

2015 Southeast Florida Coral Disease Outbreak

Coordination Meeting #3

November 10, 2015

2:00 – 4:00pm

Meeting Summary

Attendees: Bill Precht (Dial Cordy) Caitlin Lustic (TNC), Vanessa McDonough (BNP), Lauri Maclaughlin (FKNMS), Lonny Anderson (FKNMS), Trudy Ferraro (FPS), Charlie Jabaly (FPS), Josh Voss, Sarah Thanner (MDC), Jan Landsberg (FWC), Cheryl Woodly (NOAA), Vanessa Brinkhaus (FWC), Ken Banks (BCEPGMD), Esther Peters (GMU), Kate Lunz (FWC), Anna Toline (NPS), Brian Walker (NSU), Joe Lopez (NSU), Karen Bohnsack (DEP), Joanna Walczak (DEP), Dan Kraver (DEP CRCP), Mollie Sinnott (DEP CRCP)

Welcome, Roll Call, Meeting Purpose

- Welcome everyone, thanks for calling in.
- The purpose of this call is to provide an update to the larger group concerning:
 - o Any new or continuing observations of coral disease in southeast Florida
 - o Updates on the preliminary findings of the response efforts that have been ongoing over the past few months
 - o A recap of the FRRP Steering Committee Meeting since this is the group that oversees the planning and implementation of the Disturbance Response Monitoring (DRM) surveys which were a large part of our response effort to understand the severity and scale of the disease outbreak
 - o Next steps in this process
- As the current response effort is wrapping up at this point, we will plan for this to be the last group coordination call for the time being.
- We may schedule additional calls for the larger group down the line if necessary (such as to share the results of any follow-up survey efforts, or should a new response effort be necessary if the disease re-emerges)

Update on Southeast Florida Disease Observations

- Karen asked for anyone on the call to weigh in on any new or continuing disease observations in southeast Florida?
 - o N/A
- Karen asked if anyone in particular has observed new or worsening disease beyond the locations that we've confirmed to have been hit the hardest by this recent outbreak: Biscayne/Miami-Dade/Broward region.
 - o Karen – DEP Coral Program hasn't had many opportunities so get in the water since the last call. We've only received limited SEAFAN observations - just continuing observations of disease around the Biscayne region and an isolated report at Breakers Reef in Palm Beach County. We've only had these 2 new ones in the past month or so.
 - o Josh – Who was Breakers report from?
 - o Karen – I don't think it was from Jeff Beal, but I'd have to check.
 - o Josh – I saw some additional disease the first week of October at the Breakers, I will send info through email.
 - o Karen – Ok great, thank you. What the data has been showing is that the worst of this outbreak has been contained to the Broward/Miami-Dade area, so any reports north in Palm Beach County or south of Biscayne National Park we'd definitely appreciate - especially if it's above the background levels. If stuff is reemerging please let us know, send through email with photos if possible.

Update on Outcomes from the Response Effort:

- **Tissue Samples**
 - o Any updates from FWRI on the phone? Additional samples received, any analysis conducted or planned?
 - Kate - Only received samples from DEP CRCP and Miami-Dade County.

- Karen – Likely no more are coming. Joe Lopez said he'd help with extra analysis, but I will follow up with him since he's not on the call. Kate, any plans for analysis?
 - Kate – I would need to talk to Jan, I'll let you know.
 - Cheryl – We have received 69 samples from Biscayne National Park and are in the process of decalcifying them for histology. Vanessa can speak to the specifics about observations in the park. If Florida would like to archive these samples we can talk to the park.
 - Karen – Do you have an idea of when analysis will be completed?
 - Cheryl – I don't know, it will probably be several more weeks to decalcify then process and cut etc. We will work on them as best we can but don't have a definite date.
 - Karen – Vanessa, anything else to add?
 - Vanessa – We provided samples from shallow patch reefs to further out to try and get a big sample range. We tagged onto other sampling efforts so we could take extra samples. Hopefully it can provide some sort of insight.
- **Targeted Sites (Large Corals)**
- Brian Walker provided an update on the large coral sites he has been surveying.
 - Brian – We went to an area off of Key Biscayne that we hadn't visited before for reconnaissance and when we got there, there were a lot of corals that needed to be part of the larger effort. We're now up to 88 corals greater than 2m in diameter, 60 of which are larger than 3m in diameter. We have some of the numbers broken down:
 - 47% have no signs of disease bleaching or paling, but at least 53% do.
 - 26% have bleaching, 25% have disease, and 10% have both bleaching and disease.
 - Karen – Can you remind us of what diseases you've been seeing?
 - Brian – We have a couple SSIDs with dark spots and a lot of white plague and a few instances of black band – mainly on MCAV. Not sure which other colonies have black band.
 - Karen – As the results are finalized we will share with the group.
- **FRRP DRM Surveys**
- Karen reviewed the results of the quick look report from The Nature Conservancy regarding preliminary results from the FRRP DRM surveys:
 - Across the FRT, surveyors completed surveys at 250 random sites and 25 fixed stations (the Coral Reef Evaluation and Monitoring Project – CREMP – stations in the Keys, and the Southeast Florida Coral Reef Evaluation and Monitoring Project – SECREMP – stations north of the Keys).
 - This was the most extensive DRM monitoring yet – additional effort to capture disease in SEFL contributed to this success.
 - All surveys were completed between August 17 and October 16, 2015.
 - Bleaching:
 - Severe bleaching (defined as >50% of hard corals over 4cm showing signs of bleaching or paling only occurred at 2 locations in the Keys)
 - Most of the areas in Biscayne, Miami, Broward and Deerfield were identified as having moderate bleaching (20-50%)
 - Broward Middle and Outer Reef, as well as locations furthest north along the FRT (Palm Beach and Martin) had mild bleaching (<20%).
 - OVERALL: Bleaching was not as severe as last year (when the Dry Tortugas – Biscayne were identified as severe). 2015 is being designated a moderate to severe bleaching year.
 - Disease:
 - Broken into 3 categories: Low (0-5%), Moderate (5-10%), and High (>10% disease prevalence).
 - High disease prevalence was picked up on sites in the Broward-Miami and Biscayne regions, but also at a few sites in the upper and lower keys. Half of all the sites with high disease prevalence were in the Broward-Miami region.
 - White plague was the highest observed since 2005 when DRM surveys started.
 - Recent Mortality: Broken into the same 3 categories that were used for disease.

- High recent mortality was observed within a number of regions, but 65% of those sites were within the Broward-Miami sub-region (Table 3).
- The steering committee noted that from anecdotal reports, these surveys may have been too late to pick up the full severity of the disease (e.g., only a handful of sites noted disease in the transects, and no sites picked up the 80-100% infected rate that many observed).
- We can reasonably infer that were we didn't see disease we saw recent mortality – there was a spike in recent mortality that we think was caused by the disease outbreak.
- Interestingly, where the most severe bleaching was observed in 2014 (Dry Tortugas to Biscayne) isn't where we saw the most severe disease – still want to do additional analysis over the last few years to see if there's correlation.
- Quick look report shows numbers across the whole Florida Reef Tract, but specifically in the Broward-Miami area these data show the highest recent mortality that we've seen – it was almost double the average seen between 2005 and 2013, and also higher than last year.

Summary of FRRP Steering Committee Meeting Outcomes

- Generally, the FRRP Steering Committee discussed
 - Media pieces that came out about the bleaching; the TNC issued press release drew attention from a few media outlets, including the Keynoter, Tampa Bay Times, etc.
 - DRM results for bleaching, disease and recent mortality (as we just discussed)
 - 2016 Bleaching Forecast: Bleaching is likely to be severe. Because we don't understand exactly what triggered the disease, we need an SOP to better prepare for what steps need to be taken when a severe disease outbreak happens; we need videos to help tell the story (in addition to survey data).
 - Post-bleaching surveys: Bleaching was only severe in a few zones. Will target the fixed monitoring stations (CREMP and SECUREMP); may consider additional surveys to fill data gaps and better capture bleaching/disease recovery/mortality.
 - Funding for additional survey effort next summer.
- Bill – In these surveys that were done, was there species-specific analysis. I understand prevalence data was reported in terms of less than or greater than 10%, but was there any species-specific? In our surveys, we found that there was a lot of specificity in the disease outbreak. Like 8-9 species that were heavily impacted and 2-3 species that were not impacted (PAST and SSID). If you just add the totals overall disease looks like 20-30%, but if you looks species-specific it's 80-90% (especially for MMEA and DSTO).
 - Karen – Good point, Bill. I want to point out that the information exists in the data set; species-specific is recorded on transects to cover both presence and absence of disease on the corals. While it should be looked at it hasn't yet, we've been thinking about it as additional follow-up but we'll need to find funding to look at that data. It is all publically available though if anyone wants to look at it. It would definitely be useful. Right now the data doesn't fully capture the event, so species specific could better show the full outbreak.
 - Brian – Just to add, on the large coral stuff we have spilt by species but were mainly looking at OFAV. Maybe only 10 total outside of OFAV – CNAT, PSTR, SSID, etc. but most are OFAV.
 - Karen – In the next section, we can discuss future steps and keep in mind for species-specific analysis.

Response Effort Next Steps

- Still a need for additional funding to pursue...
 - A follow-up survey effort to see if additional disease/mortality occurs following this year's bleaching event
 - Additional efforts to further assess the primary and secondary causes of this outbreak
 - Although we were not able to capture as much information as we hoped, we are attempting to identify funding to do a conditions report to help document this event and better understand variables that may have contributed to potentially avoid this happening again.
 - Karen – We will keep species-specific analysis in mind if we can get this going.
 - On a larger scale, determine the feasibility of actions needed to remediate or restore the affected resources; begin implementing actions to prevent and restore affected resources.

- Prepping for next year to get ahead of 2016 forecasted bleaching events, be prepared should the disease reemerge.
- Press release on data results from this year's monitoring: One for bleaching in the short term, waiting for results from the large coral study to release a full disease results press release.
 - o Before this happens, thanks to Cheryl and Esther for pointing out some inaccuracies in the Disease Summary document, and for agreeing to help make this more accurate while also presenting the information in a way that is relatable to the lay-person.
 - o Karen – I will work with them and follow-up with a revised Summary ASAP. We will circulate the updated version when it's available.
- Karen – Thanked asked for any additional input and everyone for participation.

Adjourn Meeting