

**FLOWER GARDEN BANKS NATIONAL MARINE SANCTUARY
Sanctuary Advisory Council Boundary Expansion Working Group
Meeting Minutes
March 21, 2018**

Meeting Attendance Roster:

Clint Moore	Oil and Gas Industry	Present
Shane Cantrell	Fishing – Commercial	Present
Natalie [Hall] Davis	Diving Operations	Present (webinar)
Jesse Cancelmo	Recreational Diving	Not Present
Scott Hickman	Fishing - Recreational	Not Present
Buddy Guindon	Fishing - Commercial	Present
Adrienne Correa	Research	Not Present
Charles Tyer	NOAA OLE	Present
Randy Widaman	Diving Operations	Not Present
Jake Emmert	Conservation	Not Present

Total member attendance: 5 of 10 members (4 of 9 voting members)

Others in attendance:

Leslie Clift (Flower Garden Banks National Marine Sanctuary (FGBNMS)), G.P. Schmahl (FGBNMS), Emma Hickerson (FGBNMS), Bill Kiene (FGBNMS), Dan Dorfman (National Centers for Coastal Ocean Science (NCCOS)), Randy Clark (NCCOS; webinar), Steve Gittings (NOAA; webinar), Tom Bright (webinar), Charles Graham (webinar), Joanie Steinhaus

5:10 PM – Meeting called to order by Clint Moore

Adoption of Agenda – Charles Tyer moved to adopt, Buddy Guindon seconded motion. No discussion, all in favor, motion approved.

Adoption of Minutes – Minutes from two meetings were approved: February 28 and March 8. Buddy Guindon moved to adopt, Charles Tyer seconded motion. No discussion, all in favor, motion approved.

5:15 PM – Public comment

No public comment.

5:16 PM NCCOS Presentation (Dan Dorfman)

As requested by Clint, Dan Dorfman added a 1500 foot buffer around the NAZ (no activity zone) on Clint's NAZ Plan Plus (NPP) maps, as an indicator of the area where Clint's industry wants to maintain access to oil and gas activities around the banks.

Also at the request of Clint, Dan halved the criteria weighting thresholds (i.e., lowered goals) for biological/ecological observations in the MARXAN model for the Flower Garden Banks Expansion Decision Support project. For example, the goal for capturing Core Sensitivity Zones (CSZ) was lowered from 80% to 40%, and ROV (remotely operated vehicle) annotations for high coral abundance was lowered from 100% to 50%. (See minutes from March 21, 2018 for previous weighting scheme.)

Additionally, Dan conducted an analysis of Clint's NPP maps and reported the following thresholds: 20% CSZ, 20% ecological observations, 22% ROV annotations.

The Boundary Expansion Working Group (BEWG) looked at Bright Bank and discussed how biological data points generate the selection of the 10-hectare hexagons on the maps.

The BEWG discussed the list of significant coral species. Emma Hickerson explained the criteria for this list came from a variety of sources (e.g., protection status, IUCN regulations, prioritization from other agencies). Clint asked if the list had been verified by outside expert(s), and Dan responded yes. Tom Hourigan reviewed the list and confirmed its coral species. Clint inquired about the formula for CSZ, and said this filter is too broad since it is based on topography. Dan replied his experience showed biological observations are tightly linked to CSZ. Steve Gittings mentioned Brian Kinlan who conducted modeling studies of biology and topography and published his findings on this relationship. Clint mentioned reviewing ROV videos and seeing lots of mud. G.P. explained how when the ROV transited between banks, it would traverse over mud for part of its recording time. Clint commented that the areas he was observing on the ROV videos were not between the banks, but on the flanks. Bill Kiene cautioned that a habitat not currently colonized, does not mean that at some stage in the future it might be, or could have been in the past.

Emma said FGBNMS recently completed an analysis of ROV surveys over the last 2 years for both inside and outside the NAZ on several banks. The results of this comparison were observations of higher numbers of mesophotic coral colony counts outside the NAZ than inside the NAZ. Clint responded the NAZ would not have as many mesophotic corals as the deeper areas outside the NAZ because the NAZ are above 85 m.

Clint asked Tom Bright about his published drawings from the 1970's, and the lower density of corals below 85 m. Tom replied they did not conduct quantitative surveys at

that time. Rather, they recorded visual estimates and impressions from dives, including submarine and ROV videos. Tom said his drawings should be considered as “cartoons”, and exact numbers can be retrieved from his reports. Emma said as the resolution and imagery of the cameras increased over the years, it has made a big difference for seeing smaller corals, and others such as black corals that with older technology had appeared blurry.

Clint asked if FGBNMS had conducted ROV transects from the top of a bank to the bottom, and whether or not there density differences were apparent when coming down the bank flank. Emma replied FGBNMS is working on species by group for the PSBF (potentially sensitive biological feature) data. Steve noted the importance of looking at the broad spatial range of the selected hexagons in the MARXAN analysis, as it is likely there are more areas of biological significance than were surveyed. As an example, G.P. displayed ROV transects at Bright Bank, and its accompanying coral density data. Tom Bright advised if given enough data, statistics can be employed to estimate the areas that have not been surveyed. Emma mentioned Sammarco’s paper that linked biology to topography. Clint said Bright Bank-Rankin Complex has portion of 16 OCS leased blocks and that if the CSZ data, if used for selection, takes up a huge acreage area. G.P. clarified the methodology used in Clint’s NPP proposal is only protecting the NAZ, with little to no buffer, and disregards a large part of the CSZ.

Clint mentioned his focus has been looking for big corals, while FGBNMS records corals of all sizes, including small. Joanie questioned if the size of the corals matters to Clint. Shane replied yes, if one small coral drives the selection of a hexagon of 10 hectares in the MARXAN analysis, and questioned whether or not that hexagon should be designated as nationally significant.

Clint asked about Alderdice Bank and parts of the bank included in the NAZ, but are deeper than 85 m [NAZ is based on bottom topography with 85 m contour line.] G.P. responded an oil and gas company could make that argument with BOEM. G.P. said BOEM’s NAZ map package of shapefiles is the standard used by industry and agencies, but some small areas exist above 85 m that show up outside BOEM’s map package.

Clint distributed his NPP maps (11) and explained his 1500 ft (feet) field band (generated 1,500 feet from the NAZ boundary lines) as the area where there is an increased probability of finding trapped oil and gas resources. He pointed out the western side of Alderdice Bank, and that in his map he tried to maintain close proximity to the vertical seafloor expression because oil accumulations are likely to be within 1500 ft of the salt dome flanks and thus the seafloor expression of the salt domes. Clint discussed these “donut”, areas of potential, deeper resources. He added the donut is a model c and not backed by specific data around each bank, but the general idea is that his industry needs to be close to banks and salt domes to be able to drill depths as deep as 35,000’ G.P. showed a slide of salt domes w/ flank and oil deposits that Clint had previously shared. G.P. added this image illustrated the need to be further away from the peak of the salt dome in order to be able to access accumulations on the

deeper flanks of the dome. Clint responded that this was not the case and that the deeper accumulations cannot be directionally drilled and thus vertical wells will be necessary. G.P. then showed a 3D salt dome visualization, courtesy of Mark Betts, Devon Energy Company. Clint said this map is over 10 years old and does not show below the salt wings. Clint stated he has reviewed three-quarters of the seismic data for the salt domes in Alt 3, and most have a "root", which is where his industry would drill. Most of them have deeper feeder stalks (salt dome roots), and his industry would not drill through any salt sheet on the flank, and then continue deeper to also target the feeder stalk dome flank below it. G.P. said the "donuts" seem to be arbitrary, and asked why the 1500 ft field band is only 1500 feet. He showed an example for Elvers Bank incorporating the area outside of Clint's donuts (but inside Alternative 3 boundary). Clint responded he has not looked at seismic data of Elvers Bank. G.P. suggested the sanctuary boundaries could include a donut hole for each bank and go with Alternative 3 boundary lines, and mentioned Dry Tortugas in the Florida Keys NMS as an example of an area within the larger boundary that is not included in the sanctuary. Clint commented that Alt 3 boundaries were much larger than even Alt 2, because they are rectangular, and would render all new salt domes undrillable since they are too large. This is unacceptable to his industry.

Charles questioned Clint because Charles remembered Clint wanting access in the mud areas to drill, but yet now he wants only the 1500 ft field band. Charles also asked about G.P.'s suggestion of donut holes in the sanctuary borders to allow for oil and gas access. Clint corrected Charles impression, and further responded that his industry wants to maintain access as close as possible to the NAZ. Bill mentioned the current infrastructure is not concentrated in a donut-shaped pattern around the surface expressions of salt domes, and questioned the reason. Clint responded the donuts are projections of where activity will occur in the future, and the probability is higher in the 1500 ft field band.

The group discussed different boundaries for fishing versus oil and gas. G.P. stated sanctuary boundaries have to be define-able and reasonable; defined on paper with coordinates and polygon-shaped. He added a fishing regulation for inside a sanctuary boundary, could possibly be based on depth (e.g., 85 m).

Stetson and Sonnier Banks

Clint showed another old Mark Betts seismic image of a vertical salt dome (Stetson Bank?) that did not have any horizontal salt sheet spurring off of its vertical flanks. With the deeper roots, his industry wants to be as close to the top of the dome as possible to drill. Dan said for Stetson and Sonnier he drew 100m and 200 m buffer widths from the edge of the salt dome ring, based on geomorphology/topography, and a third scenario with a buffer that does not go inward of 100 m and does not extend beyond 200 m. Clint added he and his industry would likely agree with boundaries slightly larger than the NAZ at Stetson, Sonnier, and Alderdice Banks, Those larger boundaries are drawn at the seafloor uplift of the outer edge of the seafloor relief of the salt dome.

Alderdice Bank

Charles Tyer said his issue is that Clint's map for Alderdice Bank does not include some areas of actual coral observations (e.g., data points, coral annotations). Charles added these observations should be included because known observations should be protected, as compared to the unknown of oil and gas industry's speculations of potential, deeper reserves. Emma noted NOAA's attempt to conserve the highest concentrations of corals, which is where the fish live and what they need. Dan suggested altering the boundaries of Clint's NPP map on Alderdice Bank to include the observations on the north end, which would create a couple more vertices on the polygon boundaries. Clint requested Dan to include the 100-200 m buffer on Clint's NPP map of Alderdice Bank and have it ready for the next BEWG meeting.

Parker Bank

Clint asked Dan to add his 100-200m buffer on Clint's maps. Charles said his comment for Parker is the same as Alderdice, in that many observations of biology have been left out of proposed protection. Shane noted his previous request to have the western edge of Parker pulled inward towards the NAZ.

Bouma Bank

The BEWG discussed how BOEM's old stipulation package has the 85 m line closer towards the bank than current bathymetry shows. Clint requested Dan to add his 100-200 m buffer on Clint's NPP maps, but use the bathymetry data as well as BOEM's shapefile from their stipulation package. Natalie asked about the width of the hexagons. Dan responded the widest with is 400 m diagonally. She then questioned the biology in the northwest corner that was not included in Clint's NPPA map of Bouma Bank. Clint replied his boundary line was based on the BOEM stipulation package and did not include the more refined multibeam (i.e., bathymetry) data, as an outgrowth of a conversation he had with BOEM's Mark Belter.

Shane questioned when the group would talk about the connectivity between the banks at the Bouma complex, and how to protect the ridge south of Bouma (i.e., leading to Bryant Bank), but allow for oil and gas activities. Clint's relinquished lease block VR393 at this bank complex was mentioned and discussed. G.P. added the ridge that connects the banks in this complex falls under the PSBF stipulations through BOEM, which would trigger the need for oil and gas to conduct a shallow hazard survey. Shane suggested conceding smaller boundaries at the Bouma Bank complex that has only one ridge connecting to the other bank, in order to get larger sanctuary boundaries at the Bright-Rankin Banks complex.

Charles asked if the data would show that some of the coral is more important to protect more than others. G.P. replied corals, in general, are a species of concern, and very few have been designated as threatened or endangered, especially in the mesophotic zone. They do receive protection under CITES (Convention on the International Trade of Endangered Species). Emma clarified the datapoints submitted into the MARXAN analysis have already been filtered to protect the recognized (and reviewed) important coral species.

The next BEWG meeting was scheduled for April 4, 2018.

8:02 PM Shane motioned to adjourn, Natalie seconded. Meeting adjourned.