

# Prioritizing Stream Restoration Based on B-IBI

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**King County**

Department of  
Natural Resources and Parks  
**Water and Land Resources Division**

B-IBI Restoration Priorities Stakeholder Meeting 3/19/14

# Workshop Overview:

- Background and Goals
- Roundtable Introductions
- PS Watershed Characterization Model
- BREAK
- Restoration Decision Framework: Criteria
- Stakeholder Voting: Criteria
- Next Steps



# B-IBI: PSP Vital Sign Indicator



# Ecosystem Recovery Targets


## Freshwater Quality B-IBI Targets by 2020:


- PROTECTION - All stream drainage areas retain “excellent”
- RESTORATION - 30 basins improve from “fair” to “good”

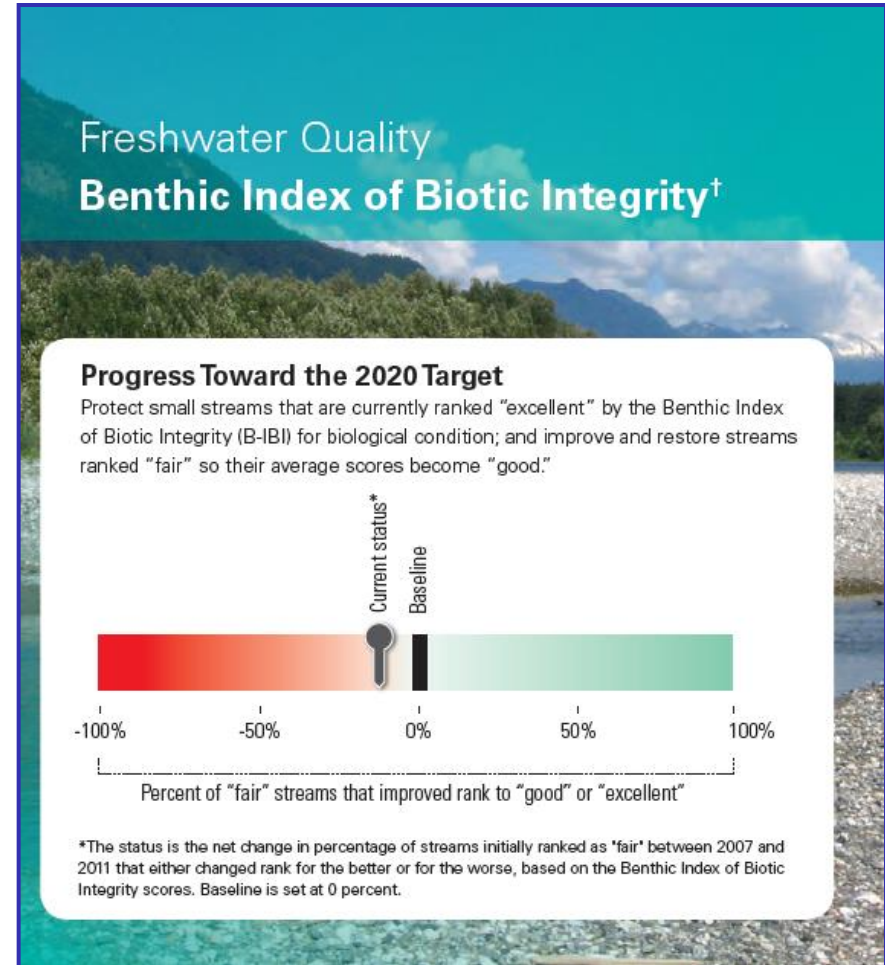


# State of the Sound

 On the ground progress towards targets: none

 Funding for King Co. to prioritize basins & develop strategies (this project)

 Currently no funding for restoration & protection implementation or effectiveness monitoring





# Download B-IBI Data

## Puget Sound Stream Benthos

Home Analysis ▸ Monitoring Projects ▸ Login About Us Site Map

Analysis: [Benthic Index of Biotic Integrity](#)

Show Criteria

Clear & Use Default Options

Show More Options

Area

Project

Location or Keyword

All Puget Sound Streams

All Projects

Open in new tab

Plot on Map

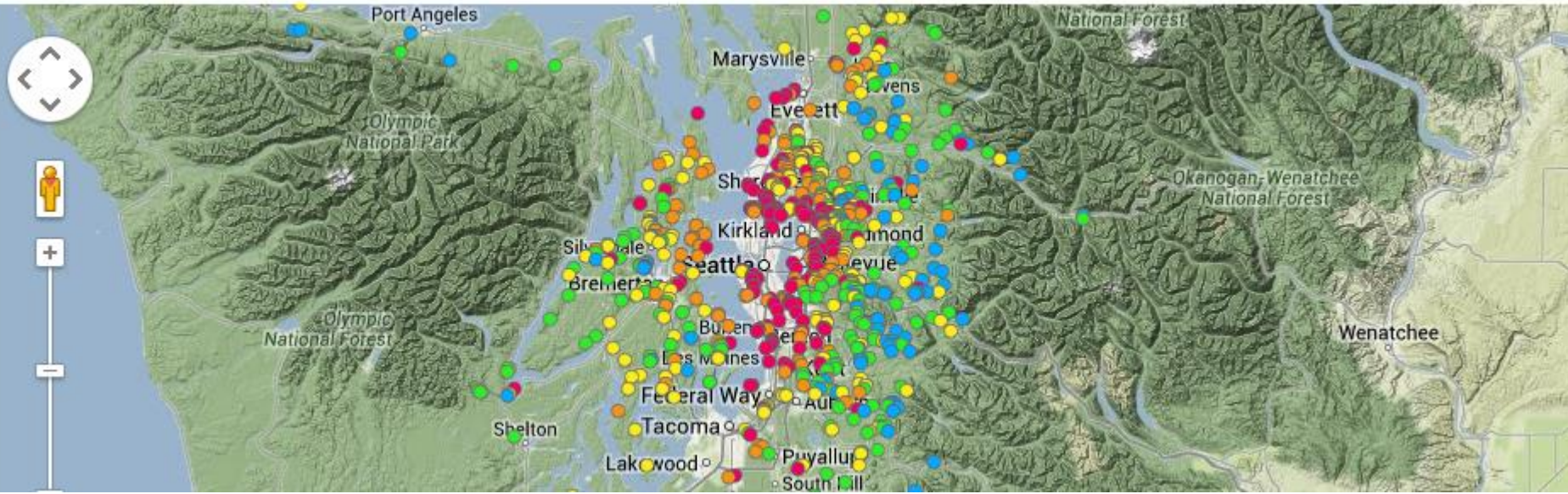
Tabulate

Tabulate Trend

Chart Trend

Show Samples

Download...




# “Excellent” Sites ( $\geq 42$ ) = Protection

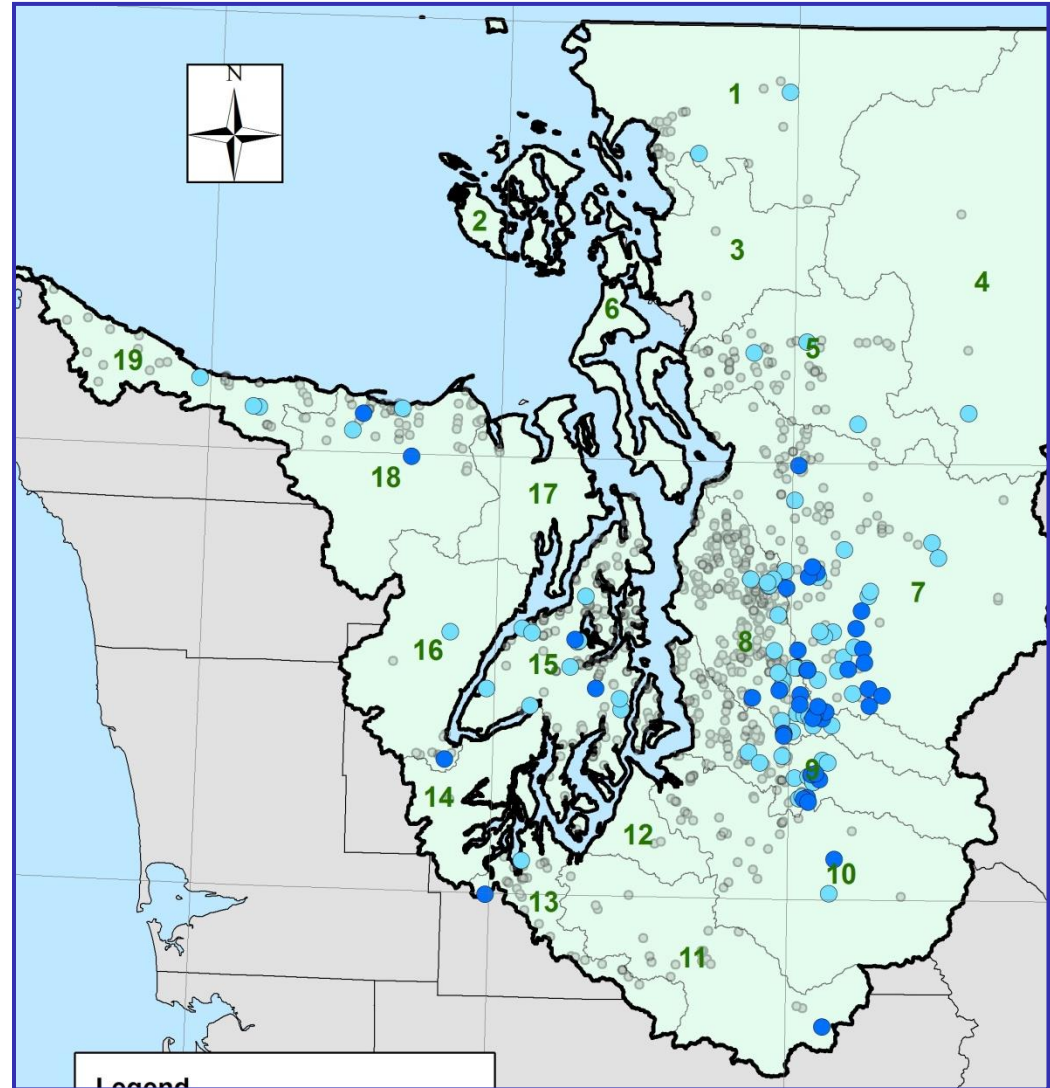
“Excellent” scores

●  $\geq 46$

●  $\geq 42$  and  $< 46$

 **121** sites scored  
“excellent” at least once

 **33** sites averaged  
“excellent”





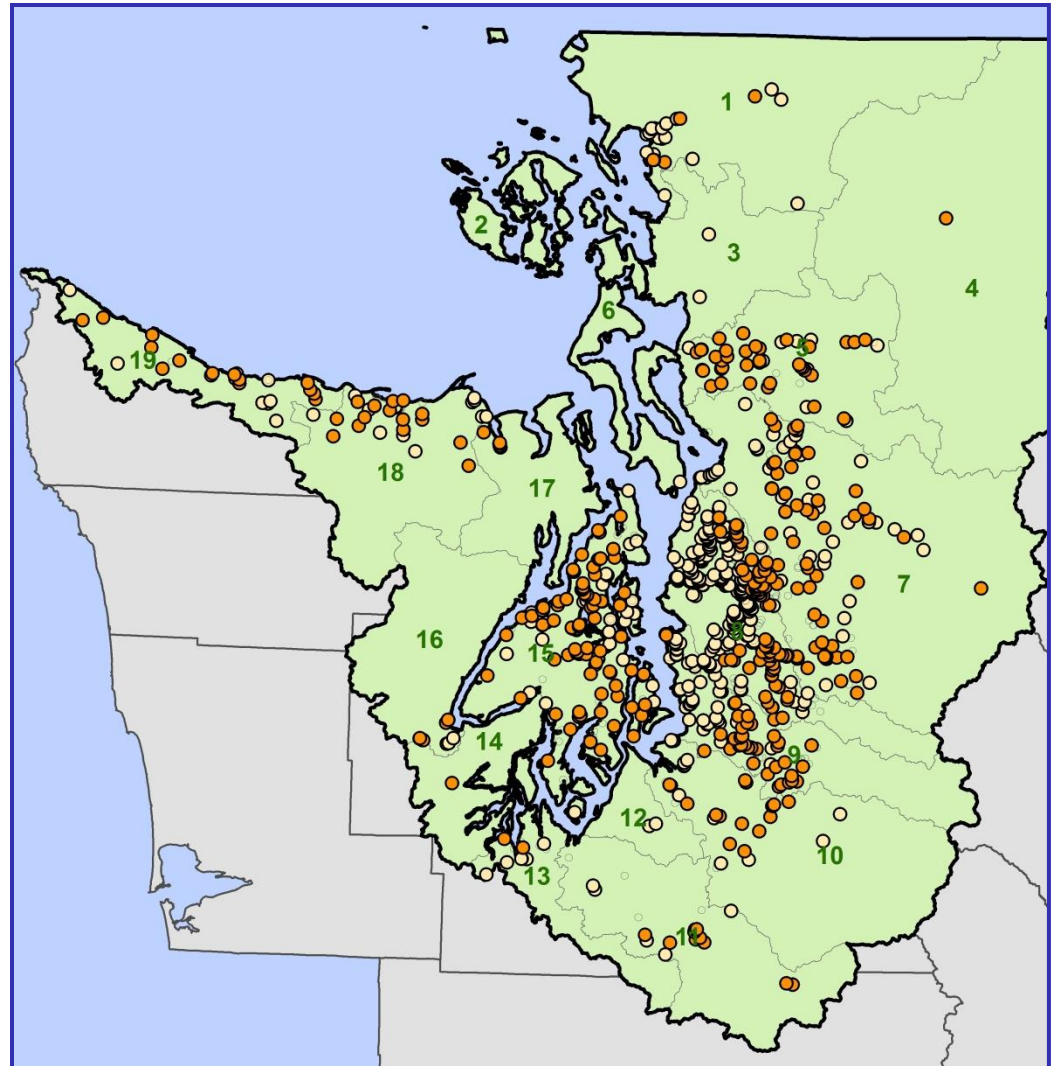
# “Fair” Sites (28-36) = Restoration

● “Fair” average

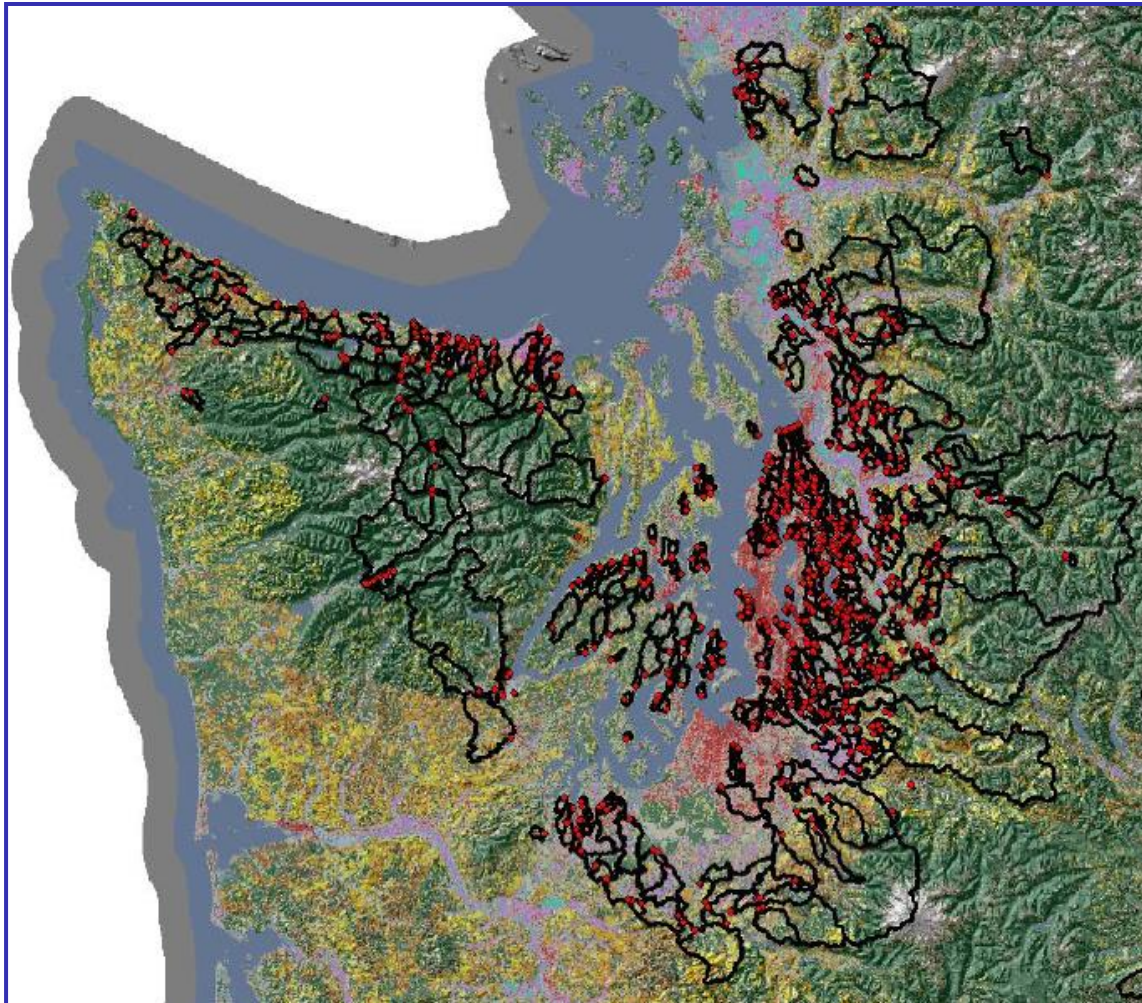
○ “Fair” at least once

🐛 **648** sites scored “fair”  
at least once

🐛 **428** sites averaged  
“fair”



# Landscape Analysis



- Basin delineation
- Scale
  - Watershed
  - Local (1 km)
  - Buffer (90-m)
- Metrics
  - Landcover
  - Geology
  - Fish use
  - Site characteristics

# Restoration Decision Framework

★ **WE ARE HERE AND WE NEED YOUR HELP!**

→ Choose and Define Criteria

→ Stakeholder Input

→ Are the criteria appropriate?

→ How should they be weighted/ranked/ordered?

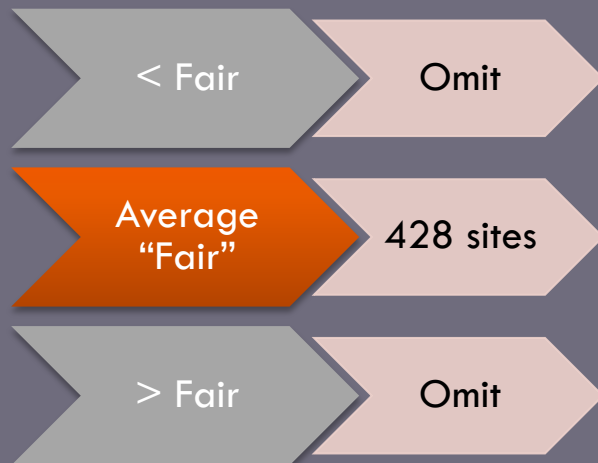
→ Are there accepted thresholds?



# Filter or Rank?

## Filtering

criteria used to reduce number of sites considered



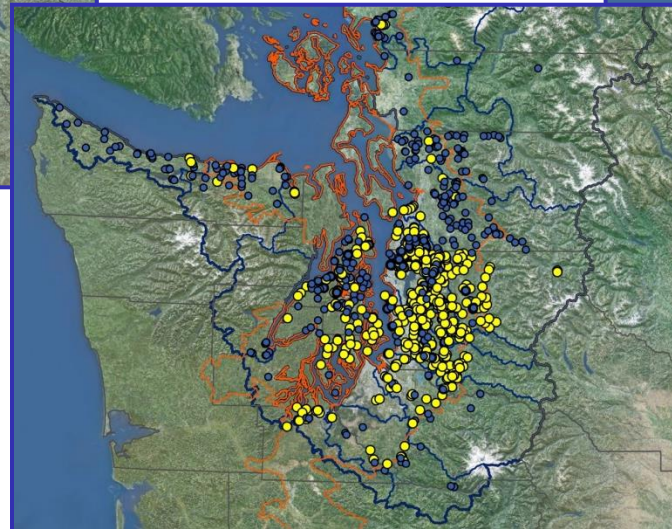
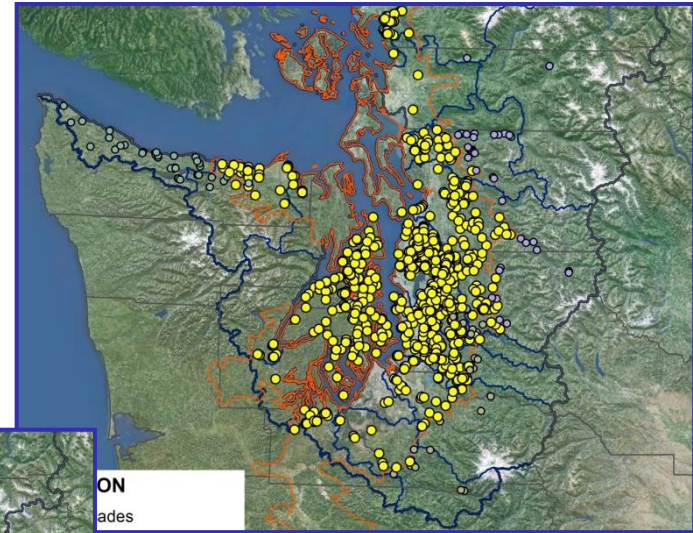
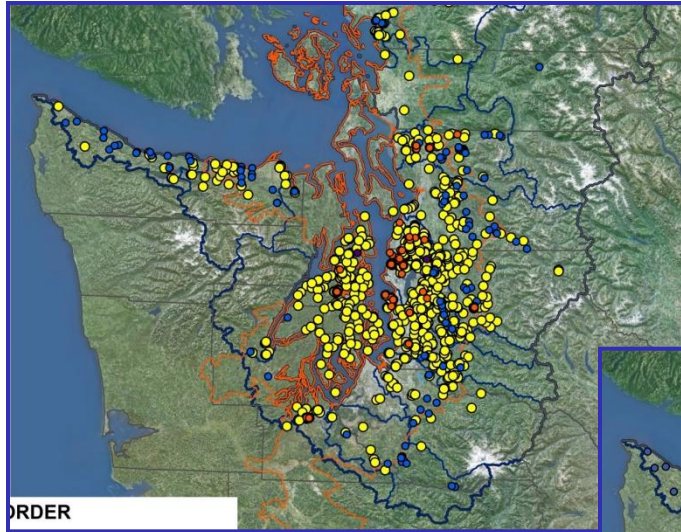
## Ranking

uses a cumulative ranking to assess the criteria and assign a score to each site

	<b>SITE 1</b>	<b>SITE 2</b>
PSWC model ranking	1	0
watershed area	1	1
average "fair" score	1	0
sampling history	0	0
fish use	0	2
% natural buffer	1	0
% urbanization	2	0
watershed context	1	0
urban growth area in/out	0	0
biological potential	1	1
connectivity	1	1
<b>OVERALL SCORE</b>	<b>9</b>	<b>5</b>

# “Fair” Sites: Initial Filters

Stream Order 1-4

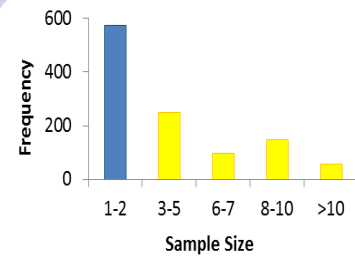
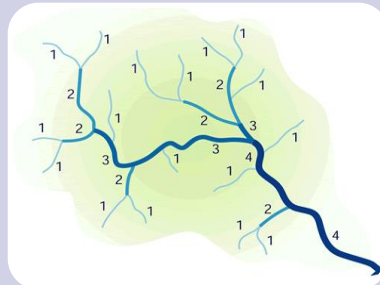


Puget Lowland  
Ecoregion

Sampled > Twice

# “Fair” Sites: Initial Filters

648 sites  
“Fair” > 1



Stream  
Order

492 Sites

$N > 2$

352 Sites

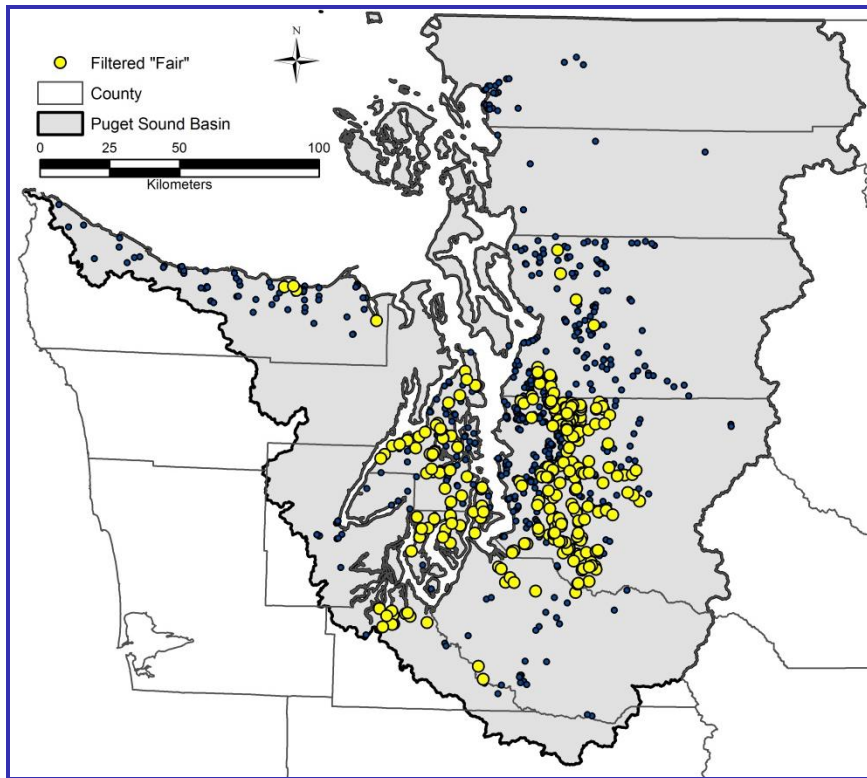
PL  
Ecoregion

530 Sites

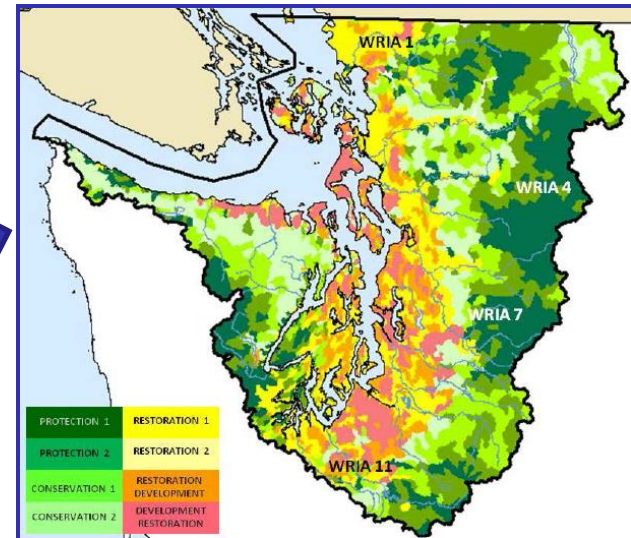
285 sites

# Additional Criteria: Prioritizing

285 sites →



PS Watershed Characterization



Site Characteristics

Buffer & WS Landcover

Fish Use

Biological Potential

→ 30 sites

# Questions So Far?



## Top Objective For Today?

🐛 Get feedback on criteria for the restoration decision framework

🐛 You can also send comments and suggestions to:

[debra.bouchard@kingcounty.gov](mailto:debra.bouchard@kingcounty.gov)



# Roundtable

 Quick Introductions

 One Person/Agency

 Connection to B-IBI/Restoration?

