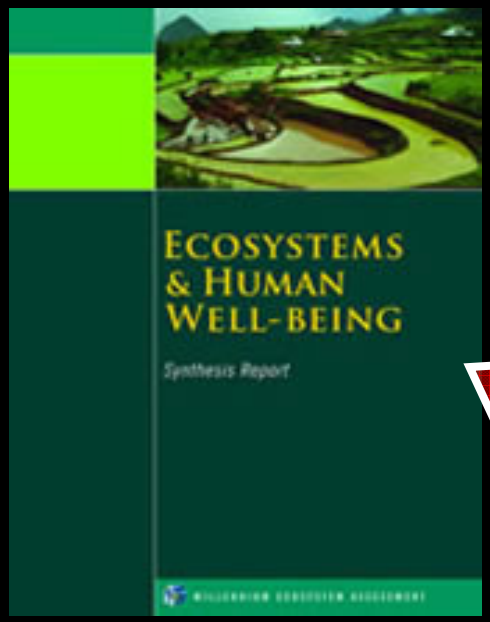
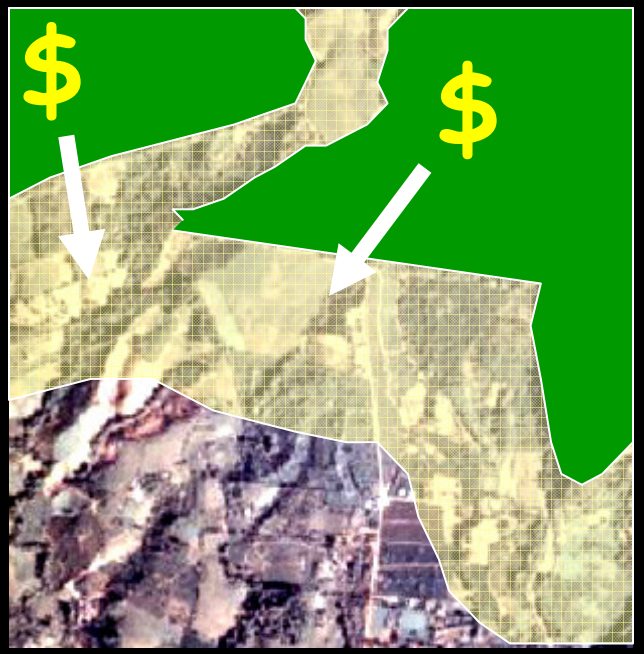
Valuing Ecosystem Services



Global
Synthetic

Local
Specific



<u>Value of rainforest</u>:
US$ 60,000/year
to 1 farm

The Natural Capital Project

The Nature Conservancy

WWF

STANFORD UNIVERSITY

1. Science → new tools
2. Demonstration in sites / sectors globally
3. Engaging leaders


InVEST
Integrated Valuation of
Ecosystem Services & Tradeoffs

Scenario Tool

How will ecosystem service values change…

With climate change?

With population growth?

With a new policy or program?

How would restoration of riparian habitat affect

agricultural income

drinking water quality

erosion control

carbon sequestration

& *biodiversity*?

InVEST 1.0 can map & value

Biodiversity

Water pollution regulation

Carbon sequestration & storage

Managed timber production

Crop pollination

Avoided reservoir sedimentation

And also…

Tourism & recreation

Agricultural production

Flood mitigation

Hydropower production

Irrigation

Open access products

Marine InVEST

Data inputs on natural capital

Land Use

Soil type

Topography

Data inputs on built capital

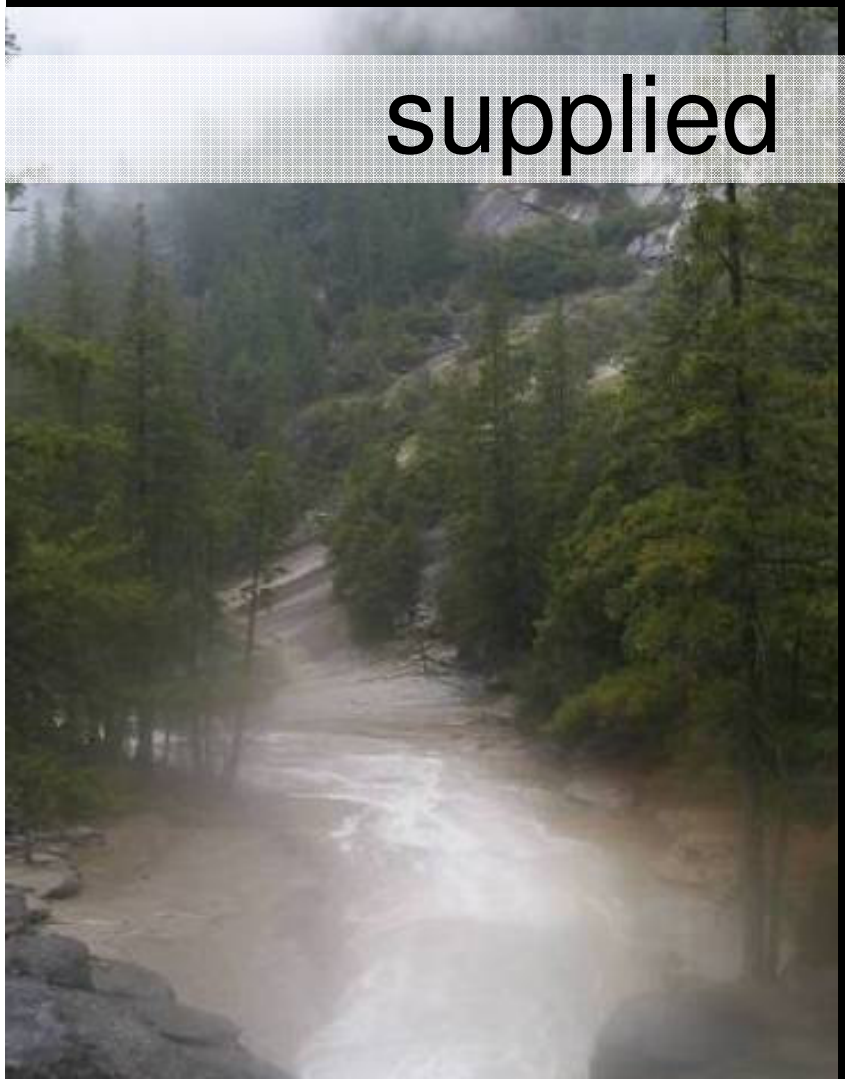
Roads

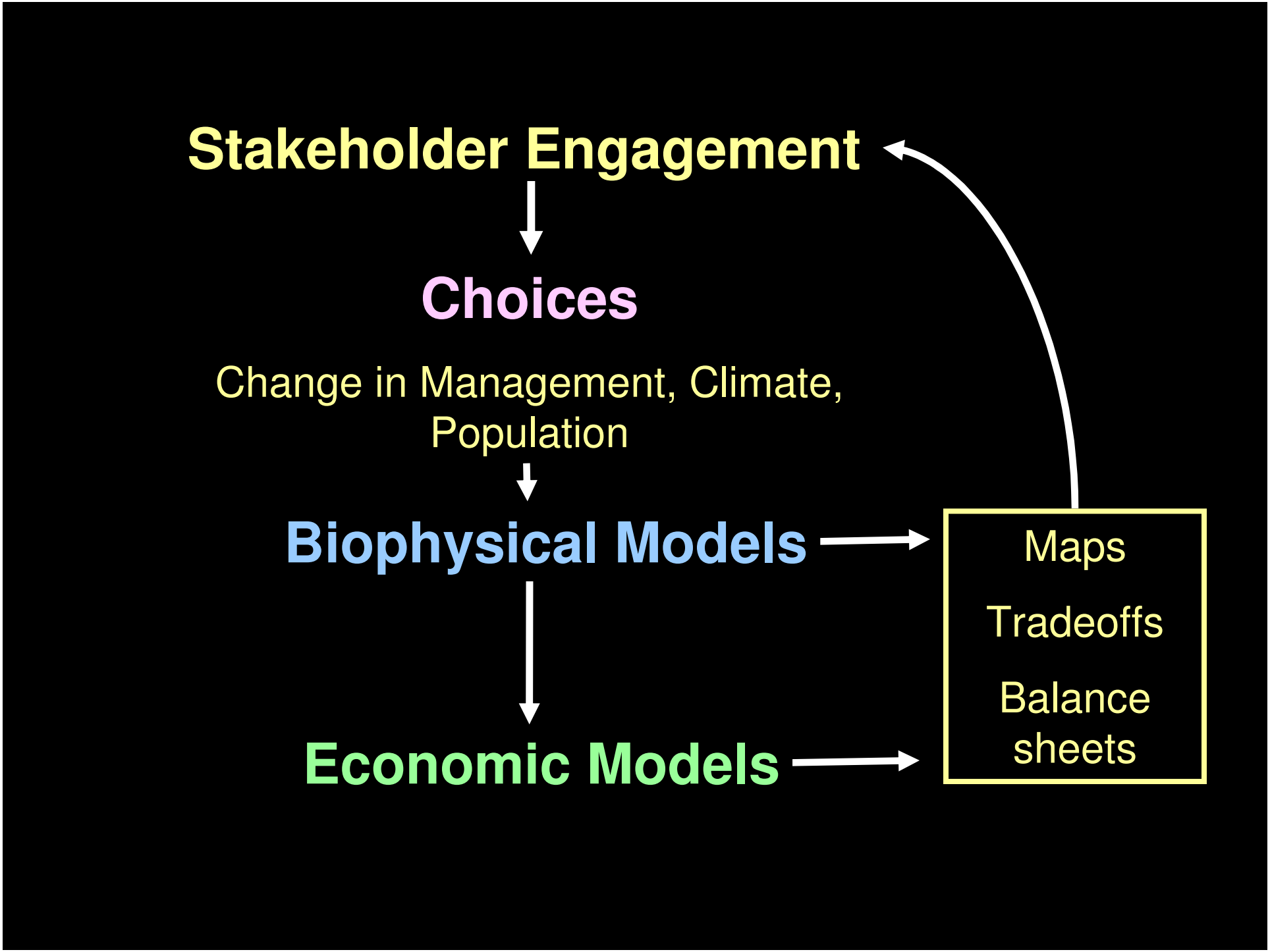
Cities

Infrastructure

Outputs of ecosystem service levels

supplied and demanded



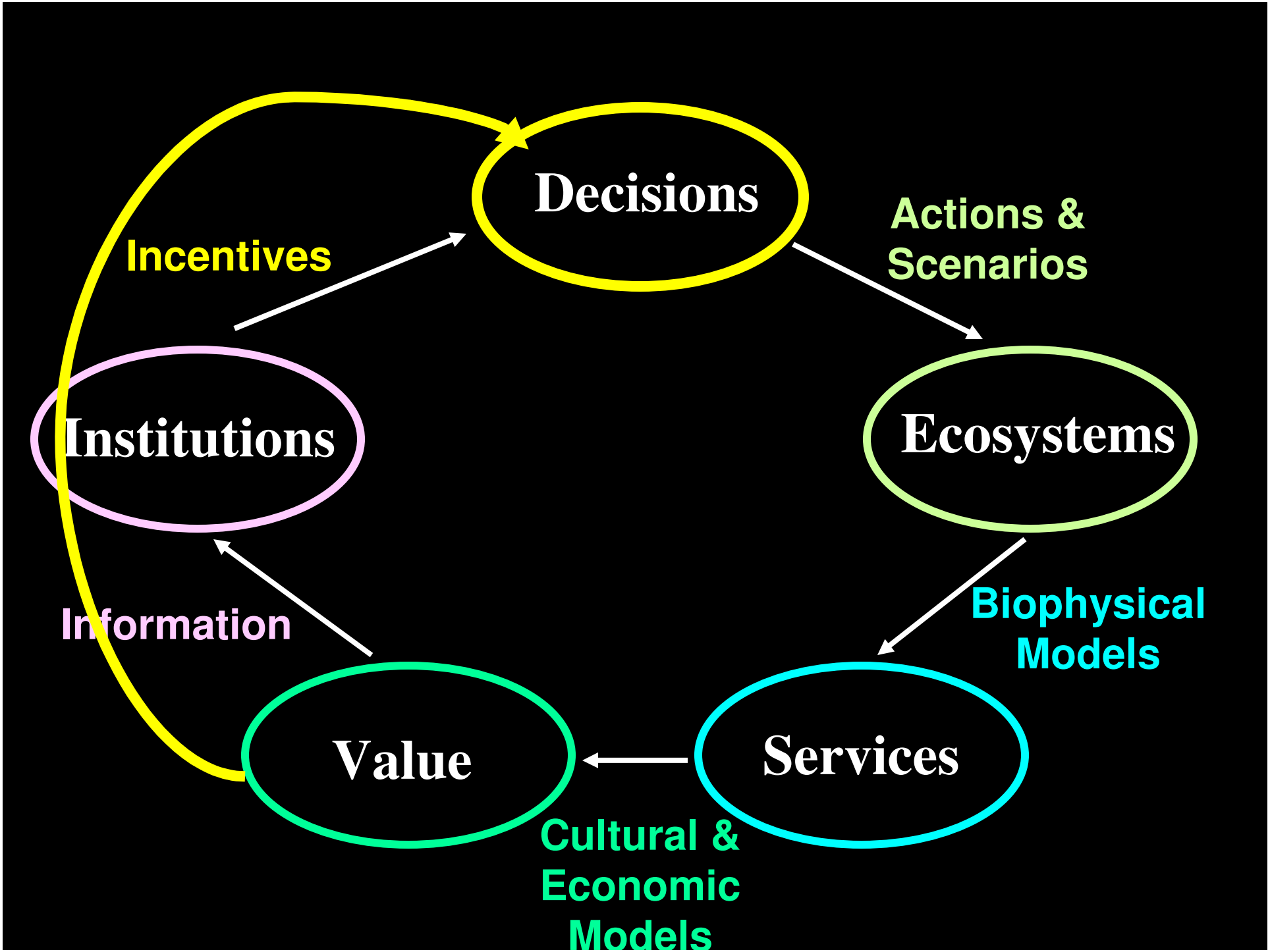

Stakeholder Engagement
Choices
Change in Management, Climate, Population
Biophysical Models
Economic Models
Maps
Tradeoffs
Balance sheets

Download InVEST at http://invest.ecoinformatics.org

natural capital PROJECT

InVEST Tier 1 Tools

Kareiva, Ricketts, Daily, Tallis, & Polasky, Eds. 2010. *The Theory & Practice of Ecosystem Service Valuation in Conservation*. OUP.


Decisions
Actions &
Scenarios
Ecosystems
Biophysical
Models
Services
Cultural &
Economic
Models
Value
Information
Institutions
Incentives

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Land Use Decisions in Oregon

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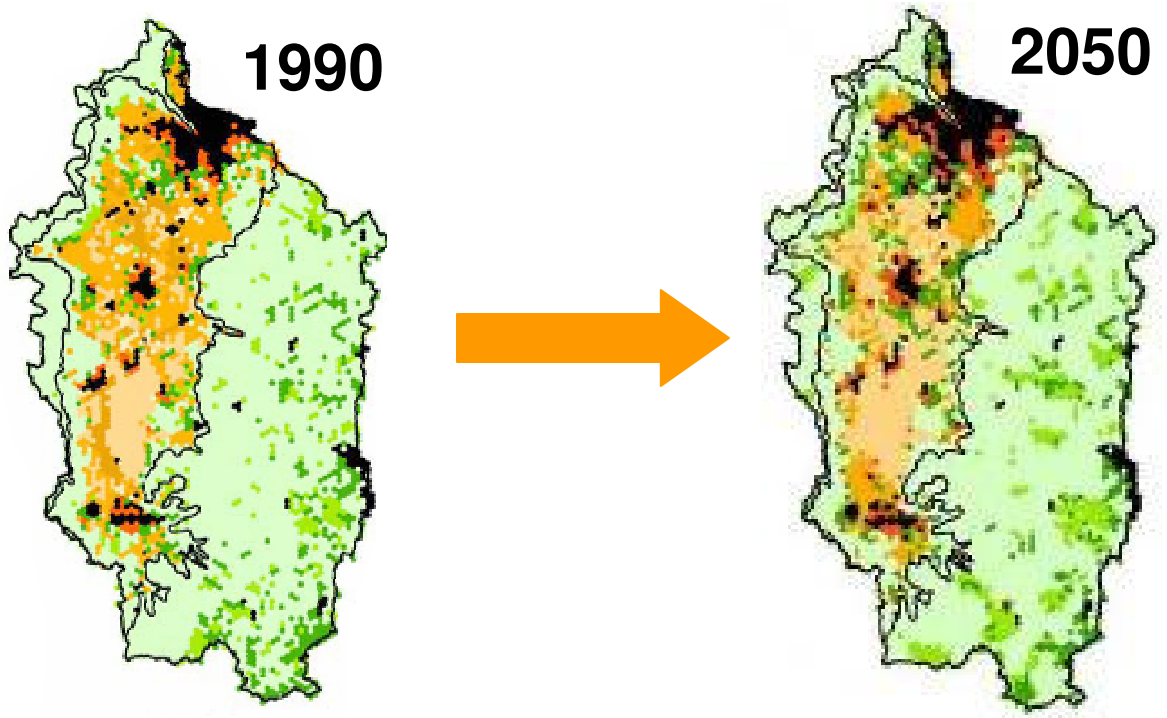
1. Embed InVEST in land-use planning

2. New financial mechanisms for realizing the values of natural capital

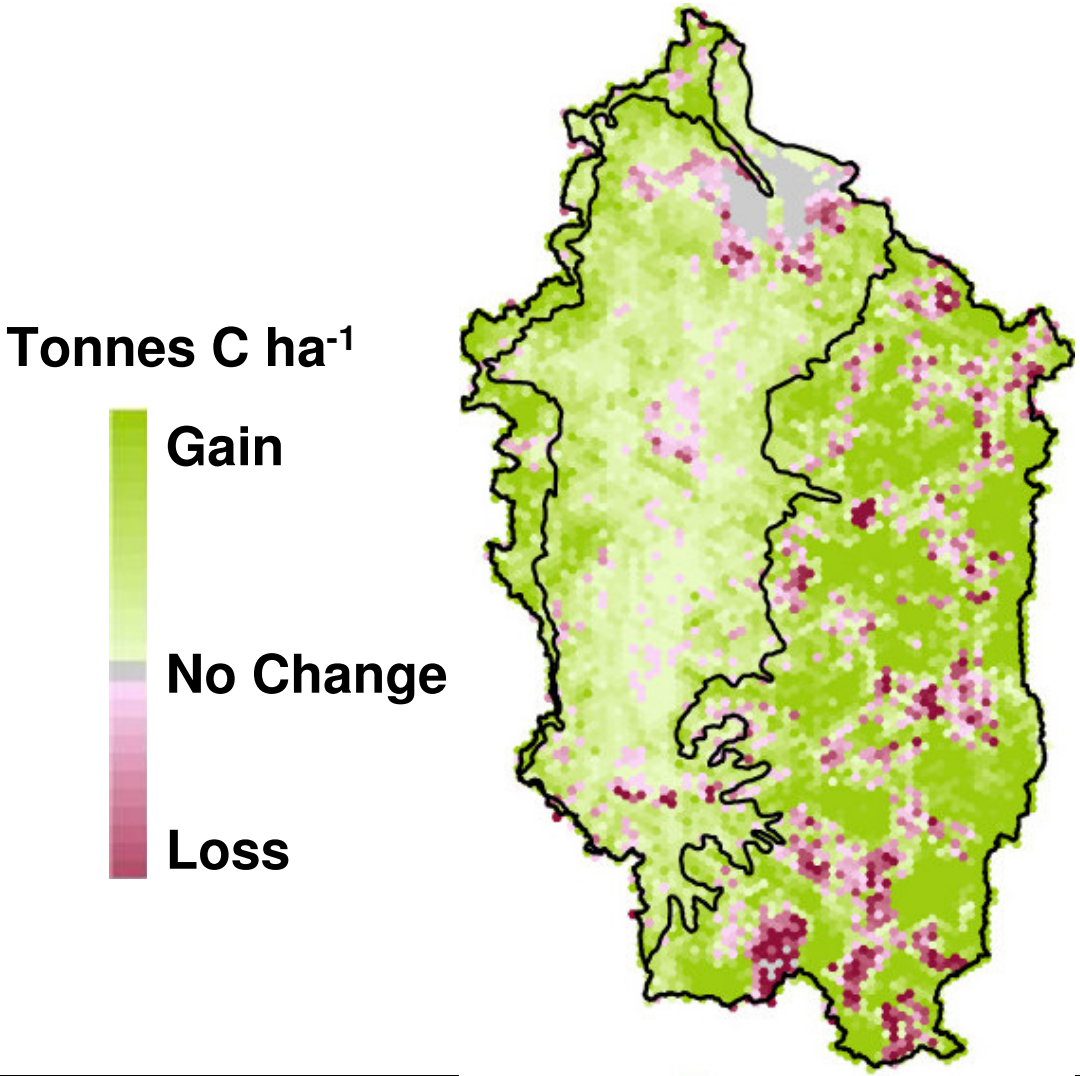
Willamette Basin

Scenarios and Decisions

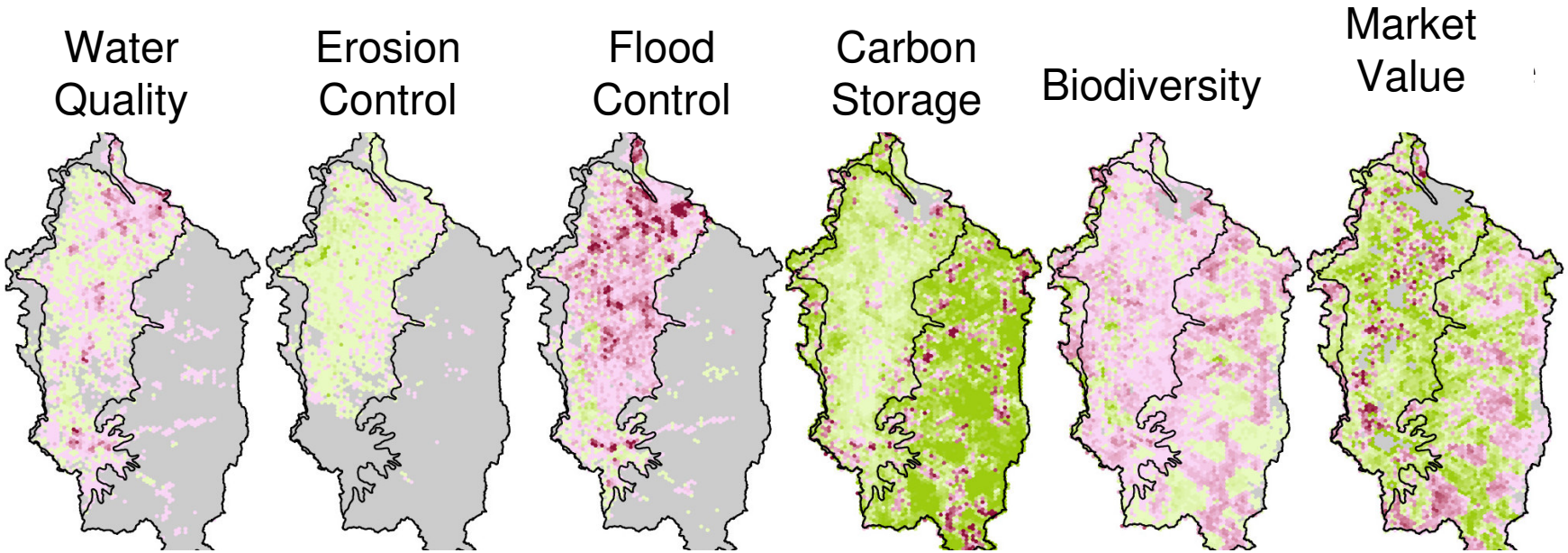
Population doubling and development in the Basin over the next 50 years:



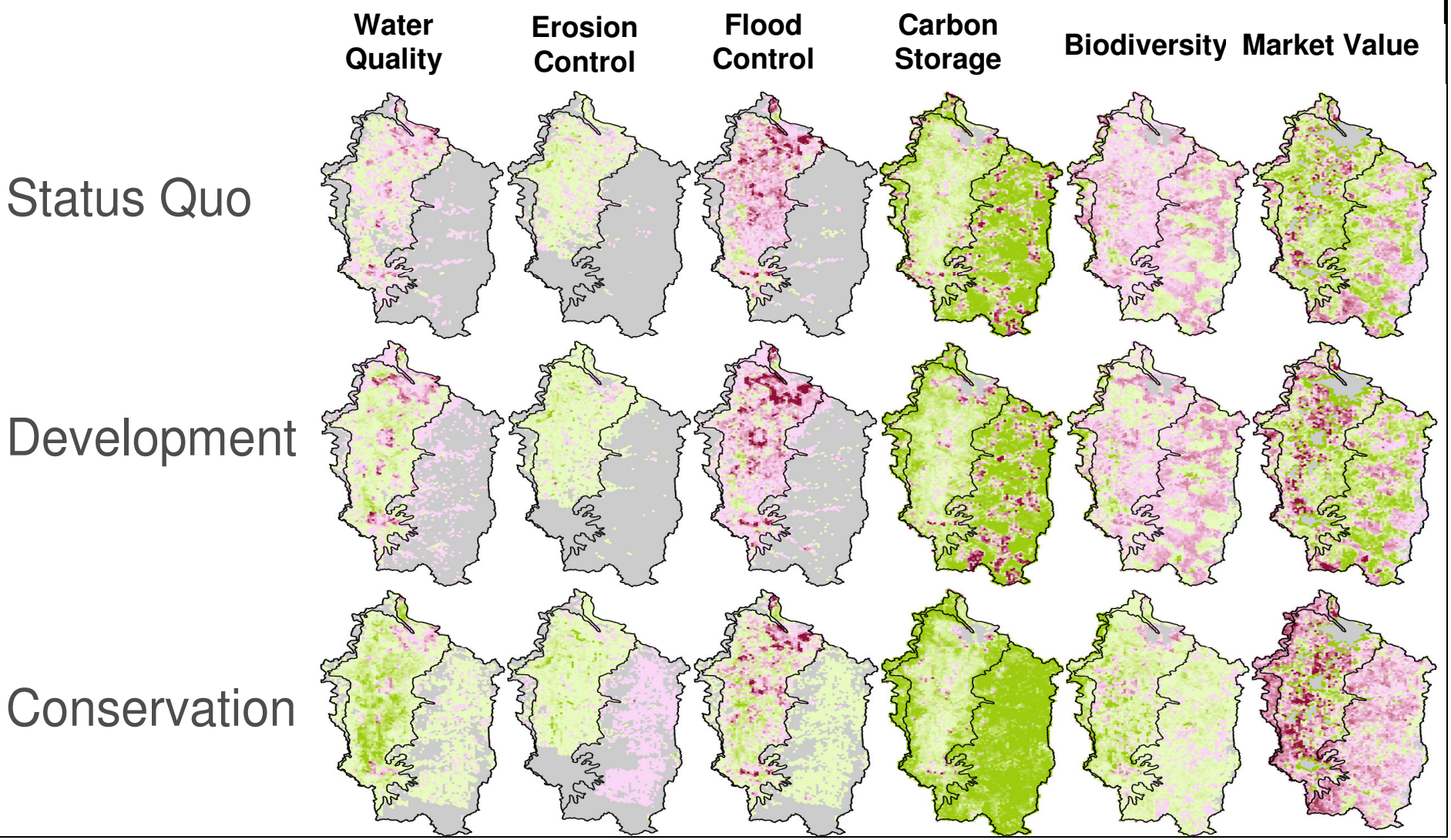
Change in carbon storage



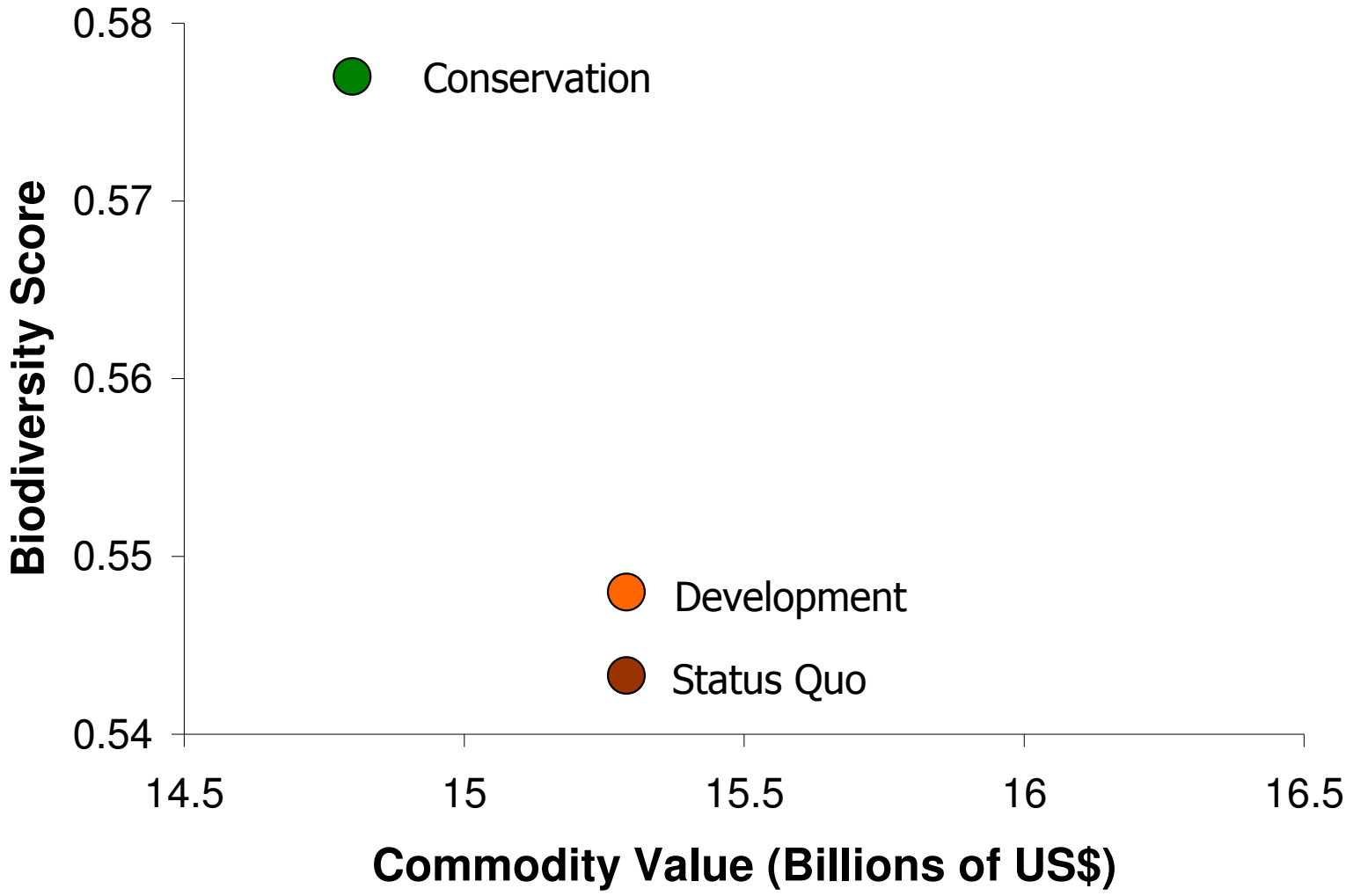
Changes in multiple services



Analysis of alternative futures

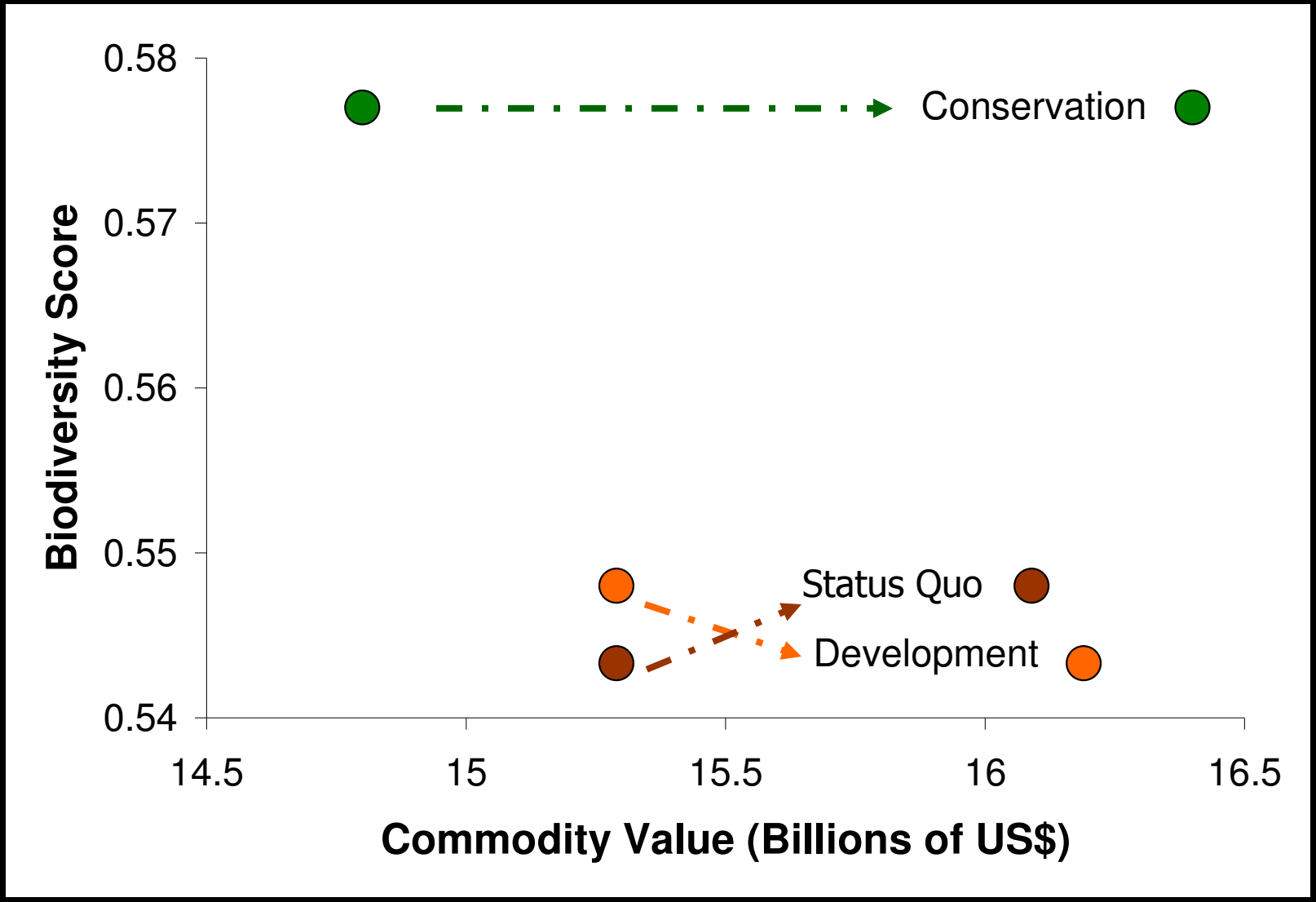


Formal Carbon Market *Without*



Formal Carbon Market

Without ***With***



Land Use Decisions in Hawai`i

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Woods Institute for the Environment
Stanford University

1. Embed InVEST in land-use planning
2. Create incentives for native reforestation

Kamehameha Schools Land Assets