Quantifying Recreation Benefits from Clean Water

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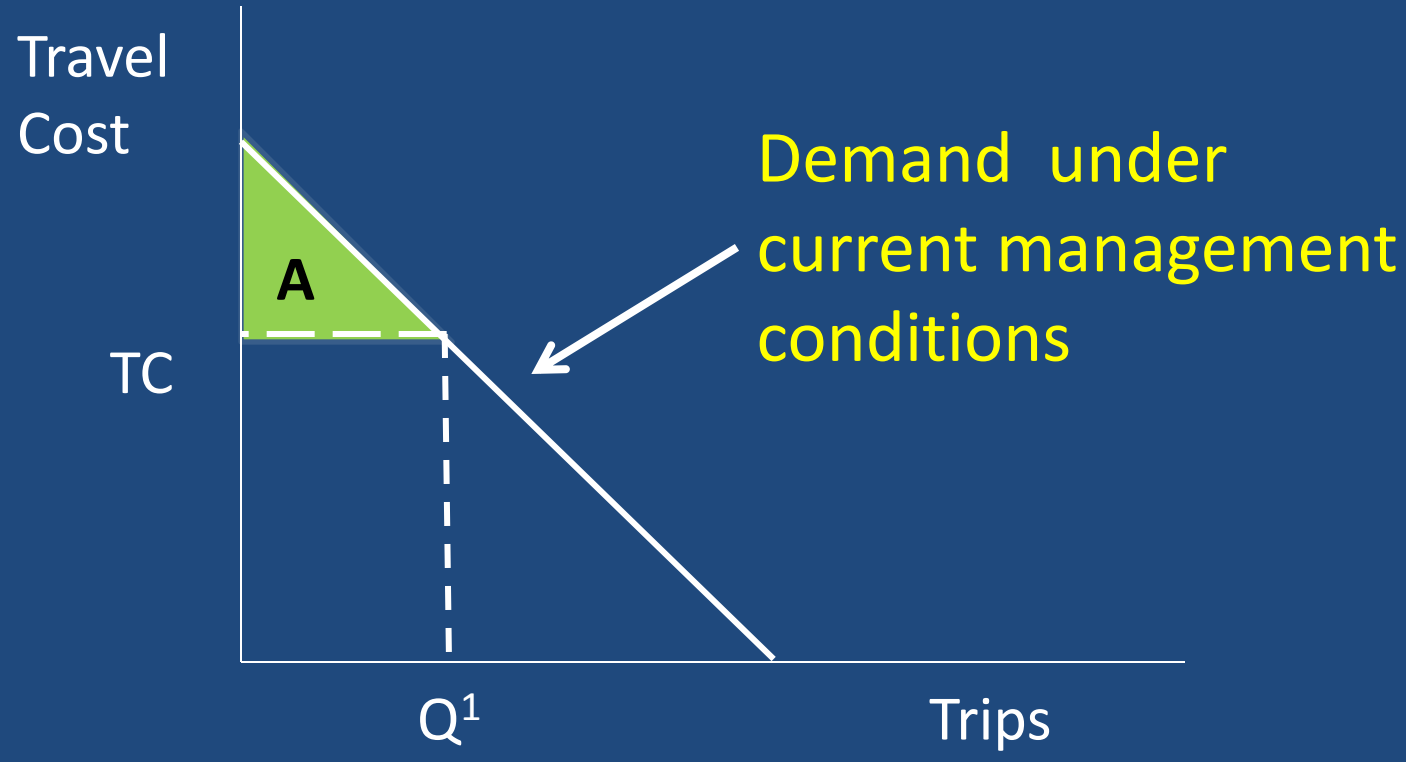
Talk Outline

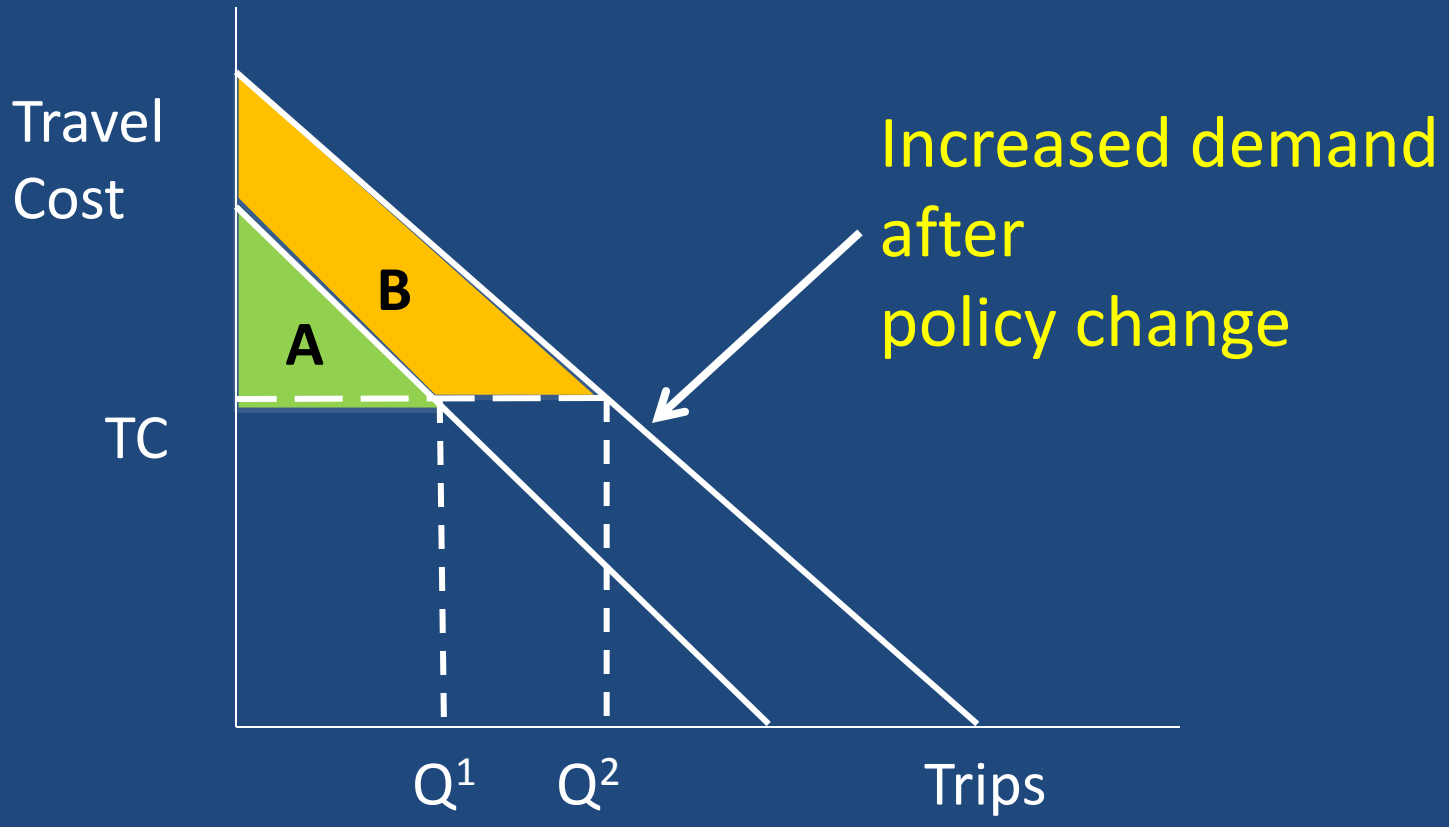
- Economic value
- Nonmarket valuation methods
- Modeling recreation demand
- Linkage between recreation & water quality

Recreation has value

Benefits = Willing to Pay – Had to Pay = Area A



In a BCA framework we want the increased value of recreation (=Area B)



Revealed preference to measure demand under current management conditions

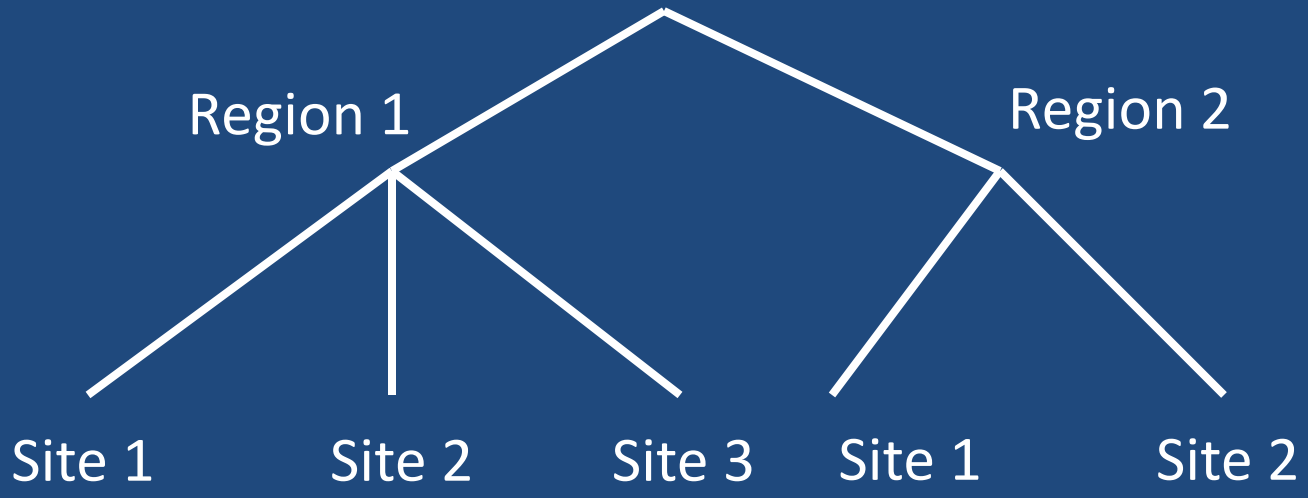
- Based on actual behavior
- Travel Cost Model
- Ask …
  - Sites visited
  - Number of visits to each site
  - Recreational activity
  - Distance to site

Stated preference to measure change in use based on change in water quality

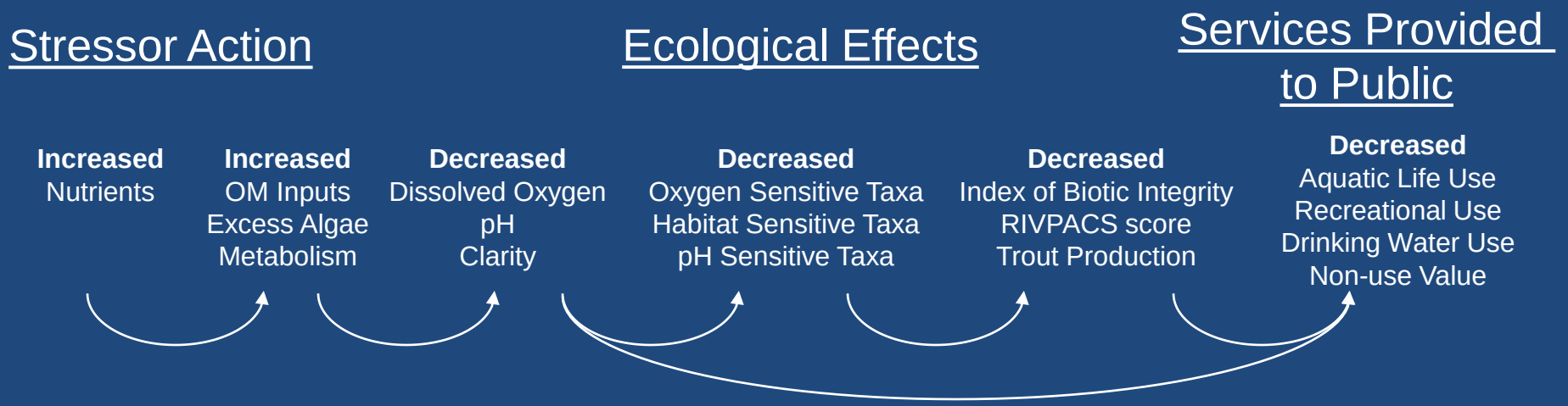
- Based on intended behavior
- Contingent Choice Experiments
  - Variations on trip characteristics
  - Water clarity, color, fish catch, algal blooms
- Ask …
  - How visitation will change?

The Random Utility Model: A More Realistic Approach

- People have many recreation choices



What is the link between recreation demand and nutrient loading?



Source: M. Paul, personal communication, September 05, 2008.

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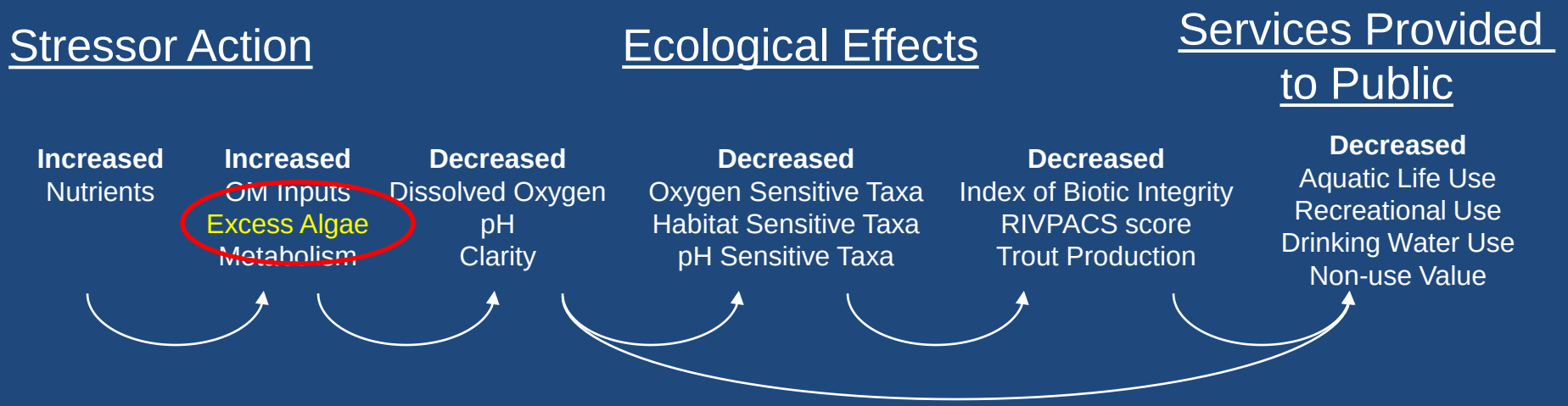

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Biological response to changes in nutrient loading

300 mg Chl a/m^2

110 mg Chl a/m^2

Photos from Suplee, et al., 2009

Remaining challenge (for the ecologists)

reduced nutrient concentrations at end of pipe

in stream biological conditions that are desirable