

Natural Capital Project and InVEST

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Natural Capital Project's Mission

Develop and apply a credible ecosystem service approach to *support decision makers*

Learn what works, train users, and disseminate useful approaches and lessons

Create an informed community of leaders and practitioners who will enable sound policy decisions



InVEST Software [\(http://www.naturalcapitalproject.org/download.html\)](http://www.naturalcapitalproject.org/download.html)

The image displays the InVEST software interface, specifically the Coastal Vulnerability Assessment Tool configuration window, overlaid on a map in ArcMap. The Windows Start menu is also visible, showing the InVEST 2.5.2 application folder.

Coastal Vulnerability Assessment Tool Configuration:

- Execution mode: generate all data
- Output area: sheltered/exposed?: both
- Working directory: C:\InVEST_2_5_2\coastal_vulnerability
- Write data to: C:\InVEST_2_5_2\coastal_vulnerability
- Area of interest: s_2\CoastalProtection\input\AOI_BarkClay.shp
- Land polygon: 2\Base_Data\Marine\land\global_polygon.shp
- Bathymetry layer: Base_Data\Marine\DEMs\claybark_dem\hdr.adf
- Layer value if path omitted: [empty]
- Relief: Base_Data\Marine\DEMs\claybark_dem\hdr.adf
- Layer value if path omitted: [empty]
- Mean sea level datum (m): 0
- Smallest detectable feature (segment size): 250
- Exposure proportion: 0.8
- Fetch distance threshold (m): 12000
- Rays per sector: 16
- Oceanic effect cutoff (m): 50000
- Depth threshold (m): 0
- Geomorphology: Protection\input\Geomorphology_BarkClay.shp
- Layer value if path omitted: [empty]

Windows Start Menu:

- InVEST 2.5.2
 - Biodiversity
 - Coastal Vulnerability (beta)
 - Finfish Aquaculture
 - Marine Water Quality
 - Pollination
 - Sediment Retention
 - Timber
 - Wind Energy (beta)
 - Carbon
 - Habitat Risk Assessment
 - Hydropower
 - Nutrient
 - Overlap Analysis
 - Recreation
 - Wave Energy

Assessments of Ecosystem Services



GLOBAL, SYNTHETIC:

60% of global ES in decline (MA)

NEEDED:

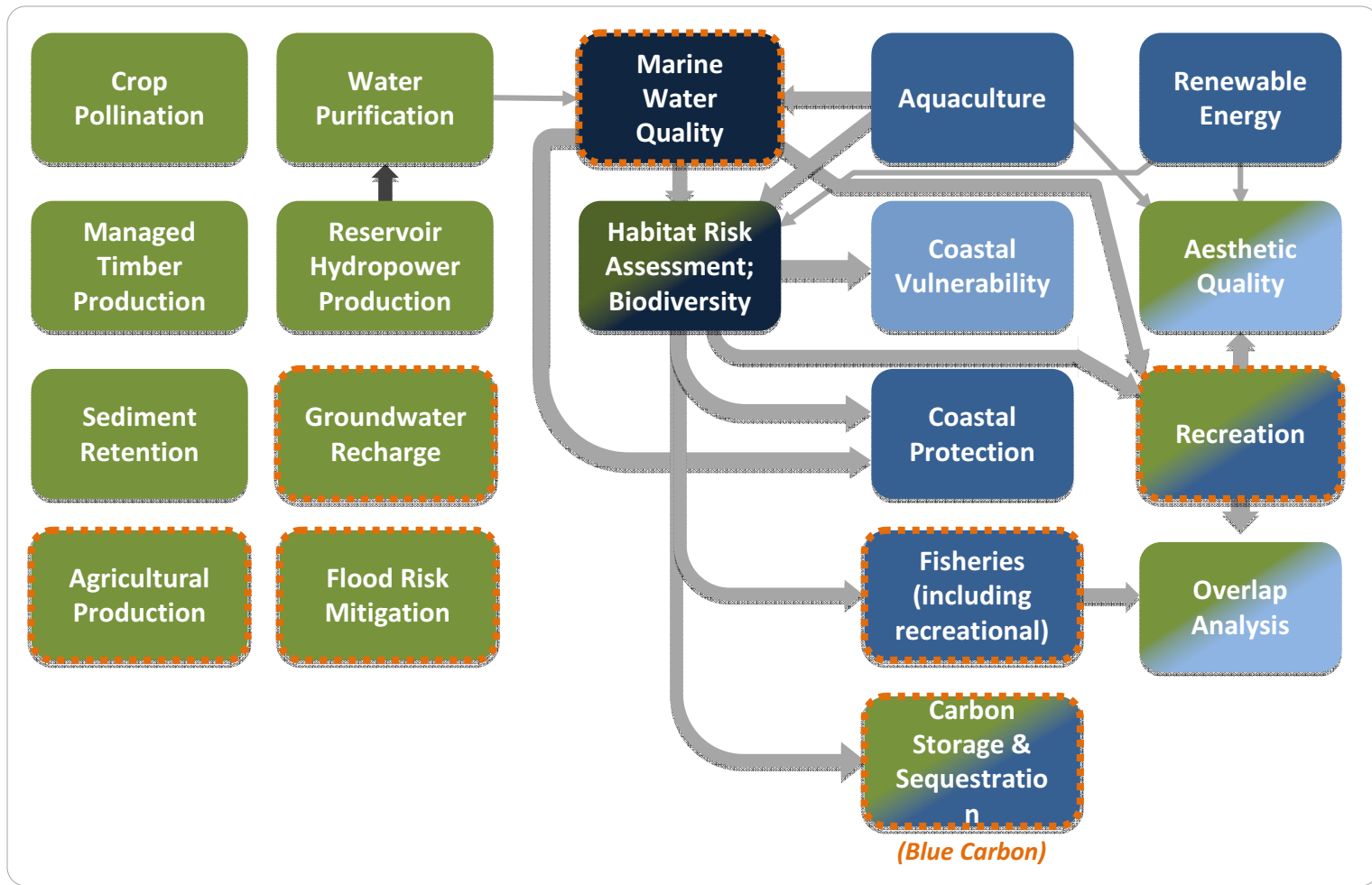
- region/landscape scale
 - spatially explicit
 - multiple services
- flexible, transferable











LOCAL, SPECIFIC:

2 forest patches: \$60K/year for pollination of nearby coffee plantations
(Ricketts et al. 2004. PNAS)

InVEST Models & Linkages

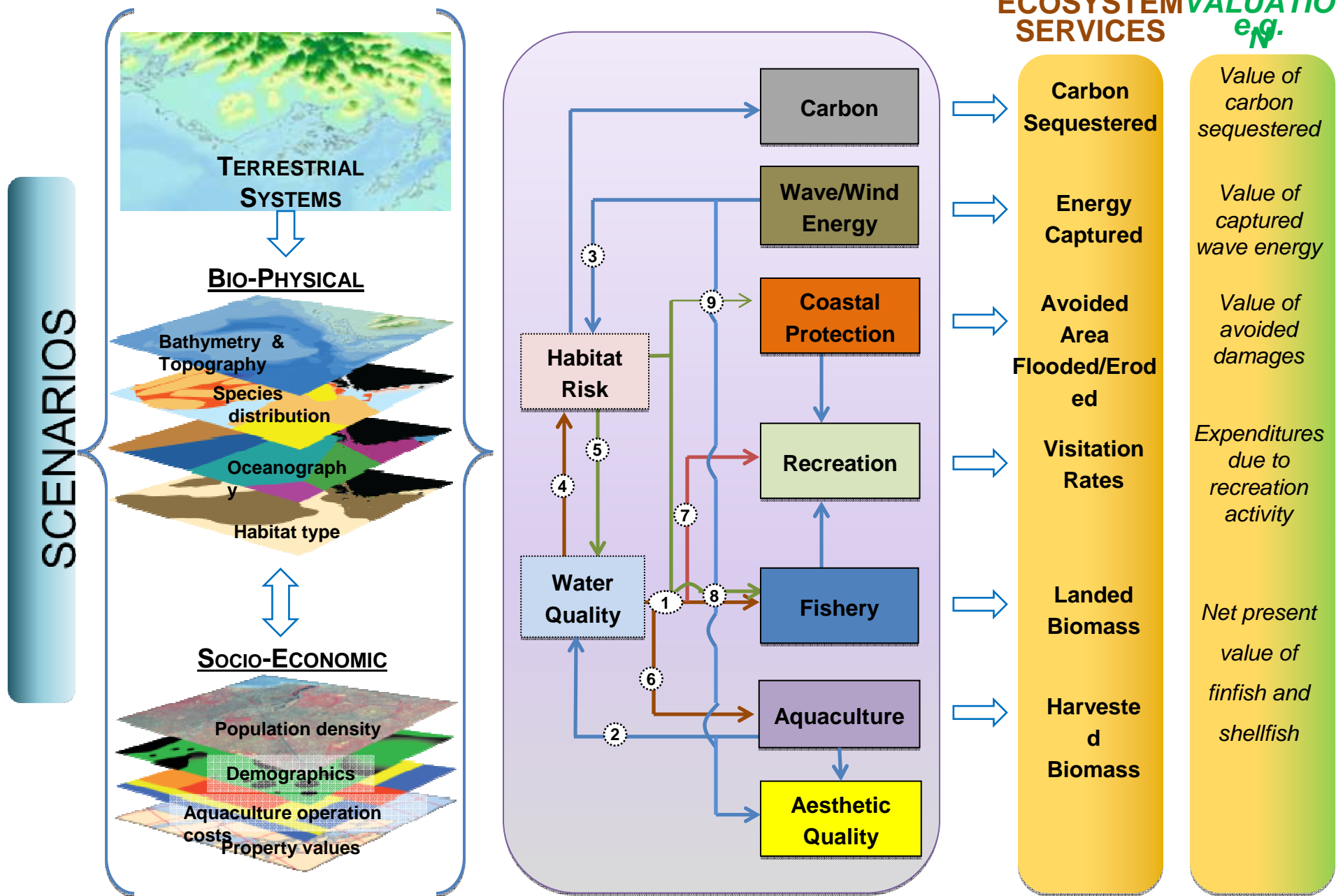


-  Terrestrial/freshwater model: Tier 1 supporting service
-  Terrestrial/freshwater model: Tier 1 that quantifies service
-  Marine model: Tier 1 supporting service
-  Marine model: Tier 1 that quantifies service
-  Marine model: Tier 0
-  Model coming soon!
-  Optional model linkage, no sequencing
-  Required/optional model linkage, sequencing needed

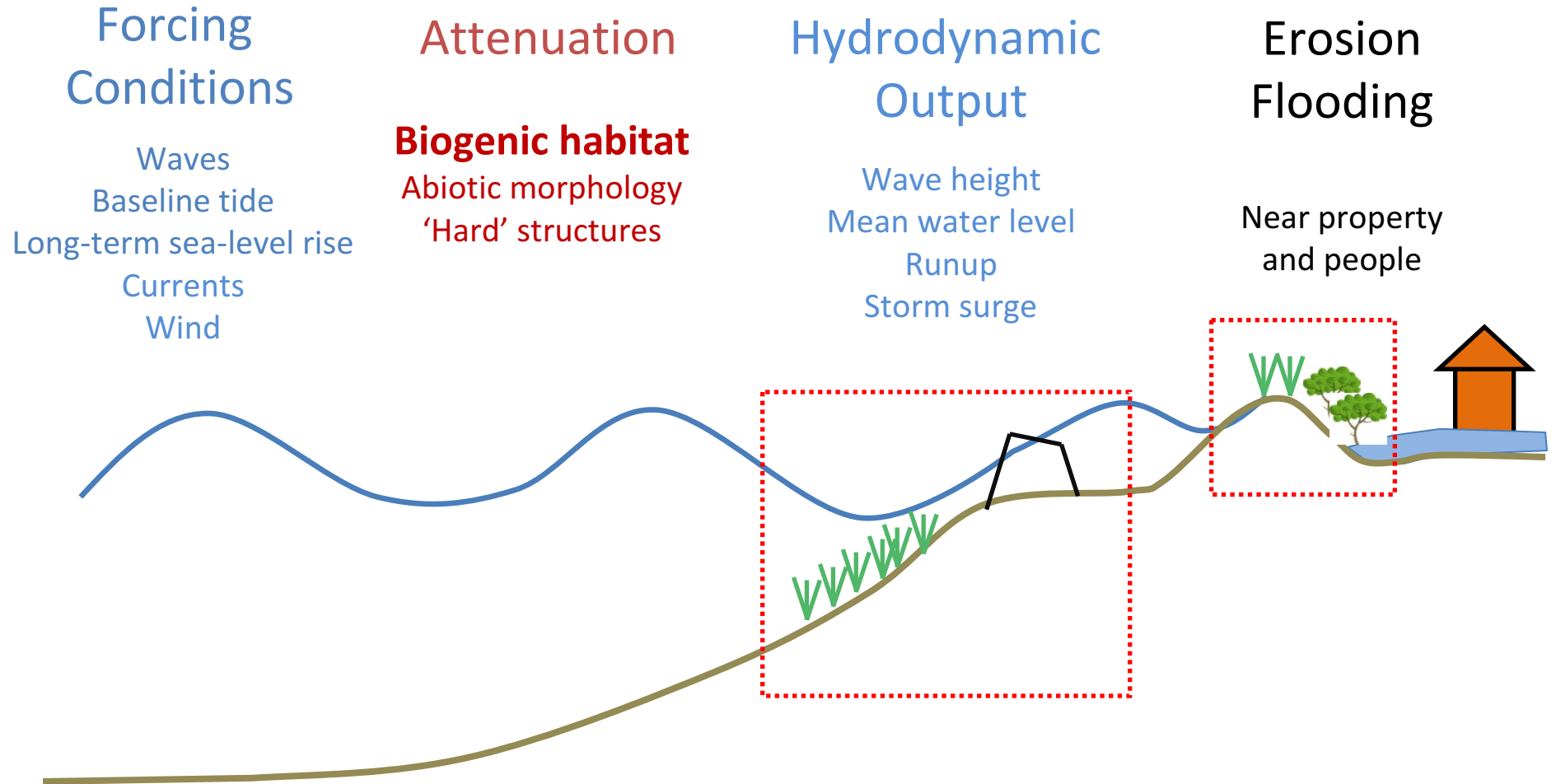
Input Data (reflect scenarios)

Marine InVEST Models

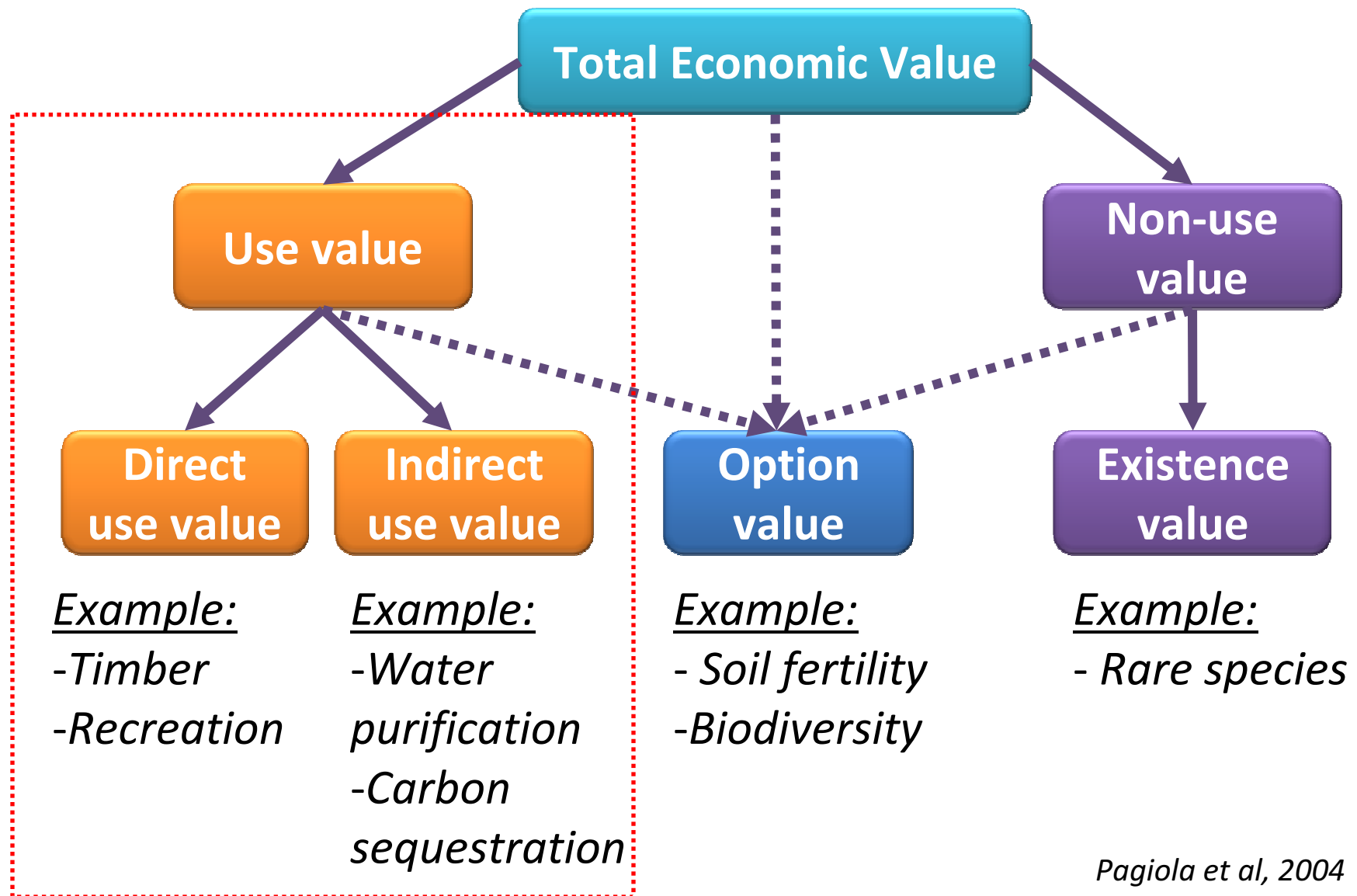
Model Outputs (ecosystem services & values)



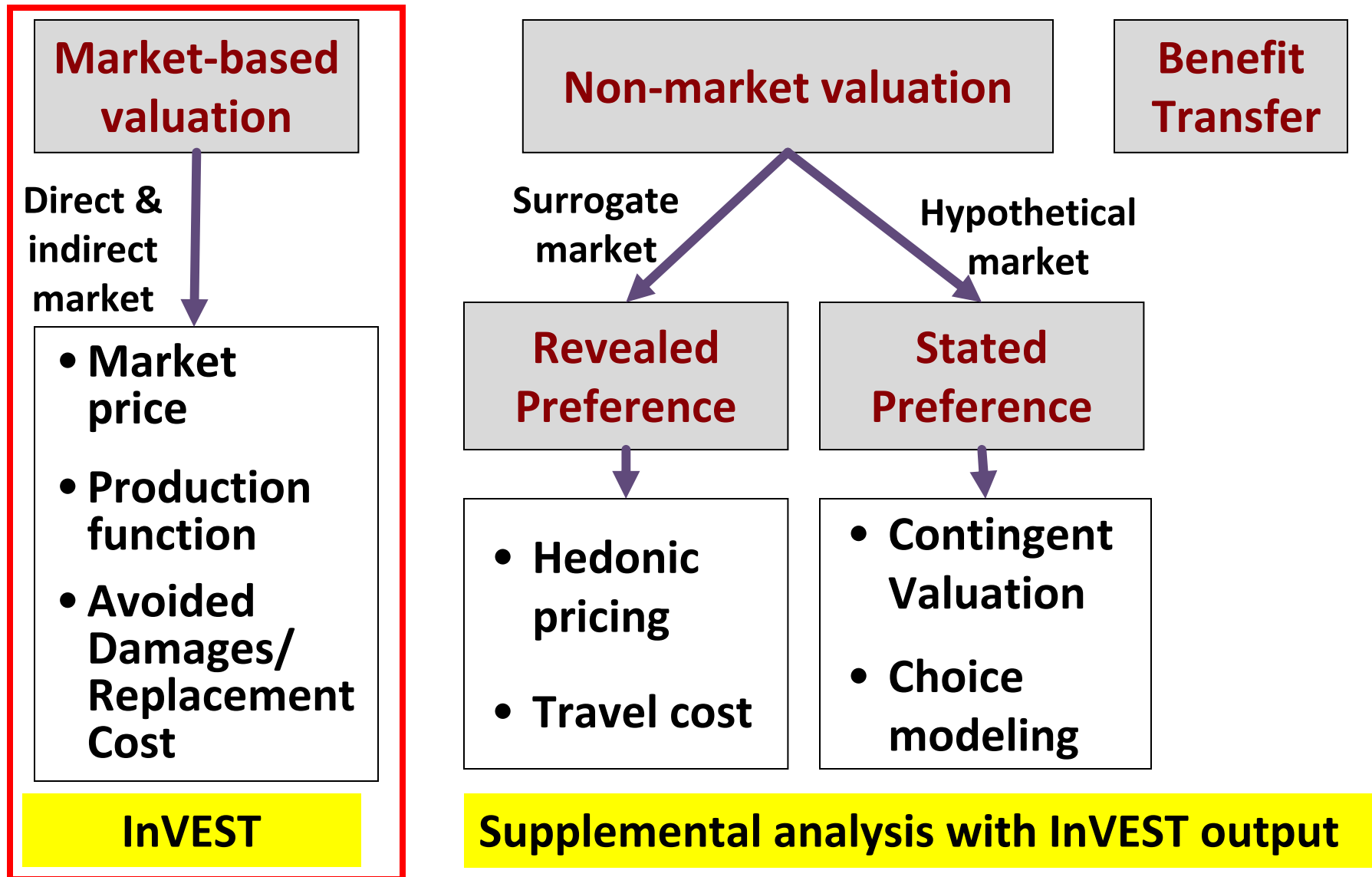
Supply -> Service -> Value



Ecosystem Service Value



Ecosystem Service Value





Links to SEEA and SEEA EEA

InVEST calculates:

- Biophysical quantities of service provision
- Value of additional service per unit
 - Annual flow (req'd for income accounting)
 - Flow over time (sustainability issues)

Testing InVEST for Environmental Account case studies in:

- India
- Belize
- Mozambique