



## Pacific Fishery Management Council

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Brad Pettinger, Chair | Merrick J. Burden, Executive Director

April 22, 2024

California Energy Commission  
715 P Street  
Sacramento, California 95814

Re: California Energy Commission Docket Number 17-MISC-01; AB 525 Draft Strategic Plan

To Whom It May Concern:

The Pacific Fishery Management Council (Council) appreciates the opportunity to comment on the *California Energy Commission's Draft Commission Report – Assembly Bill 525 Offshore Wind Strategic Plan* (Draft Plan). We offer overarching comments on Council authorities, the Draft Plan process, on habitats and the marine ecosystem, and the health and well-being of coastal communities. We also provide specific comments on Chapter 4 (Potential Impacts of Offshore Wind (OSW) and Avoidance/Minimization/Mitigation Strategies), Chapter 5 (Suitable Sea Space), Chapter 6 (Port and Waterfront Infrastructure), and Chapter 8 (Transmission Technology and Alternatives Assessment).

### **Background**

The Council has fisheries management jurisdiction in Federal waters for marine and anadromous species off the U.S West Coast and manages well over 100 species under its four fishery management plans (FMPs). This includes responsibilities for protecting the marine ecosystem, the habitats upon which healthy fisheries depend, and the well-being of coastal communities. The Council is composed of state and Federal government representatives, a Tribal representative, and appointed citizens. The Magnuson-Stevens Fishery Conservation and Management Act (MSA) guides much of the Council's actions. The Council also must adhere to the Endangered Species Act, Marine Mammal Protection Act, and the 10 MSA National Standards. Additional background on the Council's mandates is described below.

In addition to the four FMPs, the Council's non-regulatory Fishery Ecosystem Plan (FEP) helps the Council incorporate ecosystem science into its fishery management decisions. The FEP includes a vision statement that captures the Council's broader approach: *The Council envisions a thriving and resilient California Current Ecosystem that continues to provide benefits to current*

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*and future generations and supports livelihoods, fishing opportunities, and cultural practices that contribute to the well-being of fishing communities and the nation<sup>1</sup>.*

## **General Comments**

The Council acknowledges the detail and scope of the Draft Plan and appreciates it being clearly described as a living document that is adaptable to new information and changing circumstances. Among the findings and declarations included in Assembly Bill 525 (AB 525), we highlight two that should be considered when finalizing the Draft Plan:

- The California Ocean Protection Council’s strategic plan for 2020 to 2025 sets an objective for development of a commercial scale offshore wind energy project in California that minimizes impacts on marine biodiversity and habitat, currents and upwelling, fishing, cultural resources, navigation, aesthetics and visual appeal, and military operations by 2026.
- Offshore wind should be developed in a manner that protects coastal and marine ecosystems. The State of California should use its authority under state programs and policies to ensure (1) avoidance, minimization, and mitigation of significant adverse impacts, and (2) monitoring and adaptive management for offshore wind projects and their associated infrastructure.

These two findings and declarations reinforce several precautionary comments in the Draft Plan about the lack of information and uncertainty regarding the potential impacts on the marine environment from floating OSW installations. Gathering appropriate information to lessen uncertainty surrounding potential impacts to the marine environment and fisheries should be prioritized in order to advance responsible development of OSW. The Council recently submitted a comment letter on the *Bureau of Ocean Energy Management’s Notice of Intent to Prepare a Programmatic Environmental Impact Statement for Future Floating Wind Energy Development Related to 2023 Leased Areas Offshore California*<sup>2</sup>, highlighting many of the Council’s concerns regarding uncertainty, data gaps, and the need to develop baseline information for OSW planning purposes. That letter is incorporated by reference.

The Draft Plan is limited to OSW developments in Federal waters offshore California. Lease sales are also planned in the Brookings and Coos Bay Wind Energy Areas (WEAs) off Oregon later this year and there are two unsolicited lease requests submitted to the Bureau of Ocean Energy Management (BOEM) to develop OSW facilities off the coast of Washington<sup>3</sup>. The Council remains concerned about the lack of a holistic planning process that considers the cumulative impacts to the marine environment, the California Current Ecosystem, marine resources, fisheries and fishing communities from ALL planned or foreseeable future OSW developments off the West

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<sup>1</sup> [Pacific Coast Fishery Ecosystem Plan, For the US Portion of the California Current Large Marine Ecosystem \(March 2022\)](#) - page 1

<sup>2</sup> See - <https://www.pcouncil.org/documents/2024/02/february-2024-letter-to-boem-re-the-notice-of-intent-to-prepare-a-programmatic-environmental-impact-statement-to-analyze-impacts-of-floating-offshore-wind-energy-development-on-the-five-leased-areas.pdf/>

<sup>3</sup> Hecate/Cascadia Wind and Olympic Wind which, in total, cover roughly 700 sq miles.

Coast. As the California Energy Commission (CEC) works to finalize the Strategic Plan, it should consider potential long-term cumulative impacts.

### **Habitats and the Marine Ecosystem**

The MSA requires the Council and National Marine Fisheries Service (NMFS) to identify and describe essential fish habitat (EFH), defined as “*those waters and substrate necessary to fish for the spawning, breeding, feeding, or growth to maturity*”<sup>4</sup> for fish species managed under an FMP. The MSA further requires Councils to minimize to the extent practicable adverse effects on such habitat caused by fishing and non-fishing activities, and to identify other actions to encourage the conservation and enhancement of such habitat. The EFH regulatory guidance (50 CFR 600.815) states that FMPs should identify Habitat Areas of Particular Concern (HAPCs), which are a subset of EFH designed to highlight habitats based on one or more of the following considerations: the importance of the ecological function provided by the habitat; the extent to which the habitat is sensitive to human-induced environmental degradation; whether, and to what extent, development activities are, or will be, stressing the habitat type; and the rarity of the habitat type. Page 95 of the Draft Plan Volume II (Main Report) includes descriptions of HAPCs and describes EFH for groundfish. Detailed descriptions of these habitats and their use by groundfish species can be found in Appendix B Part 2 of the Council’s Pacific Coast Groundfish FMP. As required by the MSA, the Council identified actions that could adversely affect the EFH of FMP species and has designated numerous spatially discrete EFH Conservation Areas (EFHCA) to protect sensitive or important habitats from certain types of bottom-contact fishing gear. We note that HAPCs for salmon include marine and estuarine submerged aquatic vegetation, estuaries, spawning habitat, complex channels, floodplain habitats, and thermal refugia, all of which could potentially be impacted by OSW-related development. There are no EFHCAs associated with salmon HAPCs, but easements for cable routes or other OSW infrastructure could affect salmon HAPCs and other important habitats.

EFH, HAPCs, and EFHCAs are designated in many areas off the California Coast and are noted in the Draft Plan Volume III (Appendices). In numerous places, the Draft Plan and Appendices state that certain activities should avoid HAPCs or other sensitive habitats. However, EFHCAs are not consistently mentioned as areas to be avoided. Therefore, the Council recommends that EFHCAs be included as areas to avoid throughout the Draft Plan along with HAPCs and/or other sensitive habitats. Further, EFHCAs should be well-buffered when considering suitable sea space, transmission corridors, and other OSW-related activities and planning. **The Council recommends** close coordination between NMFS, the Council, and appropriate Federal and state agencies as it relates to potential impacts and any required consultations regarding EFH.

The Draft Plan acknowledges concerns expressed by Northwest Native American tribes, the Council<sup>5</sup>, and others, that offshore wind may affect oceanographic conditions off the coast of California and could affect upwelling, larval transport, ecosystem function, and ultimately the health of fish stocks. We are also concerned about the scope and severity of potential impacts to habitats, the marine environment, the California Current Ecosystem, marine resources, protected

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<sup>4</sup> 16 U.S.C 1802(10)

<sup>5</sup> Pacific Council [comment letter](#) to BOEM, February 20, 2024.

species, fisheries and fishing communities, sea birds, safety-at-sea, etc. Acquiring knowledge through science to quantify and qualify these potential impacts should be prioritized.

### **National Standard 8**

Marine fisheries governed by the MSA are scientifically monitored, regionally managed, and legally enforced under a number of requirements, including 10 national standards. National Standard (NS) 8 contemplates the well-being of fishing communities. It states, in part, that conservation and management measures shall take into account the importance of fishery resources to fishing communities in order to (a) provide for the sustained participation of such communities, and (b) to the extent practicable, minimize adverse economic impacts on such communities<sup>6</sup>. While NS 8 applies to actions proposed under the MSA, the Council considers the well-being of fishing communities to be integral to healthy fisheries and fishery resources. Therefore, we apply that philosophy to all activities that may affect fishing communities.

### **Chapter 4 - Potential Impacts of OSW and Avoidance, Minimization, and Mitigation Strategies**

The Draft Plan accurately states that defining potential impacts is challenging, given the lack of existing floating OSW facilities in general, as well as the size and scale of those envisioned off the coast of California, and the west coast generally.

The Council acknowledges Senate Bill (SB) 286, which established the California Offshore Wind Energy Fisheries Working Group to develop “a statewide strategy for ensuring that offshore wind energy projects avoid and minimize impacts to ocean fisheries to the maximum extent possible, avoid, minimize, and mitigate impacts to fishing and fisheries in a manner that prioritizes fishery productivity, viability, and long-term resilience, and fairly and reasonably compensate persons engaged in the commercial and recreational fishing industries and tribal fisheries for economic impacts to ocean fisheries resulting from offshore wind energy projects.”<sup>7</sup>

The Council supports incorporation of the SB 286 requirements into the Final version of the CEC’s Strategic Plan. SB 286 requires the statewide strategy to address impact avoidance, minimization, and mitigation to the maximum extent possible in a manner that prioritizes fishery productivity, viability, and long-term resilience; and for those impacts which cannot be avoided, minimized, or mitigated, provide reasonable compensation.

When identifying potential impacts, the Draft Plan draws inferences regarding the types of impacts “that may occur from the development and operation of an offshore wind project” based, in part, on the experience of projects elsewhere. It is important to note that there are no floating OSW facilities anywhere that come close to the size and scale being proposed off the California coast. As such, there is no basis to measure the reasonableness or appropriateness of some inferences. This is particularly true for identifying potential impacts to fisheries. The anticipated design of a floating OSW farm is not analogous to that for an OSW farm using foundations embedded into the

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<sup>6</sup> 16 U.S.C. §1851(a)(8).

<sup>7</sup> Public Resources Code §30616(b)

sea floor. Interarray cables suspended in the water column will functionally bar certain types of fishing gear from operating in those areas.

The Draft Plan, when discussing marine mammal entanglements<sup>8</sup>, should account for potential changes in migratory patterns of marine mammals and other protected species that may result from underwater noise associated with the various phases of OSW development. These changes could directly impact the State's Dungeness crab fishery and potentially other fixed gear trap fisheries that operate offshore California, such as hagfish, sablefish, and other crab fisheries that are managed to minimize the risk of entanglements. Already, a Take Reduction Team is being formed to address the sablefish pot gear fishery and its risk of whale entanglements. Changes in marine mammal feeding and migration patterns due to OSW testing and development could result in fisheries time and area closures to minimize the risk of entanglements.

The Draft Plan, when discussing oil spills<sup>9</sup>, needs to account for potential release of pollutants from the turbines and offshore substations. Each turbine and substation will contain significant amounts of oil and other pollutants.<sup>10</sup>

## **Chapter 5 – Identification of Suitable Sea Space**

AB 525 requires the CEC, in coordination with other State Agencies, to work with stakeholders, other state, local, and Federal agencies, and the OSW energy industry to identify suitable sea space for WEAs in Federal waters sufficient to accommodate the OSW planning goals. In August 2022, the CEC adopted planning goals of 2 to 5 gigawatts (GW) of OSW energy by 2030 and 25 GW by 2045. It is envisioned that development of OSW facilities within the five current leases would achieve the 2030 planning goal.

The Draft Plan includes six discrete areas that have been identified as suitable for OSW development. These areas include fishing grounds that are important to fisheries and fishing communities, EFH, migratory areas for protected species, and US Coast Guard designated vessel traffic fairways.

The Draft Plan acknowledges the lack of sufficiently detailed information for evaluating conflicts for specific ocean uses, such as commercial fishing. Collecting such information for commercial and recreational fishing activities will necessarily be labor- and resource-intensive. The Council notes the information presented in Figure 5-8 (North Coast fisheries data that resulted from a collaboration with three Northern California Commercial Fishermen's Associations) does not include important fishing grounds for albacore. In recent years, a recreational fishery has been developing off the North Coast for Pacific bluefin tuna.

The National Oceanic and Atmospheric Administration's National Centers for Coastal Ocean Science (NCCOS) has developed a spatial suitability modeling tool which has been used in WEA identification across the U.S., including off the Oregon Coast. This tool can increase opportunities

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<sup>8</sup> See page 56 of the Draft Plan

<sup>9</sup> See page 58 of the Draft Plan

<sup>10</sup> See TFinal Environmental Impact Statement for the Empire Wind 1 Project off the east coast Table E-3 of Empire FEIS. See - [https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Empire\\_Wind\\_FEIS\\_App\\_E\\_PDE\\_0.pdf](https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Empire_Wind_FEIS_App_E_PDE_0.pdf)

for deconflicting areas considering a wide range of datasets, including national security, fisheries, industry, natural resources, and cultural resources.

**The Council recommends** the CEC enlist the services of NCCOS to run its spatial suitability model covering all Federal waters offshore California to inform areas potentially suitable for OSW development. NMFS and appropriate state agencies should be engaged as collaborators early in the process, to develop commercial and recreational fisheries datasets, showing both effort and revenues generated, for inclusion into the NCCOS model. For clarity, this should include catch and effort within the waters offshore California that is landed outside of California.

When considering how to best utilize the NCCOS spatial suitability model in advance of identifying Call Areas, it is imperative that adequate time be provided to ensure public participation and input is maximized. The Council notes incorporation of the NCCOS model to assist in the identification of WEAs off Oregon was rushed and resulted in some data layers not being included in the model due to time constraints.<sup>11</sup> The Council also recommends additional rationale and information be provided on the weighting of the sub-models in the spatial suitability model. This will foster increased transparency and confidence in the model's results.

**The Council also recommends** the CEC, in its Final Plan, formally describe a methodology for identifying suitable sea space when more appropriate to meet the State's 2045 planning goals. Given BOEM's current timelines, Call Areas could be identified in 2035 and still allow the state to reach those 2045 goals early. This would also allow development and operation of the current leases for a few years to address uncertainties and fill data gaps that would inform responsible development of OSW that minimizes impacts on marine biodiversity and habitat, currents and upwelling, fishing, cultural resources, navigation, aesthetics and visual appeal, and military operations while being protective of coastal and marine ecosystems. It would allow for the collection of better information on current uses (recreational fishing data in particular) and more discrete information on commercial fishing activities and operational constraints.

## **Chapter 6 - Port and Waterfront Infrastructure**

The projected scope of Port and Harbor infrastructure development in support of California's OSW goals are forecast in the Draft Report and Appendices. The Draft Plan envisions three main OSW activities at selected Ports:

1. *Staging* entails the assembly of component parts into a functional wind turbine that will then be towed offshore. To meet the 2045 planning goal of 25 GW, the Draft Plan estimates that up to four staging and integration sites will be needed in California.
2. *Manufacturing and fabrication* entail the manufacturing of the individual components of a wind turbine. This would require 30-100 acres of land, ideally in proximity to a staging area.

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<sup>11</sup> The Final NCCOS Report for the Oregon Wind Energy Areas highlights time constraints as a limiting factor. See - [https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Appendix%20B\\_NCCOS%20Final%20WEA%20Report\\_Oregon.pdf](https://www.boem.gov/sites/default/files/documents/renewable-energy/state-activities/Appendix%20B_NCCOS%20Final%20WEA%20Report_Oregon.pdf)

3. *Operations and maintenance* entail the maintenance and repair activities on OSW facilities. The Draft Plan estimates that 14 to 24 service operation vessels would be needed statewide to perform operations and maintenance.

Chapter 6 of the Draft Plan does not address the building, assembly, and servicing of offshore substations. As those structures are envisioned to be much larger than individual turbines, **the Council recommends** Chapter 6 be expanded to include the assembly, staging, and storage of offshore substations and the potential impacts on Port and Waterfront Infrastructure.

**The Council offers comments and recommendations on the Draft Plan based on (1) impacts to fisheries navigation, safety, and operations, and (2) impacts to habitats and the ecosystem,**

Potential impacts to fisheries navigation, safety, and operations issues resulting from staging and assembly site development and activities.

Fishing communities may be impacted by the displacement of infrastructure as waterfront space is re-purposed to support OSW. California's Coastal Act will, generally, require that infrastructure supporting the fishing industry be replaced and/or enhanced. Any port development and readiness framework should clearly state that new/relocated fishing infrastructure be provided before demolition occurs.

The Draft Plan recognizes the impact to fishing activities that would result from competition for use of main navigation channels, between the towing of OSW components and commercial and recreational fishing activities (especially during good weather periods), which could create conflict and safety issues. This is particularly true for narrow channels like Humboldt Bay. Turbines and platforms can be as wide as 425 feet, and the main Humboldt channel is approximately 400 feet wide in places. Even with extensive dredging, navigation conflicts may occur. The Council supports the Draft Plan's recognition that good communication must exist to let all mariners know if and/or when restrictions from entering or exiting a harbor will be placed on vessel traffic. Any such restrictions should be scheduled when conflicts with the fishing industry are minimized; and, that deference be given to the safety and fishing needs of the fishing communities.

The report suggests at least 10 smaller port sites will be needed to support OSW operations and maintenance for service and crew vessels in the 40-300 foot range. Although not likely to be as intensive in development, the impacts to small ports could be significant, as most California harbors are fully developed, with existing competition for space, and little to no adjacent upland vacant areas. Members of the fishing community are concerned about being crowded out of their needed infrastructure and will be reliant on the California Coastal Act (as referenced above) to protect them from this loss.

Another potential impact to fisheries may be the loss of transient berthing capacity should this accommodation be repurposed for OSW development. With many fisheries being coast-wide, the state's small craft harbors typically take in coastal-traveling fishing boats for days to weeks. These vessels often sometimes land product benefitting the local economies. Any loss of "harbor of refuge" status will be a loss to fishermen, as well as a potential safety issue during bad weather. The Final Report includes a no-net-loss of transient berthing capacity policy recommendation for OSW development.

Finally, small-scale in-bay fisheries for bait production could be impacted due to pollution and turbidity issues from dredging, towing, and related activities.

**To more fully address and mitigate for impacts to fishing and fishery-related activities, the Council recommends that the Draft Report:**

- **Clearly state that new/relocated fishing infrastructure be provided before demolition occurs, to ensure adequate berth for existing fishing industry vessels.**
- **More fully address the need for transient berthing and the associated impacts to both local and out-of-area fleets.**

Environmental Impacts from port development for OSW activities that may affect Council-managed species.

The Draft Report provides some detail about environmental impacts associated with dredging to widen or deepen channels, including the potential to mobilize sediments. However, the Draft Report does not adequately address the fact that dredging may re-suspend toxic, harmful materials into the water column. In the case of new development in Humboldt Bay, there is a history of pulp mill activity, with the potential for dioxin and Polychlorinated Biphenyls (PCBs) to exist in the currently settled harbor bottom. Channel deepening will fundamentally alter the thermal regime of the estuary and drive any salinity wedge further upriver, altering the biotic community of the estuary<sup>12</sup>. The report should more fully evaluate the potential for the impacts of resuspending toxins within estuarine and coastal sediments, and how these activities will affect benthic habitats for FMP species and their prey species.

The Draft Report does not discuss where the dredge spoils will be redeposited. The health of estuarine and nearshore biota, such as Humboldt Bay's extensive eelgrass beds, may be significantly impacted. The Final Report should recognize the importance of EFH/HAPC areas, particularly for eelgrass, and avoid harm or propose achievable mitigation.

The creation of wider and deeper channels in Humboldt Bay will likely have profound effects on estuarine hydrology, including increased sea water velocity, altered hydrological processes, increased turbidity, and erosion. This is not likely to be an issue in the Los Angeles/Long Beach harbor complex, with their much larger industrial port complexes and already dramatically altered natural hydrology and habitat. Eelgrass beds are habitat for numerous estuarine/marine species and particularly vulnerable to disturbance. The Final Report should include a detailed discussion about the ecological effects of channel widening and deepening on estuarine habitats (with an emphasis on eelgrass), as well as the potential effects on various life stages of numerous Council-managed species dependent on estuarine habitats.

Acoustic impacts on all forms of marine animals will occur from driving many hundreds of large piles needed to support new dock structures. The Final Report should more fully describe acoustic

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<sup>12</sup> Heppell, S.A.; Heppell, S.S.; Arbuckle, N.S.; Gallagher, M.B. A Cross-Decadal Change in the Fish and Crustacean Community of Lower Yaquina Bay, Oregon, USA. *Fishes* 2024, 9, 125. <https://doi.org/10.3390/fishes9040125>.



impacts and should refer to NMFS resources such as Kiffney et al. (2022)<sup>13</sup>, which includes impacts, conservation measures, and additional references relative to numerous non-fishing impacts to habitat and fisheries resources.

Increased shading and the associated impacts to submerged aquatic vegetation is a potential impact only briefly mentioned in the Draft Report<sup>14</sup>. The Draft Report contemplates multiple floating foundations, with or without turbines, that may be stored in the water for months until conditions are suitable for offshore delivery, but only obliquely recognizes that “additional overwater infrastructure and dredging may displace and destroy important nearshore habitats, such as eelgrass. Eelgrass responds poorly to shading from over-water structures and would likely die back if shaded by port facilities”. The Final Report should include a more robust strategy for avoiding large areas of shading over eelgrass habitats, including those resulting from floating foundations that are being staged for deployment.

The report also includes an environmental evaluation and a comparative site ranking for the previously identified staging and integration, manufacturing and fabrication, and operations and maintenance port sites. Within each port site type, the report evaluates and ranks each potential location using a standard set of environmental factors. The environmental ranking process was not a formal environmental impact analysis in compliance with applicable regulatory requirements or standards (such as California Environmental Quality Act). The Final Report should include an expanded list of factors used for environmental determinations to provide a more complete understanding of the hydrological, erosion, acoustic, shading, and turbidity impacts from OSW port/harbor development, including how they may affect marine life, fisheries, fishery resources, and fishing communities.

**Relative to habitat and ecosystem impacts, the Council recommends that the Draft Report:**

- **More fully evaluate the potential for the impacts of resuspending toxins within estuarine and coastal sediments.**
- **Evaluate the impacts of dredge spoil disposal at terrestrial, estuarine, or marine sites.**
- **Include a more robust strategy for avoiding shading impacts to submerged aquatic vegetation.**
- **Expand the list of factors used for environmental determinations to provide a more complete understanding of the hydrological, erosion, acoustic, shading, and turbidity impacts from OSW port/harbor development.**
- **More fully evaluate acoustic impacts to marine/estuarine biota.**

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<sup>13</sup> Kiffney, P., J. Thompson, B. Blaud, and L. Hoberecht. 2022. Nonfishing Impacts on Essential Fish Habitat. U.S. Department of Commerce, NOAA White Paper NMFS-NWFSC-WP-022-01.

<sup>14</sup> See, for example, Lambert MR et al. (2023) Pacific Conservation Biology doi:10.1071/PC22037 which demonstrate changes in abundance and movement behavior of various salmonids, and reduced prey availability in response to the presence of relatively small overwater structures.

## Chapter 8 - Transmission Technology and Alternatives Assessment

The Council remains concerned about the location of transmission cables and the potential impacts of electro-magnetic fields (EMF) on fishery resources and marine life. **The Council recommends** prioritizing additional research on the potential for EMF to negatively impact west coast fishery resources and marine life. As a general rule, transmission cables and routes should be as short as possible to mitigate potential impacts, provided that the shortest route does not direct the cable through sensitive or protected habitat types. To the extent shared transmission routes can be shared by multiple developers, this reducing the number of cables coming ashore, that should be prioritized assuming it is does not pose greater risks of impacts to the marine environment and those dependent upon it. The Draft Plan identifies a number of transmission alternatives that include lengthy transmission routes. For example, Alternative 25.8a<sup>15</sup> would utilize a number of high-voltage direct-current (HVDC) lines to run power from OSW developments off Mendocino and Humboldt down to Moss Landing. This should not be considered unless there is a high degree of certainty this can be done without affecting sensitive habitats, and no impacts to marine life and those who depend on those.

The Draft Plan contemplates HVDC substations which “converts the transformed high-voltage alternating-current (HVAC) power to HVDC before the power is exported.” The AC to DC conversion process generates significant amounts of heat energy and necessitates the use of cooling water to remove the excess heat. The Council is very concerned about the potential impacts to the biota and ecosystem functions in the areas where the temperature of surrounding ocean waters would be elevated as a result. Our concerns include both localized impacts as well as the potential cumulative impacts from multiple offshore converter stations. As an example of these impacts, Sunrise Wind, off the coast of New York, proposes utilizing an offshore converter station that could have a maximum daily flow rate of 8.1 million gallons per day with anticipated discharge temperatures between 86 and 90° F.<sup>16</sup> Intake valves that collect sea water to be used in the cooling process risk entrainment of marine life, and chlorination is proposed to prevent biofouling. This is particularly concerning in deeper waters off the California coast where many important fish stocks spend their larval stages. The Council recommends that the Final Report analyze the potential impacts to the marine environment and California Current Ecosystem resulting from offshore converter stations, including the cumulative impacts of up to 20 offshore converter stations placed off the U.S. West Coast.

### Conclusion

In conclusion, the Council appreciates the thorough treatment of potential impacts from OSW development that the Draft Plan addresses. As with any strategic plan, the details of individual projects and associated impacts must be addressed at both site-specific and cumulative levels.

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<sup>15</sup> See Draft Plan Figure 8-10, page 207

<sup>16</sup> Ibid.

Please contact Kerry Griffin ([Kerry.griffin@noaa.gov](mailto:Kerry.griffin@noaa.gov)) of Council staff if you have any questions or concerns. Thank you for considering our comments.

Sincerely,

A handwritten signature in black ink that reads "Brad Pettinger". The signature is fluid and cursive, with a long horizontal stroke extending to the right from the end of the name.

Brad Pettinger  
Council Chair

KFG:kma

Cc: Council Members  
Mike Conroy  
Susan Chambers