

ECOSYSTEM SERVICES FOR DECISION-MAKING:

INTRODUCTION TO THE NATURAL CAPITAL PROJECT

Brad Eichelberger, Henry Borrebach, Rob Griffin, and Martin Lacayo
Introduction to the NatCap Approach & InVEST Workshop
San Vito di Cadore, Italy
September 9-11, 2015

WHAT IS NATCAP?

Advance science of
ecosystem services

Create user-
friendly
approaches & tools

Build and tell
success stories



Get information about natural capital
into decisions



Make decisions with better outcomes for
people and nature



WOODS INSTITUTE
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STANFORD UNIVERSITY



The Nature
Conservancy

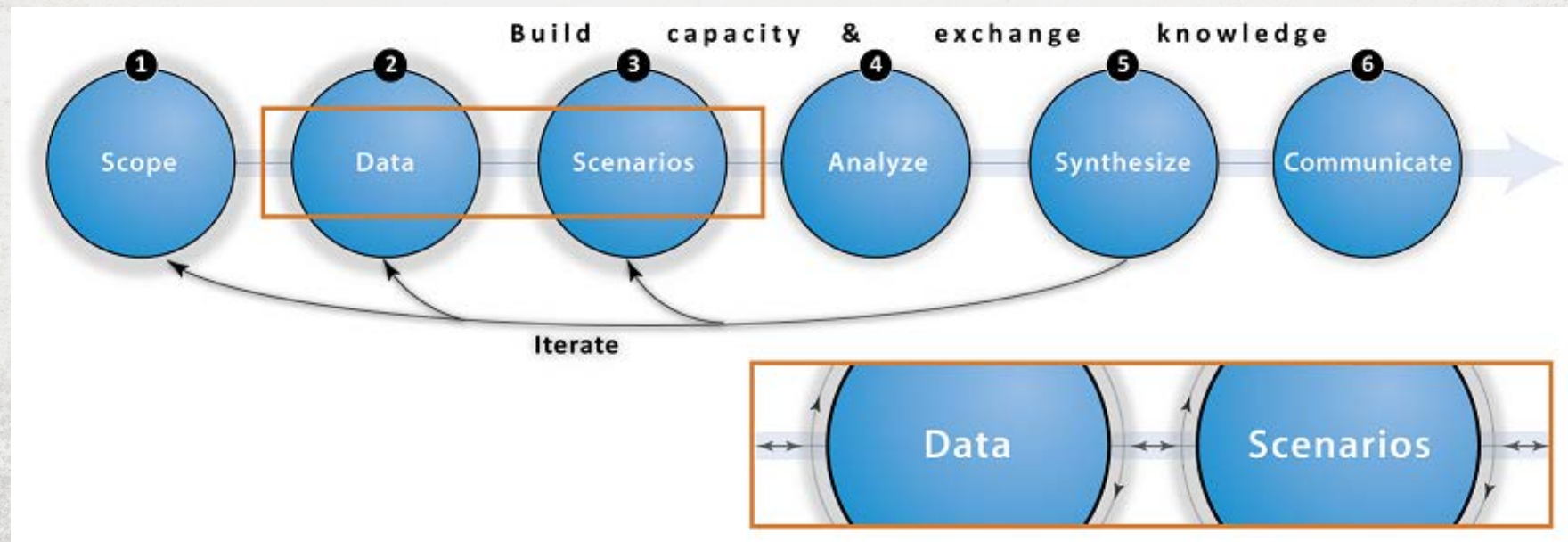


INSTITUTE ON THE
ENVIRONMENT

UNIVERSITY OF MINNESOTA
Driven to Discover™

ECOSYSTEM SERVICES ASSESSMENT

A FRAMEWORK



From Rosenthal et al. 2014, IJBSESM

ECOSYSTEM SERVICES ASSESSMENT

A FRAMEWORK

Supply → Service→ Value

Ecological functions
Ecosystem elements ->
Spatially-explicit
production functions

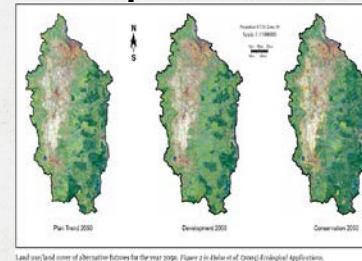
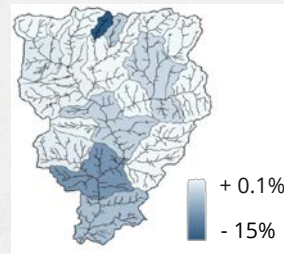
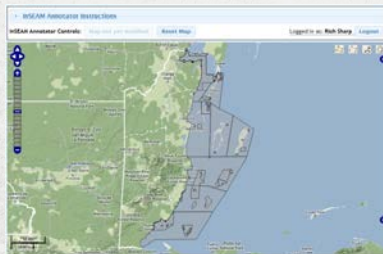
Supply
+
Location and activity of
beneficiaries

Service
+
Social preference

THE NATURAL CAPITAL APPROACH TOOLBOX

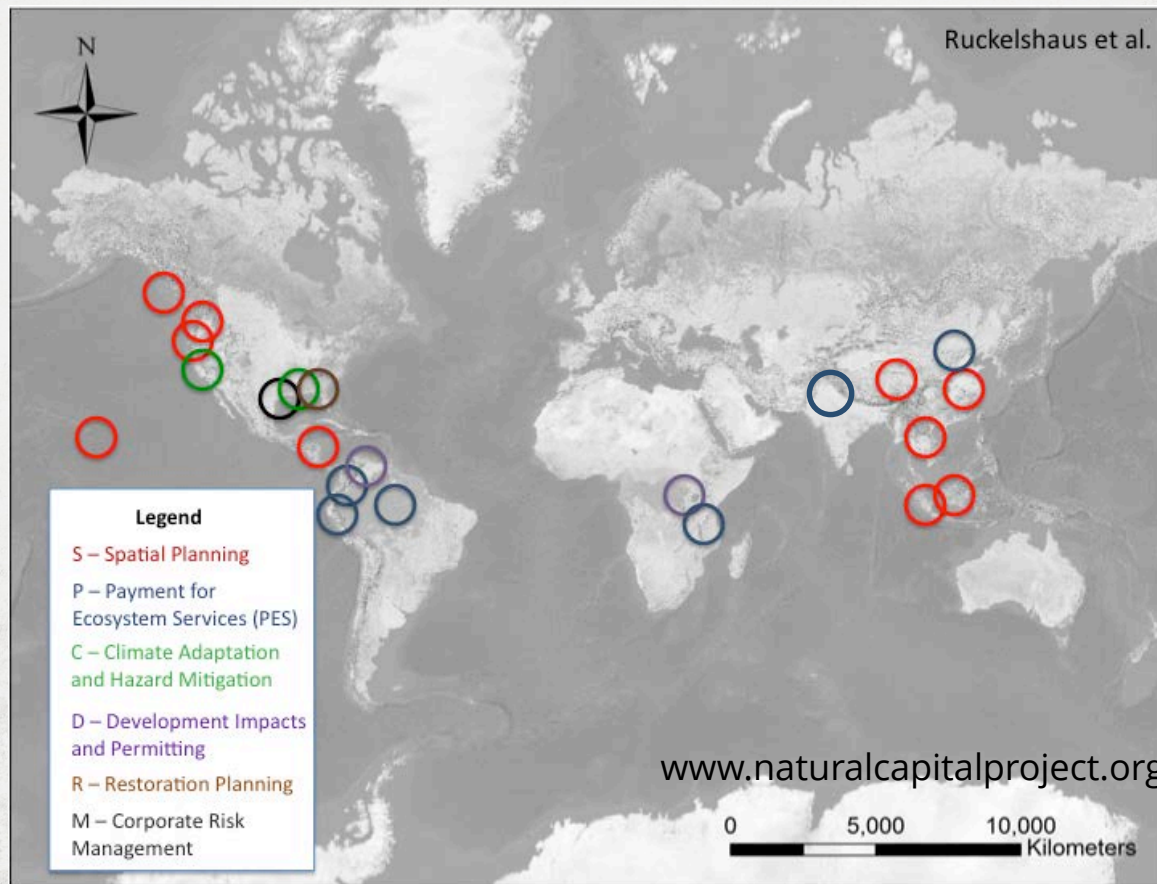


InVEST scenario modeling, helper tools



<http://naturalcapitalproject.org/InVEST.html>

VALUING NATURE IN DECISIONS



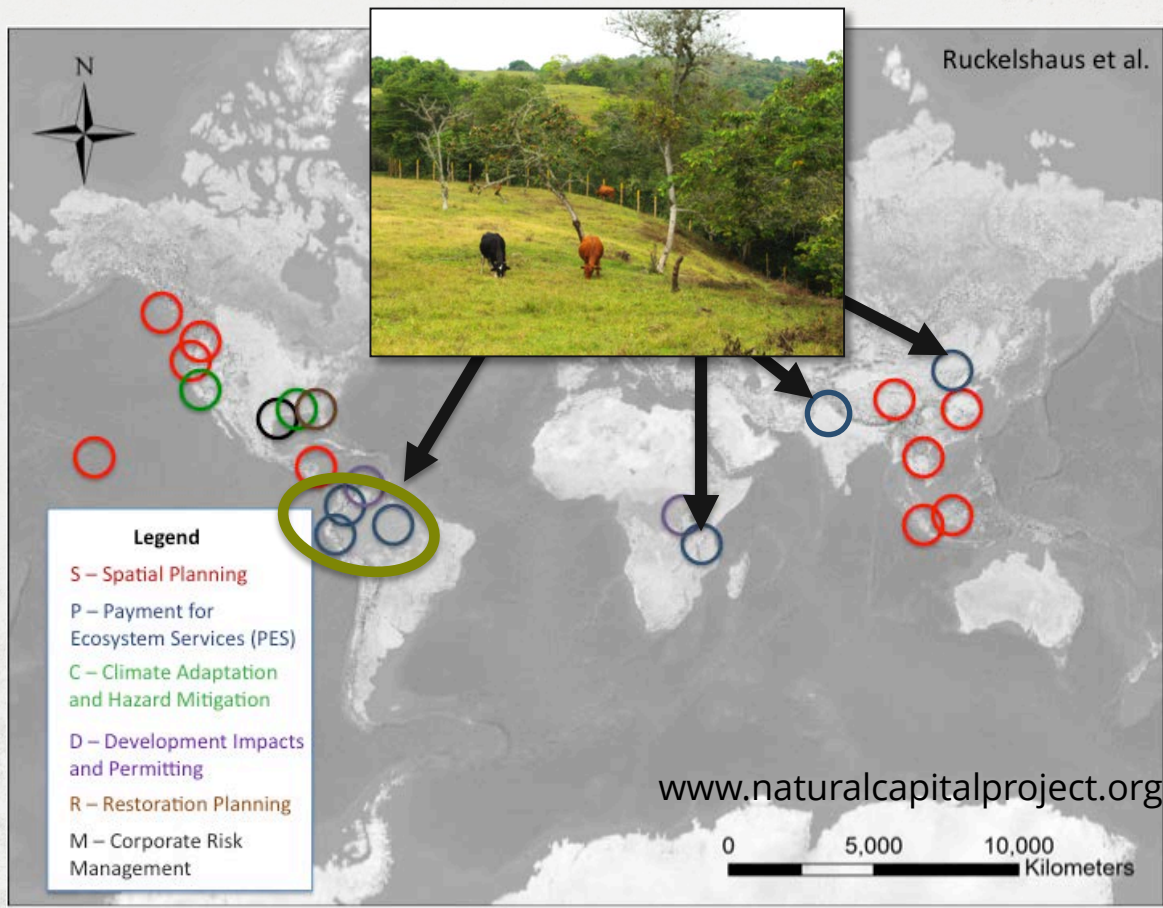
POLICIES TO PROMOTE GREEN GROWTH



COOPERATION FOR SPATIAL PLANNING



DESIGNING EFFICIENT INCENTIVES



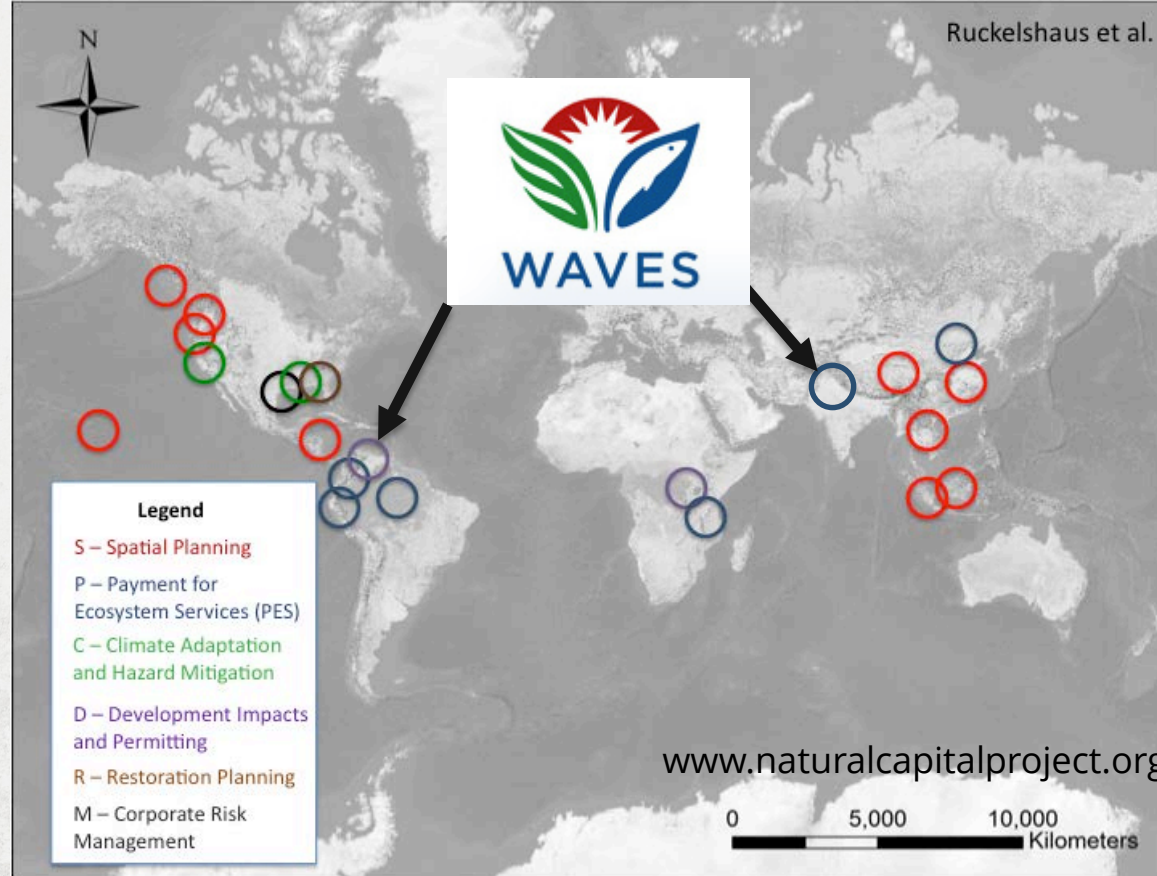
ADAPTING TO CLIMATE CHANGE



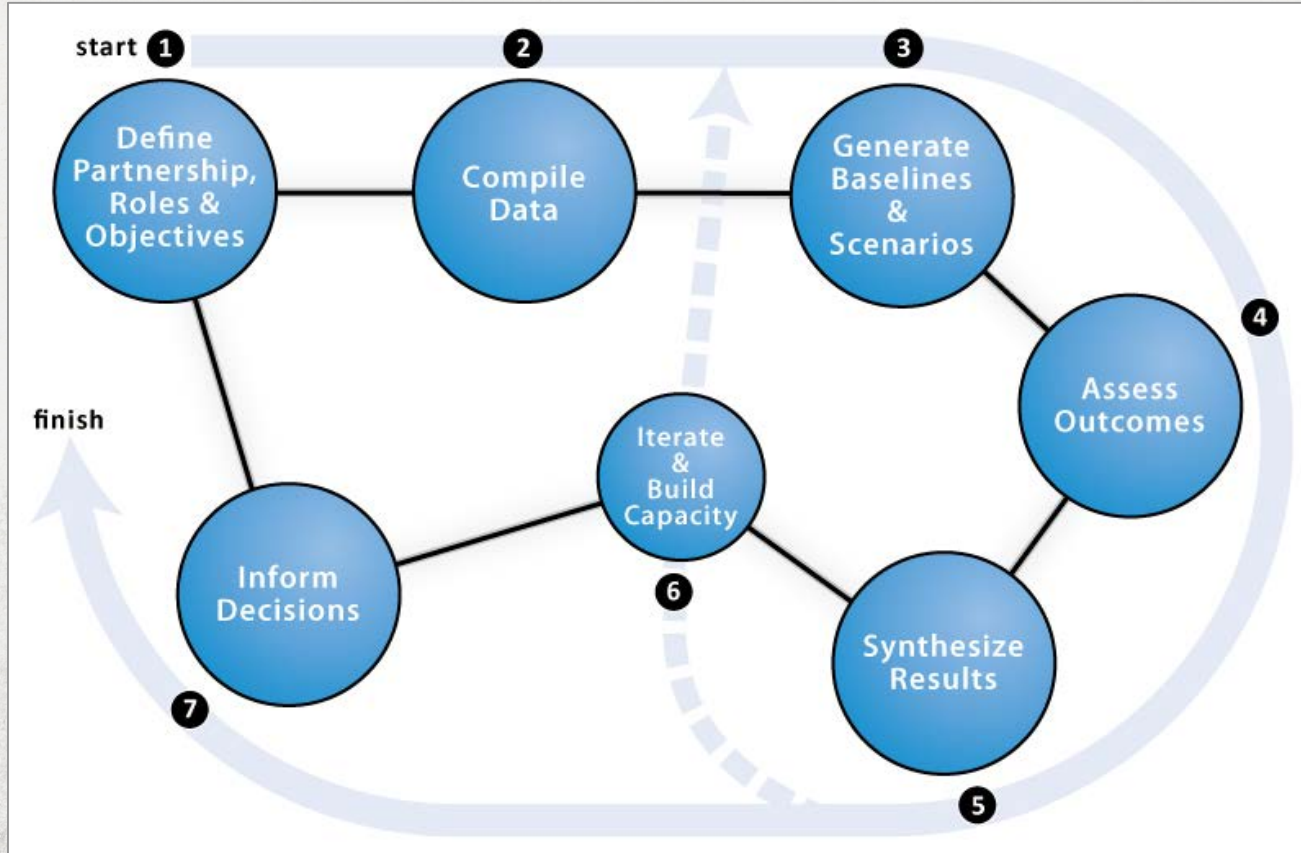
MEETING DEVELOPMENT SAFE- GUARDS



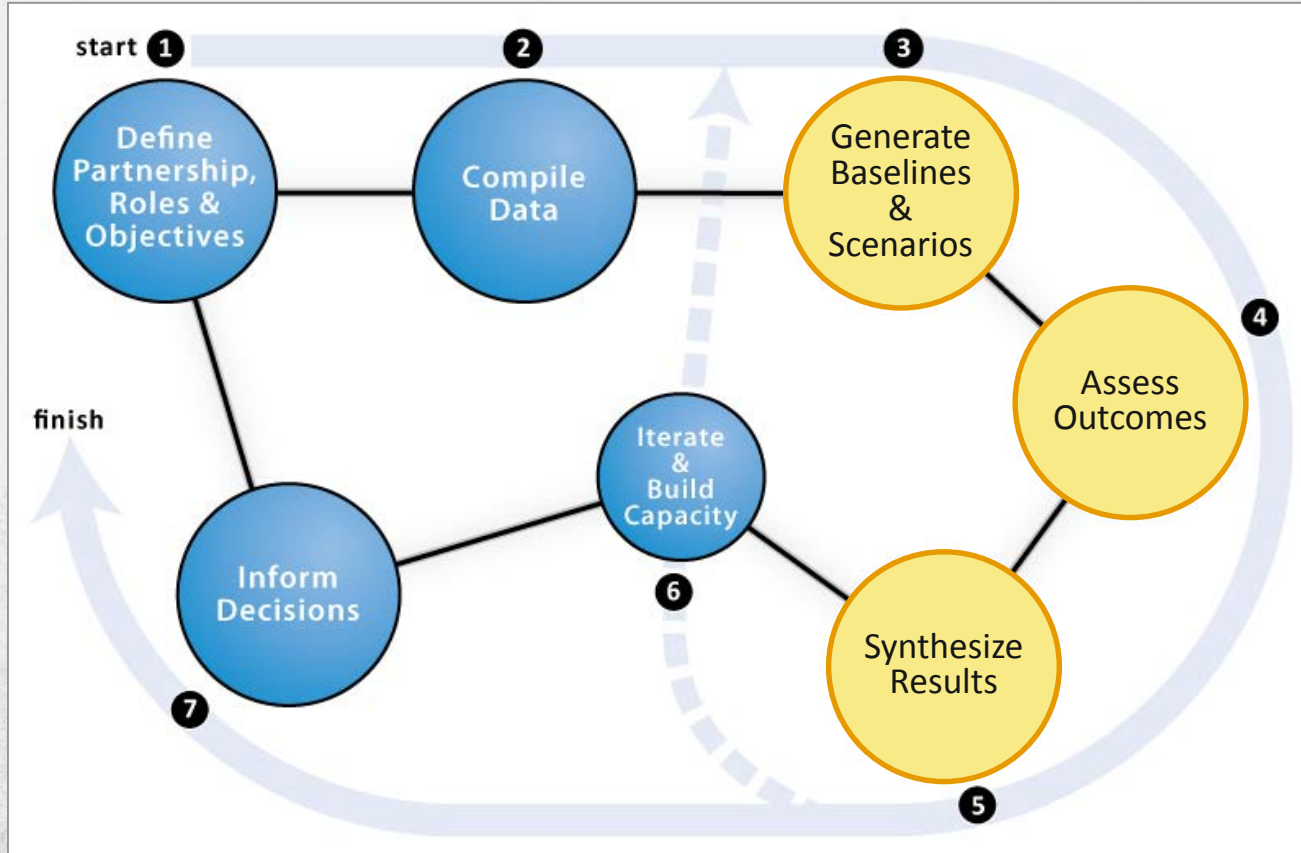
NATURAL CAPITAL ACCOUNTING



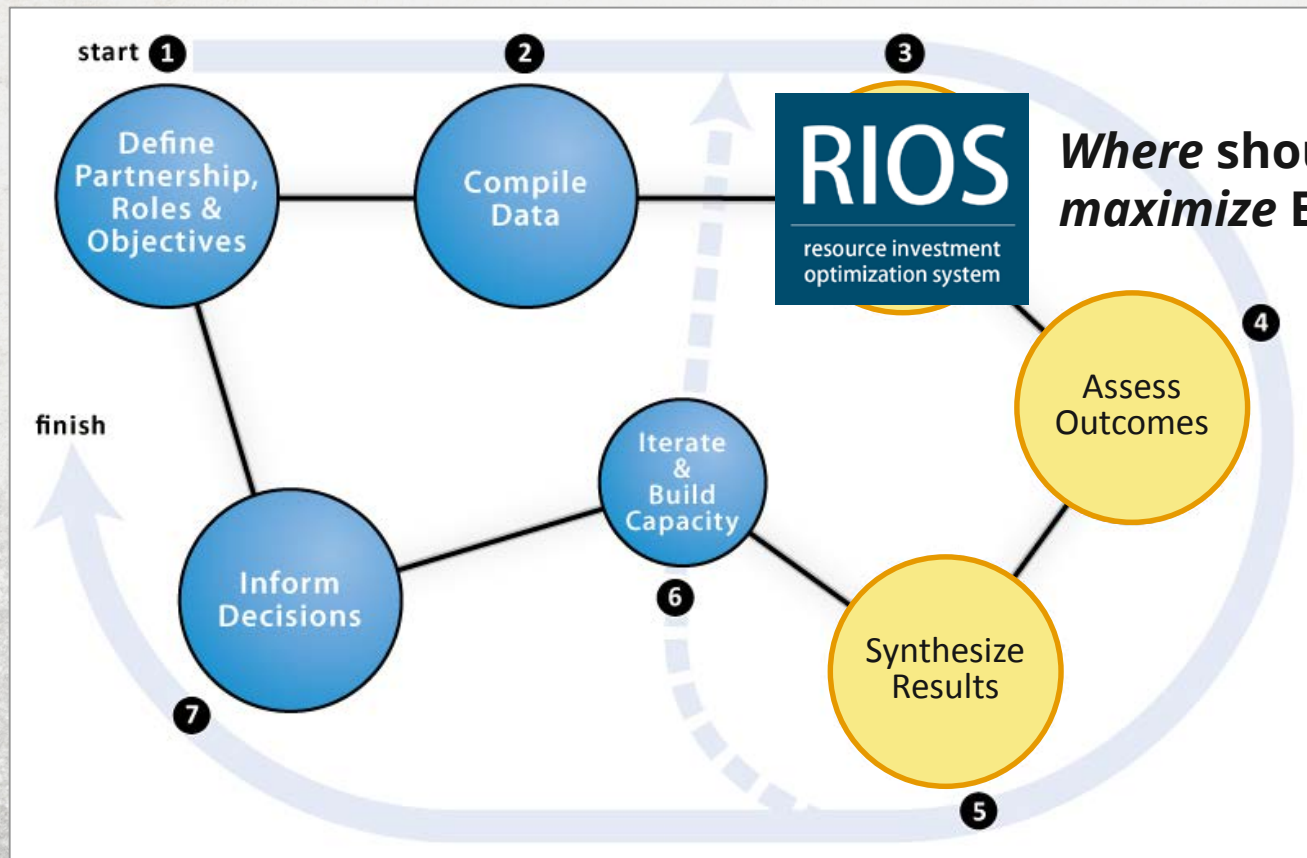
ECOSYSTEM SERVICES ASSESSMENT



ECOSYSTEM SERVICES ASSESSMENT

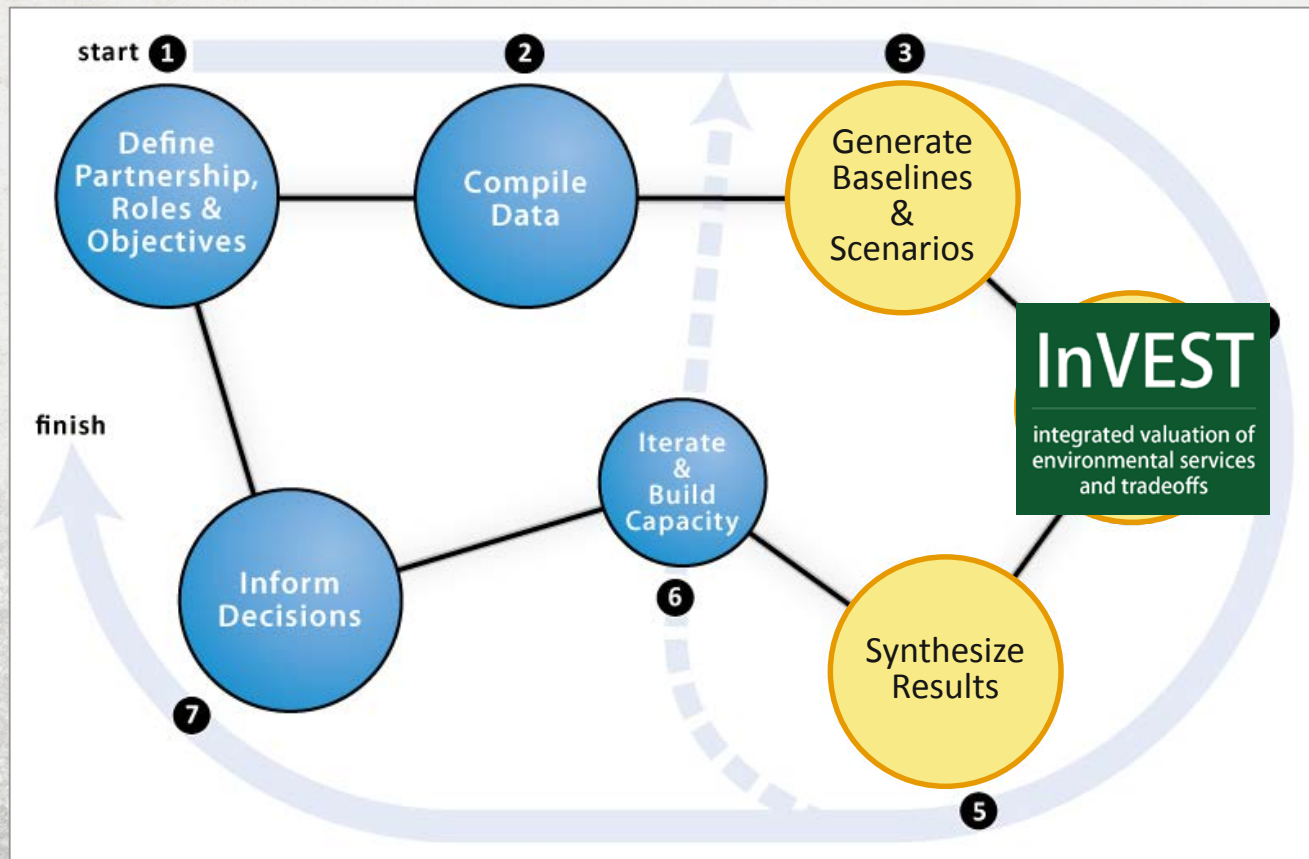


ECOSYSTEM SERVICES ASSESSMENT



**Where should I invest to
maximize ES improvement?**

ECOSYSTEM SERVICES ASSESSMENT



How much will ES delivery change with different scenarios (of investment, land use change, other)?

WHY INVEST/ OPAL/RIOS?

- Applicable across the globe
- Requires easily-available data
- Flexible scale
- Relevant to many kinds of decisions
- Biophysical and economic outputs
- Allows multi-service assessment
- Considers landscape context

InVEST

integrated valuation of
environmental services
and tradeoffs

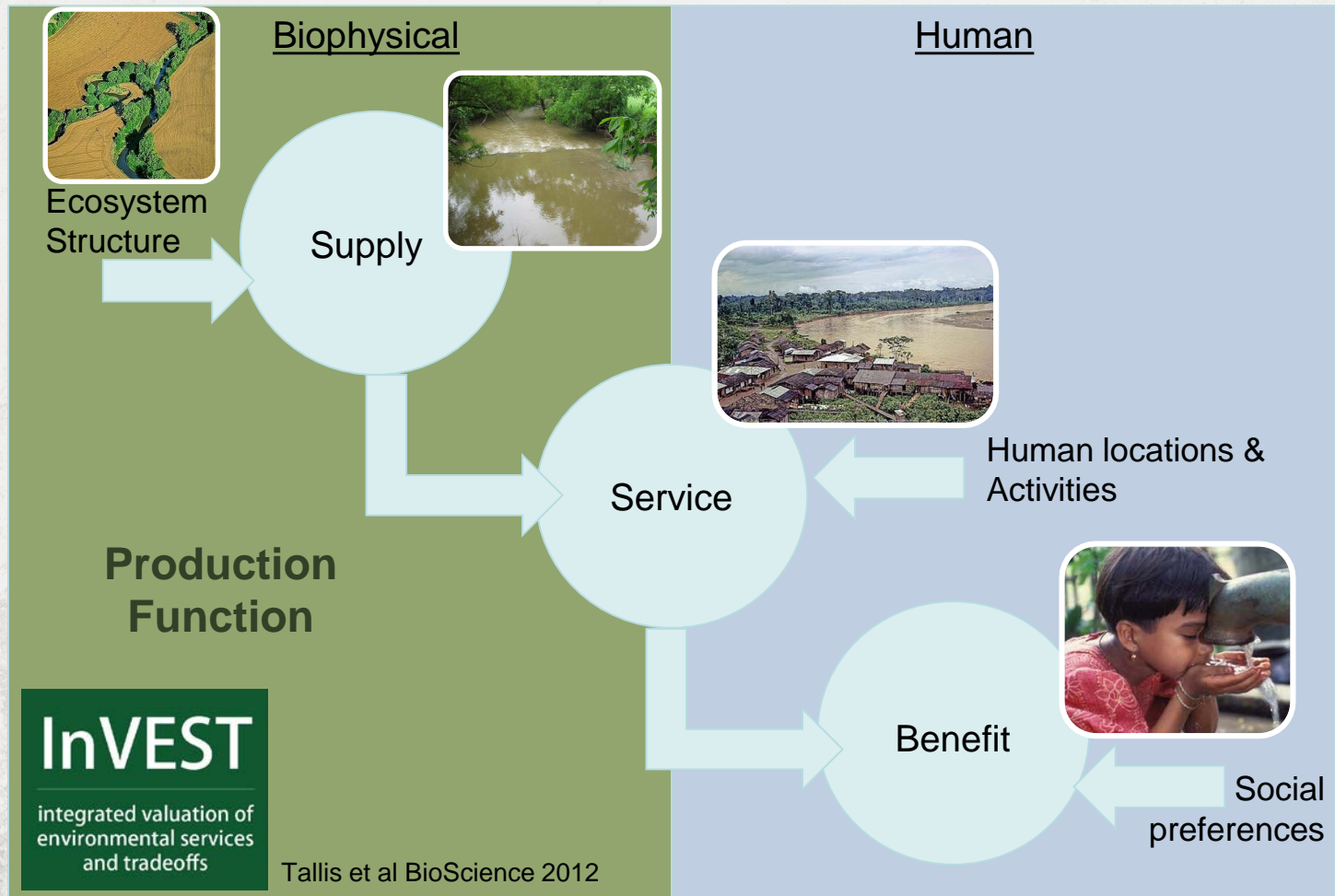
OPAL

offset portfolio
analyzer and locator

RIOS

resource investment
optimization system

FROM ECOSYSTEMS TO VALUE



INVEST MODELS - TERRESTRIAL

Habitat quality & Risk assessment

Water yield for hydropower production

Erosion control: reservoirs and WQ

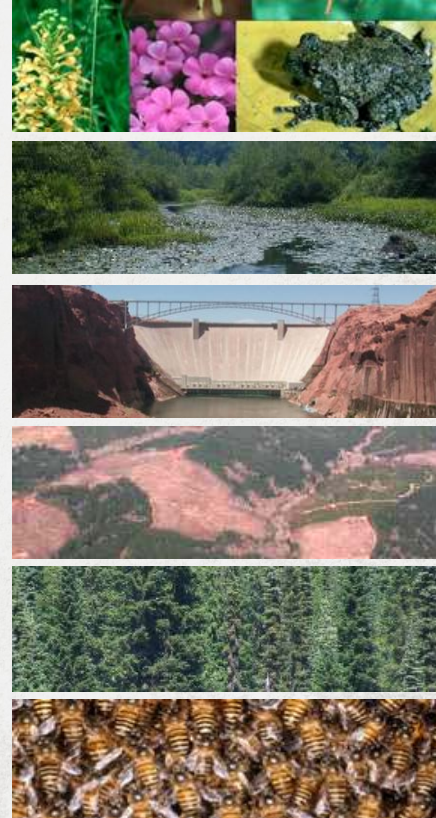
Water purification: nutrient retention

Carbon storage & sequestration

Managed timber production

Crop pollination

Coming Soon – Agricultural Production



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IMPROVING INVESTMENT OPTIONS WITH RIOS AND OPAL



- Shows where you can get best results for ***multiple goals*** through various conservation and restoration strategies
- Can address ***physical realities, feasibility,*** and ***cost effectiveness***
- A method that is ***robust*** and ***replicable*** with local capacity



NATURAL CAPITAL SYMPOSIUM

natural
capital
PROJECT

March 21-24, 2016

Munger Conference Center, Stanford University



<http://natcap2016.wordpress.com>

Q&A

