Restoration Decision Making Framework: Criteria

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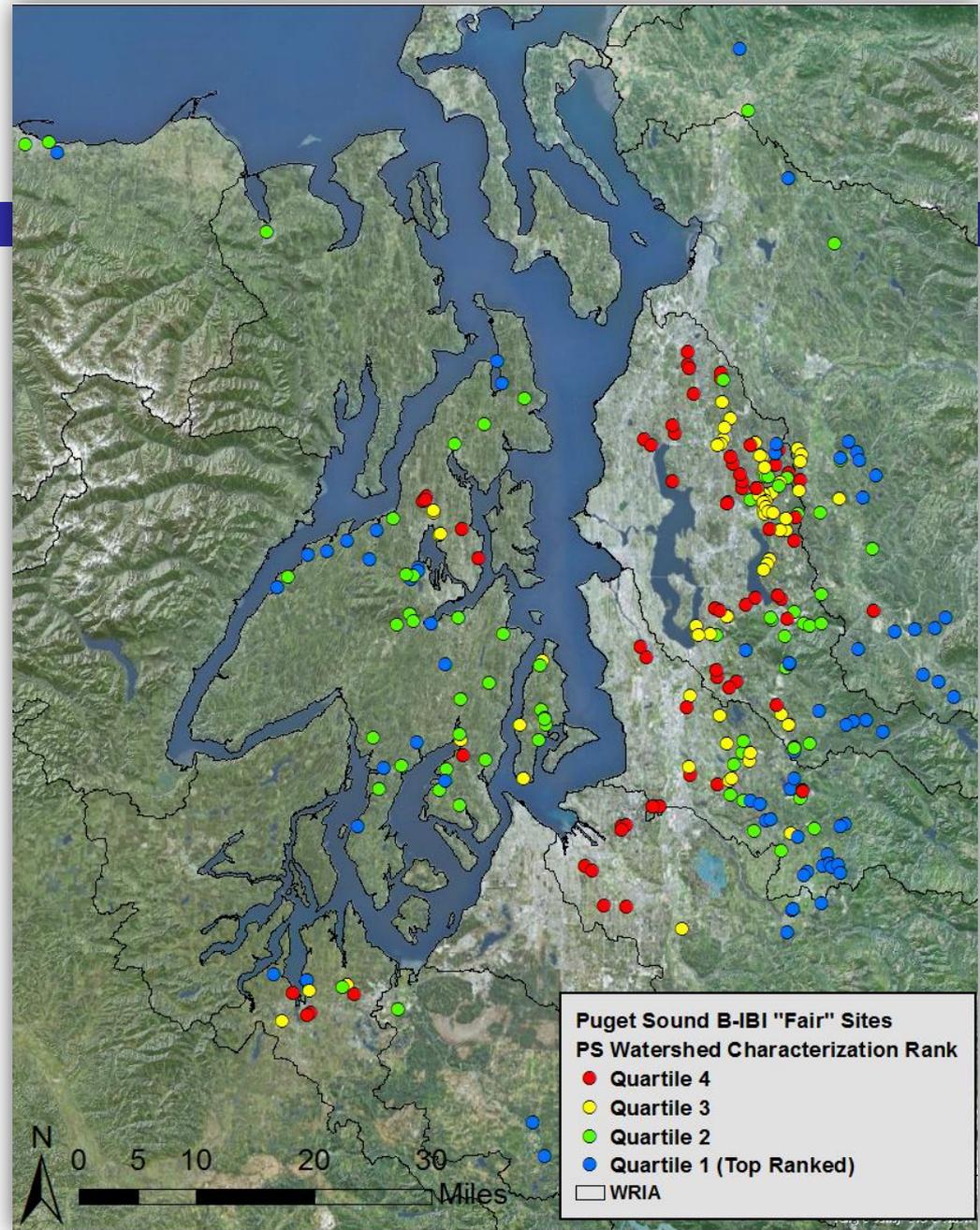**Water and Land Resources Division**

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

Decision Making Framework Criteria

- ✓ PS Watershed Characterization model
- ✓ watershed area
- ✓ average "fair" score
- ✓ sampling history
- ✓ threatened fish
- ✓ % natural buffer
- ✓ % urbanization
- ✓ watershed context
- ✓ urban growth area (UGA)
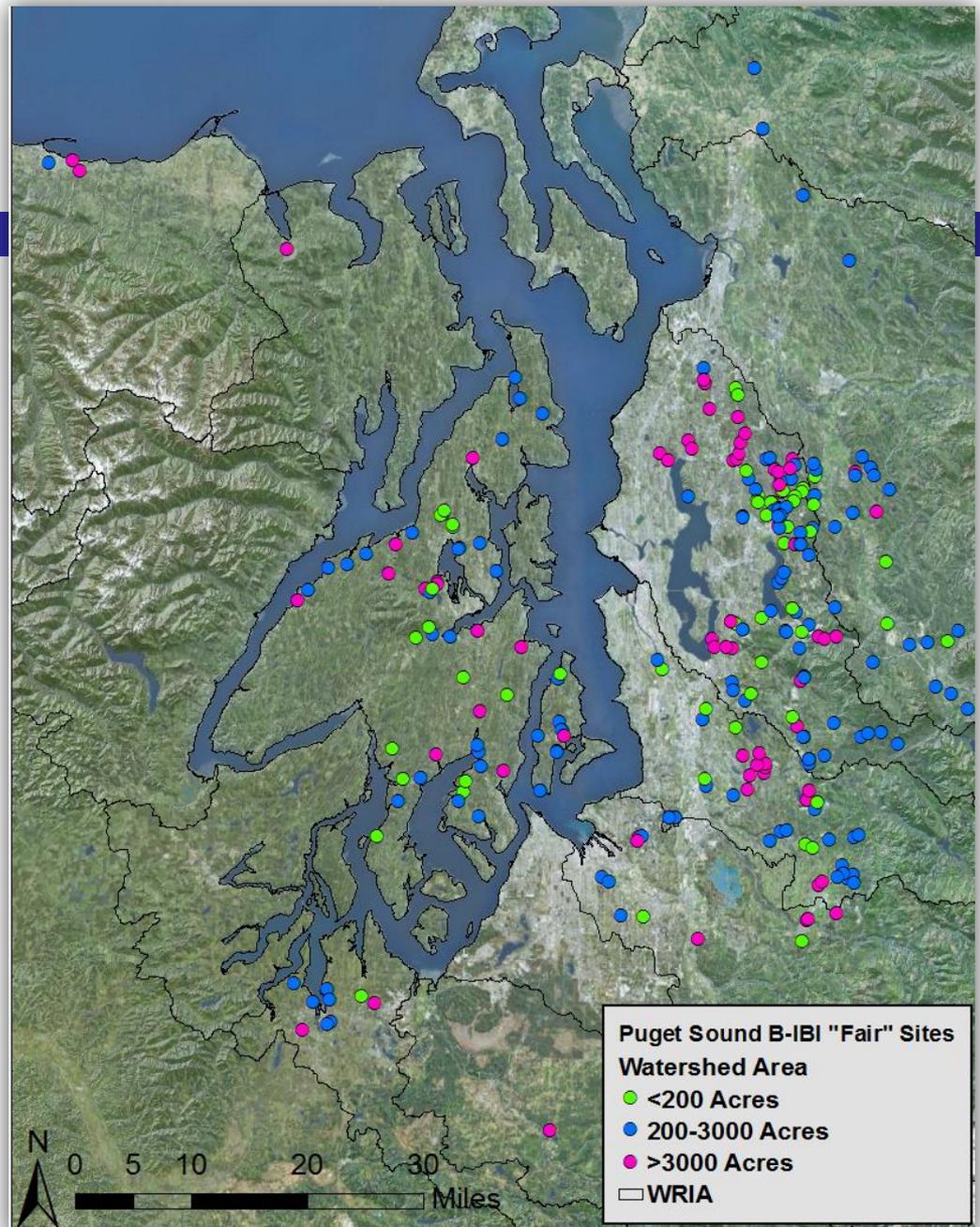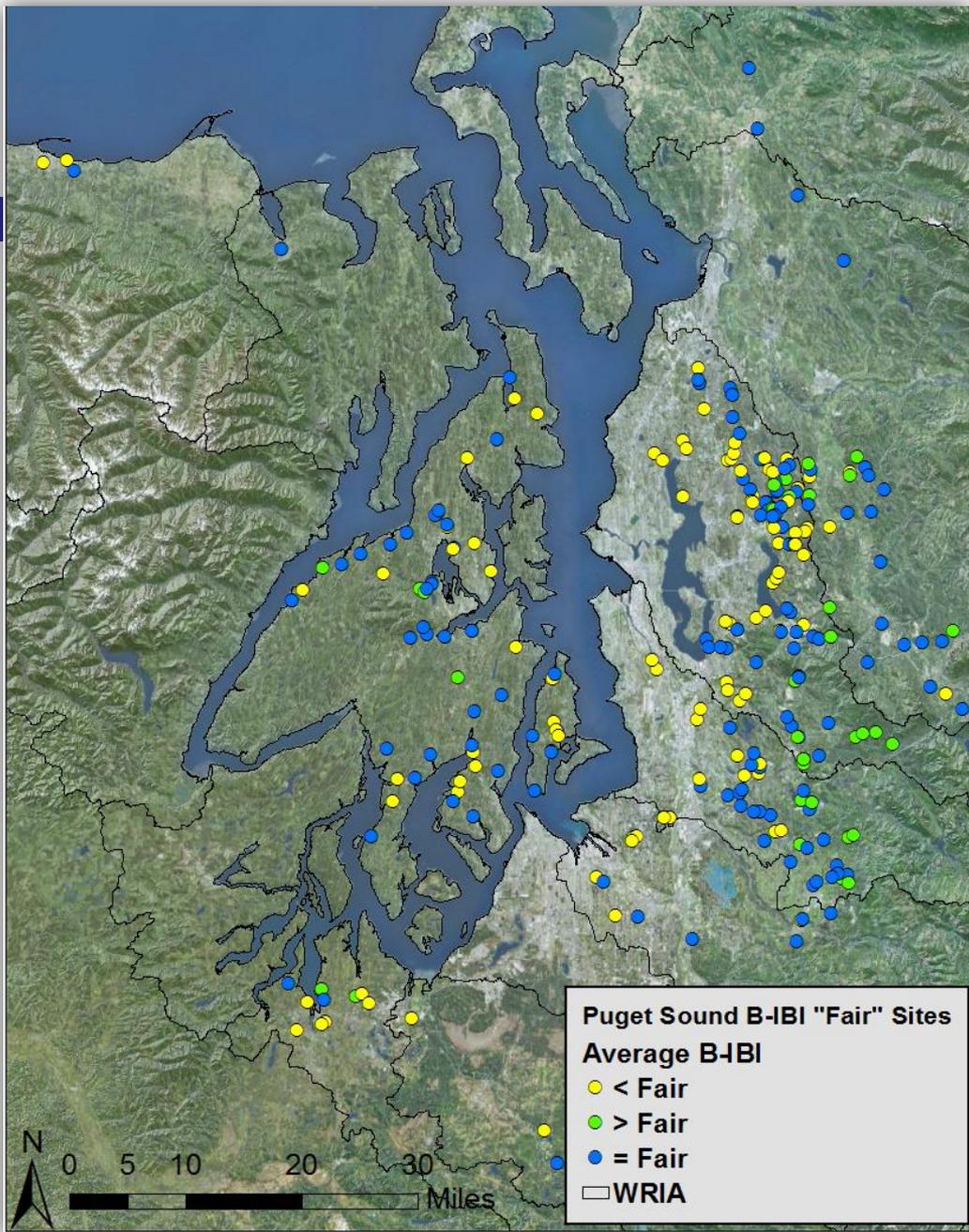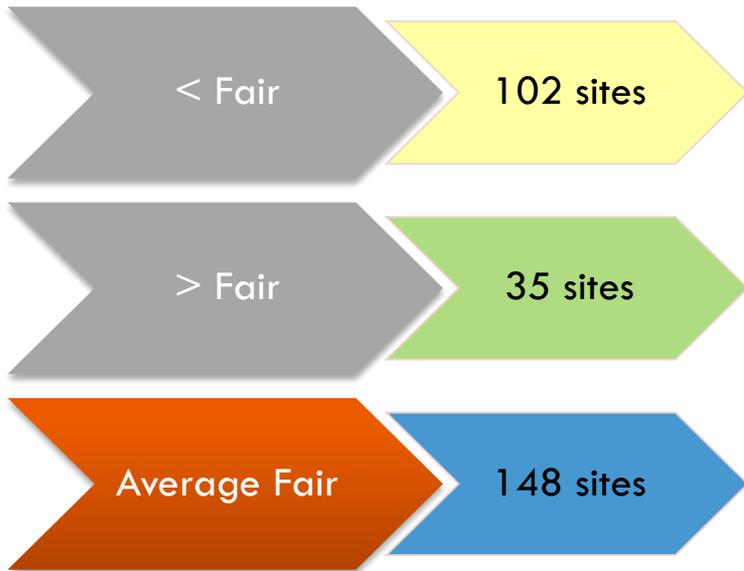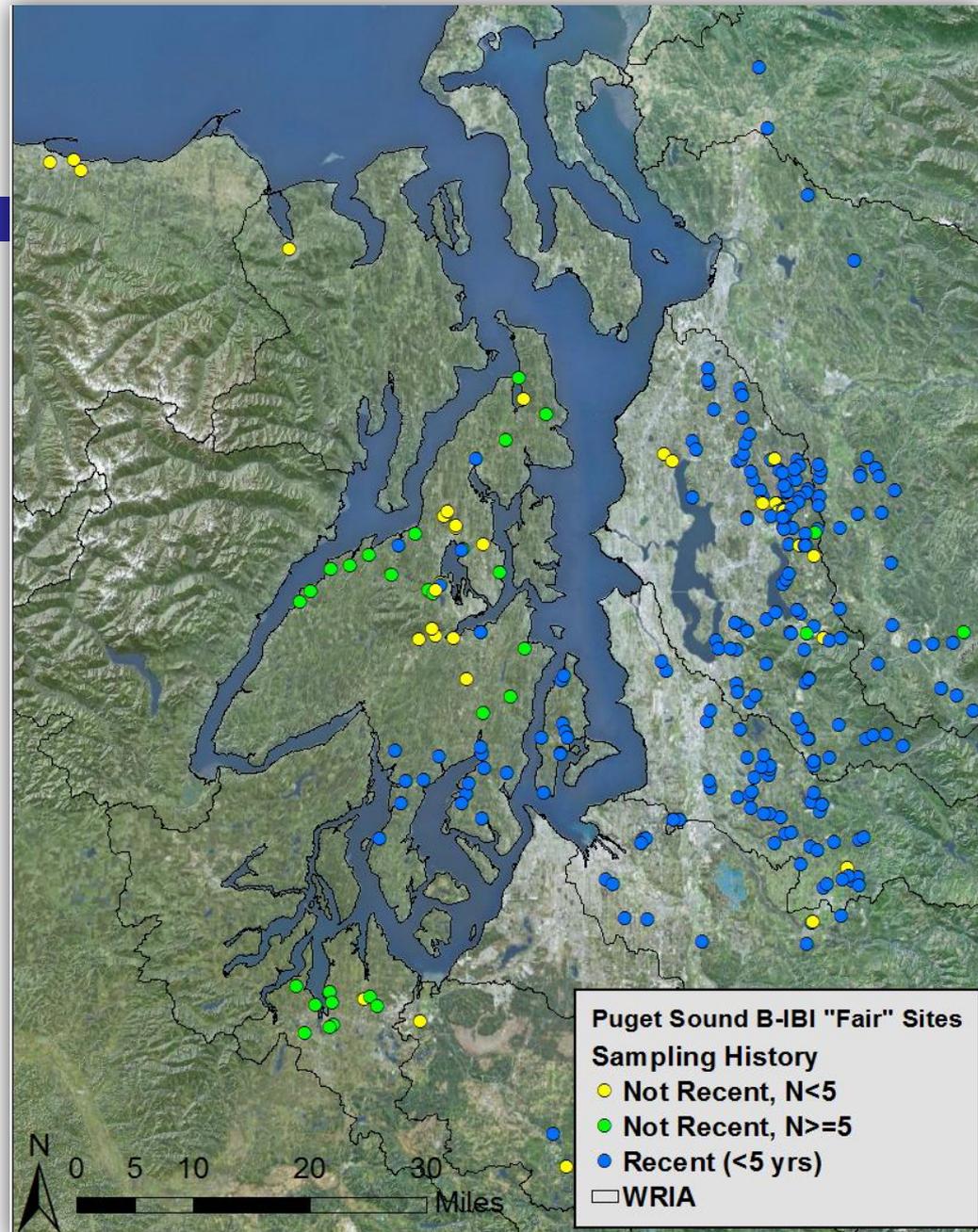- ✓ biological potential (Paul et. al.)
- ✓ connectivity
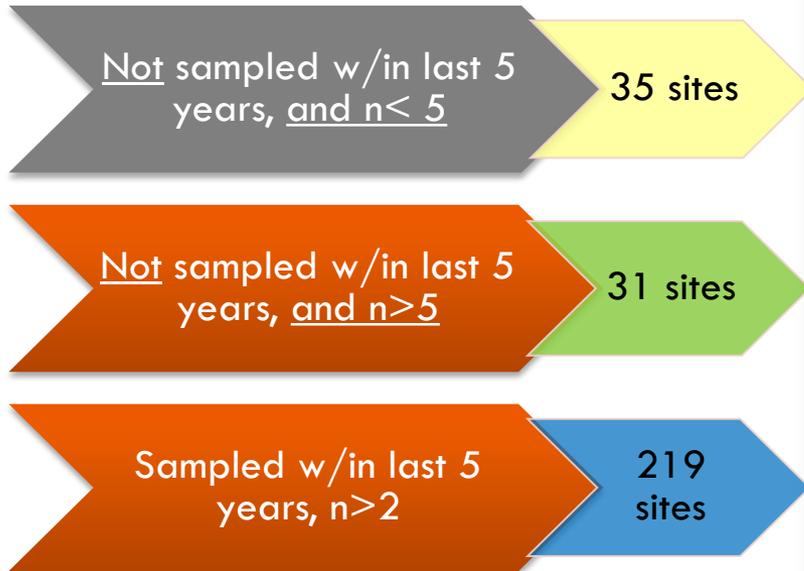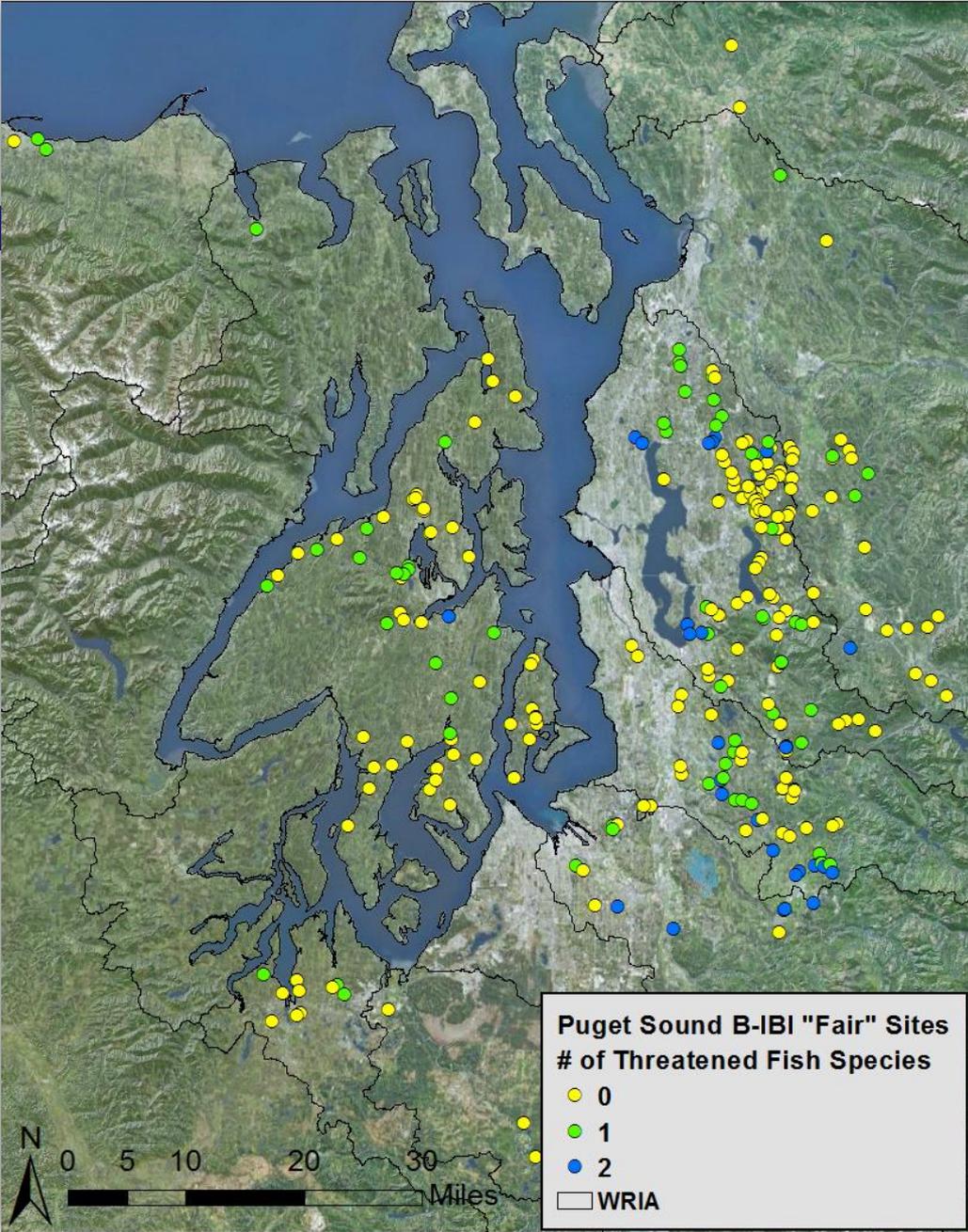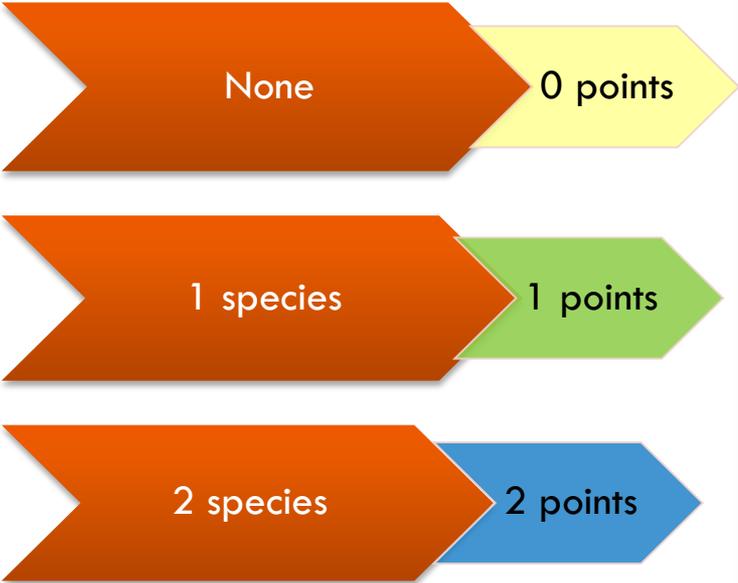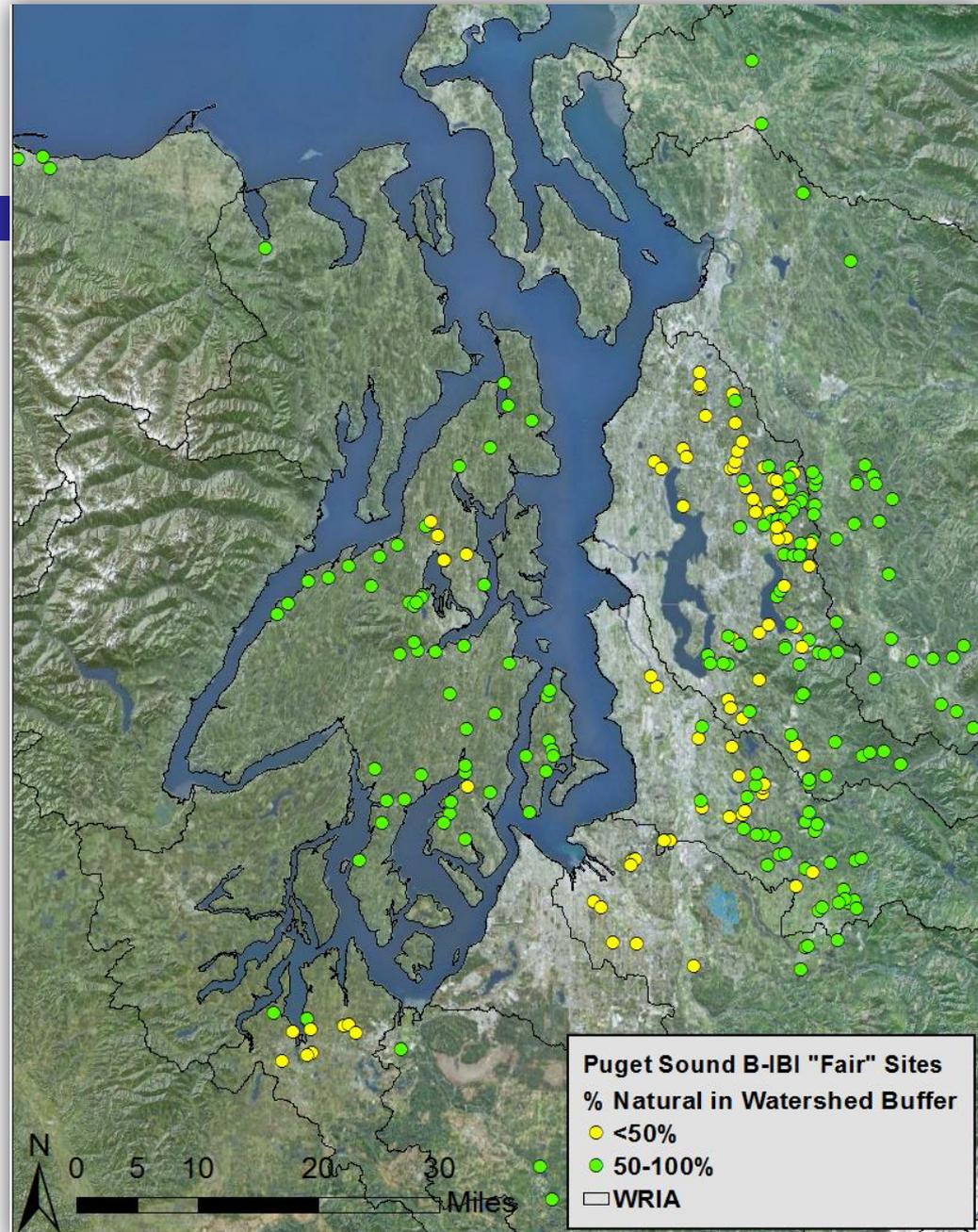
PSWC model

Bottom 25% → 0 points

3rd Quartile → 1 point

2nd Quartile → 2 points

Top 25% → 2 points

Puget Sound B-IBI "Fair" Sites
PS Watershed Characterization Rank
- ● Quartile 4
- ● Quartile 3
- ● Quartile 2
- ● Quartile 1 (Top Ranked)
- ☐ WRIA

N

0 5 10   20   30   Miles

Watershed Area

< 200 acres — 42 sites

Between 200 and 3000 acres — 146 sites

> 3000 acres — 82 sites

* 15 basins not yet defined

Puget Sound B-IBI "Fair" Sites
Watershed Area
- <200 Acres
- 200-3000 Acres
- >3000 Acres
- WRIA

N

0 5 10 20 30 Miles

Mean B-IBI Score

< Fair   102 sites

> Fair   35 sites

Average Fair   148 sites

Puget Sound B-IBI "Fair" Sites
Average B-IBI
- ● < Fair
- ● > Fair
- ● = Fair
- ☐ WRIA

N

0 5 10 20 30 Miles

Sampling History

Not sampled w/in last 5 years, and n< 5 → 35 sites

Not sampled w/in last 5 years, and n>5 → 31 sites

Sampled w/in last 5 years, n>2 → 219 sites

Puget Sound B-IBI "Fair" Sites
Sampling History
● Not Recent, N<5
● Not Recent, N>=5
● Recent (<5 yrs)
▭ WRIA

N

0 5 10   20   30
Miles

Threatened Fish

None | 0 points

1 species | 1 points

2 species | 2 points

Puget Sound B-IBI "Fair" Sites
# of Threatened Fish Species

- ● 0
- ● 1
- ● 2
- ☐ WRIA

N 0 5 10 20 30 Miles

% Natural Buffer

< 50% → 0 points

> 50% → 1 point

Puget Sound B-IBI "Fair" Sites
% Natural in Watershed Buffer
- <50%
- 50-100%
- WRIA

N

0 5 10 20 30
Miles

% Urbanization

0-10% → 2 points

10-20% → 1 point

20-30% → 0.5 point

> 30 % → 0 points

Puget Sound B-IBI "Fair" Sites
2006 WS Urbanization
- <10%
- 10-20%
- 20-30%
- >30%
- WRIA

N 0 5 10   20   30   Miles

Watershed Context

Worst = 0
- Urban > 30%
- Buffer < 50% natural
  - 76 sites

Moderate = 1
- Urban > 30%
- Buffer > 50% natural
  - 22 sites

Good = 2
- Urban < 30%
- Buffer < 50% natural
  - 21 sites

Best = 2
- Urban < 30%
- Buffer > 50% natural
  - 166 sites

Puget Sound B-IBI "Fair" Sites
Buffer/Watershed Context
- bad/bad
- bad/good
- good/bad
- good/good
- WRIA

N

0 5 10   20   30   Miles

In Urban Growth Area

site and watershed outside — **104 sites**

site outside UGA with portion of watershed inside — **81 sites**

site and watershed inside — **100 sites**

Puget Sound B-IBI "Fair" Sites
UGA_Site_Watershed
- no/no
- no/yes
- yes/yes
- WRIA

N

0 5 10   20   30

Miles
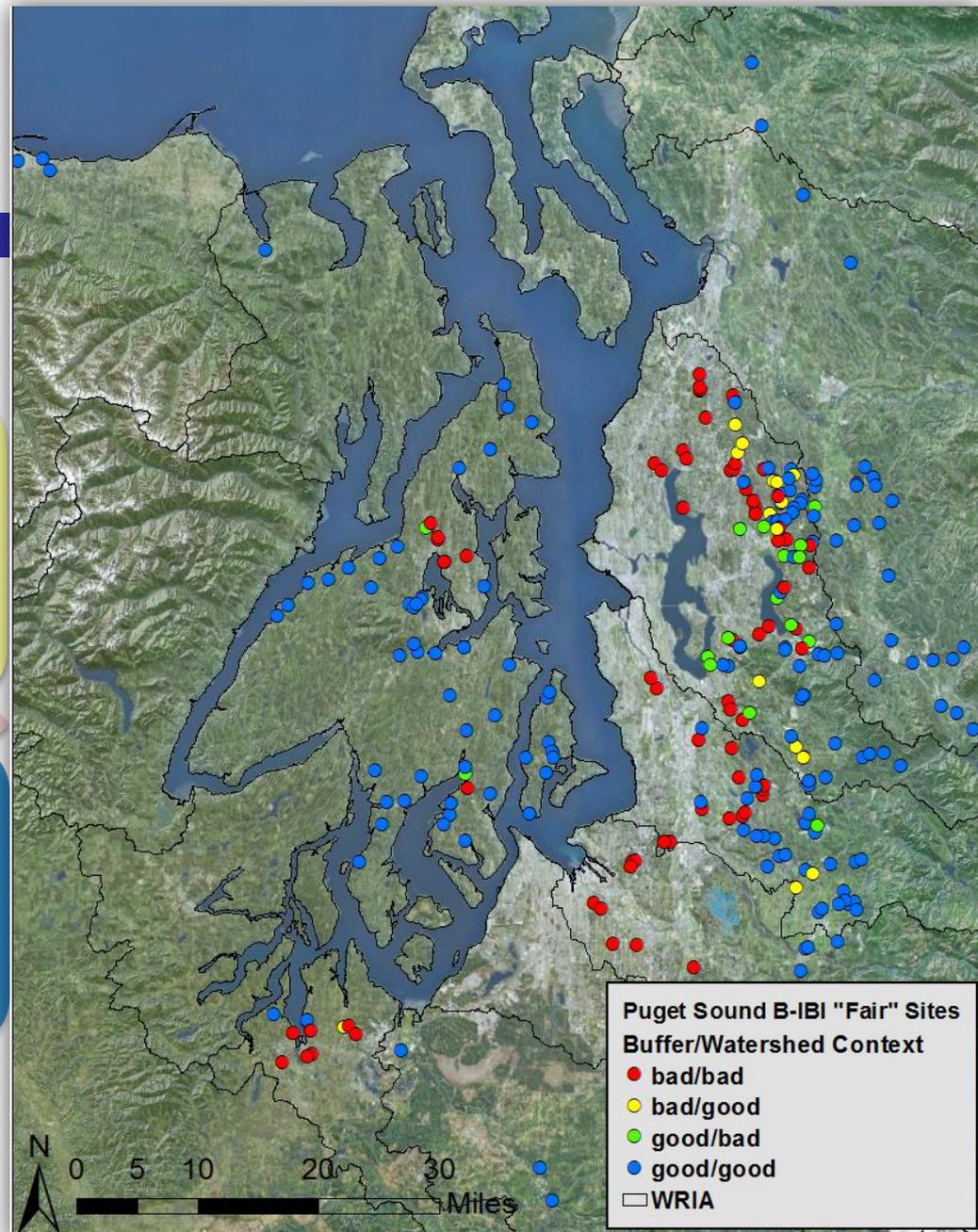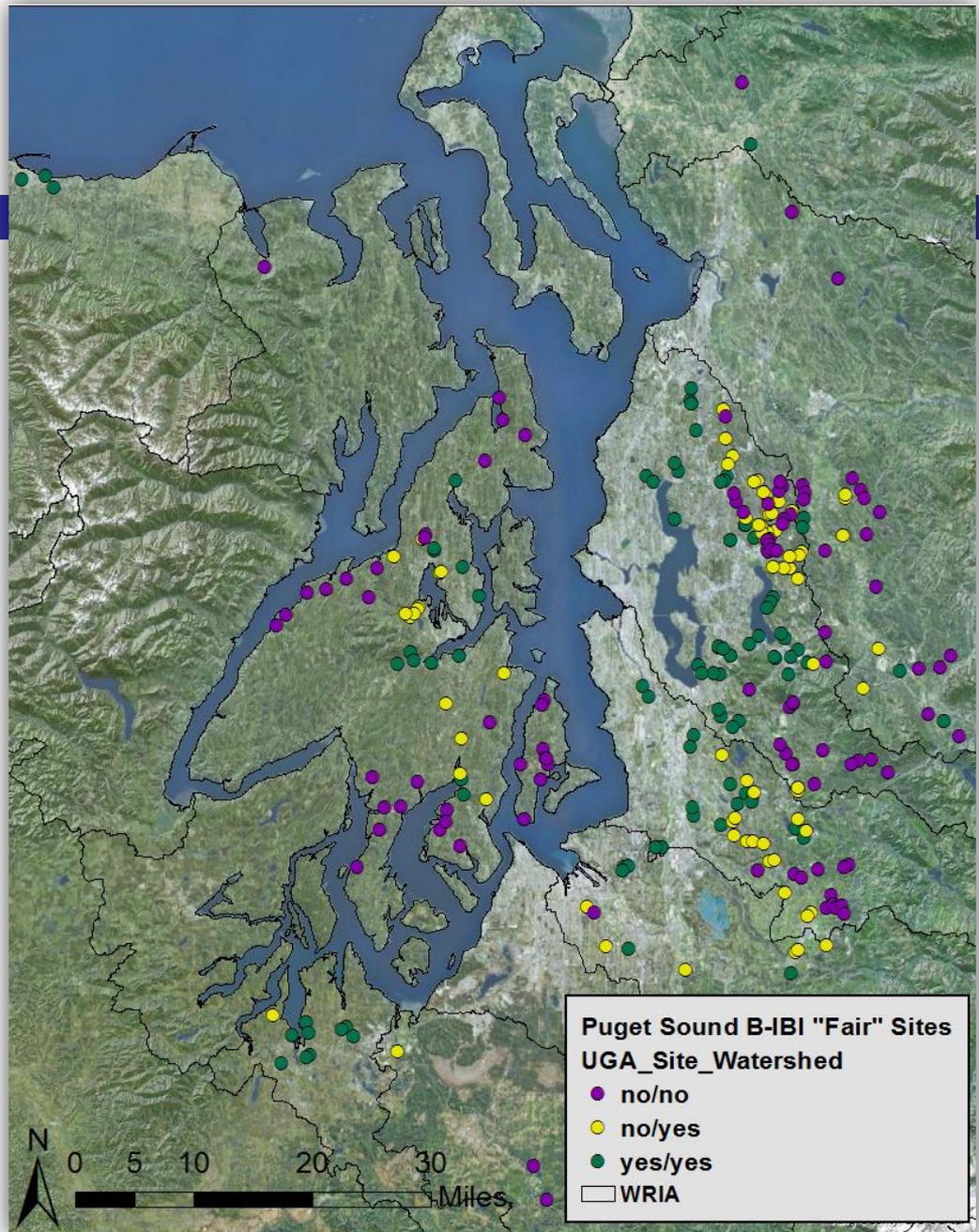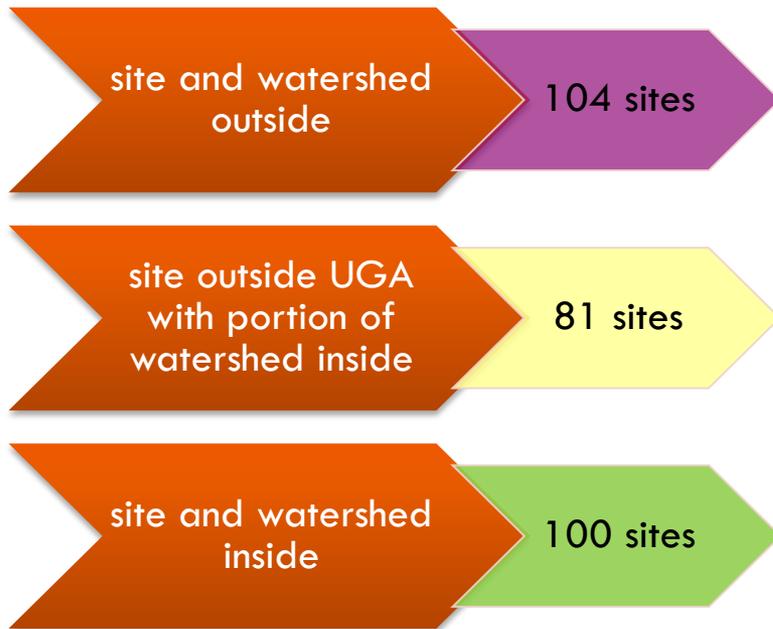
Biotic Potential – all scores
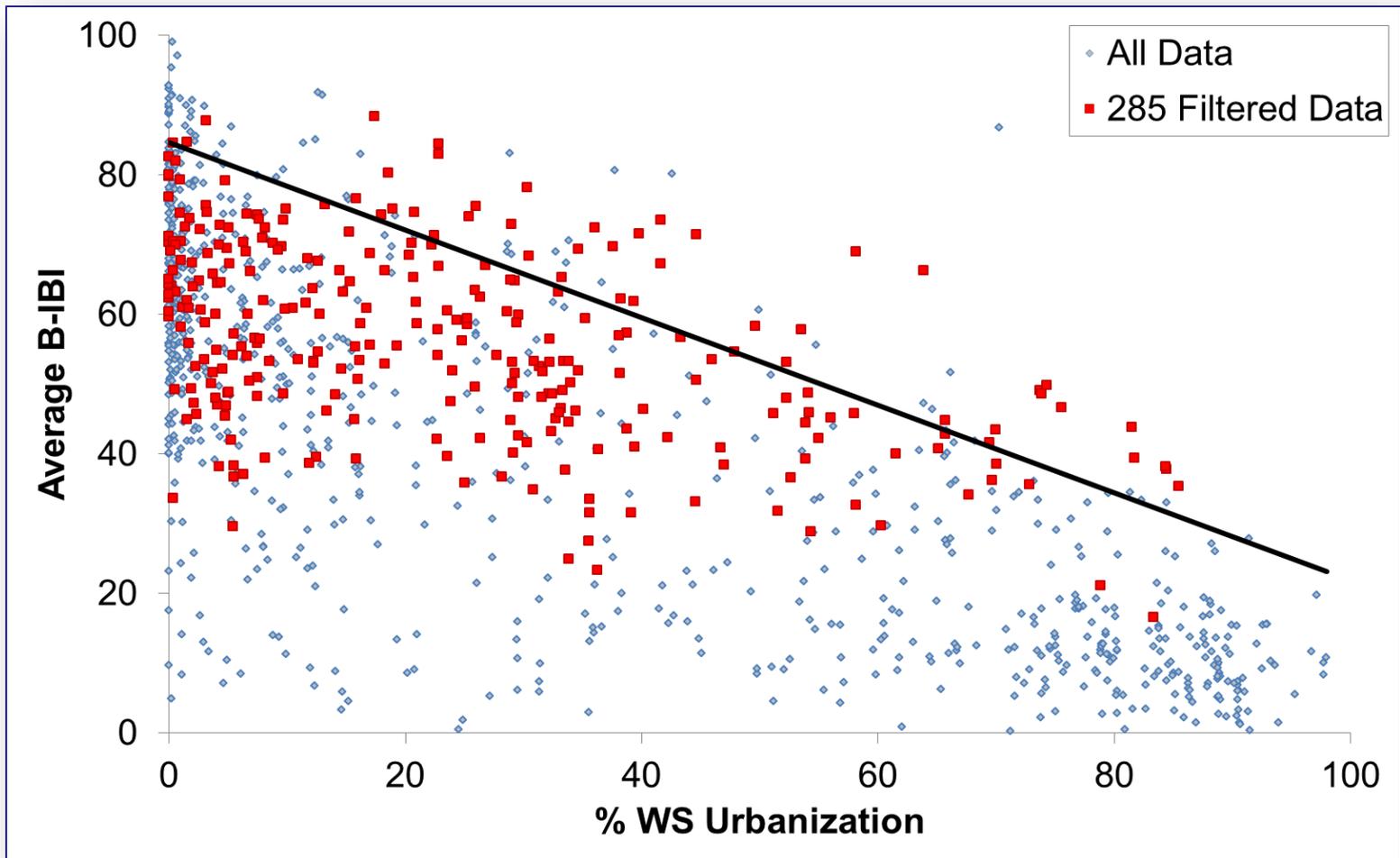
Biotic Potential

Biotic Potential

Bottom 25% — 0 points

3rd Quartile — 1 point

2nd Quartile — 2 points

Top 25% — 3 points

Connectivity

stream distance from source populations

overland distance from source populations
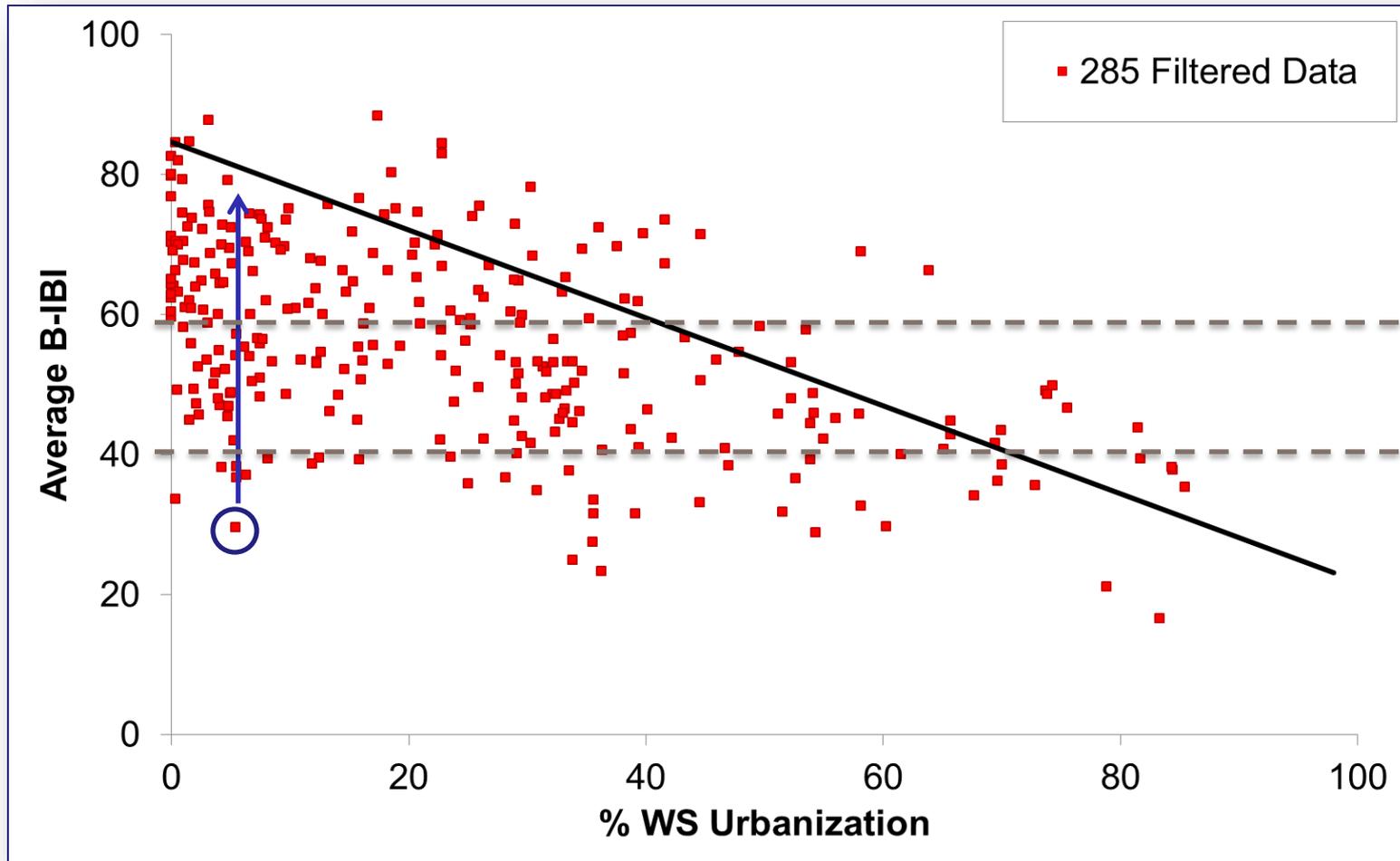
● poor BIBI   ◉ fair BIBI   ● excellent BIBI
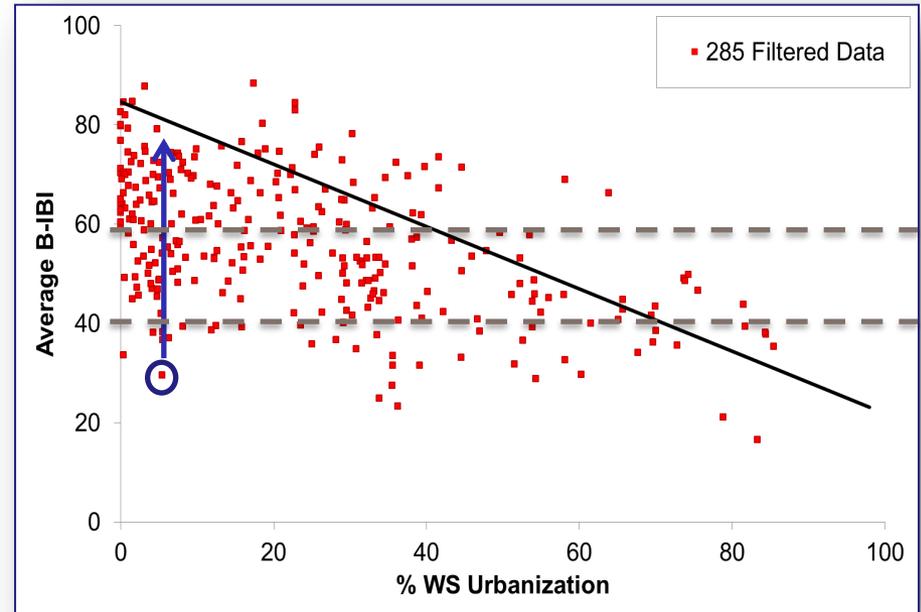
Connectivity
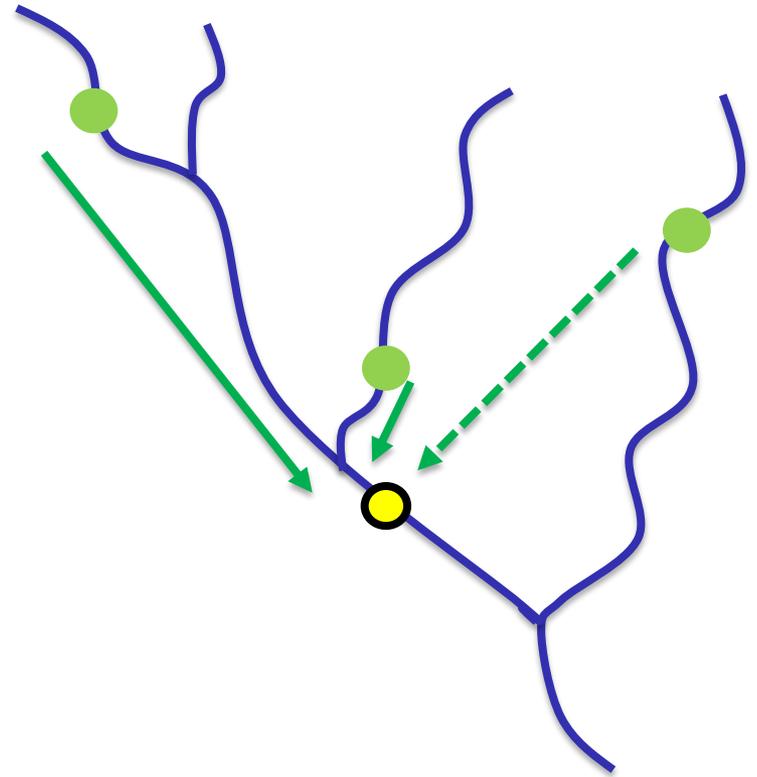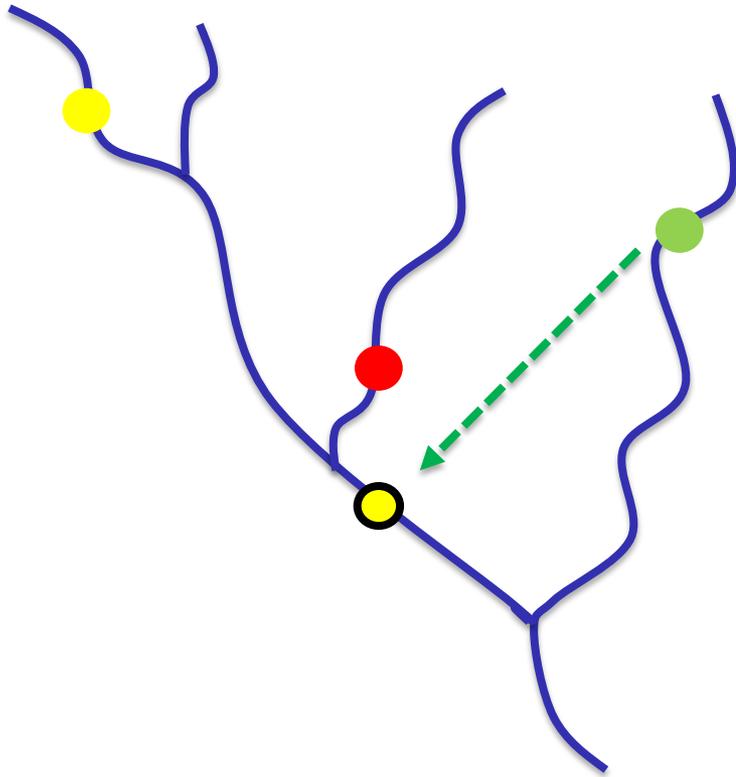
poor BIBI   fair BIBI   excellent BIBI

stream distance from source populations

overland distance from source populations

Connectivity

?
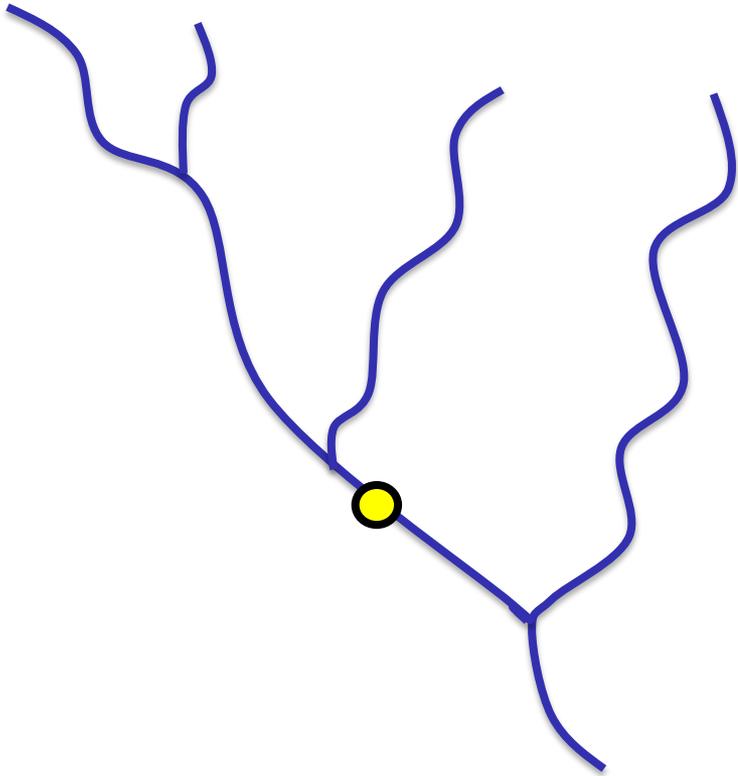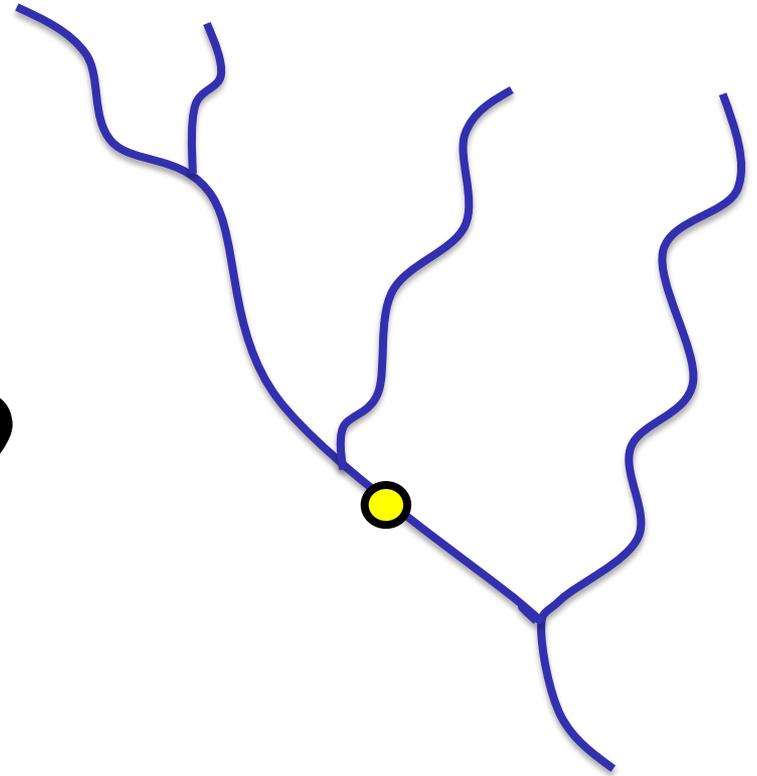
○ fair BIBI

Connectivity
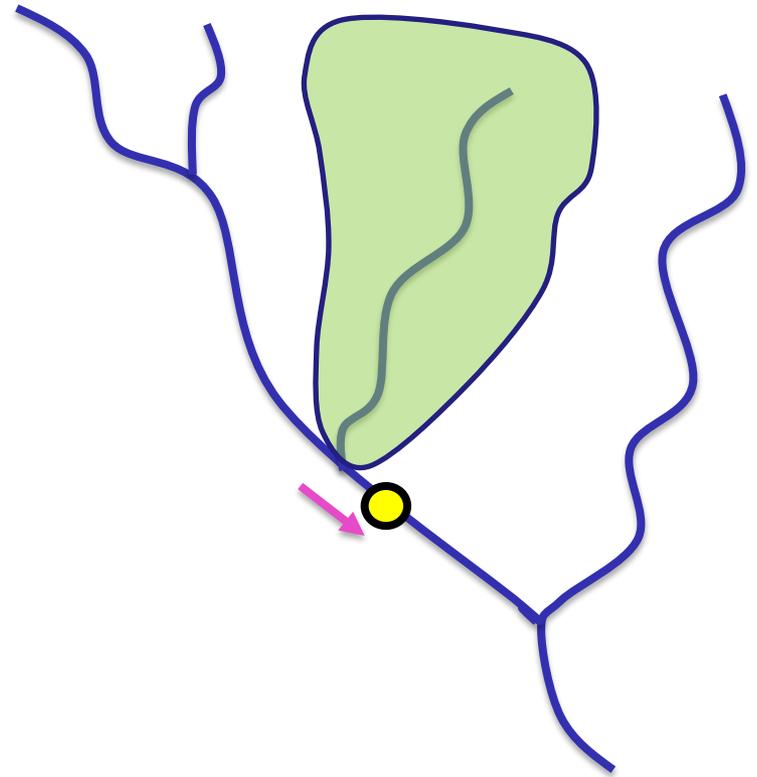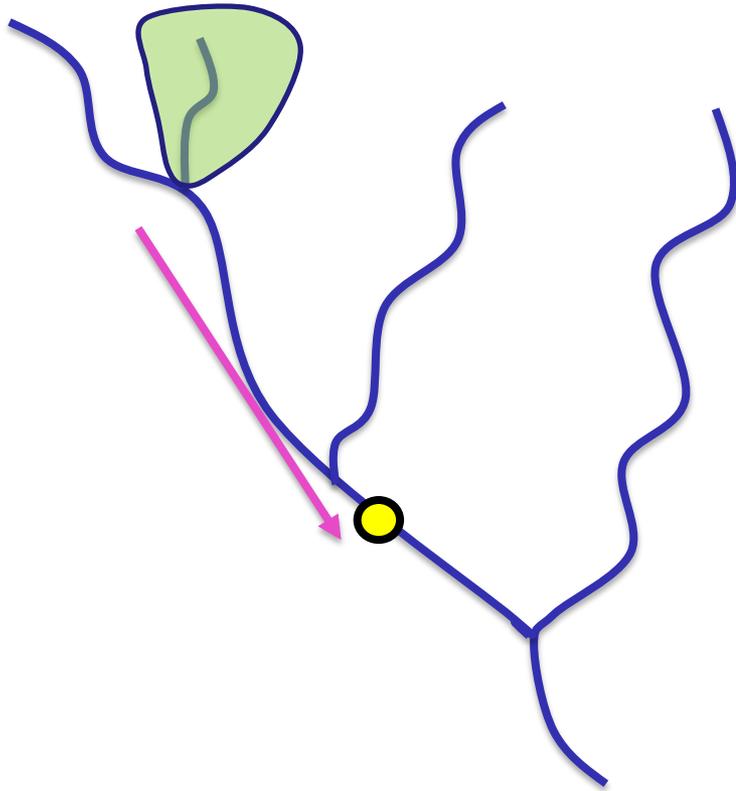
○ fair BIBI   ↘ Distance from *likely* source

Connectivity

Minimal connectivity — 0 points

High connectivity — 1 point
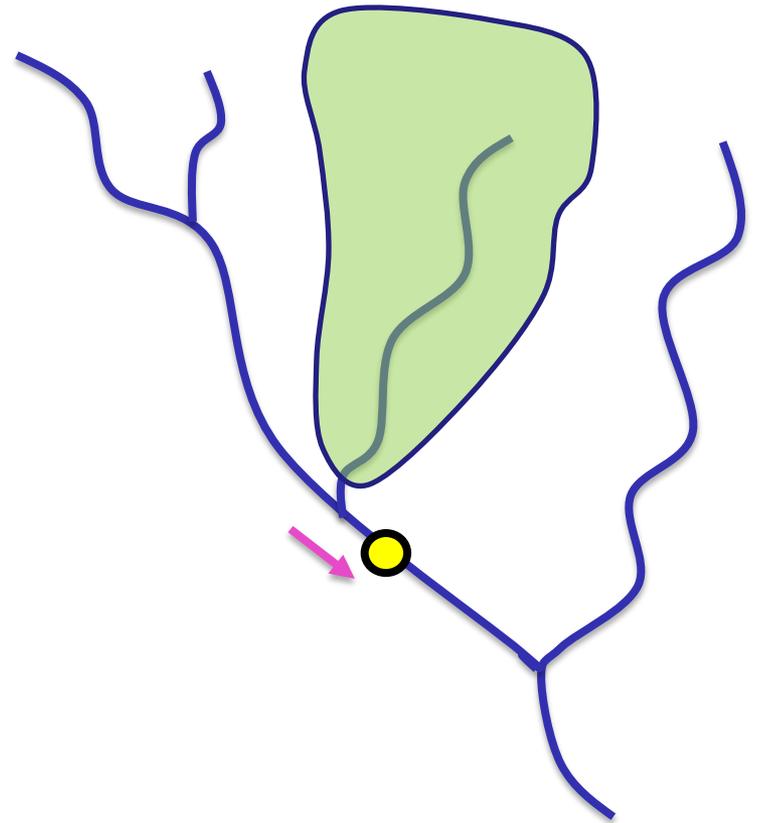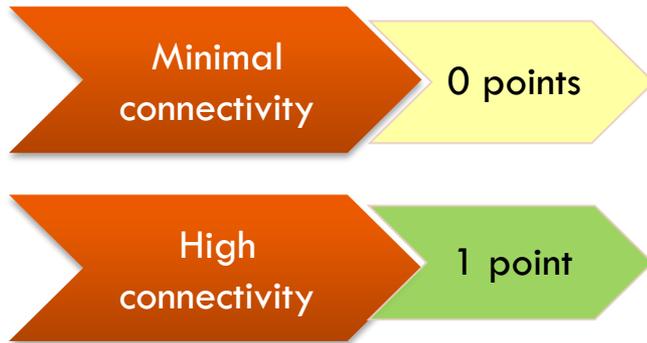
Other Criteria?

Are there other criteria to consider that have widely available data without further monitoring?

- Salmon recovery priorities?
- Ownership?
- Fragmentation?
- Geology?
- Other?
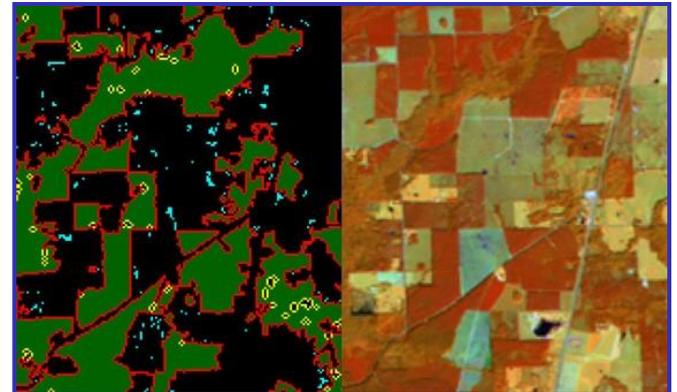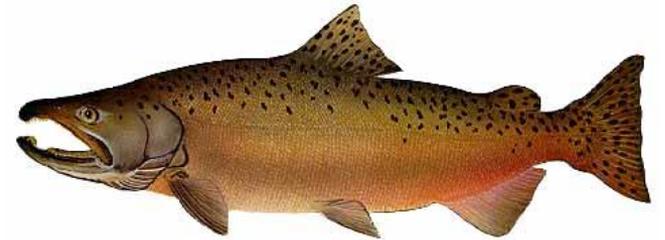
Please send additional comments/suggestions to:

Debra Bouchard, debra.bouchard@kingcounty.gov

Stakeholder Input – vote with dots

- 11criteria posted on back wall
- 11 dots for each participant

Simple Instructions:

Place dots on criteria you think appropriate for the Decision Making Framework.

- one dot on each criteria = all criteria are equally important
- more dots on a criteria = that criteria is more important

FALL 2013   2014   JUNE 2015

Next Steps

PRESERVE

RESTORE

ID "Excellent" Sites

Download B-IBI Data

ID "Fair" Sites

Landscape Analysis

Preservation Strategies

Cost Estimates

★ Decision Framework

Prioritize ~ 30 sites

Restoration Strategies

Stakeholder Feedback
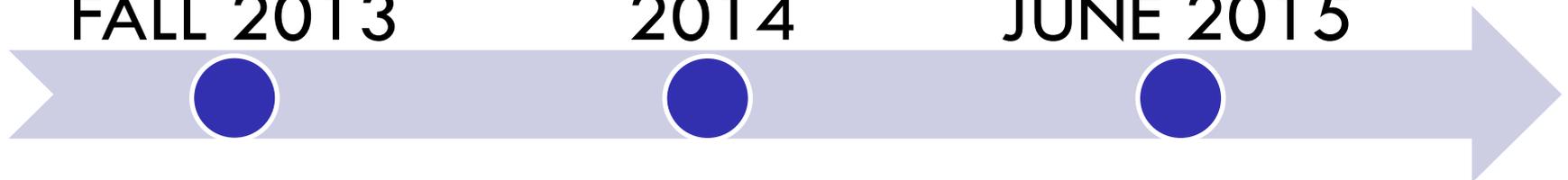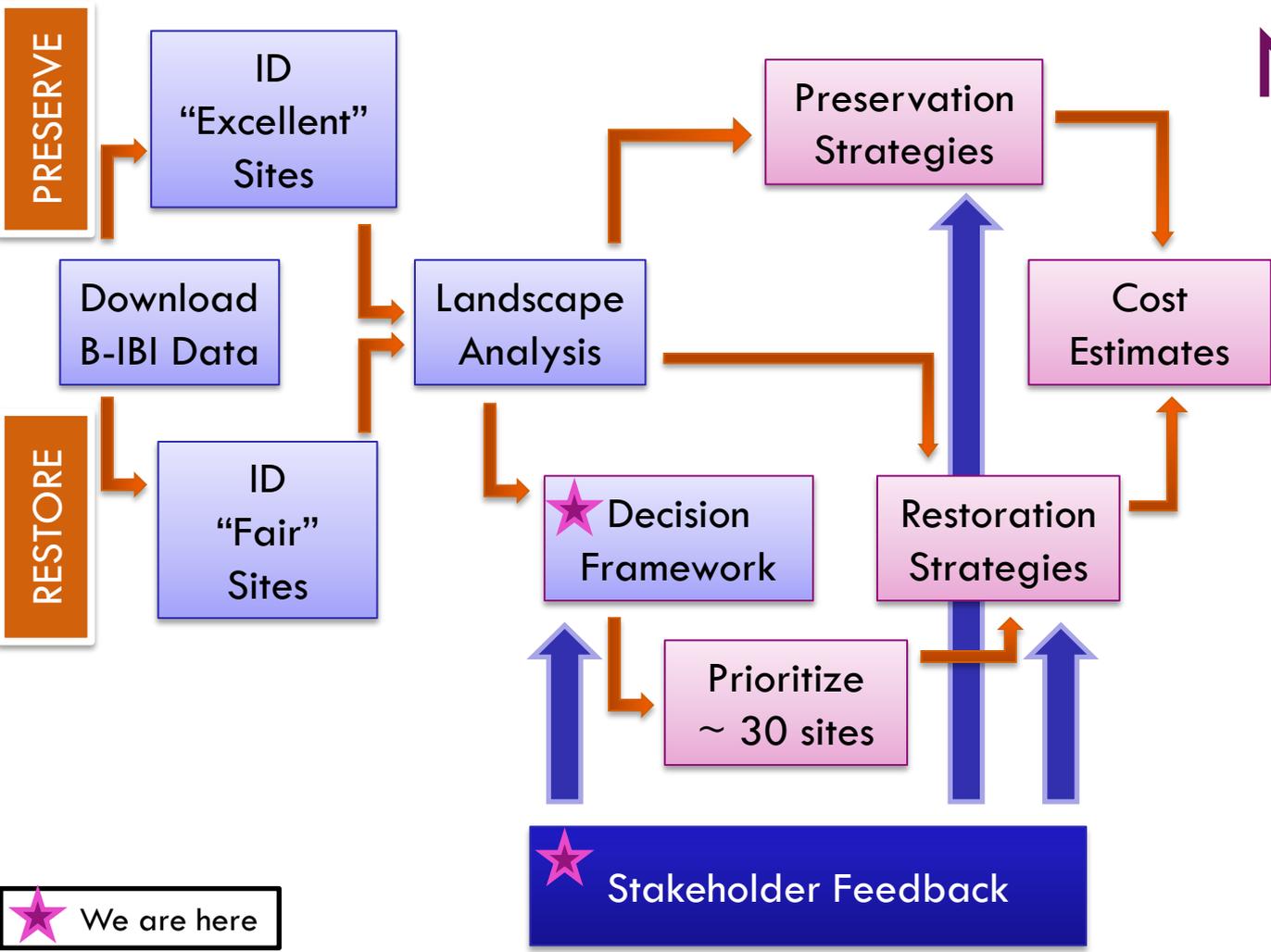
★ We are here

Next Steps: Restoration

What is Feasible? Effective?

- Habitat improvements
- Riparian plantings
- SW retrofits
- Agriculture BMPs
- Education/outreach
- Legislation
- Incentives
- Seeding inverts…

Project Web Page: PSSB

Project Web Page:

http://pugetsoundstreambenthos.org/Projects/Restoration-Priorities-2014.aspx

Acknowledgements

King County:

Gino Lucchetti, Kate O'Laughlin, Jim Simmonds, Kerry Thrasher

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WDFW: George Wilhere

Ecology Project Administration:

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?'s/Suggestions/Success Stories

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www.pugetsoundstreambenthos.org