



# Oregon

Kate Brown, Governor

Agenda Item E.1.a  
Supplemental ODFW Report 1  
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## Department of Fish and Wildlife

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### **RE: ODFW Comments on OROWindMap Fishery Data Layers**

The Oregon Department of Fish and Wildlife (ODFW) has been following the Bureau of Ocean Energy management (BOEM) and state of Oregon planning effort to gather data and engage stakeholders relevant to potential future offshore wind development. ODFW staff have participated in several informational workshops and webinars in recent months to learn about the development of the data portal, OROWindMap, created to display data relevant to this effort. ODFW provided preliminary recommendations for fishery map layers to the Department of Land Conservation and Development (DLCD) on June 15, 2021, which were developed with the understanding that we would be involved in a data review working group proposed to convene summer 2021 to perform a thorough review of the data catalog. During workshops held August 4 and 11, 2021, BOEM and DLCD presented information about OROWindMap and ODFW staff learned that the data review working group would not convene and instead the workshop would be followed by a two-week period to provide written comments. To meet the two-week comment period, ODFW Marine Resources Program staff reviewed OROWindMap fishery layers available in OROWindMap as of August 2, 2021, and developed the comments listed below. Our comments build on preliminary recommendations submitted previously and constitute our response to the information presented at the workshops, including an expectation that additional data review and engagement will be ongoing throughout the process as BOEM assesses the study area to identify potential call areas for future offshore wind (OSW) leasing off Oregon. Comments below are divided into general comments that apply to multiple layers, and comments on individual fishery data layers.

## General Comments on Fishery Layers

**1) Variable quality of layers** - The fishery layers vary in accuracy. For example, the National Oceanic and Atmospheric Administration (NOAA) bottom trawl layers appear to provide an accurate depiction of fishing locations while some of the Ecotrust layers appear to inaccurately depict fishing areas. In addition, some of the layers, such as Non-Catch Shares Hook and Line, clearly state cautions for their use in their metadata:

*“Because all fishing operations are not observed, neither the maps nor the data can be used to characterize the fishery completely. We urge caution when utilizing these data due to the complexity of groundfish management and fleet harvest dynamics.”*

While any compilation of spatial data layers from disparate sources will likely vary in their quality, we need to carefully consider how and whether to use the layers for offshore wind planning and siting. Some layers may not be appropriate for use in OROWindMap; specific recommendations are below.

**2) Missing fisheries** - Several fisheries are not represented in the OROWindMap layers. BOEM acknowledged the existence of data gaps at the August 11 workshop and expressed an intent to work with NOAA, Pacific States Marine Fisheries Commission (PSMFC), and ODFW on a solution. We understand that NOAA plans to eventually develop data that will fill many of the gaps, but the timeline for that project is unclear and we are concerned that the data won't be available prior to the development of draft call areas. ODFW may be able to help fill some of these gaps in a shorter timeframe.

Missing fisheries are listed below with recommended data sources.

- a. Nearshore groundfish – ODFW Nearshore logbook data could be analyzed to estimate the spatial distribution of the fishery.
- b. Tuna – recommend using National Marine Fisheries Service (NMFS)-required logbooks, if data are available, for commercial or recreational charter tuna fishing. Highly migratory species (HMS) charter logbook data should also be used to show where this fleet operates.
- c. Coastal Pelagic Species (CPS) – ODFW collects fishery logbook data for CPS fisheries that land their catch in Oregon. These logbook data include locations for each set made by a vessel that uses seine gear. Data for the sardine fishery (2000 – 2015, directed commercial fishery closed coastwide since 2015) and for the market squid fishery (2016 to present, no landings in 2018) could be analyzed to estimate the spatial distribution and extent of these fisheries. However, it would require additional work before these datasets would be suitable for analysis and use.
- d. Directed Pacific Halibut fishery – recommend using International Pacific Halibut Commission (IPHC) logbooks, if data are available.
- e. Pink Shrimp – ODFW pink shrimp fishery logbook data could be analyzed to estimate the spatial distribution of the fishery. Also see comment #23.
- f. Spot prawn – ODFW spot prawn fishery logbook data could be analyzed to estimate the spatial distribution of the fishery.
- g. Hagfish - ODFW hagfish fishery logbook data could be analyzed to estimate the spatial distribution of the fishery.
- h. Recreational crab - ODFW collects recreational crabbing catch and effort data in selected estuaries.
- i. Salmon Troll - data source not yet identified.

- j. Ocean recreational bottomfish, halibut, tuna, crab, and salmon - ODFW's Ocean Recreational Boat Survey (ORBS), collects data on location fished by "reef", which would give a general idea of marine areas fished.

**3) Ecotrust layers** - During the August 11, 2021, workshop, Ecotrust provided an overview of the process used to develop these fishery layers in 2009-2010. In addition to comments on the individual Ecotrust layers provided later in this document, there are some overarching issues that we should carefully consider to determine the appropriate use of these data in OROWindMap:

- a. The data are now over 10 years old and may not provide an accurate representation of current fishery spatial distribution.
- b. These data were generated for territorial sea planning and may be skewed more toward expression of nearshore areas of importance. Most of the layers seem to underrepresent fisheries that occur on the outer shelf and slope (the prime area for potential future wind energy development). Similarly, layers that depict inner shelf fisheries, such as Dungeness crab, seem to underrepresent the offshore component of those fisheries.
- c. It is not possible to review the accuracy of layers that combine more than one fishery per layer without the ability to separate out the individual fisheries. It is difficult to determine how each fishery influences the combined depiction of fishing "hot spots". The ports have different combinations of fisheries combined into the layers, making them difficult to compare our use as a group. Some fisheries were not covered by Ecotrust during the interviews as described by Ecotrust at the August 11 workshop. The data have value in what they represent but need better definition to convey what they do not represent.

For these reasons, we recommend follow up discussion to carefully consider which Ecotrust Layers are most appropriate for use in OROWindMap.

**4) Large regulatory change in 2020** - The existing OROWindMap layers are all based on data from prior to 2020. In 2020 there was a significant change in the application of the Rockfish Conservation Area (RCA) in Oregon, resulting in opening up areas that were closed to certain fisheries during the time periods currently depicted in many of the layers. This has and will continue to result in significant changes to fishing spatial patterns, especially in bottom trawl fisheries. These recently opened areas represent depths and locations that could be of interest to offshore wind energy developers, and would appear as unfished or lightly-fished areas if we were to rely only on the existing OROWindMap data layers. This change in fishing patterns needs to be represented in the offshore wind energy planning process. The first step would be to update layers with data from 2020 and later. Additionally, the recently-opened RCA areas have not been open long enough to be fully re-occupied by fisheries. While recent data will show some new fishing areas, it will not likely depict all of the areas that will be fished in the future. It would be useful to develop a layer that shows the recently-reopened RCA areas and label them as potential future fishing areas. It would be essential to involve fishermen familiar with these areas in the development of this map layer.

**5) Bring layers up to date** - The most recent data in the layers derived from logbooks or observer data is from 2017. More recent data exists for these layers and efforts should be made to incorporate the most recent data.

**6) Map layers based on Vessel Monitoring System (VMS) data** - BOEM is currently developing maps of fishery distribution based on VMS data. ODFW has been working with Frank Pendleton, BOEM, since April 2021 to provide input on these maps, and provided written comments on early drafts of the maps to Frank on 5/25/2021. In general, VMS data provide an adequate representation for those fisheries where all vessels in the fleet have full VMS requirements. However, many fisheries do not have full representation with VMS such as Dungeness crab, salmon troll, tuna, nearshore groundfish, shrimp, urchin, hagfish, CPS species and others. VMS may not fully represent these fisheries. We will continue to work with BOEM and others as VMS map layers are developed and will provide further comments as these layers are incorporated into OROWindMap.

**7) Need to include fishermen in the process** - Fishermen are the foremost experts on fishing locations and the nuances of how offshore development might impact fishing and their fishing businesses. Fishermen representing all fishing sectors need to be included in map review and all steps in the Offshore wind energy planning and siting process. ODFW supports efforts by BOEM and DLCD conducted thus far to engage fishing participants and groups and encourages continuation of these efforts to be transparent about the planning process and compile thorough input coverage of all fishing sectors from all Oregon ports and coastal communities.

**8) Some layer titles may not be meaningful to most of the OROWindMap audience** - Layer titles that use phrases such as “catch share” and “limited entry” would only be meaningful to a fishery manager or participant. More descriptive names should be developed, or the information box should clearly describe these fisheries.

**9) Use of OROWindMap layers in offshore wind planning** - The process for using map layers and other data in developing offshore wind call areas has not been described. We have a number of questions, such as: which layers will be used in the process, will some data be weighted more than others, will there be some sort of scoring system developed to differentiate degrees of potential conflict, what data in addition to the layers will be brought into the process, will stakeholder advice be brought into the process. Without an understanding of this downstream process, our ability to comment on the appropriateness or completeness of the map layers is limited.

**10) Future updates of OROWindMap** - It would be useful to convey expected procedures for maintaining the portal and updating data layers in the future.

**11) Balance of offshore, nearshore, and onshore data** - An element of the BOEM Oregon Taskforce approach to planning for offshore wind development is the need to incorporate equal consideration of lands and waters under state jurisdiction. In its current form, OROWindMap provides some but not all relevant data to inform analysis of areas appropriate for transmission cables and onshore facilities. It is important to provide all the best available data to support equal consideration of nearshore and coastal resources and uses in the siting of potential offshore call areas. BOEM expressed on the August 11<sup>th</sup> workshop that the current focus is offshore for siting of call areas and that the appropriate time to consider cable routing and impacts would be once there is a proposed project. This concerns us this because the siting of call areas will direct where future projects and related infrastructure may be proposed, and careful consideration of cable routes and landing sites must be part of the siting of call areas to ensure that an offshore site best suited for OSW energy development also provides a suitable

cable route with minimal impacts. Identifying call areas without considering the nearshore and onshore cable and facility needs could put the state in a position of selecting between undesirable options for nearshore and onshore ecological and human use concerns.

### **Comments on Individual OROWindMap Fishery Layers**

**1) AIS vessel transit counts: fishing; Marine traffic fishing by aliquot AIS 2017; Marine traffic fishing (high traffic) by aliquot AIS 2017** - The Automatic Identification System (AIS) system gives an excellent record of vessel locations for the component of the fleet that is required to have the AIS system. Fishing vessels under 65 feet in length are generally not required to have AIS. Some smaller vessels have AIS, but the proportion using the system is unknown. Over 80% of Oregon's commercial fishing fleet consists of boats under 65 feet in length and virtually all recreational fishing boats are under 65 feet. It is unlikely that the AIS data represent these smaller vessels. Data to compliment AIS vessel transit count layers should be identified to fill this data gap. We also recommend that the AIS layer metadata emphasize what the data does and does not cover.

**2) Astoria all fishing sectors fisheries uses and values grid, Ecotrust, 2010** - See general comment 3.c. about Ecotrust maps that combine fishing sectors.

**3) Commercial Dungeness crab fishery uses and values grid, Ecotrust, 2010** - The comments listed below apply to all of the Ecotrust commercial Dungeness crab fishery layers in OROWindMap. (Astoria, Brookings, Gold Beach, Depot Bay, Florence, Newport, Port Orford, Tillamook, Garibaldi, Southern Oregon Ocean Resource Coalition (SOORC), Statewide):

a. The layers appear to reflect commercial crabbing hotspots reasonably well when compared to crab fishery logbook data, although the overall footprint and use of deeper waters in recent seasons of the fishery appears to be underrepresented. When compared to maps based on Dungeness crab logbook data from the 2012-13 through 2017-18 crab seasons the overall western extent of the crab fishery footprint and relative hotspots off the northern and southern coast appears underrepresented. This appears to be the case with all layers except Garibaldi. ODFW logbook data shows that in recent years (since 15-16 season) the fishery has had a noticeable shift to deeper waters.

b. The statewide layer appears to significantly reduce the footprint of the fishery in all areas when compared to the separated port area Ecotrust maps, except for the Newport and Garibaldi layers which appear to match almost exactly.

c. It is unclear how all of these layers by port can be used in combination or if doing so overestimates use in some areas. There are two specific issues of concern: 1) The Garibaldi layer has a significantly larger footprint than all of the rest of the port layers, which seems strange as Garibaldi is one of the smaller crab ports and 2) Florence and Depoe Bay have standalone layers, although very little crab is landed into Depoe Bay and essentially none into Florence. The SOORC layer encompasses the vast majority of the Florence layer.

d. ODFW has commercial crab logbook data from the 2007-08 through 2018-19 commercial crab seasons, which is considerably more recent than these Ecotrust fishery maps. Logbook data is

useable for spatial analysis at this time and could be used to better estimate the spatial distribution of the fishery.

**4) At-sea midwater trawl catcher-processor intensity, 2002-2017** - This layer appears accurate based on our understanding of where this activity occurs, but our biologists do not receive logbook data from this fishery so we have no separate data to compare with the layer.

**5) At-sea midwater trawl mothership intensity, 2002-2017** - This layer appears accurate based on our understanding of where this activity occurs, but our biologists do not receive logbook data from this fishery so we have no separate data to compare with the layer.

**6) Brookings, Gold Beach all fishing sectors fisheries uses and values grid, Ecotrust, 2010** - Offshore tuna seems to be underrepresented. Also see general comment 3.c. about Ecotrust maps that combine fishing sectors.

**7) Catch shares bottom trawl intensity, 2011-2017** - Overall, this layer appears accurate for the timeframes and conveys some of the historic nearshore trawling extent. There were many more small vessels trawling in the mid-2000's that fished nearshore areas. Note that the layer does not show fishing in the RCA areas, which opened to trawling in 2020 (see general comment 4).

In addition, we recommend data mapped by ODFW in 2020 for the Oregon Trawl Commission be added to OROWindMap. These data depict Oregon bottom trawl fishing effort in tow-hours derived from logbook data analyzed using kernel density estimation to create a heatmap of activity spanning 2011-2019. Logbook data used in this analysis was only from fishing trips that landed catch into Oregon, not into other states or onto motherships.

**8) Catch shares hook-and-line intensity, 2011-2017** - This fishery consists of a small fleet. Although the layer appears accurate, fishing areas are likely to be variable from year to year because there are so few vessels that fall into this category. Data should be updated now and in the future to reflect changes in areas used by this fleet.

**9) Catch shares pot intensity; non catch shares pot intensity** - There appears to be a large decrease in size of the fishing areas between the 2011-2015 and the 2016-2017 layers, especially on the south coast. Based on our understanding of where this activity occurs, this apparent decrease may not be accurate. In addition, there is a significant hot spot just north of Cape Blanco/ Bandon High Spot area, that doesn't show up on the OROWindMap layer but does show up somewhat on maps based on Vessel Monitoring System (VMS) data that BOEM is currently developing.

**10) Depoe Bay all fishing sectors fisheries uses and values grid, Ecotrust, 2010** - This appears fairly accurate, with the bulk of fishing on Siletz Reef and Lincoln City. The southern points appear to be recreational salmon/ halibut, but it is not possible to discern due to the combined nature of the maps.

**11) Florence all fishing sectors fisheries uses and values grid, Ecotrust, 2010** - In multiple ways, this layer appears to be inaccurate or incomplete in its representation. The total fishing area appears quite large for the small fleet from Florence, but it does seem to highlight crab and salmon troll fisheries. The fishing location off the Columbia seems too distant for the fleet. Tuna doesn't appear to be represented.

**12) Limited entry bottom trawl intensity, 2002-2010** - This appears accurate for the two timeframes shown. This layer shows historic nearshore trawling which still exists but is less prevalent in the current fishery.

**13) Newport all fishing sectors fisheries uses and values grid, Ecotrust, 2010** - The trawl, deepwater sablefish fishery (pot and longline), and tuna fisheries appear underrepresented on this layer.

**14) Non catch shares hook-and-line intensity; non catch shares pot intensity -**

- a. The fishing areas represented appear incomplete, especially for hook-and-line. The data source states: *“Because all fishing operations are not observed, neither the maps nor the data can be used to characterize the fishery completely. We urge caution when utilizing these data due to the complexity of groundfish management and fleet harvest dynamics.”* The layers are based on data from the West Coast Observer Program, which does not have 100% coverage for these fisheries.
- b. There is a large area from Government Point to Tillamook head that is actively fished and does not show up on the layer. This area is in logbook data and on maps based on VMS data that BOEM is currently developing.
- c. The Oregon Fixed Gear logbook data may provide a more complete data source. It is required for any fisher landing into Oregon. It still may not be 100% complete because Washington vessels could fish in Oregon waters and land into Washington, where there is no fixed gear logbook requirement. The same may be true for California.
- d. IPHC logbooks could provide another data source for hook-and-line; they are required by law in all states for the Pacific Halibut fishery.
- e. The nearshore hook and line fishery is missing from the layer. The Oregon Nearshore Logbook, which is required by state law, could provide additional data for this fishery.
- f. The hagfish fishery appears to be missing from this layer, including notable omissions from Depoe Bay to Cascade Head, the north coast, and Newport.

**15) Port Orford all fishing sectors fisheries uses and values grid, Ecotrust, 2010** - See general comment 3.c. about Ecotrust maps that combine fishing sectors.

**16) Shoreside Midwater trawl for hake intensity, Shoreside Midwater trawl for rockfish intensity -** These layers appear accurate based on our understanding of where this activity occurs. During the 2015 marine heatwave, hake fishing was very slow and spread out in July and August as the layer shows for the 2011 – 2015 layer.

The source data description appears to have an error (see bold text). Either this statement below has a typo or they incorrectly used at-sea processed trawl data to depict the shoreside fishery:

“This data layer depicts the relative intensity of fishing effort for shoreside processed commercial midwater rockfish off the U.S. West Coast from 1 Jan 2011 to  
</SPAN><SPAN><SPAN>31 Dec 2015. **Records of at-sea processed** midwater trawl tows

were compiled from observer records from the West Coast Groundfish Observer Program (WCGOP) and the electronic monitoring program coordinated by the Pacific States Marine Fisheries Commission (PSMFC).”

In addition, we recommend data mapped by ODFW in 2020 for the Oregon Trawl Commission be added to OROWindMap. These data depict Oregon mid-water trawl fishing effort in tow-hours derived from logbook data analyzed using kernel density estimation to create a heatmap of activity spanning 2011-2019. Logbook data used in this analysis was only from fishing trips that landed catch into Oregon, not into other states or onto motherships

**17) SOORC commercial fisheries uses and values grid, Ecotrust, 2010** - See general comment 3.c. about Ecotrust maps that combine fishing sectors.

**18) Statewide all sectors commercial fisheries uses and values, Ecotrust, 2010** – The title of this layer implies that it shows all commercial fisheries combined. The data are skewed toward fisheries that occur in the nearshore and shelf and underrepresent some major Oregon fisheries. For example, there is very little overlap between this layer and the major bottom and midwater trawl fisheries shown in other OROWindMap layers. We recommend that this layer not be used in making offshore wind energy siting decisions.

**19) West coast fishing ethnography** - This layer appears to show the maximum spatial extent of various fishing sectors. The layer is not useful in its current format with all the fishing sectors combined onto one layer. The data would be useful to the offshore wind energy process if each fishing sector was displayed on a separate layer.

**20) Additional dataset - Commercial Groundfish Fishing Pressures** - As part of the Council’s periodic Groundfish Essential Fish Habitat (EFH) Review (2013), NMFS summarized commercial fishing effort (2002-2010) coastwide for six focal species to represent ecologically distinct groups within the groundfish fishery. The species are petrale sole, darkblotched rockfish, yelloweye rockfish, sablefish, longspine thornyhead, and greenstriped rockfish.

The geographic information system (GIS) data package provides several summary layers, including cumulative fishing effort, habitat weighted cumulative fishing effort, and spatial-temporal change for each of the three major gear sectors (bottom trawl, midwater trawl and fixed gear). The spatial-temporal change layer is particularly informative as it illustrates historically important fishing areas not currently fished (primarily due to species/gear regulations) but that could be of great interest to the fleet in the future as regulations change. These historical fishing areas also represent ecological importance and should be considered from this perspective as well in evaluating Call Areas and Lease Areas. Data development, analysis and metadata are documented in the NMFS synthesis report (Chapter 4). We recommend adding these layers to OROWindMap from the link provided to Andy Lanier, DLCD, on July 9. The NOAA report and data layers “Phase2\_Species-Habitat\_MapPackage.mpk” are also available to BOEM and DLCD for direct download from a NOAA Google Drive account upon request. Contact: Curt Whitmire, [curt.whitmire@noaa.gov](mailto:curt.whitmire@noaa.gov).

**21) Additional dataset(s)** - As noted in previous August 18<sup>th</sup> comments on rockfish conservation area lines, there are additional spatial fishing regulations for fisheries other than groundfish bottom trawl



(e.g., non-trawl RCA (e.g., longline, pots, traps), bottom area closures, sport groundfish, halibut, salmon) that should be represented in OROWindMap. Including spatial regulations in OROWindMap will help explain current and past fishing effort and the economic value of areas when assessing potential impacts on fishing and fisheries from potential OSW development. These data will also inform estimates of future value of those areas as regulations change in the future. BOEM should consult with the fishing representatives for additional input regarding this layer. Contact NOAA GIS Specialist, Renee Eaton [renee.eaton@noaa.gov](mailto:renee.eaton@noaa.gov).

**22) Additional dataset(s)** – Data housed at NMFS Northwest Fishery Science Center (NWFSC) Fishery Resource Analysis and Monitoring (FRAM) data warehouse include abundant biological data on various species of groundfish based on numerous NMFS surveys and research projects. Some of these data may be useful in depicting species distributions. To the extent these data have not been covered by your gathering efforts to date, we recommend you investigate the data catalog and incorporate layers with coverage off Oregon into OROWindMap. <https://www.webapps.nwfsc.noaa.gov/data/map>

**23) Additional dataset** – Shrimp trawl is not currently represented on OROWindMap, constituting a data gap in our list of missing fisheries (see general comment 2.e. above). We recommend that data mapped by ODFW in 2020 for the Oregon Trawl Commission be added to OROWindMap. These data depict Oregon shrimp trawl fishing effort in tow-hours derived from logbook data analyzed using kernel density estimation to create a heatmap of activity spanning 2009-2018. Logbook data used in this analysis shows fishing activity conducted off of parts of Washington, Oregon and California but was only from fishing trips that landed catch into Oregon.

We wish to continue to partner with you to improve the data in OROWindMap based on these recommendations, to engage in opportunities to provide input in this process throughout fall and winter, and to participate in the BOEM Oregon Taskforce to express ways in which to minimize potential impacts during appropriate siting of OSW call areas and related nearshore and onshore infrastructure. We request that these comments be given serious consideration and that if any of the recommendations will not be applied that BOEM and DLCD contact us to discuss and determine if an alternative recommendation could be developed to accomplish our objectives of representing resources and uses with the best available data, responsible siting of areas for potential future OSW development, and minimizing potential impacts. Thank you for the opportunity to comment, and please contact me with questions or follow up discussion at [David.s.fox@odfw.oregon.gov](mailto:David.s.fox@odfw.oregon.gov) or 541.857.2533.

Sincerely,



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