Special Coral Scientific and Statistical Committee
Meeting Summary
Tampa, Florida
March 8, 2012

Following introductions, Mr. Walt Jaap was elected as Chair and Mr. George P. Schmahl as vice-chair. The agenda was adopted with the clarification that Other Business would include Coral SSC recommendations for research priorities. The summary minutes of the May 2005 Coral SSC meeting were approved as written.

Dr. Steve Bortone explained the specific charge for this meeting of the Special Coral Scientific and Statistical Committee (Coral SSC), which was defined and distributed as follows:

> **Charge to the Special Coral SSC:**
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> The Committee has been convened to provide expert guidance to Council staff on two projects being conducted as part of a NOAA Coral Reef Conservation Program grant addressing the relationship between trends in coral reef communities and their associated fisheries. The first project involves development of a publicly-accessible spatial database focused on Gulf of Mexico corals (shallow, mesophotic and deep sea) and related fisheries information that will be used to enhance spatial planning and management actions. The second project involves convening a workshop of respected coral experts and managers to examine the interrelationships between corals and fisheries relative to long-term trends in coral condition.
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> The Committee charge is to provide expert advice and recommendations about: a) datasets and data sources as well as data gaps and needs; and b) participants and various potential conference topics including threats to coral health, management, coral habitats, habitat suitability models, and emerging research.

Dr. Bortone noted that the Council Chair had approved convening the meeting for these specific purposes.

Dr. Carrie Simmons provided a brief summary of the history of the Coral SSC, noting that the first meetings were held from 1979-1981 to help develop the original Coral and Coral Reefs Fishery Management Plan, which established Habitat Areas of Particular Concern and prohibited harvest of stony corals. Meetings in 1993 and 1995 gave input on Plan Amendments 2 and 3. Meetings in 2003, 2004, and 2005 focused on research in particular geographic areas (such as Pulley Ridge, the Florida Middle Grounds, the Keys, and Dry Tortugas), resulted in a written response to an Oceana petition on protecting deep-sea corals, and discussed potential research for the Gulf Council to fund.

Mr. Mark Mueller gave a short overview of the three year grant that the Council received from NOAA's Coral Reef Conservation Program, the broad purpose of which is to improve the understanding of the relationship between coral reef communities and their associated fisheries. The grant consists of four projects:

1. Incorporating GIS into coral and fisheries management

2. Workshop on interrelationships between coral reefs and fisheries
3. Survey of habitat and fish assemblages in three marine protected areas on the West Florida Shelf
4. Education and outreach

Mr. Mueller explained that Project 3 was being conducted by NOAA Research Fishery Biologist Andrew David and would not be discussed today. Ms. Charlene Ponce, the Public Information Officer for the Gulf Council, provided a summary of the Council's previous and planned coral outreach activities. Past activities included a coral display and dedicated web page, and a partnership with the Florida Aquarium to educate the public about corals and coral reefs. Planned activities, which are part of the multi-year coral award, include a stakeholder survey, educational materials, and Gulf-wide coral education workshops.

The Coral SSC suggested Council staff might attend various existing marine educational events (such as ones held by Mote Marine Laboratory and the Florida Fish and Wildlife Research Institute's Marine Quest) to take advantage of existing forums where possible.

Progressing from Data to Information (Project 1 of the Coral Reef Conservation Program grant):

Mr. Mueller gave a presentation about Project 1. Below are key points and take-away messages.

- There is a need for the Council to compile and maintain a centralized baseline of spatially-referenced data focused on Gulf corals/fisheries and related data. Having such a database will help improve our understanding of species-habitat relationships, including relationships between long-term trends in coral condition and fisheries productivity. It will also allow Council staff to perform on-demand analyses to inform management decisions, such as evaluation of management areas, amendment alternatives, and potential additions/revisions to Habitat Areas of Particular Concern. It will also improve the Council's capability to respond to future anthropogenic events such as oil spills.
- The three main steps of this project are: 1) data compilation / building the geodatabase; 2) developing, launching and updating the data portal / map viewer; and 3) using the compiled data in analyses.
- Data compilation involves determining what data are potentially useful, identifying sources and permissions, obtaining files, verifying, formatting, and processing into a standard GIS format, and ensuring metadata exist.
- The proposed data portal / map viewer needs to combine information in one location and be usable by scientific researchers, managers, and the general public alike.
- Collaboration with a variety of partners is critical. Staff have already met with several collaborators including members of NOAA's Center for Coastal Monitoring and Assessment, Coral Reef Conservation Program, and Deep Sea Coral Research and Technology Program. Staff have initiated discussions with multiple other partners including the National Marine Sanctuaries, Florida Fish and Wildlife Research Institute and the Gulf of Mexico Alliance, and plan to work with many other groups.
- Council staff are seeking input from the Coral SSC on both "bigger picture" data categories such as what variables to compile, as well as specific detailed information on

known datasets, Principal Investigators to contact, and relevant literature. Not all of the desired datasets can be found online, especially if they have not been published, and leads from the Coral SSC about such data would be particularly helpful. Examples were shown of useful input already provided by Mr. Andrew Shepard.

A lengthy, interactive group discussion followed, aided by the general list of already-identified dataset categories provided by staff, which was revised throughout the day. Discussions covered various topics including particular geographic areas of interest, specific contacts and studies for follow-up, the relative importance of various habitat variables, and the best ways to group and present information for different target audiences.

Some of the broader topics that came up during discussion included:

- The ambiguous definition of "mesophotic" corals—there were several thoughts on the topic but no general consensus was reached on a definition. It was noted that for many scientific uses knowing the genus and species was most helpful.
- Is coral Essential Fish Habitat (EFH) considered essential *for* coral or is the habitat provided *by* the coral essential to reef fish? Do we have more information about Coral EFH now than existed in 2004 when it was last delineated?
- The variable levels of detail in datasets reflect the differing purposes for which they were collected. For example, some managers may only be interested in whether corals are stony or soft, while some researchers may require more detailed species-level classification.
- The desirability of obtaining coral and related fisheries and habitat data collected in connection with Deepwater Horizon and Natural Resources Damage Assessment efforts.
    - Mr. Ryan Rindone spoke briefly about post-DWH research efforts and data availability and will assist other Council staff by providing contacts and links.
- Staff may need to draw a line between coral-specific data collection/compilation and obtaining more extensive information about benthic communities and bottom cover in general, including sponges and submerged aquatic vegetation. It was suggested that compiling detailed information on these subjects would require more time and effort than could be reasonably accomplished within this grant.
- The role of oil and gas platforms and submarine cables as habitat structure for coral recruitment and development was discussed. It was noted that certain species of coral seem to be found on these structures more than others, such as *Tubastrea* spp., and that older platforms had allowed for longer coral development.

The group also discussed the possibility of developing a georeferenced literature search showing individual studies as visual "bubbles" (instead of discrete points) drawn on a map as an indication of where studies have been done, even when detailed data from those studies are not available. This could quickly highlight areas where further research may be needed, and show relative levels of research effort throughout the Gulf. Staff should be able to integrate this idea into the map viewer, and have already begun compiling an extensive corals literature database that could be georeferenced.

Workshop on interrelationships between coral reefs and fisheries (Project 2 of Coral Reef Conservation Program grant):

Dr. Bortone explained his general vision for the workshop on interrelationships between coral reefs and fisheries, proposed to be held around May 2013. He emphasized that the primary goal of the workshop is to provide outcomes/products of real value to the coral community. This group of coral experts was thought to be the better judge of what valuable outcomes might be, and this group would serve as part of a steering committee to help develop topics, organize material and speakers, and summarize outcomes from the workshop, potentially in book format.

Staff explained that workshop preparation so far has consisted of establishing an estimated timeline, generating a tentative outline of topics of interest, and starting to identify potential participants based on their expertise and ability to address those topics. It was thought that getting input from the Coral SSC / workshop steering committee input at this early stage was appropriate.

Dr. Bortone asked the SSC to consider several broad questions in their discussions. These included: are trends in coral health/condition declining? What is the existing relationship between corals and fisheries? What is the relative importance to fisheries of structure in general versus corals specifically? How best to define the ecological services provided by coral reefs? Dr. Bortone suggested the workshop might help further develop specific research questions.

Specific topics addressed during group discussion included: corals as sentinels; multi-species assemblage structures, indirect ecosystem dependencies; energy transport/trophic levels, and more.

Dr. Dodge stated that the proposed workshop would have "tremendous value," with general agreement from the group. It was noted that while there have been many claims made about associations between coral reefs and fisheries, there is actually relatively little literature available documenting specific relationships between corals reefs and fisheries, particularly the positive interactions. It was noted that much of the existing research has focused on declines in resident fish populations following declines in coral cover and health, and agreed that management agencies such as the Council will need to account for losses in coral productivity in their management efforts.

Mr. Shepard summarized a similar type of workshop directed at Deep Sea Coral Ecosystems hosted by the South Atlantic Fishery Management Council, which featured breakout groups on topics such as mapping, physical/chemical, Essential Fish Habitat, predictive modeling, and prioritizing research needs (available online at:
http:www.safmc.net/Portals/0/Lophelia/SADWCResMonPlanJuly07-final.pdf).

Sessions/speakers:

- The idea of recruiting a select group of "heroes"—very well-known coral experts that would generate maximum interest from the field—was endorsed as an effective way to focus initial efforts.
- Between 20 to 30 talks was thought to be reasonable, to be held in single-talk sessions to allow for a working group feel instead of a symposium.

- A panel session with a question and answer session was thought to be valuable, particularly to the public.
- A handful of potential speakers were identified by the group. Dr. Bortone will start contacting them.

Specific Topics:

- A working outline for the workshop distributed by Dr. Bortone served as a starting point, with group discussion helping refine specific parts of it.
- Dr. Thomas Cuba proposed a basic outline that would encompass most of the potential workshop topics discussed:
  - Critical linkages between coral reefs and fisheries
    - Energy transport (in and out)
    - Proximity (grass/sand/many more)
    - Ontogenetics
  - Threats
  - Consequences
- These two outlines will be meshed.

Logistics:

- Length of workshop: the initial thinking is three days, with half days on first and last days to allow for travel. Dr. Judith Lang suggested background information be presented on the first afternoon, the second day cover coral/fisheries linkages and coral threats/impacts, with a focus on the Gulf, and the morning of the third day be used to recap, summarize and suggest 'where to go from here'.
- Late May was identified as a potentially good time of year to hold the workshop. Any earlier presents conflicts with academic schedules.
- Tampa Bay and New Orleans were mentioned as good potential locations. Both have facilities. Many of the Coral SSC members work in the Tampa Bay area.

Other Business:

The following areas for further research were identified by the Coral SSC:

- Dr. Dodge voiced concern over possible coral impacts from future Gulf oil spills, in particular the possibility of a Cuban spill given ramped-up production efforts there, noting the proximity to the Gulf Stream. He suggested further research on the effects of drilling, oil, and dispersants was warranted. Chairman Jaap asked Dr. Dodge to provide further information to the group at a later time. Judy Lang noted that considerable coral research/documentation has been done by energy companies but is considered proprietary by the companies. Dr. Bortone noted that the "MAFLA" (Mississippi, Alabama, Florida) studies done by the Minerals Management Service in the 1970's would likely provide useful information but data from those efforts have become difficult to access.
- Dr. Cuba suggested another area for research should be changes in habitat boundaries for coral species such as range expansion or contraction.

- The idea of employing citizen science to help provide usable data on this issue was raised. Possibilities included working with a proposed new St. Petersburg branch of the Cousteau Divers program and/or developing a web-based mechanism to solicit coral information from the public. This 'coral crowdsourcing' effort might focus on soliciting georeferenced reports on corals from divers, including photos and brief site descriptions. These reports could be condensed into a template format and photos sent for visual identification to willing members of the Coral SSC, then posted on the Gulf Council website and/or the Council's upcoming internet map viewer, where they could provide useful information to managers and scientists. Some sort of recognition/award system could be implemented to encourage public participation. Gulf Council Education & Outreach staff would work with the other Council staff on these efforts.

- Mr. Schmahl gave an overview of a Flower Garden Banks National Marine Sanctuary research proposal focused on trying to better understand the impacts of fishing on the Sanctuary ecosystem through experimental closures. There was some discussion/input on methods involved, and Mr. Schmahl explained that the Sanctuary Advisory Council and public comments had provided input already. Mr. Schmahl made the following motion, seconded by Mr. Richard Ruzicka.

  "The Coral SSC requests that the Gulf Council support the efforts of the Flower Garden Banks National Marine Sanctuary to investigate the effects of fishing vs. non-fishing on benthic and fish populations of the Sanctuary through experimental closures and/or other methods."

  Motion passed unanimously.

Coral SSC members present
Dr. Thomas Cuba
Dr. Richard Dodge
Mr. Walter Jaap
Dr. Judith Lang
Mr. Richard Ruzicka
Mr. George Schmahl
Mr. Andrew Shepard (on phone from 1:00-2:10pm)

Others Present
Steven Atran, Council staff
Steve Bortone, Council staff
Karen Burns, Council staff
John Froeschke, Council staff
Mark Mueller, Council staff
Ryan Rindone, Council staff
Charlotte Schiaffo, Council staff
Carrie Simmons, Council staff