommended Projects ~\$13M

- Small projects to improve drainage
 - NW 195th PI and Richmond Beach Dr NW flood reduction (PSB-CIP-10)
 - NW 196th PI and 21st Ave NW near Richmond Beach Library (PSB-CIP-11)
 - Sprindale Ct. NW and NW Ridgefield Rd drainage improvements (PSB-CIP-8)
 - 20th Ave NW between NW 190th St and NW 193rd St infrastructure improvements (PSB-CIP-9)
 - 167th PI NW storm drainage stabilization (PSB-CIP-12)
 - Heron Creek culvert crossing improvement (PSB-CIP-13)
 - 18th Ave NW and NW 204th St drainage system improvements (PSB-CIP-14)
 - NW 180th St and 8th Ave NW ditch improvements (PSB-CIP-15a)
 - NW 194th PI and 25th Ave NW ditch improvements (PSB-CIP-15b)
 - NW 197th PI and 15th Ave NW flood reduction (PSB-CIP-16)
- Studies and Operational Stormwater Approaches
 - Options analysis at 32nd Ave NE and NE 147th St to reduce flooding (PSB-Study-1)
 - Evaluate 26th Ave NE and NE 155th St flooding to develop solutions (PSB-Study-2)
 - Acquire stormwater easements at 23 locations (PSB-Oper-2)



Stormwater Pipe Repair and Replacement Projects

Projects types include:

- Priority open-cut pipe replacement (PSB-CIP-1)
- Priority trenchless pipe repair (PSB-CIP-3)
- Priority Structure Repair (PSB-CIP-2)
- Removal of other utility crossings (at cost of other utility) (PSB-Oper-1)
- Second tier pipe repair (PSB-CIP-4)
- Relocation of high priority pipes to City right-of-way (ROW) (PSB-CIP-6)

Puget Sound Drainage Basin Next Steps

- Pipe repair program - on-going
- \$13 M projects
- CIPs to be prioritized under 2017 Surface Water Master Plan Update

Citywide Basin Plan Program Findings

- 62 miles of pipe have been inspected to date (~30%)
 - 10 miles of severely defective pipe was found (~16%)
 - 0.8 miles of pipes have been addressed in the pipe repair and replacement project (2014-2016)
- Master Plan will recommend a strategy for the pipe repair and replacement program based on basin plans results

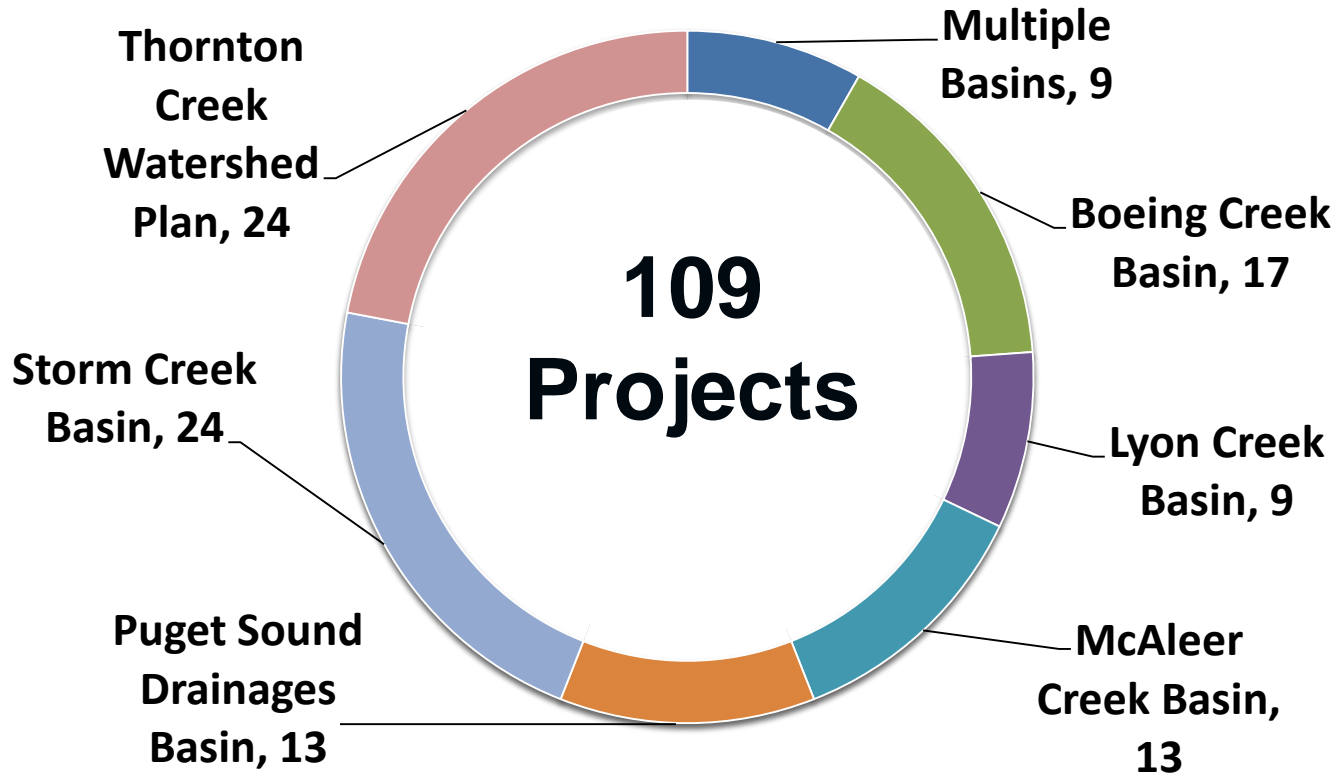


Citywide Basin Plan Program Findings, cont.

- 109 projects have been identified to date
- 2 ongoing CIP programs to address some of the findings
 - Surface Water Small Drainage Project (Various locations)
 - Stormwater Pipe Repair & Replacement (Annual)



Citywide Basin Plan – Current Projects



Citywide Basin Plan Program Implications

- Continued deterioration of pipes
- Defective pipes in Thornton Creek basin
- Capacity problems and other system needs exist
- It is essential to prioritize projects systematically and with defined criteria



Next Steps

- Condition assessment in Thornton Creek (2017)
- Pipe repair and replacement program - on-going
- 109 projects prioritized under 2017 Surface Water Master Plan Update
- Update Council on the August 7th 2017 presentation

Questions?

