

## Ventura Shellfish Enterprise Navigation Risk Assessment

### Response to Public Comments

#	Location in Document	Comment Originator	Public Comment	COWI Response
1	General Comment	Alan DeRossett	<p>I support the Ventura Shellfish Enterprise in federal waters and also want the language to require real-time monitoring to support the new E-Navigation and Electronic Chart systems standards for Autonomous vessels with the ability to receive beacons and alerts with local situational awareness. this will prevent what happened to Catilina Sea Ranch from ever happening again. The Port Authority and Coast guard or nearby vessels would be able to always monitor with real-time data</p>	<p>One of the navigation risk mitigations that was considered in this study is the understanding that the VSE project site will be recorded on standard navigation charts. Therefore the location will also be included in any electronic navigation charts (ENC).</p> <p>Autonomous vessel navigation was beyond the scope of this navigation risk assessment as they are not currently being considered for the project. As far as the project team is aware there is no significant push for autonomous vessels in the region and therefore they were not directly considered as part of the navigation risk assessment.</p>
2	General Comment	Mary Luna	<p>I am a professional focused on sustainable development and aquaculture, and resident of Ventura County. I am concerned about the current set up of this enterprise, and would prefer to see a smaller project that can be evaluated and monitored more effectively to ensure environmental and socio-economic sustainability. In addition, I support the use of technology such as smart buoys and sensors to monitor key factors, and constant auditing to ensure efficient use of funds.</p>	<p>With regards to the development of the project, please see Section 2 (1st Paragraph) of the report which describes the intended project phasing. The project is proposed to be phased such that 500 acres per year will be installed, on condition the project meets certain environmental thresholds as established by regulatory agencies, including proper gear maintenance. This navigation assessment has considered the fully developed project.</p> <p>As a considered mitigation for this study, the farm will be marked with USCG compliant navigation buoys. With regards to smart buoys and sensors, which would include monitoring and recording of environmental conditions, their use would not significantly affect the navigational risk levels of the project and they were not considered as a required mitigation. Further consideration of their use, any other benefits they may/may not provide to the project, should be by the VSE project team.</p> <p>With regards to the constant auditing to ensure efficient use of funds, consideration of this falls outside of the scope of this navigation risk assessment; however, note that the project description includes proposed annual reports to the Ventura Port District and other regulatory agencies.</p>
3	General Comment	Capt. David Bacon	<p>I represent recreational anglers. I have no issue with an aquaculture site, however my constituency wants there to be no exclusionary zones to restrict recreational fishing around the aquaculture gear.</p>	<p>The study has concluded there is a low risk to navigation as a result of development of the VSE project without any requirement for an exclusion zone. An exclusion zone is not recommended as a mitigation requirement in the project, and any final determination of the use of one should be by the USCG. Given the depth and type of equipment used, it is assumed that any vessel with a draft or equipment deeper than 15 ft. would choose for their own safety not to navigate above the aquaculture equipment, similar to other underwater obstacles.</p>

4	General Comment		PCFFA	<p>The Draft Assessment's heavy reliance on Automatic Information Systems ("AIS") data is misplaced. AIS is an automated, autonomous maritime tracking system that:</p> <ol style="list-style-type: none"> <li>1. Provides vessel information, including the vessel's identity, type, position, course, speed, navigational status and other safety-related information automatically to appropriately equipped shore stations, other ships, and aircraft;</li> <li>2. Receives automatically such information from similarly fitted ships, monitors and tracks ships; and</li> <li>3. Exchanges data with shore-based facilities.</li> </ol> <p>We do not dispute the quality and nature of AIS data; but are concerned that reliance on AIS paints an incomplete picture of the amount and nature of vessel traffic in the project area. Since March 1, 2016 commercial fishing vessels, sixty-five feet in length or greater, are required to "have on board a properly installed, operational Coast Guard type-approved AIS Class A device." A vast majority of commercial fishing vessels based in local ports are less than 65 feet. Vessels 65 feet or larger are likely purse seine vessels whose fishing operations differ from other fishery operations. It bears noting not all purse seine vessels are 65 feet or greater, we estimate maybe one-half of the purse seine vessels in the market squid fishery would qualify.</p>	<p>The comment is well noted, and we do agree that AIS data does not give a complete picture of the amount of vessel traffic that may be occurring. That said, the study has addressed data gaps that exist outside of AIS data.</p> <p>Section 4.3.9 of the report details the large number of vessels (up to 450 per day) that leave and enter Ventura Harbor, and how they have been considered in the navigation risk assessment. This data was provided by the Ventura Harbor Harbormaster and covers all types of vessels, including commercial fishing vessels and recreational vessels.</p> <p>Other commercial and recreational fishing vessel information has been considered in Section 4.3.10 of the study report by using CDFW and VMS density figures provided by NOAA.</p>
5	General Comment		PCFFA	<p>We appreciate the inclusion of commercial and recreational fishing information in Section 4.3.10 of the Draft Assessment. However, we recommend the timeframe be extended beyond 2012-17. In 2014 - 15 it was The Blob and in 2016 a monster El Nino that wreaked havoc with fisheries based in the Southern California Bight. Going back to 2005 would better show the importance of the project area to commercial and recreational fisheries.</p>	<p>Figure 4-22 has been updated to show "Average pounds landed per year by block for 2010 - 2019", with data before this not being currently available to the project. We acknowledge your concern regarding 2014/15 and 2016 and have now provided a 10 year dataset to account for any annual variations in catch.</p>
6	Section	4.2	PCFFA	<p>We question reliance on historic data give the dramatic increase in vessel traffic between Ventura Harbor and the project area. Section 3.2 estimates an additional 3,000-6,000 trips, annually, to and from the project area. It is reasonably foreseeable the increase in the number of trips will dramatically increase the potential for allisions, collisions, grounding, material failure or sinking. With harvesting vessels expected to have fuel capacity of up to 500 gallons, the potential for environmental harm increases as well.</p>	<p>While we note that historical data should not be the main consideration of future vessel collision/allision risk, it is a useful to understand the baseline level of risk based upon current vessel numbers.</p> <p>While the 3,000 to 6,000 additional vessels per year is a large number on its own, it corresponds to 8-16 vessel trips per day. Considering an average of 200 daily trips in and out of Ventura Harbor it is a relatively small increase of approximately 4 to 8%. It has been reported in other project documents that this increase in vessel traffic will not cause any significant additional strain to the Harbor facilities or Harbor patrol.</p> <p>We acknowledge that any increase in vessel traffic will increase the risk of allision/collision; however, the study determined that this risk would still be low. The report section will be updated to clearly explain this.</p>
7	Section	4.3	PCFFA	<p>Because we question the reliance on AIS data, we believe much of the information contain in this section is not representative of what actually occurs on the water. We offer specific comments to address inconsistencies and provide suggestions for future iterations of the Draft Assessment.</p>	<p>Please refer to our response to Comment 4. While there are data gaps between AIS data and vessels that do not use AIS, that does not reduce the importance in understanding the risks associated with AIS equipped vessels. This section is primarily to introduce and discuss AIS equipped vessels, and to identify vessel routes that are frequently taken around the project site.</p>

8	Table	4.4	PCFFA	<p>Table 4.4 incorrectly states that "A self-propelled fishing industry vessel" is required to carry AIS. Fishing industry vessels which are otherwise required to possess AIS are allowed to use an AIS Class B device. Because only fishing industry vessels in excess of 65 feet are required to have AIS, the blanket statement in Table 4.4 is incorrect.</p> <p>Because AIS was not required until March of 2016, we question the value of data from 2013 and 2015 especially since it was compared to 2017 "to evaluate temporal trends in the vessel traffic" as shown in Section 4.3.6 – Long Term Trends in Traffic.</p> <p>This supports our contention above that reliance on AIS data is misplaced.</p>	<p>The Requirement became effective March 2nd, 2015 and those vessels that were not previously subject to AIS carriage must install AIS no later than March 1, 2016. According to § 164.46 Automatic Identification System (b)(2)(i) - AIS Class B device in lieu of an AIS Class A device is permissible on the following vessels: fishing industry vessels. This would apply to all fishing industry vessels greater than 65 feet. Class B devices transmit location at a different rate than Class A devices based on the vessel speed in knots.</p> <p><a href="https://www.navcen.uscg.gov/pdf/AIS_Comparison_By_Class.pdf">https://www.navcen.uscg.gov/pdf/AIS_Comparison_By_Class.pdf</a>. The statement in the report was not intended as a blanket statement and the report has been updated to clarify this.</p> <p>AIS data from 2013 and 2015 was only used to understand how vessel traffic has changed to 2017. Given that less vessels were required to use AIS during 2013/2016 than in 2017, this would suggest that the observed increased vessel traffic is conservative.</p> <p>As noted in Comment 4, the navigation risk study does not rely on only AIS data to make the assessment and to draw conclusions.</p>
9	Table	4.5	PCFFA	<p>Table 4.5 states that only 5 commercial fishing vessels crossed the shipping lanes to and from Ventura Harbor. During squid season, there can be upwards of 60 commercial fishing vessels based in Ventura Harbor (both purse seine and light boats) that frequent Anacapa, Santa Cruz and Santa Rose Islands; and necessarily cross the shipping lanes. That only 5 of them were identified as crossing the shipping lanes further bolsters our claims above.</p>	<p>This comment is duly noted, and we acknowledge that seasonal changes in squid locations and the squid fishing fleet mean that in any one year AIS data may not provide an accurate representation of maximum numbers of vessels that could occur, given that the fleet spend long periods of time away from the Harbor. This was considered in the report under Section 4.3.9, where we analyzed the total maximum vessels that may enter/leave Ventura Harbor on any given day in any given year including commercial and recreational vessels and squid fishing vessels.</p>
10	Section	4.3.7	PCFFA	<p>We applaud the Draft Assessment's consideration of the other local ports. Clearly Channel Islands and Santa Barbara Harbors and Port Hueneme are close enough in proximity that warrant consideration of traffic patterns from those locations.</p> <p>We disagree with the statement that "the majority of passenger vessel transits originat[e] from Port Hueneme." Port Hueneme has no facilities for loading and unloading of passengers. It is the only commercial deep-water port between Los Angeles and San Francisco and supports limited offloading of commercial fishing catch.</p>	<p>The referenced statement refers to "Passenger Vessel", which is the AIS vessel code. This includes supply and crew transfer passenger vessels that service the offshore oil platforms, and is not limited to recreational passenger vessels. The routes taken by these vessels can clearly be seen in Figure 4-17. The report will be updated to provide further clarification.</p>
11	Section	4.3.9	PCFFA	<p>We appreciate the author's acknowledgement of the data gap; but refer to the discussion above surrounding some of the assumptions made. For example, as noted above, a great majority of commercial fishing vessels based out of Ventura (and other local ports) do not have or use AIS. Many of these vessels travel far from shore in all different directions – including routes which will make it likely they will pass near the project site</p>	<p>Vessel traffic estimates are listed in section 4.3.9 and have been provided by the Ventura Harbor Harbormaster, who has decades of experience and operational knowledge in the area. These estimates include recreational and commercial fishing vessels that would both have and not have AIS. The report will be updated to clarify that, as per the observations from the Harbormaster, the identified AIS traffic routes (Section 4.3) are representative of the majority of vessels that enter/exit Ventura Harbor. These vessels, both with and without AIS, have been considered in this risk assessment. The vessel density information of Fishing Vessels identified in Figure 4-25 show that, even assuming a certain number of vessels are not captured by AIS, overall fishing vessel traffic through the project site is still relatively small.</p>

12	Section	4.3.10	PCFFA	<p>The first paragraph under Commercial Fishing indicates that Figure 4-22 "shows the estimated average commercial catch in millions of tons for 2012 – 2017." We assume the figure shows millions of pounds, not tons.</p> <p>Figure 4.23 shows "the average catch in short tons per CDFW microblock at a 1 nautical mile resolution." The legend indicates that catches in the micro blocks do not exceed 240 short tons in any of the areas. Based on our knowledge and experience in fishing squid in the area, this seems highly unlikely. How are areas where catch exceeded 240 st in a year denoted?</p> <p>Figure 4.24 shows Vessel Monitoring System (VMS) density for trawl fishery. I highly recommend reviewing National Marine Fisheries Service Policy Directive 06-101- Vessel Monitoring System Data Access and Dissemination Policy.</p> <p>PCFFA speaks for commercial fishing interests; as such, we are not qualified to address recreational and Commercial Passenger Fishing Vessel concerns.</p>	<p>Figure has been updated to show "Average pounds landed per year by block for 2010 – 2019".</p> <p>This data refers to the average catch over a 6 year period so, while there may have been years where the total catch was higher than 240 ST, the average catch in the area over this period was always less than 240 ST.</p> <p>The policy has been reviewed by NOAA and they have provided an updated figure with a coarser resolution that is consistent with the policy as the data was not transferred outside of NOAA, only map images.</p> <p style="text-align: center;">Noted</p>
13	Section	5.3	PCFFA	<p>We assume that Risk 1.2 covers instances where a commercial fishing vessel unintentionally and inadvertently drifts into the project area and becomes entangled. If a purse seine vessel drifts into the project area with its gear in the water, there is very much a likelihood the gear will entangle the facility. This would be based on a mechanical failure of the purse seine vessel's skiff or a sudden shift in wind and/or currents.</p>	<p>This risk was considered in the assessment and the risk related to entanglement was considered low. This conclusion was based upon the expected low number of vessels that have historically operated within and near the project site (based upon AIS and non-AIS information), the fact that most vessel have a draft less than 15ft and in the event of drifting vessels should have time to retrieve their nets, and that entanglement with a drifting vessel is not expected to have severe consequence (such as fatalities) because of the low drifting speed.</p>
14	Section	6	PCFFA	<p>We disagree with the conclusion "that the navigation risk level associated with the VSE project is low." We do not disagree with the analysis provided by the authors; however we do so because we do not believe enough valid data has been collected to make an informed conclusion. We base this on the discussions above regarding reliance on AIS data and the incomplete picture of fishing activity based on catch during a timeframe accompanied by severe anomalous ocean conditions.</p> <p>We also question the conclusion that the "risk of accidents caused by the presence of project is not expected to be significant." This is based on historic accident statistics. As noted above, we question how relevant historical statistics will be when the project will result in an additional 3,000 – 6,000 trips between Ventura Harbor and the project area.</p>	<p>As described in the above responses to comments, the risk assessment considers both AIS and non-AIS vessel traffic, with the non-AIS traffic numbers being based upon estimates from the Ventura Harbor Harbormaster. Traffic routes were assessed using AIS data, and are considered generally representative of all vessels that enter/exit Ventura Harbor. All available other verifiable data sources have been considered in this study, and based upon this we consider the overall navigation risk to be low. This assumes that once the project is operational, any vessel with a draft deeper than 15ft or trawling with nets that are below 15ft would stay a safe distance from the project site, as determined by the vessel's captain based upon the weather conditions at that time. This analysis will be updated in the report.</p> <p style="text-align: center;">Please refer to our response to Comment 8.</p>

15	General Comment		<p>When the Coastal Commission considered the KZO Sea Farms ' proposal to install and operate a 100-acre shellfish aquaculture facility offshore of Long Beach a condition was added included which addressed potential unintentional interactions between commercial and recreational fishing vessels and the facility.</p> <p>"PRIOR TO COMMENCEMENT OF CONSTRUCTION, KZO shall submit for Executive Director review and approval, a Lost/Damaged Fishing Gear Compensation Plan that outlines the steps that would be taken by KZO to address any adverse impacts to commercial or recreational fishing operations that may result from the loss and/or damage of fishing gear or catch due to contact or entanglement with the shellfish cultivation facility or associated infrastructure. No construction shall commence until the Executive Director has approved the Lost/Damaged Fishing Gear Compensation Plan." To mitigate against this risk, it is essential that a similar requirement be incorporated for the VSE project.</p>	<p>The use of a 'Lost/Damaged Fishing Gear Compensation Plan' will not directly mitigate any risks associated with navigation safety, and therefore is considered outside the scope of this study. Please refer this comment directly to the Ventura Port District.</p>
16	General Comment		<p>To mitigate against the increased risk of ship-ship collisions resulting from the increased amount of traffic, VSE needs to assure that all vessels servicing the leased facilities have adequate insurance to cover all foreseeable incidents. VSE should be required to post a bond in an amount sufficient to ensure foreseeable damages are available.</p>	<p>Adequate insurance coverage will not directly mitigate any risks associated with navigation, and therefore is considered outside the scope of this study. Please refer this comment directly to the Ventura Port District.</p>