

- DES, MNM and DES, M will converge as markets emerge for all ES and non market services are 'captured'
- Free market positions - biodiversity should be privatised and there is no role for the state. Potentially large role private sector plays in ecosystem management
- Kyoto Protocol and FCC; converting open access rights to global atmosphere → common property rights
  - Access limited by agreements e.g. for developing countries
  - Policy instruments e.g. taxes and tradable emissions
  - No guarantee if these will act quickly enough to prevent loss of ES
    - (Unclear how much treaties do to conserve)
- Growth of PAs
  - Yellowstone = first, estab. in 1872
  - Post WW2 = 1 million km<sup>2</sup>. Now = 18.8 million km<sup>2</sup> (Chape et al, 2003)
  - Problem with afforestation - can you compare biodiversity poor plantations with natural forest??
  - Net gain of 24 million hectares per annum - good news??
    - BUT PA only account for 10% land in developing countries and 12% in developed (WRI, 2003)
    - Over half of PA = in countries with weak governance therefore may be 'paper parks' (WRI, 2003)
    - Many of the PA are designated because the alternative land use value is low?
    - Therefore publicly owned and managed PA where there is high private econ value in alternative land use are at risk AND if in areas of weak governance, govt will be unable to do anything due to lack of resources etc.

#### Cost-Benefit evidence

- Where we are on the graph - if costs of new protection > benefits, then to the right of ES<sub>OPT</sub> and if benefits > costs then to the left of ES<sub>OPT</sub>
- Opp cost will rise as more ecosystems are conserved. Low cost will be conserved first then as system expanded, higher development potential will be conserved. In line with graph
- World Bank (2002) - costs of setting aside 200m hectares of NEW land in developing countries = \$93/hectare
- Willingness to pay for specific species & biodiversity as a whole - therefore WTP is associated with charismatic species
- More likely to report where benefits exceed costs than vice versa

#### What do we spend?

Fig. 2 Beneficiary pays

