King County's Actions on 6PPDQ

Jenée Colton, Chelsea Mitchell, and Carly Greyell
Science Section, Water and Land Resources Division

King County

Clean Water
Healthy Habitat

Department of Natural Resources and Parks

A $1B agency of nearly 2,000 employees

Waste Management

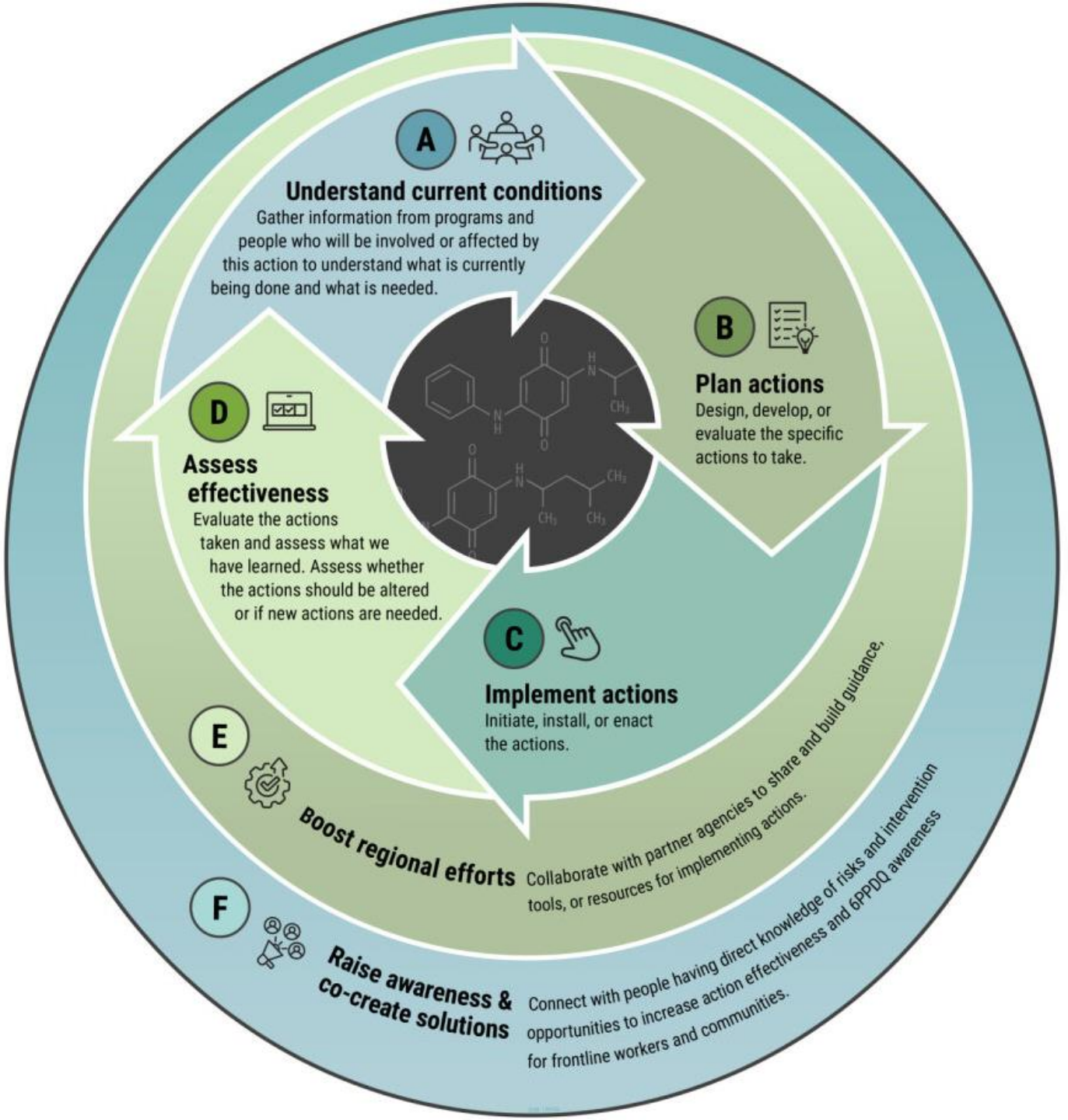
- Sewer
- Trash
- Hazardous Waste
- Stormwater Runoff

Natural Resource Management

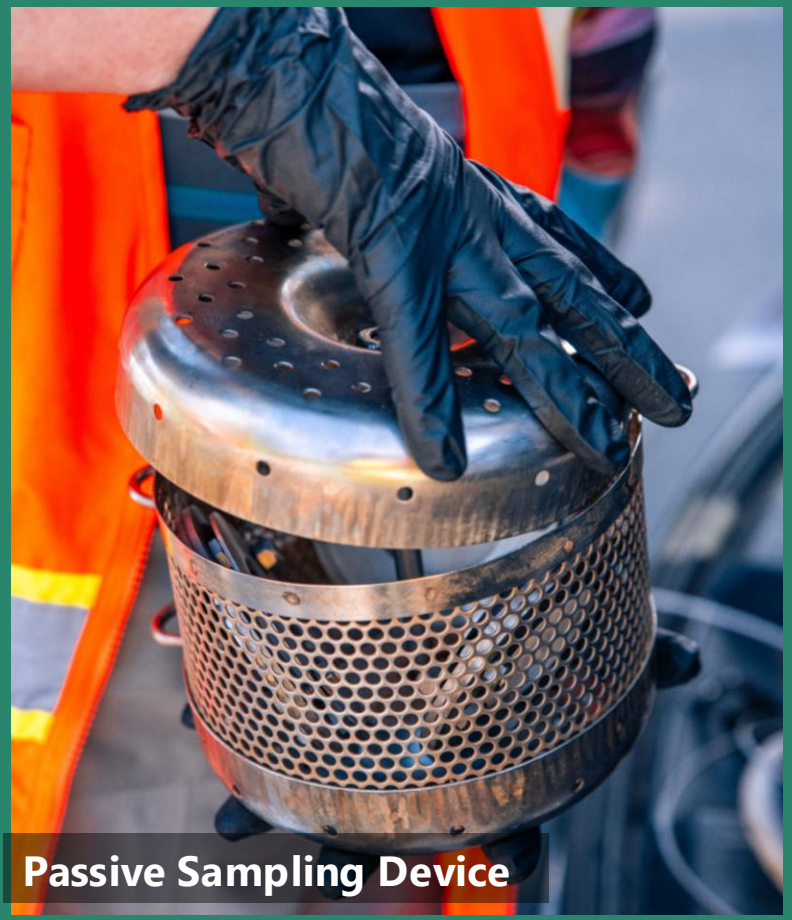
Parks

What are we doing about 6PPDQ?

A. Understand Current Conditions
B. Plan Actions
C. Implement
D. Assess effectiveness
E. Boost regional efforts & raise awareness

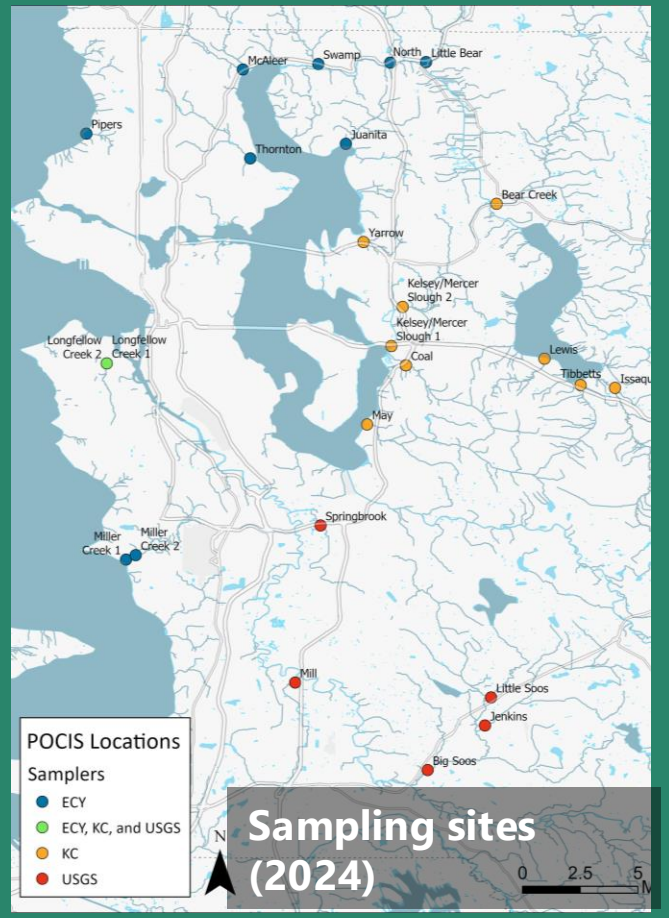


Which streams are polluted with 6PPDQ?



Passive Sampling Device

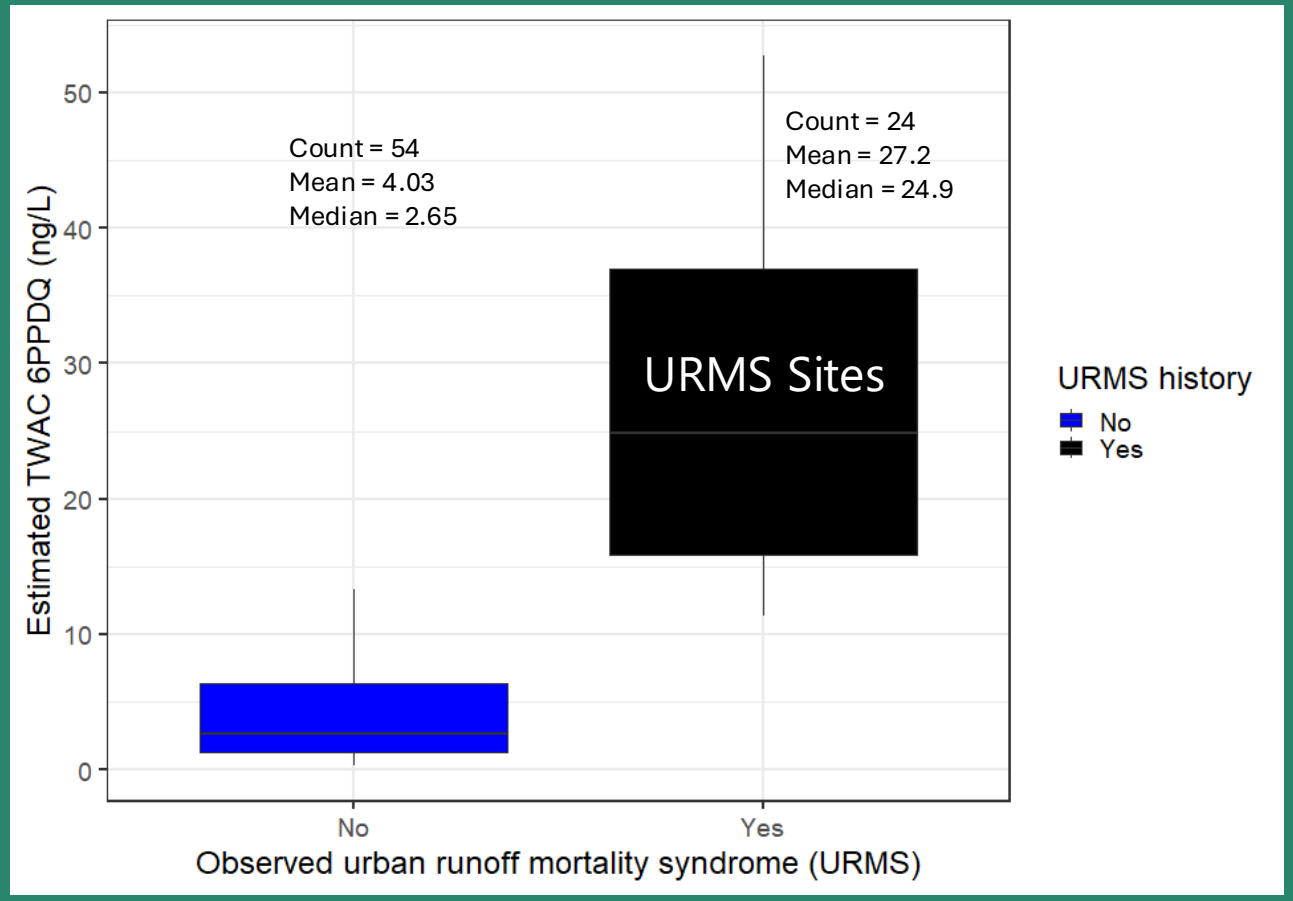
Deployment



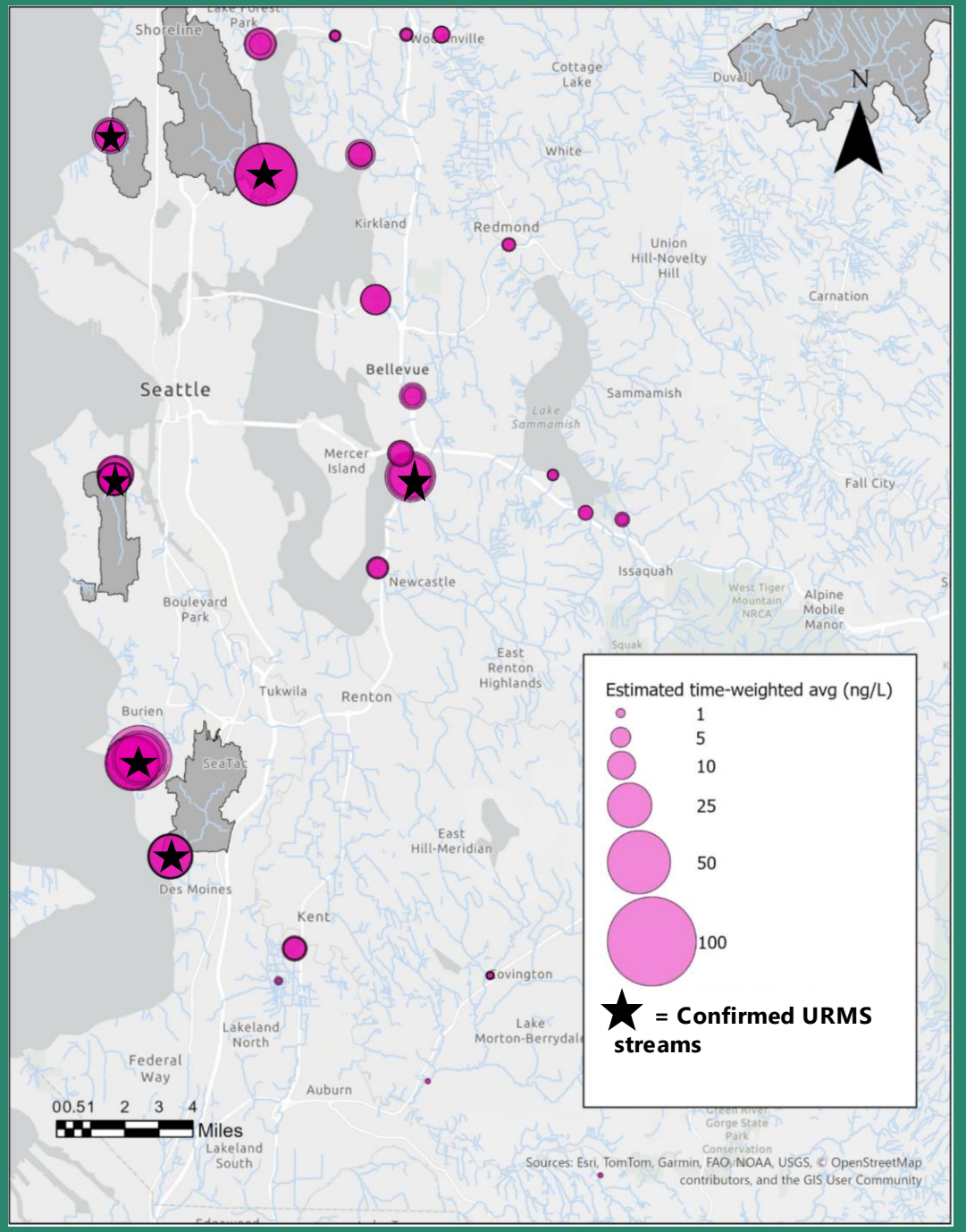
Sampling sites (2024)

Testing polar chemical integrative samplers (POCIS) 2024/2025 – **time-weighted average concentrations**

There's much more 6PPDQ entering URMS streams



Adapted from figure by Rhea Smith (ECY)



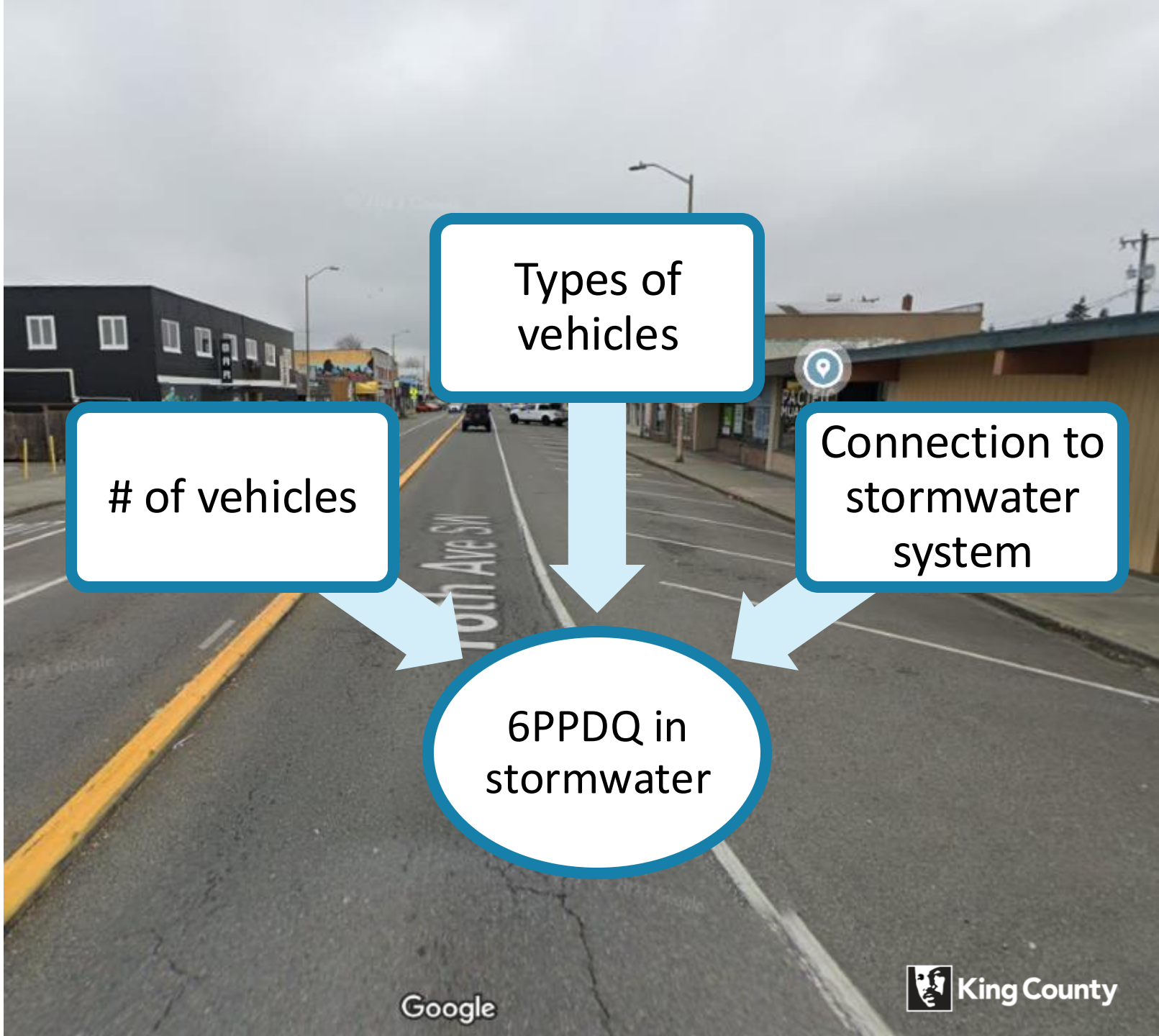
Where should we treat first?

Identify and prioritize 6PPDQ hotspots

DEPARTMENT OF ECOLOGY
State of Washington

PUGET SOUND
National Estuary Program

1. Roadway characteristics



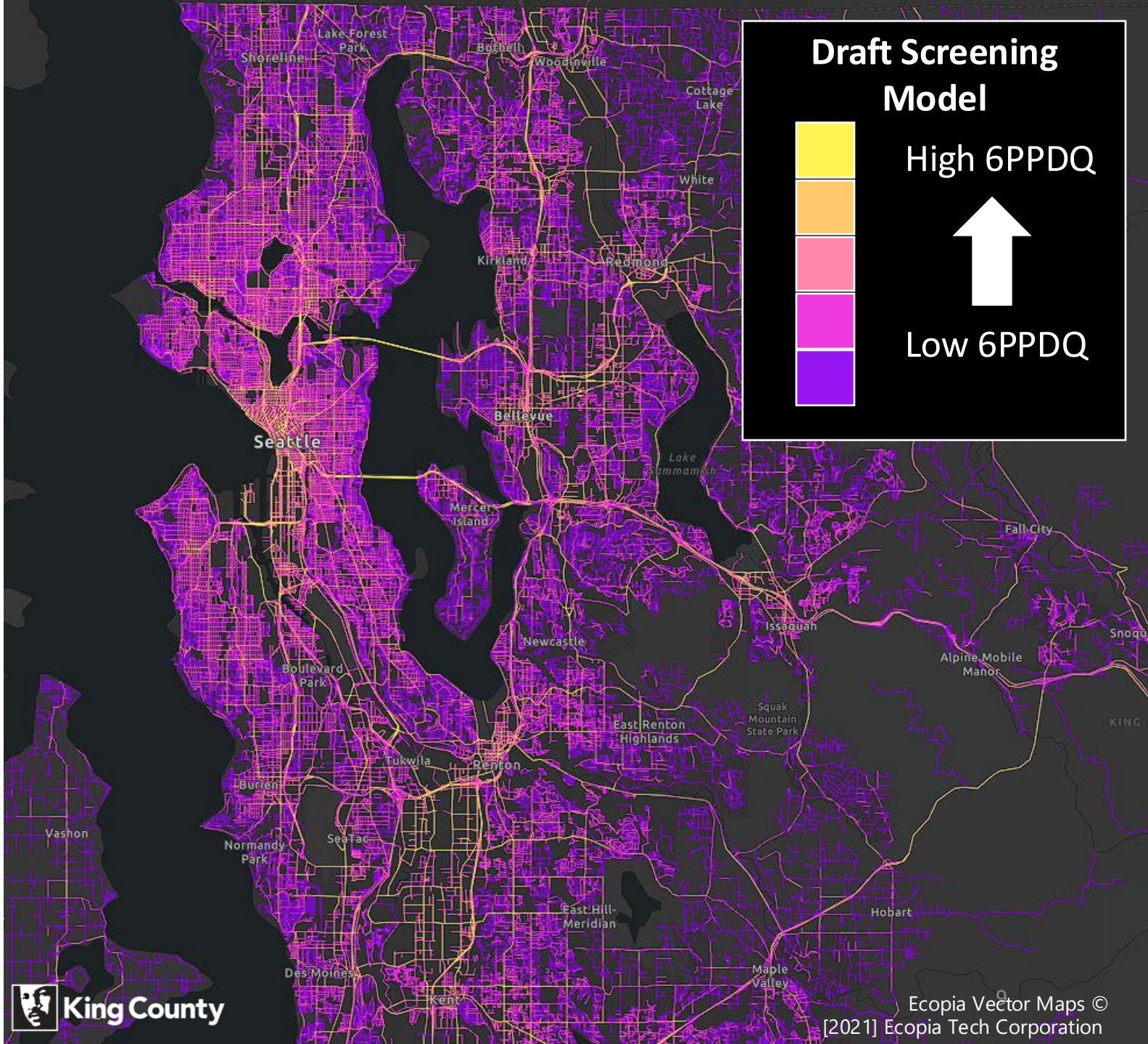
1. Roadway characteristics

2. GIS data

1. Roadway characteristics

2. GIS data

3. Score



Low scoring roadway: Maple Valley example

High scoring roadway: White Center example

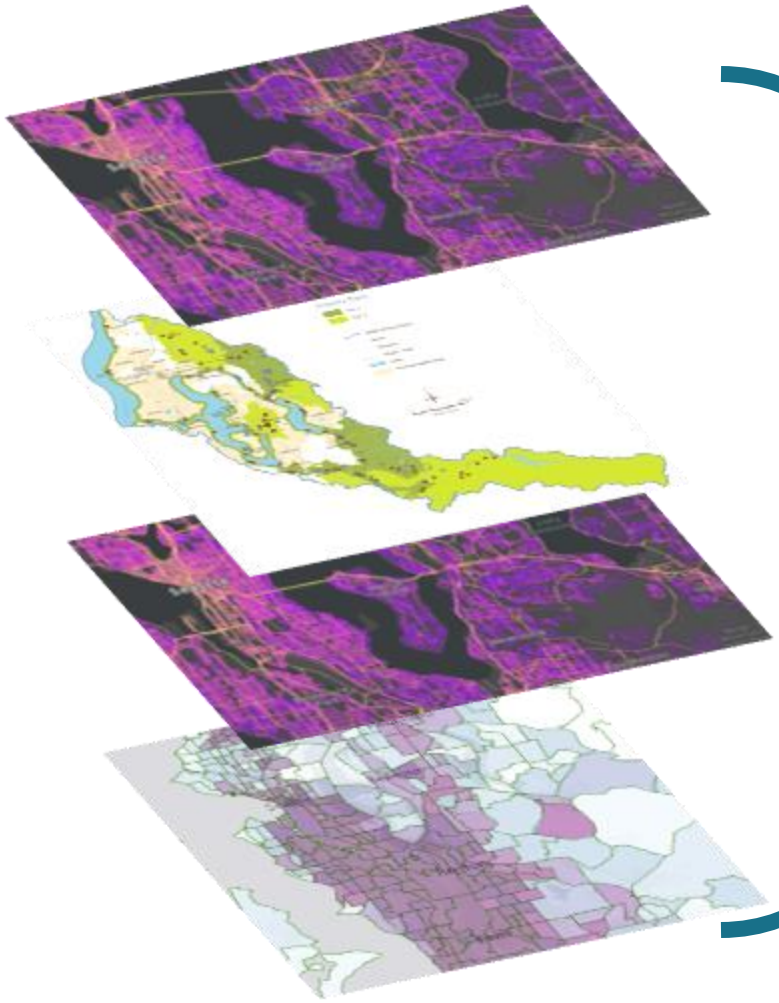
But there's more information we need to prioritize.

6PPDQ Load Reduction

Known Roadway Issues

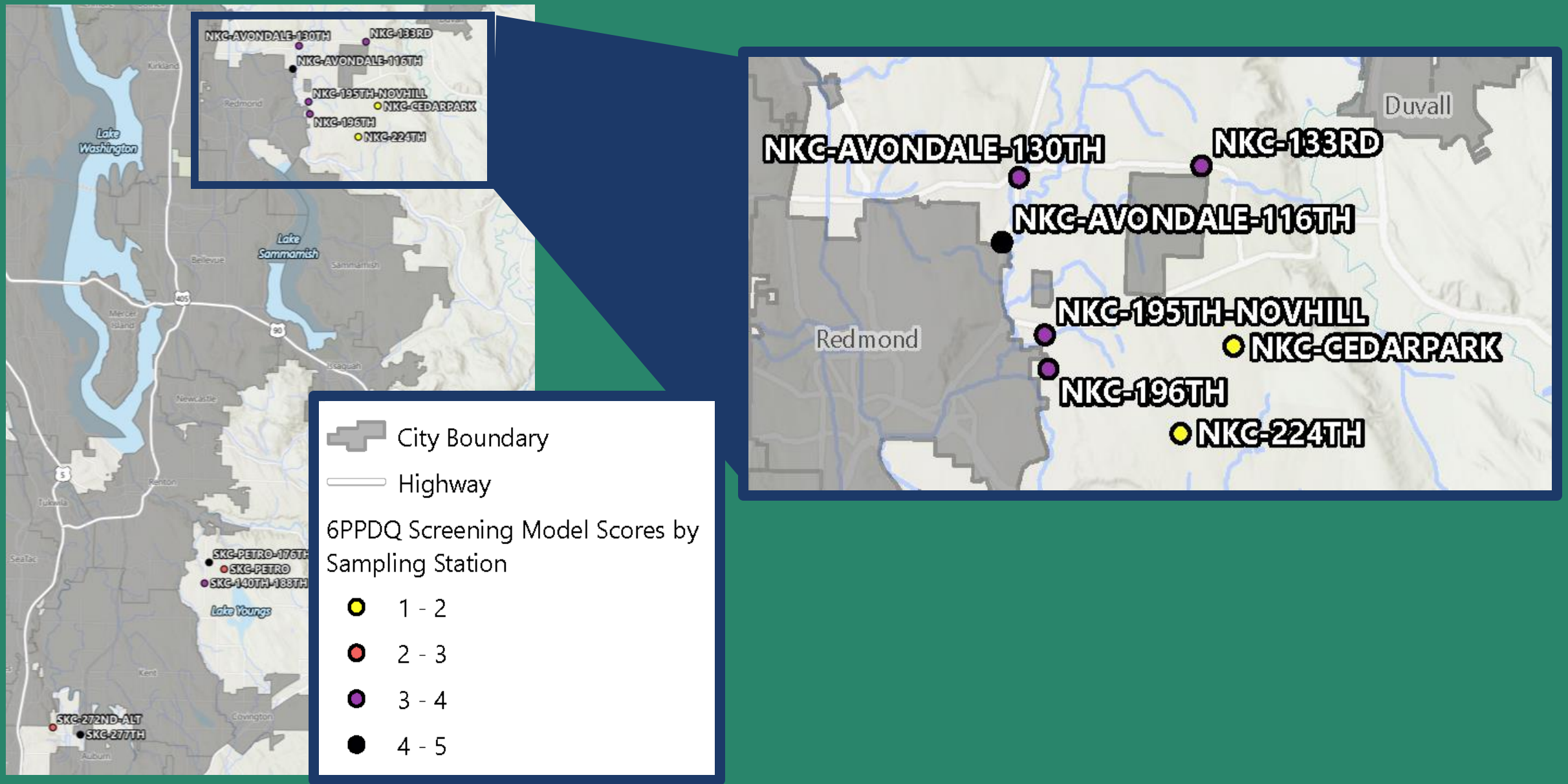
Salmon Protection

Equity & Social Justice

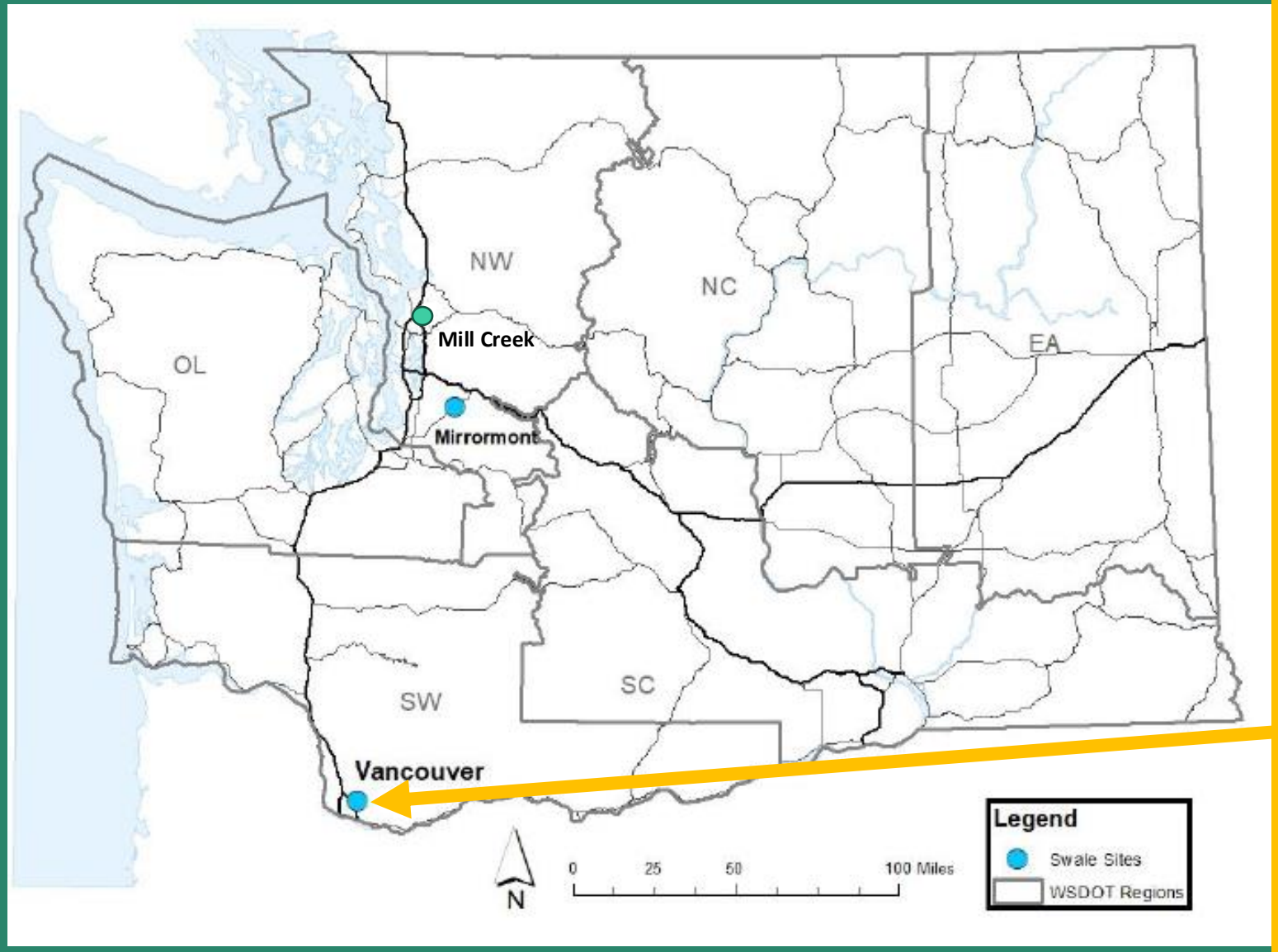


Retrofit priority

Sampling will help us validate the hotspot model.



Partnering with WSDOT to add highways and BMP testing!



Other work

King County

- Tire Particle Collector (vehicle attachment for source control)
- Synthetic turf testing (PFAS and 6PPDQ)
- Kokanee toxicity testing
- Public health – biomonitoring study

Collaborations

- WSU – Ani Jayakaran
  - Wet pond & ditch treatment
  - Particle transport
- Ecology - Rhea Smith
  - Monitoring methods

Don't Wait to INFLATE

FIND A NEARBY AIR STATION

Contributors and Partners

- WA Dept. of Ecology
- WSDOT
- Curtis Hinman & Associates
- Herrera Environmental, Inc.
- RKI
- King County
  - Environmental Lab
  - Roads Services team
  - Stormwater Services - John Brosnan and Leah Mikulsky
  - Science Section – Chelsea Mitchell, Carly Greyell, Jennifer Lanksbury, Analise Lindborg