

An underwater photograph showing a school of fish swimming through a dense forest of kelp. The water is a deep teal color, and the sunlight filtering through the surface creates a shimmering, golden glow. The kelp blades are long and thin, swaying in the current. The fish are of various sizes and species, some appearing as dark silhouettes against the lighter water.

Creating Connected and Resilient MPAs and MPA Networks in a Changing Ocean

Co-Chairs: Mark Carr and Sarah Robinson
MPA-FAC Connectivity Subcommittee
November 10, 2016

Structure of Discussion:

- *Charge*
- *Approach and FAC overarching feedback*
- *Individual scientific synthesis papers and feedback*
- *Action Agenda and feedback*
- *Vote of approval*

Connectivity Subcommittee's Charge :

How can we incorporate knowledge about ecological spatial connectivity and climate change into the design, use and management of effective marine protected areas (MPAs) and MPA networks?

Connectivity Subcommittee (2015-2016)

- Mark Carr, Co-Chair
 - Sarah Robinson, Co-Chair
 - Rick Bellavance
 - Gary Davis
 - Stephen Kroll
 - Samantha Murray
 - Ervin Joe Schumacker
 - Stephen Welch
 - Margaret Williams
-
- Charles Wahle, National MPA Center staff liaison to Connectivity Subcommittee

Approach: Four Products

Cover letter from MPAFAC to DOC and DOI

- I. Action Agenda: Recommendations & Guidelines
- II. What is Ecological Spatial Connectivity?
- III. Design, Use and Management Principles
- IV. Climate Change: Another Compelling Reason for Connectivity-Informed MPAs and Networks

Approach: Feedback and Response

FAC feedback:

- I. Combine the three science synthesis papers into one piece
- II. Action Agenda is really separate and broader than the science synthesis papers

Revised structure:

Executive Summary

- summary of science synthesis piece
- summary of action agenda
- directs reader to the action agenda and science synthesis pieces with hyperlinks to each piece

Part I – Intro and combined science synthesis paper

Part II – Action Agenda

Overview of Specific Comments on the Papers

<i>COMMENT TYPES</i>	paper 1: what is ecological spatial connectivity?	paper 2: design, use, management principles	paper 3: climate change & connectivity	paper 4: ACTION AGENDA
stylistic edits re combining the 3 scientific synthesis papers	x	x	x	x
clarification edits	x	x	x	
addition of sentence(s) for emphasis (a kind of clarification)		x		x
reference addition edit				x
new background info supplied by MPA Center edit	x			
substantive addition re adaptive management			x	x
substantive addition (clarification) re best practices				x x
comments not accepted (explanations given!)	x x	x		

In addition, we received some comments re typos and other small matters, and we accepted them. These small edits are not shown in the documents.

Science Synthesis Paper 1:

*What Is Ecological Spatial Connectivity
and Why Does It Matter for Effective
Marine Protected Areas?*

Scientific Synthesis Paper 2:

*Design, Use, and Management Principles for
Enhancing Ecological Spatial Connectivity
Processes Within, Around, and Among MPAs and
MPA Networks*

Scientific Synthesis Paper 3:

*Climate Change: Another Compelling Reason for
Connectivity-Informed MPAs and Networks*

Action Agenda:

Connectivity-Informed MPAs and MPA Networks for
Effective Marine Conservation and to Meet the
Challenges of Climate Change in the Ocean

*An Action Agenda Prepared by the Marine Protected
Areas Federal Advisory Committee for the United
States Secretaries of Commerce and Interior*

Vote

Science Synthesis Paper 1:

What Is Ecological Spatial Connectivity and Why Does It Matter for Effective Marine Protected Areas?

Summarizes current scientific understanding of:

1. Different types and scales of connectivity and their ecological implications.
2. How connectivity processes create ecological linkages among marine areas, populations, communities and ecosystems.
3. How connectivity impacts conservation outcomes in MPAs.

Background Paper 2:

Accounting for Connectivity in the Use, Design and Management of MPAs

Summarizes the implications of the four types of spatial ecological connectivity for the:

1. Use (conservation and management roles) of MPAs and MPA networks.
2. Design (e.g., location, size, shape, spacing) and ecosystems included within MPAs and MPA networks.
3. Management both within and outside MPAs, with emphasis on adaptive management.

Background Paper 3:

Climate Change: Another Compelling Reason for Connectivity-Informed MPAs and Networks

Summarizes current scientific understanding of:

1. Climate-driven changes in the marine environment and the demonstrated and predicted ecological consequences.
2. How MPAs and networks can be designed to provide resilience to climate impacts.
3. The growing need for adaptive management in MPAs.

Action Agenda:

Recommendations and Action Agenda for DOC and DOI

Provides overarching recommendations and specific guidelines on four ways to enhance ecosystem resilience through the design, creation and adaptive management of connected MPAs and MPA networks:

1. Synthesize and Apply Current Scientific and Traditional Knowledge about Connectivity
2. Enhance Connectivity and Resilience in Existing MPAs
3. Create New and Resilient MPA Networks
4. Take Action

Cover Letter to DOC and DOI

Transmits Subcommittee products and urges agency action on recommendations and guidelines, including:

1. Brief background on MPAFAC, Connectivity Subcommittee, and specific charge.
2. Summary of recommendations and guidance for agency action.