



CORDELL BANK NATIONAL MARINE SANCTUARY SANCTUARY ADVISORY COUNCIL

MEETING MINUTES

April 26, 2018

9:30 AM

Point Blue Conservation Science, Palomarin Room, Petaluma, CA

Note: The following meeting notes are an account of discussions at the meeting of the Sanctuary Advisory Council for Cordell Bank National Marine Sanctuary (CBNMS). The council is an advisory body to the sanctuary superintendent. The opinions and findings of this publication do not necessarily reflect the position of CBNMS and the National Oceanic and Atmospheric Administration (NOAA).

Call to Order/Roll Call (Kevin Krick)

Kevin Krick, Advisory Council Chair, called the meeting to order at 9:33 AM and welcomed everyone. Dan Howard, Sanctuary Superintendent, stated Susan Williams, who taught at U.C. Davis, was killed in an accident this week. She did a lot for national marine sanctuaries, including serving on the Cordell Marine Sanctuary Foundation (CMSF) board and testifying in Washington, DC as a proponent for expansion of CBNMS and Greater Farallones National Marine Sanctuary (GFNMS). The advisory council had a moment of silence. Lilli Ferguson, advisory council coordinator, then called roll.

Nongovernmental Members Present:

Mike Cummings (Community-at-Large - Marin County)

Lance Morgan (Conservation)

Sarah Hameed (Community-at-Large – Sonoma County)

Bill Wolpert (Community-at-Large – Sonoma County)

Leslie Adler-Ivanbrook (Vice-Chair; Education)

Bec Detrich (Education)

Dick Ogg (Fishing)

Noah Wagner (Fishing)

Kevin Krick (Maritime Activities)

John Berge (Maritime Activities)

Agency Members and Alternates Present:

Brian Christy (NOAA Fisheries Alt.)

Members of the CBNMS staff present:

Dan Howard (Sanctuary Superintendent)

Michael Carver (Deputy Superintendent/Resource Protection coordinator)

Lilli Ferguson (Resource Protection Specialist and advisory council coordinator)

Danielle Lipski (Research Coordinator)

Jennifer Stock (Education and Outreach Coordinator)

LTJG Courtney Hanson represented the United States Coast Guard (USCG), as neither the USCG member nor alternate was able to attend.

Review and Approve Agenda (Kevin)

The advisory council reviewed and unanimously approved the agenda.

Review and Approve February Meeting Minutes (Kevin)

The advisory council reviewed the February 8, 2019 meeting minutes and unanimously approved them.

Sanctuary Superintendent's Report (Dan)

- Dan announced the following people had been appointed to new terms on the advisory council: George Clyde, Community-at-Large – Marin County member; Mike Cummings, Community-at-Large – Marin County member; Tessa Hill, Research member; and Jaime Jahncke, Research member.
- He had not received the budget allocation for CBNMS yet, though the overall budget for the Office of National Marine Sanctuaries (ONMS) was received; it is similar to the FY 17 budget. He may get the CBNMS budget within a week.
- The Pacific Fishery Management Council (PFMC) met a few weeks ago. Dan went over their recent final action regarding trawl Rockfish Conservation Areas (RCAs) and Essential Fish Habitat (EFH) decisions, and reviewed the background leading up to it (different proposals, including that of the “coastal collaborative”). He showed some graphics, indicating a green triangle area with soft substrate that was opened, and areas in red that were added to the no bottom trawl area. He said the “Office” area would be a litter bigger than depicted. Regarding if it will affect fixed gear, Dan said he thought the PFMC might go through a similar process regarding removal of fixed gear RCAs and EFH or maintaining them. Dan felt it would be great if there were some areas in the ocean where there was no bottom disturbance from trawls.. Monterey Bay National Marine Sanctuary and GFNMS got areas set aside from bottom trawling. Trawlers cannot trawl any deeper than 700 fathoms, but probably do not go deeper than 200-300 fathoms normally, Dan thought. An advisory council member commented that 400-500 fathoms is about as deep as a bottom trawl would go. They do pink shrimp, but typically in closer. The National Marine Fisheries Service (NMFS) does bottom trawls to collect samples to assess groundfish stocks [within sanctuaries, approved under a national marine sanctuary permit]. Dan related he had asked NMFS if the areas off limits to commercial fishermen could be excluded from the NMFS groundfish bottom trawl sampling protocol. This turned out to be a complicated request. NMFS and ONMS are both interested in looking at recovery of the ocean bottom from trawling.
- Dan mentioned a recent article by Tom Steinstra in the San Francisco Chronicle that incorrectly stated Cordell Bank was open for recreational fishing. Dan called state enforcement agents to double check, as PFMC had increased depths from 30-40 fathoms; he verified PFMC did not open Cordell Bank. Dan also called the advisory council's Fishing representatives and Bob Puccinelli of the California Department of Fish and Wildlife; no activity had been reported since the article published. Dan urged advisory council members to tell anyone who talks about the area being open that the information was wrong, and that the RCAs are still in place for groundfish. Dan worked with a NMFS media contact and the Chronical to see if a correction could be published. Dan will be calling Tom to discuss his article.
- Update on proposal for regulation of USCG Discharges in GFNMS and CBNMS: Dan said NOAA had reviewed all the comments and completed a draft of the final environmental assessment. A small team of staff members went through the comments. NOAA hopes to make the final decision and release the final documents related to it sometime in summer 2018.
- On the Executive Orders involving national marine sanctuaries, Dan has not heard any news related to a response to the Department of Commerce submittal. The President's administration is not required to respond.

Discussion of CBNMS Recreational Fishing Community Engagement and Possibilities for CBNMS Advisory Council (CBNMSAC) Involvement (Dan, Dick Ogg and Noah Wagner)

- Dan said he and Lilli met recently with Dick Ogg and Noah Wagner to talk about the relationship between national marine sanctuaries and recreational fishermen and to see if they had any preliminary thoughts in advance of this advisory council meeting. ONMS has been promoting efforts across the nation to engage the recreational community, and to improve relationships [as needed]. Some of the national marine sanctuaries have had fishing tournaments, or have sponsored booths to reach out to the community, or have promoted catch and release fishing. In CBNMS, only salmon and crab are primary targets open to recreational fishing. For many of the national marine sanctuaries, the groundfish recreational fishing may be an issue.

- In some sanctuaries, recreational fishermen feel that their opportunities to fish are restricted. All fishing regulations in national marine sanctuaries are either driven by the respective state and/or the respective Fishery Management Council.
- Kevin and Leslie Adler-Ivanbrook participated in conversations firsthand on this topic at the recent national advisory council summit.
- Dan asked if there were any ideas for improving relationships with the CBNMS recreational fishing community.
- Lilli noted the sanctuary sites had received a mandate to bring this to their advisory councils, to discuss how advisory councils might want to become involved, or not, with the respective sanctuary's recreational fishing community. A council could also provide advice to the sanctuary superintendent on the topic.
- Discussion ensued.
- Sometimes people may blame a national marine sanctuary for not being allowed to fish in certain places, a member commented. Communication and education should be keys to clear up misunderstandings.
- Maybe the fishermen could be brought together to learn more about CBNMS and innovative fishing techniques, such as good methods to release fish safely, perhaps teaming up with fishing equipment manufacturers and sponsors, someone suggested. Such a meeting might be sponsored by the advisory council and the CBNMS staff.
- Several people noted having seen embolized fish, which will die. It only takes about thirty feet to create an embolism in a fish. Years ago, when fishing on Cordell Bank for rockfish was allowed, a lot of embolized rockfish were observed on the surface..
- The marina in Bodega Bay could use some signs educating folks about the sanctuary.
- One idea is promoting awareness about marine debris among recreational fishermen, including the importance of bringing trash home.
- There was a suggestion to think about adding new recreational fishing seats to the advisory council.
- The seats are "Fishing" seats, which encompasses all fishing – both commercial and recreational.
- Someone suggested using caution when communicating about what other agencies are doing regarding regulating fishing. Another felt recreational fishermen did not care which agency passed a regulations; they just want to know where a closure is and why.
- Recreational fishermen are a pretty disparate set of people; however, there are various groups with recreational fishing interests.
- Perhaps a video could be made to show recreational fishermen their sacrifices are paying off.
- In response to a question, Dan said he did not know the status of what the PFMC was planning regarding reopening Cordell Bank for recreational fishing. If the PFMC was going to open up recreational RCAs in next 2-3 years, at the appropriate time, there could be an evening seminar on how the rockfish populations had responded to the RCAs. Recreational RCAs were put in place to rebuild overfished rockfish populations. They were meant to be temporary until populations recovered. Some of the rockfish populations rebuilt in 5-7 years. He would be hesitant to organize such a seminar, if he did not know recreational fishing would open up soon. EFH is different than RCAs; it potentially might not ever be disestablished. The RCAs helped with building up stocks of rockfish; some rockfish are 60-70 years old. Marine protected areas (MPAs) are where juvenile fish grow. Dan affirmed MPAs are typically shallower and nearshore, which would help the nearshore species. Yelloweye rockfish, which are still overfished, are deeper. Once the stocks rebuild, the PFMC may remove the RCAs. EFH protects habitat as nursery areas for things like juvenile rockfish. There is EFH on Cordell Bank and no trawl areas.
- There was a question about if there was any change with respect to the CBNMS expansion and recreational fishing. This had no effect, except possibly some people may be recreationally fishing for Black Cod in the area added as a result of the expansion.
- There are folks out of Bodega Bay Lawson's Landing who write blogs on various recreational fishing issues; it was suggested that Dan could let them know of the erroneous Stienstra article.
- Dan noted that while some other national marine sanctuaries did a recreational fishing tournament, CBNMS would not be doing one because of closures.

- There was some discussion about the difficulty of contacting people who fish recreationally in CBNMS, and how to get them together in one room. Some folks felt it would not be possible to get them together, and instead, should reach out with appropriate message via social media, blogs, video, etc.
- There was a suggestion to promote additional free fishing days in California, and to promote safe handling of fish at the same time.
- There could be a booth at the Bodega Bay festival; either a CBNMS booth, or with GFNMS. The commercial fishermen have a booth there, and might be able to bring in recreational fishermen. Handing out general information about the sanctuary would also be a possibility. Dan noted the staff worked the Bodega Bay Festival for many years, then the CMSF did it; however, a booth has not been done in the last few years.
- Dan said the only recreational catch and release issue in CBNMS is if someone is fishing for King Salmon and a Silver Salmon is caught, people could be taught how to properly release the Silver Salmon.
- An advisory council member urged now was the time to have conversations with recreational fishermen, before areas open up for recreational fishing. Specifically, find out who the key players are, engage them, find out their thinking, and celebrate the recreational fish stock successes with them.
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- The radio program Jennifer Stock, CBNMS Education and Outreach Coordinator, hosts could be a way to reach recreational fishermen. She did a Positively Ocean segment about success with rockfish. There was a suggestion that Tom Stienstra could make amends [on the show].
- There could be a collaborative effort with the state fisheries agency and national marine sanctuaries.
- Dan reminded the group the idea for this discussion was to discuss what the CBNMSAC wanted to do to be involved. A “first touch” would be to educate people that the information in the article was incorrect about CBNMS being open.
- Sport fishermen are engaged in helping with sampling and testing, someone observed.
- Brian Christy expressed surprised that there were no recreational fishermen in the audience at this meeting. A reminder was made that members represent constituencies, and as such should reach out people in their constituencies as needed on various issues, as well as gaining their constituencies’ input to bring forward at public advisory council meetings. Advisory council members may also invite people to attend these public meetings.
- A good time to engage recreational fishermen is when they are renewing their licenses, an advisory council member observed.
- Bill Wolpert said he can reach out to people he knows at Lawson’s Landing.
- Noah can get out an article out in his organization’s newsletter. The Spud Point Marina, which he manages. The marina has about a 60/40 ratio of recreational fishing/other activities, including a handful of open ocean sailors and researchers.
- Dick will reach out to Golden Gate Fishermen’s Association.
- Dan will make a phone call to see if can find out about when recreational fishing RCAs may be on the PFMC docket.
- Lilli suggested that, depending on the PFMC timing that Dan learns about, a PFMC person could be asked to speak to the advisory council about the RCAs and when CBNMS might be opened up. The PFMC would know about the rebuilding of the stocks and what is being planned for the future.
- There could be more than one speaker on the recreational fishing topic at a future meeting.

CBNMS, the Teacher at Sea Program (TAS), and the Experiences of a 2017 TAS - Jenny Hartigan (Jenny Hartigan and Jennifer Stock)

- Jennifer provided some background about the NOAA TAS program. CBNMS has had teachers from the program for about ten years, one a year, on an Applied California Current Ecosystem Studies (ACCESS) cruise. They have ranged from elementary school to high school teachers.
- The program itself started in 1990; teachers from all grades can apply to work alongside NOAA scientists on ships, to subsequently create lesson plans based and share back their experiences and knowledge with their students.

- In 2016, NOAA reviewed the effectiveness and results of the program, working with alumni, current TAS and others. Jennifer reviewed the results.
- The CBNMS goal for teachers in the program that go out on ACCESS is to enhance teacher understanding and appreciation of the ocean environment and CBNMS and GFNMS by participating in hands on science with sanctuary and partner researchers.
- CBNMS began participating in the program in 2008. Each teacher has a post-cruise contract that include activities to complete after the cruise.
- There is a NOAA TAS alumni program. Besides sharing their experiences, as alumni they can participate in various NOAA education events, and can apply for the Teacher in the Lab and Teacher in the Sky programs. There are also some regional TAS alumni networks.
- Jennifer introduced Jenny, who was a TAS in 2017 during an ACCESS cruise on the *Fulmar*.

- Jenny is an Environmental Science/8th Grade Science teacher at Lincoln Middle School, in the Alameda Unified School District. As part of the Ocean Guardian program, she developed an ocean science elective; she is interested in connecting learning about the watershed with the ocean next door. Her TAS experience was on the *Fulmar* during an ACCESS cruise off the coast of California. She helped the scientists with such task as getting plankton from a Tucker trawl and collecting data from conductivity, temperature, and depth (CTD) instruments. Some highlights were getting dressed in a “gumby suit”, seeing Dall’s porpoises surfing the bow wave, seeing humpback and blue whale, watching a California sea lion play in the wake, and seeing lots of birds.

- She was surprised to see balloons that far out in the ocean.
 - The experience was life changing, and included camaraderie, respect, fun and knowledge. She has become a member of the alumni association and has already connected with TAS alumni throughout the Southwest.
 - One of the lessons she created was a marine career lesson; she has brought in a Bay Area harbor pilot and a USCG person to speak, and is working on getting a scientist as a speaker. She also created a “More than just sharks!” lesson.
 - She reviewed what her students do as part of the Ocean Guardian Program, and said she now includes more about the national marine sanctuaries, including maps to help kids visualize where they are.
 - Jennifer interviewed her last fall for the Ocean Currents program.
 - For the regular science program she teaches, she wants to bring in data for the students to work with from Carina Fish’s deep sea coral dating research.
 - Her school got a Green Ribbon School 2018 Gold Award; she included her experience with the TAS program as part of the application.
 - Jenny appreciated the professionalism and collegiality among the scientists, and the mentoring from Danielle Lipski, CBNMS Research Coordinator.
- The experience has allowed her to bring in many more resources into her teaching. She wrote a blog as part of the program as well.
- She has also become involved in NOAA Climate Stewards and teaching children how to improve their carbon footprints.
 - In terms of making the experience better for future teachers, she donated the plastic pants/waders she got from a former TAS to the group so they will be available for future teachers. It would have been great to have taken more videos during the cruise. Also, if a teacher did a TAS cruise during the school year, they could interact more with students.

Public Comment

Amber Szoboszlai introduced herself as a Farallon Institute contractor. She was invited by Sarah Hameed, whose term is ending later this year. Amber is a scientist and was a graduate student at the same time as Sarah; she may be interested in applying for that seat in the future. As graduate students, they worked on an education program. Amber also was a Sea Grant fellow, and worked with Monterey Bay National

Marine Sanctuary scientists on the topic of connecting science to management; the Farallon Institute has similar interests. She also mentioned she had done some work in Tomales Bay and San Francisco Bay.

Satu Taari said she works with Kevin [at Matson]. He invited her; his term is also ending later this year. She is an environmental security analyst, doing environmental compliance reporting and some security administration; she recently entered the industry. She from Marin and went to Novato High School. She studied sustainability in college, from the social science side. She likes to focus on outreach and getting people connected to sustainability effort.

Theresa Vale said she was a new intern at the Marine Conservation Institute; she works with Sarah. She is interested in marine biology and marine conservation. She is from Portugal.

CMSF Update (Sarah)

- Sarah reported the only time the CMSF board would have met since the last advisory council meeting would have been the day before this meeting, and it was cancelled, out of respect for the recent passing of Dr. Williams. The Financials are looking good, and they are looking at ways to increase education and outreach efforts.

CBNMS Greenhouse Gas Emissions Inventory 2017 (Michael Carver)

- Michael Carver, CBNMS Resource Protection Coordinator, said Dan had asked him to do an inventory of CBNMS greenhouse gas (GHG) emissions. Michael did some reading about the GFNMS GHG emissions inventory, and how other organizations and government agencies have done such inventories. In 2005, an act was passed requiring the federal government to look at its "footprint." GHGs trap heat and are related to climate change.
- He explained typical tiers of data organizations track, and what CBNMS has chosen to track. Emissions generally are either from stationary or mobile sources.
- The staff goal for this inventory is to measure CBNMS GHG emissions and find ways to reduce them.
- The initial inventory is for calendar year 2017. Prior to 2017, the CBNMS staff had already taken some actions that reduced CBNMS greenhouse gas emissions, including moving into new, more energy efficient offices which have solar panels, composting, and leasing a hybrid fuel car.
- The emissions are converted into Carbon Dioxide Equivalents (CO₂e), a metric for comparing the emissions from different GHGs based on their global warming potential. He briefly explained how the equivalents were derived.
- CBNMS GHG emissions are 99% from mobile sources and 1% from stationary sources. He went over the results for both types of sources. During the process, it was determined one of the two office electricity meters was not correctly hooked up and so had not been correctly recording that building's usage (now fixed).
- Most of the mobile combustion come from vessel fuel usage for science, education, and outreach purposes, such as from the E/V Nautilus cruises. The amazing things accomplished were done with a "cost" of vessel GHG emissions.
- Regarding recommendations for CBNMS to decrease its GHG emissions, he hoped NOAA could be encouraged, in long-term acquisition planning, to obtain vessels that emit fewer GHGs than vessels in its current fleet. It would also be good if the Department of Commerce inventory tracked vessel GHG emissions.
- Michael thanked Lilli for extensive editing help.
- There was a brief discussion. When the R/V *Fulmar* is run, it is generally at 3/4 throttle. The 2017 figure was estimated, created with information provided by the crew.
- One way to reduce vessel GHG emissions is to drive slower. Other factors, including efficient marine engines were mentioned.
- There was some discussion about level of accuracy and rounding errors, but Michael noted that it was not that important when one source created much larger emissions than the others.

- Aircraft GHG emissions are included in the work travel figure.
- He noted the U.S. Environmental Protection Agency has tools for both individuals and organizations to use, to create their own GHG emissions inventories.
- Lilli mentioned there were various tools that could be used, and exactly what items to track was a personal choice. She noted Michael and Lilli worked together on what include and what not to include in this initial inventory, such as including GHG emissions for air travel but not for car rental/other ground transportation during travel. She said this was done to produce an internal report for a baseline, which could be repeated in the future.
- Enforcement-related GHG emissions were not included; only work done by CBNMS was included. Michael said that generally, whoever in the federal government pays the bill “owns the emissions.” So, for example, the bill for the Fulmar on ACCESS cruises has been paid by CBNMS, so did not split out a GFNMS portion, even though the GFNMS staff benefits from those cruises.
- Measuring GHG emissions is a step towards determining fixes for the problems caused by GHG emissions.

CBNMS Resource Protection, Education and Outreach, and Research Reports (Michael, Jennifer, and Danielle)

Education and Outreach: Jennifer said there is another TAS this year, from a school in Alameda Unified School District

- Get Into Your Sanctuary Day (GIYSD) is a national ONMS effort to encourage recreation in national marine sanctuaries, and raise awareness about the value of our sanctuaries as iconic destinations for responsible recreation through a series of special activities. In 2018, it is on different days in different regions. There will be a photo contest from mid-May to mid-August to show the world what the ocean and Great Lakes mean for people, and on August 4th, there will be a GIYSD Ocean film festival at the Point Arena Theater, from 4 – 6 PM. The film festival will be free for veterans, with a small cost for others.
- CBNMS is not an easy place to recreate, but it is an incredible biological jewel. The CBNMSAC can help raise awareness by engaging constituencies and sharing their opinions about why the sanctuary is important with people; she provided some examples of what people might do. If people need assistance with ideas than can contact her. A few advisory council members have been out on the water in CBNMS, and encouraged others to go if they have the chance. Sometime private charters may take people to CBNMS. Some advisory council members have been out with ACCESS for a day.
- On World Oceans Day, June 8, Jenny will be at the Point Reyes lighthouse engaging folks about the ocean.

Resource Protection: Michael asked Lilli to review recent sanctuary permits. She mentioned the two that had been issued since the last advisory council meeting, and said three permit applicants were being reviewed.

- Michael gave an update on the voluntary Vessel Speed Reduction (VSR) request in our area, May 1 to November 15, 2018 in the San Francisco traffic lanes. The request is that vessels transit at speeds not in excess of 10 knots, to reduce the risk of lethal ship strikes of whales, with secondary outcomes of reducing ocean noise and air pollution. He described the variety of ways the voluntary VSR request will be publicized.
- Michael reviewed results from the 2017 voluntary VSR request period. Cargo vessels slowed around 1.4 knots, on average during VSR; tankers slowed around 1 knot on average; and passenger vessels slowed around 3.5 knots on average.
- A recognition event is being planned to recognize six Companies that made great strides slowing 3 or more knots, on average.
- He talked about how the ship transit data were evaluated, a change in how the evaluation was done in 2017 vs. previously, and differences in fleet-wide cooperation offshore of San Francisco vs. offshore of

Santa Barbara. The cooperation is greater in our area. How communication is done with ship companies matters.

- Michael also reviewed the 2017 incentive program, using Air Quality Management District funds, in which funds were approved for 143 vessel transits to slow down, resulting in an estimated reduction of 2,630 metric tons of GHGs emitted.
- Overall, 1,151 transits slowed during the voluntary VSR led to an estimated reduction of 21,040 metric tons of GHGs emitted.
- A paper about this work, “Exploring Ship Traffic Variability off California”, published in *Ocean and Coastal Management*; the primary author is Thomas J. Moore.
- There is a large difference in vessels slowing when the voluntary VSR request is active and when it is not active. Overall, over the last decade, ship traffic has slowed down considerably.
- Ship strikes of whales are being tracked. Michael will talk about that data another time.
- Michael hopes in future the reporting on vessel transits can be expanded from those that made five or more transits to all vessels making transits.
- There is a dynamic voluntary VSR in the Santa Barbara area (based on flights to determine when whales are present), though possibly that area may also use a fixed date period in the future.

Research: Danielle provided a handout on 2017 CBNMS science accomplishments, which she noted was also on the CBNMS website. She said the CBNMS mission was to build sanctuary connections with communities and provide comprehensive stewardship, conservation and protection for the CBNMS ecosystem. The mission for CBNMS science is to understand the ecosystem of the sanctuary and monitor the conditions of the habitat and organisms to provide information that can be used to better protect the sanctuary. The science program is structured around that. CBNMS has challenges, with limited resources a small staff, a vessel homeported far away, and a relatively small research community, and it is difficult to get out to the sanctuary. So, the science program focuses on key ecosystem components and issues: pelagic (ACCESS), and benthic (remotely operated vehicle [ROV]), and deep and mid-water habitat (buoys – oceanography and acoustics). The program does a lot of work with partners and students; Dani is working with three graduate students now.

- The 2018 field season entails ACCESS work (cruises in May, July and September, with GFNMS and Point Blue Conservation Science), benthic surveys, oceanography, and collecting data on ocean noise with instruments. The ROV cruise on the NOAA Ship *Bell M. Shimada* will take place over 11 days in August; CBNMS is working with GFNMS and National Centers for Coastal Ocean Science staff on this. Cruise time will be split between GFNMS and CBNMS; the locations are being refined. She is working to overcome a funding shortfall this year.
- A hypoxia mooring was out over the winter for the first time this year; now there are two out. The winter data will help with understanding the seasonality of oxygen in the ocean in this area. Kate Hewitt has been doing an internship with CBNMS; one of her interest is to know how to apply her knowledge to natural resource management and science communications.
- The ocean noise buoy was recovered last October and they will be putting it back out. A graduate student took a first look at the data collected and will be analyzing it.
- Dani then provided some ACCESS highlights, and reminded people every year a report is available on the ACCESSoceans.org website.
- They resurvey the same transect lines over time, sampling water; taking conductivity, temperature and depth data profiles, observing wildlife, and studying prey (krill).
- Dani described 2017 ocean conditions, including the Pacific Decadal Oscillation values and how CBNMS fit into the anomalous warm water blob conditions, which shows up in that index and in a graph from the Bodega Bay mooring. There have been average water temperature conditions over the last few months. Wind conditions in 2017 were average.
- Krill are an important prey in this ecosystem, for fish, whales, and seabirds; krill biomass is measured with an echosounder and sampling is done. There were high abundances in 2006, 2009, 2010, 2011, and now increases started again in 2016.

- Regarding seabirds, 56 species have been observed during ACCESS, and their distribution noted. Common murrens have the highest density over the time series.
- Regarding whales, 2016 and 2017 had the highest observations in the time series. Their distribution is also noted. They are reliably seen along the shelf break and often inshore.
- The scientists also look at other species, including zooplankton. Those are sent out for analysis, with a lag in getting the data back.
- Part of ACCESS is a project to look at ocean acidification with Tessa Hill and her students.
- In addition, ACCESS includes looking at nutrients and productivity with the California Department of Public Health; and looking at harmful algal blooms, as well as marine debris and crab pots.
- Other ACCESS outcomes that are not data products include 14 TAS with some of those being internal folks working with us, not the NOAA TAS; at least 10 collaborators; 14 graduate students using ACCESS data; at least 15 publications; and approximately 1-3 media stories per year.
- On the data gathered during the E/V *Nautilus* cruises, it will be processed and there will be a report. Kaitlin Graiff is currently working with data from CBNMS ROV R/V *Fulmar* cruise data. After she works through that, she will start on the *Nautilus* data.
- Dani concluded by showing a photo of a sponge that is a new species to science. During the cruise, at least one other sponge species new to science was also observed, along with one range extension for a sponge species.

Members' and Alternates' Reports (advisory council)

Kevin – The International Maritime Organization reached an agreement on GHGs – ships are to reduce to 2008 emissions levels by 2050. Shipping companies will try to increase fuel efficiency in various ways, including possibly adopting new propulsion technologies. Both ship designs and fuel use are being examined.

Leslie – her organization [Point Reyes National Seashore Association] has been getting a lot of students out to the Point Reyes National Seashore coast on field trips. Remarkably, 75-80% of the kids had never been to an ocean beach.

Mike Cummings – noted April 26 was the last day people could comment on the U.S. Environmental Protection Agency's proposed repeal of the clean power plan.

Bec Detrich – Westminster Woods also gets lots of kids who have never seen the ocean. The weekend before the advisory council meeting, Westminster Woods took 120 1st and 2nd grade kids to Goat Rock Beach. Her organization has been working on continuing to adapt Winged Ambassadors and beach plastics tracking work, on which Jennifer and Leslie trained the Westminster Woods staff. In Sonoma County, the Sonoma Environmental Education Collaborative is celebrating Dia del Niño this Sunday following the advisory council meeting. There will be a lot of ways kids can engage with the natural world at lots of different sites, including at Westminster Woods. She passed a flier around.

LTJG Hanson said she works at Sector San Francisco, which involves operational aspects. She noted the salmon season was not looking good now.

John Berge – The Port of Oakland has been doing an emissions inventory of toxic emissions related to health risks to the neighborhoods and is looking to achieve some short term emissions reductions. The Port might also pursue a voluntary vessel speed reduction. He was not sure how far out the area would go for a vessel to reduce speed, whether the Pilots' station or the end of the Traffic Separation Scheme, but that program could also include an incentive. If it happens, it would be one more level for reducing emissions. The largest group of vessels coming into the Bay go to the Port of Oakland.

Bill – A 278-unit apartment complex on a greenfield between the SMART tracks and the Petaluma River has been proposed. In reviewing the draft Environmental Impact Report, the County is looking to reduce foot hazards and it wants to terrace the riverbanks to create greater flood areas, by reducing the height of the water during a flood. This would have a somewhat negative effect downstream. Bill understands widening the river is the opposite of what one would want to do for anadromous fish habitat. He raised that during a meeting on the project; the response was that it was a good question but they did not know the answer. They would also be removing trees and invasive brush. He reached out to Cal Trout who said this did not have to be a negative, if done right. There was a suggestion to talk to the NMFS Protected Resource Division and Habitat Restoration folks. Brian said they would have to get signoffs from the Army Corps of Engineers and others. On a separate topic, Bill noted he rode his bike to the meeting, and was promoting bike to work. He saw nesting swans on his way, which he had not seen before.

Brian – Mentioned he was the only NOAA Office of Law Enforcement (OLE) Lieutenant on the West Coast right now; however, he is transferring to the Pacific Island Division in Oahu. He will leave in mid-July. There will be an acting temporary replacement, and then the agency will offer the position to fill.

Dick – Related that he went up on an aerial survey for the whale entanglement working group. The gear concentration was extraordinary. He spotted a number of pods of whales in between the gear and around it. They have had no entanglements; gear concentration does not necessarily mean having entanglements. It was good to be able to bring that back to the working group. People will need to think differently about co-occurrence. Even with all the humpbacks in the water, there have had virtually no entanglements. He hoped the work of the fishermen was starting to show itself. The salmon season was not good and the fishermen do not have much time; he said not to expect a lot on the table. These rainy couple of years should help a lot. He stated when the salmon season would be, and where, for commercial fishing. Recreational fishing for salmon was already open below Pigeon Point. The Fishermen's Marketing Association of Bodega is having a second annual crab feed in the town of Bodega on the Saturday following this meeting.

Lance Morgan – Announced that Marine Conservation Institute and Marine Applied Research and Exploration will be in the Channel Islands in May to look for deep sea corals; it is a three year project. Derek, Natasha and his team have surveyed all the marine protected areas in the state. He mentioned an open house in Richmond this year and that there is a Kickstarter campaign. He thought he and Sarah would have an event at the Lagunitas Taproom in July. Lance and Dirk have been going around the state trying to raise money. No one has put a camera in the RCAs that will be opening up; they will try to do some of that as well. He announced there would be a March for the Ocean for World Ocean Day on June 9 in DC with the main theme being about oil and gas. Barbara Block, who works out of Stanford, will be out at the white shark café (a large area location halfway between here and Hawaii) for the next few weeks. Male sharks do deep rapid dives there and scientists do not really know why.

Kevin adjourned the meeting at 2:38 PM.