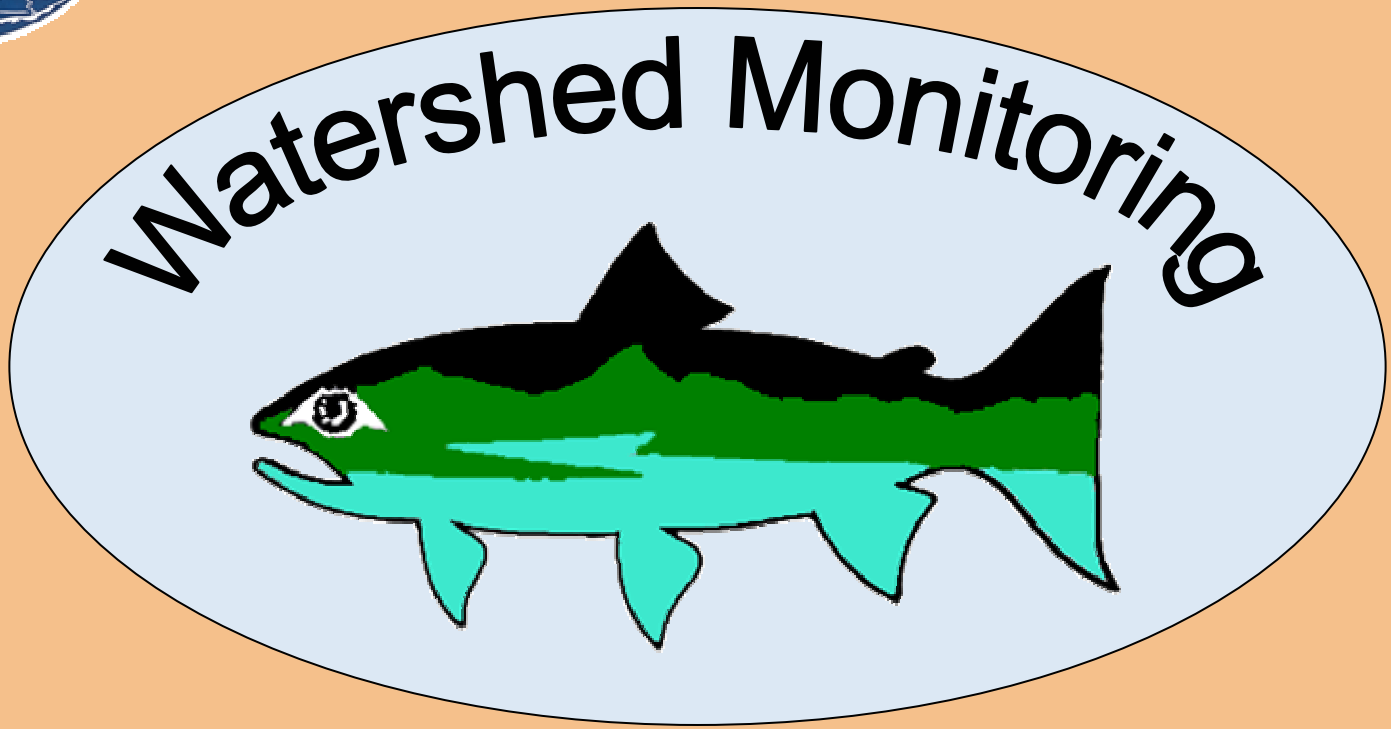
Interagency Regional Monitoring Program



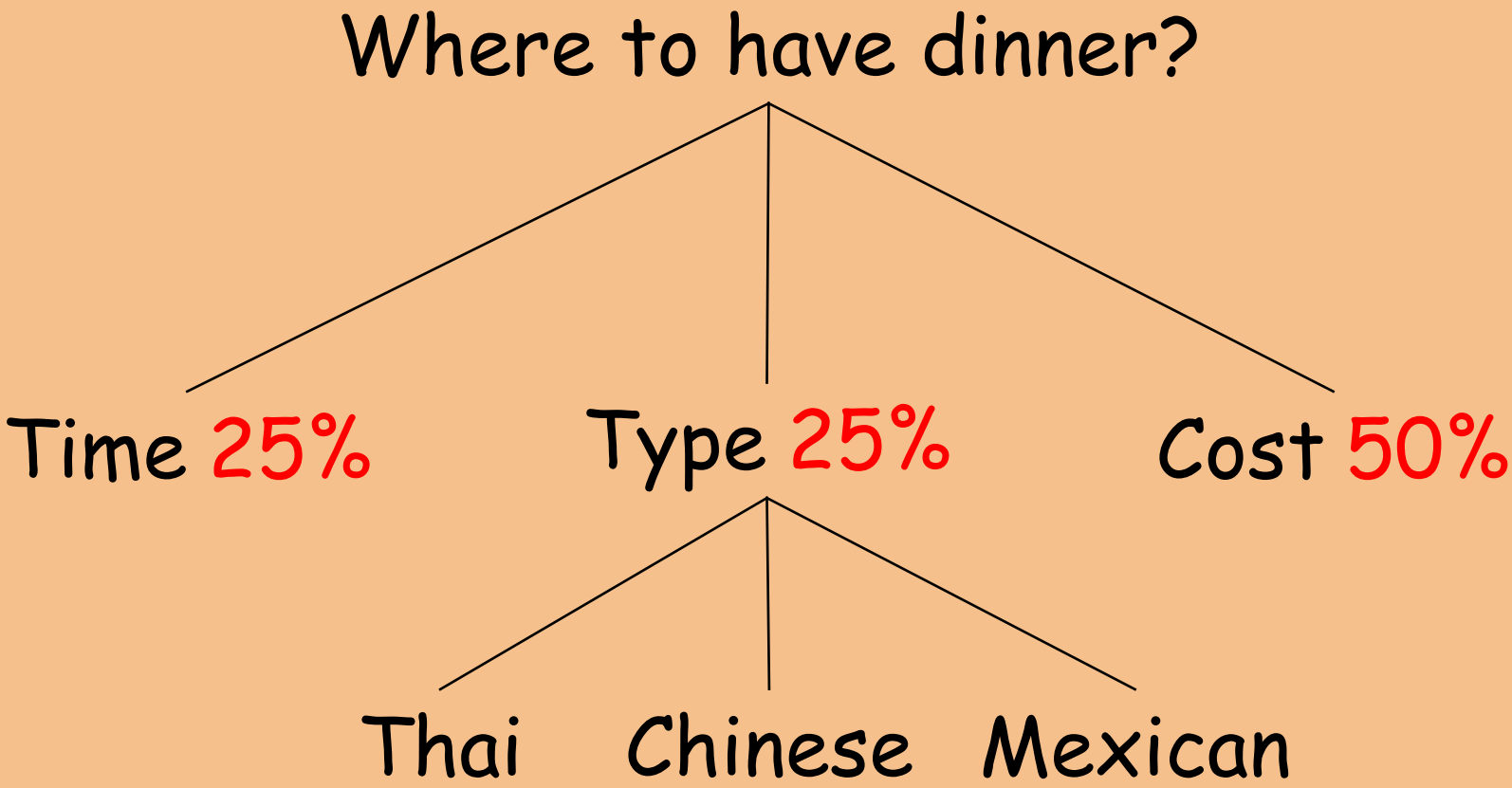
Decision support models part II: *Lessons we learned while assessing watershed condition*

Chris Moyer, Sean N. Gordon, and Kirsten Gallo

Bureau of Land Management – Oregon State Office

Oregon State University

What are DSMs?



Watershed condition

0.125

Roads

Vegetation

In-channel

AVE

1.0

Density

Crossings

"good"

Riparian

Upslope

Physical

Chemical

Density

Crossings

poor

0.5

0.0

-0.25*

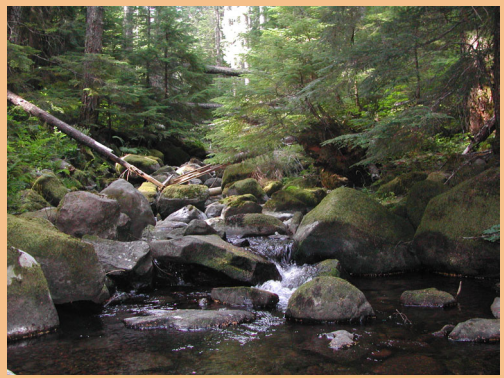
* Evaluation score

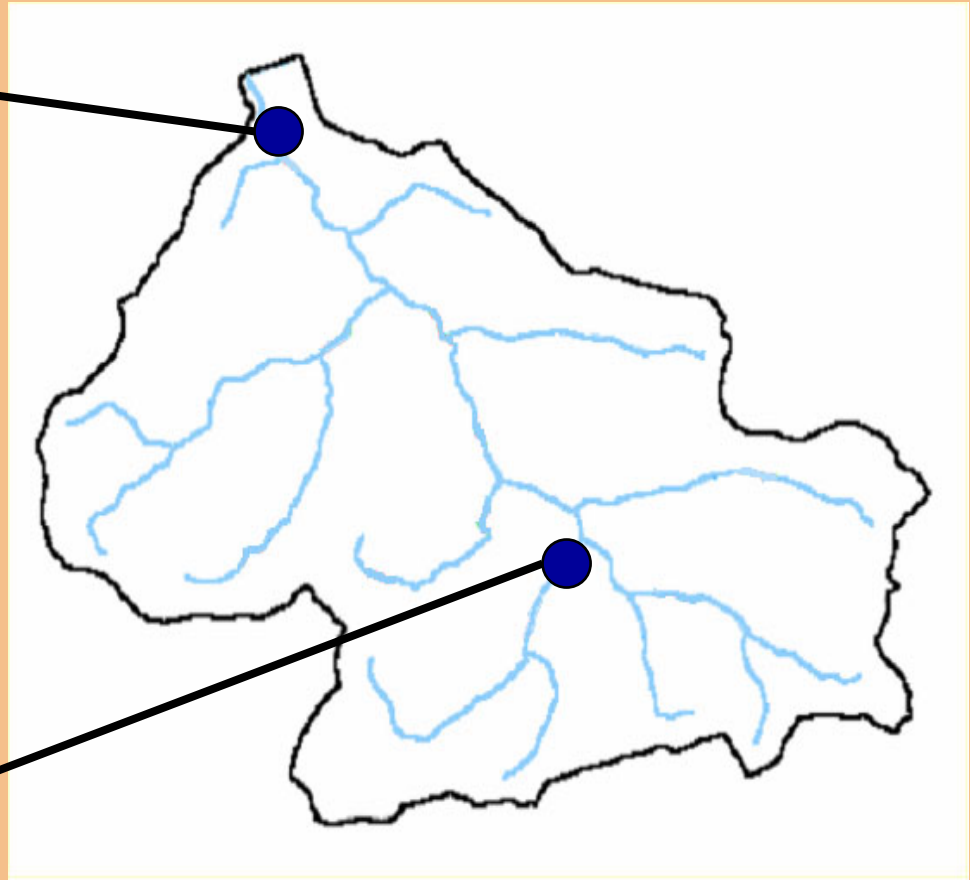
-1.0

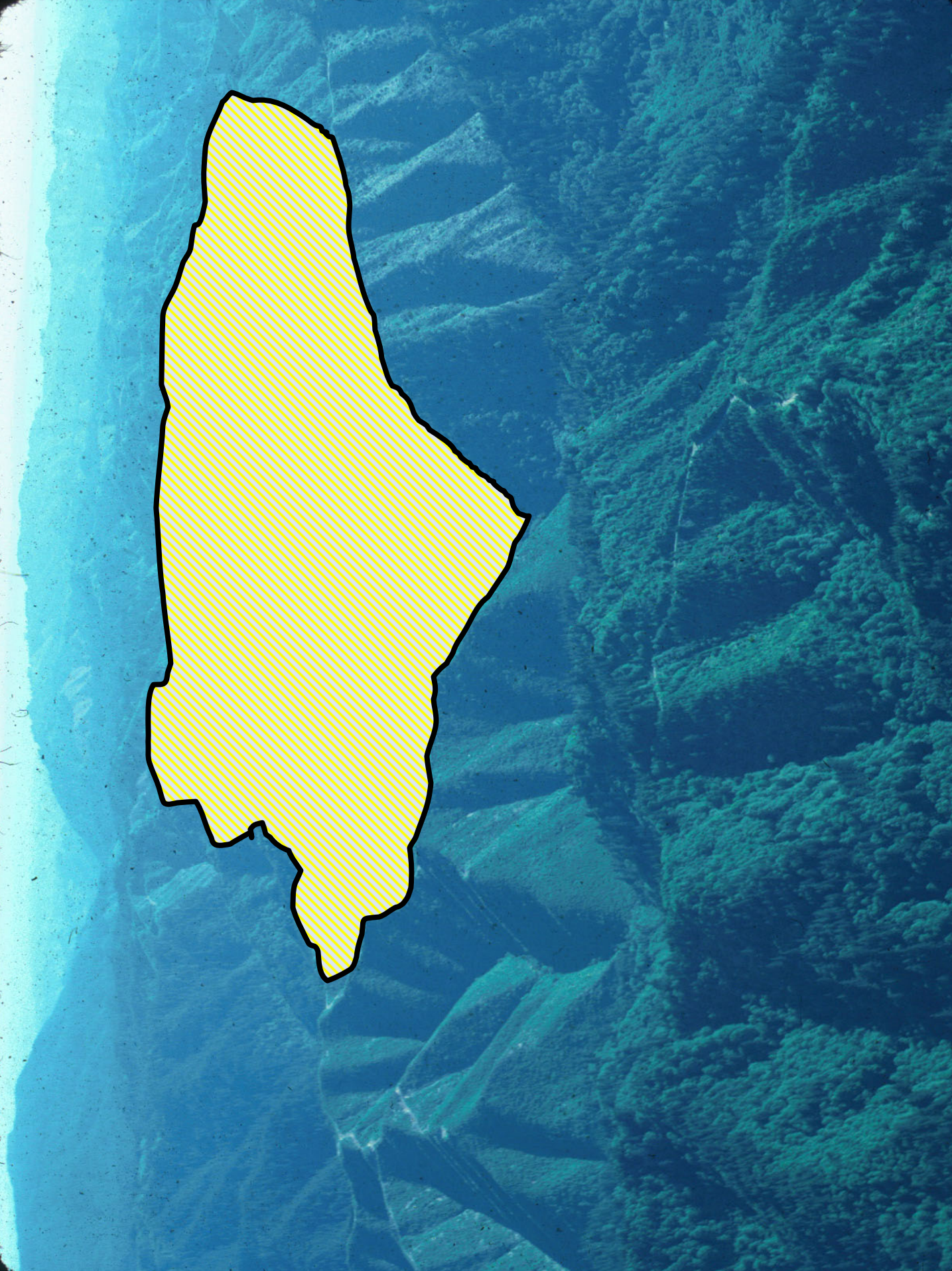
Road density condition score

0.00 0.05 0.10 0.15 0.20 0.25

Riparian road density (miles of road per mile of stream)







Refinement
Test
Evaluate
New science
&
knowledge
Development
Test
Evaluate
Science

Future models & historic data

- Models change, datasets do not
- Datasets are used with future models

GAO asks: "Will we ever have a complete dataset?"

- The Government Daily, October 2004

Analysts proclaim: "It's the best data we got."

- The Daily Planet, June 2003

Survey efforts come up short-

complete dataset for analysis!

- The Monthly Analyst, May 2001

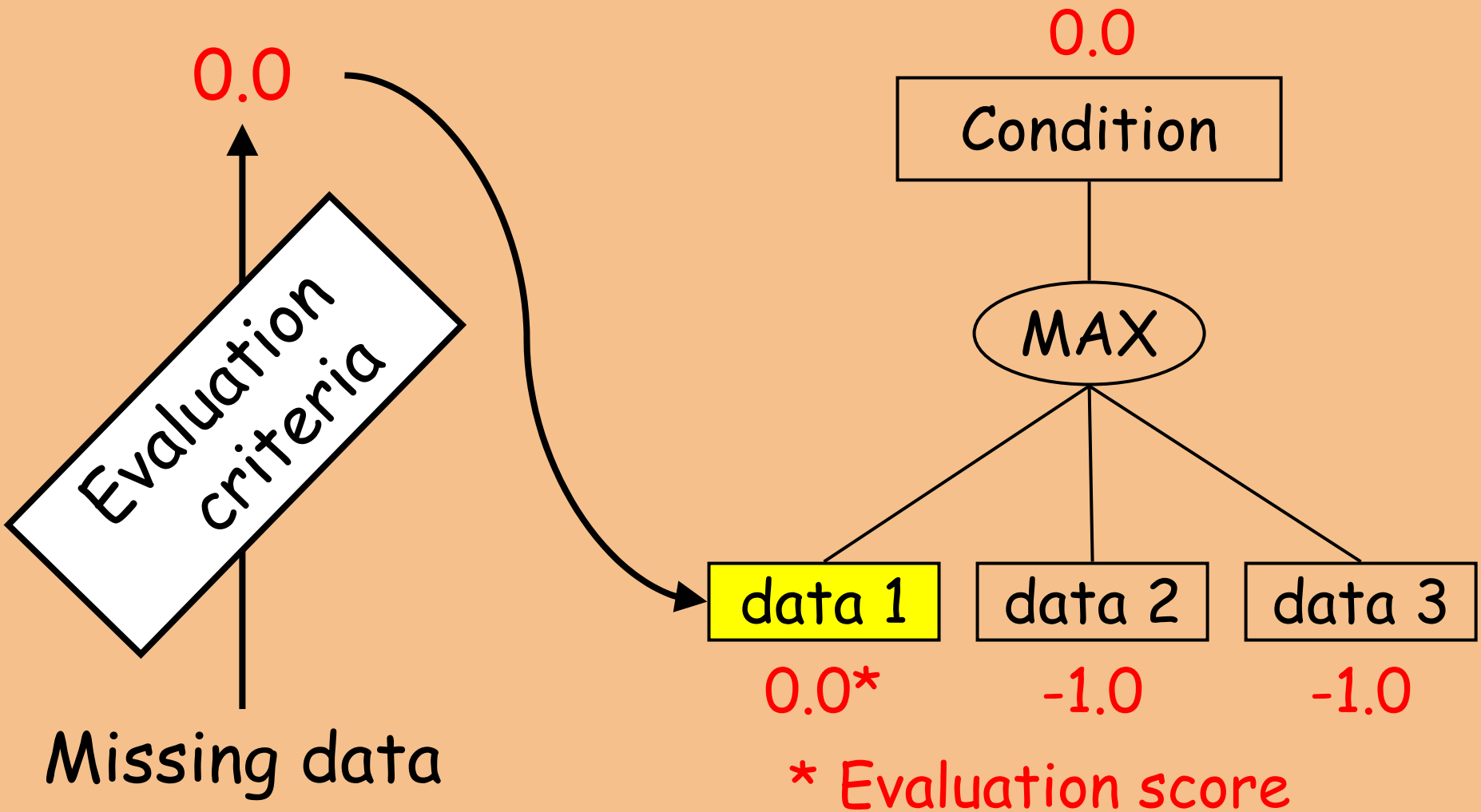
The Number of Incomplete Surveys Continues to Grow

- The Daily Planet, January 2005

Resource manager seeks complete dataset for analysis

- The Monthly Analyst, May 2001

Missing data

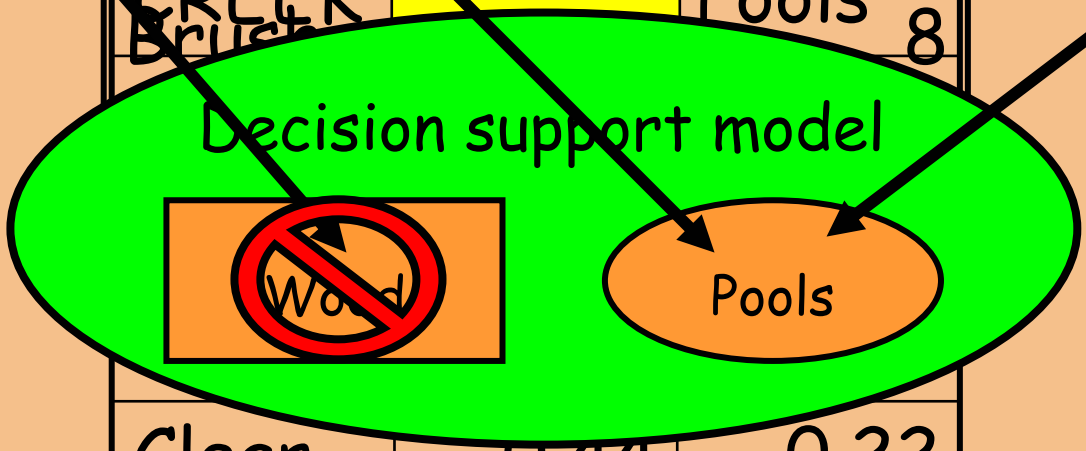


Structured model runs

Creek	Wood	Pools
Fish	12	4
Clear	9	2
Crab		
CREEK		Pools
Brush		
Clear	0.44	0.22

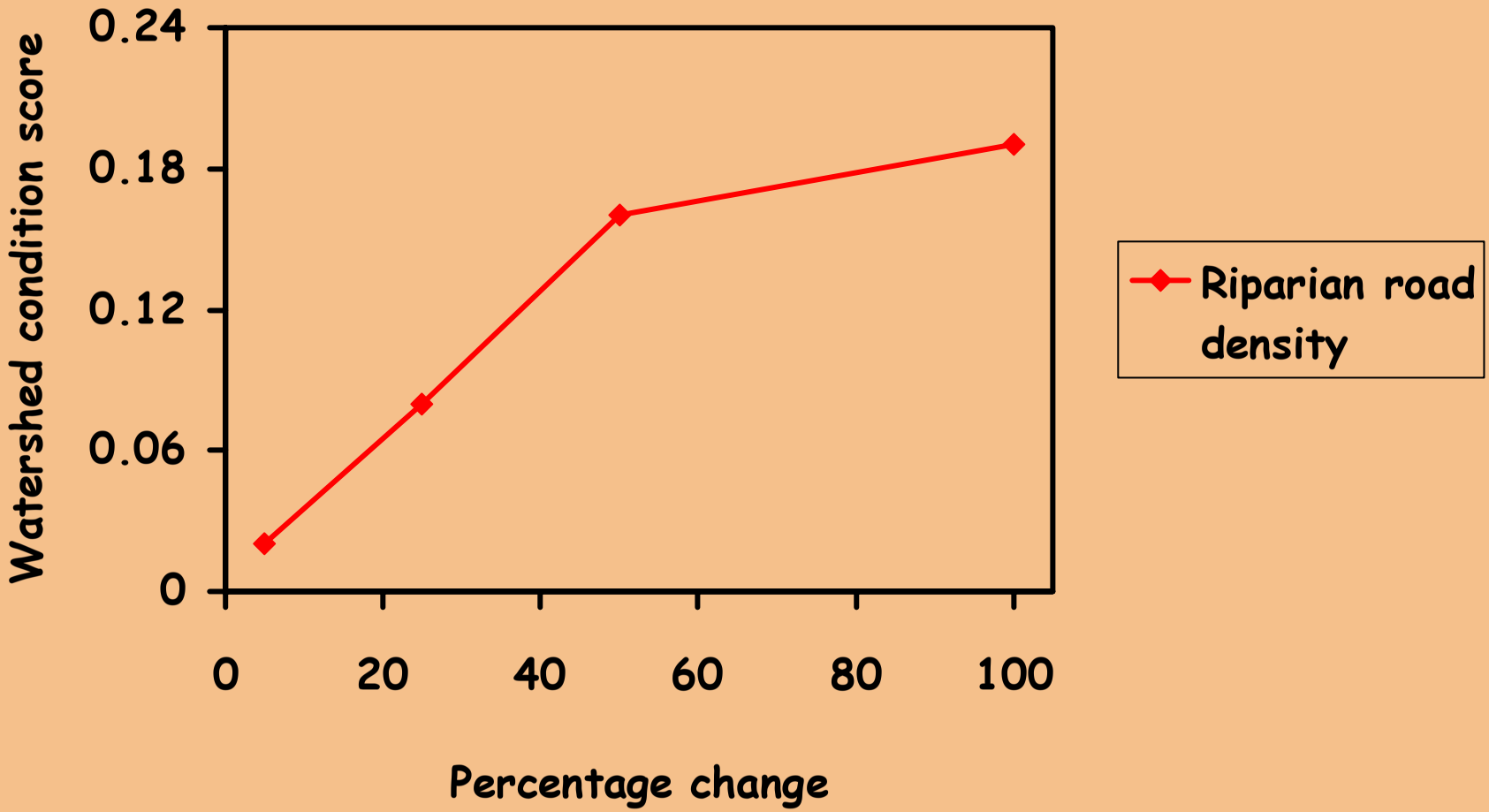
Creek	Wood	Pools
Fish	12	4
Clear	9	2
Crab		
CREEK		Pools
Brush		
Clear	0.44	0.22

Creek	Wood	Pools
Fish	12	4
Crab		7
Clear	9	2
Brush		8

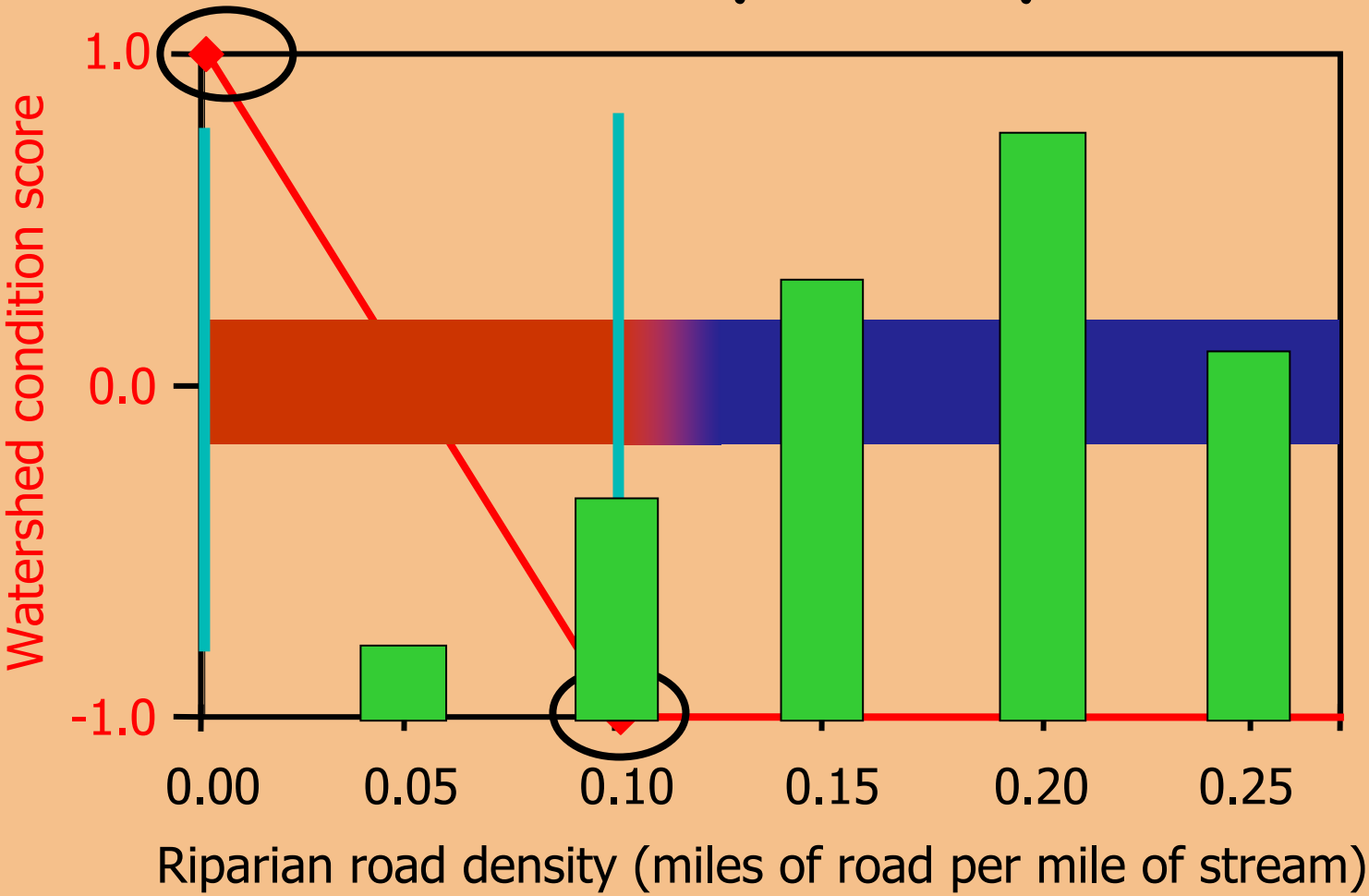



What causes change
in the environment?

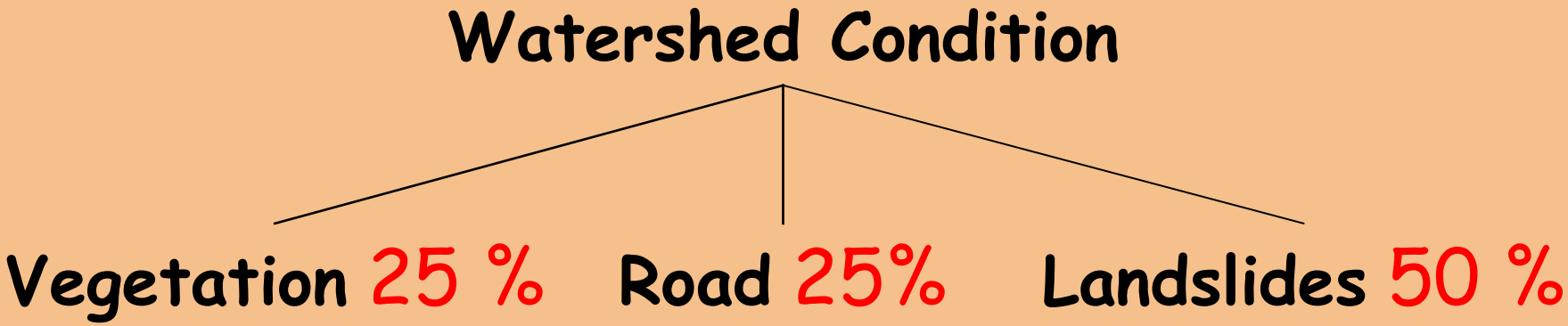
Sensitivity analysis



Sensitivity analysis



Attribute Weights



Conclusions

- Decision support models can be applied to any spatial or temporal scale.
- Decision support models can be updated to reflect current thinking.
- Incomplete datasets are the norm and can be evaluated with decision support models.
- The structure of the model influences the sensitivity of the model to change.