



U.S. Fish & Wildlife Service



Landscape Conservation Design: Conserving Sustainable Landscapes in a Time of Rapid Change

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National Policy:

“...prepare for climate change impacts...”

United Nations Climate Summit

“There’s one issue that will define the contours of this century... and that is the urgent and growing threat of a changing climate.”

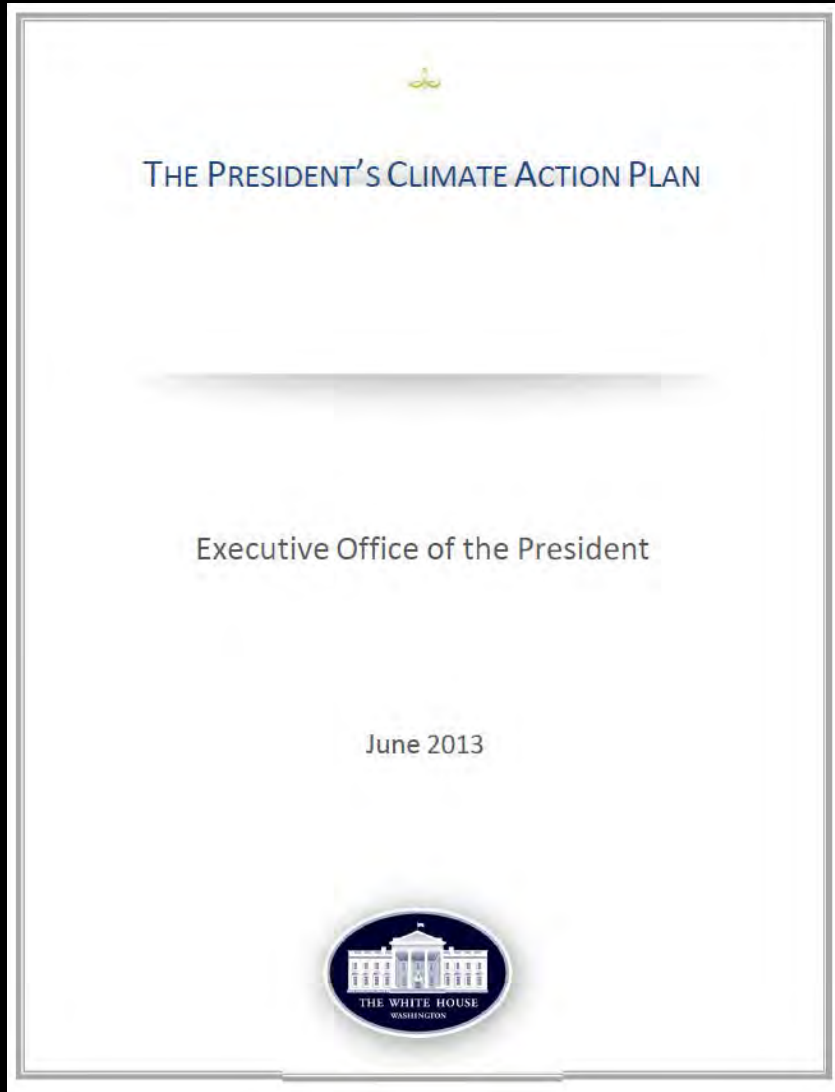
– President Obama (2014)

10 Indicators of a Warming World



Source: NOAA NCDC, based on data updated from Kennedy et al. 2010a

National Policy: “...plan...”



Preparing the U.S. for Impacts of Climate Change

“...deliberate preparation, close cooperation, and coordinated planning...by stakeholders...to safeguard...our environment and natural resources...”

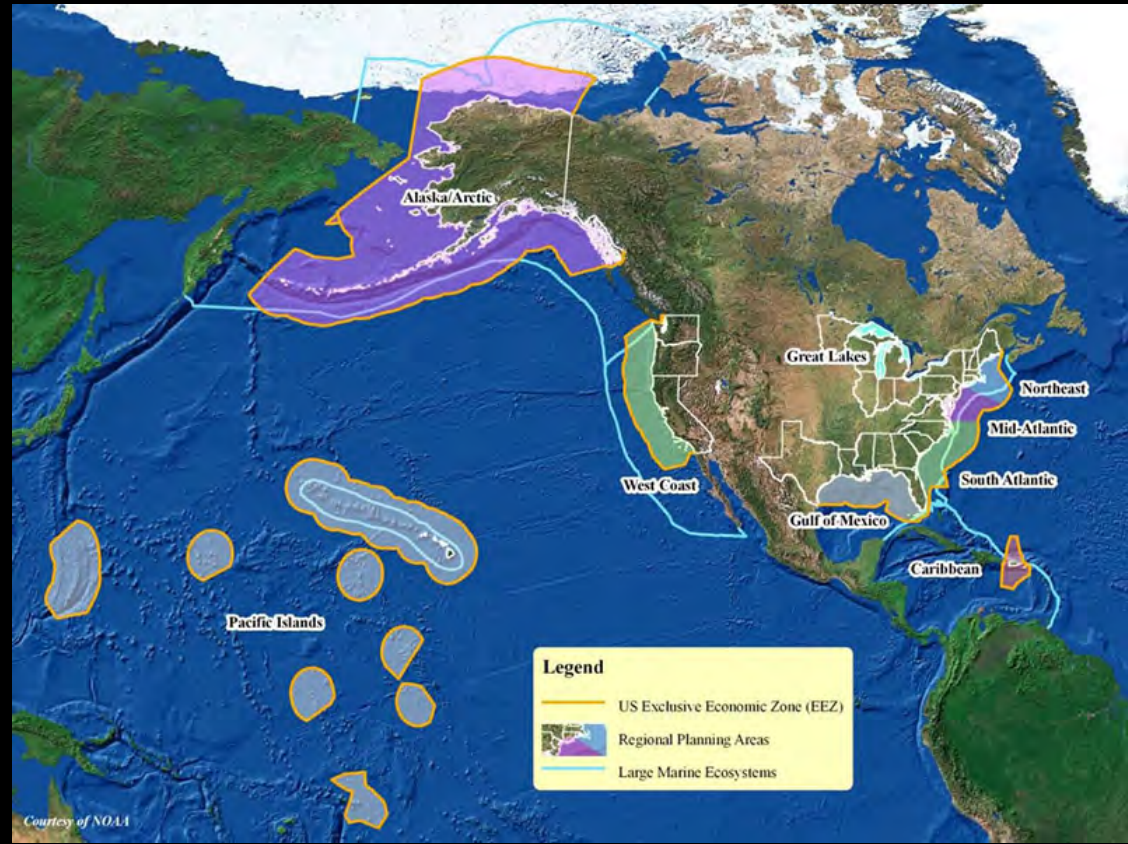
- Executive Order 13653 (Nov 2013)

National Policy: “...science-based planning...”

Stewardship of the Ocean, Our Coasts....:

“...participate in
coastal and marine
spatial planning and
comply with...[such]
plans.”

- Executive Order 13547
(2010)



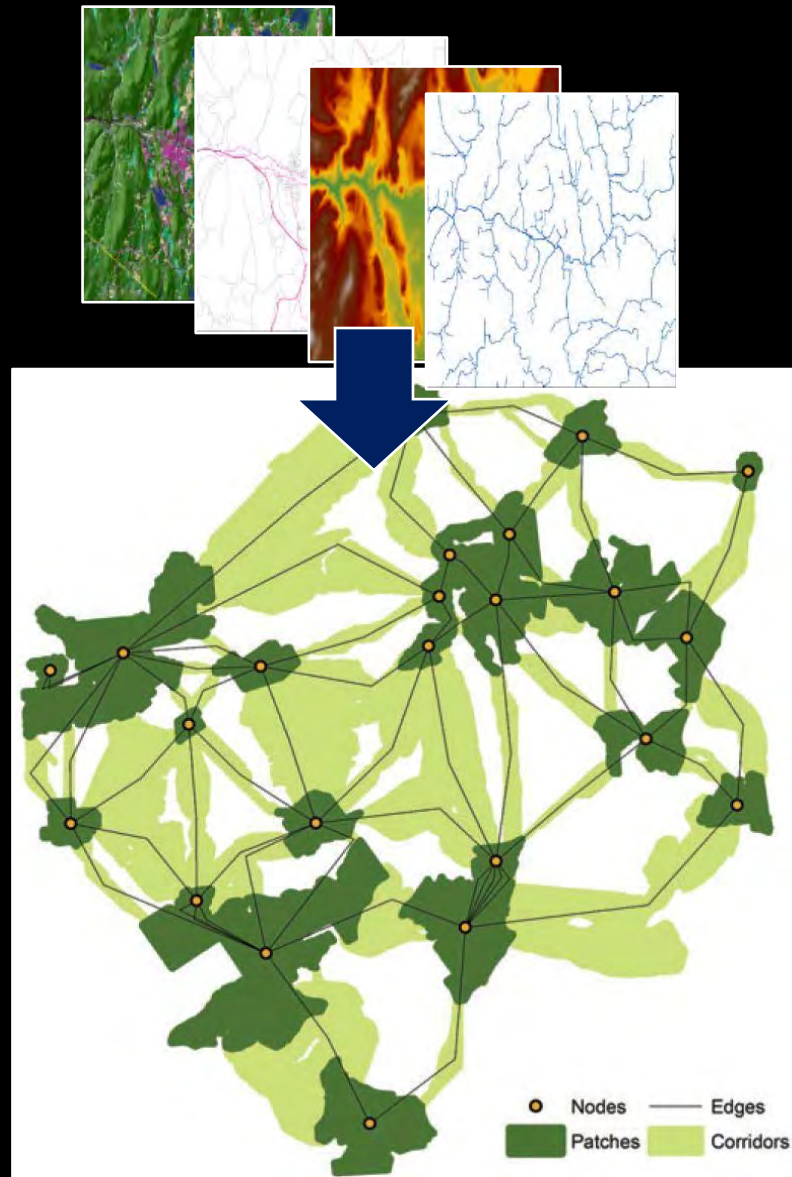
- Current & anticipated uses
- Identify priority areas for uses
- Sustainable use and protection

National Policy: “...plan for connectivity...”

Goal 1:

“Identify, conserve, protect, and restore an ecologically-connected network of lands and waters.”

- The Climate Adaptation Strategy (2013)



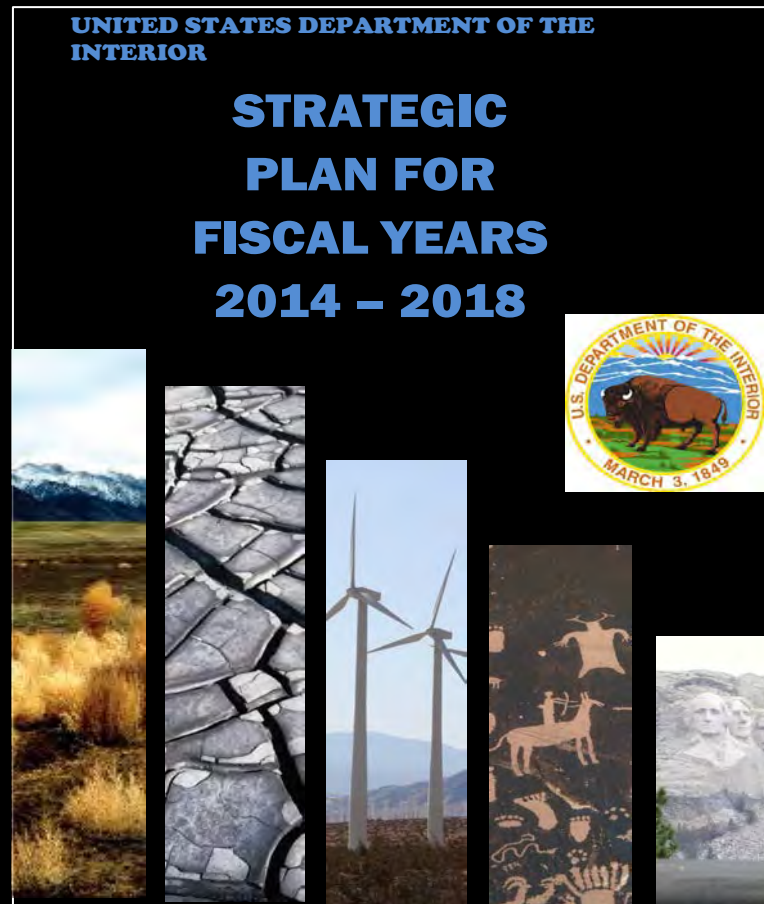
Source: NALCC Designing Sustainable Landscapes

- NFWP Climate Adaptation Strategy (March 2013)
- 3rd National Climate Assessment (May 2014)
- President’s Priority Agenda (Oct 2014)

DOI Policy:

“...landscape-level planning...”

- Sec Order 3330 (2013)
- DOI Strategic Plan 2014-2018
- LCCs: produce spatially-explicit conservation designs



Improving
Mitigation Policies
& Practices at DOI

“...effectively offset impacts of large development projects... through the use of landscape-level planning.”

- Sec Order 3330 (Sept 2013)

USFWS Policy:

“Work with LCCs to develop LCDs...”

Strategic Habitat Conservation



An Adaptive Management Framework
for Landscape-scale Conservation

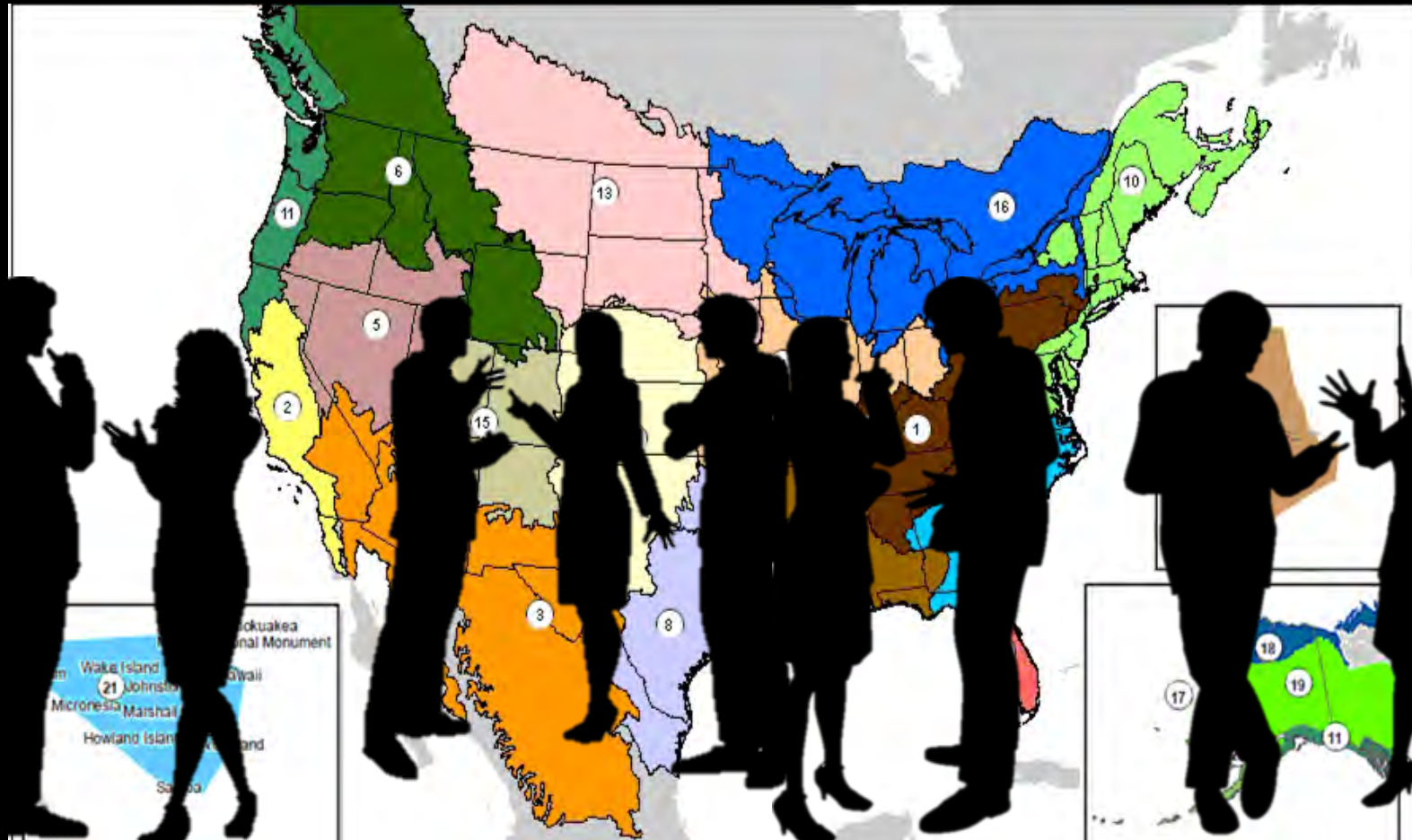
- NWRS Strategic Plan (2011)
- Climate Change Adaptation Policy (2013)
- Strategic Growth Policy (2014)
- LCD Performance Measure (2014)

Policy Summary

- Goal: An environment that is safeguarded during a time of change
- Purpose: Facilitate understanding and a coordinated response to change agents
 - Stakeholders convened by bridging entities (e.g., LCCs)
- Develop landscape-scale, science-based conservation/development designs
 - Use spatial and scenario planning techniques
 - Identify ecologically-connected networks of lands and waters
 - Identify priority areas for conservation & development
- Include implementation strategies to direct Federal investments



Interior Policy: *“...change how we manage land...”*



Addressing Impacts of Climate Change

*“...work together... to
develop strategies for
understanding and
responding to climate
change...”*

– Sec Order 3289 (Sept 2009)

Landscape Conservation Design

"...nature must be thought of...as part of our biological need."



Frederick Olmstead

Source: Wikipedia.com



title: *The Castello Plan (1660)*

Source: NYPL Digital Collections

"[If we are to address change]...we need to think like designers."



Tim Brown

Source: Business Insider

Landscape Conservation Design

(Campellone et al, 20XX)

Process

- integrated: multi-sector-stakeholder (conservation & industry)
- holistic: multi-objective
- landscape-scale: watersheds, ecoregions



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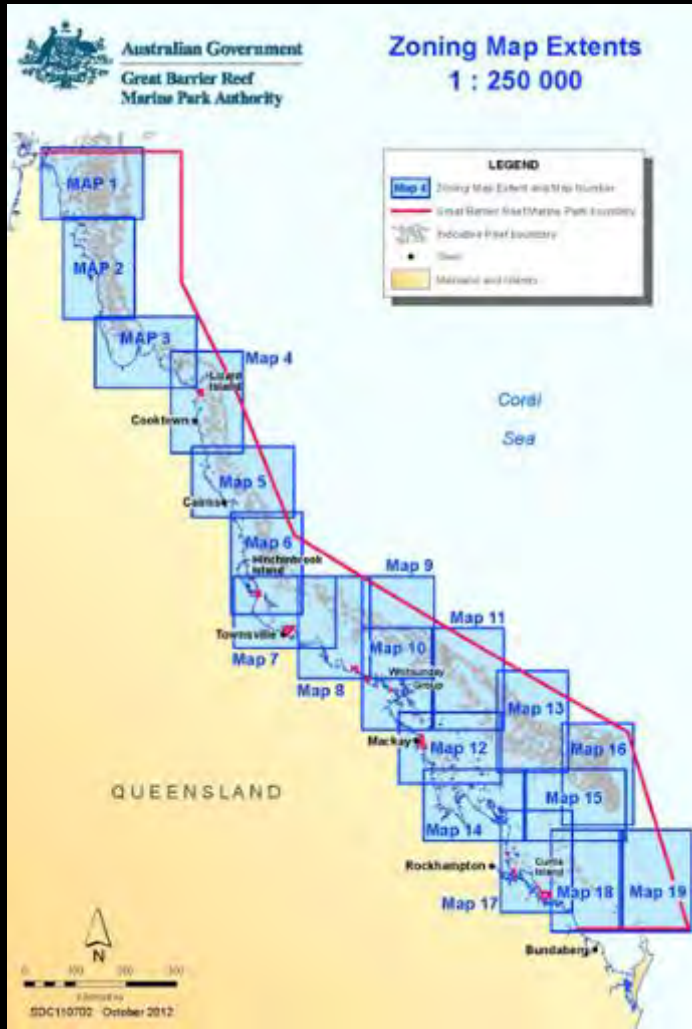
title: *The Plan of the City of New York (1767)*

Source: NYPL Digital Collections

Framework

- Convene: understand society's needs
 - Assess: identify the current & future condition of society's needs
 - Design: sustain cultural & ecological resources that society values
-
- Implement
 - Monitor / Research / Revise

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Source: www.gbrmpa.gov.au/about-us/strategic-plans

Products:

- science-based: socio-economic, ecological
- technologically-advanced: models, temporal/spatial scenarios
- strategies: achieve missions, ensure sustainability

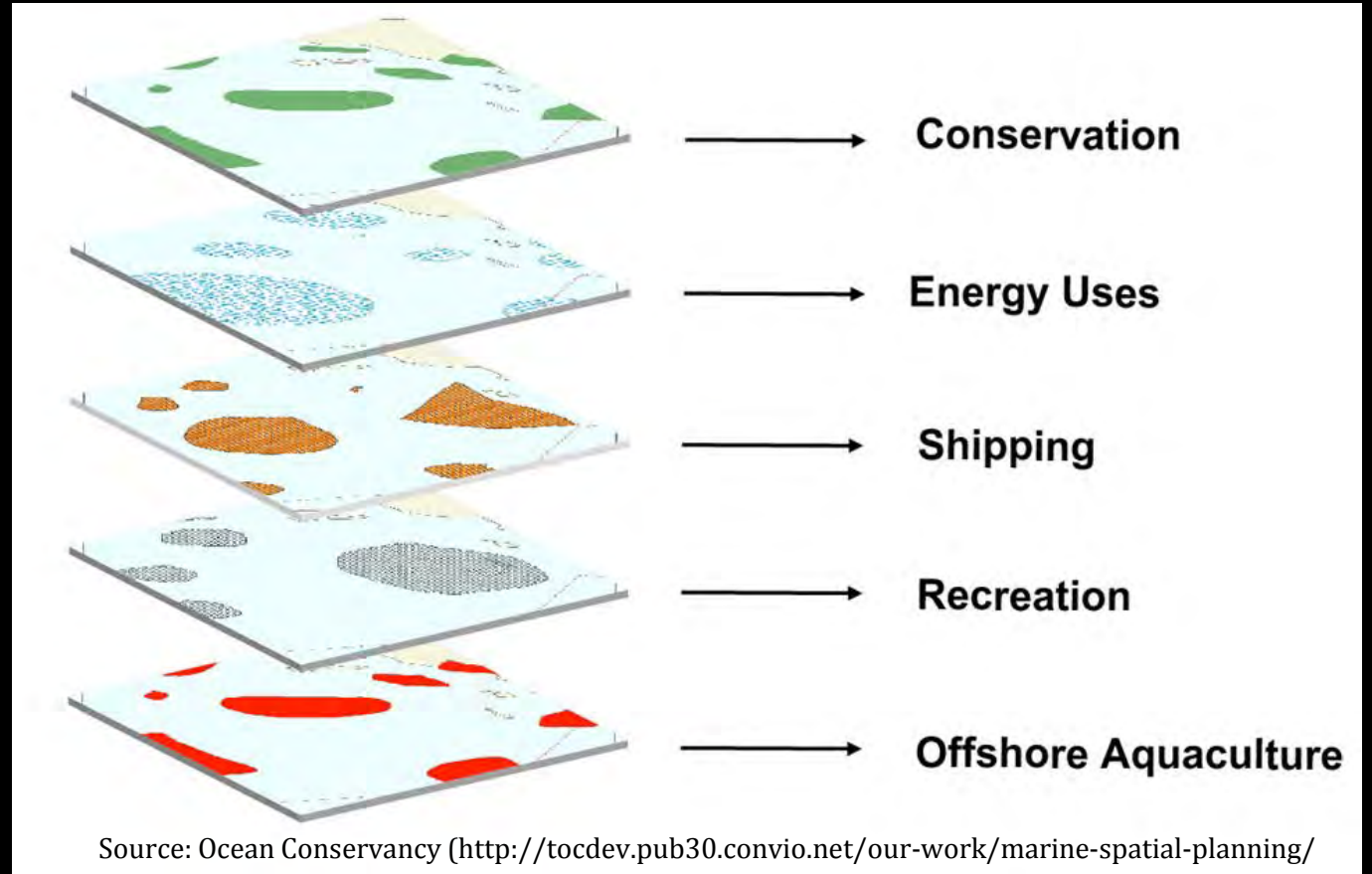


Source: www.gbrmpa.gov.au/about-the-reef/biodiversity/biodiversity-conservation-strategy-2013

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Other Considerations

- “prototype”: experiment
- best available science
- transparent assumptions
- assumption-based research
- iterative process/revise



Questions?



Thank You!