

Board of Directors

Questions & Answers from POET Webinar: Floating Wind and Cetaceans
July 2, 2020

Kevin Banister

POET President
Principle Power, Inc.

Q: Is marine renewable energy here referring to both wave and offshore wind mooring lines?

A: Lysel: "tidal wave currents but in the case of this presentation, it is mostly wave energy for the mooring lines"

Justin Klure

POET Vice President
Pacific Energy Ventures

Q: what does MMHSRP stand for?

A: Dan: "Marine Mammal Help and Stranding Program- national program for marine mammal help and stranding"

Jason Busch

POET Secretary/Treasurer
Pacific Ocean Energy Trust

Q: How will mooring lines remain taut through varying tides?

A: Molly: "the mooring lines are not 100% taut, they have some slack in them. There is a lot of weight and tension in the lines so whales cannot make a loop in them and get caught but they will move slightly if there is enough force."

Michael Olsen

Equinor

Q: What is being done to address the entanglement issue with fixed fishing gear?

A: Dan: "all three states are in the process of conservation planning. Specific thing regarding ESA permits. As part of that conservation planning all three states have been very active with respect to the Dungeness crab fisheries. There are new regulation that will limit the amount of traps that can be used in the summer time in certain laces with that actually also closure of fisheries, delays in their openings etc. to specifically avoid entanglement. We are entering into a new world particularly with Dungeness crabs but well see what else may happen, we are involved in very active management by the states to avoid entanglements at this point."

Rebecca O'Neil

Pacific Northwest National
Laboratory

Jim Lanard

Magellan Wind

Q: Shouldn't the wind farm proposers also have to account for potential entanglements that come from displaced fishing grounds? That is, if more vessels are congested elsewhere to make way, isn't that collateral damage to the wind farm?

A: Lysel: "it depends on the location and what fisherman's rights are. But if it means that wind farms displace fisherman and may attract whales in another location we may have to consider this. It is a good thing to think about."
Jessica "risk assessment framework can begin to look at those types of questions. We've done this with entanglement risk where we've asked 'well what would happen if you delay the opening of the fishing season and you shifted that effort into later in the season and we've been able to look at that through our risk assessment that combines the whale predictions with a human use and we can begin to incorporate those changes in human use. There is an analysis framework where we can begin to look at those types of questions."

Q: Molly, do we know that whales travel solo or do they travel in groups, if so would it be useful to run your encounter models using pods of whales.

A: Molly: "I did some research on this topic when we were designing the BOEM presentation and we found a lot of humpback whales travelling with a mother and calf pair so we did run the model with that, using that as a whole, bigger area. I think that doing the pods, if there was good data for that, would be a great extension of the model."



Mari “there is definitely information out on reported average group sizes and composition of a lot of those species based on a lot of the surveys that NOAA and others have done, so you could look and see what those specific areas are for and what the expected group sizes are for those particular areas you’re looking at—they vary by season too.”

Molly: “and then you could make a risk of the whole group and run that a thousand times or more”

Sarah: “there were a couple questions like that about different variables that could be incorporated into this type of modeling and I think you could incorporate a variety of variables in there. This is a preliminary start on it but there is more to be done to look at different situations: migration, versus feeding, different things. I think this has a lot of potential to look at those questions as long as we have sufficient data to support putting them into the model.”

Q: Could one also assume that the offshore floating wind could attract prey sources and we may not expect whales to not just travel through the farm but remain to forage on the prey sources. This seems like a plausible scenario and how does modeling foraging behavior of whales in the area may change the collision risk.

A: Molly: “we can model anything, like what Sarah said, as long as we know what that looks like and are based on reasonable assumptions. It is doable but we might not have good enough data to do that.”

Q: Is the GIS data of the fixed gear fishery generalized locations publicly available?

A: Dan: “we can certainly do that and make it available I don’t know that its immediately available. There is always some issues within the data itself and confidentiality, but I’s sure that some of the layers in that paper would be available. That is kind of old news, I don’t know of anything more comprehensive and more current but getting it is much easier said than done.”

Q: The 2019 humpback whale entanglement, to clarify, was the weather buoy gear entangled with the crab gear or around the actual whale?

A: Dan: “the crab gear was around the whale, that got dragged through the weather buoy and so the weather buoy got entangled in the crab gear, not the whale.”

Q: Could the mooring lines be used for transmission to reduce redundancy/ risk?

A: Jessica: in my opinion they definitely could take the cable and run it down with the mooring line then you would probably have to bury the cable back to shore. There is a considerable cost to both making the cable go through the water column and burying and I think that is what needs to be weighed is the cost versus the risk”

Sarah” we could think about how we might integrate the concept of where do we put these cables in the water column. If it s genuinely the case that it is simply cost or logistically prohibitive to run these cables to the bottom and bury them and they have to be int eh water column, its not just about marine mammals its about fisheries, turtles, etc. I think were going to need to think about integrating the concept of “where is the best place, what is the optimal place” on a project by project basis for putting these cables in the water column that still going to be viable for the developer. I wont cost so much that they cant develop the project.



Were still in the process of trying to determine that, but we don't want to think about one species, but all of them."

Q: What will the cleaning schedule be for the suspended lines and what whale species were modeled?

A: Sarah: "the schedule for cleaning has to be done on a project-by-project basis and determining in the local area what rate you need to do that to meet your adaptive management needs. There is logistics and cost involved in going out and removing gear from equipment so all of that has to be considered in coming up with the optimal framework for each project"

Mari: "It's my understanding that it's to the benefit of the company that has the lines out there, they want to keep them as clean as possible too so I would imagine as part of their normal inspections that they're going to be doing that pretty regularly on their lines, so that may be a way to gather data on what may be entangled in those lines."

Jason: "There are some new technologies that would be integrated into mooring lines that would reflect tensions that ought not be there and could signal that something is amiss."

Q: How much information is available about the vertical distribution, that is vertical hotspots, and use of the water column for humpback whales across the west.

A: Mari: "we would have to look site specific but there is quite a bit of tagging data but that is an area where there could be more research to look at how these animals use the water depths in the water columns. That database is growing and is a really good source to look at that."

Q: What was the Mac2019 figure that Dan had on his slide?

A: Dan: "that is an example of a more recent effort it was focused only on Dungeness grab fishing and was an effort to extend some of that fishing effort mapping to projecting the number of vertical lines in the water. It is a thesis by master student from UW, Sam Max."

Q: Are there natural systems we can use as a model for the depth traversing ecosystem that will be created by mooring lines or are we limited to oil rigs for comparison?

A: Sarah: "we can use comparisons with floating wind in the water in some European countries and there are floating platforms that oil and gas have developed too so a lot of the technology for doing west coast offshore wind, comes from the oil and gas space. We can use both of these to make some predictions but then we have to apply information about the specific technologies and local areas that we're operating in on the west coast."

Q: How much progress has been made with fisheries or is it only getting worse? Perhaps with offshore wind there is more focus, at least from a research point of view.

A: Dan: "there has been quite a bit within the past year where we've seen steps being taken to reduce. Things are happening, its hard to say how effective all of these things are, it takes time to figure that out. We still have questions about what was happening all along that we weren't detecting, the fact that were getting a lot more entanglement reports may not be a product of more



entanglements happening is may have more to do with detecting more of what was always happening. It's difficult to track whether the issue is getting worse, I think we can expect with a lot of marine mammals and some of those populations recovering and doing well, the risks of them getting entangled may rise as their number does."

Q: Do you know if BOEM is planning to take a programmatic approach for assessment, or will it be on a project-by-project basis?

A: "Get directly in touch with Desiree Reid at BOEM."