TOWARDS A SUSTAINABLE FUTURE FOR THE OCEAN & PEOPLE

MANAGING THE PLANET DIALOGUE

The Honorable Jane Lubchenco, Ph.D.
Under Secretary of Commerce for Oceans and Atmosphere
& NOAA Administrator
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OUTLINE

1. Challenges
2. Advances in science and policy
3. Ocean Management
4. Tools to Advance Management
5. Urgency and hope
SUSTAINABILITY CHALLENGES

Rapid, Radical Changes with Profound Consequences

Depletion and Disruption

Loss of Resilience and Increased Likelihood of Abrupt Change
Ecosystem depletion and disruption leads to the loss of ecosystem services.

- Recreation
- Coastal buffering
- Pest & pathogen control
- Food provision
Our Common Journey

Millennium Ecosystem Assessment

Explosion of sustainability science

Insights:

- Resilience
- Complex Adaptive Systems
- Scale
- Coupled human-natural systems

TOWARDS A SUSTAINABLE FUTURE FOR THE OCEAN & PEOPLE
Oceans Commissions’ DIAGNOSIS

— Failure of Understanding

— Failure of Governance
Obama Administration ACTIONS

Science — natural and social

National Ocean Policy

Ecosystem-Based Management

Catch Shares

Aquaculture Policy

Climate Services and Adaptation
NATIONAL OCEAN POLICY

Healthy Oceans Matter

Holistic, ecosystem-based coastal and ocean management
NATIONAL OCEAN POLICY

Nine Priority Objectives
America’s coasts: tens of millions of jobs and trillions of dollars to economy annually

**Framework:**
- Ecosystem-based management
- Minimizes user conflicts, reduces impacts
- Focus on stewardship
CMSP FOSTERS SUSTAINABLE USES OF COASTS & OCEANS

Advancing economic and environmental interests

Improving capacity to address long-term impacts of climate and other environmental changes

Providing lasting foundation for improved stewardship

Enhancing vital National benefits derived from coastal and ocean ecosystems
Marine InVEST: INtegrated Valuation of Ecosystem Services and Tradeoffs

INPUT DATA reflect scenarios

MODELS

MODEL OUTPUT ecosystem services & values

NEW TOOLS
Coastal Scale

**Vancouver Island: Pelamis wave capture devices – 3 potential sites**

**Marine InVEST models energy generation and dollar value at each site**

WEC device = *Pelamis*
Number of WEC devices = 24
Life-span of the WEC facility = 25 yrs; Price of Electricity = $0.2

- **WEC-1**
  - Captured WE = 46,080 MWh/yr
  - Net Present Value = $19.8 mil

- **WEC-2**
  - 35,040 MWh/yr
  - $ -2.3 mil

- **WEC-3**
  - 43,056 MWh/yr
  - $14.0 mil
Intersection between energy potential and fishing areas:

Site #1 has least impact

Site #1 achieves best balance: maximized energy potential, minimized fisheries impacts
CATCH SHARES

Decreased by-catch

Eliminates overfishing

Strong incentives for conservation & management

Increased safety at sea

Better economic returns
Manage for resilience; expect surprises
Avoid irreversible changes
Minimize impacts from stressors over which we have direct control
Create flexible institutions
Use learning networks
Invest in research, monitoring, & assessment
While public understanding of sustainability opportunities and challenges has grown…

…it has not grown quickly enough

While we have made progress on sustainability efforts…

…further progress could be hindered by economic crisis and pending budgetary decisions
Social change is highly non-linear

Innovative solutions to sustain ecosystem services

Inspiring actions at local-to-global scales:

- Commitments to source sustainably caught or farmed seafood
- Consumers making more informed choices
- Business focus on “triple bottom line”
THANK YOU

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