

## **MEETING SUMMARY**

### Coastal Oceans Task Force Meeting

Thursday May 8, 2014

Nova Southeastern University Oceanographic Center  
Center of Excellence in Coral Reef Ecosystems Science  
8000 North Ocean Drive, Dania Beach, FL 33004

#### COTF members present:

Steven Abrams, Palm Beach County Commission  
Dawn Pardo, City of Riviera Beach  
Bonnie Fischer, Town of South Palm Beach  
Stuart Dodd, Town of Lauderdale-by-the-Sea  
Chuck Collins, FFWC  
Joanna Walczak, FDEP  
Dana Wusinich-Mendez, National Oceanic and Atmospheric Administration  
Dick Dodge, NSUOC  
Jeff Torode, South Florida Dive Headquarters  
John Sprague, MIAF

#### Alternates present:

Ed Tichenor-Reef Rescue  
Kevin Senecal, Divers Direct

#### COTF Members absent:

John Haddox, Martin County Commission  
Kristin Jacobs, Broward County Commission  
Eula Clarke, City of Stuart  
Susan Haynie, City of Boca Raton  
Michelle Kligman, Town of Surfside  
Bob Jones, Southeastern Fisheries Association  
Becky Hope, Port of Miami  
Alex Lewy, City of Hallandale Beach  
Mike Kennedy, Recreational Fishing  
Claire Schubert, Town of Hillsboro Beach Commission  
Frank Caplan, Village of Key Biscayne  
James Byrne, TNC

#### Also present:

Dan Clark, Cry of the Water  
Stephanie Clark, Cry of the Water

Tanya Tweeton, SE FL Sierra Marine Water Quality Team

Welcome – S. Abrams

A motion to approve the April meeting summary passed unanimously.

Presentation: Divers, the Dive Industry and Coral Reefs:  
A Forty-Year Perspective, Alex Brylske, Ph.D. Professor, Marine Science  
Florida Keys Community College

One of the complications of describing reef loss is a research gap. Scientists in their 20's and 30's now working in the Caribbean have never seen an undiminished real reef and have no idea what has been lost.

1974



2014



We know coral reefs have been declining worldwide. Only about 30% of the world's coral reefs are healthy, down from 41% in 2002. 20% of the world's coral reefs “have been effectively destroyed and show no immediate prospect of recovery.” (GCMN/AIMS, 2008). Caribbean reefs, suffered a 80% decline in coral cover, including 80 to 98% of the elkhorn and staghorn coral (Garner, 2003). In the Indo-Pacific, coral cover declined from 42% to 22% since 1984. Annual rate of loss is 2% per year. Coral reefs in Indo-Pacific are now disappearing five times faster than are tropical rainforests (Bruno & Selig, 2007). In Florida, in three decades the Florida Keys has suffered a 93% loss of hard corals; from 1997 to 2001 alone, 38% loss of coral cover to current average of only about 7% (FKNMS 2012 Ecosystem Report). We know the reefs are declining due to pollution, sedimentation, physical destruction from construction, etc.

While diving and fishing do impact reefs, Saphier and Hoffman (2004) estimated that only about 7% of coral reef damage is caused by anchoring and less than 1% by divers. “A diver does more damage to a coral reef by flushing the toilet in his hotel room than he’ll ever do by diving on one.” Most damage to coral reefs (from tourism) is caused by poor sewage treatment and poor siting of tourism infrastructure. But tourism accounts for the majority of South Florida’s economy and divers are a percentage of tourism.

What is the diving industry’s inventory? Coral Reefs! So it is very important to the dive industry that the coral reefs are protected and if possible restored.

THREATS	REGIONS													
	Atlantic/Caribbean				Polynesia				Micronesia				U.S. Remote Insular Reefs	International Coral Reefs
	Florida	Puerto Rico	U.S. Virgin Islands	Flower Gardens	Main Hawaiian Islands	Northwestern Hawaiian Islands	American Samoa	Guam	Northern Mariana Islands	Federated States of Micronesia	Marshall Islands	Palau		
Global warming and bleaching	H	M	M	L	L	L	M	L	M	M	H	H	M	H
Diseases	H	H	H	L	L	L	L	L	L	L	L	L	L	M
Tropical storms	M	L	H	L	L	L	M	M	M	L	M	L	L	L
Coastal development and runoff	H	H	H	L	H	L	H	H	H	H	M	H	L	H
Coastal pollution	H	H	H	L	H	L	H	H	H	M	L	H	L	H
Tourism and recreation	M	M	M	L	H	M	L	M	M	L	L	M	L	M
Fishing	H	H	H	L	H	M	H	M	M	H	M	M	M	H
Trade in coral and live reef species	M	H	L	L	H	M	M	L	L	L	H	L	L	H
Ships, boats, and groundings	H	M	H	M	H	H	M	M	M	H	L	M	M	M
Marine debris	M	M	L	L	M	H	L	L	M	H	L	M	M	M
Alien species	M	L	L	M	H	H	M	L	L	L	H	M	M	M
Security training activities	L	H	L	L	M	L	L	L	H	L	L	L	L	L
Offshore oil and gas exploration	L	L	L	M	L	L	L	L	L	L	L	L	L	M

**H = High priority threat**  
**M = Medium priority threat**  
**L = Low priority threat**

Threats levels to corals, including tourism and recreation, which is highlighted in red. Tourism and recreation has a high impact in Hawaii. Photo Credit: NOAA

### Divers Perceptions and Expectations:

Howard (1999) surveyed divers to determine “the importance of various factors in the choice of a dive destination.” He concluded that, “Despite the original introduction to scuba diving being social or adventure aspects, most divers now chose dive sites because they wanted to view spectacular natural scenes.”

Pendleton (1994) showed that what divers look for in determining a “high-quality reef” is: 1) the amount of coral cover, 2) fish diversity, and 3) good visibility.

Diversity of life forms	4.71
Visibility	4.20
Coral formations	3.94
Divers’ recommendation	3.86
Access to dive sites	3.60
Cost	3.55
Lack of crowding	3.52
Historic wreck sites	3.42
Unusual marine species	3.39
Diving environment	3.26
Magazine article	2.50
Close to home	1.97

5 = very important 1= not important

Sorice et al. (2004) surveyed 650 divers to determine “what combinations of management strategies/scenarios divers prefer. Almost 70% were 40 years or

older, 58% male, and 44% had an annual household income over \$100,000. The topics examined included crowding, amount of area open for diving, what level of supervision was comfortable, willingness to pay user fees, required education and amount of marine life present. The results were that the respondents preferred dive master in-water supervision over no supervision, they preferred 30 minutes of required education on reef protection over no education at all, were willing to have restrictions on the number of divers at sites, have somewhat restricted access, accept required education, and pay a moderate access fee to see more marine life. They concluded that many divers are willing to have restricted freedoms to better protect coral reefs.

Shafer and Inglis (2000) found that the most significant factors influencing the enjoyment of day-use visitors to the Great Barrier Reef Marine Park are staff interactions and the quality of corals and fishes.

So, we know what divers expect or perceive; what do we know about the impact of scuba diving on coral reefs? A lot, there are over 48 published, peer reviewed studies. We have learned that on the average:

- Divers make contact with the substrate seven to 18 times per dive.
- Most contact is unintentional (fin kicks). Intentional contacts are made, most often, by photographers, those wearing gloves and novices.
- The most likely time for contact is the “terrible 10 minutes.” The first 10 minutes of the dive where the diver is trying to get comfortable in the water.
- The old “80/20 Rule” holds true. Rouphael and Inglis (2001) found 84% of divers observed caused no damage whatsoever, while a mere 4% of divers accounted for over 70% of the damage.
- Pre-dive briefings can reduce the number of contacts, if they’re done properly.
- In-water supervision by dive guides can reduce contacts but only if guides intercede to correct inappropriate behavior

Recommendations:

- Provide a substantive pre-dive briefing on reef awareness, etiquette and low-impact techniques. The key to an operation’s success is the quality of experience provided to the guest...but this is coming to mean more than just keeping guests safe and entertained.

Examples of a Substantive Briefing



## DIVING



*Divers are some of the strongest and most effective advocates for coral reef conservation. Please follow these simple guidelines to become a "coral friendly" diver.*

### AS A RESPONSIBLE TOURIST

- For your vacation, choose an environmentally friendly resort or hotel; one that practices energy conservation, recycles, and treats sewage and solid waste in responsible ways.
- Choose coral friendly dive operations that practice reef conservation by:
  - Giving environmental briefings.
  - Holding buoyancy control workshops.
  - Using available moorings.
  - Using available wastewater pump-out facilities.
  - Actively supporting local coral parks.
  - Participating in local conservation projects.
- Pay user fees or make a donation when visiting coral parks and other marine conservation areas.
- Avoid purchasing souvenirs made from coral, turtles or other marine life—this is often illegal, and it's never environmentally wise.
- Learn all you can about coral reefs—they are fascinating and fragile environments.



### IN THE WATER

- Never touch corals; even a slight contact can harm them and some corals can sting or cut you.
- Carefully select points of entry and exit to avoid areas of reef.
- Make sure all your equipment is well-secured.
- Make sure you are neutrally buoyant at all times.
- Maintain a comfortable distance from the reef.
- Practice good finning and body control to avoid accidental contact with the reef or stirring up the sediment.
- Stay off the bottom and never stand or rest on corals.
- Avoid using gloves and kneepads in coral environments.
- Take nothing living or dead out of the water, except recent garbage.



Good divers know that the best way to enjoy a reef is to slow down, relax and watch as reef creatures go about their daily lives undisturbed.

Be sure to find out about local laws and regulations as they may differ from these general guidelines.



## DIVING



### MINIMIZE CONTACT WITH MARINE LIFE

- Never chase, harass or try to ride marine life.
- Do not touch, handle or feed marine life except under expert guidance and following established guidelines.



### PHOTOGRAPHY & VIDEOGRAPHY

Divers need advanced diving skills to take pictures and video underwater. Photographic and video equipment is cumbersome and affects a diver's buoyancy and mobility in the water. It is all too easy to touch and damage marine life when concentrating on "the perfect shot."



### ON DIVE BOATS

- Choose dive operations whose boats make use of available moorings—anchors and chains destroy fragile corals.
- Make sure garbage is well stowed, especially light plastic items.
- Be sure to take away everything you brought on board, such as packaging, used batteries and bottles.



### SHORESIDE

- Support coral parks and other conservation projects:
  - Visit established coral parks and pay applicable user fees that support marine conservation.
  - Encourage and support the use of dive moorings.
  - Participate in local initiatives to monitor the marine environment.
  - Participate in cleanups.
  - Make a donation or volunteer your skills to support a coral park. For example, you can participate in a reef survey, conduct outreach, or help educate others about coral reef conservation.
  - Donate used equipment such as cameras, dive gear or reef identification books.
- Speak up. Make sure your dive buddies understand these simple but important conservation practices.



The Coral Reef Alliance (CORAL) is a member-supported, non-profit international organization dedicated to keeping coral reefs alive around the world. Visit our website <http://www.coral.org>.



Visit the Project AWARE Foundation website at [www.projectaware.org](http://www.projectaware.org) to find out more about protecting the aquatic environment and its resources.

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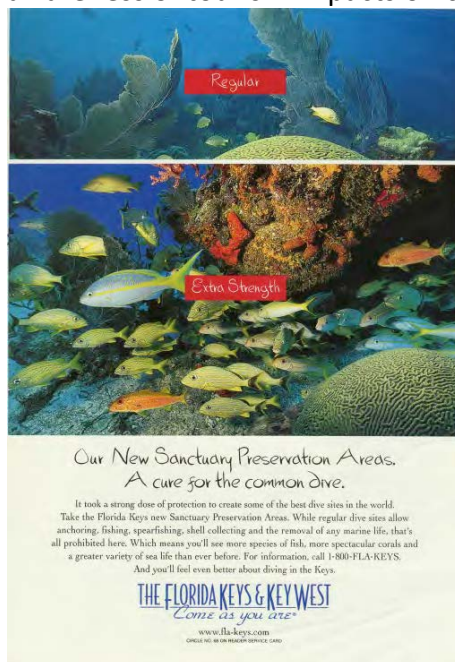
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“The best ground handlers [operators] have realized that customer satisfaction depends as much on the quality of their staff as on the quality of

the attraction that they visit. ... Indeed, the most common causes of complaints in wildlife tours are the lack of information and/or poorly trained staff. Tour operators and ground handlers who have addressed this problem can gain market share at the expense of cheaper competitors ..." Wildlife Tourism (Shackley 1996).

- Pay particular attention to underwater divers. They are the worst offenders.
- Discourage the use of gloves. If diver's hands are bare, they are less likely to touch coral.
- Emphasize buoyancy control and "fin awareness" during diver training and practice. Teach "fins up" diving position.
- Encourage divers to descend over sand, and, when possible, take this into consideration in siting mooring buoys.
- Encourage in-water supervision of divers and overtly correct inappropriate diver behavior.
- Consider implementing something like the Florida Keys National Marine Sanctuary (FKNMS) Blue Star Program (Krieger & Chadwick, 2013).
- Consider using environmental success stories in advertising campaigns.
- Encourage dive tour operators to invest in professional development for dive guides. There are already many brochures and guides designed to increase awareness of tourism impacts on coral reefs and the benefits of ecotourism.



Questions and Comments:

*One of the most common touches I see is divers dragging their gauges. When I lead a dive, I have told them "the first time I see you touch the reef, I will point at you; if I see you touch it again, I'll take your picture and post it.*

*What about the proposal to create a "no take" zone? The fishing community said they would support one but only if divers were excluded also. How do you respond? I feel there is a rationale for keeping some areas free from any human impacts for scientific research. When there are conflicts between different recreational communities, I have seen that if you put them face to face, they are able to negotiate an agreement.*

What about educating the recreational divers?

Do you have any statistics regarding "touch" damage vs other kinds of damage to the reefs? *Yes, see the statistics cited in the presentation.*

Do you think the reef will survive? *They are very resilient, but there are multiple impacts affecting them simultaneously now. All we can do is trying and remove or reduce the stressors.*

What about the boats discharging sewage directly into the water? Referencing your comment "A diver does more damage to a coral reef by flushing the toilet in his hotel room than he'll ever do by diving on one." *Florida waters are legally no discharge zones. That phrase was a metaphor for the idea that it's the siting of the tourism facilities that causes more damage than the diver diving on the reef itself.*

Where are you planning on holding these educational classes? *There are already many programs already out there, it's a matter of making them mandatory or at least strongly encouraged.*

Our Florida Reefs (OFR) update, M. Balling, FDEP

The second round of meetings was held in April. There was good attendance. James Byrne (The Nature Conservancy) spoke on coral biology and Curtis Greg (NOAA) and Kevin Carter (SFWMD) on watersheds and inland sources of water pollution. Starting in May, there will be standing meeting dates on the 3rd Wednesday of every month for the south group and the 4th Wednesday of every month for the north working groups. In May, Dave Gilliam (NSU) will speak on SE Florida Coral Reef Environmental Monitoring Program, Brian Walker on Habitat overview with GIS satellite based imagery, and Jim Bohnsack on Fisheries Dependent Data.

The groups independently have developed project organization committees to explore reaching out to other organizations with any recommendations that are developed rather than waiting until the end of the process. They are trying to get a legislative mandate now. James Byrne will be coordinating these committees and they will hopefully be merged in the future.

The public service announcements start running today, English only. They feature Guy Harvey, Capt. Bouncer Smith, Wanda Myles (NPR), local dive shops owners and a professional kite boarder. Starting July 1<sup>st</sup>, they will be in English and Spanish. They can be viewed on our website [www.ourfloridareefs.org](http://www.ourfloridareefs.org). Please feel free to share this information and links with your membership.

Comment from J. Walczak: I want to emphasize how linked the objectives of these two groups are. They have different stakeholders as members, but the goals are the same. I encourage all of you to peruse the upcoming meeting programs and try and attend some of the meetings. Now through August the meetings will be educational in nature, some similar to what we are doing, others will be unique and different. August, September and October will be the start of discussions and formulating recommendations. It would be good for some of us to sit in on those discussions.

Draft list of recommendations from presenters: Ken Banks, Broward County NRPMD - This is a running list of recommendations that have been brought forward by the presenters and task force members. If you have made a recommendation and it is not on the list, please let Ken Banks know. There has been no discussion on advancing any of the recommendations, which will come later in the process. This will be a running list that will be updated and presented at each meeting.

New recommendation to be added submitted by K. Senecal. Update report the Socioeconomic Study of Reefs in South Florida, by Grace Johns, PhD sponsored by Broward County in conjunction with Miami-Dade, Monroe and Palm Beach counties and Hazen and Sawyer, dated 2001. Grace Johns is June meeting presenter.

New business: E. Tichenor, presented excerpts from FDEP Site Inspection Turbidity Monitoring Report dated 4/16/14 for the North Boca Raton Beach Renourishment project, permit number 0561499-004-JM which was the project he spoke about last month that he believed was not in compliance with their permit. The report finds that the contractor was in violation of their permit. The contractor worked for approximately 4 more days on that project (in compliance but much more slowly) and no work has been done there since.

The end of May, he is scheduled to meet with C. Hand and M. Sealing from FDEP, the consultant for the project and the turbidity monitoring personnel regarding future monitoring of this project when the work resumes. They seemed to have been taking samples from incorrect locations.

Public Comment:

Dan Clark, Cry of the Water- Segment II beach project is a truck haul project will impact the reef by burying the reef in sand.

Policy is what has to be discussed by this panel regarding reef conservation. When the Broward County Commission allows 10 acres of wetland to be developed as a trade for lower building heights on a new development that is not good policy.



Stephanie Clark, Good impacts from divers. Divers are the ones who see the impacts from the beach projects on the reefs and bring it to people's attention. Divers write letters elected officials to try and stop bad impacts, but it seems nothing ever changes.

Next scheduled meeting is Thursday June 12, 2014. Venue will be Boca Raton, specific site is yet to be determined. There will be discussion next meeting regarding summer recess. Meeting adjourned 3:20 PM.