



Measuring the Value of Ecological Services: What, Why, How?

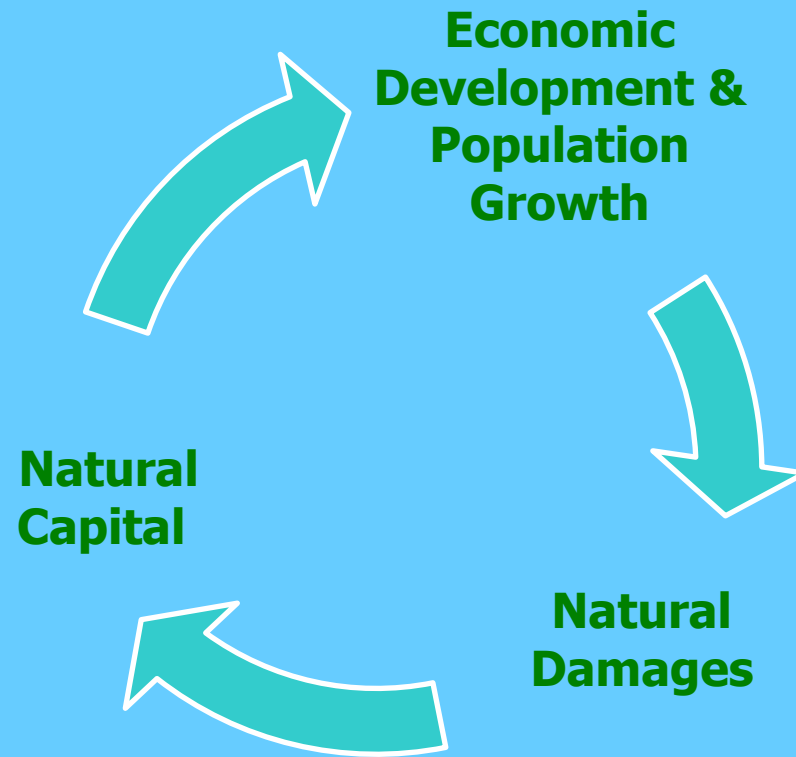
Preparing New Jersey for Climate Change:
A Workshop for Decision Makers

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November 29, 2011

Economic Development & Demographic Pressures on the Jersey Shore



Economic Flows from Natural Capital (examples)

GOODS-

- Commercially harvested fish & shellfish
- Minerals
- Plants

Economic Flows from Natural Capital (examples)

SERVICES-

- Outdoor recreation (beach visits, fishing, bird watching, etc.)
- Nutrient recycling
- Water filtration
- Buffering from floods & storms
- Aesthetic amenities
- Maintenance of biodiversity

Capitalization of Annual Benefit Flow

Asset Yields \$5,000 per year

Interest rate = 5% (alternative yield)

Value of Asset = \$100,000
(\$5,000 / .05) (Present Value of flow of \$5,000 in perpetuity)

Surf Fishing on Long Beach Island



Source:

<http://www.basspro.com/webapp/wcs/stores/servlet/CFPage?storeId=10151&catalogId=10001&langId=61&mode=article&objectID=32616>

Bird Watching



The Jersey Shore



Barnegat Bay Tidal Marshes



Little Egg Harbor



Methods to Infer Annual Economic Value of Natural Capital Flows

A photograph of a sandy beach with a wooden fence in the foreground and the ocean in the background. The fence is made of vertical wooden posts and runs along the edge of the sand. The ocean is visible in the distance with waves breaking on the shore. The sky is clear and blue.

Travel Cost Method

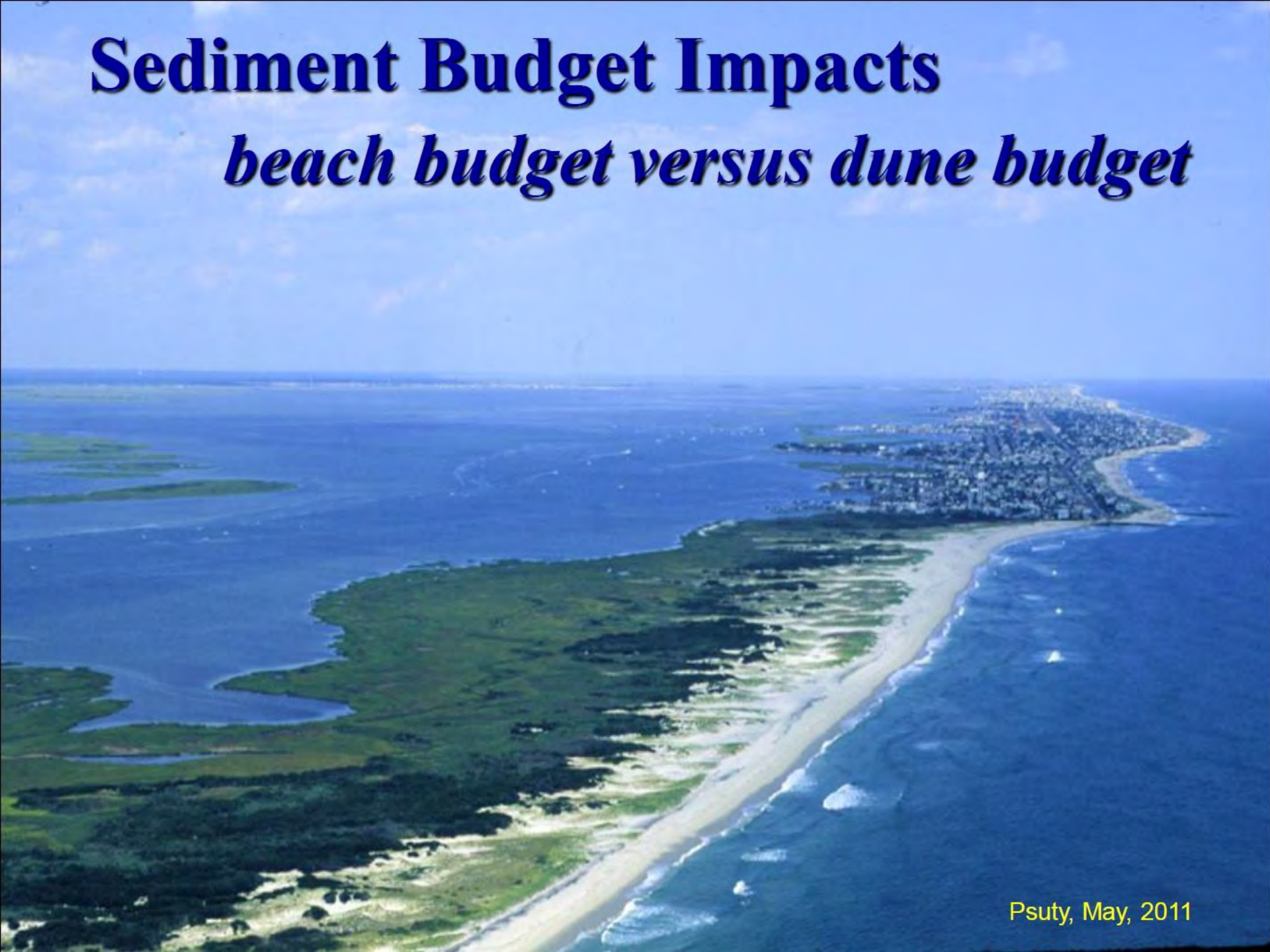
Contingent Valuation

Hedonic Price Method

Avoided Cost Method

Sediment Budget Impacts

beach budget versus dune budget



Static Land Use

Dynamic Coastal System





Beach and Dune Displacement

Psuty, May 2011

References

NJDEP Natural Capital Study:

- **www.state.nj.us/dep/dsr/naturalcap/**

Natural Capital Project from Stanford University, the University of Minnesota, the Nature Conservancy and the World Wildlife Fund:

- **www.naturalcapitalproject.org**

National Research Council of the National Academy of Sciences

VALUING ECOSYSTEM SERVICES

TOWARD BETTER ENVIRONMENTAL DECISION-MAKING



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QUESTIONS/COMMENTS

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