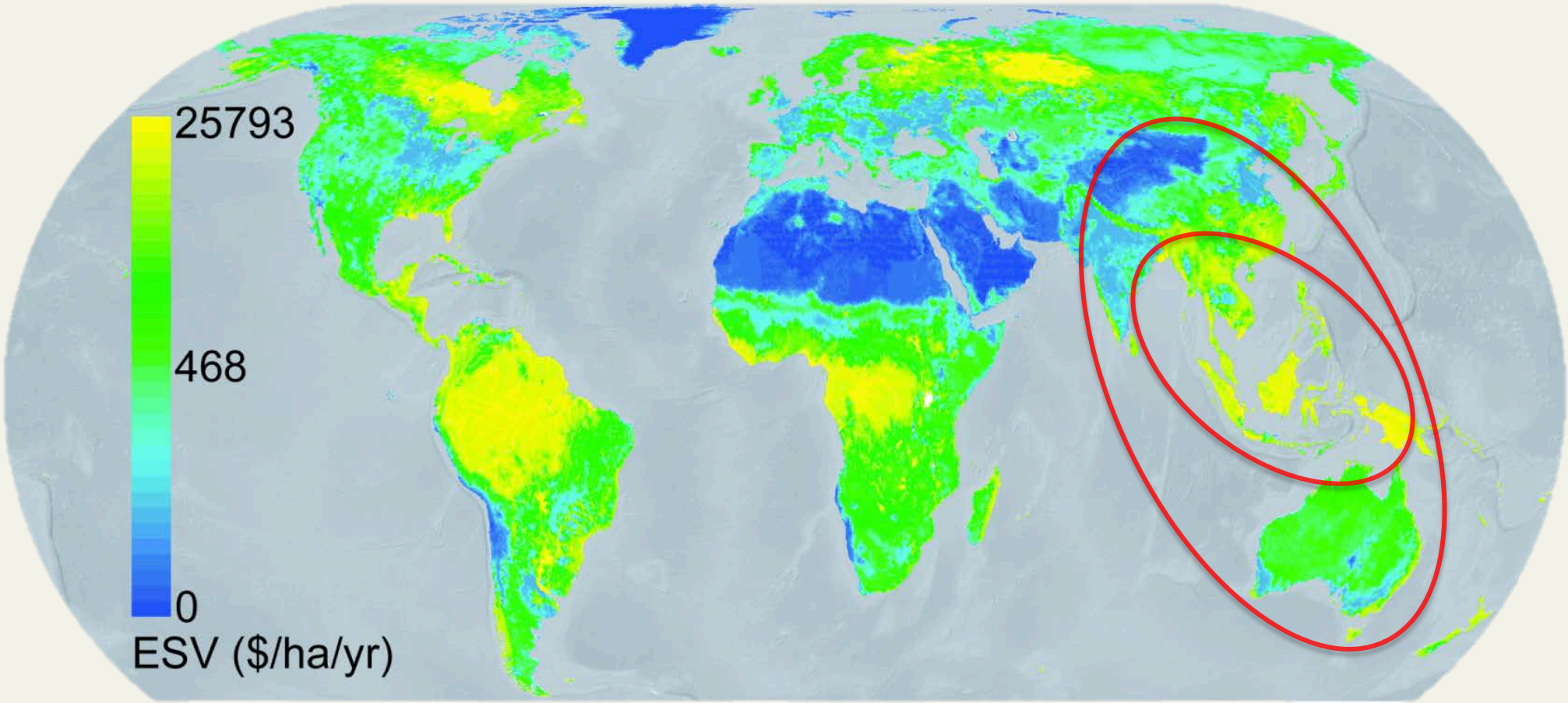
Mainstreaming Ecosystem Services Approaches into Development: Application of Economic Valuation for Designing Innovative Response Policies: *6 - 9 February, Bangkok*

Investing in Natural Capital in the Greater Mekong Subregion

WWF Greater Mekong Programme

Global map of potential ecosystem service values by country

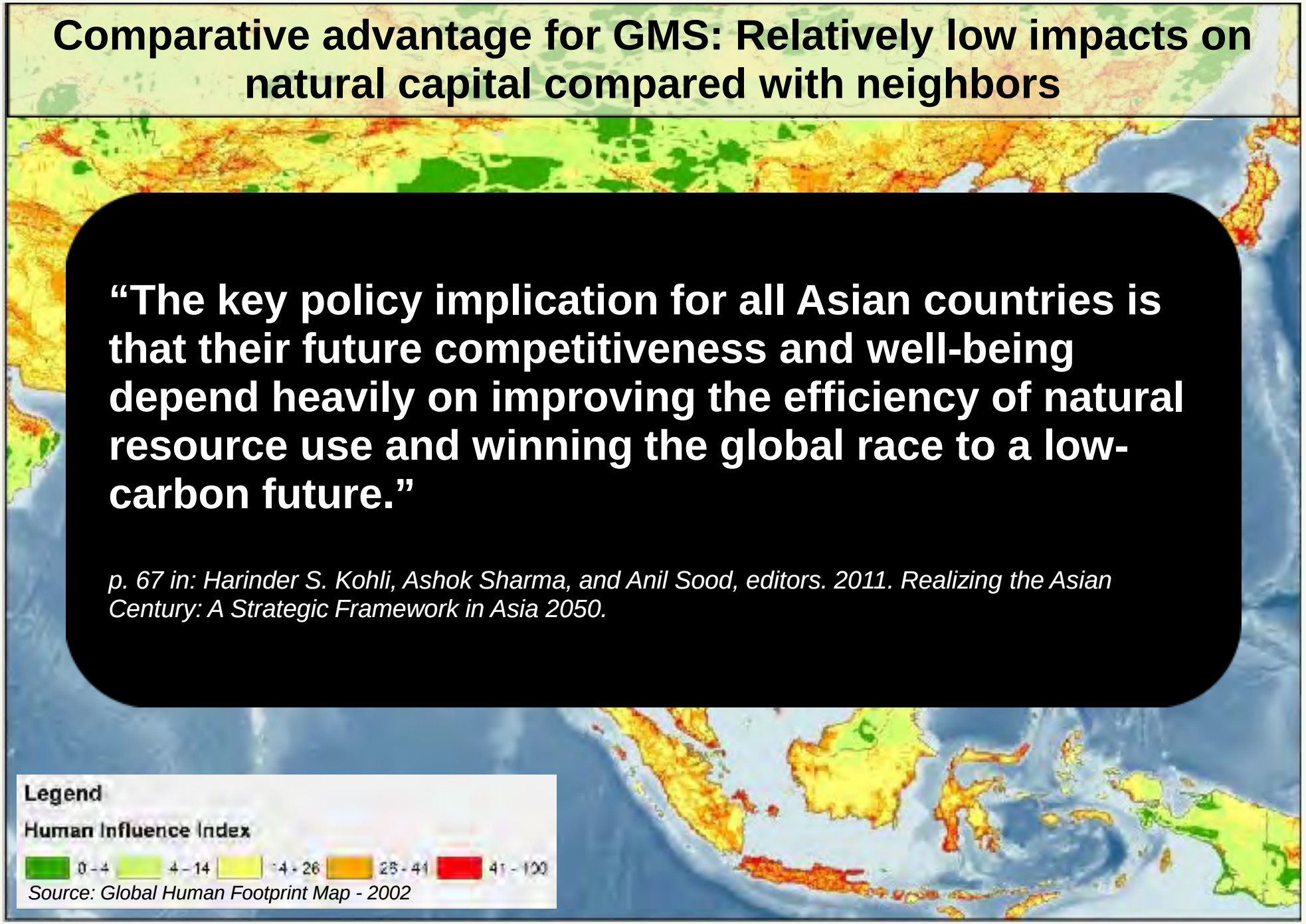


Will R. Turner, Katrina Brandon, Thomas M. Brooks, Claude Gascon, Holly K. Gibbs, Keith S. Lawrence, Russell A. Mittermeier and Elizabeth R. Selig. 2012. Global Biodiversity Conservation and the Alleviation of Poverty. BioScience , Vol. 62, No. 1 (January 2012), pp. 85-92.

Comparative advantage for GMS: Relatively low impacts on natural capital compared with neighbors

"The key policy implication for all Asian countries is that their future competitiveness and well-being depend heavily on improving the efficiency of natural resource use and winning the global race to a low-carbon future."

p. 67 in: Harinder S. Kohli, Ashok Sharma, and Anil Sood, editors. 2011. Realizing the Asian Century: A Strategic Framework in Asia 2050.

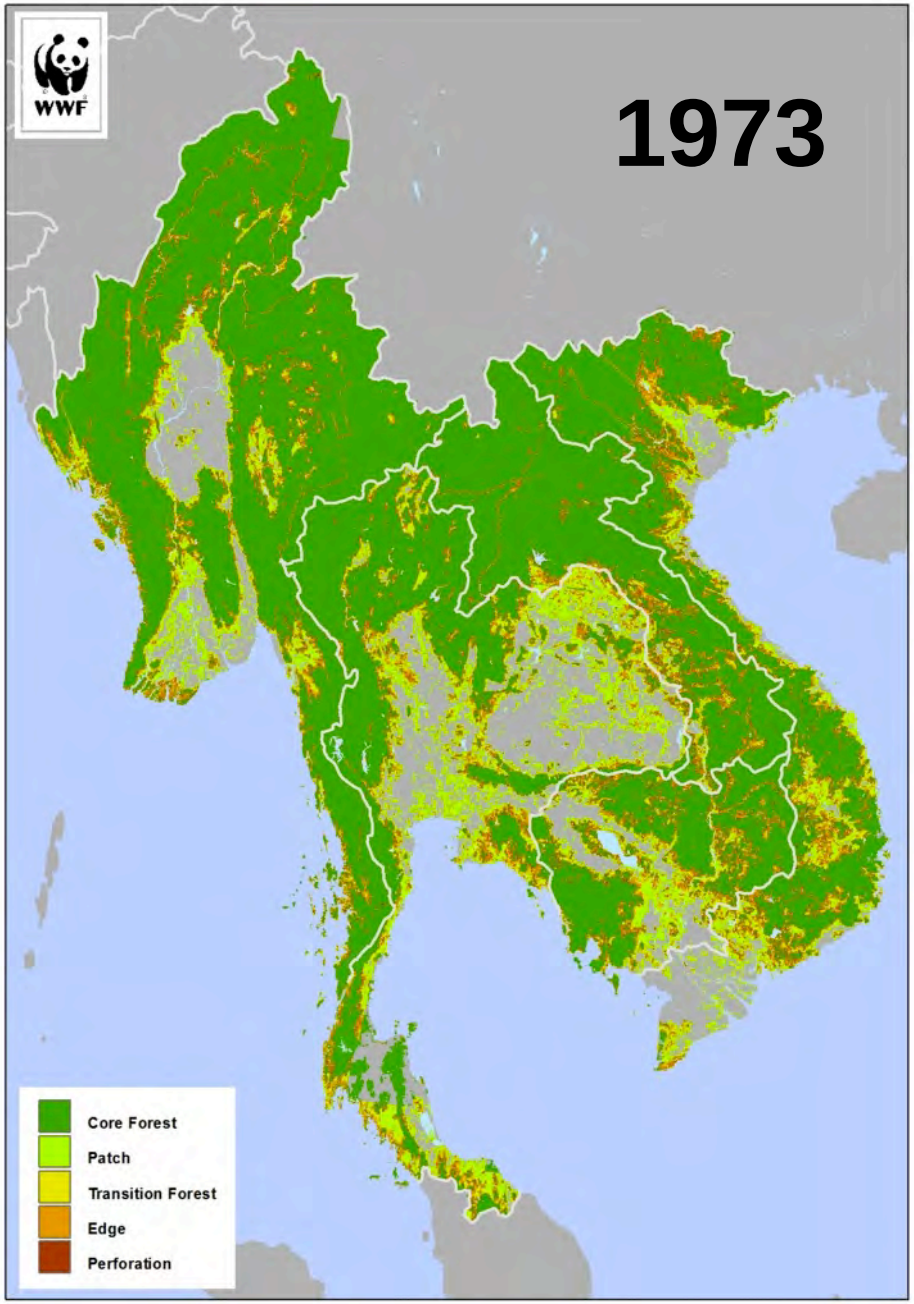


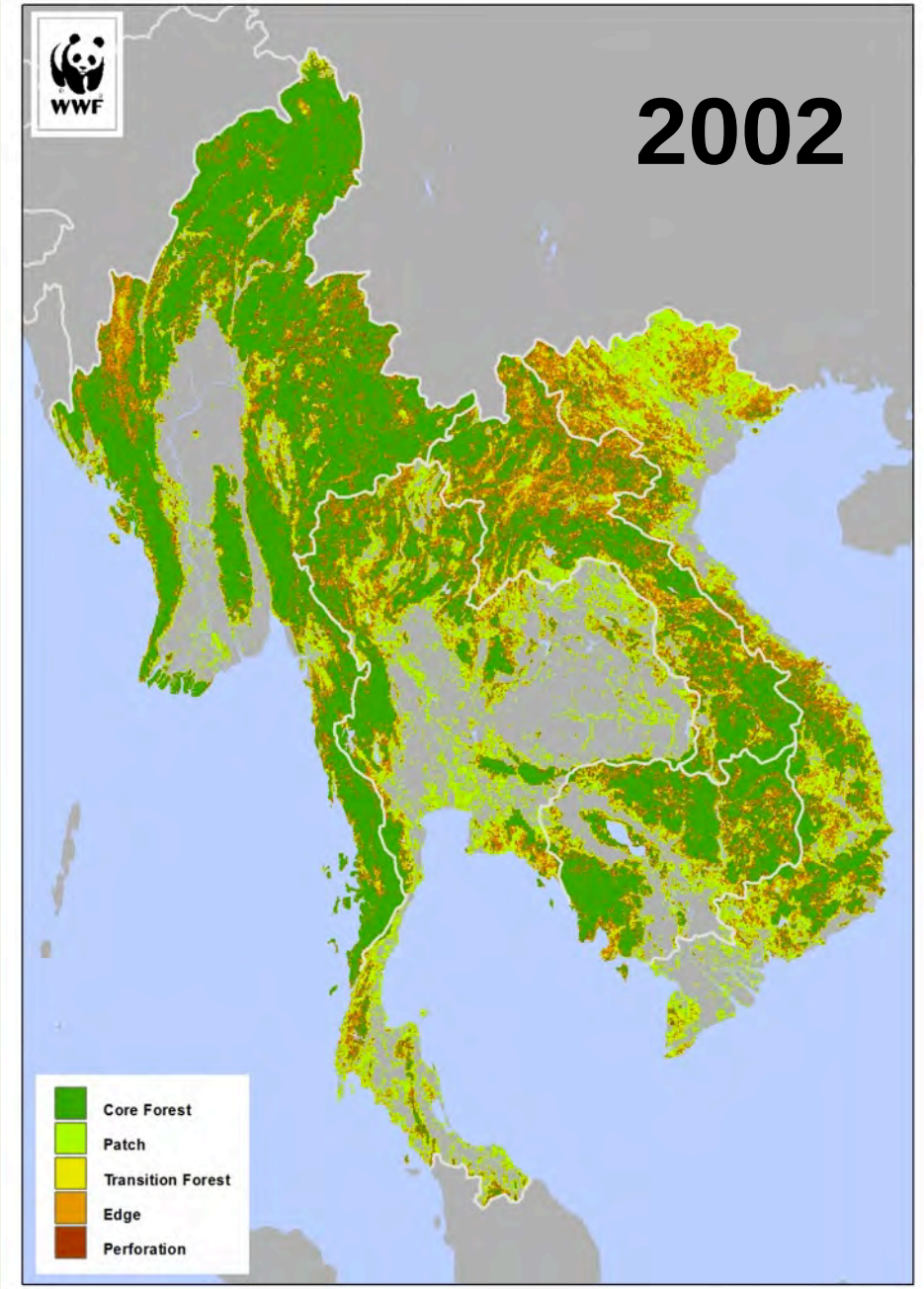
Key Services of

Forest Ecosystems

- Timber Harvest
- Water storage
- Regulation of water flows
- NTFPs
- Climate change mitigation and adaptation

Forest Cover and Fragmentation in the GMS



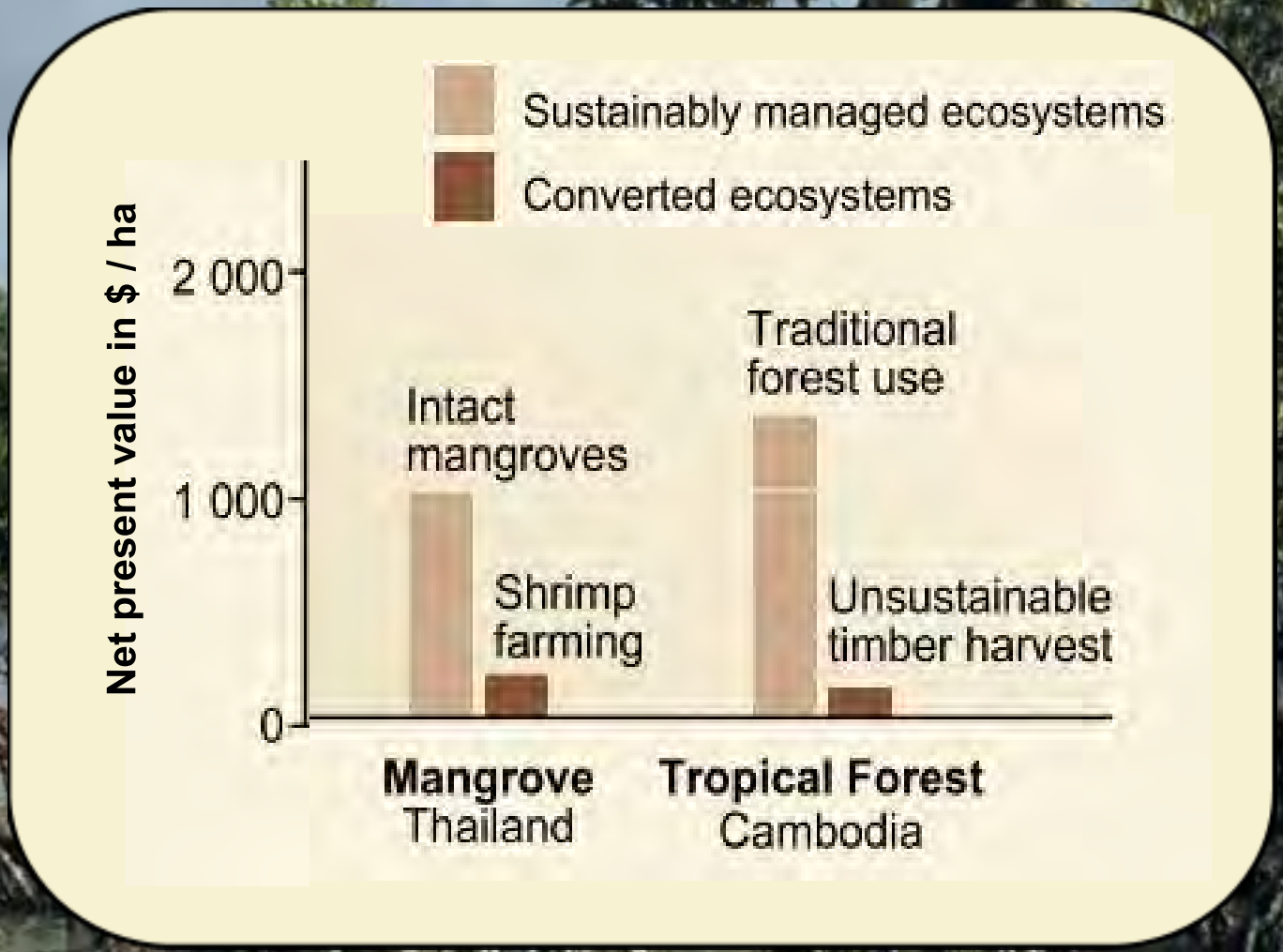


Key Services of

Mangrove Ecosystems

- **Coastal erosion prevention**
- **Buffering extreme events**
- **Fish Spawning**
- **NTFPs**

Comparing Total Economic Value



Ranganathan et al. 2008. Ecosystem Services: A Guide for Decision-makers. World Resources Institute (originally from the Milleneum Ecosystem Assessment 2005)

Key Services of

Coral Reef Ecosystems

- Coastal erosion prevention
- Recreation
- Fish productivity
- Mitigating storm impacts

Key Services of

Wetland Ecosystems

- Floodwater regulation
- Water purification
- Fish spawning and production

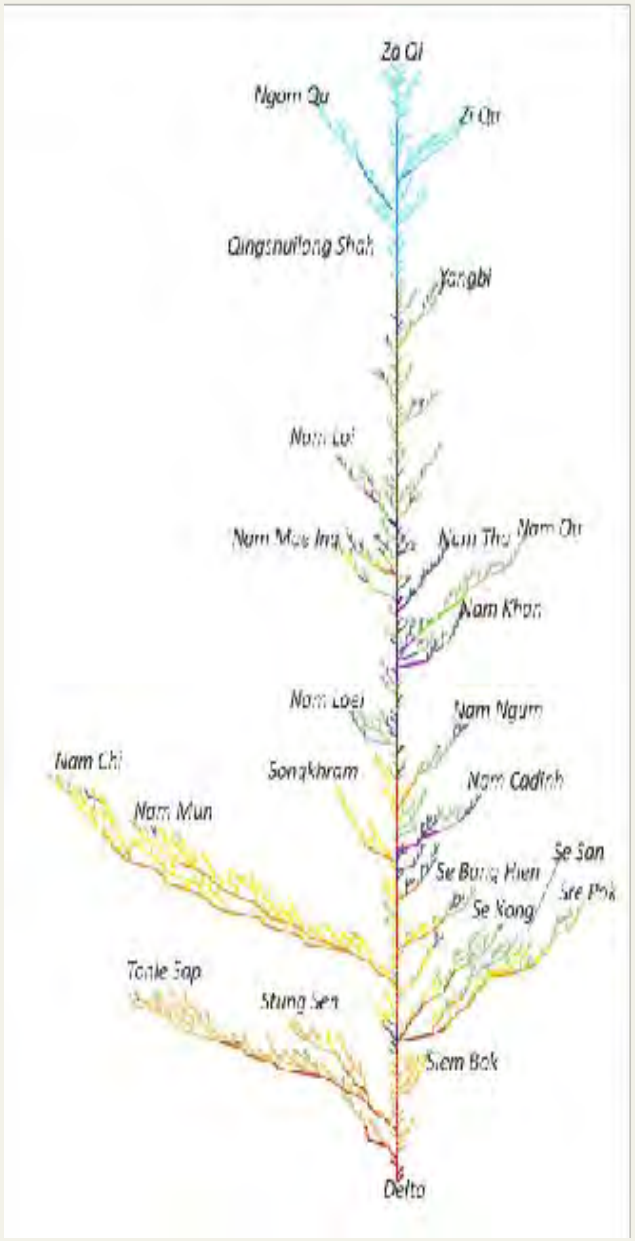
*In 2002, rivers, reservoirs, and other aquaculture produced **US$ 1.5 billion** in annual revenues in the Lower Mekong Basin*

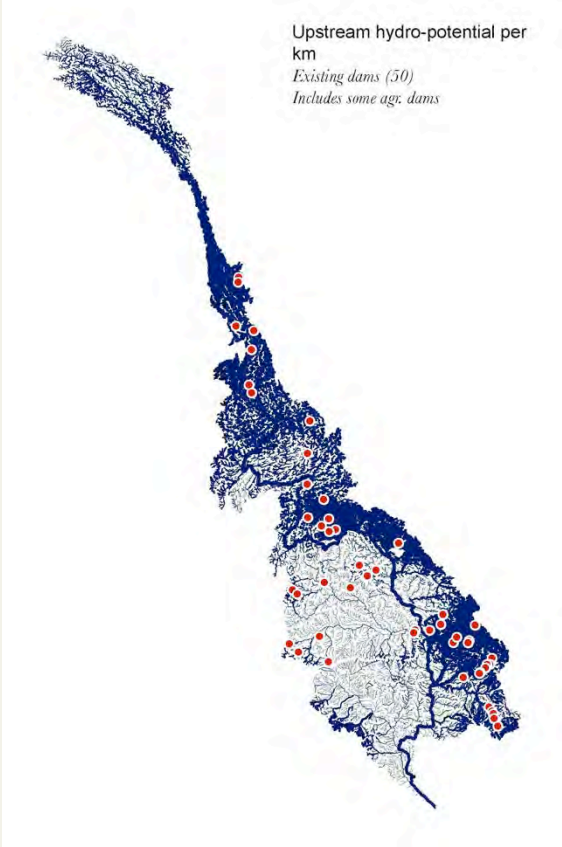
Key Services of

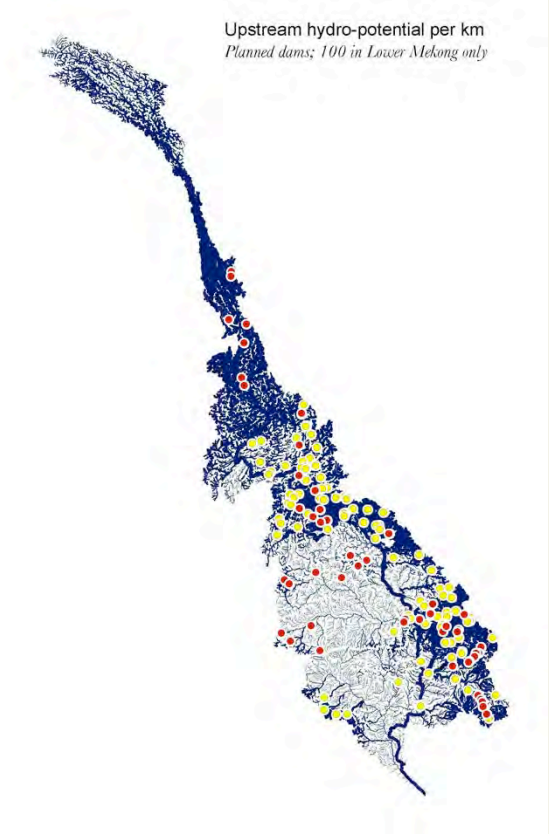
River Systems

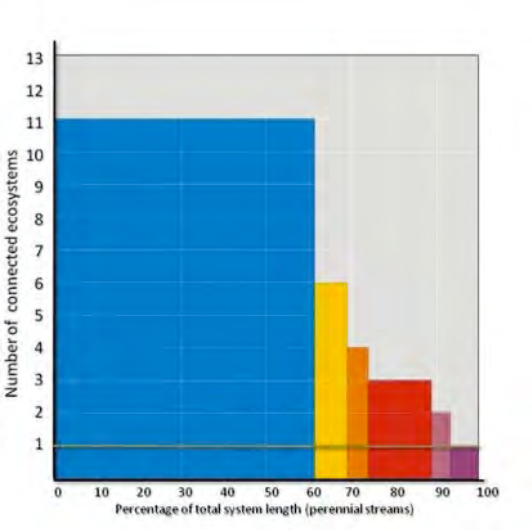
- Sedimentation
- Nutrient movement
- Fish reproduction
- Hydropower

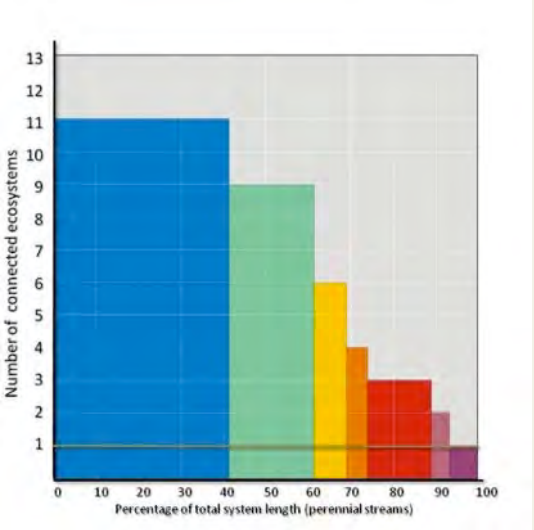
Connectivity on the Lower Mekong River System





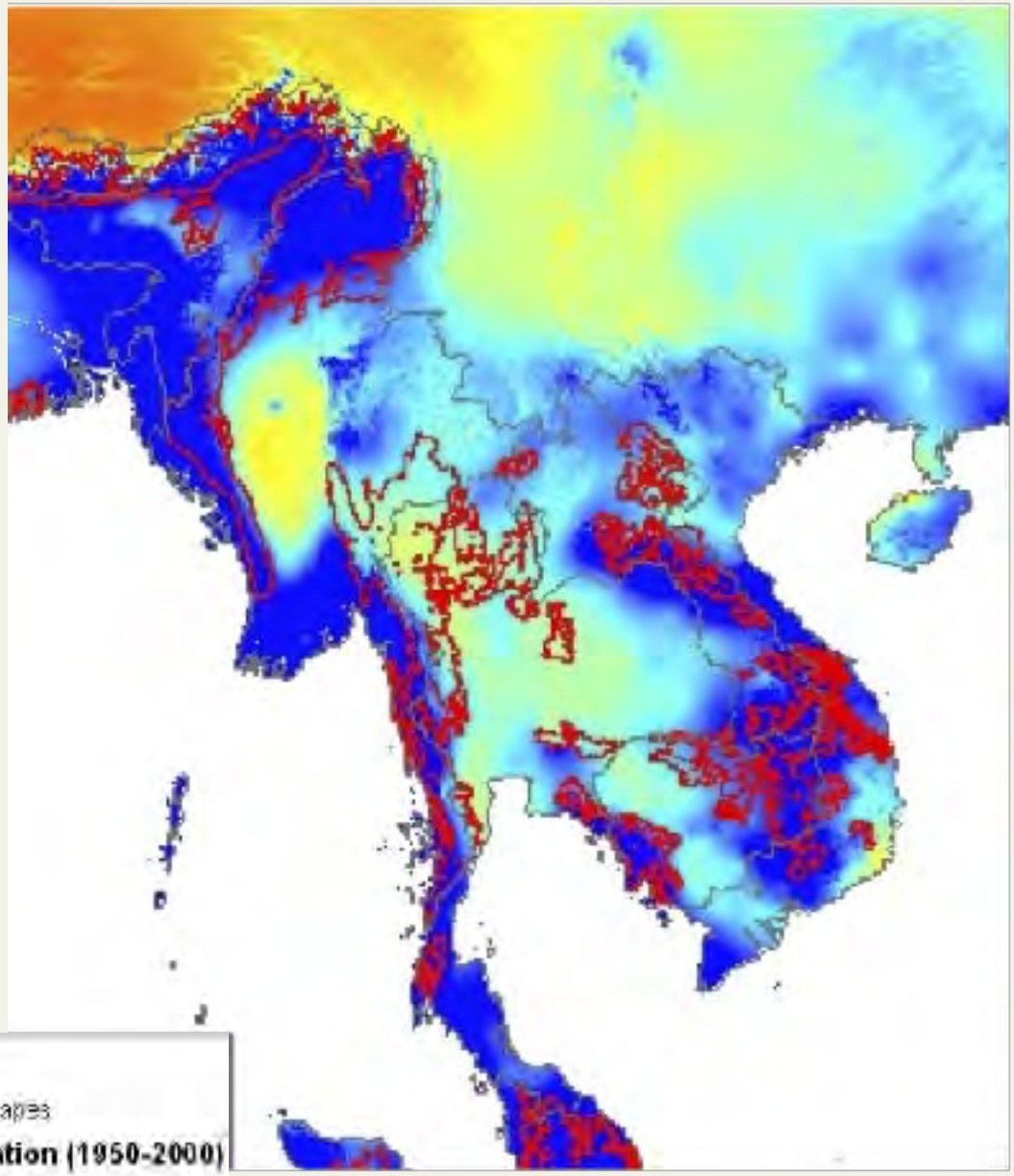






Co-benefits Example:

Synergy of important water yield areas and remaining tiger habitat



Investing in ***conservation*** is much less expensive than having to do ***restoration***

Natural capital is:

- easy to lose,
- a challenge to conserve, and
- expensive and very difficult to restore

Comparing Futures Scenarios

Conservation and Sustainable Use (CSU)

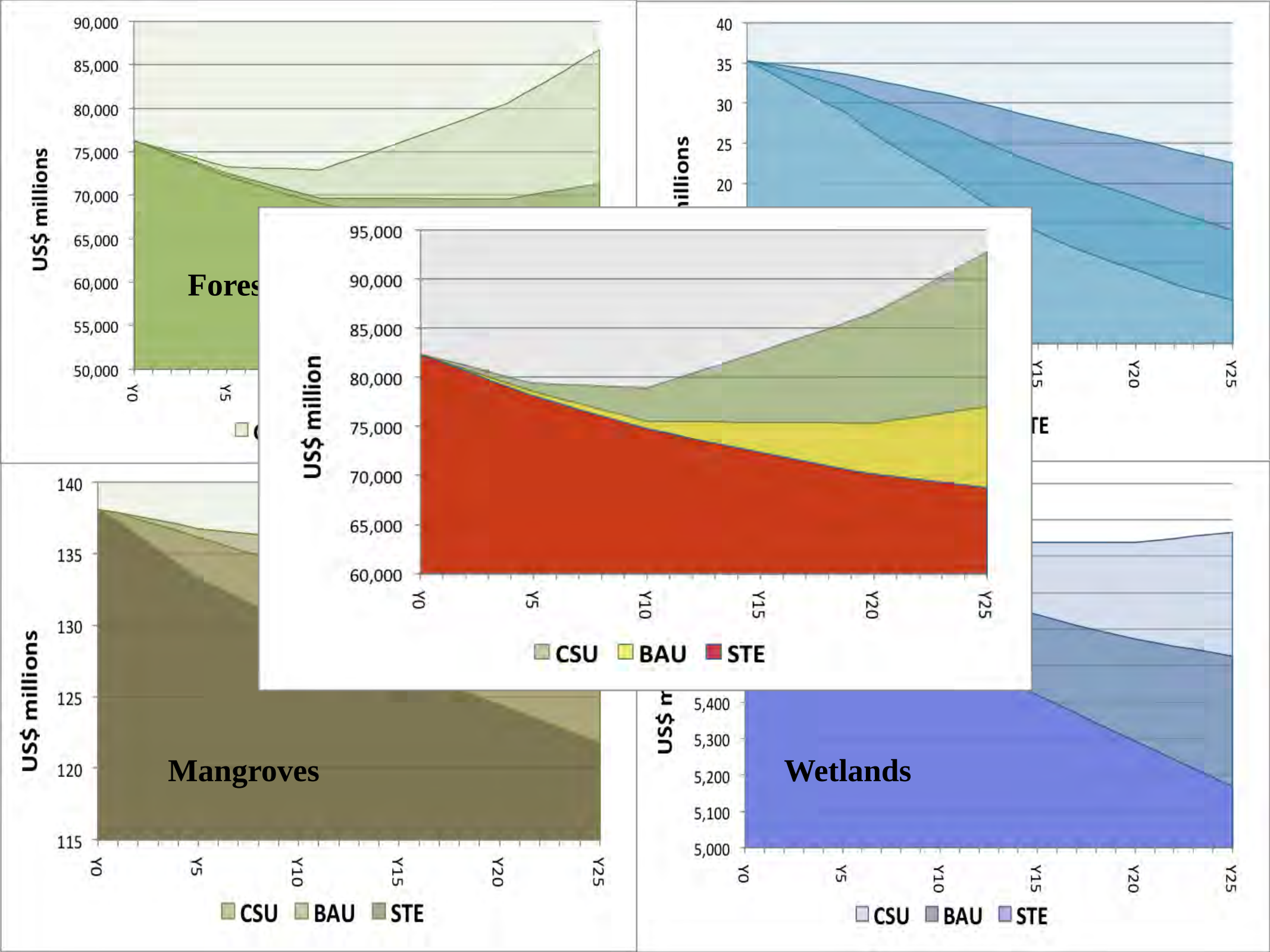
- Long - term gains
- High investment in maintaining and enhancing natural capital.

Business as Usual (BAU)

- Moderate increases in natural capiztal investments as value becomes more and more apparent.
- Extractive practices continue but are moderated after 5-10 years

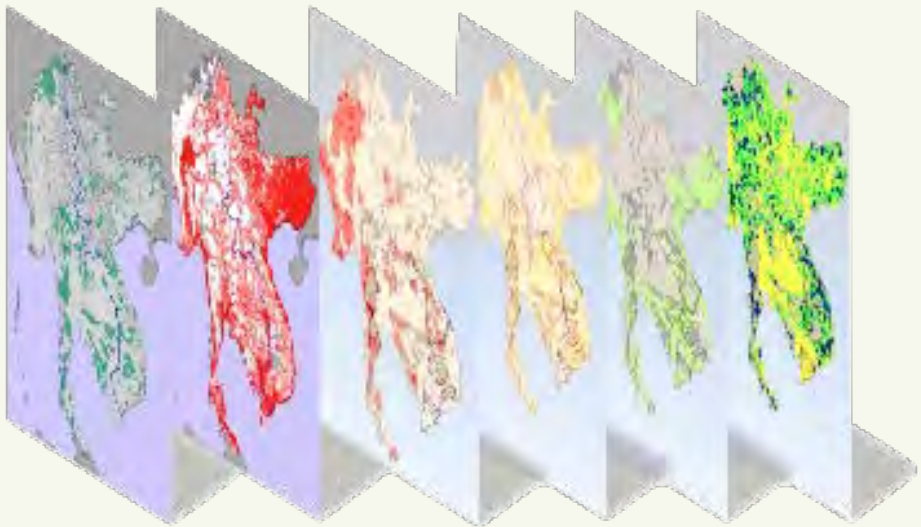
Short-Term Extraction (STE)

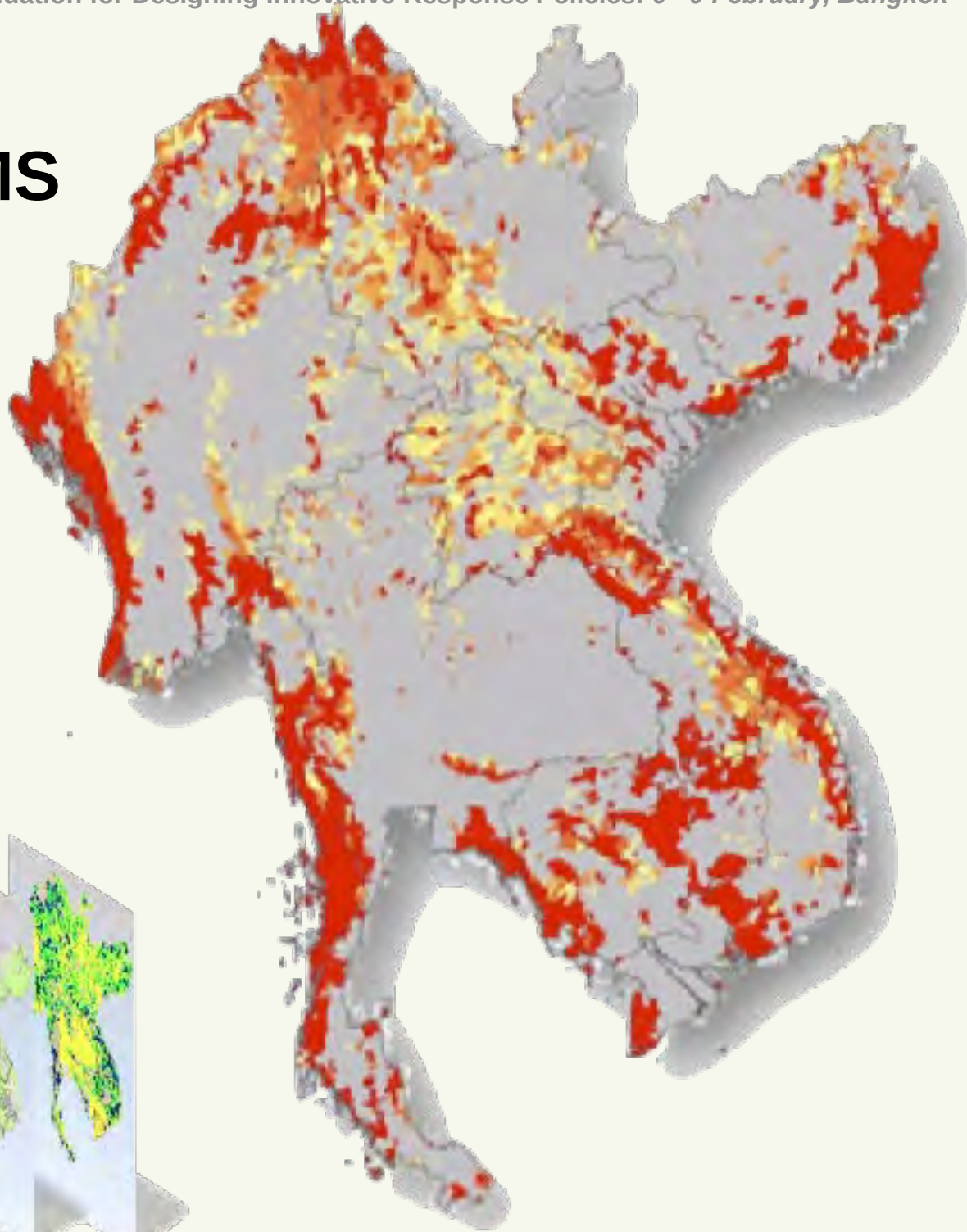
- The medium and long term gains of natural capital investment do not factor into decisions.
- Very little investment in natural capital conservation.


US$ millions
90,000
85,000
80,000
75,000
70,000
65,000
60,000
55,000
50,000
Y0
Y5
Y10
Y15
Y20
Y25
CSU
BAU
STE
US$ million
95,000
90,000
85,000
80,000
75,000
70,000
65,000
60,000
Mangroves
140
135
130
125
120
115
Wetlands
5,400
5,300
5,200
5,100
5,000

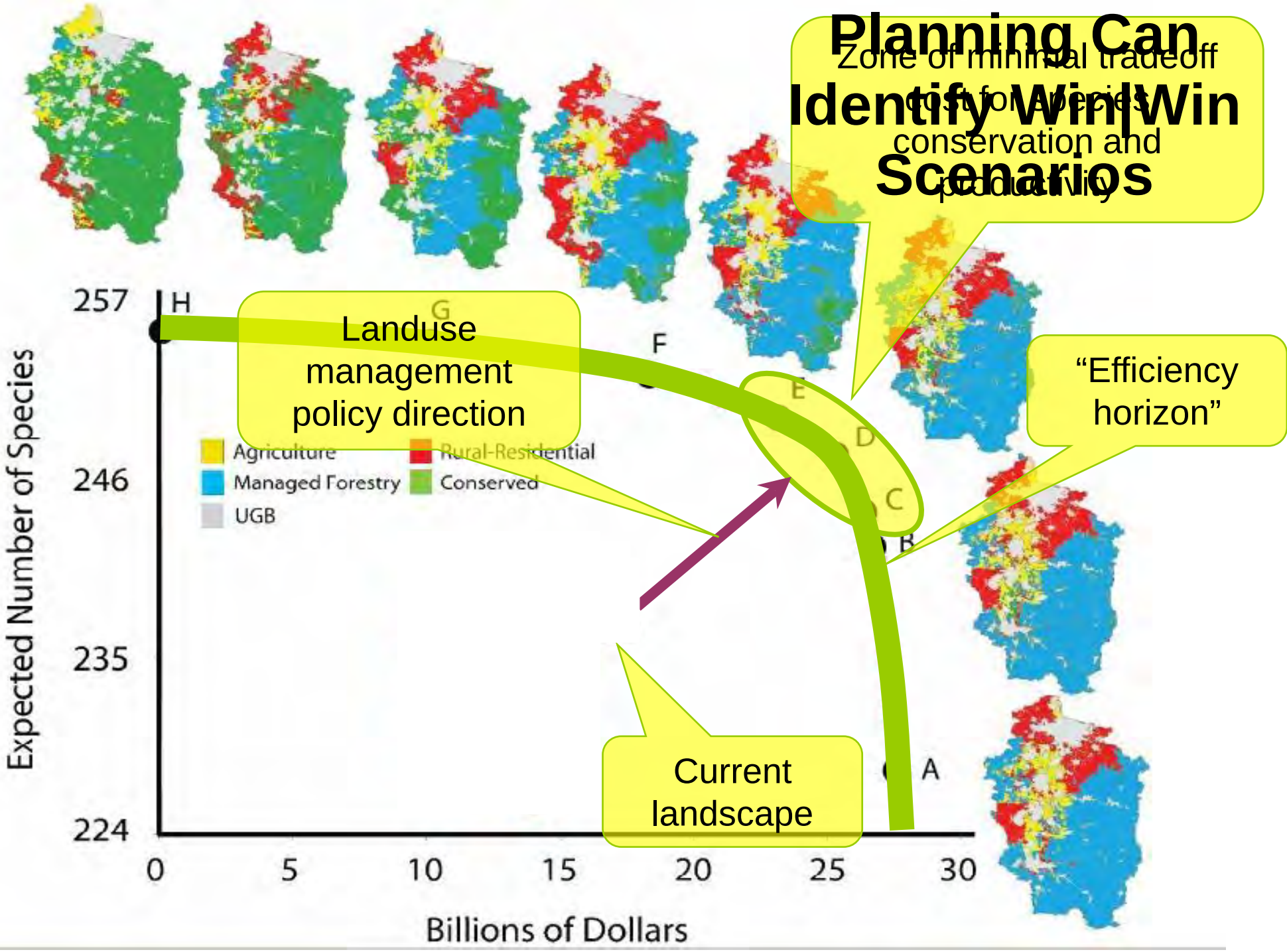
Multi-objective planning in the GMS

- *The interests of multiple sectors can be represented in a single framework*
- *Structured, systematic approach is transparent, adaptive, and capable of responding to inputs of a broad range of stakeholders*





Planning Can Identify Win|Win Scenarios



Polasky, S., E. Nelson, J. Camm, B. Csuti, P. Fackler, E. Lonsdorf, C. Montgomery, D. White, J. Arthur, B. Garber-Yonts, R. Haight, J. Kagan, A. Starfield, and C. Tobalske. 2008. Where to put things? Spatial land management to sustain biodiversity and economic returns. Biological Conservation 141:1505-1524.

Policy and Planning Entry Points for Mainstreaming Ecosystem Services

Ministries of Development & Planning

- Poverty reduction strategies
- Land use planning
- Water supply
- Sanitation

Ministries of Finance

- Subsidies
- Tax credits
- Payments for ecosystem services
- Import duties

Ranganathan et al. 2008. Ecosystem Services: A Guide for Decision-makers. World Resources Institute.

1980s **2090s**

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Ecological Economics 44 (2003) 43–62

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ANALYSIS

Economic valuation of the Leuser National Park on Sumatra, Indonesia

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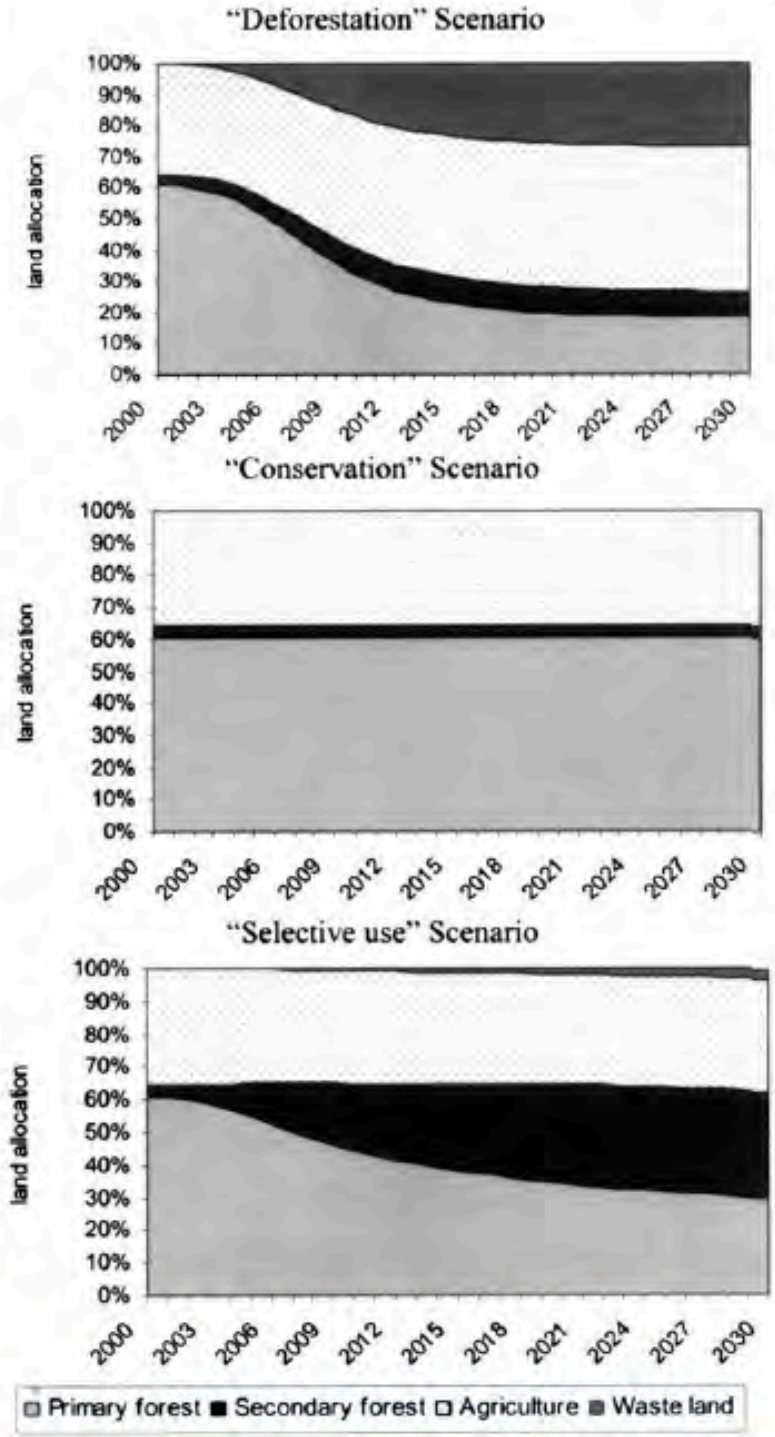


Fig. 2. Projected land allocation for each scenario (period 2000–2030).

Temporal Distribution of Payments & Other Benefits

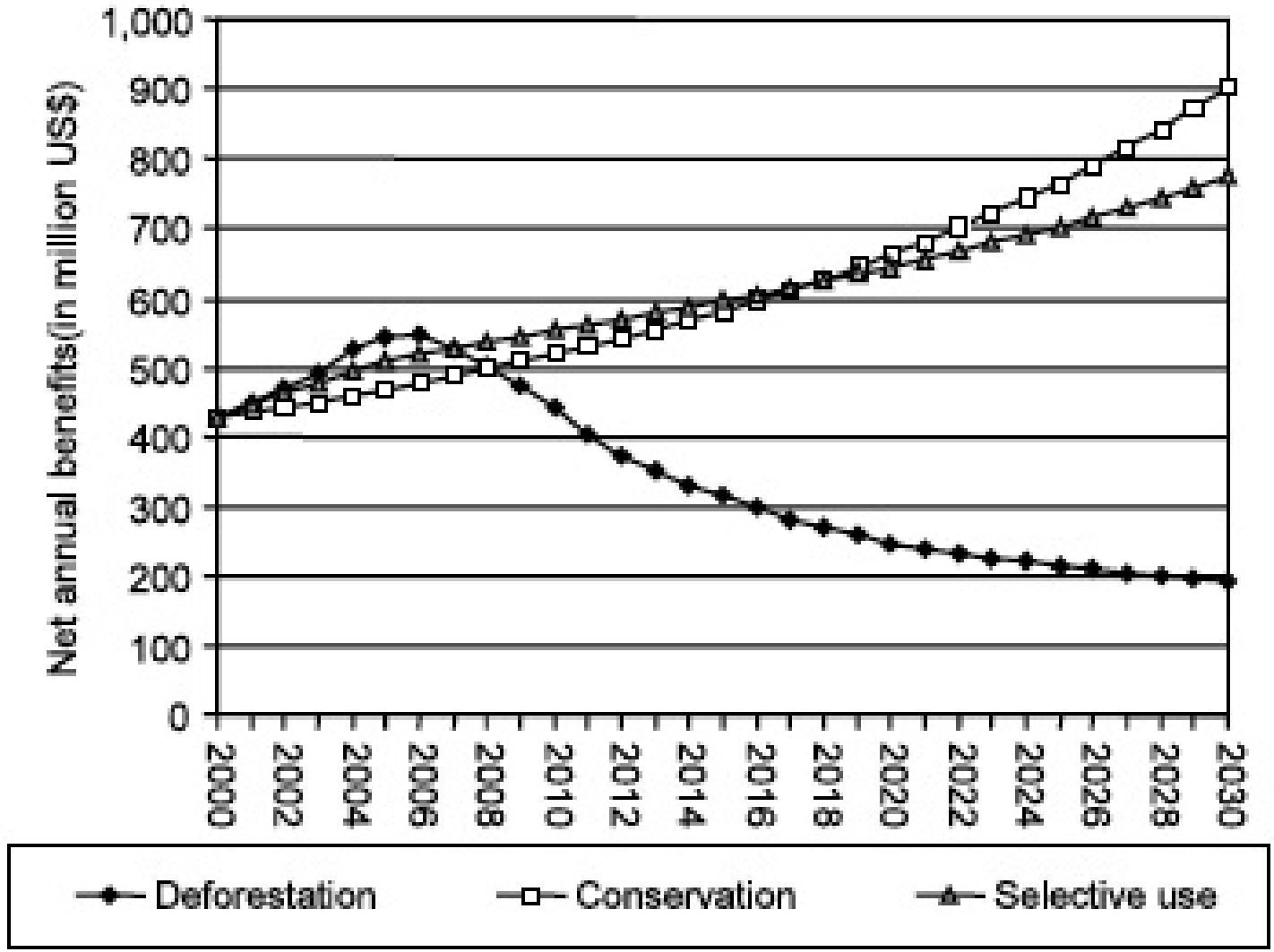
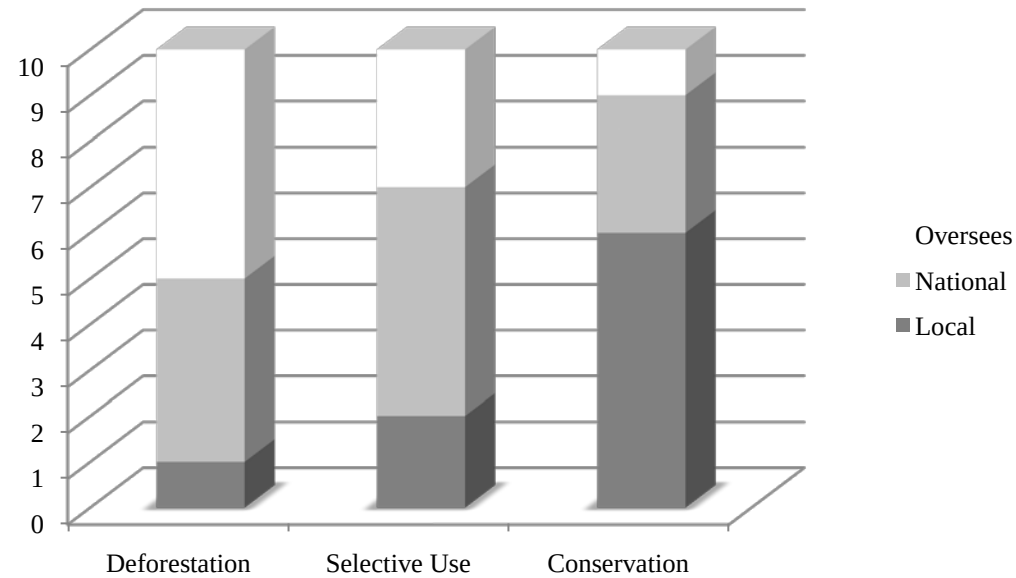
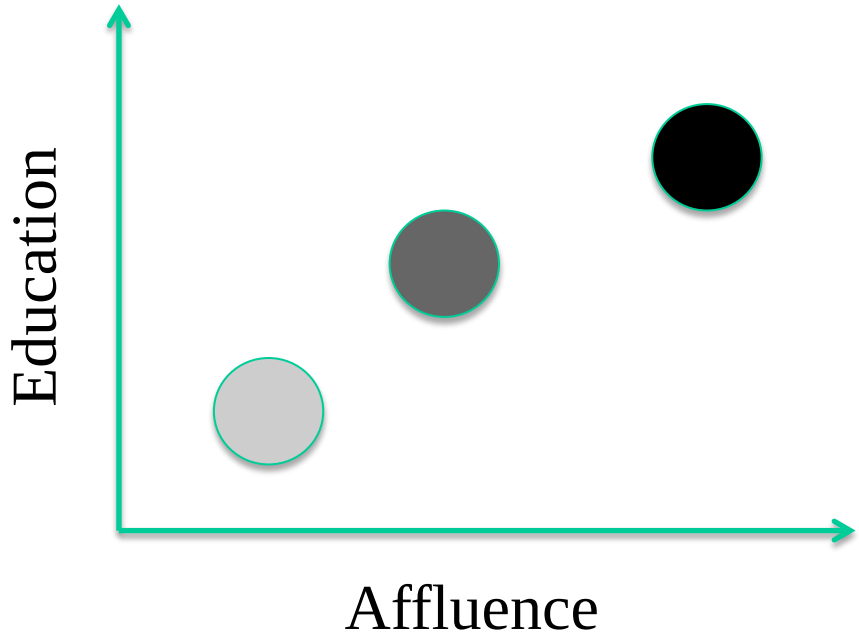


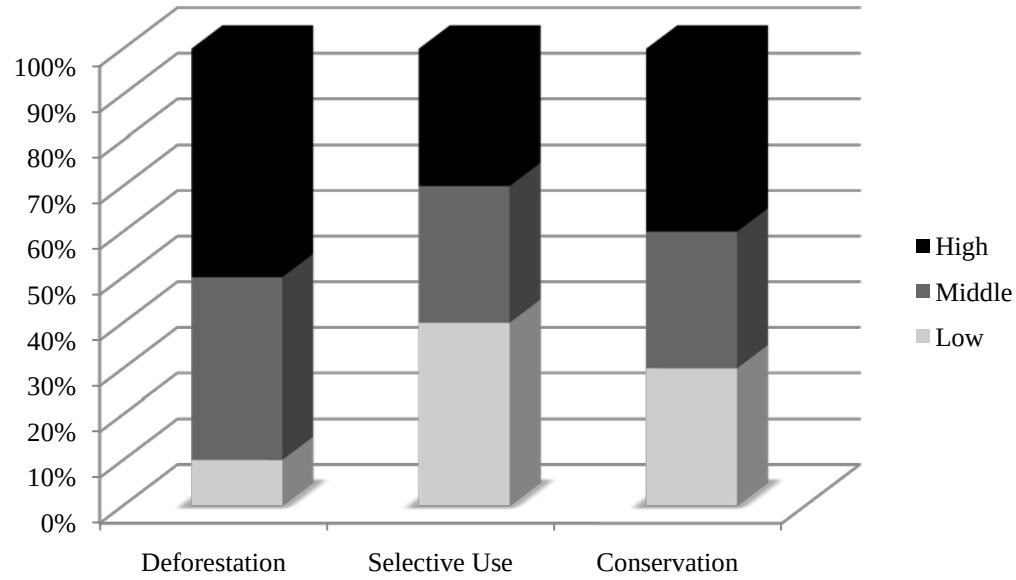
Fig. 7. Net annual benefits over time of Leuser National Park.

Geographic Distribution of Payments & Other Benefits



Socioeconomic Distribution of Payments & Other Benefits





Questions / Implications

- Are patterns of benefit and natural capital distribution adequately captured in current analysis and policy structures?
- What are the implications for key national indicators if these additional dimensions of distribution of benefits are explicitly taken into account?

Thank you

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