Modeling Sustainability of Coral Reef Ecosystem Services
NIMBioS Workshop Draft Agenda
July 21-23, 2010

Wednesday, July 21 -- Day 1. "Biology and Biophysics"
0. Welcome & Introductions
8:00-8:45AM   Arrival, Check-in and Breakfast
8:45–9:00AM   Welcome from NIMBioS
9:00-9:45AM   Introductions

1.   Reach Agreement on a "Strategic Vision"
9:45-10:00AM   "Integrating Ecosystem Services into Decisions" Presentation by Susan Yee
10:00-10:15AM   "Modeling U.S. coral reef ecosystems" Presentation by Jerry Ault
10:15-10:30AM   "A Reef Decision Support System" Presentation by Craig Johnson

10:30-10:45AM   BREAK

10:45-12:00PM   Open discussion regarding the vision for the reef modeling workshop

12:00-1:00PM   LUNCH

2.   Define Relevant Endpoints & Characterize Existing Models
1:00-1:15PM   Instructions for Breakout groups
Groups will define the "endpoints" that we should be modeling and trace these back to the relevant reef attributes and observable metrics that link to and contribute to those endpoints. Groups will define the suite of relevant natural and anthropogenic pressures and processes likely to affect those attributes & endpoints. Groups will identify and review existing models related to their topic. Groups should identify potential knowledge gaps, how to improve existing models, and potential for integration among models.

1:15-3:15PM   Breakout groups covering four Ecosystem Services Topics
1. Tourism & Recreation
2. Recreational, Subsistence, and Commercial Fishing & Natural Products
3. Ensuring Ecological & Ecosystem Integrity (Nutrient, Carbon, & Contaminant Cycling, Wave Energy Attenuation, Complex Habitat)

3:15-3:30PM   BREAK

3:30-4:15PM   Breakouts report back to group

4:15-5:00PM   Group discussion
                           Achieve some consensus on "What we should be modeling?", knowledge
                           gaps, and how to improve and integrate existing models.

Thursday, July 22 -- Day 2 "Integrating Mathematical Models"
8:00-8:45AM   Arrival and Breakfast

1.   Defining Sustainability
8:45-9:00AM   Recap of Day 1 and New Thoughts?
9:00-9:15AM   Introduction to "Sustainability"
9:15-10:00AM   Open discussion about how "sustainability" should be defined.

2.   Modeling Resource Sustainability
10:00-10:15AM   Instructions for Breakout groups
                           Groups focus on outlining modeling techniques which can be used to
                           quantify & understand variability and sustainability of eco-system
                           services, minimum reef ecosystem conditions needed to achieve services,
                           appropriate levels of pressures to obtain optimum reef ecosystem
                           conditions.

10:15-10:30PM   BREAK

10:30-12:00PM   Break-out groups by topic
                           1.   Critical Pressure Levels
                           2.   Persistence of Reef Ecosystem
                           3.   Sustainability of Ecosystem Services

12:00-1:00PM   LUNCH

1:00-2:00PM   Breakouts report back to group with discussion
                           Come to group consensus on "best" method(s) for modeling sustainability
                           of coral reef ecosystem services.

3.   Problems, Opportunities & Benefits of Modeling
2:00-2:15PM   Instructions for Breakout groups
                           Identify potential problems with complex ecosystem models and attempt
                           to identify other potential forms and uses of such a model.

2:15-2:30PM   BREAK

2:30-4:00PM   Break-out groups by topic
1. Scientific community
2. Decision support for managers & regulatory agencies
3. Management science

4:00-5:00PM   Breakouts report back to group with discussion
What are the priority concerns and opportunities, and how do we handle them?

July 23 -- Day 3 "Development of an <u>Action Plan</u>"
8:00-9:00AM   Arrival and Breakfast

1. Synthesis of Workshop Outcomes
9:00-9:15AM   Synthesize discussions and results of prior 2 days
9:15-10:00AM   Open discussion on outline for synthesis report and any new thoughts

10:00-10:15PM   BREAK

2. Where do we go from here?
10:15-12:00PM   Open discussion
Division of labor for data assimilation and model integration
Identifying focused questions for projects/collaboration
Potential applications of reef ecosystem model
Need and scope for a future working groups