



InVEST Seminar – April 2012

Ecosystem Services in the Greater Mekong Subregion

WWF Greater Mekong Programme

Global map of ecosystem service values by country



Global map of ecosystem service values. Note the high rankings of several GMS countries. (Sutton & Costanza. 2002. Global estimates of market and non-market values derived from nighttime satellite imagery, land cover, and ecosystem service valuation. Ecological Economics 41:509– 527)

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.

Legend

Human Influence Index

0 - 4 4 - 14 14 - 26 26 - 41 41 - 100

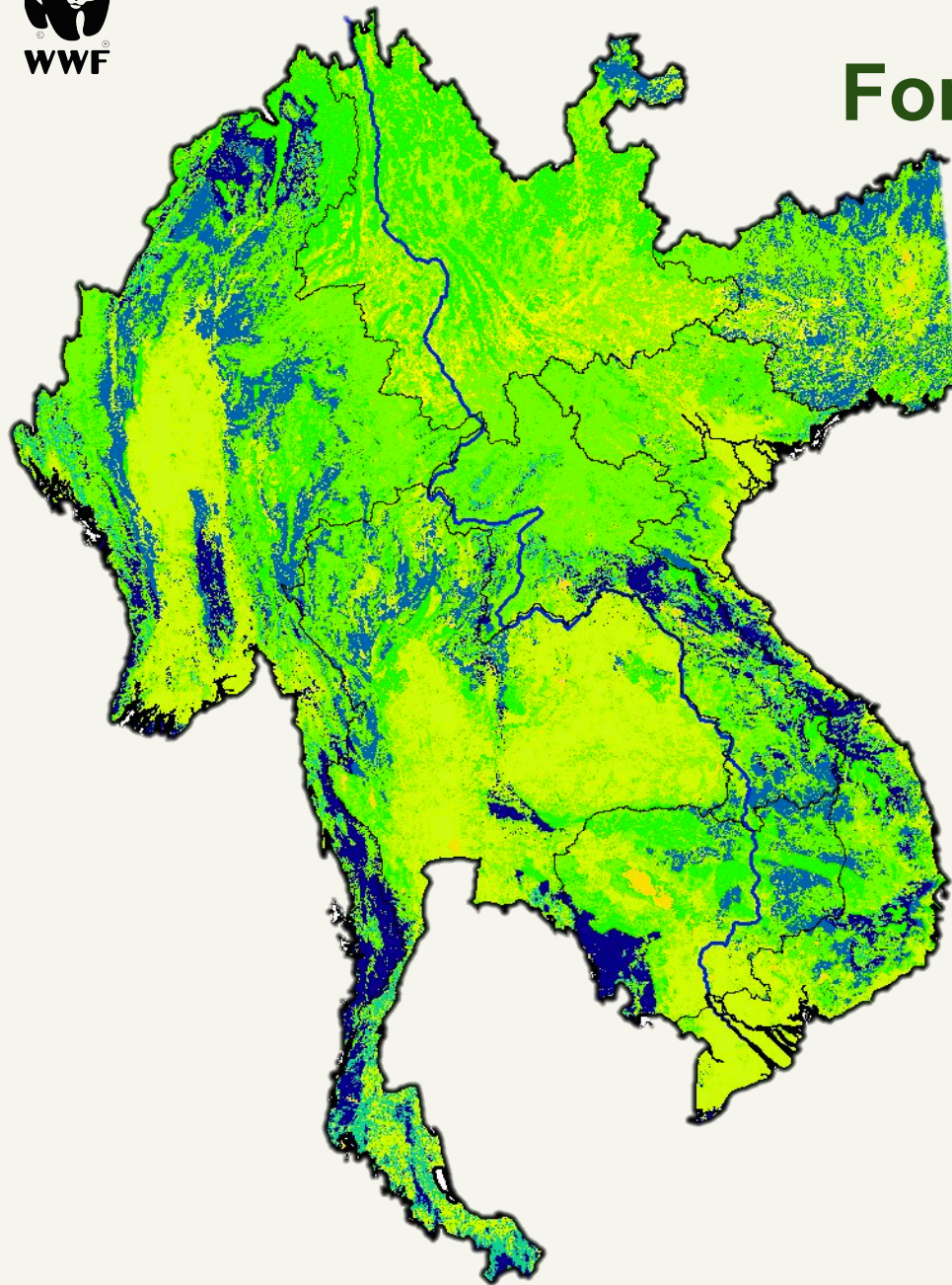
Source: Global Human Footprint Map - 2002

Forest cover in the Greater Mekong has fallen from over 55% in the early 1970's to 34% today.

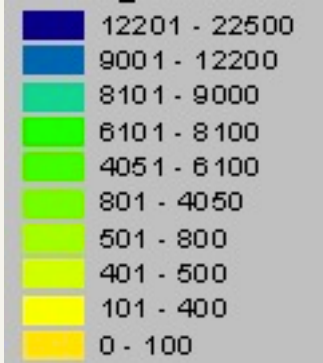
Key Services of **Forest Ecosystems and Watersheds**

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

Forest Carbon in the GMS



Carbon Tons / km²



The annual global rate of mangrove loss is presently between one and two percent, and some projections suggest that mangroves in developing countries may decline by another 25 percent by 2025.

*Intergovernmental Review Meeting on the Implementation of the
Global Programme of Action for the Protection of the Marine
Environment from Land-based Activities Third session
Manila, 25–27 January 2012*

Key Services of **Mangrove Ecosystems**

- Coastal erosion prevention
- Fish Spawning
- NTFPs
- Timber
- Carbon sequestration



Key Services of **Coral Reef Ecosystems**

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


Sustainable coral reef fisheries in Southeast Asia alone are valued at \$2.4 billion per year.

Burke, L., Selig, L., and Spalding, M. 2002. Reefs at Risk in Southeast Asia. Washington DC: World Resources Institute

A photograph of a wetland ecosystem. In the foreground, a man wearing a light-colored long-sleeved shirt, dark shorts, and a wide-brimmed hat is wading through shallow water. He is looking towards the camera. The water is calm, reflecting the sky and the surrounding vegetation. In the background, there are patches of green grass and reeds growing out of the water. Several pink lotus flowers are visible in the water, some in bloom and some as buds. The overall scene is peaceful and natural.

Key Services of **Wetland Ecosystems**

- **Floodwater regulation**
- **Water purification**
- **Fish spawning**

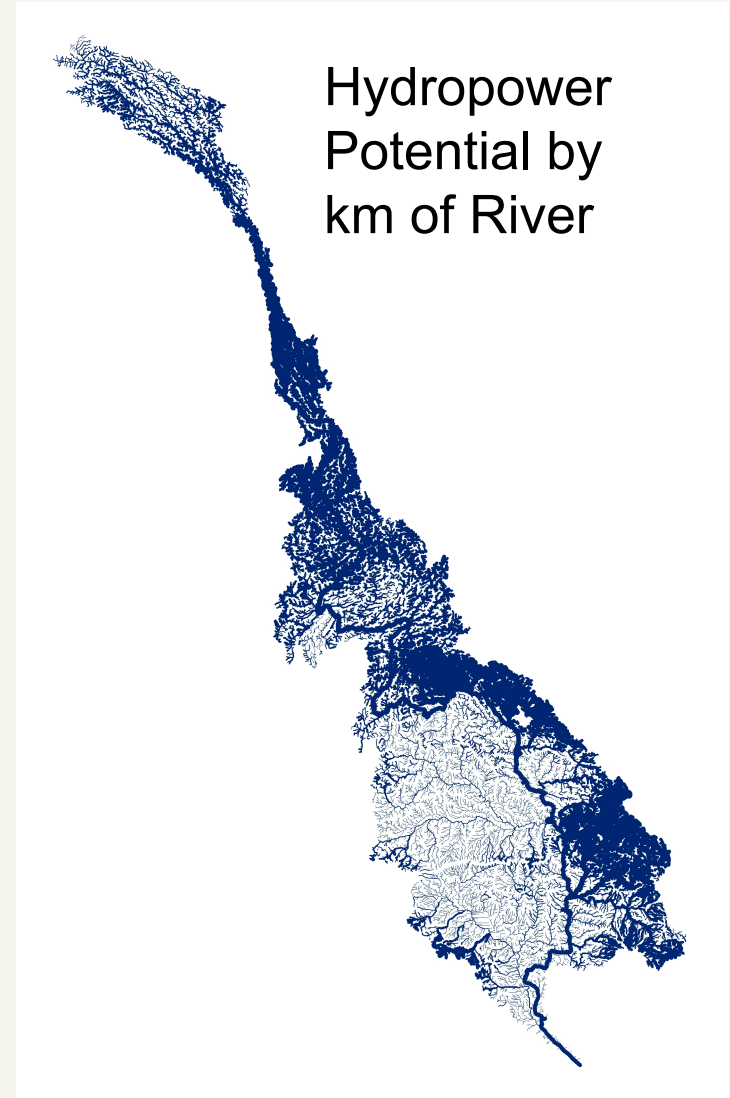
An aerial photograph of a river and reservoir system. The water is a light blue-grey color, surrounded by dense green forest. In the foreground, there's a rocky, brownish area with some sparse vegetation. The background shows more forest and distant hills under a hazy sky.

*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

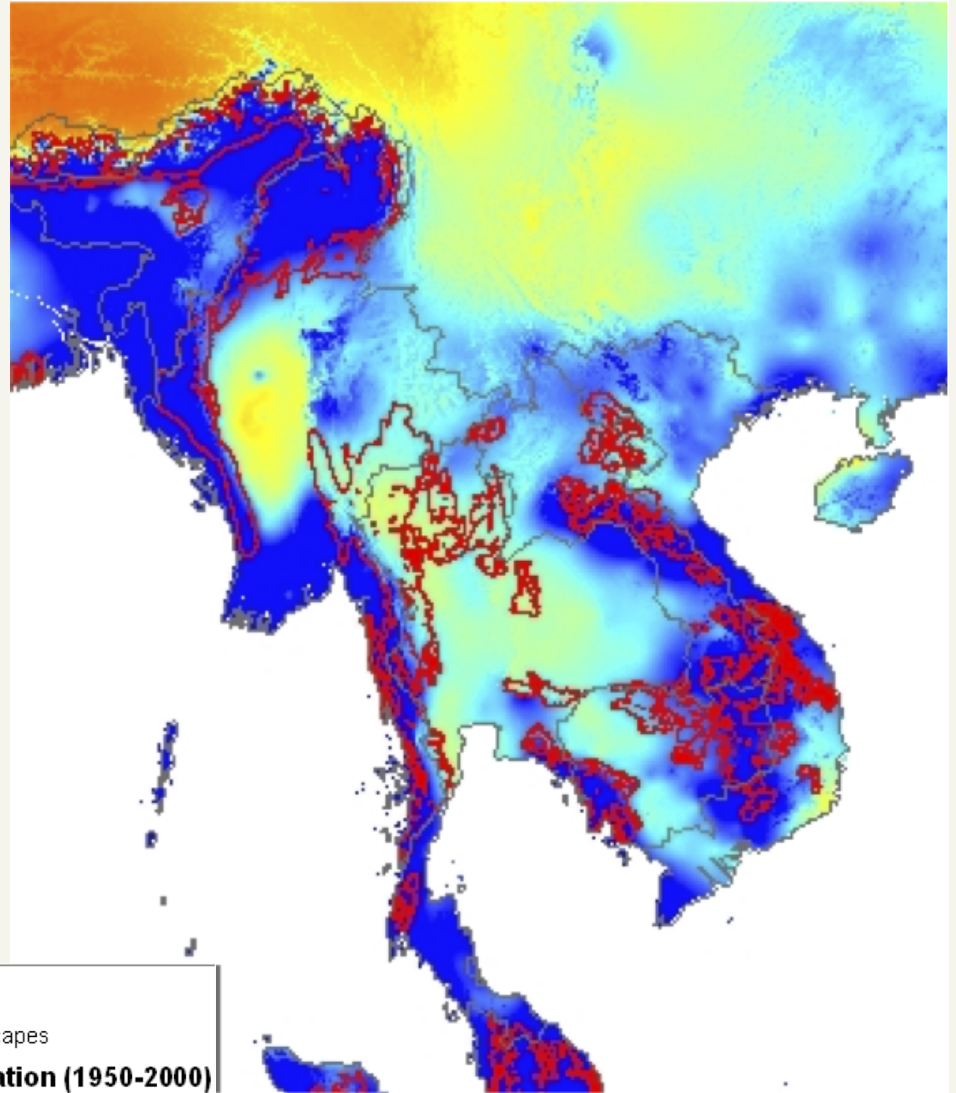
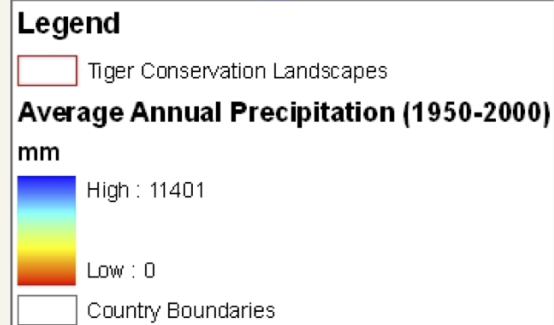
- Sedimentation
- Nutrient movement
- Fish reproduction
- Hydropower

The Lower Mekong River System

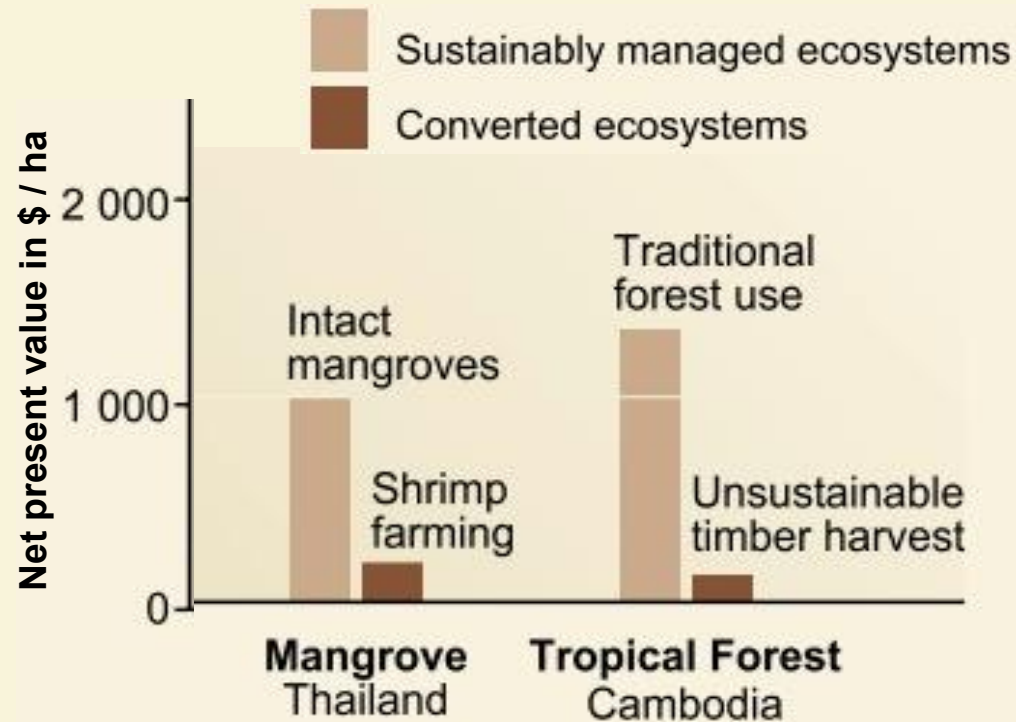


Co-benefits Example:

Synergy of important water yield areas and remaining tiger habitat



Comparing Scenarios



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

Comparing Futures Scenarios

- *Decision - makers need information on future outcomes*
- *Need to accept some uncertainty without getting into too much speculation*
- *In the current work in the region, we are using the best tools available to minimize uncertainty*

Conservation and Sustainable Use (CSU)

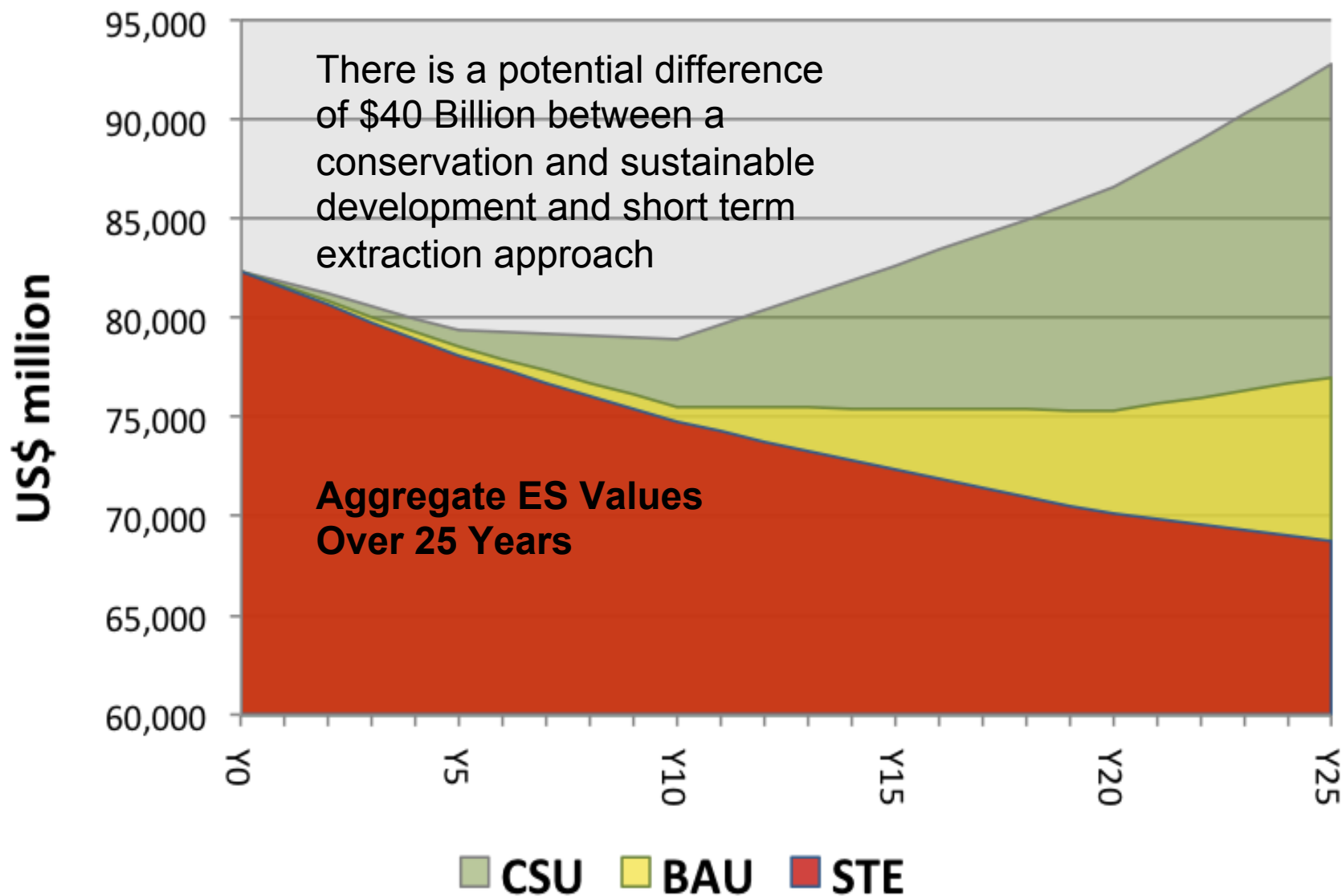
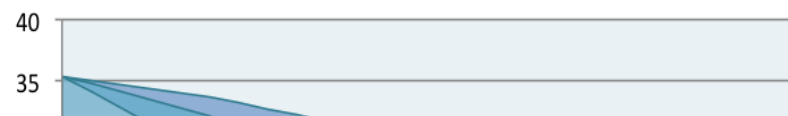
- Long term gains
- Economic values of ecosystem services are translated into PES mechanisms.

Business as Usual (BAU)

- Moderate increases in natural capital 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.



CSU BAU STE

CSU BAU STE



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- ทำของซ่อมบ
- พนักงานอ
- เสนอแนะ-ดู
- พนักงานอ



Thank you

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