

Lower Duwamish Waterway SPU Source Control Program

Seattle Public Utilities
May 31, 2012

SPU source control website:

http://www.seattle.gov/util/Services/Drainage_&_Sewer/PollutionControl/index.htm

Today's Presentation

LDW-specific programs

- Business Inspections
- Source tracing/characterization
- Line cleaning

Citywide programs

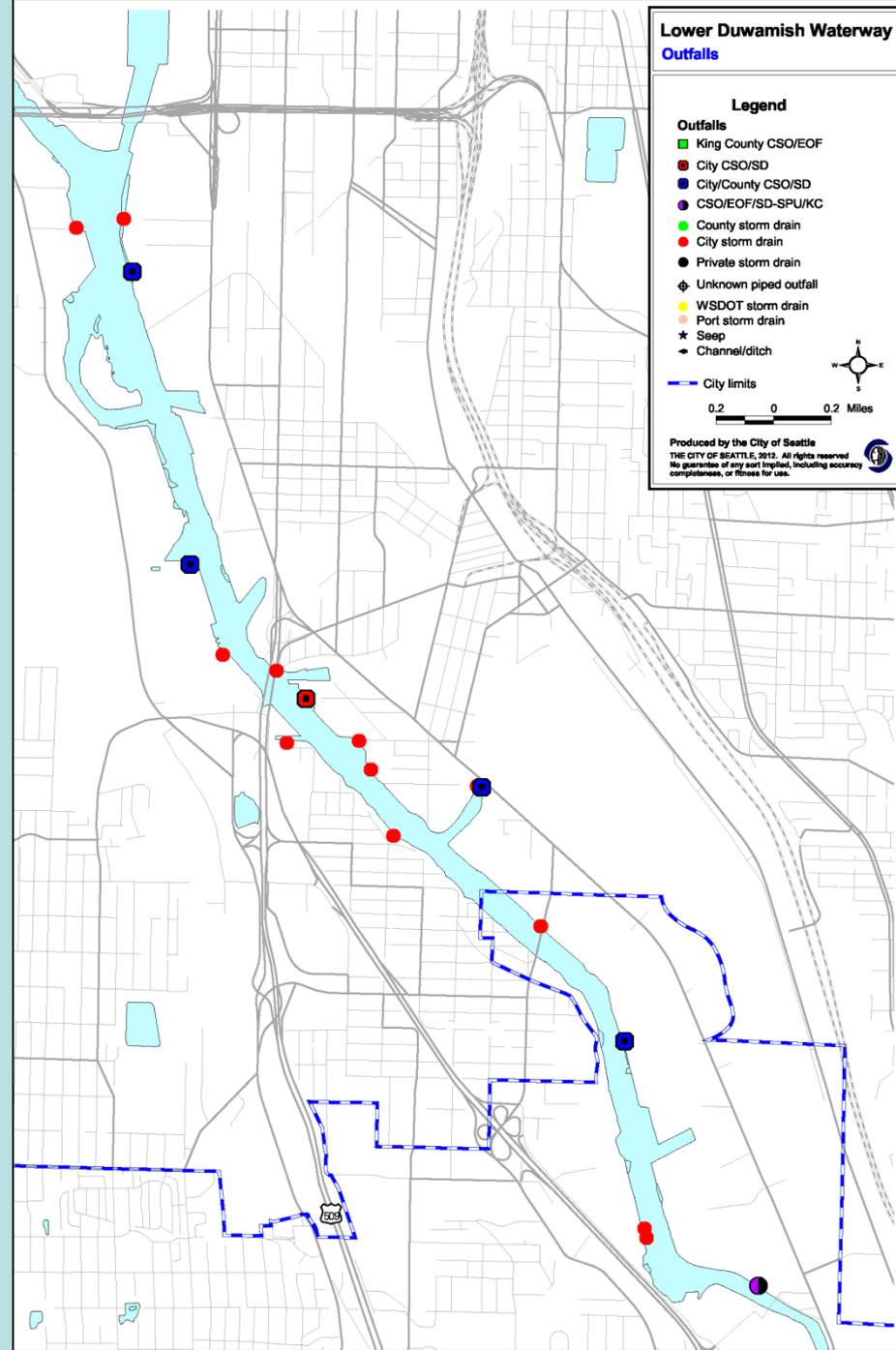
- Stormwater code
- Spill response
- Water quality complaint
- IDDE
- Street sweeping
- Public education/outreach



LDW Outfalls

17 City outfalls

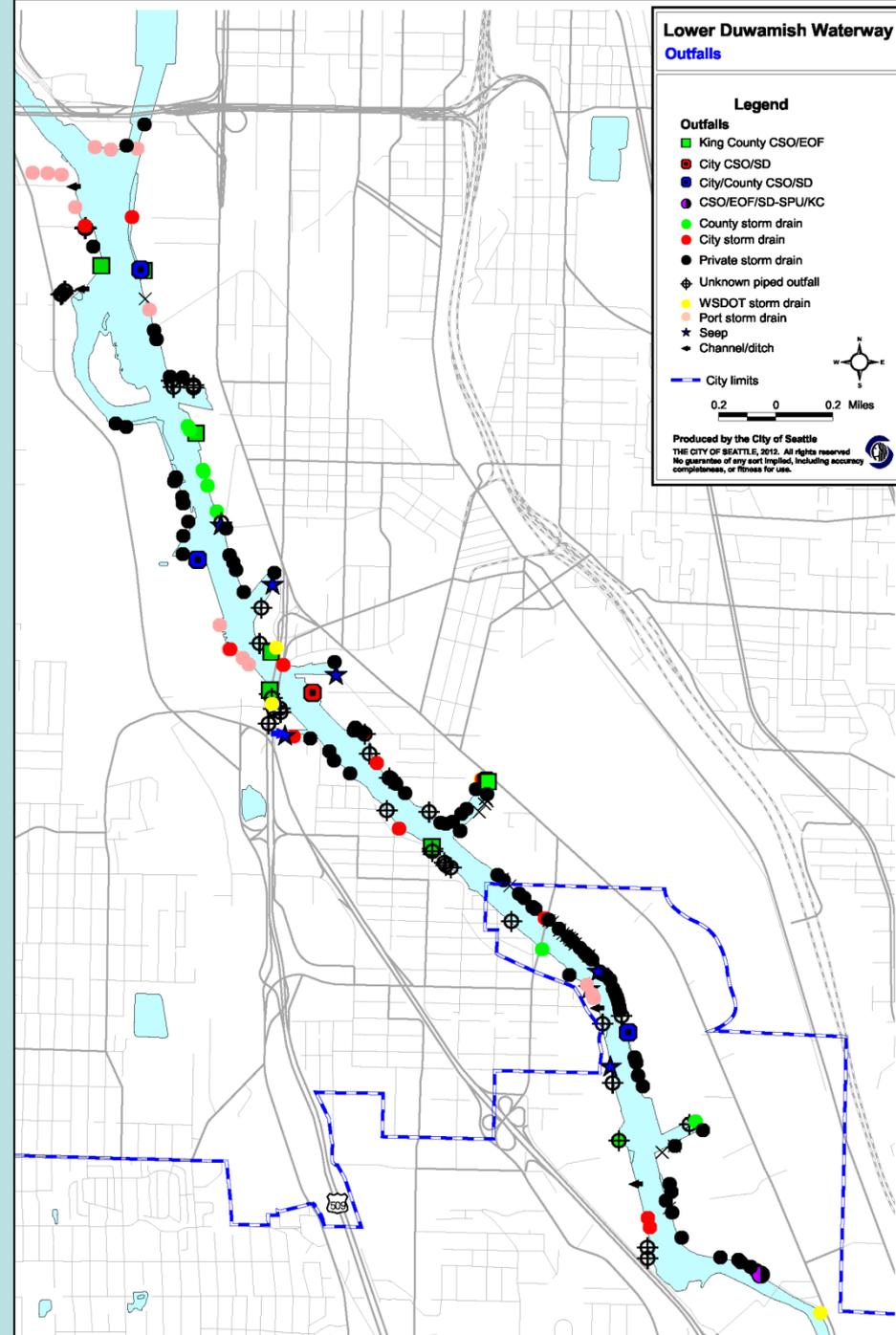
- 15 storm drains
- 1 CSO
- 3 emergency overflows



LDW Outfalls

17 City outfalls

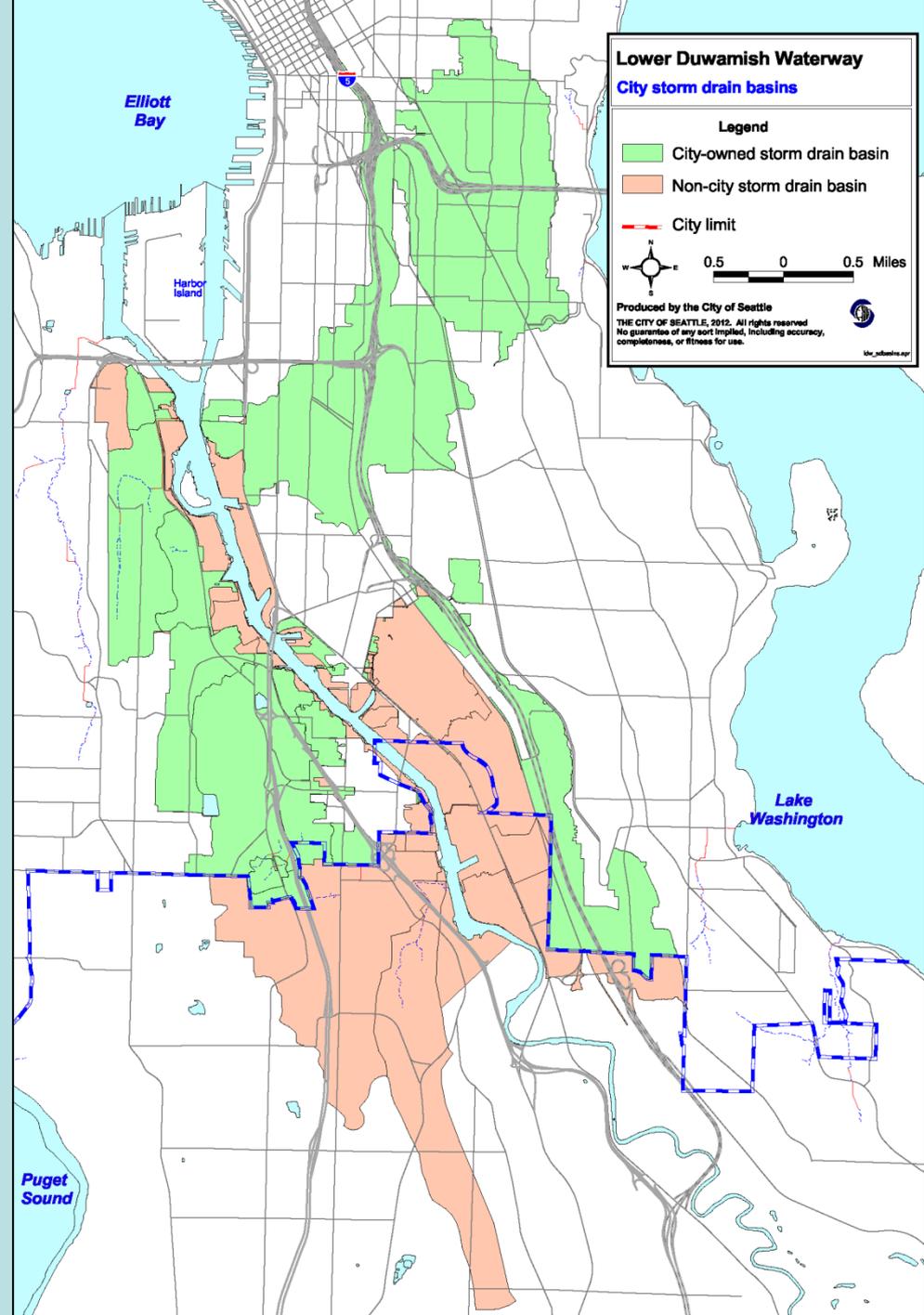
- 15 storm drains
- 1 CSO
- 3 emergency overflows
- 218 total outfalls



LDW Drainage Basin

Total LDW site: 8,940 acres

- 60% within City limits
- 40% outside City limits or served by non-City drainage system



Business Inspections

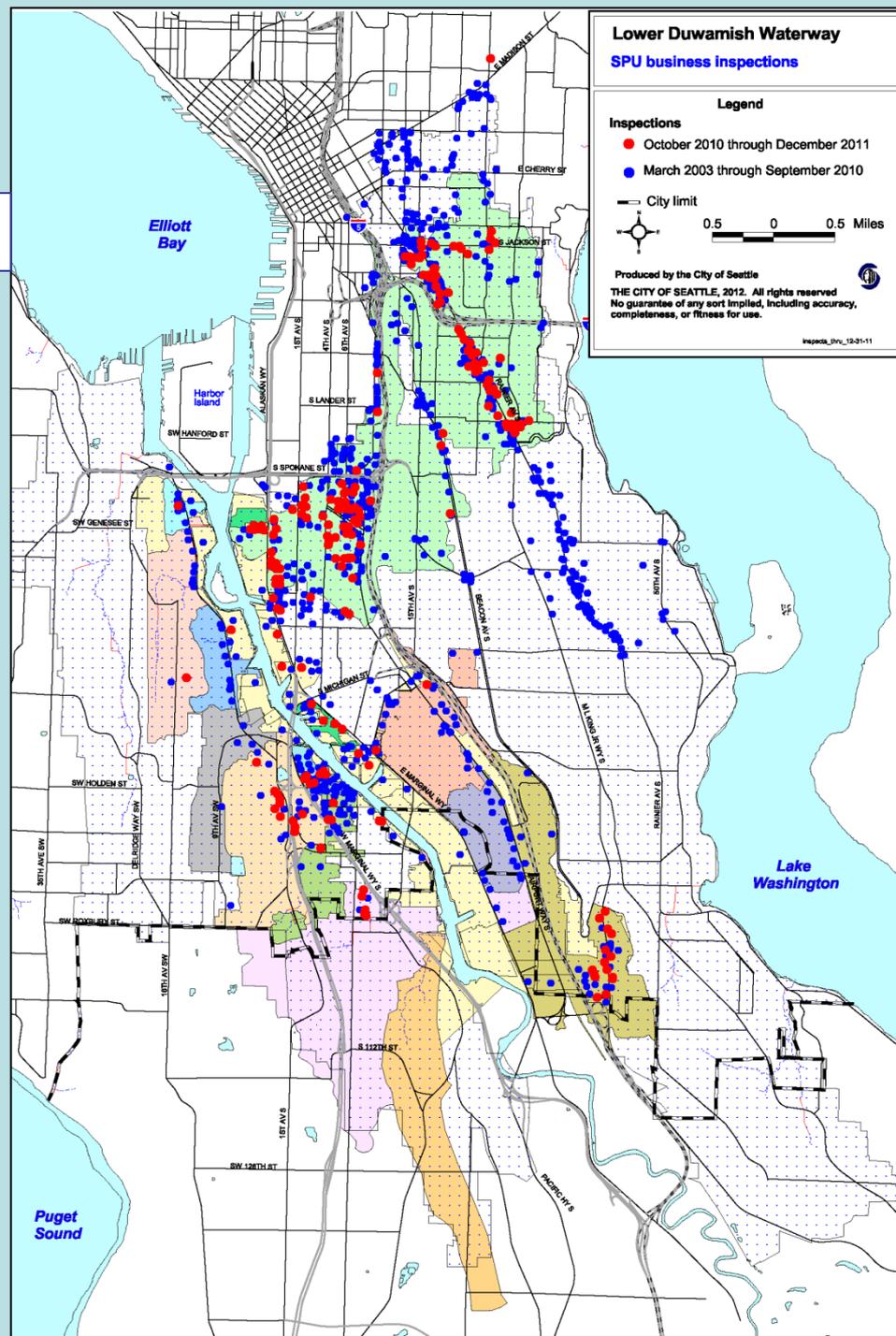
Completed full sweep of LDW in 2010

March 2003– December 2011:

- 3,100 Inspections at 1,300 businesses
- 4,300 Corrective actions

2012-future

- Inspection frequency based on pollution potential
 - 100 High priority
 - Inspect highs every 2 years
- Check business licenses annually for new start ups



Corrective Actions



BEFORE



AFTER

Corrective Actions



BEFORE



AFTER

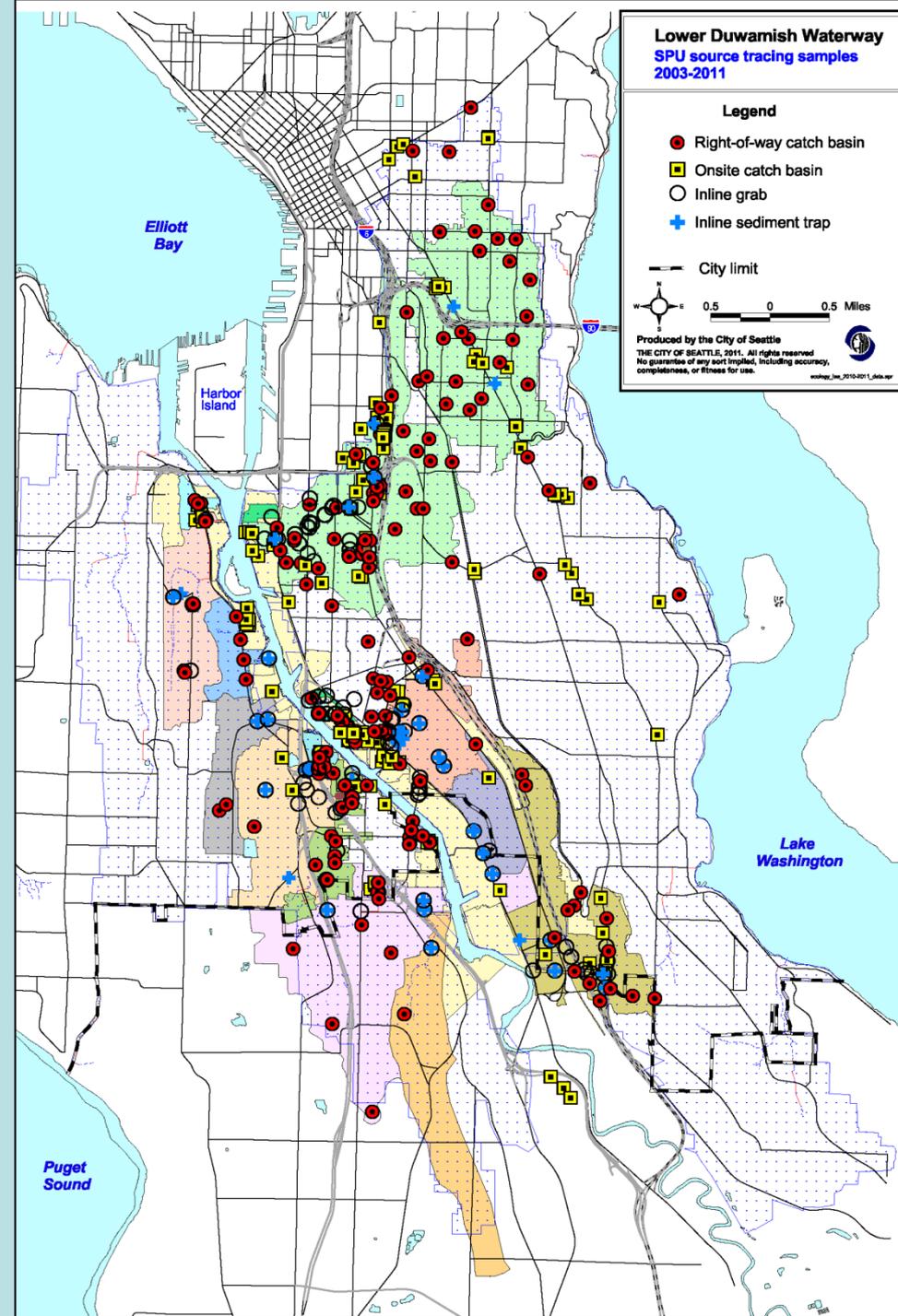
Source Samples

March 2003 – December 2011

No.	Type
240	Inline traps
211	Inline grabs
363	Catch basin grabs
13	Street dirt and soil
827	TOTAL

Source tracing benchmarks

- SQS/LAET
- CSL/2LAET

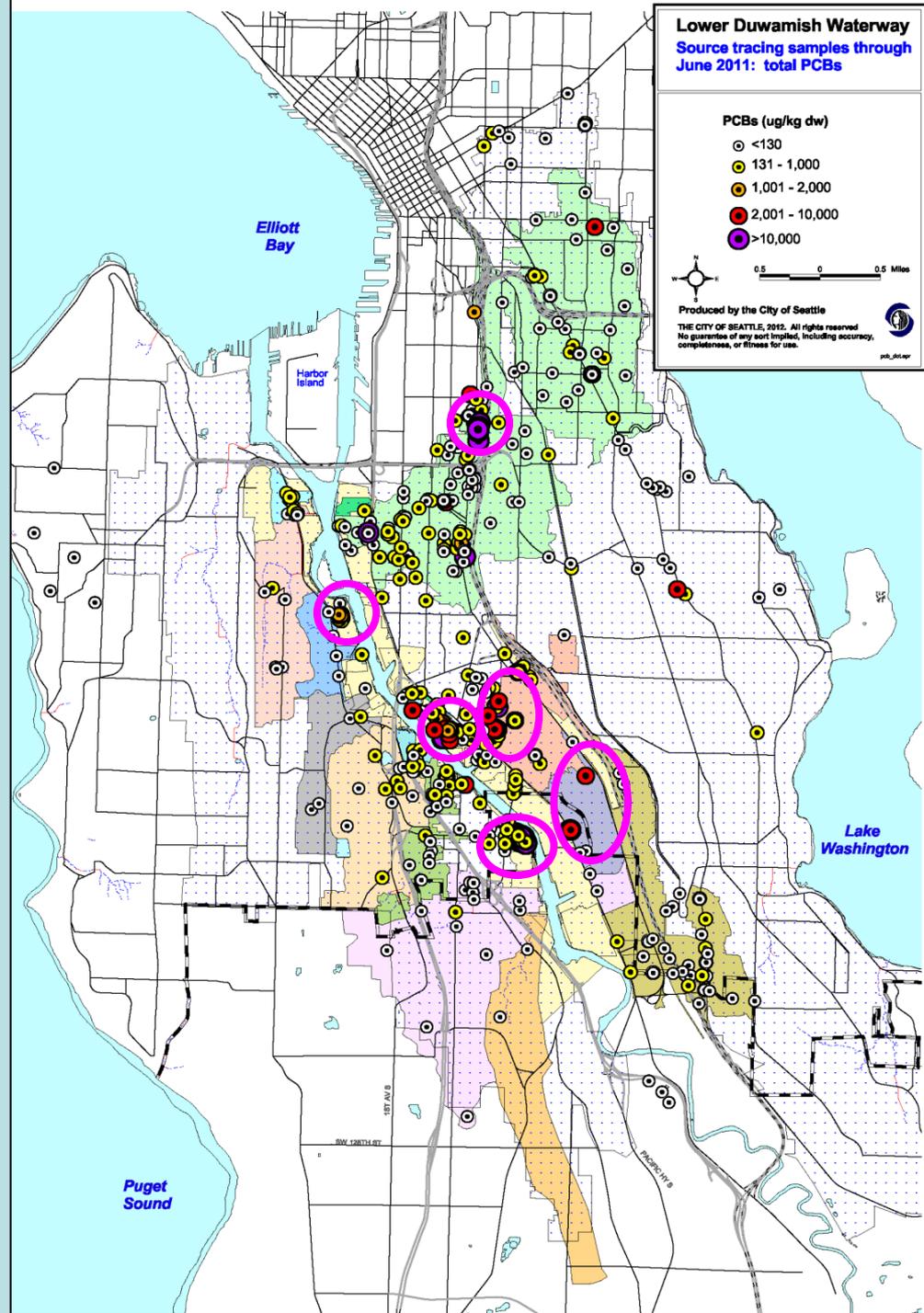


Source Tracing: PCBs

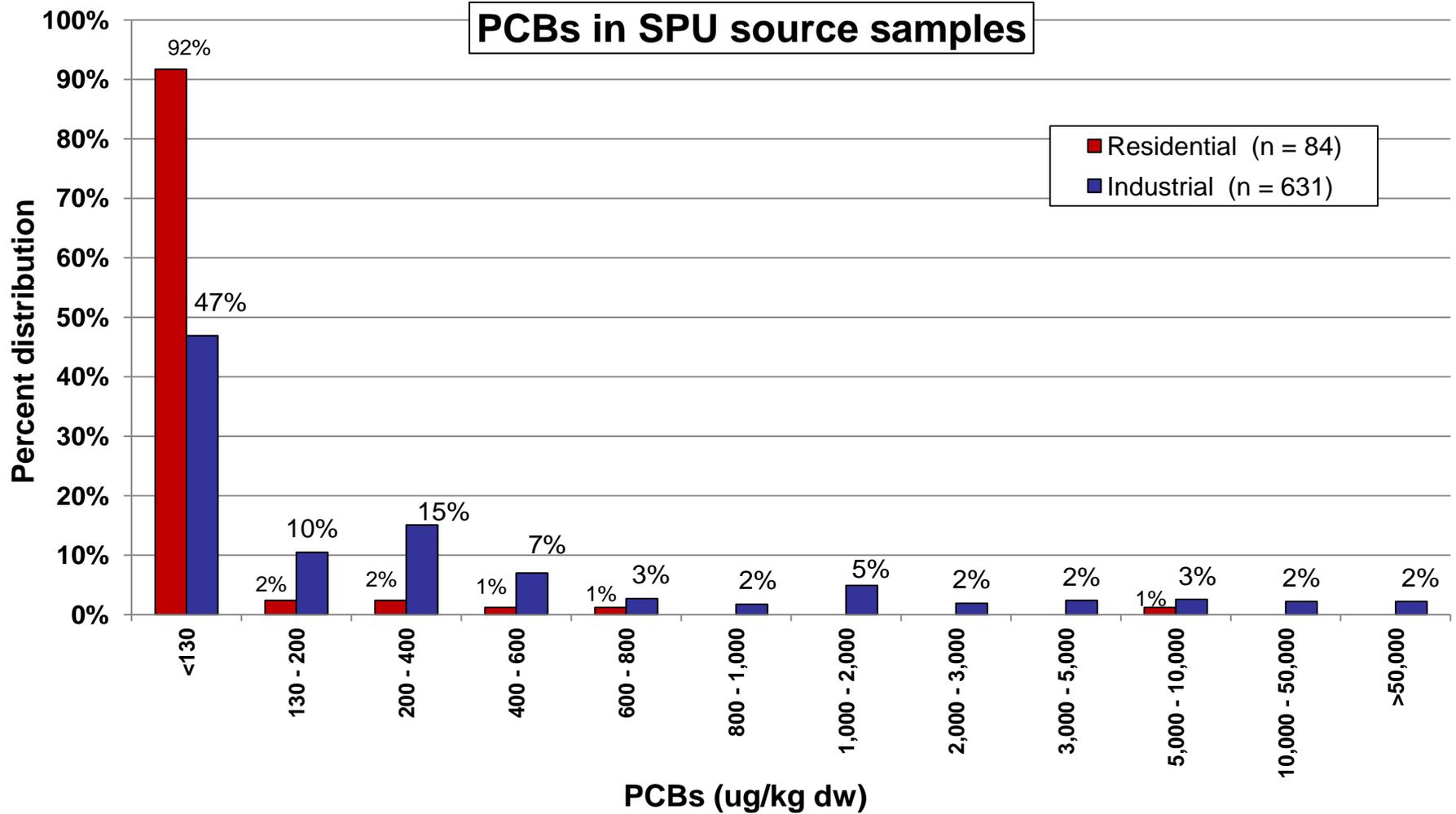
Samples through June 2011

Hotspots:

- T117
- GTSP/NBF
- Rainier Commons
- KC-Jorgensen SD
- Others

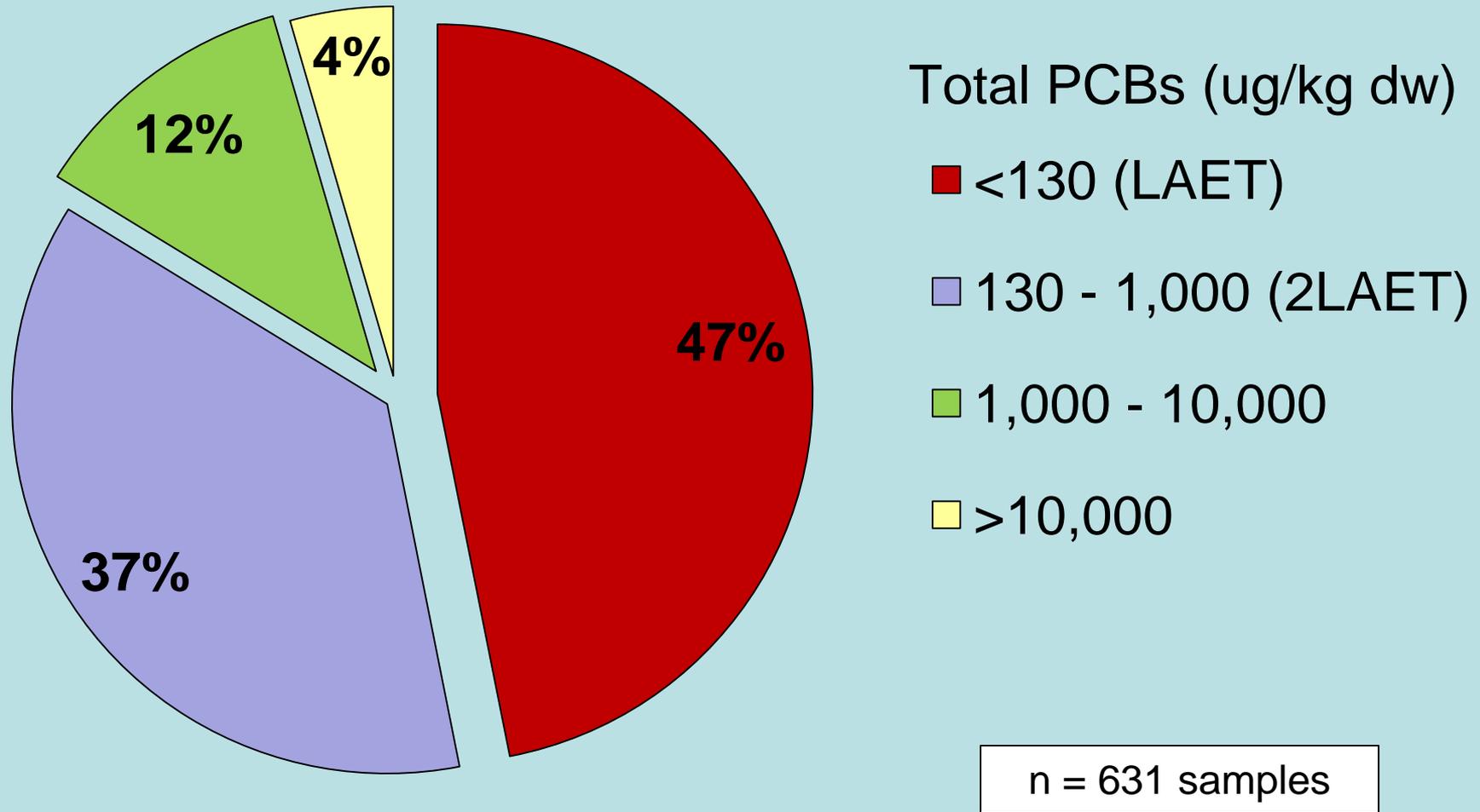


PCBs: Land Use



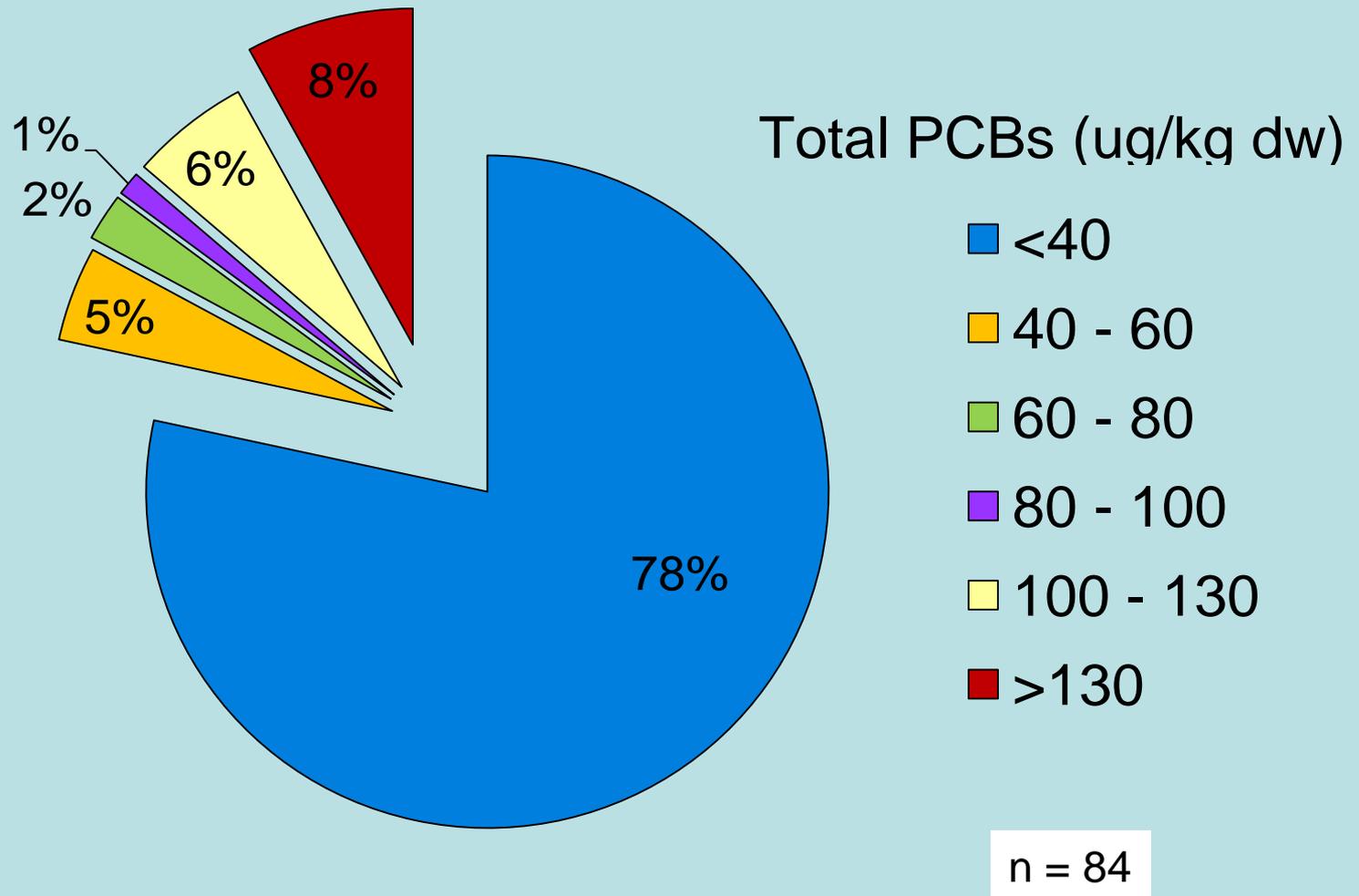
PCBs: Industrial Land Use

PCBs detected in 78% of samples



PCBs: Residential

PCBs detected in 32% of samples

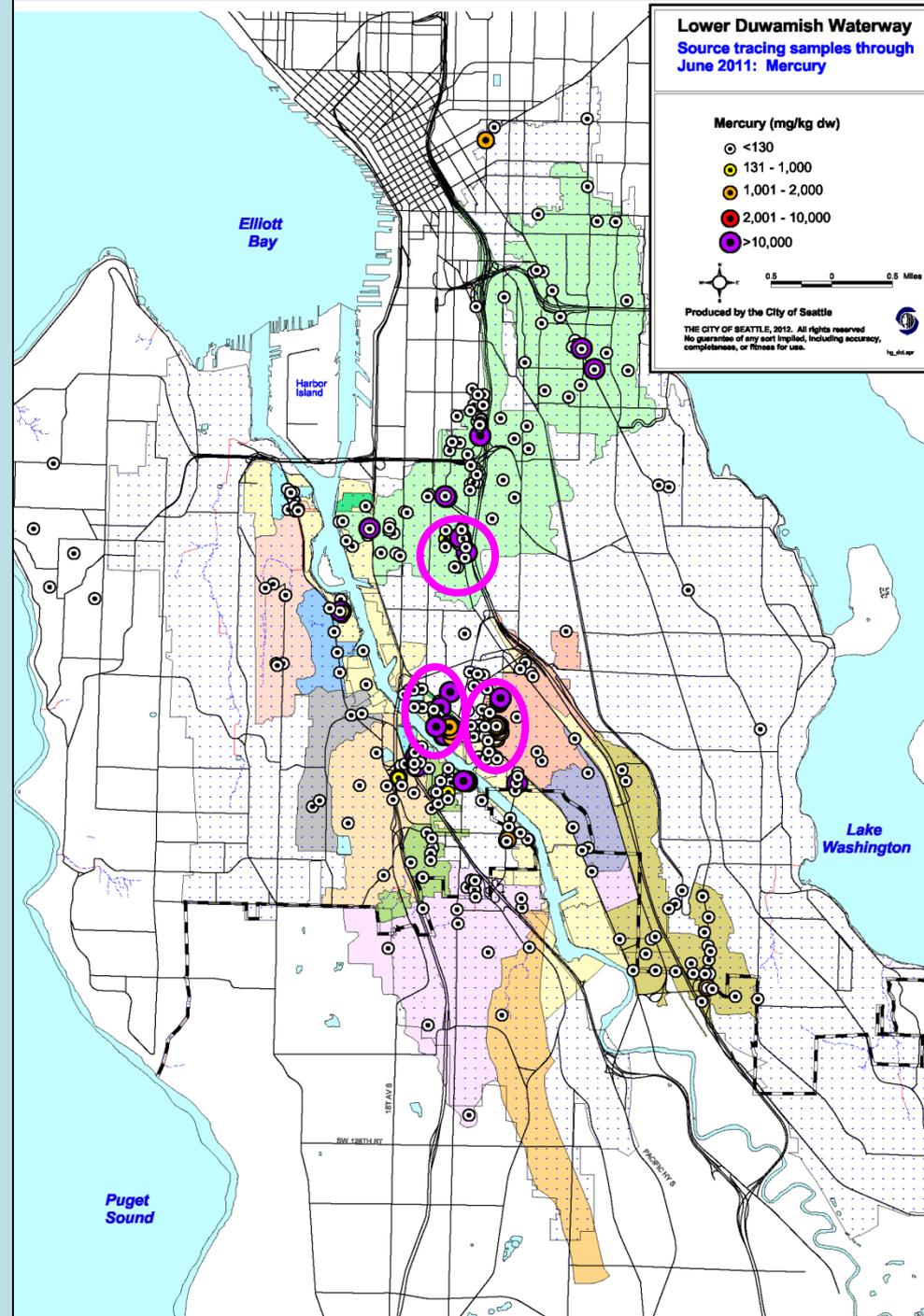


Source Tracing: Mercury

Samples through June 2011

Hotspots

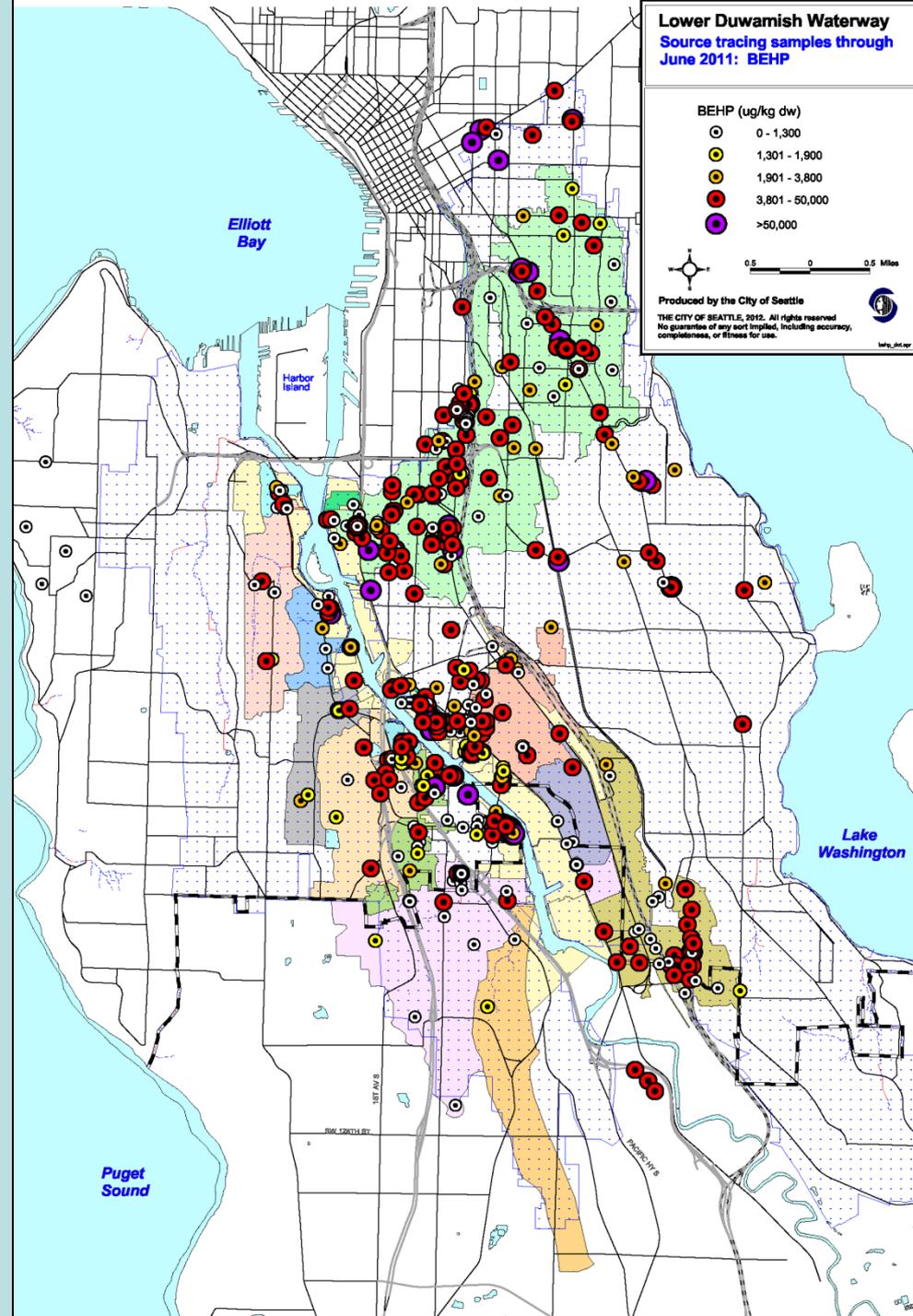
- Old flume (replaced)
- Diagonal/Airport Wy S SD (cleaned)
- S Brighton/S Myrtle SDs (cleaned)
- Miscellaneous onsite CBs
- Sporadic hits at trap locations



Source Tracing: BEHP

Samples through June 2011

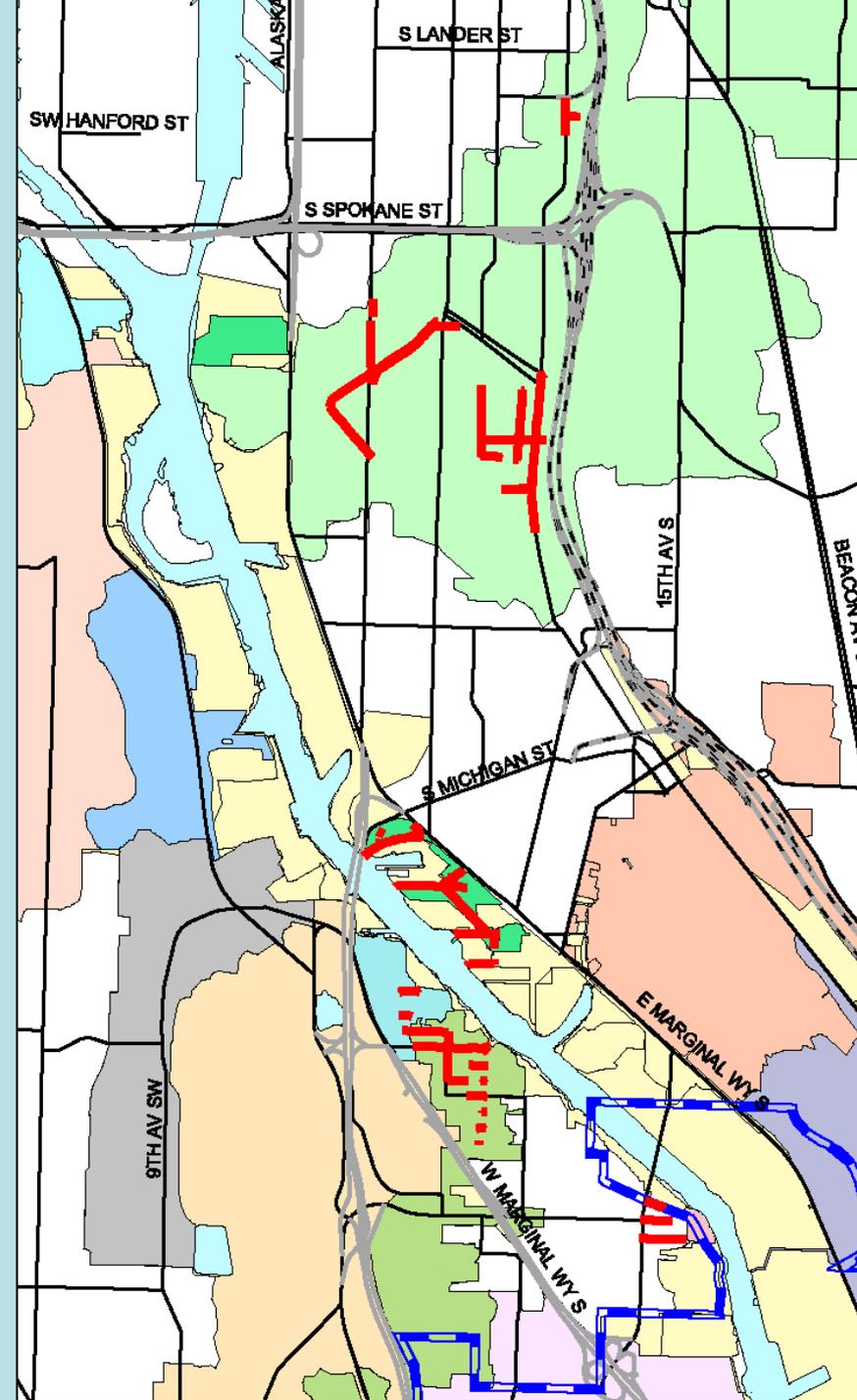
- Most samples above LAET/2LAET benchmarks
- Many disperse sources
- No specific controllable source identified to date



Line Cleaning

26,000 LF cleaned to date
2,000 TN removed

- S Myrtle St SD
- S Brighton St SD
- S Garden St SD
- S River St SD
- Diagonal Ave S SD
 - S Snoqualmie St
 - Airport Wy S/ S Stevens St
 - Lower mainline
- 2nd Ave S SD
- T117 CSS
- SW Idaho St SD (2012)



Line Cleaning Operations



Citywide Programs

- Stormwater code

<http://www.seattle.gov/dpd/Codes/StormwaterCode/DirectorsRules/default.asp>

[http://www.seattle.gov/util/About SPU/Drainage & Sewer System/Reports/StormwaterManagementPlan/index.htm](http://www.seattle.gov/util/About%20SPU/Drainage%20&%20Sewer%20System/Reports/StormwaterManagementPlan/index.htm)

- Spill response

[http://www.seattle.gov/util/Services/Drainage & Sewer/PollutionControl/SpillResponse/index.htm](http://www.seattle.gov/util/Services/Drainage%20&%20Sewer/PollutionControl/SpillResponse/index.htm)

- Water quality complaint

[http://www.seattle.gov/util/Services/Drainage & Sewer/PollutionControl/SurfaceWaterQualityInvestigations/index.htm](http://www.seattle.gov/util/Services/Drainage%20&%20Sewer/PollutionControl/SurfaceWaterQualityInvestigations/index.htm)

- IDDE

[http://www.seattle.gov/util/Services/Drainage & Sewer/PollutionControl/DryWeatherScreening/index.htm](http://www.seattle.gov/util/Services/Drainage%20&%20Sewer/PollutionControl/DryWeatherScreening/index.htm)

- Street sweeping

[http://www.seattle.gov/util/Services/Drainage & Sewer/Keep Water Safe & Clean/Street Sweep Project/index.asp](http://www.seattle.gov/util/Services/Drainage%20&%20Sewer/Keep%20Water%20Safe%20&%20Clean/Street%20Sweep%20Project/index.asp)

- Public education/outreach

<http://www.seattle.gov/util/Services/Yard/MyLawnGarden/index.htm>

- Operations and maintenance

Citywide Programs: Structural Retrofits

Norfolk/MLK stormwater pond

- 5 acre-foot wet pond/constructed wetland
- Treats runoff from 224 Ac
- Constructed 2011



Summary

- Existing tools (inspections and source tracing) have been effective in identifying problems and reducing pollutant loading to LDW.
- Measuring success is difficult.
- Lack effective tools for following situations that affect City drainage system and ROW:
 - Multiple low level sources (e.g., BEHP, contaminated building materials).
 - Discharges from upland contaminated sites
 - Atmospheric deposition and fugitive dust emissions
- Source control takes time. Agencies need to work together.