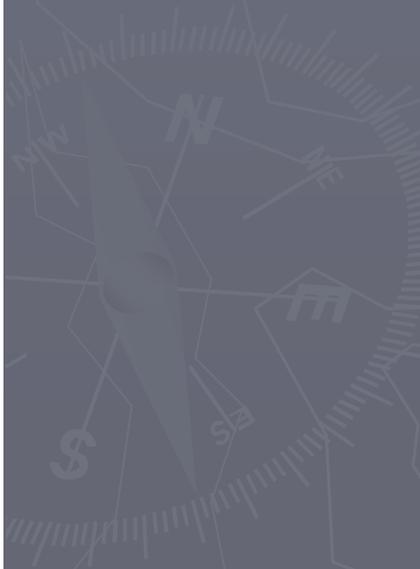


Providing for the economic sustainability of marine protected areas: An evaluation of past experiences, current models, and future strategies

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What is an MPA?



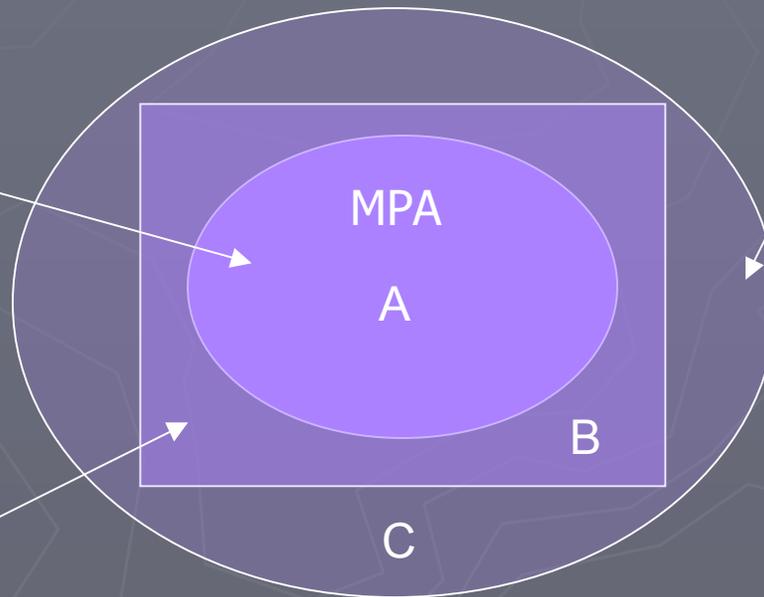
Marine protected areas in context

What is an MPA is not a rhetorical question, but one that reaches the very core of the question concerning financial sustainability

A: The initial MPA is set up and funding is only provided for the MPA

B: Local impacts are identified/or emerge, resulting in the need for more funding

C: Regional/global impacts are realized, requiring a need for integrated strategies and even higher funding



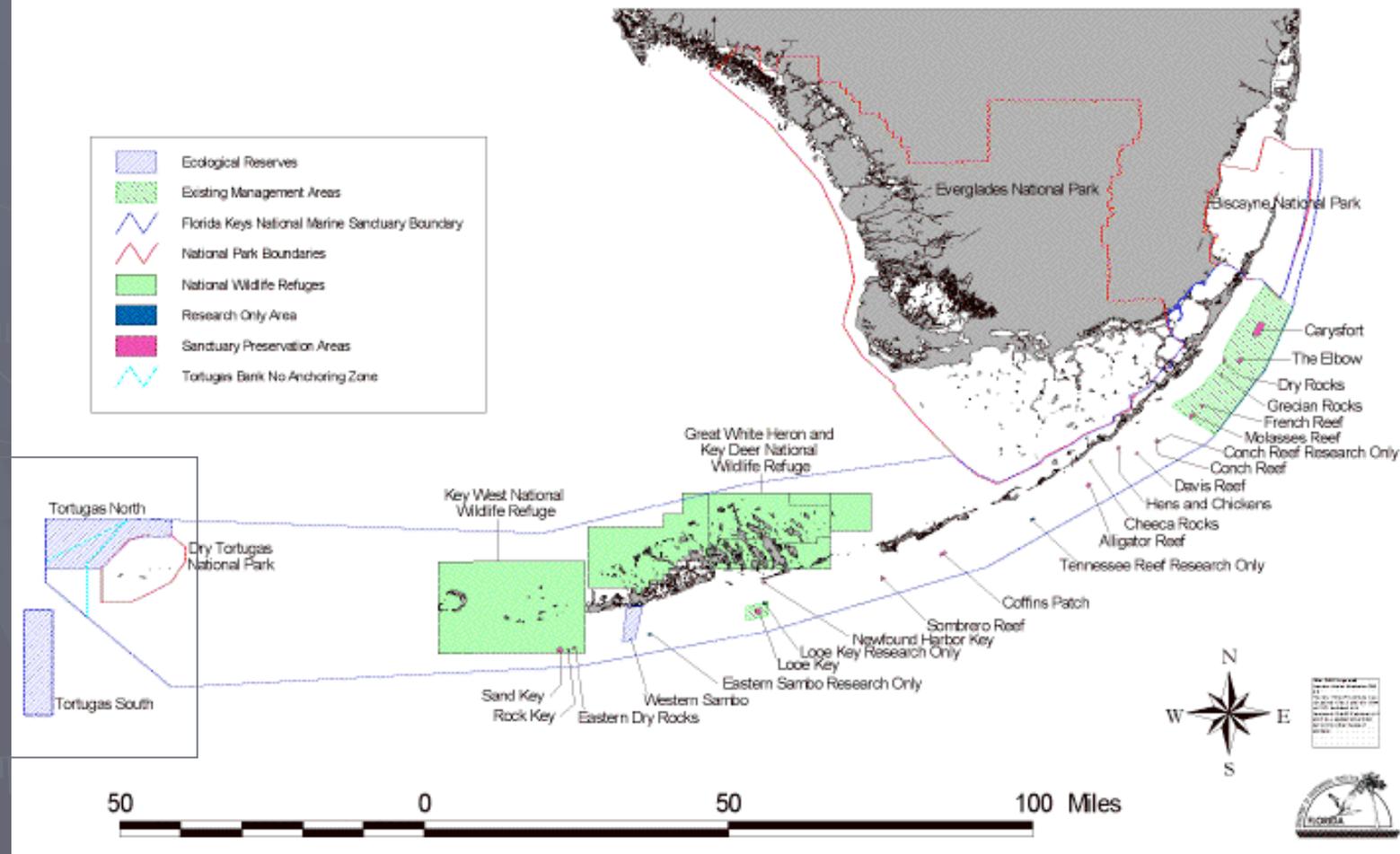
Without an ability to incorporate adaptability in financial sustainability strategies, what is considered 'protected' today may no longer be financially sustainable tomorrow

Marine protected areas in context

- ▶ Political history of MPAs
- ▶ MPAs are a modern concept in their current format
 - Previous marine tenure systems may be described as proto-MPAs but are more accurately not MPAs but a differentiated form of community-based management
 - MPAs have developed as modern management tools with legal and policy rationales and requirements, with states occupying the central role
- ▶ We have only a short period of having implemented MPAs
 - Thus, the time to examine their impacts and learn lessons from previous experiences is relatively short
 - In short, we are STILL learning

An example of a modern marine protected area

Florida Keys National Marine Sanctuary



Marine protected areas in context

- ▶ An array of MPAs (NRC, IUCN, and others)
 - Basic kinds and variations therein
 - ▶ 1. No-take marine reserve
 - ▶ 2. Non-consumptive use MPA
 - ▶ 3. Multiple-use MPA
 - ▶ 4. Spatio-temporal closures
- ▶ Depending on the type of MPA, the financial arrangements must vary
 - Ex. Rent cannot be collected from consumptive users if no take is allowed in the MPA
 - Ex. Partially closed MPAs may rely on user fees and other types of private funding sources

Three, arbitrary periods for MPA financial sustainability analysis

- ▶ Period 1: 1930s to 1980s
 - State-centered management and funding
- ▶ Period 2: 1980s to present
 - Semi-privatized management and mixed funding
- ▶ Period 3: The future?
 - Hybridized management and funding networks
- ▶ NOTE: The divisions are based very loosely on the dominant economic systems of their times (Keynesianism in period 1, neoliberalism in period 2, and globalization in period 3)

Period 1: 1930s to 1980s

▶ Government core

- A government or inter-governmental core
 - ▶ Highly structural
 - ▶ Inertia laden
- Weak in developing financial linkages
- Weak in developing intra and inter-agency linkages
 - ▶ Mainly monolithic
- Inertia in developing innovative funding mechanisms
- 'Built to last' mentality

Period 1: 1930s to 1980s

- ▶ Example: US National Marine Sanctuary Program (MPRSA, 1973)
 - Few, discrete NMS designated in the first 20 years
 - ▶ 1990 Florida Keys National Marine Sanctuary the first NMS to incorporate principles of ecosystem management
 - Funding provided exclusively by US Congress
 - ▶ Amount funded subject to executive and legislative branches
 - ▶ Changes in amounts provided depending on budgetary agreements

Period 2: 1980s to present

- Government core with limited hybridization in funding
 - ▶ Semi-privatization (outsourcing, leasing)
 - ▶ Community support (donations, volunteers, in kind)
 - ▶ Fees (user fees and permits, ecosystem permits)
 - ▶ Corporate sponsorship
- Improving linkages to develop human and technology capital transfer networks
 - ▶ Information sharing
- Adaptive management
- 'The state is increasingly irrelevant' and 'nature as an enterprise' mentality

Period 2: 1980s to present

- ▶ Example 1: Inter-agency agreements in US coastal management
 - The Florida Keys National Marine Sanctuary
 - ▶ Contains a Water Quality Protection Program (cost shared with the US Environmental Protection Agency)
 - ▶ Managed collaboratively by NOAA and the State of Florida
- ▶ Example 2: User fees for divers in various Caribbean and southeast Asian park
 - Fee to utilize the resource (coral reefs mainly) which is then used to defray management costs
 - Scaled fee system to keep down locals' costs
- ▶ Example 3: The rise of NGOs as a funding source and quasi-manager
 - Chumbe Island MPA – a privately managed MPA in Tanzania

Period 3: The future?

- ▶ Hybridization and funding networks
 - Increasing collaboration with state and non-state actors in finding funding solutions
 - Emergence of funding networks
 - ▶ Concurrent with MPA networks
 - ▶ Comprised of human capital and technology transfer
 - ▶ Characterized by information sharing
 - Hyper-adaptivity
 - ▶ To meet global challenges

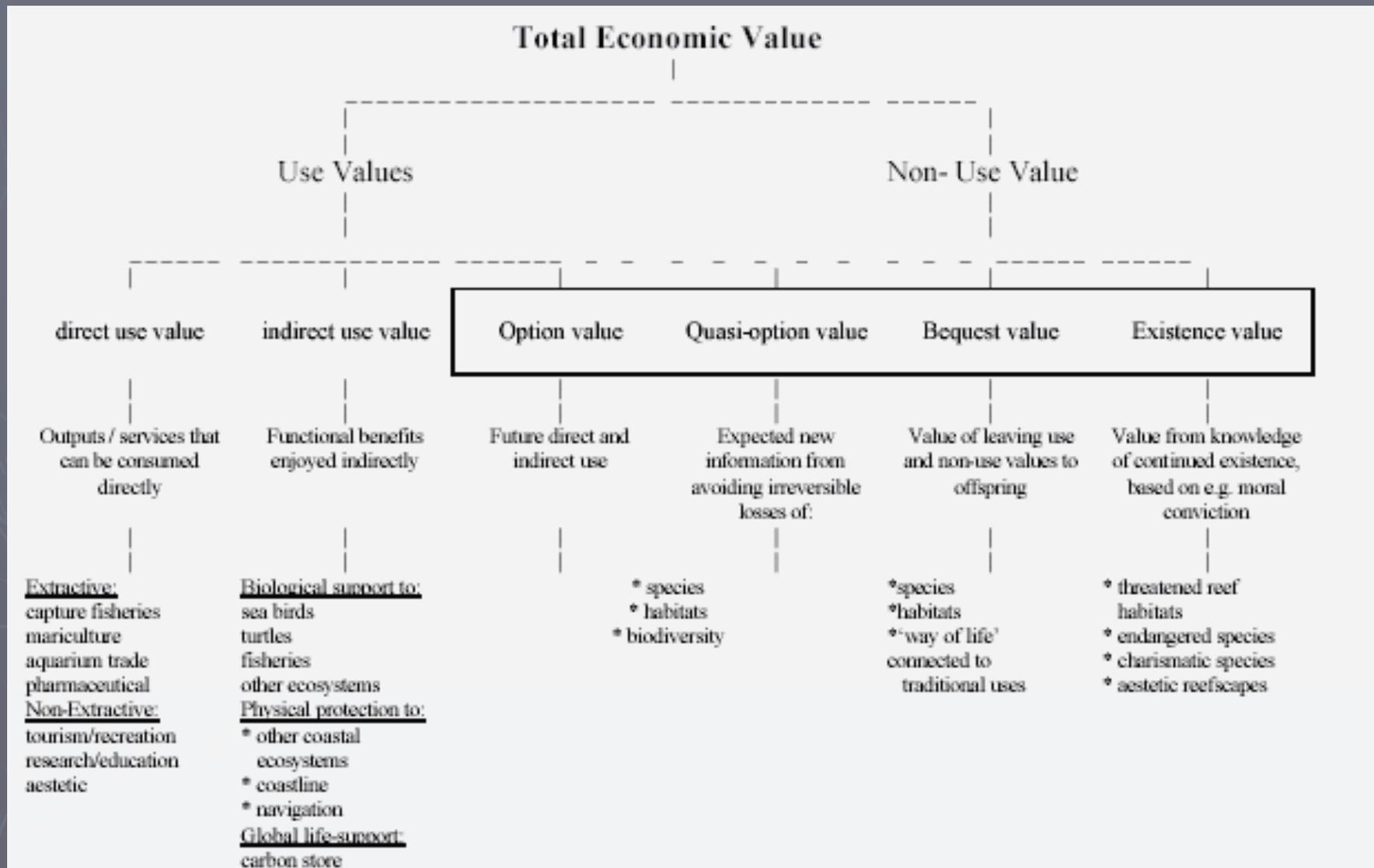
Period 3: The future?

- ▶ Example: US beach nourishment program
 - Fully funded to cost sharing
 - ▶ Funding shift from 50% federal funding to less than 50% federal funding in mid-1990s
 - Financial burden shift to state agencies
 - ▶ Subsequent shift to local governments and interested parties (establishments and residents)
 - Hybridized and funding-contingent action
 - ▶ No nourishment occurs without secured funding
 - ▶ Sources can be a mix of private-public funds or totally private

Creative financing tools

- ▶ Emphasis on estimating the total economic value of an MPA
 - Includes the determination and summation of direct use and indirect use, passive or existence non- use values
- ▶ Business plan approach
 - Estimating capacity and costs needs with business plan for long-term success

Total economic value for MPAs



From Cesar, 2000

Present financing tools

- ▶ 1. Revenue generation
 - Direct allocation from national budgets
 - Government bonds
 - Lotteries and other innovations (stamps, license plates, etc.)
 - Debt relief, debt for nature swaps

Present financing tools

- ▶ 2. Use and access fees
 - Tourist/recreational fees
 - ▶ User based fees (entry charges, dive fees, etc.)
 - ▶ Operator based fees (permits, licenses, taxes)
 - Fisher fees
 - ▶ Rents, collected as licenses, fishery taxes, etc.
 - Resident fees
 - ▶ Property taxes
 - ▶ Conservation easements
 - Development incentives
 - ▶ Mitigation banking
 - ▶ Conservation concessions

Present financing tools

▶ 3. For-profit activities

- Royalties from extractive activities occurring in the region
- Fines from oil spills and other extractive activities
- Bioprospecting

Present financing tools

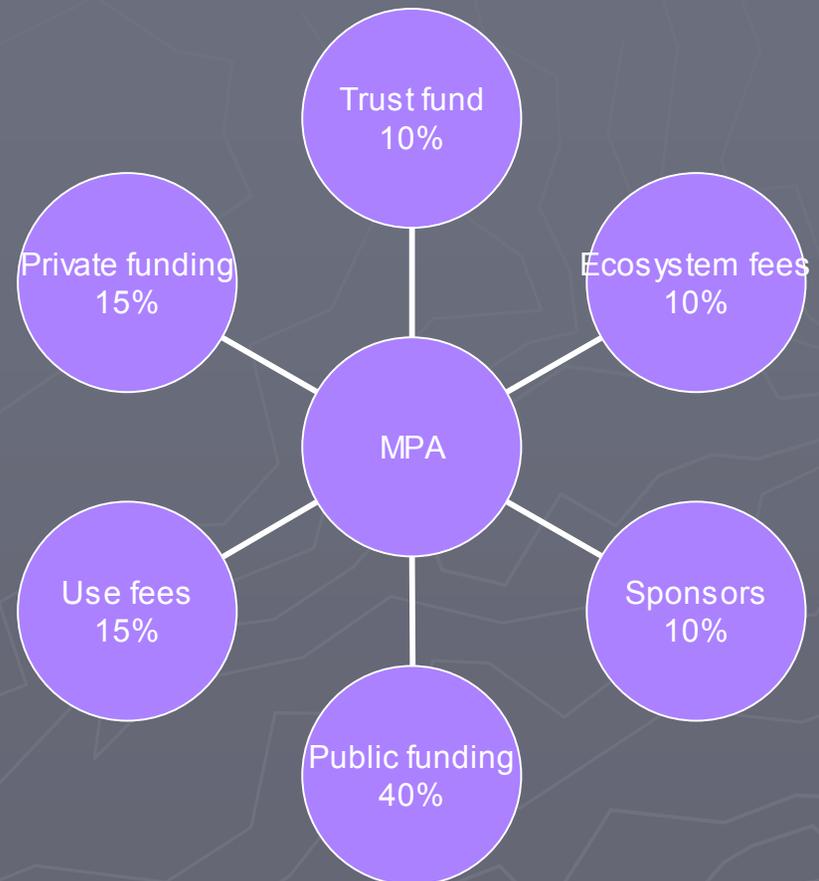
- ▶ 4. Cost-effectiveness (reducing operating costs)
 - Co-management
 - Volunteers
 - Outsourcing
 - Leasing rights
 - Sharing staff and other resources

From WWF, 2004, Conservation Finance Guide, 2003, and Kelleher, 1996

Future financing tools

▶ 1. Diversified portfolio approach

- ▶ Cost sharing and networking between agencies and private groups
- ▶ Threshold funding targets to initiate/trigger MPA designation
 - No unfunded MPAs or paper parks
- ▶ Catastrophe contingency funds



Future financing tools

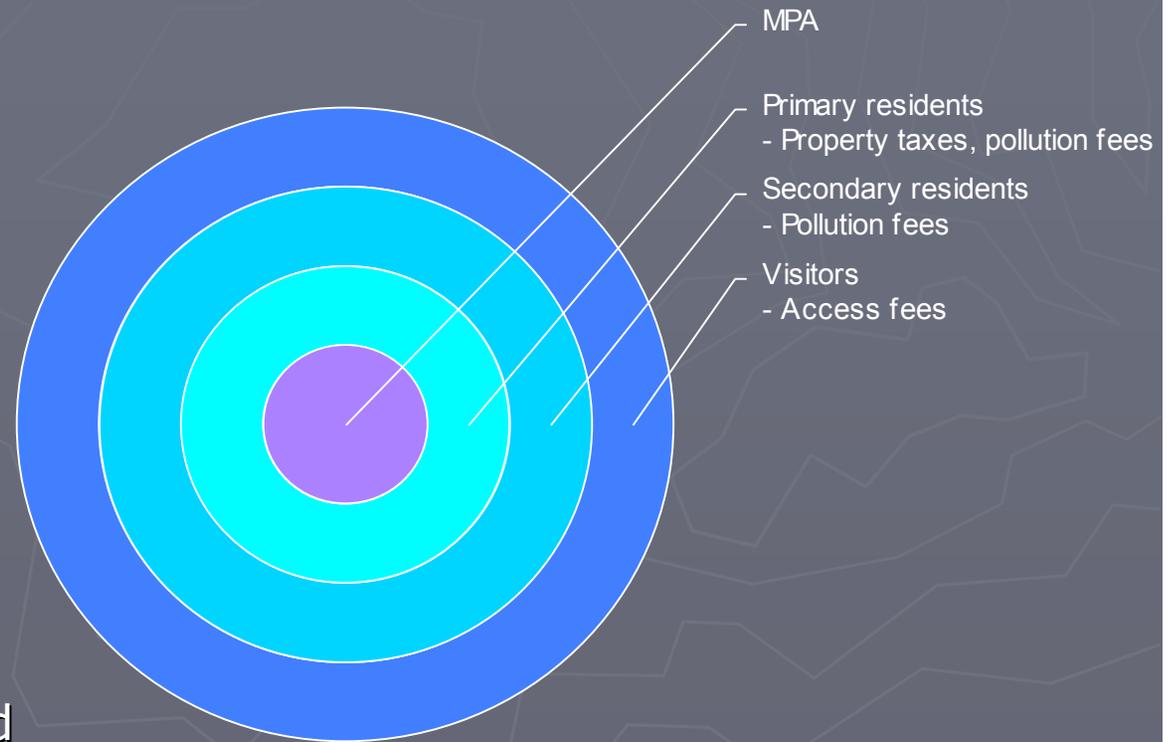
- ▶ 2. Human capital and technology transfer
 - To improve cost effectiveness and ensure on-site capacity
 - To develop a pool of experts that can be shared across networks
 - To facilitate information sharing capability



Future financing tools

▶ 3. Scaled fees to internalize external costs

- Users pay for the extent of use, and not just a fixed fee
 - ▶ Fees extend as pollution fees/surcharges or property taxes to residents
 - ▶ Recreational fishing sector
 - ▶ Tourist payment for impacts in and around MPAs



Impacts and subsequent fees as such can be modeled using GIS technology

Future financing tools

- ▶ 4. Global MPA fund
 - A regional/global trust fund
 - ▶ To defray costs associated with global climate change
 - ▶ To assist with mitigating economic impacts that may otherwise compromise the sustainability of MPAs



Future financing tools

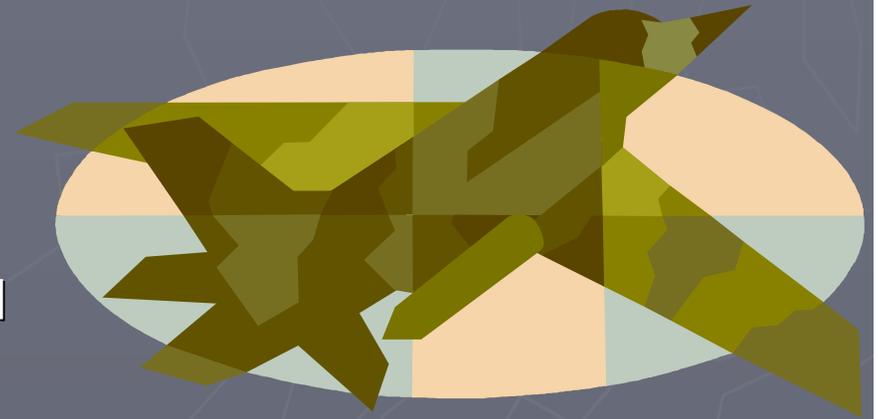
- ▶ 5. Maximize the capture of direct and non-use values
 - Set up quality-based tourism such that increasing quality is based on higher costs
 - Auction quotas of finfish and extractive resource to the recreational sector
 - Sell MPA stocks/shares to generate conservation group member funding and interest

Impediments to financial sustainability

- ▶ 1. National security issues
- ▶ 2. Global environmental change
- ▶ 3. Globalization and shifting demands

Security issues concerning financial sustainability

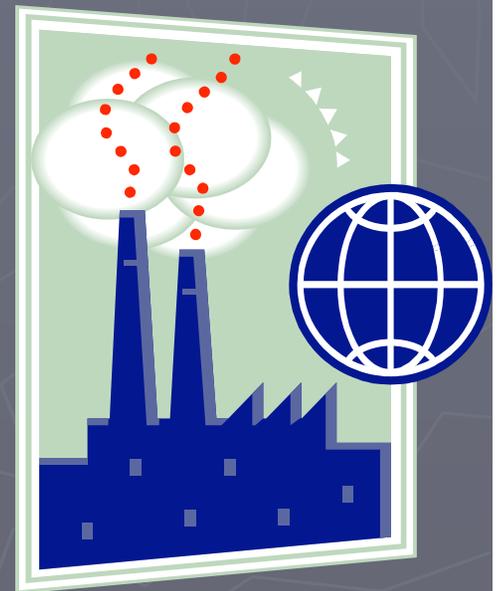
- ▶ Impacts of securitization
 - The re-emergence of the state as a primary actor through national security
 - ▶ Impacts for non-state programs/efforts
 - Funding conflicts over military and marine conservation
 - ▶ Budget reallocation to issues important to national security
 - Impacts on tourism and other privatized funding sources
 - Opportunities to incorporate marine protected areas within the security paradigm



Global environmental issues concerning financial sustainability

► Global climate change

- Impacts on MPA functionality, socioeconomics, and the efficacy of sustainable funding mechanisms
- Multi-source and pervasiveness of inputs
- Coupled temperature regime shifts and associate sea level rise can alter or completely extinguish MPAs



Globalization issues concerning financial sustainability

► Globalized markets

- Competition may reduce the threshold for protection and affect funding
- Competition between sites may also lead to lower protection and funding (ex. more advertising)
- Shifting demands, facilitated by globalized markets, may lead to previously lucrative MPA funding sources (products, attributes) to being less attractive



Future financial tools

Bottom lines

- ▶ **1. Do not waste time in the planning stages unless sustainable funding is secured**
 - This is setting up for failure in the medium or long term

- ▶ **2. Set up a trust fund that provides a guaranteed return on investment**
 - This fund should ideally be used for operations, such that if all else fails, the MPA can still be managed

- ▶ **3. Diversify to the extent practicable but not to the detriment of the MPA's goals and objectives**
 - Don't compromise MPA goals and objectives to maximize income

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