Balancing Sampling Efforts with the Realities of a Budget and Things that Go Bump in the Night

Steven H. Lanigan - USDA Forest Service
Emerging issues

- Can we merge westside and eastside monitoring programs - any cost savings?
- Answer questions being asked at a smaller scale, e.g., Forest or BLM District.
- Be able to share data with state, federal and tribal agencies.
New management questions resulting from...

- Revision of the aquatic conservation strategy
- Forest and land use plan revisions
- Watershed restoration efforts
- Consultation on federally listed fishes
Balancing sampling efforts with limited $$

50 watersheds \times 6 \text{ reaches} = 300 \text{ reaches/yr}

Cost = $2.1 \text{ million}$

Available = $1.0 \text{ million}$
What’s the range of options?
Intensive field sampling program

- **Pros**
  - Continues an established program
  - Able to collect high quality in-channel data

- **Cons**
  - Expensive and logistically challenging
Extensive sampling program
(Use GIS attributes as surrogates for watershed processes)

- **Pros**
  - Able to increase sample size of “sampled” watersheds

- **Cons**
  - Have to spend $$ to improve GIS coverages
  - Have to develop relationships between GIS layers and processes
Incorporate other types of monitoring, e.g., best management practices

- **Pros**
  - Provides timely feedback
  - Often able to determine “cause”

- **Cons**
  - Does not contribute directly to assessing watershed condition
Basic considerations

- Attributes
  - Redundancy
  - Sensitive to change

- What is most cost effective way to collect data?

- How to ensure high data quality?
What's it take to share data?

- Common protocols
- Use a probabilistic sample design
- Common GIS layers
Westside + Eastside?
Westside vs Eastside (in-channel attributes)

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Upslope and Riparian Data

- GIS concerns - available coverage and quality of data.
  - Stream GIS layer needs to be improved.
  - Need vegetation maps for the eastside.
  - Complete road layer is unavailable for eastside.
Pacific Northwest Aquatic Monitoring Partnership (PNAMP)
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- Same protocol
- Different protocol
- Not collected
Pacific Northwest Aquatic Monitoring Partnership
protocol comparison

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“the devil’s in the details”
Side-by-Side Protocol Test

CA F&G

United States Environmental Protection Agency

OREGON Fish & Wildlife

UCB

Fish & Aquatic Ecology Unit

AREMP

Department of Ecology

United States Department of Agriculture – Forest Service
Rocky Mountain Research Station

RMRS

NOAA

USDA Forest Service
Pacific Northwest Region
Stream Inventory and Data Analysis

Bonneville Power Administration

$$ =
What's next?
Watershed Monitoring Revision Timeline

- Spring 05: Identify mgmt questions
- Spring 05: Evaluate Options
- Jan 06: Make recommendations to executives
- Jan 06: Execs make decision

Timeline:
- Spring 05
- Jan 06
www.reo.gov/monitoring/10yr-report/

(Draft 10-year assessment of watershed condition is at this website)