

REEF RESILIENCE CONFERENCE ATTENDEES CHOOSE STRATEGIES

April 23, 2008

Participants at the “Reef Resilience Conference 2008: Coping with Climate Change,” heard a day and a half of presentations on reef science, resilience principles, emerging research on natural resources and human attitudes, new tools and techniques for managing coral reefs and the kinds of challenges reef managers face on a daily basis. This information provided the basis for small group discussion regarding strategies that could increase coral reef resilience.

During the 3 years prior to the conference, organizers gathered ideas about strategies for increasing the resilience of coral reefs from published literature, management plans and discussion among the Florida Reef Resilience Program Steering Committee members. We also sought feedback from Keys and South Florida area divers, anglers and commercial fishermen and held a series of six outreach meetings to gather ideas from reef users from Palm Beach to Key West. Finally, the information presented at the conference was compiled into a menu of possible strategies. On the last afternoon of the conference, participants broke into small groups to discuss and modify these ideas and add new ones. Then they ranked the reef resilience strategies in each of five categories: voluntary “best reef use” practices, regulatory strategies that do not require new regulation, regulatory strategies requiring new regulation, research and monitoring, and education/outreach. The entire list can be viewed at <http://FRRP.org>. A summary of the most highly ranked strategies in each category follows. The Florida Reef Resilience Program partners hope these strategies can help managers broaden discussions about how to protect Florida’s coral reefs from the impacts of global climate change.

Potential Regulatory Strategies (Includes Exercising Existing Regulations and Creation of New Regulations)

The highest ranked strategy in this category and among all of the five categories was a recommendation concerning marine zoning for multiple uses. 49 participants recommended that public agencies devise a comprehensive plan for marine zoning based on reef resilience principles, best available biophysical and social science and reef user input, accounting for environmental protection and sustainability of commercial and recreational uses.

This was followed in popularity (48 votes) by a recommendation to create a boater’s license similar to an automobile driver’s license.

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Next was a recommendation to increase law enforcement presence in general, with a focused effort on resilient reef areas (39 votes). An additional 14 votes suggested focusing existing, as opposed to new, enforcement effort on resilient reef areas.

37 participants advocated regulations that would institute mandatory user fees for all reef users to help manage marine resources. An additional 10 participants voted for use fees for non-residents only. Throughout the discussion, user group representatives made it clear that support for such action would depend on money collected coming back to the area it is collected for the management agency to implement specific, predetermined activities. Interestingly, an additional 19 participants voted for voluntary user fees in the "Voluntary 'Best Reef Use Practices'" category.

35 participants supported a recommendation for regulations to make significant reductions in greenhouse gas emissions through regulation at municipal, county, state, national and international levels.

Lobster and crab traps were seen as a significant stress on coral reefs. 28 people who voted to reduce ghost traps by utilizing existing authority for fishermen and reef managers to remove them and to "deputize" others to do so under controlled circumstances. An additional 26 people voted to fully implement the existing lobster trap reduction program.

Because of the multiple jurisdictions and differing management plans covering South Florida reefs, 27 people called for placement of the mainland reefs under a principle management authority or plan in order to more effectively manage the resources.

Rules preventing new dredging or other direct destruction of coral reef were supported by 25 participants. This issue is more relevant to mainland reefs not currently under reef protection regulations and vulnerable to coastal construction activities.

Participants gave 24 votes to the idea of increasing navigational aides.

Elimination of ocean wastewater outfalls in South Florida was also a relatively highly ranked regulatory strategy with 21 votes.

The idea of the Florida Keys National Marine Sanctuary exercising its existing authority to temporarily close highly stressed, bleached or diseased reefs received 19 votes.

Requiring commercial reef users who interface with visitors (e.g. dive tours, charter fishers, boat rental operations) to provide environmental education was

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recommended by 15 participants, fewer than the 29 who favored a voluntary approach to education provided by commercial reef users.

Voluntary Reef Use Practices:

The voluntary measure cited most often was keeping lobster and crab traps away from reef areas (44 votes). A related concept, using the lowest impact gear available received, received 15 votes.

For the dive industry, the most popular response, with 42 votes, was for dive operations to be certified as “Blue Star” certified operations. Blue Star is a voluntary certification program for operations that protect the reef through a variety of direct and indirect methods.

Overall, 19 said that reducing carbon emissions is a voluntary action that should be taken.

17 people advocated voluntary avoidance of stressed, bleached or diseased coral reefs.

As noted above, 17 people supported a voluntary reef user fee provided that participants in reef-dependent industries have input into uses of the proceeds.

Science and Monitoring

44 of the participants encouraged dive tour operators and other groups and reef users to get involved in coral monitoring programs (e.g. BleachWatch) and for program managers to integrate these into a centralized, user-friendly reporting system. An additional 18 participants urged continuation of the Mote Marine Laboratory BleachWatch program and recommended expanding it to the mainland.

After hearing previous discussions regarding what scientists do and do not know, 43 participants recommended continuing to examine relationships between local environmental conditions (e.g. UV/light, water quality, currents, doldrums, & other contaminants, etc.), biological & physical environment and bleaching to better understand reef resilience to climate change.

Not surprising given the comments by managers earlier in the conference, 38 participants supported regularly communicating scientific results to reef managers and the public to best address their needs.

29 participants recommended that the Florida Reef Resilience Program bleaching disturbance monitoring effort be continued and expanded to cover the area from Key West to the Dry Tortugas, the lower Keys “backcountry” and inter-

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island regions and deep reefs. Additionally, 18 participants supported utilization of the annual monitoring to collect samples for coral and zooxanthellae genetics, microbial associations, biomarkers and other relevant studies.

24 people supported refining research questions linking human dimensions monitoring in time and space with biophysical monitoring for a holistic account of actual reef condition and people's perceptions of reef condition.

Education

Attendees had a wide range of ideas about who the appropriate target audiences for education were. The largest number, 38, thought that policymakers should be the target and the second largest number, 35, felt that students were the appropriate target of educational messages regarding coral reefs.

Participants ranked the following two statements as the preferred messages for education and outreach.

Despite the very serious trouble that coral reefs are in today, there is reason to have hope for the future if we take action to increase reef resilience and decrease localized threats *now*. (34 supporters)

Over the long-term, global climate change is the largest threat to coral reefs and the services that they provide to people because it affects reefs worldwide and may make other localized threats even more harmful. (32 supporters)

The preferred vehicle (24 votes) for getting these and other messages out was to include a coral reef resilience to climate change component in school science curricula. The second most preferred vehicle (21 votes) was distribution of information via dive and tackle shops by enlisting the support of the shop owners and staff members. Interestingly, although participants had picked policymakers as a key audience, no strategies for how to reach them or deliver this message were developed. This is a gap that bears consideration.