

**MONTEREY BAY NATIONAL MARINE SANCTUARY  
ADVISORY COUNCIL**

**Final Meeting Minutes**

**April 20, 2018**

**Monterey Bay Aquarium Research Institute, Moss Landing, CA**

**VOTING MEMBERS**

Agriculture: Sarah Lopez  
AMBAG: Stephany Aguilar  
At Large: Dan Haifley  
At Large: Gary Hoffmann  
At Large: PJ Webb  
Business & Industry: Al Budris  
CA Coastal Commission: absent  
CA Dept. of Fish & Wildlife: Paul Reilly  
CA EPA: Maria de la Paz Carpio-Obeso  
CA Resources Agency: absent

CA State Parks: Eric Abma  
Commercial Fishing: Kathy Fosmark  
Conservation: Katherine O’Dea  
Diving: Brian Nelson  
Education: Jon Hill  
Harbors: Steve Scheiblauer  
Recreation: Gary Pezzi  
Recreational Fishing: Rich Hughett  
Research: Dr. John Hunt  
Tourism: Mindy Maschmeyer

**NON-VOTING MEMBERS**

Channel Islands NMS: absent  
College: Clifton Herrmann  
Cordell Banks NMS: absent  
Elkhorn Slough NERR: absent  
Greater Farallones NMS: absent  
Monterey Bay NMS: Dawn Hayes  
National Marine Fisheries Service: Dr. Steve Lindley  
U.S. Coast Guard: CDR Jason Brand

Alternates present in audience:

Christina McGinnis – At-Large

Carol Maehr – At-Large

Tom Rowley – Business & Industry

Deb Wilson-Vandenberg – CA Dept. of Fish & Wildlife

Kevin Miller – Conservation

Keith Rootsart – Diving

Bart Selby – Recreation

Jose Montes – Recreational Fishing

Dr. Steve Haddock – Research

Number of audience members 9:00 AM:  
16

Number of audience members 1:00 PM:  
13

**I. CALL TO ORDER, ROLL CALL, AND MEETING MINUTES**

Chair PJ Webb called the meeting to order and Secretary Brian Nelson attended to roll call.

Dr. Chris Scholin, Monterey Bay Aquarium Research Institute (MBARI) President and CEO, welcomed the MBNMS Advisory Council to MBARI. Dr. Scholin thanked the council members for their participation on this council. He also thanked Dr. Steve Haddock for being the MBARI

representative on the Advisory Council. He mentioned the importance to find common ground and move ahead cooperatively during these uncertain times. David Packard, founder of MBARI, believed councils like this were a fundamental tenant of how MBARI should operate as an organization. Dr. Scholin believes Mr. Packard would be thrilled to have the council here. MBARI just turned thirty years old. He encouraged council members to look over a special issue of the *Journal of Oceanography* to which MBARI contributed papers. MBARI just launched their 2017 Annual Report. In the report you will see MBARI reaching out beyond their walls to industry, conservation, policymakers and fellow scientists to expand on what they can do in-house. To access the annual report: <https://annualreport.mbari.org/2017/>

A council member asked for more information on the MBARI seminar series. Dr. Scholin explained these seminars occur roughly every two weeks. They are open to the public and cover a wide range of topics. The seminar series schedule is available on the MBARI website. For more information: <https://www.mbari.org/products/educational-resources/seminars/>

### **APPROVAL OF MEETING MINUTES**

Approval of February 16, 2018 DRAFT Meeting Minutes

The advisory council approved the February DRAFT Meeting Minutes.

Dan Haifley introduced a motion to approve the February meeting minutes.

Seconded by Maria de la Paz Carpio-Obeso.

**MOTION: Passed**

(Vote: 11 in favor, 0 opposed, 3 abstentions)

### **II. STANDING ITEM: Superintendent Report**

BeachCOMBERS – some results were published recently in *Geophysical Research Letters* in the paper entitled “Massive mortality of a planktivorous seabird in response to a marine heatwave.” It is great to see the work being put in by staff and volunteers being utilized. The program has expanded south into the Ventura area partly due to the oil spill that happened recently. This program offers one of the longest-term datasets MBNMS has.

Dawn Hayes and Dr. Andrew DeVogelaere presented a Volunteer of the Year award to Dr. Scott Benson and Dr. Karin Forney. Dr. Benson developed the volunteer training course and methods for BeachCOMBERS in 1997 with significant science and agency application advice from Dr. Forney. Once the program was off and running and administered by NOAA’s Monterey Bay National Marine Sanctuary, they naturally stayed on as volunteers. They have been monitoring the same 3-mile stretch of beach, monthly for 21 years, documenting beach cast birds and marine mammals. Both Scott and Karin show a dedication to Monterey Bay National Marine Sanctuary and have been model volunteers for these past 21 years by walking their beach, without fail, each month. They happily contribute to annual volunteer appreciation and training events, sharing their scientific insights and a knack for riveting storytelling.

Dawn thanked Clifton Herrmann, College seat primary, and Megan Rodenbeck, College seat alternate, for their service on the AC. This AC meeting marks the end of their term of service. Clifton will be helping MBNMS to recruit for a new primary and alternate. Dawn mentioned how much she appreciates Clifton’s contribution to council meeting conversations and being involved with working groups. The College seat perspective has been a valued addition to the AC.

Clifton mentioned being on the AC has been a great opportunity for him to assist in integrating college students with the AC. He gave a summary of the work he has done for the sanctuary with a citizen science plankton program as well as a literature review he collaborated with fellow students on using 1,018 papers, a meta-analysis looking at where science has been conducted in the sanctuary and the topic of each study. Overall, they reviewed about 14,000 papers, many of those being from the SIMoN database.

Nichole Rodriguez mentioned recruitment has opened for the College seat primary and alternate and will close on Friday, May 31<sup>st</sup>. A council nomination sub-committee was established: PJ Webb, Dan Haifley, Dr. Steve Haddock, and Maria de la Paz Carpio-Obeso.

PJ gave an overview of the results of an Executive Order addressing a draft proposed five-year Outer Continental Shelf offshore oil and gas leasing program. MBNMS's AC sent a letter in opposition of this plan during the public comment period. Overall, more than 1.35 million comments were registered in opposition to the plan.

### **III. PUBLIC COMMENT FOR ITEMS NOT ON THE AGENDA**

Christian Zajac, commercial fisherman: I tried repeatedly to get crab gear whale interaction research but got no results from NOAA so far. Any new legislation regarding crabbing must be halted until proven scientific evidence is provided to me. That a) numbers used in lawsuit are proven, b) crab gear poses threat to habitat of whales listed under ESA (I believe it does not), c) is the NMSAC neglecting verbal agreement we all remember in the creation of MPAs where they said they wouldn't restrict commercial fishing in any way? MBNMS AC rode the wave created by the \_\_\_ by the CBD and recommended new management measures against fishermen and women, but try as I might, I never got anyone from NOAA Science to provide or verify evidence of each entanglement, or provide physical evidence, like a float with a name attached to it. It is not the DFW who loses much in this lawsuit levied by CBD. It's the fishermen who lose our heritage, traditional fishing areas and millions of dollars in the worth of our boats, permits and pots. Now that we are accused of killing whales, all published entanglements must be verified and proven, before new restrictions are imposed on crabbing.

The core of the ESA states that the environment is the important part of the recovery of listed species and statistics show a huge surge in whale populations pointing to the fact that crab gear is not affecting their recovery in any significant way.

Crabbers love whales and working with the DCTF working group best practices have already reduced entanglements this year. So instead of celebrating success, we get a bill for disaster money attached to a bill forwarding regulatory action. The rat trap and the cheese.

In conclusion, this increase entanglement came about because the crab season was delayed because of a questionable domoic acid scare. MPAs introduced goofy, manmade lines that create areas where crab gear is concentrated at unnatural angles. Crabs aren't rock cod so why were they prohibited in MPAs? Properly placed crab gear is baited regularly and the bait and ropes create swarms of copepods and food webs, which create feeding opportunities for hungry cetaceans. In Alaska, orcas pluck black cod and halibut from fishermen's long lines and comically, sperm whales take an average of 1,000 dollars' worth of sable fish per day from longline boats. These are lines with hooks on them. The idea that crab gear is a real threat to cetaceans is absurd, perpetuated by those who are perversely anti-fishing, and oil companies will benefit by the removal of fishermen from their traditional fishing grounds. Oil drilling, toxic e-waste and climate change present the real threat to

the environment and to the whales. The MPA process used the Delphi system to separate and disenfranchise fishermen and was anything but open and transparent as touted, and left giant loopholes for oil drilling.

#### **IV. STANDING ITEM: Member Announcements**

Keith Rootsart, Diving alternate: attended Marine Resources Committee meeting on March 6<sup>th</sup> in Santa Rosa. There was a presentation of proposed collaborative strategy for purple sea urchin removal to support kelp recovery.

Dr. Steve Haddock, Research alternate: no announcement

Kevin Miller, Conservation alternate: no announcement

Jose Montes, Recreational Fishing alternate: no announcement

Clifton Herrmann, College primary: no announcement

Jon Hill, Education alternate: no announcement

Steve Scheiblauer, Harbors primary: mentioned an article in *Monterey County Weekly* entitled “After decades of facing off against each other, fishermen and conservationists team up.” MBNMS helped create a collaboration between trawl fishermen and several NGO’s to successfully develop a collaborative proposal addressing changes that may occur to essential fish habitat (EFH) boundaries. The collaboration resulted in some new areas being recommended for closure to trawling, while other areas previously closed would be reopened to provide more fishing opportunity. The proposal was presented at a Pacific Fishery Management Council meeting and it was unanimously voted to protect more than 136,000 square miles of seafloor habitat from bottom trawl fishing while reopening other areas.

Carol Maehr, At-Large alternate: thanks Brian Nelson and Dawn Hayes for answering her questions about cruise ships in the sanctuary. Concerned about the monitoring and reporting of discharges, or lack thereof, from cruise ships when they are in MBNMS. Believes the rule is that nothing except water used to cool engines will be discharged while cruise ships are in MBNMS. As it is now set up, the monitoring is the shared responsibility of the Coast Guard and the sanctuary. Scott Kathey is from the sanctuary and is responsible for the actual monitoring and is taken to the ships by the Coast Guard for the inspections that are random and not done every time a ship is anchored. Was told that any citizen could ask for the records of the inspections, a public document, through the sanctuary office. Dawn Hayes tried to produce such records with Scott Kathey’s help as he is on detail at Gray’s Reef NMS. Carol expressed concern there would be no monitoring while Scott was away. For the rest of the calendar year there are 10 more cruise ships expected. Carol was told there are no reports. Carol’s concern is there should be a report from every inspection, whether it be negative or positive. It should include time, date, what discharge tank records were checked and what they read, and anything else that is pertinent. Carol suggested that the AC receive a presentation on how discharge monitoring of cruise ships while in the sanctuary is conducted, reported and recorded. She hopes this leads to an accurate and reliable ongoing history of records.

Dawn clarified Scott Kathey's duties have been reassigned while he is at Gray's Reef NMS. Bridget Hoover is the contact for emergency response and Karen Grimmer is the contact for enforcement. Inspections are ongoing.

Kathy Fosmark, Commercial Fishing primary: no announcement

Rich Hughett, Recreational Fishing primary: new Recreational Fishing Newsletter will be coming out again May 15<sup>th</sup>. He is looking for new articles. Contact him with any ideas.

Monterey County Fish and Game Commission has about \$30,000 to give as research grants. They are currently looking for proposals.

Attended a public hearing on the PFMC proposed alternatives and environmental assessment for 2018 ocean salmon fishery regulations. The recreational fishing salmon season will be open April 7<sup>th</sup> to July 12<sup>th</sup>. The commercial fishing salmon season was scheduled for May 1<sup>st</sup> to May 16<sup>th</sup> but at the last PFMC meeting they extended the season to 19 days.

Kathy Fosmark clarified the short season for the commercial salmon fishery is due to the rivers, not overfishing. To determine how many fish are available for the fishery, CDFW counts the jacks (fish not ready to spawn) that go back into river. They then extrapolate those numbers to find out how much will be available for fishery.

Katherine O'Dea, Conservation primary: things have been a bit quieter at Save Our Shores since our last meeting compared to February when we hosted the Protest March and Rally in opposition to the Trump Administration's proposal to open our coast up to new oil and gas leases and we were in the thick of a massive letter writing campaign. Most recently we have been preparing for Earth Day and the launch of our busy summer season. On the 21<sup>st</sup>, we have teamed up with State Parks and will conduct five beach cleanups at Asilomar, Carmel River, Natural Bridges, and Panther as well as a cleanup of the San Lorenzo River Levee as part of the City of Santa Cruz's Earth Day celebration. We continue our Earth Day events on Sunday the 22<sup>nd</sup>, with an additional five cleanups at Corcoran Lagoon, Cowell, Davenport Main, Del Monte and Hidden beaches.

Next weekend, the weekend of the 28<sup>th</sup> – 29<sup>th</sup>, we will be the benefactor of an Ocean's Dream Fair organized by Events Santa Cruz, the Dream Inn and Ventana Surfboards. There will be several vendors there as well as food and beverages and that's on Cowell Beach. We will also be one of the benefactors of the Big Stick Associations annual Logjam event.

I also became one of the co-chairs of the Santa Cruz MPA Collaborative. The Collaborative is hosting an Evening to Discover Marine Protected Areas, which will be open to the public and feature presentations by Cyndi Dawson, MPA Policy Advisor for the OPC and Richard Starr from the Moss Landing Marine Lab. The Meeting will be in Koppes Community Room at Cabrillo College on May 14<sup>th</sup> from 5:30 – 7:30.

Gary Hoffmann, At-Large primary: returned from Galapagos Islands. Observed and collected lots of marine debris on one of the north facing beaches on one island. Still highly recommends visiting the islands.

He mentioned being out on Monterey Bay several times since the last AC meeting. He routinely locates derelict crab pots with expired tags. The GPS coordinates were provided to Karen Grimmer. Feels there is no penalty for fishermen not retrieving their gear.

He has heard reports of drones influencing orca and dolphin pod behaviors. Orcas and dolphins surfacing less often or changing direction when drones are present. This is anecdotal information.

Steve Scheiblauber mentioned Monterey Bay Fisheries Trust has a program paying fishermen to retrieve that gear. There is an app to submit photos of the lost gear that provides GPS coordinates so somebody can go retrieve it.

Kathy Fosmark also mentioned there is a penalty leaving their gear. Fishermen lose money by not retrieving their gear. Each crab pot cost approximately \$300.

Steve Lindley, NMFS primary: NMFS presented the *2017 California Current Annual Ecosystem Status Report* to the Pacific Fishery Management Council on March 8. The report includes observations made within MBNMS and is full of information on status and trends of the environment and resources of the MBNMS and adjacent waters. It can be found online at <https://www.integratedecosystemassessment.noaa.gov/regions/california-current-region/publications.html>.

Dawn Hayes, MBNMS alternate: Extended invitation to members of the Management Plan Review Wildlife Disturbance - Approach Issues Working Group (disbanded in February 2017) to join the wildlife etiquette working group.

PJ Webb, At-Large primary: The Coastal Discover Center is only open Friday through Sunday but could be open seven days a week and it wouldn't be enough. Participating in Saturday tidepool walks and whales of the California Coast. Big events are planned for Earth Day: a beach cleanup and many gatherings. Working with California State Parks on outreach and education. May 5<sup>th</sup> is Snapshot Day. If you'd like to volunteer, you need to contact Lisa Emanuelson and take part in a training.

Gary Pezzi, Recreation primary: Surfrider Foundation has ongoing programs that are in lockstep with info and efforts effecting MBNMS AC, including: anti Bureau of Ocean Energy Management 5-year oil drilling coastal expansion draft, seismic blasting increase problems and anti-plastic pollution campaign. Also noted was an active program/kit, "Eliminating Plastic Straws", to work with municipalities, business and community. For more information visit [www.surfrider.org](http://www.surfrider.org)

Al Budris, Business/Industry primary: Cannabis is going strong with 99 Development review meetings and 24 actual permit applications submitted and paid for.

New 100,000 SQ FT project received approval for the Salinas area that will package food products. Sea Otter Classic is here. Expect 70,000 spectators, ~15,000 athletes and a sold-out vendor venue of 500.

Monterey Bay Economic Partnership is working with Monterey Bay Area Governments (AMBAG), MST, Caltrans and Transportation Agency of Monterey County (TAMC) on a highway shoulder project for buses.

TAMC draft 2018 Regional Transportation Plan is out. Identified \$3.71 billion in costs for local streets, road operations, maintenance and rehabilitation needs across Monterey County. The plan projects \$4.63 billion of funding needed for transportation projects through 2040.

Monterey County unemployment rate is 10.3%, down from a high of 11.2% in January 2017, but up from a low of 4.7% in September 2017. California's unemployment rate is 4.3% and the national unemployment rate is 4.1%.

Economic Impacts in 2017: Agriculture @ \$8.1 billion, Tourism @ \$2.7 billion and Education @ \$1.7 billion. Top employers as well.

Brian Nelson, Diving primary: Diving Newsletter went out on April 12. The newsletter is distributed to 2,716 active emails.

Keith and Brian will be making AC presentations at Blue Endeavors in Alameda in May, San Jose Flipper Dippers in San Jose in June and Aqua Tutus Dive Club in San Leandro in August.

In May a survey will be sent out to divers only but Brian and Keith will share the results with MBNMS Staff and the AC. Also in May, they will be giving a presentation at CSUMB on a service-learning project involving harbor cleanups.

Earth Day this coming up on April 22<sup>nd</sup>. A dive organization will be conducting a dive cleanup off Del Monte Beach.

Stephany Aguilar, AMBAG primary: there is a drive to reverse Senate Bill 1, which has been integral in funding our transportation and roads. It took six years to get the bill passed. A petition is collecting signatures to have the bill reversed. Please don't sign it.

Dan Haifley, At-Large primary: offshore oil five-year plan ONLINE comments as of March 9: 1,670,021.

O'Neill Sea Odyssey 100,000<sup>th</sup> student celebration: 1-4 PM, Sunday, June 24<sup>th</sup>, Cowell Beach. Beach cleanup, sand castles, raffle, fun activities.

6th annual UN/NOAA Marine Debris Conference, over 700 participants from 54 countries. Bad news – marine debris problem worse than we thought – especially microscopic particles (sampling in North Sea by Germans) which are the vast majority of ocean plastic. Good news – all the work being done, particularly by young people on research and efforts to end single-use plastic and recycle and re-use existing plastic. <http://internationalmarinedebrisconference.org/index.php/abstracts/>

Retirement as Executive Director of O'Neill Sea Odyssey effective December 31, 2018. Link to job: [sfbay.craigslist.org/scz/npd/executive-director/6558157207.html](http://sfbay.craigslist.org/scz/npd/executive-director/6558157207.html)

It was asked if during the marine debris conference there was any information on mutant enzyme eating bugs that eat plastics. Dan responded that there were a couple poster presentations. He talked to one of those people but not in depth.

It was also asked if, regarding the offshore oil five-year plan, there was a percentage of comments that were in favor of the plan. A very rough estimate would be about 10%.

Dr. John Hunt, Research primary: no announcement

Maria de la Paz Carpio-Obeso, CA EPA primary: Water Quality Control Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling (Once-Through Cooling Policy) – The State Water Resources Control Board (State Water Board) Statewide Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling, also known as the Once-Through Cooling or OTC Policy, regulates the use of seawater for cooling purposes at the power plants in California. The OTC-Policy requires owners or operators of existing power plants to implement measures to mitigate interim impingement and entrainment impacts resulting from their cooling water intake structures. Staff started working on the interim impingements and entrainment determinations and invoices covering once-through cooling from October 2016 through September 2017. Owners or operators of the power plants provided the payments from the first interim mitigation (2015-2016) to the Ocean Protection Council and the California Coastal Conservancy for mitigation projects to increase marine life associated with the State's Marine Protected Areas in the geographic region of the facility.

The OTC Policy requires the Statewide Advisory Committee on Cooling Water Intakes Structures (SACCWIS) to advise the State Water Board on whether the Policy's compliance schedule considers

the reliability of California's electricity supply. The 2018 SACCWIS Report was presented to the Board on April 17, 2018. Currently, SACCWIS does not recommend any change on the compliance schedule in the OTC Policy for the generating facilities.

Bacteria Provisions – The State Water Board is proposing a Bacteria Provisions and Water Quality Standards Variance Policy. The Bacteria Provisions, would apply to fresh, estuarine, and marine waters; include *Escherichia coli* (*E. coli*) as the indicator of pathogens in freshwater, and fecal coliform and enterococci indicators for estuarine waters and ocean waters. The Bacteria Provisions might be for Board consideration in October or November 2018. For more information please visit: <http://www.waterboards.ca.gov/bacterialobjectives/>.

Sediment Quality Objectives (SQO's) – Water Board staff is developing a methodology (for inclusion in the Water Quality Control Plan for Inland Surface Waters and Enclosed Bays and Estuaries) to assess sediment quality in relation to the narrative human health SQO that protects human consumers from contaminants that bioaccumulate from the sediment into fish tissue. Several groups and committees, including the SQO Advisory Committee, the Agency Coordination Committee, and the Harbor Technical Work Group, are collaborating on studies that will assist in the development, testing, and implementation of Phase II SQOs. The case study and test drive were completed in August 2017 and draft documents were released on October 24, 2017. The public comment period closed on December 14, 2017 and received a total of 11 comment letters. The Board held a hearing to receive public comments on December 5, 2017, and board consideration of adoption is scheduled for June 5, 2018.

Eric Abma, CA State Parks: no announcement

CDR Jason Brand, USCG primary: next week the California Dungeness Crab Fishing Gear Working Group will be meeting to discuss whale entanglements. It is an annual meeting for members only. The working group includes many stakeholders such as fishermen and The Nature Conservancy. He will make sure to tell them about the app to report lost fishing gear.

Paul Reilly, CDFW primary: returns for Sacramento River fall run Chinook – the main stock of salmon supporting California's ocean and Central Valley river fisheries – have been low for the third consecutive year, pushing them into "overfished" status. To meet conservation goals for Sacramento River fall run Chinook, some ocean salmon seasons have been shortened and the daily bag and possession limits for Central Valley river fisheries have been reduced. The Chinook salmon recreational fishing season between Pigeon Point and the U.S./Mexico border, which includes Monterey Bay, opened on April 7 and will continue through July 2. The minimum size limit in this area is 24 inches, and the daily bag limit is two Chinook salmon. Opening day was uneventful for salmon recreational anglers in Monterey Bay and there was little effort, most likely due to rain and small craft advisories. However, during the following 7 days our biologists interviewed a subsample of the total effort: 325 salmon anglers kept 206 king salmon for an average of 0.63 per person. Striped bass fishing from the beaches of central and southern Monterey Bay accelerated in part due to the breaching of the Salinas River at its junction with the bay, allowing land-locked stripers to emigrate. Many sublegal (less than 18 inches) fish have been caught along with a fair number of keepers.

Most recently, most of the landings of coastal pelagic species (CPS) into Moss Landing and Monterey has been anchovy with only a few boats being active. Market squid has made an appearance in the bay. The 2017/18 sardine fishing year is closed but vessels are allowed to land 40%

sardine in their CPS loads until total incidental landings reach 2,000 metric tons. As of this week, a total of 276 metric tons of incidental Pacific sardine has been landed in the state.

The Department is in the design phase of a new web-based Portal which will allow online access to the most recent, as well as historical, information on our state-managed fisheries, including life-history and ecological aspects, landings and catch totals, monitoring, and research. This information will be in the form of Enhanced Status Reports, which are described in our revised Master Plan for managing fisheries.

It was asked if fish counters interview fishermen with their vessel in a berth rather than at launch ramps. Paul responded that it is logistically too difficult to interview fishermen in the private slips so they rely on information gathered at the launch ramp.

Deb Wilson-Vandenberg, CDFW alternate: dovetailed on Steve Scheiblaue's report on the EFH action at the PFMC meeting. The PFMC made their final decision and unanimously voted for everything MBNMS wanted.

Mindy Maschmeyer, Tourism alternate: no announcement

Christina McGinnis, At-Large alternate: announced there is a new Agricultural Commissioner, Henry Gonzalez. He just recently started and has a very interesting story having worked with Monterey County Agricultural Commissioner's Office for many years starting as a farmworker in Salinas.

Tom Rowley, Business/Industry alternate: unemployment is the economy's limiting factor in Monterey County. For businesses, water is the limited factor. The final EIR/EIS for the CalAM desal plant was released. If the California Public Utilities Commission approves it, lawsuits will start filing. Another draft EIR could be released by the end of the year for a desal plant in Moss Landing.

Bart Selby, Recreation alternate: in regards to drones and marine life, while on GFNMS's Overflight Working Group they received a presentation on a paper. Bart will provide that paper to the AC.

## **V. INFORMATION ITEM: Kelp and sea urchins**

Dr. Cynthia Catton, environmental scientist with California Department of Fish and Wildlife, gave a presentation titled "Recent large-scale kelp loss in northern California." She gave background information on important kelp and invertebrate species, e.g., bull kelp, red abalone, red urchins, purple urchins and sunflower stars. She mentioned climate change and global expectations of climate change. Overall, these changes are expected to have a variable effect by latitude and altitude, have large-scale impacts and are likely to have multiple compounding stressors. Dr. Catton focused her presentation on northern California kelp forests, but as climate change can have large-scale impacts, similar changes could be seen in MBNMS. CDFW aerial kelp surveys showed a 93% kelp loss in 2014, an additional 33% loss in 2015 and limited growth in 2016 and 2017. There have been multiple large-scale impacts effecting the area: a harmful algal bloom in 2011, Sea Star Wasting Disease in 2013, a purple urchin explosion and persistent warm water both seen in 2014. Dr. Catton discussed the many ways to support recovery of kelp forests including protecting kelp spore bank through purple urchin control. She mentioned the GFNMS/CDFW Joint Kelp Recovery Working Group that is working to evaluate potential effective recovery efforts, identify knowledge gaps and develop pathways to engage communities. Other methods to support recovery include urchin removal and continuing science and monitoring. Dr. Catton also discussed activities to date which

include a pilot study comparing purple urchin culling methods, diver effort tracking, seasonal subtidal surveys, aerial kelp surveys and kelp sport experiments.

Dan Abbott of Reef Check California gave a presentation titled “Urchin barrens along the Monterey Peninsula and in Carmel Bay.” Reef Check California, a primarily volunteer run organization, has sixteen survey sites along the Monterey Peninsula and in Carmel Bay in six MPAs. These sites have been surveyed every year since 2006. The citizen scientist divers count kelp and invertebrates along six-60 square meter transects at each site. He mentioned recent disturbances (large-scale impacts) effecting the area: Sea Star Wasting Disease in 2013, warm water blob in 2014, El Niño in 2015. Following these events, Reef Check surveys show a large increase in urchin density in 2015 (which continued to increase in 2016 and 2017) leading to a decrease in giant kelp density. In 2017, eight of their sites remained as kelp forests while the other eight sites became urchin barrens.

Keith Rootsart, Diving seat alternate and Reef Check volunteer, gave a presentation titled “Giant kelp restoration project.” Keith showed aerial photos of the kelp canopies between Point Piños and Breakwater in Monterey. Kelp canopies were dense in this area in 2007 and ten years later the only remaining visible kelp was between Hopkins and Breakwater. He noted all the accessible urchin barrens are in MPAs which has led to needing a special collection permit to perform a pilot study. The pilot study will be used to develop a protocol and would inform what the threshold for urchins per square meter is while kelp is still present. Keith provided some metrics on past urchin culling and removal projects. He estimated there are approximately 2,005.7 acres of urchin barrens (over 79 million urchins) in the Monterey area. The pilot study would focus on 2.7% of that area (or 2.9% of the 79 million urchins).

Public comment:

Art Seavey, Monterey Abalone Company: Monterey Abalone Company supports the idea of research regarding urchin removal. It seems very important to be able to understand how to protect enough kelp to be able to restore kelp to our area. The MLPA placed a high priority on biodiversity. The current urchin barrens are the opposite of biodiversity, and it seems that appropriate management actions are needed.

Advisory Council Member Discussion with Panel:

The panel consisted of Dr. Cynthia Catton, Rebecca Flores-Miller of CDFW, Dan Abbott and Keith Rootsart.

There were questions about the biology and ecology surrounding purple urchins. Urchins can live for ten to fifty years. Purple urchins have many mechanisms to make them strong competitors for food and space under stressful conditions. A recent study has shown they can be successful reproductively in acidic conditions. They can survive in warm and cold conditions. Purple urchins can also shift their diet based on what is available. Regarding migration, purple urchins are a slow-moving species. Migration is not a term generally used to describe urchins. It was asked if purple urchins would be a concern if the otter population was healthy. It was explained otters do not specialize on urchins. They are generalists that will prey on whatever gives them the caloric intake they need. Urchins are not quality food for otters.

There was discussion about management of urchins and protection of bull kelp. It was asked if the Marine Life Protection Act would allow for take of certain species under certain conditions. The

MLPA does have a provision to consider scientific collection under certain conditions in MPAs. It would need to be supported with a justification of why the species would be taken in a MPA as opposed to outside a MPA. It was mentioned additional discussion is needed regarding management of kelp forest health. Threats to kelp forests are statewide but the threats differ across the state. It was asked if bull kelp could potentially be given a special status (i.e., state endangered or threatened). This has not been discussed yet. It was asked if there is a cyclic nature to kelp and if climate is exacerbating the issue. Kelp is cyclical and has a variable range but this issue is outside that range. CDFW does have a dataset available documenting the cycle of kelp. It was noted there is a difference between many urchins and an urchin barren. An urchin barren is the result of destructive grazing.

There was also discussion about other supporting studies and datasets. It was asked if CDFW was concurrently doing any studies to see the effects on fishes that would typically populate kelp forests. CDFW has been working with Rietta Hohman from GFNMS on this. In 2016, Rietta was asking that question. She looked at rockfish and benthic fish to see how they utilized kelp as a habitat. It was noted Reef Check surveys have not shown a difference between their 16 survey sites and fish presence.

## **VI. INFORMATION ITEM: Ocean acidification**

Dr. Jim Barry, senior scientist with MBARI, gave a presentation on ocean acidification and cumulative impacts to MBNMS. He began his talk with some introductory information on ecosystem services and climate change. Warming is associated with climate change. When there is more CO<sub>2</sub> in the atmosphere, temperatures are warmer. The question with global warming is not if it will happen, it's how far it will happen and what consequences we will see. In Monterey Bay, recent studies have shown increased temperatures have caused mobile species to migrate northward. Dr. Barry talked about climate change effecting coral reefs through bleaching and mineral concentrations. He mentioned historically when there has been a mass die-off of a coral reef, it is followed by a massive proliferation of life. In terms of the earth's life, the growth occurs at a rapid rate. In terms of human life, it occurs very slowly (more than 1,000,000 years). He discussed work that is being done at Sur Ridge monitoring large old corals. Researchers are watching these communities carefully to see how ocean acidification is affecting organisms already in acidic conditions. Dr. Barry also discussed a study looking at the effects of current and future upwelling on larval abalone. Expected changes in upwelling would bring up deeper, deoxygenated water that is corrosive to calcium carbonate. This water would affect the development of larval abalone and the production of their shell composed of calcium carbonate. Work is still being done on this study. Dr. Barry discussed the "warm blob" off Santa Barbara. Work there has shown significant declines in kelp, urchins and sea stars. Environmental changes are causing organism compositions to change. He ended by saying humankind has choices to make on how to care for the environment. It is important as an advisory council and members of the community to get the word out that change is occurring. Legislation supporting mitigation and/or adaptation to climate change is important.

### Public comment:

Robert Frischmuth, Communities for Sustainable Monterey County: Monterey Bay Community Power may be the quickest way to locally reduce CO<sub>2</sub>. Volunteer to be an advisor on MBCPs Community Advisory Council.

### Advisory Council Member Discussion:

There were questions regarding comparison of the Sea of Cortez to the potential future conditions of Monterey Bay. It was suggested the Sea of Cortez could be an analog for Monterey Bay's future. There were some clarifying questions regarding the "warm blob," the correlation between CO<sub>2</sub> levels and pH, nutrient runoff, and coral reef recovery. It was asked if managing kelp forests and seagrass beds could help with carbon sink and slowing the effects of ocean acidification. Mitigation efforts would act locally. The only way to really deal with ocean acidification is to get CO<sub>2</sub> out of the atmosphere and into deep-sea sediments. It was also asked what kind of action the AC can take to make a difference and mitigate the impacts. Supporting research, educating the public and voting on things that can help these problems are key ways to address climate change and ocean acidification.

It was agreed by the AC support is needed for ocean acidification research.

## **VII. STANDING ITEM: Working Group Updates**

Conservation Working Group (CWG): The CWG met last met on March 28<sup>th</sup>. We continue to explore topics of interest to determine a core focus for the next 6 – 12 months. Topics under discussion are Extended Producer Responsibility (EPR) and Wildlife Disturbance. In terms of EPR we are in the education process to explore what might be possible in terms of promoting EPR legislation for packaging at our local or county levels and/or at the state level. Katherine O'Dea is trying to get Allen Langdon, Director of RecycleBC, the organization that manages programs, to speak at our next meeting. In terms of Wildlife Disturbance, we are considering a project to align and coordinate messaging re: approach distances primarily for otters and pinnipeds. As part of this effort we will be reviewing the existing Responsible Wildlife Viewing Handbook to see if it has been finalized and/or needs updating.

Research Activity Panel (RAP): The Research Activity Panel met on March 9, 2018, at the Moss Landing Marine Laboratories. MLML Director Jim Harvey provided an update that included three new faculty hires: Luke Gardner as Sea Grant aquaculture specialist, Max Grand as professor of Chemical Oceanography and Amanda Kahn as professor of Invertebrate Zoology.

Ross Clark presented research on small estuaries that form near the mouths of streams leading to the sanctuary. These are important nursery habitats for fish and other organisms that live in sanctuary waters, yet they tend to fall between cracks in terms of resource management. They are stressed by pollution, physical modification and manipulation of water supply. Ross recommended that future sanctuary Condition Reports include information about these sanctuary-relevant ecosystems.

The RAP discussed Management Plan review and developed some options for RAP engagement dependent on the timing of the public comment period. The RAP plans to create subcommittees to review specific Action Plans, and then convene a special meeting to integrate the subcommittee reviews into a combined set of RAP comments on the Management Plan.

Long-term monitoring is still an important focus of the RAP, though we realize the limitations of sanctuary support. RAP members have written proposals to outside sources to fund various components that may eventually coalesce into an integrated sanctuary monitoring structure.

The Ed Ricketts Memorial Award Lecture was delivered by Steve Haddock on April 10, 2018, at the Moss Landing Marine Laboratories. Dr. Haddock received the award and provided a captivating lecture, "Beneath Pacific Tides: The wondrous glowing realm of deep-sea biodiversity." Dr. Haddock described his early career, and how his interests developed in midwater ecology, biology and bioluminescence. His research and scientific papers are known around the world and have advanced our knowledge of these bioluminescent and gelatinous animals. In February 2018, one of Dr. Haddock's photographs was issued as a US Postal Service stamp in a new collection featuring

bioluminescent animals. Steve's work on deep sea gelatinous zooplankton and some gorgeous photographs and video can be found here: <https://www.mbari.org/haddock-steven/>

Sanctuary Tourism and Recreation Working Group (STAR): The newsletter is out. The newsletter highlighted the CSUMB partnership program with the business school. Students made some changes to the Friends to the Sanctuary program. The STAR met with Lisa Uttal, MBNMS staff, on April 9<sup>th</sup> to review those changes. They also reviewed changes also from ONMS Headquarters. Prior to the next AC meeting, the AC will get a draft copy of the program for review. There may be movement at the national level to create a similar program and push it nationwide. The STAR needs to push the program to the focus businesses again for review.

### **VIII. INFORMATION ITEM: Review of MBNMS Management Plan Review Draft Action Plans**

Prior to the meeting, AC members were sent the remaining draft Action Plans and associated strategies for review. For each action plan, the action plan lead gave a brief description of the plan and took questions on each strategy.

#### **Marine Spatial Planning Action Plan**

*Goal: To improve resource protection and management on select site-specific issues through the application of MSP principles.*

John H: Marine spatial planning (MSP) usually involves a lot of GIS work, not sure if that will be done by partners but I know you have qualified GIS people in house, will this plan allocate more resources to that staff?

Dawn H: doing creative financing to keep that talented staff (one staff, one contractor). Sophie and Chad are highly involved with different aspects of this action plan (AP)

John H: eight strategies in this AP and all are a little different, does there need to be a ninth strategy to integrate them all in a spatial way? A matter of finding the relationship between these strategies.

Dawn H: you haven't had the benefit of seeing the introductions to each of these APs which highlights how we are going about these AP and how GIS integrates across each of these strategies

Karen G: working with several partners who also have GIS experience

Steve S: think of MSP as defining boundaries and what is in and out of that boundary. I see little of that in this AP. It is mostly working with existing boundaries. You may want to think about adding conflict resolution management.

Karen G: we have many existing activities that have established boundaries. A couple potentially new ones (emerging issues) such as artificial reefs.

John H: went through the APs, with the MSP AP noted nine places where it calls out for research or monitoring. Twenty-seven overall not including the Research and Monitoring AP. Those are things not directly overlapping with things in the Research and Monitoring AP. The Research and Monitoring AP is complicated and the research team works with other teams to help with that. The RAP noted prioritization and possibly cutting the list would be important.

Dawn H: at the end of each AP as summary table will identify if these are existing or new programs as well as identify its priority with current funding, less funding and more funding. Will help show the internal prioritization staff has done.

Eric A: **Strategy 4: Motorized Personal Water Craft** - five zones, zone five being special ops zone, other options for marking zones...is that looking at physical options for delineating those zones?

Dawn H: some challenges with zones...zones were determined and set. The challenge is a couple zones have deep buoys. Spending lots of money to keep them in place. Looking at slight adjustment in zones to align with existing buoys. Could possibly lower cost in maintaining. Anecdotally we know they are not being used. Need to assess current use. Current use is purely anecdotal. Need to look at maximizing the zones.

Steve S: **Strategy 5: Coordinate regionally, national and internationally on Marine Protected Areas** – John Armor announced there would be no new MPAs. How does that relate to Strategy 5?

Dawn H: Are you referring to no-take areas?

Steve S: yes.

Karen G: this doesn't relate to Strategy 5. There are two activities under this strategy. One is "collaborate with the State of California on MPA management including research and monitoring, outreach and education, and policy and compliance related issues." MBNMS Staff will continue to do this. The second is to "explore and track new MPA related designations."

Dawn H: this is codifying existing work with research and monitoring that was not really represented in the existing management plan.

Kathy F: buoys – will there be any requirements to put lights on buoys? Seems like there are no regulations to be safer.

Dawn H: go by US Coast Guard standards. There are lights on them.

Kathy F: concerned about a system that displaces fishermen. Is this going to create any displacement?

Karen G: no

Kathy F: are there any fishermen on the working group you mentioned?

Karen G: no, the state MPA leadership team is all agencies.

Kathy F: there is no input from the industry and how they are being affected?

Karen G: there is. There is a process allowing input from many stakeholders.

Paul R: **Strategy 3: Collaborate on Fishery Management issues** – didn't that already happen?

Karen G: yes, the areas were established but there is a research/monitoring piece attached to this strategy

Paul R: could you then strike the part "to modify"?

Karen G: we could do that.

Paul R: **Activity 3.3: Continue to collaborate with the Pacific Fishery Management Council and California Fish and Game Commission on fishery issues of concern.** – add National Fisheries Service and CDFW

Gary H: Strategy 2: Track and monitor vessel traffic compliance, Activity 2.3: Coordinate at a regional level on reducing the number of whale ship strikes in California sanctuaries.

– isn't it prudent to also quantify ship strikes?

Karen G: that will be part of it. The entire process CINMS, CBNMS and GFNMS have been working on for the past decade...their work has helped inform a risk assessment for MBNMS. We would like to work with all three sanctuaries to mitigate ship strikes.

Katherine O: don't see called out cruise ships and potential impacts

Karen G: cruise ships are included in the Water Quality AP or Resource Protection AP.

Gary H: also, the issue is better documentation of inspections that occur by the coast guard and the sanctuary

Karen G: it is a program we have been doing for many years and we hope to continue working with the coast guard. If an issue comes up during an inspection, that is documented with enforcement.

Gary H: even if nothing is found during an inspection, a report should show that nothing was found.

Karen G: the Coast Guard generates that report. They are the lead on inspections. Inspections are not a sanctuary driven activity.

Gary H: **Strategy 6: Aircraft overflight, Activity 6.2: Provide outreach on overflight zones including use of drones** – shouldn't there be an issue raised about potentially regulating use of drones beyond the restricted aircraft zones?

Karen G: (this is a national issue). A working group just gave recommendations and going through clearance right now. Will find out the results. Regulation would only be mentioned in MBNMS's MP if they had jurisdiction to regulate drones and we do not at this point.

Dawn H: we can write something into WD AP related to harassment as it relates to drones.

Steve S: **Strategy 7: Track and respond to offshore wind and wave energy proposals and Strategy 8: Initiate assessment for the use of artificial reefs for recreation, restoration or other uses in MBNMS** – is it non-market and market value?

Karen G: yes, that would make sense.

Steve S: **Activity 7.2: Outline proposed guidelines for siting constraints of offshore wind and wave energy activities** – guidelines already proposed?

Dawn H: something we will be working to develop.

### **Davidson Seamount Management Zone and Sur Ridge Action Plan**

*Goal: Increase understanding of the Davidson Seamount Management Zone and Sur Ridge through characterization and ecological process studies, and develop education programs for the seamount and similar geologic features throughout the nation. This information will be used to support resource protection*

John H: hearing a lot about deep-sea mining. Does that need to be on the radar as an emerging issue?

Andrew DV: our current regulations address disturbance of the seafloor. Not a problem if Davidson Seamount remains part of MBNMS.

### **Introduced Species Action Plan**

*Goal: Prevent the introduction, spread and establishment of introduced species, and to control and eradicate populations of introduced species already established in MBNMS.*

Keith R: are restoration efforts part of this AP?

Steve L: the AP mirrors the Executive Order Obama had in final months of his administration. We do not have resources outside of staff time to commit to any of these strategies. We have been working with partners for monitoring.

Gary H: is there a correlation/overlap with cruise ships... introduction of species from ballast?

Steve L: that's possible but my understanding is discharge isn't ballast. It is cleaning, treated water aka gray water. It is not a shift in ballast water.

Katherine O: release of ballast water is prohibited in MBNMS?

Steve L: it can be released 12 miles offshore.

Paul R: introduced species vs. invasive species?

Steve L: laid out definitions in AP are from Presidential EO.

Paul R: how can you have “implement eradication or control” in a plan if you are not doing it?

Steve L: we can still develop a plan even if not necessarily doing the implementation ourselves

**Water Quality Action Plan**

*Goal: Raise awareness of water quality issues in the watersheds and to improve the quality of water entering and within Monterey Bay National Marine Sanctuary*

Steve S: **Strategy 2: Understand the Land-Sea connection, Activity 2.2: Facilitate discussion and coordinate efforts to develop an integrated regional water quality monitoring program.** – appreciate the language is “facilitate discussion”. There is concern around this program. Would welcome discussion on this program. Also, in regards to Condition Report, effectiveness of management practices seems you can develop better metrics what’s in sanctuary but have difficult time measuring effectiveness unless have “in and out” method (inside and outside boundary)

Bridget H: effectiveness – cross walking with cities and agriculture to determine was are the best practices to be employed.

Gary H: **Strategy 2: Understand the Land-Sea connection, Activity 2.5: Contribute to harmful algal bloom (HAB) research** – can you elaborate on what “contribute to HAB research” would entail?

Bridget H: with monitoring programs we collect samples for Ray Kudela labs at UCSC, they do analysis for our collections.

Gary H: **Strategy 5: Promote Public Engagement and Stewardship through Citizen Science Monitoring Programs and other WQPP efforts** – there is nothing about involving college to develop a pool of volunteers

Bridget: we do that even if it is not specifically called out.

**Research and Monitoring Action Plan**

*Goal: The Sanctuary Research Team assesses change in species, habitats and processes, and participates in regional research and monitoring to better characterize and understand the sanctuary ecosystem. This information is used to support ecosystem management, resource protection, and education programs.*

No comments

**Operations and Administration Action Plan**

*Goal: Increase protection of sanctuary resources by building greater public understanding, engagement, and stewardship in our highly diverse coastal communities.*

No comments

Meeting adjourned at 4:09 PM