

Flower Garden Banks National Marine Sanctuary
International Coral Reef Symposium Field Trip Report
Field Trip – July 1-4, 2008

The International Coral Reef Symposium is held every four years. This year over 3000 participants from 90 countries were in attendance in Fort Lauderdale, Florida. The Flower Garden Banks National Marine Sanctuary (FGBNMS) was well represented by sanctuary staff and researchers through their attendance, as well as presentations and posters.

The FGBNMS was one of multiple sites that hosted field trips for ICRS participants. The weather gods smiled upon us, and our trip was deemed hugely successful. We were thrilled to be able to share the beauty of the Flower Garden Banks NMS with national and international coral reef scientists.



Figure 1. *ICRS Field Trip participants, back row, L to R, David Burdick, Sarah Davies, G.P. Schmahl, Jen Dupont, Jeremy Marshall, Karen Neely, Lawrence McCook, Jamie Nobles (DM), Dennis Hubbard, John Prentice (DM), Brian Von Herzen, Amy Borgen. Front Row, L to R, Deana Erdner, Dan Castellanos, Marissa Nuttall, Emma Hickerson, Karla Hubbard-Parsons. Photo credit: Capt. Bland*

The trip was led by Sanctuary Superintendent G.P. Schmahl and Research Coordinator Emma Hickerson. Field Trip participants were:

ICRS Scholars:

- Karen Neely
- Jen Dupont, University of South Florida
- Sarah Davies, University of Calgary

ICRS participants:

- Karla Hubbard, Oberlin College
- Dennis Hubbard, Oberlin College
- David Burdick, Guam Coastal Management Program
- Laurence McCook, Great Barrier Reef Marine Park Authority
- Brian Von Herzen, Climate Foundation

Several FGBNMS researchers were on board to conduct their ongoing projects:

- Dan Castellanos, Wildlife Conservation Society – manta ray and whale shark acoustic tagging, change-out of acoustic receivers
- Deana Erdner, University of Texas – collection of algae for ciguatoxin analysis
- Jeremy Marshall, PBS&J – change-out of water quality instrumentation
- Amy Borgen, PBS&J – change-out of water quality instrumentation
- Marissa Nuttall, FGBNMS - manta ray and whale shark acoustic tagging, change-out of acoustic receivers

Water temperature was variable throughout the water column – ranging from 77° F on bottom to 86° F on top! A fresh water layer was definitely visible at the surface and salinity measurements confirmed this with 29.1 PPT readings at the surface, 31.9 PPT at 10 meters, and 35.1 at 25 meters. Visibility was around 80 feet.

The first dive of the trip started out superbly, with most divers seeing manta rays. At least two different individuals were sighted – two animals that were not previously reported in our manta catalog! Many ocean triggerfish were nesting in the sand patches. Several large black grouper were also observed. A loggerhead was reported at West Flower Garden Bank as well.

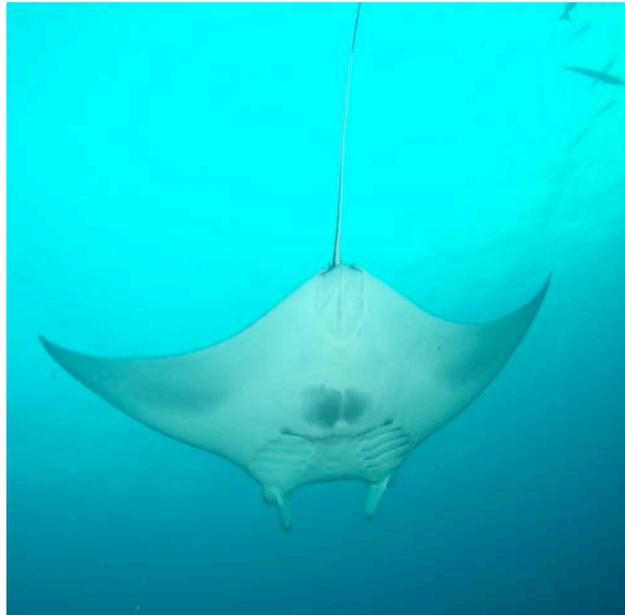


Figure 2. *Manta* seen at West Flower Garden Bank, now known as M6 in our manta catalog.

Sarah Davies and several others were lucky enough to witness a spawning event of brittle stars during a night dive. This is the first reporting of this species of brittle star spawning at the Flower Garden Banks. Sarah came out with us as a scholar, and took the opportunity to conduct maintenance on her recruitment racks at East Flower Garden Bank Buoy #5.



Figure 3. *Male brittle star (Ophiocoma wendtii) spawning.* Photo credit: *Sarah Davies*

Unfortunately many of our giant barrel sponges, *Xestospongia muta*, have been affected by some type of disease event. We started seeing this late last year, and have been making observations since then. We documented several large sponges that we have been following for many years. Large areas of their tissue are either completely gone, with remnants evident below the sponge, or large areas of necrosis are evident that will disintegrate eventually. The line of demarcation between healthy and dying tissue was very clear, and the body of the sponge appeared to be affected. We will continue to watch this event and document cases, but are interested to hear from anyone who knows anything about this, what the cause is, etc.



Figure 4. *Barrel sponge affected by disease prior to disintegration of affected tissue.*



Figure 5. *Barrel sponge affected by disease, after loss of tissue (different colony than Figure 4).*

On a positive note, it appears that the *Madracis* field on the eastern flank of East Flower Garden Bank appears to have recovered from the destruction caused by Hurricane Rita in 2005. We'll see how we hold up this hurricane season!

We made several algae collections for Deana who is looking for ciguatoxin – she found some too! Not that that is altogether a good thing. Earlier this year the FDA put out a seafood advisory in relation to ciguatoxin found in samples from fish at the FGBNMS, so this confirms (again) that the toxic algae is in fact on the reef.

We had an exciting exit when a squall blew through on the last dive at East Bank, with 6-7' seas, and winds gusting to 38 knots, but everyone held their own, and negotiated the ladders safely.

Stetson Bank was as enjoyable as ever. We were pleased to see newly recruited spiny lobster at Stetson Bank – maybe around a year old. They were hanging out on Sierra Madraxis along with the regulars (blackbar soldierfish and spotted drum) and there were plenty of *Diadema* around – both the black and white spined varieties. There were also quite a few slipper lobsters wandering about the reef and tucked away in crevices.

A school of lookdowns swirled by us, which is not a common sight. As usual there was quite a lot of fishing line on Stetson – many of the tube sponges had been entangled. Stetson was of particular interest, of course, to our geologists on board!

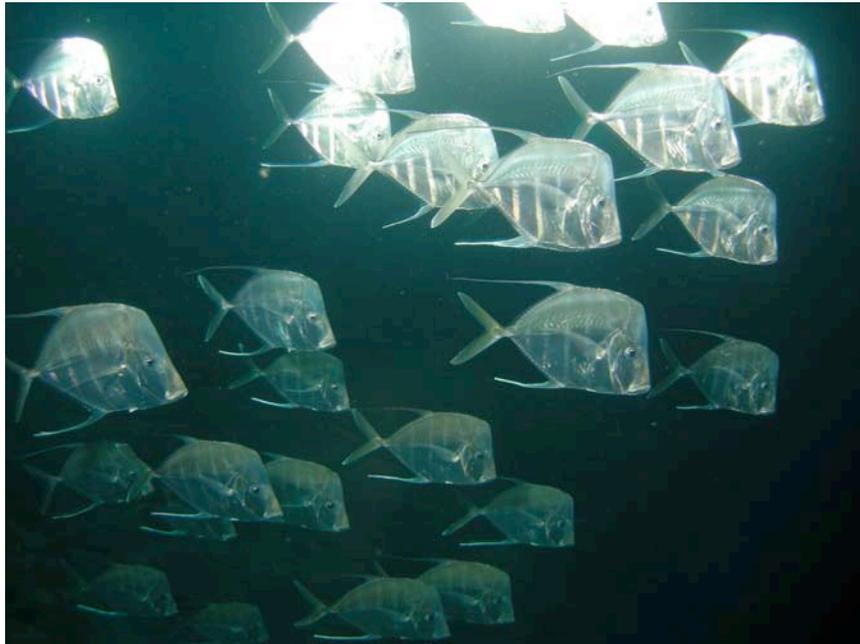


Figure 6. *Lookdowns* (*Selene vomer*).



Figure 7. *Blackbar soldierfish* (*Myripristis jacobus*), *spotted drum* (*Equetus punctatus*), *reef butterflyfish* (*Chaetodon sedentarius*), *creolefish* (*Paranthias furcifer*), on *Sierra Madracis*.

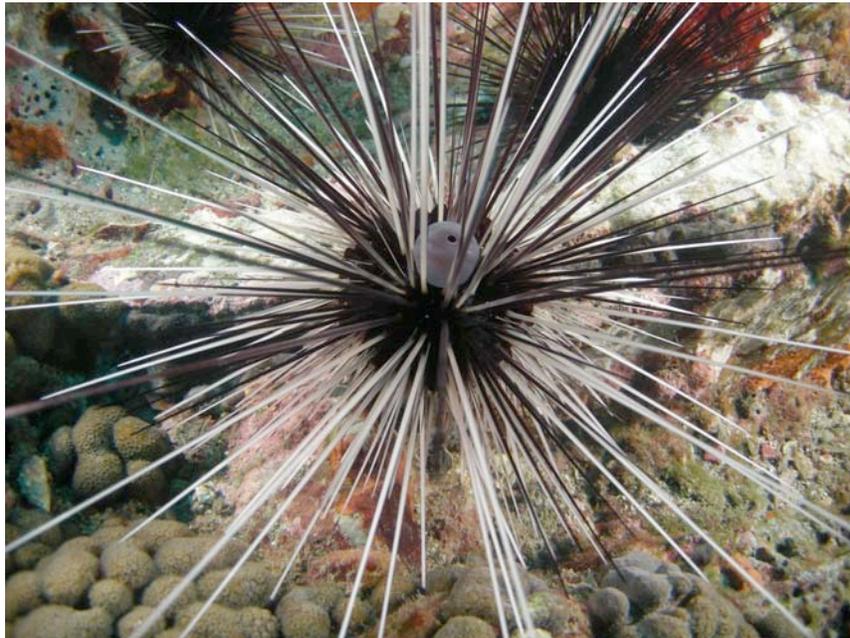


Figure 8. *Spiny sea urchin*, *Diadema antillarum*.



Figure 9. *Slipper lobster, flamefish (Apogon maculatus), and spiny sea urchin (Diadema antillarum) on ten-ray star coral (Madracis decactis).*



Figure 10. *Branching vase sponge (Callyspongia vaginalis) entangled by fishing line.*



Figure 11. *A geological feature of Stetson Bank – exposed claystone and siltstone pillars, colonized by sponges, sea urchins, fish and algae.*

Finally, this is just an amusing shot I wanted to share with everyone. I was taking a shot of G.P. who was shooting the manta at West Flower Garden Bank, when this very cheeky barracuda shot into my frame and parked itself. (below)

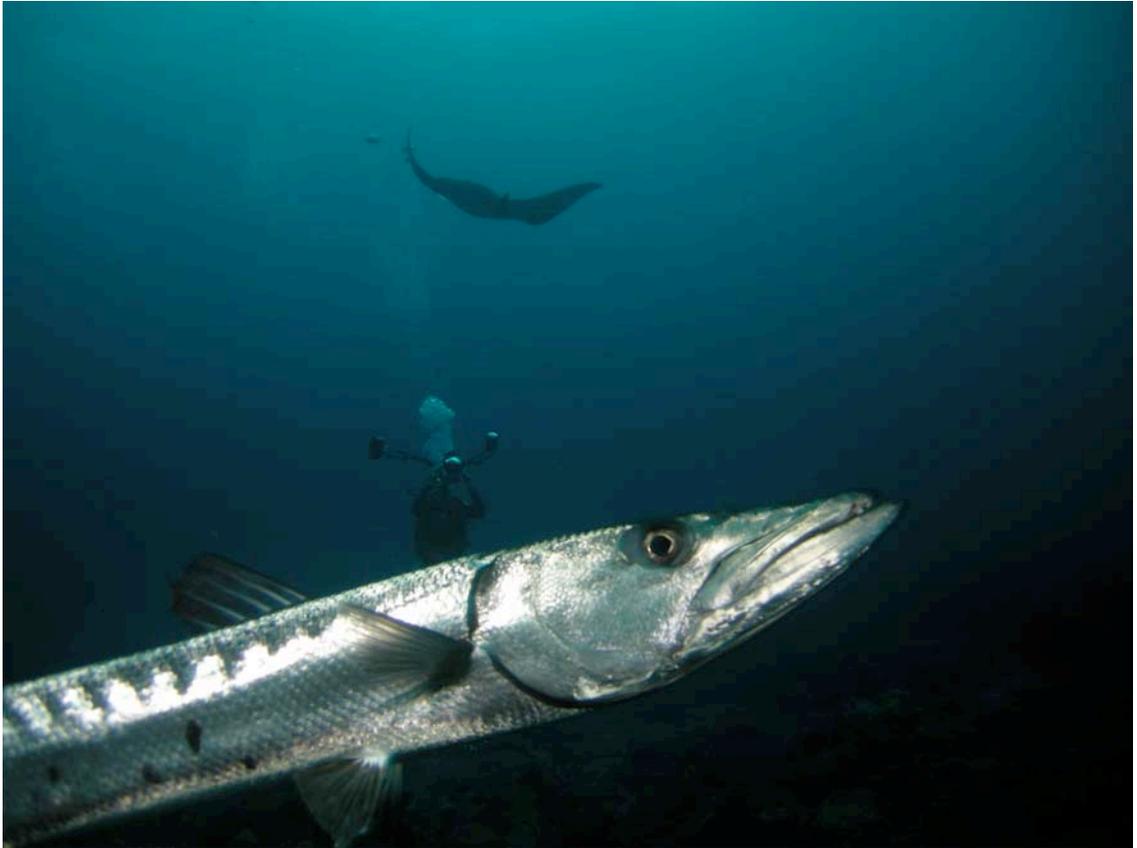


Photo credits: E.L. Hickerson/FGBNMS, unless otherwise specified.

David Burdick also took some stunning pictures during the cruise and has posted them at:
<http://dburdick.smugmug.com/Flower%20Garden%20Banks%202008>