

Synopsis:

Exchange among marine populations can occur across life stages, e.g., larval, juvenile, and adult stage, with different mechanisms driving the exchange, e.g., larval dispersal or migration. Many marine organisms have complex life histories, are comprised of subpopulations, and have variable habitat dependencies for subpopulations or life stages. Quantifying the exchange rates and degree of connectivity among subpopulations and life stages, and understanding the relevant physical and biological forcing are essential for understanding population and metapopulation dynamics, spatial distributions, as well as community structure. Connectivity in marine organisms may vary in response to differing oceanographic conditions.

The objective of this CINAR workshop is to provide fisheries managers with a better understanding of the spatio-temporal dynamics of marine organisms with an aim to improve sustainable management of fishery resources. To achieve this objective, the workshop will focus on species under management and the habitats and associated physical-biological forcing that control their dynamics.

Theme 1. Individual level

We will:

- Identify model species whose habitat utilization differs among life stages and develop understanding of physical-biological forcing that assures connectivity among different life stages;
- Evaluate how large-scale forcing may impart variability in exchange among different life stages;
- Evaluate relevant management responses to connectivity at the individual level.

Theme 2. Population level (meta-population dynamics)

We will:

- Identify key species with subpopulations, spatial structure, as well as age/size structure, and describe the circumstances that drove the spatial structure;
- Develop understanding of how exchanges among habitats and associated physical-biological forcing have implications for meta-population dynamics.
- Evaluate relevant management responses to connectivity at the population level.

Theme 3. Ecosystem level

We will:

- Biota and communities that are related to ecosystem connectivity
- Evaluate how the biota and communities respond and interact with biotic and abiotic factors at different systems and identify crucial habitats.
- Evaluate relevant management responses to connectivity at the ecosystem level

Anticipated participants

U Maine: Bob Steneck*, Jim Wilson, Yong Chen, Gayle Zydlewski, Jennifer McHenry**

GMRI: Jason Stockwell*, Graham Sherwood, Shelly Tallack, John Annala, Jon Grabowski

Rutgers U.: Dale Haidvogel*, Ken Able, Olaf Jensen, Scott Glenn, John Wilkin

WHOI: Simon Thorrold*, Rubao Ji, Julie Kelner

UMCES: Ed Houde*, Tom Miller*, Hongsheng Bi*, Dave Secor, Mike Wilberg, Ming Li, Elizabeth North

NOAA: Tom Noji*, Jon Hare*, Jason Link*, Mike Fogarty, John Manderson

*Member of steering committee

** Graduate student

Lead-off speakers

Robert Cowen

Bob Steneck

Tom Noji

John Manderson

Workshop date

22-24 Feb 2010

Venue

The Conference Center at the Maritime Institute (CCMIT), Linthicum, MD:

<http://www.ccmmit.org/>

Tentative Agenda

Date	Time	
Feb 22	9:00-10:00	Robert Cowen: Presentation on population connectivity; discussion to follow. Note 40 mins talk + 20 mins discussion
	10:00-10:20	Coffee Break
	10:20-11:00	Bob Steneck: Presentation on metapopulation dynamics; discussion to follow. Note 30 + 10.
	11:00-11:40	John Manderson: Presentation on conductivity at ecosystem level. (30 + 10)
	11:40-13:00	Lunch Break
	13:00-13:40	Tom Noji, Connectivity and Management: Science and management needs for Presentations on NOAA (30 + 10)
	13:40-15:00	Working groups (three; one representing each theme)
	15:00-15:20	Coffee Break
	15:20-17:00	Working groups
	17:00-17:30	Plenary: Preliminary reports from working groups
Feb 23	8:30-10:15	Working groups
	10:15-10:30	Coffee Break
	10:30-11:40	Working groups
	11:40-13:00	Lunch Break
	13:00-14:00	NOAA (TBD): NOAA's Marine Policy Framework
	14:00-15:00	Plenary: Brief discussion of progress, issues, and general discussion about how we are progressing.
	15:00-15:20	Coffee Break
	15:20-17:30	Working groups: begin to develop white papers
Feb 24	8:30-09:15	Plenary: Open Discussion.
	09:45-11:30	Developing consensus recommendations for white paper