November 16, 2020

SUBMITTED VIA E-MAIL AND REGULATIONS.GOV

U.S. Army Corps of Engineers
Attn: CECW–CO–R
441 G Street NW
Washington, DC 20314-1000
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Re: Comments on Proposal To Reissue and Modify Nationwide Permits, COE–2020–0002

Thank you for the opportunity to comment on the proposal to reissue Nationwide Permit (NWP) 48 and to issue two new aquaculture[1] permits, NWP A and B. As currently proposed, these NWPs and the general conditions would not prevent more than minimal individual or cumulative adverse impacts to the environment from aquaculture. The U.S. Army Corps of Engineers (Corps) should **not adopt** NWP 48 for commercial shellfish aquaculture activities as written, for the same reasons NWP 48 was found unlawful by the federal district court in *Coalition to Protect Puget Sound Habitat v. U.S. Army Corps. Of Engineers*, 417 F.Supp.3d 1354 (W.D. Wash. 2019). If some regions want to adopt general permits for shellfish aquaculture, they are free to do so, but such regional general permits still must only cover similar activities with minimal individual or cumulative impacts. The Corps must require individual permits for the remaining shellfish aquaculture operations. Nor should the Corps adopt the new NWP B for offshore finfish aquaculture in federal waters, because these operations have potentially significant effects and do not met the criteria for minimal individual or cumulative impacts. As to NWP A, if it is to be issued, it must include additional protections to ensure only minimal cumulative impacts.

Further, the Corps should not re-issue the suite of NWPs prematurely, given that the current cycle is not expired and because a new Administration will take office in January, 2021, and may very likely reverse the Executive Orders on which this action is based.[2] Two of the new NWPs proposed specifically come from an Executive Order 13921, which may be rescinded by the Biden Administration.

These comments are submitted on behalf of Center for Food Safety (CFS), Friends of the Earth, Center for Biological Diversity, the Coalition to Protect Puget Sound Habitat, Healthy

[1] These comments use the generally-used term "aquaculture" interchangeably with the Corps' new term "mariculture."
[2] Biden Plans Immediate Flurry of Executive Orders to Reverse Trump Policies (Nov. 7, 2020), https://www.washingtonpost.com/politics/biden-first-executive-orders-measures/2020/11/07/9fb9c1d0-210b-11eb-b532-05c751cd5dc2_story.html.

Gulf, North Oyster Bay Baymen's Association, Beyond Pesticides, Northwest Atlantic Marine Alliance (NAMA), Recirculating Farms Coalition,[3] Environmental Action Committee of West Marin, Slow Food USA, Wild Salmon Nation, and the millions of members and supporters they represent. CFS is a nationwide nonprofit organization that empowers people, supports farmers, and protects our environment from industrial agriculture, including aquaculture. Our membership includes nearly 1 million people across the county, including nearly 20,000 members in Washington, who support truly sustainable food and care about the impact of our food production system on our environment and public health. Many of these members are local residents whose cultural, recreational, aesthetic, economic, and personal interests are directly impacted by commercial shellfish aquaculture and its impacts.

I. AQUACULTURE IMPACTS

A. Shellfish Aquaculture Impacts

As acknowledged briefly—but largely ignored—in the Corps' Decision Document for NWP 48, commercial shellfish aquaculture as currently practiced has numerous adverse environmental impacts. The Corps, at least internally, has recognized that these impacts are not on the balance beneficial or neutral, and rather can be significant.[4] While the focus of this section is on impacts in Washington State, the same is true for industrial shellfish aquaculture in the rest of the country.

1. NWP 48 in Washington

The vast majority of authorizations under NWP 48 are in Washington State. The Corps Seattle District issued 92% of all NWP 48 authorizations under the 2012 NWP 48. A similar percentage is likely in the 2017-2020 timeframe, when the Seattle District stated that it authorized nearly 900 operations, encompassing 35,800 acres of Washington tidelands. The overuse of NWP 48 to cover new and expanding operations in Washington has allowed for expansion of intense shellfish aquaculture operations into previously undisturbed areas in Puget Sound.[5] And because of the expansion under NWP 48, shellfish aquaculture covers nearly a quarter of Washington tidelands.[6]

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[3] Recirculating Farms Coalition joins these comments as to NWP A and B only.

[4] Seattle District, *Draft Cumulative Impacts Analysis for 2017 Nationwide Permit 48* ("Draft CIA"), provided along with this comment.

[5] *See e.g.* Coastal Geologic Services, Map of Known Existing and Proposed Shellfish Farm Locations in South Puget Sound, from 2012-2014, provided along with this comment.

[6] NMFS *Endangered Species Act Section 7 Formal Biological Programmatic Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for Shellfish Aquaculture Activities in Washington State*, 8 (2016) (2016 BIOP), https://www.nws.usace.army.mil/Portals/27/docs/regulatory/160907/NMFS_2016_09-02_WA%20Shellfish%20Aquaculture_WCR-2014-1502.pdf.

Washington State is unique when it comes to shellfish aquaculture, but not all shellfish aquaculture is the same. First, Washington is the biggest producer of shellfish in the United States, and has been harvesting and/or growing shellfish commercially for over 150 years. Because of this, shellfish farming in Washington looks very different than it does elsewhere, and is being increasingly industrialized, relying heavily on plastic gear and pesticides and monoculture plantations, while expanding to cover every inch of natural tidelands. Historically, most of the shellfish aquaculture took place in Willapa Bay/Grays Harbor, but recently shellfish farming has expanded significantly in Puget Sound. However, Willapa Bay/Grays Harbor are not the same as Puget Sound, both in ecology and in shellfish farming practices. For example, while oyster and clam is predominant in Willapa Bay, geoduck farming is predominant in Puget Sound, each using different types of equipment. While growers in Willapa Bay/Grays Harbor have an NPDES permit to spray herbicide (imazamox) onto tidebeds to kill Japanese eelgrass, no such pesticide spraying is allowed in Puget Sound.

Thus, while Washington is unique from the rest of the country, its own regions are unique from one another. Not only is the nationwide permit inappropriate to cover Washington, even regional general permits should concentrate on the specific bodies of water in Washington and particular types of shellfish aquaculture, to reflect their unique qualities and impacts. NWP 48 is inappropriate for Washington State.

2. Conversion of Natural Intertidal Ecosystems

The intertidal areas where shellfish are grown are essential habitats for many species, including invertebrates (such as commercially important Dungeness crab), finfish (including herring and salmon), and birds (migratory and shorebirds). This includes species listed as threatened and endangered and protected under the Endangered Species Act. In particular, Willapa Bay serves as critical habitat for green sturgeon (feeding) and many listed salmon populations rear and feed in Washington's coastal waters (Puget Sound and Willapa Bay). These areas are habitat for many varieties of wildlife, serve as nurseries, and have important rules in cycling nutrients.[7]

Much of the intertidal areas in Washington still support eelgrass, which is declining in the rest of the world. Eelgrass or seagrass is a highly valued and protected native habitat for many species of fish, invertebrates, and birds, including migratory and shorebirds.[8] Eelgrass is known as

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[7] Bendell-Young, L.I., *Contrasting the community structure and select geographical characteristics of three intertidal regions in relation to shellfish farming*, Environmental Conservation (2006), provided along with this comment.

[8] 40 C.F.R. § 230.43 (eelgrass is considered a special aquatic site under CWA § 404(b)(1) guidelines); The Nature Conservancy, *Eelgrass Habitats on the West Coast: State of Knowledge of Eelgrass Ecosystem Services and Eelgrass Extent*, http://www.pacificfishhabitat.org/wp-content/uploads/2017/09/EelGrass_Report_Final_ForPrint_web.pdf; Deborah Shafer, Pacific Northwest Eelgrass: A White Paper Prepared for Seattle District Army Corps of Engineers (2015), (eelgrass ecosystem services and importance); Puget Sound Partnership had goal of increasing

an "ecosystem engineer" because it can partially create its own habitat by slowing down water flow, while its roots and rhizomes bind and stabilize sediments. Although it was introduced, Japanese eelgrass (*z. japonica*) provides many of the same food, shelter, and habitat functions as native *marina* eelgrass in Washington (and now grows along the entire Pacific coast from Humboldt, California to British Columbia).[9]

As the production of shellfish in Washington intensifies, more of the natural tidelands are being converted to shellfish production. The result is continuous competition with wildlife for habitat and destructive impacts to aquatic vegetation, forage fish, and other prey species. These activities have adverse impacts to wildlife habitat, recreation and aesthetics (important aspects of these iconic areas and their local communities, which also rely on tourism), and water quality. Bed preparation and harvest activities can temporarily increase turbidity and total suspended solids.[10] Shellfish growing activities can thus cause benthic disturbance.[11] One of the significant potential environmental impacts from dense shellfish aquaculture is a reduction in shoreline biodiversity. Monocultures of shellfish can fundamentally alter ecosystems by consuming phytoplankton previously relied on by native species, depositing waste on the seabed, and changing the physical dynamics of an environment.[12] And while *wild* bivalves are known to clean water, the water quality impacts of intensive shellfish aquaculture may not always be beneficial; to the contrary, many aquaculture activities negatively affect water quality by the removal of eelgrass, the increase of wastes from concentrated production, and the disruption of sediments. The Corps describes no studies in its Decision Document for NWP 48 to verify its claim that commercially-raised shellfish clean the water in Washington State.

Puget Sound eelgrass by 20% by 2020, https://www.psp.wa.gov/downloads/AA2011/062011EcosystemRecoveryTargetList.pdf.

[9] Mach, M.E., S.W. Wyllie-Echeverria, and J. R. Ward. 2010. *Distribution and potential effects of a non-native seagrass in Washington State. Zostera japonica* Workshop, Friday Harbor Laboratories, San Juan Island, WA. Report prepared for Washington State Department of Natural Resources and Washington Sea Grant, *available at* http://file.dnr.wa.gov/publications/aqr_zostera_study.pdf.

[10] Draft CIA at 47-48; NMFS 2016 BIOP at 66.

[11] Draft CIA at 49-50; NMFS 2016 BIOP at 75-78.

[12] *See id*; Bouwman, L., A. Beusen P. M Glibert, C Overbeek, M Pawlowski, J. Herrera S. Mulsow, R. Yu, and M. Zhou, *Mariculture: significant and expanding cause of coastal nutrient enrichment,* Environ. Res. Lett. 8 (2013); DeFur, P. and D.N. Rader, *Aquaculture in estuaries: Feast or famine?* Estuaries Vol. 18, No. 1A (1995); Hastings, R.W. and D.R. Heinle, *The effects of aquaculture in estuarine environments: Introduction to the dedicated issue,* Estuaries Vol. 18, No. 1A (1995); Dethier, M., *Native shellfish in nearshore ecosystems of Puget Sound*, Puget Sound Nearshore Partnership Report No. 2006-04, Published by Seattle District, U.S. Army Corps of Engineers, Seattle, Washington (2006); Diana, J.S., H. S. Egna, T. Chopin, M.S. Peterson, L. Cao, R. Pomeroy, M. Verdegem, W.T. Slack, M.G. Bondad-Reantaso, and F. Cabello, *Responsible Aquaculture in 2050: Valuing Local Conditions and Human Innovations Will Be Key to Success*, Bioscience, Vol. 63(4) (2013); Bendell, L.I. and P.C.Y. Wan, *Application of aerial photography in combination with GIS for coastal management at small spatial scales; a case study of shellfish aquaculture* (2013).

Commercial shellfish aquaculture harms eelgrass. *Coalition to Protect Puget Sound Habitat v. U.S. Army Corps. of Engineers*, 417 F.Supp.3d 1354, 1359, 1362-63 (W.D. Wash. 2019). Various CWA Section 404 dredge and fill activities associated with shellfish aquaculture, such as tilling, harrowing, dredge harvest and geoduck harvest, may have *significant* impacts individually and cumulatively to eelgrass. Draft CIA at 71-103 (detailing state of eelgrass and cumulative impact of aquaculture on eelgrass). Damage to eelgrass harms the species that rely on it for shelter, food, and spawning habitat. Forage fish are particularly harmed, and are a crucial part of the food chain for bigger fish like salmon, which in turn are the primary prey for Southern Resident Killer Whales.[13] Draft CIA at 50.

Commercial shellfish also affects forage fish through work in spawning areas and the aquaculture equipment used, which can remove spawning habitat, smother eggs by trampling, and kill fish entangled in cover nets. Draft CIA at 108. Fish and birds are also harmed or killed by aquaculture beyond eelgrass reduction, through decreases in their prey species, food sources, and refugia, in-water activity, noise, increases in suspended sediment, and net entanglement. Draft CIA at 50-51.[14]

Mechanical shellfish dredging techniques can have serious and significant impacts to the benthos and wildlife that relies on this habitat. Hydraulic dredges use high-power water jets to loosen sediment and dislodge clams and other benthic organisms. Thus, the actual "digging" for shellfish is "accomplished by the action of the water jets, which are directed downwards and backwards."[15] Water jets have been observed to disturb the substrate up to 18 inches below the surface.[16] The dredge then scrapes through this loosened sediment, capturing dislodged organisms. Suction dredges draw a large flow of water upwards to the surface, where workers separate shellfish from by-catch and other material. According to the National Oceanic and Atmospheric Administration (NOAA), suction dredges act "as . . . large vacuum cleaner[s]," sucking oysters and other species from the seafloor, along with large quantities of water, mud, and sand.[17] In a study mimicking commercial dredging practices, researchers found dramatic decreases in population in target and non-target species immediately after dredging.[18] Even two years later, most benthic

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[13] Marine Mammal Commission, Southern Resident Killer Whales, https://www.mmc.gov/priority-topics/species-of-concern/southern-resident-killer-whale/.

[14] *See also* Coalition to Protect Puget Sound Habitat, Petition to Suspend NWP 48, 10-16 (May, 2015), provided along with this comment.

[15] J. S. MacPhail, *A Hydraulic Escalator Shellfish Harvester*, Fisheries Res. Bd. of Can. 12 (1961).

[16] *See* Mark F. Godcharles, *A Study of the Effects of a Commercial Hydraulic Clam Dredge on Benthic Communities in Estuarine Areas*, Fla. Dep't Nat. Res. (1971).

[17] NOAA, *Review of the Ecological Effects of Dredging in the Cultivation and Harvest of Molluscan Shellfish* 5 (2011), http://shellfish.ifas.ufl.edu/wp-content/uploads/Review-Ecological-Effects-of-Dredging-to-Harvest-Molluscs.pdf.

[18] *See* Kent D. Gilkinson et al., *Immediate Impacts and Recovery Trajectories Of Macrofaunal Communities Following Hydraulic Clam Dredging on Banquereau, Eastern Canada*, 62 ICES J. Marine Sci. 925 (2005).

communities were still in the colonizing or rebuilding phase, and 67 percent of target shellfish showed no signs of recovery.[19] Another study, which observed the lasting effects of mechanical dredging on hard-shell clams for five years after dredging, concluded that it can take decades for adult clam populations to recover after mechanical dredging.[20]

According to the New York State Department of Environmental Conservation, mechanical dredging adversely affects benthic fish habitats, as well as the non-target benthic community, and "result[s] in high mortality rates among non-target species."[21] Dredging "lower[s] the average density of benthic fauna by 59 percent and decrease[s] the number of species present," killing invertebrates in the dredge track.[22] NOAA similarly found that when dredges scrape the seafloor, species "can be removed, crushed, buried, or exposed," and dredges "can erase structural features from the seafloor."[23] Mechanical dredging "restructure[s] benthic environments" by homogenizing sediments.[24] Homogenization results in lowered variability in sediment types and nutrients, impairing benthic ecosystems.[25] Mechanical dredging can also leave long-lasting grooves in the seafloor.[26] Indeed, the physical effects of the dredges "are comparable to forest clear-cutting."[27]

Mechanical dredging significantly increases turbidity, which can damage or kill fish eggs and larvae and threaten the survival of juvenile and adult fish.[28] Suspended sediment can travel several hundred feet from the area originally disturbed,[29] and researchers have observed that fine sediment, in particular, can travel kilometers from a dredging site.[30] A study by Danish researchers examining turbidity associated with mechanical dredging found that a single 100-meter tow of the

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[19] *Id.*

[20] *See* Stefán Áki Ragnarsson et al., *Short and Long-term Effects of Hydraulic Dredging on Benthic Communities and Ocean Quahog (Artic islandica) Populations*, 109 Marine Envtl. Res. 113 (2015).

[21] Letter from Alice Webber, N.Y. Dep't of Envtl. Conserv., to Ed Bausman 1–2 (May 7, 2007).

[22] *Id.* at 2.

[23] NOAA, *Review of the Ecological Effects of Dredging in the Cultivation and Harvest of Molluscan Shellfish* 13, 15, 17 (2011), http://shellfish.ifas.ufl.edu/wp-content/uploads/Review-Ecological-Effects-of-Dredging-to-Harvest-Molluscs.pdf.

[24] Simon F. Thrush & Paul K. Dayton, *Disturbance to Marine Benthic Habitats by Trawling and Dredging: Implications for Marine Biodiversity*, *Annual Review of Ecology and Systematics*, 33 Ann. Rev. of Ecology & Systematics 449 (2002).

[25] *Id.*

[26] *Id.*; *see also* G. Carleton Ray & Jerry McCormick-Ray, *Coastal-Marine Conservation* 20 (2004).

[27] G. Carleton Ray & Jerry McCormick-Ray, *Coastal-Marine Conservation* 19–20 (2004).

[28] *See* Z. F. Yang et al., *Impact Assessment of Dredging on Fish Eggs and Larvae: A Case Study in Caotan, South China*, 351 IOP Conf. Series: Earth Envtl. Sci. (2019).

[29] *See* Nathan Hawley et al., *Sediment Resuspension in Lake Ontario During the Unstratified Period, 1992-1993*, 22 J. Great Lakes Res. 707 (1996).

[30] *See* Paula Canal-Vergés et al., *Reviewing the Potential Eelgrass Impacts Caused by Mussel Dredging*, Danish Shellfish Ctr. (2014); *see also* P.P. Maier et al., *Effects of Subtidal Mechanical Clam Harvesting on Tidal Creeks*, S.C. Dep't of Nat. Res., Marine Resources Res. Inst. (1998).

dredge was enough to cause a measurable increase in turbidity for up to two hours at a distance of 100 meters.[31] Such heightened turbidity lowers egg-hatching rates and can damage fish gills.[32]

Industrial shellfish aquaculture does not only harm Washington State. For example, in Oyster Bay, on the North Shore of Long Island, New York, mechanical shellfish dredging was previously authorized under NWP 48. A recent survey commissioned by the Town of Oyster Bay made clear that clam density and population have decreased substantially in publicly owned areas of Oyster Bay adjacent to mechanical dredging operations over time, likely due to the impaired water quality and heightened turbidity associated with mechanical dredging.[33] Mechanical dredging in Oyster Bay also threatens the survival of the winter flounder, a species that faces declining abundance and distribution in New York State.[34] Mechanical dredging in Oyster Bay occurs wholly within the Essential Fish Habitat of the winter flounder, critical for all its life stages. The District Engineer in New York has not acted to regionally condition or deny NWP 48 authorizations to prevent these types of significant individual and cumulative adverse impacts.

Although largely dismissed as temporary in the Corps' decision document, impacts to eelgrass and the other various impacts associated with shellfish aquaculture occur continuously or perennially, with impacts of the different stages of shellfish culture continuing year after year and restarted after harvest. These include bed preparation (or "cleaning," which entails removal of native species, like sand dollars), seeding, grow out, harvest, and then re-seeding to restart the process. Shellfish aquaculture is a *continuous* disturbance and some disturbances, like to eelgrass, may never allow full recovery. Draft CIA at 56-58, 95.[35]

3. Plastics

The use of plastics is another problematic and unassessed aspect of commercial shellfish. This includes PVC geoduck tubes (using over 43k tubes/acre), plastic anti-predator netting (high-density polyethylene), and plastic ropes for oyster long-lines (polyolefin), among other types. Plastics gear adds plastic pollution to the ocean and beaches through plastic debris (which can even

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[31] *Id.*

[32] *See* Z. F. Yang et al., *Impact Assessment of Dredging on Fish Eggs and Larvae: A Case Study in Caotan, South China*, 351 IOP Conf. Series: Earth Envtl. Sci. (2019).

[33] *See* Cashin Associates, P.C., Draft 2018 Clam Density Survey Findings Overview for the Oyster Bay/Cold Spring Harbor Complex 10 (2018). As confirmed by a phone call to the Town of Oyster Bay Department of Environmental Resources on June 24, 2020, the data in this Draft Survey are the same as the data in the Final Survey dated January 2019, which is not available online.

[34] *See List of Endangered, Threatened and Special Concern Fish & Wildlife Species of New York State*, N.Y. Dep't of Envtl. Conserv., https://www.dec.ny.gov/animals/7494.html; *see also* N.Y. Dep't of Envtl. Conserv., *Species Status Assessment: Winter Flounder* (2014), https://www.dec.ny.gov/docs/wildlife_pdf/sgcnwinterflounder.pdf.

[35] *See also* Seattle District, Supplemental Dec. Doc. for NWP 48, at 103-4 (2017), https://www.nws.usace.army.mil/Portals/27/docs/regulatory2/170420-NWPs/170420-NWS2017NWP-0048.pdf?ver=2017-04-20-184742-913.

be found as far away as Hawaii) and by breaking down into microplastics, with grave impacts to wildlife, aesthetics, and food safety.

Figure 1 Left: Geoduck PVC tubes stuck into tidebed in Totten Inlet, WA. Right: Aerial shot of PVC tubes and oyster bags in WA.

Anti-predator netting traps wildlife, excludes wildlife from its habitat, and may become dislodged and transported. This netting actually provides little benefit to the industry despite its cost in terms of nearshore impacts and plastics pollution.[36]

Aerial photos taken by the Coalition to Protect Puget Sound show the extent of coverage by this plastic netting:

[36] Bendell, L.I., *Favored use of anti-predator netting (APN) applied for the farming of clams leads to little benefits to industry while increasing nearshore impacts and plastics pollution*, Marine Pollution Bulletin (2015), provided along with this comment.

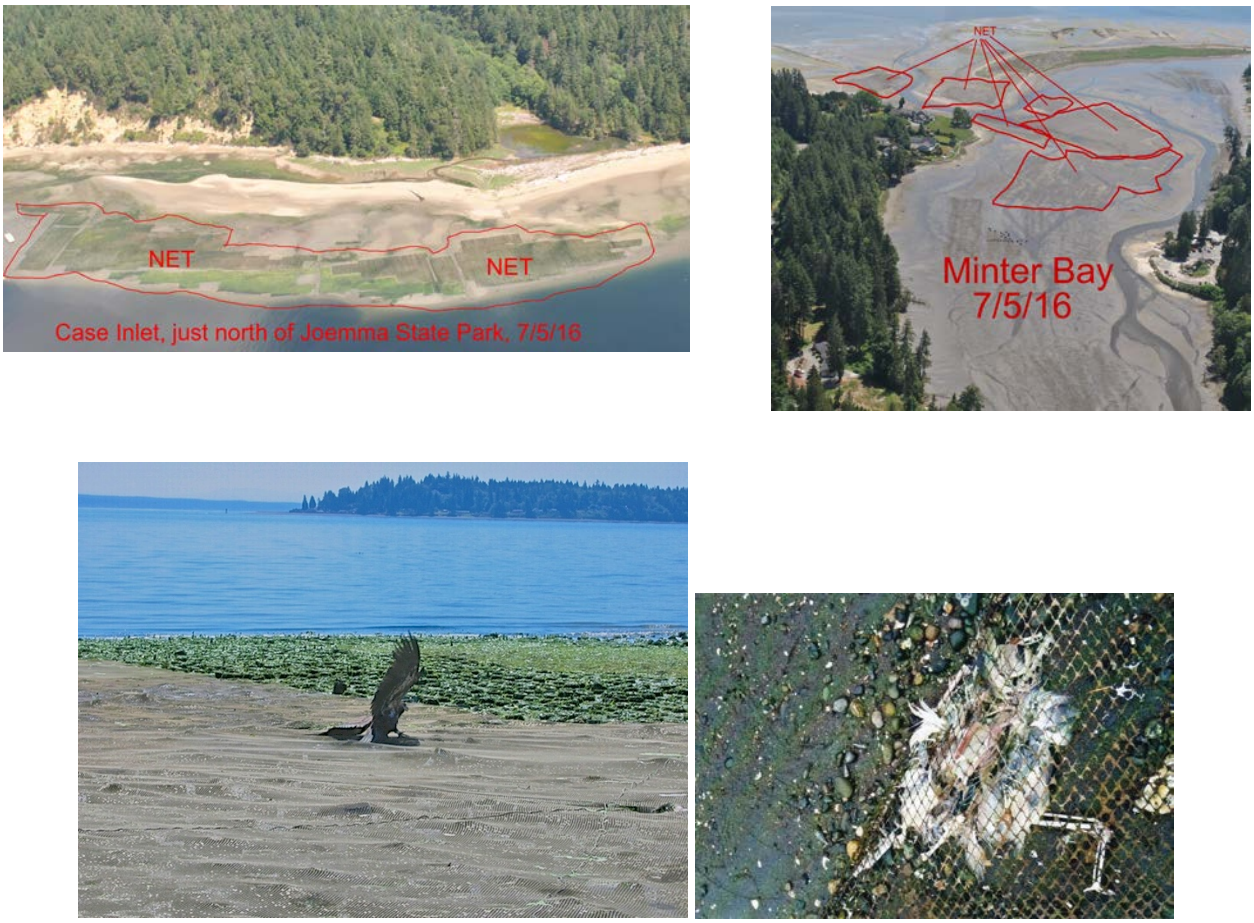

Figure 2: Left: A juvenile bald eagle is caught in an aquaculture net on Harstine Island, WA. Right: Remains of bird caught beneath anti-predator net

This plastic gear also breaks down into microplastics, and act as an additional source of plastic contamination in the ocean.[37] Microplastics absorb toxic pollutants already present in the water, and are being ingested by the very bivalves being cultivated.[38] These microplastics act like a poison pill to aquatic life that consume them, and have been shown to reduce oyster's

[37] *Id.*

[38] *Id.*; Kieran Mulvey, *Oysters Are Munching Our Microplastics*, Discovery News, http://goo.gl/hJn5Ov.

reproductive ability.[39] The research on microplastics and their impacts to human health is ongoing and revealing some disturbing effects.[40]

Figure 3 Left: Yellow rope used in long-line culture growing through oyster shell. Right: PVC tube degrading

4. Pesticides

Washington State allows pesticide use with shellfish aquaculture. Pesticides are meant to harm or kill living organisms, so their use has a high potential for adverse effects to non-target wildlife, particularly in an aquatic environment where pesticides will move off the application site.

Shellfish growers in Willapa Bay, WA are currently allowed to spray the herbicide imazamox to kill non-native eelgrass, pursuant to a NDPES permit re-issued April 2020.[41] While non-native eelgrass tends to grow at higher elevations than native eelgrass, Willapa Bay is so flat that there are many mixed beds, and the herbicide will kill native eelgrass just as easily as non-native.[42] The permit allows thousands of acres to be sprayed with the herbicide annually, and if the

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[39] Chelsea Harvey, *All the plastic that we're throwing in the oceans could be hurting baby oysters,* Washington Post (Feb. 2, 2016); Rossana Sussarellu, *et al., Oyster reproduction is affected by exposure to polystyrene microplastics*, PNAS 2016 113 (9) 2430-2435 (February 1, 2016); Oona M. Lönnstedt* and Peter Eklöv, *Environmentally relevant concentrations of microplastic particles influence larval fish ecology*, Science (June 3, 2016); Lisbeth Van Cauwenberghe, Colin R. Janssen, *Microplastics in bivalves cultured for human consumption*, Environmental Pollution (2014), all provided along with this comment.

[40] *See e.g.,* Southern California Coastal Water Research Project, *Microplastics Health Effects Webinar Series,* Recordings of Webinars and Powerpoints available at: https://www.sccwrp.org/about/research-areas/additional-research-areas/trash-pollution/microplastics-health-effects-webinar-series/.

[41] Wash. Dept. of Ecology, *Zostera japonica* Management on Commercial Clam Beds in Willapa Bay General Permit, https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Aquatic-pesticide-permits/Zostera-japonica-eelgrass-management (last visited Nov. 7, 2020).

[42] Olympic Environmental Council, Comments to Wash. Dept. of Ecology on NPDES permit for control of non-native eelgrass, https://scs-public.s3-us-gov-west-1.amazonaws.com/env_production/oid100/did1001/pid_10600/assets/merged/w4197i0m_docu

growers leave a 10m buffer to the next property line, they are released from monitoring requirements. This herbicide will not only kill eelgrass it is applied to (including native eelgrass in mixed beds), it will not stay where it is put, and will be instead transported to other parts of Willapa Bay.

B. Finfish Aquaculture Impacts

The new NWPs proposed would open coastal and federal waters in all regions of the U.S. to finfish aquaculture (or mariculture). Industrial ocean fish farming—also known as offshore or marine finfish aquaculture—is the mass cultivation of finned fish in the ocean, in net pens, pods, and cages. These are essentially floating feedlots in open water, which can have devastating environmental and socio-economic impacts. Industrial aquaculture is associated with many environmental and public health concerns, including: the escape of farmed fish into the wild; outcompeting wild fish for habitat; food and mates or intermixing with wild fish and altering their genetics and behaviors; the spread of diseases and parasites from farmed fish to wild fish and other marine life; and pollution from excess feed, wastes and any antibiotics or other chemicals used flowing through the open pens into natural waters. Industrial aquaculture also significantly affects public health, as antibiotics, pesticides and other chemicals that are heavily used to prevent disease and parasites in industrial aquaculture can accumulate in fish tissues. These impacts could be felt in any region where NWP B is used.

Because of extensive environmental, socio-economic and public health problems from marine finfish aquaculture, several countries, like Canada, Argentina and Denmark, are already moving away from offshore aquaculture due to these serious impacts.[43]

Escapes Are Inevitable and Disastrous: Marine finfish aquaculture routinely results in farmed fish escapes that adversely affect wild fish stocks. In August 2017, a Cooke Aquaculture facility in Washington State spilled more than 263,000 farmed Atlantic salmon into Puget Sound. Long after the escape, many of these non-native, farmed fish continued to thrive and swim free, even documented as far north as Vancouver Island, west of the Strait of Juan de Fuca, and south of Tacoma, traveling at least 100 miles from the farm.[44] Escaped farmed fish compete with wild fish for food, habitat, spawning areas, and mates. Even for facilities that rely on the sterility of farmed fish to prevent interbreeding, sterility is *never* 100% guaranteed. Therefore, the "long-term

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ment.pdf?v=KE3BGZMNV; U.S. FWS, Comments to Wash. Dept. of Ecology on NPDES permit for control of non-native eelgrass, (Feb. 14, 2014), provided along with this comment.

[43] Hallie Templeton (Feb. 10, 2020). *International examples offer US a blueprint for aquaculture regulation in 2020.* Friends of the Earth. https://foe.org/international-examples-offer-us-blueprint-aquaculture-regulation-2020/.

[44] Lynda V. Mapes, Seattle Times, Despite agency assurances, tribes catch more escaped Atlantic salmon in Skagit River (Dec. 1, 2017), *available at* https://www.seattletimes.com/seattle-news/environment/despite-agency-assurances-tribes-catch-more-escaped-atlantic-salmon-in-skagit-river/.

consequences of continued farmed [fish] escapes and subsequent interbreeding . . . include a loss of genetic diversity."[45]

Finally, escaped farmed fish might spread a multitude of parasites and diseases to wild stocks, which could prove fatal when transmitted.[46]

Pesticides and Other Chemicals: Because finfish aquaculture confines large numbers of fish together, much like Concentrated Animal Feeding Operations (CAFOs) on land, they rely heavily on drugs and pesticides to address disease spread. Marine finfish aquaculture uses pharmaceuticals and other chemicals pervasively for prevention and treatment of disease outbreaks in facilities. The use of these chemicals creates environmental and public health concerns. Just like in CAFOs, concentrated populations of animals are more susceptible to pests and diseases due to confined spaces and increased stress. In response, the agriculture and aquaculture sectors administer a pharmacopeia of chemicals. But in the open ocean residues of these drugs are discharged and absorbed into the marine ecosystem. For example, the marine finfish aquaculture industry treats sea lice with Emamectin benzoate (marketed as SLICE®), which has caused "widespread damage to wildlife," including "substantial, wide-scale reductions" in crabs, lobsters and other crustaceans.[47] In Nova Scotia, an 11-year-long study found that lobster catches plummeted as harvesters got closer to marine finfish aquaculture facilities.[48] Another study by researchers at Norway's Institute of Marine Research found that alternative chemicals for sea lice

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[45] Fisheries and Oceans Canada, Newfoundland and Labrador Region, Stock Assessment of Newfoundland and Labrador Atlantic Salmon (2016), *available at* http://waves-vagues.dfo-mpo.gc.ca/Library/40619655.pdf ("Genetic analysis of juvenile Atlantic Salmon from southern Newfoundland revealed that hybridization between wild and farmed salmon was extensive throughout Fortune Bay and Bay d'Espoir (17 of 18 locations), with one-third of all juvenile salmon sampled being of hybrid ancestry."); *see also* Mark Quinn, CBC News, *DFO study confirms 'widespread' mating of farmed, wild salmon in N.L.* (Sept. 21, 2016) https://www.cbc.ca/news/canada/newfoundland-labrador/farmed-salmon-mating-with-wild-in-nl-dfo-study-1.3770864.

[46] Jillian Fry, PhD MPH, David Love, PhD MSPH, & Gabriel Innes, VMD, Johns Hopkins University, Center for a Livable Future, "Ecosystem and Public Health Risks from Nearshore and Offshore Finfish Aquaculture" at 6-7 (2017), https://www.jhsph.edu/research/centers-and-institutes/johns-hopkins-center-for-a-livable-future/_pdf/research/clf_reports/offshor-finfish-final.pdf.

[47] Rob Edwards, The Sunday Herald, *Scottish government accused of colluding with drug giant over pesticides scandal*, (June 2, 2017) http://www.heraldscotland.com/news/15326945.Scottish_government_accused_of_colluding_with_drug_giant_over_pesticides_scandal/.

[48] Milewski, *et al.*, (2018) *Sea Cage aquaculture impacts market and berried lobster catches*, Mar. Ecol. Prog. Ser. 598: 85-97, *available at* https://www.int-res.com/articles/meps2018/598/m598p085.pdf.

treatment, Azamethiphos and deltamethrin, are acutely toxic to lobster larvae, creating a significant risk for the species when located near finfish aquaculture facilities.[49]

Disturbingly, these industrial operations are also bidding to use Imidacloprid—a bee-killing neonicotinoid and neurotoxin that is highly toxic to aquatic invertebrates—to help control sea lice.[50] In addition, the industry has embraced the use of Formaldehyde—a toxic carcinogen posing risk to both public health and the marine ecosystem—as a form of disinfectant.[51]

Finally, marine finfish aquaculture facilities' use of antibiotics is contributing to the public health crisis of antibiotic resistance. Residual antibiotics and other chemicals may still be in farmed fish when they reach consumers, and they can also leach into the ocean, contaminating nearby water and marine life. In fact, up to 75% of antibiotics used by the industrial ocean fish farming industry are directly absorbed into the surrounding environment.[52]

Discharge of Pollutants: Another serious concern is the direct discharge of untreated pollutants, including excess food, waste, antibiotics, and antifoulants associated with industrial ocean fish farms. Releasing such excess nutrients can negatively impact water quality surrounding the farm and threaten surrounding plants and animals.

Harm to Wild Marine Life: These underwater factory farms can also physically impact the seafloor, create dead zones, and change marine ecology by attracting and harming predators and other species that congregate around fish cages. These predators – such as birds, seals, and sharks – can easily become entangled in net pens, stressed by acoustic deterrents, and hunted. In fact, an industrial ocean fish farm caused the death of an endangered monk seal in Hawaii, which was found entangled in the net.[53] In August 2018, Cooke Aquaculture entangled an endangered Humpback whale in large gillnets that it cast to recapture escaped farmed fish from a Canada facility.[54] These examples are merely two of many unfortunate incidents.

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[49] Parsons, *et al.*, *The impact of anti-sea lice pesticides, azamethiphos and deltamethrin, on European lobster (Homarus gammarus) larvae in the Norwegian marine environment*, Envt'l Pollution 264 (2020).
[50] Rob Edwards, The Ferret Scotland, Fish farm companies 'bidding to use bee-harming pesticide (March 17 2020).
[51] Rob Edwards, The Ferret Scotland, Toxic fish farm pesticide polluted ten lochs across Scotland (May 24, 2020).
[52] United Nations, "Frontiers 2017: Emerging Issues of Environmental Concern" at 15 (2017) https://www.unenvironment.org/resources/frontiers.
[53] Caleb Jones, USA Today, *Rare Monk Seal Dies in Fish Farm off Hawaii* (Mar. 17 2017), *available at* https://www.usatoday.com/story/news/nation/2017/03/17/rare-monk-seal-dies-fish-farm-off-hawaii/99295396/.
[54] Terri Coles, CBC News, *Humpback whale freed from net meant for escaped farm salmon in Hermitage Bay* (Aug. 14, 2018), https://www.cbc.ca/news/canada/newfoundland-labrador/whale-caught-gill-net-cooke-aquaculture-1.4784732.

Harm to Forage Fish & Environment for Feed: Large populations of farmed fish also require an incredible amount of fish feed, which carries its own environmental, public health, and human rights risks.[55] Most industrially farmed finfish, like salmon, are carnivorous and require protein in their feed. This often consists of lower-trophic level "forage fish," many of which are already at risk of collapse. Lately, aquaculture facilities are relying more on ingredients such as corn, soy, and algae as substitute protein sources, many of them genetically engineered, and which do not naturally exist in a fish's diet. Use of these ingredients can lead to heightened, widespread environmental degradation,[56] a heightened demand on natural resources, and a less nutritious fish for consumers. Moreover, the fish feed industry is a global contributor to human trafficking and slavery.[57] There are very few requirements for the industry to include traceability of ingredients or sourcing methods in fish feed, allowing these serious problems to pervade.

Socio-Economic Impacts to Communities: Finally, permitting commercial, marine finfish aquaculture in the United States could bring formidable economic harm to our coastal communities, food producers (on land and at sea), and other marine-reliant industries. Members of the wild-capture fishing industry have collectively voiced their trepidations over attempting to coexist with the marine finfish aquaculture industry, stating that "this emerging industrial practice is incompatible with the sustainable commercial fishing practices embraced by our nation for generations and contravenes our vision for environmentally sound management of our oceans."[58] These massive facilities could also close off and essentially privatize large swaths of the ocean that are currently available for numerous other commercial purposes, including fishing, tourism, shipping, and navigation. Given what we know about economies of scale and the business models of modern agriculture and terrestrial food production, we can only expect a similar trend at sea: that is, the marine finfish aquaculture industry could easily push out responsible, small-scale seafood producers and crop growers. This dynamic equates to an alarming imbalance of power, and allows corporations to dominate business structures, production methods, and management policies within the industry. Giving corporations disproportionate influence over food production also severely limits consumer choices.[59] Most importantly, our existing seafood producers are

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[55] *See generally*, Changing Markets Foundation, *Until the Seas Run Dry* (2019), *available at* http://changingmarkets.org/wp-content/uploads/2019/04/REPORT-WEB-UNTILL-THE-SEAS-DRY.pdf (concluding that using wild fish to feed farmed fish "raises concerns of overfishing, poor animal welfare and disruption of aquatic food webs; it also undermines food security in developing countries, as less fish is available for direct human consumption").

[56] Center for Food Safety, GE Food & The Environment, https://www.centerforfoodsafety.org/issues/311/ge-foods/ge-food-and-the-environment.

[57] David Tickler, *et al.* (2018) *Modern slavery and the race to fish*, Nature Communications 9: 4643, *available at* https://www.nature.com/articles/s41467-018-07118-9.

[58] Open letter to Members of the U.S. House of Representatives and Senate, Dec. 4, 2018, re: Opposition to marine finfish aquaculture in U.S. waters, *available at* http://foe.org/DecFishFarmingSignOnLetter/.

[59] *See generally*, Undercurrent News, "World's 100 Largest Seafood Companies" (Oct. 7, 2016) https://www.undercurrentnews.com/report/undercurrent-news-worlds-100-largest-seafood-companies-2016/; Tom Seaman, Undercurrent News, "World's top 20 salmon farmers:

acutely struggling from the sweeping impacts of the COVID-19 pandemic. The Administration should set aside its flawed mission to advance an industry with myriad documented harms, and instead prioritize protecting and assisting our preexisting – and deeply struggling – seafood production sectors.

II. LEGAL REQUIREMENTS

A. Clean Water Act

The Clean Water Act (CWA)'s goal is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). The Corps has authority under CWA Section 404 to regulate dredge and fill activities, including the various activities used in commercial shellfish aquaculture. *Id.* § 1344. Under the CWA, the Corps may only issues nationwide permits if "the activities in such category are similar in nature, will cause only minimal adverse environmental effects when performed separately, and will have only minimal cumulative adverse effect on the environment." 33 U.S.C. § 1344(e)(1). *See also* 33 C.F.R. § 323.2(h) (general permit may be granted on nationwide or regional basis only if "activities it covers are substantially similar in nature and cause only minimal individual and cumulative environmental impacts").

In issuing a general permit, either regional or nationwide, the Army Corps *must* properly consider the separate and cumulative impacts from the permit on the environment, and make a finding that the permit will not have more than minimal adverse impacts before granting any general permits under CWA § 1344(e)(1). The Corps may not legally adopt a NWP if the activities covered will cumulatively cause more than minimal adverse impacts to the environment. This determination for general permits must be supported, in accordance with the § 404(b) Guidelines, which require the Corps to provide documentation to support each factual determination, including cumulative impacts and secondary effects. 40 C.F.R. §§ 230.7(b); 230.11. If the Corps relies on mitigation measures to meet the CWA standard of no more than minimal adverse cumulative impacts, it must adequately document those mitigation measures and support their efficacy. *Id. See e.g. Wyoming Outdoor Council Powder River Basin Resources Council v. U.S. Army Corps of Engineers,* 351 F. Supp. 2d 1232 (D. Wyo. 2005) (finding Corps' was arbitrary and capricious when it issued a general permit for discharge of dredge and fill materials associated with coalbed methane gas in Wyoming, because it failed to consider cumulative impacts, relied on mitigation measures that were wholly unsupported and unmonitored, and failing to make a finding under the CWA that the cumulative impacts to the aquatic environment would be minimal, remanding to Corps); *Maryland Native Plant Socy. v. U.S. Army Corps of Engineers*, 332 F. Supp. 2d 845, 862 (D. Md. 2004) (finding Army Corps' decision to allow construction of housing developments involving dredging and/or filling of wetlands, to proceed under general statewide permit as having

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Mitsubishi moves into second place behind Marine Harvest" (June 29, 2016) https://www.undercurrentnews.com/2016/06/29/worlds-top-20-salmon-farmers-mitsubishi-movesinto-second-place-behind-marine-harvest/; Aslak Berge, Undercurrent News, "These are the world's 20 largest salmon producers" (July 30, 2017) http://salmonbusiness.com/these-are-the-worlds-20-largest-salmon-producers/.

minimal adverse environmental impact was arbitrary, capricious, and an abuse of discretion under the Administrative Procedures Act, where Corps failed to provide sufficient reasoning for its conclusion that project would have minimal adverse environmental impact).

B. National Environmental Policy Act

The B. National Environmental Policy Act (NEPA) "is our basic national charter for protection of the environment." 40 C.F.R. § 1500.1(a). It requires a detailed environmental impact statement (EIS) for all "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C). NEPA "ensures that the agency . . . will have available, and will carefully consider, detailed information concerning significant environmental impacts; it also guarantees that the relevant information will be made available to the larger [public] audience." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989).

If the federal action may significantly affect the environment, the Corps must prepare an EIS. *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1219-20 (9th Cir. 2008). If the agency finds instead that the action will not have a significant impact (FONSI), the agency must supply a "convincing statement of reasons" to explain how the action's impacts are insignificant. *Id.* at 1220 (quoting *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1212 (9th Cir. 1998) ("The statement of reasons is crucial to determining whether the agency took a 'hard look' at the potential environmental impact…")).

Whether an action is significant requires consideration of the "context" and "intensity" factors, and an action may be "significant," requiring an EIS, if even one of the factors is present. 40 C.F.R. § 1508.27; *Ocean Advocates v. U.S. Army Corps of Eng'rs*, 402 F.3d 846, 864-65 (9th Cir. 2005). A FONSI and a decision to forgo an EIS may be justified by adoption of mitigation measures; however measures "must be developed to a reasonable degree," and a "perfunctory description, or mere listing of mitigation measures, without supporting analytical data, is insufficient to support a finding of no significant impact." *Nat'l Parks & Conservation Ass'n v. Babbitt*, 241 F.3d 722, 733-34 (9th Cir. 2001) (citations omitted).

NEPA regulations require the agency analyze (take a hard look at) all direct, indirect, and cumulative impacts. See 40 C.F.R. §§ 1508.8; 1508.9; 1508.13; 1508.18; 1508.27. Cumulative impacts include the incremental impact of the proposed action when added to all past, present, and reasonably foreseeable actions, taken not just by the agency, but by any entity. *Id.* § 1508.7. A thorough consideration of cumulative impacts is required in an EA. *Kern v. U.S. Bureau of Land Mgmt.*, 284 F.3d 1062, 1075-77 (9th Cir. 2002).[60]

[60] Although the NEPA regulations were amended in July 2020, those rollbacks are arbitrary and capricious, and the subject of several court challenges. *See e.g. Alaska Community Action on Toxics et al. v. Council on Environmental Quality*, No. 3:20-cv-5199-RS (N.D. Cal.). Given these pending cases, and the pending transition in Administration, the Corps should comply with the NEPA regulations requiring cumulative impacts analysis, especially because the Corps must assess cumulative impacts anyway to lawfully adopt NWPs.

Alternatives to the proposed action are the "heart" of NEPA. 40 C.F.R. § 1502.14. EAs must assess a "no action" alternative, *i.e.* the status quo without the action, and a reasonable range of alternatives to the proposed action. *Earth Island Inst. v. U.S. Forest Serv.*, 697 F.3d 1010, 1022 (9th Cir. 2012); *W. Watersheds Project v. Abbey*, 719 F.3d 1035, 1050 (9th Cir. 2013); 42 U.S.C. § 4332(2)(E); 40 C.F.R. § 1508.9(b).

Finally because public disclosure is one of the pillars of NEPA, agencies are required to provide enough information to allow the public to weigh in and inform the decision-making process. *Bering Strait Citizens for Responsible Res. Dev. v. U.S. Army Corps of Eng'rs*, 524 F.3d 938, 952 (9th Cir. 2008).

C. Endangered Species Act

As recognized by the U.S. Supreme Court, the Endangered Species Act (ESA) is "the most comprehensive legislation for the preservation of endangered species ever enacted by any nation" and "reveals a conscious decision by Congress to give endangered species priority over the 'primary missions' of federal agencies." *Tenn. Valley Authority v. Hill*, 437 U.S. 153, 180, 185 (1978).

Section 7(a)(2) of the ESA requires every federal agency to consult the appropriate federal fish and wildlife agency (the Services, NMFS or FWS) to "insure" that the agency's actions are not likely "to jeopardize the continued existence" of any listed species or "result in the destruction or adverse modification" of critical habitat. 16 U.S.C. § 1536(a)(2); *see also* 50 C.F.R. § 402.01(b). Section 7(a)(2) requires the Corps, as the "action agency," to determine if a proposed action like the challenged permit approval here "may affect" any listed species or designated critical habitat. If so, then the Corps then must enter consultation with the expert wildlife agencies, FWS (for terrestrial and freshwater species) and NMFS (for marine species) 50 C.F.R. § 402.14(a); *id.* § 17.11; *id.* § 223.102; *id.* § 224.101. Importantly, the "may affect" standard is extremely low: "[A]ctions that have any chance of affecting listed species or critical habitat—even if it is later determined that the actions are 'not likely' to do so—require at least some consultation under the ESA." *Karuk Tribe of California v. U.S. Forest Serv.*, 681 F.3d 1006, 1027 (9th Cir. 2012) (en banc); *see also W. Watersheds Project v. Kraayenbrink*, 632 F.3d 472, 496 (9th Cir. 2011).

Formal consultation results in the expert consulting agency's BiOp determining whether the action is likely to jeopardize listed species. 50 C.F.R. § 402.14(h)(3). If the consulting agency determines that jeopardy is not likely, it issues an Incidental Take Statement (ITS) with the BiOp authorizing a defined amount of take that may result from the action. 16 U.S.C. § 1536(b)(4), (o)(2); 50 C.F.R. § 402.14(i)(5). The ITS includes other important components, including requirements to minimize impacts to species and to monitor and report take of protected species to ensure that the amount authorized is not exceeded. 16 U.S.C. § 1536(b)(4)(C)(ii); 50 C.F.R § 402.14(i)(1)(ii), (i)(3); *Wild Fish Conservancy v. Salazar*, 628 F.3d 513, 531-32 (9th Cir. 2010).[61] In all

[61] If an action "may affect" endangered species and/or its critical habitat, there is one exception to formal consultation: informal consultation. Agencies must still consult with the expert agency, but

of ESA analyses and decisions, agencies must "give the benefit of the doubt to the species," *Conner v. Burford*, 848 F.2d 1441, 1454 (9th Cir. 1988), and use the best scientific and commercial data available, 16 U.S.C. § 1536(a)(2).

The ESA requires this analysis be done "at the earliest possible time," 50 C.F.R. § 402.14(a). Later, individual-permit decisions will not be equivalent in scope, and will create impermissible piecemeal decision-making, a danger of death by a thousand cuts. "[T]he scope of the agency action is crucial because the ESA requires the [BiOp] to analyze the effect of the entire agency action." *Conner v. Burford*, 848 F.2d 1441, 1453 (9th Cir. 1988) (emphasis in original). *See e.g. N. Plains Res. Council v. U.S. Army Corps of Eng'rs*, 454 F. Supp. 3d 985, 994 (D. Mont. 2020) ("General Condition 18 fails to ensure that the Corps fulfills its obligations under ESA Section 7(a)(2) because it delegates the Corps' initial effect determination to non-federal permittees" and programmatic consultation is the only way to avoid "piecemeal destruction of species and habitat").

Agencies remain under a continuing duty under Section 7 of the ESA after consultation to insure that the action will not jeopardize species. Wild Fish Conservancy, 628 F.3d at 525. Accordingly, agencies must reinitiate formal consultation if new information reveals unassessed effects, the action is changed in a manner that causes unassessed effects, incidential take is exceeded, or a new species is listed or critical habitat designated. 50 C.F.R. § 402.16(a)-(d). *See also Pacificans for a Scenic Coast v. California Dep't of Transp.*, 204 F. Supp. 3d 1075, 1093 (N.D. Cal. 2016) (Reinitiating consultation is required if any one of the four triggering conditions are satisfied) (*citing Cottonwood*, 789 F.3d at 1088).

D. Magnuson-Stevens Act

The Magnuson-Stevens Act (MSA) established procedures to identify, conserve, and enhance Essential Fish Habitat (EFH) for species regulated under a federal Fisheries Management Plan. 16 U.S.C. §§ 1801 *et seq.* The MSA requires consultation with NMFS on all actions, including proposed actions, which may adversely affect EFH. 16 U.S.C. § 1855(b)(2). To "adversely affect" means any impact that reduces the quality and/or quantity of EFH, and may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey or reduction in species fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions. 50 C.F.R. § 600.810. When NMFS is consulted on impacts to EFH under this act, it must "recommend to such agency measures that can be taken by such agency to conserve such habitat," and should the action agency fail to adopt those measures it must explain its reasons for not following those measures. 16 U.S.C. § 1855(4).

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may avoid formal if during informal consultation the expert agency concurs in writing that, while the agency action in question "may affect" a species or habitat, that action is nonetheless "not likely to adversely affect" them. 50 C.F.R. §§ 402.13(a), 402.14(b)(1); *Pac. Rivers Council v. Thomas*, 30 F.3d 1050, 1054 n.8 (9th Cir. 1994).

III. COMMENTS SPECIFIC TO NWP 48 FOR COMMERCIAL SHELLFISH AQUACULTURE

The Corps has not cured the deficiencies in this permit or supporting Decision Document and should not issue NWP 48 as written. Because the continued lack of support for the Corps' conclusion that NWP 48 will have only minimal individual or cumulative adverse impacts, and its continued failure to comply with NEPA, adoption of NWP 48 as proposed is unlawful under *Coalition to Protect Puget Sound Habitat v. U.S. Army Corps. Of Engineers*, 417 F.Supp.3d 1354 (W.D. Wash. 2019); 2020 WL 3100829 (W.D.Wash. 2020) (vacating permit and remanding to Corps to issue lawful permits after compliance with CWA and NEPA). Further, based on impacts from NWP 48-authorized operations in other parts of the country, NWP 48 should not be issued at all.

A. 2020 NWP 48 Will Have More Impact Than 2017 NWP 48 And More Than Minimal Individual and Cumulative Impact.

The Corps is proposing to remove the designation of "new" operations, including its 100-year lookback rule for defining a "new" operation. The 100-year lookback was an inadequate definition for a "new" operation, given that it would mean almost no operations are "new" in Washington even if the area was recovered to a more natural state. However, removing *any* distinction for new operations, with the ½ acre limit of impacts to submerged aquatic vegetation, will result in *more* impacts. The Corps does little to justify this, given that it required this limit merely 3 years ago to ensure that impacts from NWP 48 would be no more than minimal. Allowing unlimited impacts to seagrasses will result in more than minimal cumulative impacts. Given that the Corps failed to support its minimal effects determination for 2017 NWP 48, *Coalition to Protect Puget Sound Habitat*, 417 F.Supp.3d 1354, and the Corps now proposes to *further lift* restrictions, it is unclear how the Corps can justify this permit.

The Corps' new Decision Document does not support its minimal effect determination under the CWA. The Corps fails to fully assess direct and cumulative impacts from commercial shellfish aquaculture in the following ways:

- Throughout the Environmental Consequences, Public Interest, and 404(b)(1) Guidelines Analysis, the Corps acknowledges some negative impacts, but then fails to assess them and instead focuses only on positive impacts. For example, despite the impacts from mechanical and hydraulic harvesting, these activities are barely mentioned, Dec. Doc. at 50, 62, let alone their harmful impacts assessed to the same degree as the supposed benefits from shellfish aquaculture. None of these sections are compliant with CWA and its regulations.
- Failure to meaningfully assess cumulative impact of tens of thousands of acres of commercial shellfish aquaculture on aquatic environment, despite acknowledging impacts to seagrass and wildlife and including *no limits* to these impacts (indeed removing the only quantitative limit of impacts to ½ acre of submerged aquatic vegetation). Dec. Doc. at 53 (asserting DEs will analyze cumulative impacts). Indeed, even the number of impacted acres is unclear. First the Corps says 13,360 acres will be

impacted total, *id.* at 81, and then asserts that a total of 40,080 acres may be impacted. This is a large disparity and goes to show how rushed this analysis is, and highlights the need for the Corps to take its time and conduct an *actual* cumulative impacts analysis before issuing another NWP 48. For the rest of the cumulative impacts section, the Corps starts with a conclusion that no compensatory mitigation will be needed to avoid cumulative effects, *id.* at 81, but then discusses stream restoration at length (despite this being *marine* shellfish aquaculture), and finishes with the assurance that compensatory mitigation required by DEs is expected to restore aquatic functions and reduce incremental contribution to cumulative effects. *Id.* at 87. It is unclear how mitigation can both be unnecessary *and* something the Corps is relying on to avoid cumulative impacts. The Corps should start with the "NEPA-level" draft cumulative impacts assessment conducted by Seattle District staff (Draft CIA) and go from there.

- Repeatedly defers to District Engineers to condition NWP 48 to ensure only minimal impacts, but must start with a "national decision document that actually evaluates the impacts of the proposed activity in light of any regional conditions imposed." *Coalition to Protect Puget Sound Habitat*, 417 F.Supp.3d at 1366. Corps cannot continue to support its minimal effects determination by punting to DEs.
- Fails to assess impacts of pesticides and plastics, Dec. Doc. at 49, 59, despite their use by some commercial shellfish aquaculture and not being prohibited under NWP 48. "The Corps' decision to ignore the foreseeable uses and impacts of pesticides in the activities it permitted on a nationwide basis does not comport with the mandate of NEPA or with its obligations under the CWA. Having eschewed any attempt to describe the uses of pesticides in commercial shellfish aquaculture or to analyze their likely environmental impacts, the decision to permit such activities through NWP 48 cannot stand." *Coalition to Protect Puget Sound Habitat*, 417 F.Supp.3d at 1364. "The CWA requires the Corps to make minimal adverse effect findings before issuing a general permit. If, as appears to be the case with regards to the discharge of plastics from the permitted operations, the Corps is unable to make such a finding, a general permit cannot issue. The Corps has essentially acknowledged that it needs to individually evaluate the impacts of a particular operation, including the species grown, the cultivation techniques/gear used, and the specific location, before it can determine the extent of the impacts the operation will have." *Id.* at 1366 n.10.

- Fails to assess impacts against real baseline, sweeping aside as only a small portion of human activities, so having only "minor incremental change to current environmental setting." Dec. Doc. at 46. *But see Coalition to Protect Puget Sound Habitat*, 417 F.Supp.3d at 1364 (The Corps must analyze the individual and cumulative impacts of the proposed activity against the environmental baseline, not as a percentage of the decades or centuries of degrading activities that came before.").
- Claims to have no duty to use any quantitative data, Dec. Doc. at 42, but the Corps has issued NWP 48 since 2007 and in Washington has required PCNs for operations to be authorized, and should be able after all these years to provide *some* quantitative data about loss of seagrasses, natural habitats, etc.

- Claims "standards and best management practices" can reduce impacts, but fails to explain what these are and how they will mitigate impacts. Dec. Doc. at 48, 57. Similarly, cites "operational standards" that can reduce negative effects (like "stocking densities, rotational practice, biosecurity measures") but fails to explain them or support their efficacy, or require them. *Id.* at 61.

- Appears to include only one significant new study to support determination, NRC 2010, but fails to grapple with information supplied by commenters in 2017 (and before) showing the harmful impacts of shellfish aquaculture. This publication was apparently available for the last two iterations of NWP 48 and was not relied on until now, and the Corps fails to include any more up-to-date information about the specific places NWP 48 will be used, which is overwhelmingly Washington. Moreover, the Corps does not actually conduct analysis urged by NRC 2010, which for instance includes a chapter on carrying capacity. The Corps appears to have done no modeling for the carrying capacity of Washington's bays and inlets for intensive shellfish aquaculture to actually determine whether 30,000-50,000 acres is too much.
- Ignores that impacts to submerged aquatic vegetation will be ongoing, not allowing recovery, when activities are ongoing. As noted above, recovery may not be possible for eelgrass, and as seen in Puget Sound over the last decade, aquaculture has reduced eelgrass. Claims that shellfish aquaculture can "coexist" with seagrass at "low densities" but fails to explain what low or high density shellfish aquaculture *means*, or how it is possible that 42,000 geoduck tubes per acre is "low density" shellfish aquaculture. Dec. Doc. at 51-52.
- Continues to look only at the "landscape level" (despite not conducting real cumulative impacts analysis), Dec. Doc. at 60, but Corps cannot ignore local impacts at the site level. 40 C.F.R. § 230.11(e) ("Consideration shall be given to the effect at the proposed disposal site of potential changes in substrate characteristics and elevation, water or substrate chemistry, nutrients, currents, circulation, fluctuation, and salinity, on the recolonization and existence of indigenous aquatic organisms or communities."); *Coalition to Protect Puget Sound Habitat*, 417 F.Supp.3d at 1359-60 ("Ignoring or diluting site-specific, individual impacts by focusing solely on a cumulative, landscape-scale analysis is not consistent with the governing regulations.").
- Still relies on Dumbauld (2015) to claim that impacts to eelgrass are minor/temporary, but that study looked only at one type of shellfish aquaculture (oyster) in one water body (Willapa Bay), and cannot be extrapolated for all types of shellfish aquaculture in all places across the country, much less for all parts of Washington. *Coalition to Protect Puget Sound Habitat*, 417 F.Supp.3d at 1361 ("the 2015 Dumbauld and McCoy paper cannot reasonably be interpreted as evidence that seagrass is only minimally impacted by commercial shellfish aquaculture."). Corps fails to grapple with losses/lack of recovery of seagrasses in Puget Sound, despite statewide "no net loss" policy.

- Reliance on general conditions (e.g. Dec. Doc at 66-67, concluding that General Conditions 2, 3, 4, 5 will protect indigenous species movement, spawning areas, and

migratory birds) fails to explain how they apply to shellfish aquaculture, how they will be used and be effective to mitigate harms. Moreover, the Seattle District staff have stated that "[i]n practice it is uncertain whether any of the general conditions would minimize effects of the action. Historically, these conditions have not been invoked to restrict activities under NWP 48." Draft CIA at 6.

- Discounts impacts to recreational or aesthetic values on basis that commercial private activities have more "right" to these areas. Fails to account for impacts to recreational or wildlife values, including tourism values to community. Dec. Doc. at 68.
- Claims commercially-reared bivalves improve water quality but cite no support for this claim being true in any waterbody in Washington. Dec. Doc. at 69-70. Fails to assess water quality impacts by deferring to DEs and CWA 401 certifications, but impacts to water quality must be assessed before granting NWPs.
- Continues to rely on reasoning that shellfish aquaculture is a minor subset of human activities, Dec. Doc. at 46, contrary to CWA (and NEPA) requirements. *See Coalition to Protect Puget Sound Habitat*, 417 F.Supp.3d at 1364 ("To the extent the Corps' minimal impacts determination is based on some sort of comparison between the environmental impacts of shellfish aquaculture and the environmental impacts of the rest of human activity... the analysis is inadequate."). As the district court said in its order finding NWP 48 unlawful, "[t]he Corps must analyze the individual and cumulative impacts of the proposed activity against the environmental baseline, not as a percentage of the decades or centuries of degrading activities that came before." *Id.*

The Corp fails to support its minimal impact determination for NWP 48 and cannot adopt it as proposed without further support.

B. The Corps' Environmental Assessment/FONSI Is Not Supported; Environmental Impact Statement Required.

The Corps drafted the Decision Document including its purported EA. However, this document falls far short of the Corps' NEPA duties, and given substantial questions as to significant impact, an EIS is required. The EA is deficient as follows:

- **No purpose and need statement**. EAs must include a discussion of the need for the proposal. 40 C.F.R. § 1508.9(b). Without this discussion, the public cannot know the scope of potentially reasonable alternatives.

- **Inadequate alternatives.** The alternatives are the "heart" of the NEPA analysis, and they are required in an EA, including a "no action" alternative and other reasonable alternatives. *Id.*, § 1508.25(b). The only meaningfully considered alternative is the Corps' proposed NWP 48. While the Corps lists the "no action" alternative, it barely analyses it, strangely concluding that it would somehow have *more substantial* adverse enviro consequences, despite there being no limits—quantitative or otherwise—on NWP

48 operations. Dec. Doc. at 54-55. The "national modification" alternative is not an alternative, but rather the proposed 2020 NWP 48. The "regional modification" alternative is also not a real alternative as it includes no conditions or changes from the proposed NWP 48, leaving it entirely open to potential conditions from regions or DEs. Thus, the Corps did not consider any other alternatives, and this is not a reasonable range. *See Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800, 812 (9th Cir. 1999); *'Ilio'ulaokalani Coalition v. Rumsfeld*, 464 F.3d 1083, 1101 (9th Cir. 2006).

- **Mitigation of Impacts**. Any mitigation measures used to show that an activity will not be "significant" (and thus require an EIS) must be adequately explained in detail and be enforceable. The Corps relies heavily on mitigation at the District level, but it fails to actually describe the possible effects (direct, indirect and cumulative) from shellfish aquaculture activities or how these unknown mitigation measures will actually avoid more than minimal adverse impacts. These shellfish activities have been permitted through NWPs since 2007, but the Corps makes no effort to provide information to the public of the impacts from these past permitted activities, possibly because the Corps did not have any system in place to actually monitor and evaluate these impacts (despite this requirement from previous nationwide programmatic ESA consultation in 2012-2014). While the Corps relies on to-be-determined regional conditions to mitigate any impacts and therefore make the NWP impacts minimal, it does not explain what kind of conditions might mitigate the potential adverse impacts. Nor does it provide any baseline that is relevant to commercial shellfish aquaculture as opposed to the general loss of wetland habitat nationwide (while shellfish will be grown in marine intertidal areas). The Corps also relies on the general conditions attached to the NWP to minimize impacts, however many of these general conditions are so vague as to be basically useless (i.e. general condition 23 requiring permittees to minimize and avoid impacts). How will the Corps ensure that permittees using NWP 48 for shellfish aquaculture activities will follow this condition? The Corps provides no guidance or concrete guidelines for how permittees can actually achieve the general conditions on which it relies to mitigate any more-than-minimal adverse impacts. Further, any individual mitigation measures will only be attached if a permittee is required to submit a PCN, and given the proposed conditions, that will likely be few and far between. The Corps is proposing to remove both PCN thresholds for this NWP, as well as the paragraph that identifies the additional information that permittees must submit with NWP 48 PCNs. This effectively removes almost all PCN requirements and so it is very unlikely that District Engineers will be able to effectively attach any individual mitigation measures under the proposed NWP 48.

- **Direct, Indirect, and Cumulative Impacts**. For all the same reasons the Corps fails to support its CWA minimal effects determination, it has also failed to assess direct, indirect, and cumulative impacts under NEPA.

- **Significance Determination**. The Corps fails to discuss the context and intensity factors that might indicate that this proposed NWP will have a "significant impact to

the human environment" and thus require an EIS. But several of the intensity factors are implicated here: shellfish aquaculture is controversial in Washington (and elsewhere), and as acknowledged by the Corps, there are possible effects on the human environment that are highly uncertain or involve unique or unknown risks. Dec. Doc. at 43. Because this permit would affect tens of thousands of acres of shoreline and estuarine aquatic environments, it has the potential to be cumulatively significant, particular when added to the other impacts and stressors to these regions. Any one of these intensity factors alone triggers the need to perform an EIS.

C. Activities Not Similar in Nature or Impact.

The Corps has not supported a determination that the activities authorized under NWP 48 are "similar in nature" as required by 33 U.S.C. § 1344(e)(1), and similar in "impact upon water quality and the aquatic environment" by 40 C.F.R. § 230.7(a)(1). *See, e.g., Nw. Envtl. Def. Ctr. v. U.S. Army Corps of Eng'rs*, 2013 WL 1294647, at *4 (D. Or. Mar. 27, 2013) (Corps violated CWA by failing to explain why general permit for gravel mining on river was appropriate, including how activities and impacts were similar in nature). As noted above, there is great variety to the types of bivalve aquaculture practiced, and the impacts to various parts of Washington (not to mention the rest of the county). *Coalition to Protect Puget Sound Habitat*, 417 F.Supp.3d at 1362 ("These variations gave rise to a wide array of effects on the aquatic habitat."); *id.* at 1366 ("Faced with incredible diversity in both the environment and the activities permitted under NWP 48, the Corps effectively threw up its hands and turned the impact analyses over to the district engineers.").

The Corps' analysis supporting its minimal effects determination does not address the myriad shellfish aquaculture activities or their various impacts. In particular, the Decision Document barely mentions geoduck aquaculture, despite it having different practices and impacts than oyster culture, which also varies widely between on-bottom culture, net/bag/rack culture, and long-lines. Some shellfish operations in Willapa Bay/Grays Harbor spray herbicides to kill eelgrass as part of their operations. These various types of operations and equipment have different impacts depending on the water body.

As the Court stated in *Coalition to Protect Puget Sound Habitat*, "[i]n issuing NWP 48, the Corps has opted to interpret the "similar in nature" requirement of 33 U.S.C. § 1344(e)(1) broadly so that all commercial shellfish aquaculture activities in the United States could be addressed in a single nationwide permit. That choice has made assessing the impacts of disparate operations difficult: the Corps essentially acknowledges that the permitted activity is performed in such different ways and in such varying ecosystems that evaluating impacts on a nationwide level is nearly impossible." Before making the same mistake, the Corps should consider whether certain types of shellfish aquaculture may actually be similar enough in nature and impact to warrant a NWP. As written, this permit does not comply with either requirement. 33 U.S.C. § 1344(e)(1); 40 C.F.R. § 230.7(a)(1).

D. CWA Section 404 Jurisdictional Activities.

Shellfish aquaculture involves many activities that meet the definition of discharge of dredge or fill. 33 C.F.R. § 323.2. Aquaculture is not exempt from CWA permitting under CWA § 404(f).[62] These activities include, but are not limited to, graveling/frosting, re-leveling the substrate (including harrowing and raking), weighing down bags with gravel, burying bags or canopy net edges with dredged or fill material, and mechanical or hydraulic harvesting. Seeding can involve activities such as the application of gravel or crushed shells to harden the ground involves discharge of fill material. 33 C.F.R. § 323.2; *see Coeur Alaska, Inc. v. Se. Alaska Conservation Council*, 557 U.S. 261, 275 (2009) (slurry fell "well within the central understanding of the term 'fill,'" because it was listed in the regulation's examples). For bag culture, gravel and/or shell fragments may be added to the bags, which are held in place with metal stakes. Bags may also be placed in shallow trenches during low tide and allowed to become buried in the substrate. Digging of ditches constitutes dredging. *Avoyelles Sportsmen's League, Inc. v. Marsh*, 715 F.2d 897, 925 (5th Cir. 1983). Adding gravel or shell to bags also implicates § 404 even if the bags themselves do not qualify as fill material. *See United States v. Sweeney*, No. 217CV00112KJMKJN, 2020 WL 5203474, at *26 (E.D. Cal. Sept. 1, 2020) (citing Corps enforcement letter classifying concrete inside a sunken barge as fill material even where the barge was not). To the extent geoduck tubes constitute fill material, are installed with machinery, or are structures that change the bottom elevation of the water, they are also subject to CWA § 404. 33 C.F.R. § 323.2. Maintenance activities may include mud or sand removal, and when mud or sand are removed, they are dredged material. 33 C.F.R. 323.2(c). If the dredged material is discharged back into the water, it requires a permit unless the fallback is incidental. *Id.* at 323.2(d)(1). Harrowing or re-leveling the surface to, for example, bring shellfish to the surface, is a § 404 activity. Harvesting shellfish usually involves dredging and discharge of dredged material under 33 C.F.R. § 323.2. Dredge bags, for example, have a leading edge (blade) consisting of a steel frame with teeth and a steel mesh collection bag attached to the frame which loosens the shellfish and guides them into the bags. Finally, wet storage is a temporary

[62] The Seattle District Corps website notes that there is no 404(f) exemption for commercial shellfish aquaculture. U.S. Army Corps of Engineers, *Shellfish Aquaculture Frequently Asked Questions*, Seattle District Website, at Permitting FAQ A.1, https://www.nws.usace.army.mil/Missions/Civil-Works/Regulatory/Shellfish-Aquaculture. This is because "EPA has the final authority to interpret Clean Water Act Section 404(f) exemptions" and has not yet done so for shellfish aquaculture. *Id.*; *see* EPA, *Memorandum of Agreement: Exemptions Under Section 404(f) of the Clean Water Act*, at I, https://www.epa.gov/cwa-404/memorandum-agreement-exemptions-under-section-404f-clean-water-act (stating Attorney General opinion gives EPA "the ultimate authority under the CWA to determine . . . the application of section 404(f) exemptions"). Aquaculture is not properly considered normal or established "farming," as aquaculture is not like terrestrial farming. Moreover, Section 404(f) provides only "a narrow exemption for agricultural and silvicultural activities that have little or no adverse effect on the nation's waters." *Avoyelles Sportsmen's League, Inc. v. Marsh*, 715 F.2d 897, 926 (5th Cir. 1983) (citing legislative history). As stated above, shellfish aquaculture can have more than minimal adverse effects on the nation's waters.

storage tank that maintains live shellfish after they have been harvested; the intake or outfall structures (pipes) associated with wet-storage tanks implicate § 404.

Even for activities that do not directly result in discharge of dredge or fill material, the Corps must document secondary effects, and has the authority to impose conditions reasonably related to the purpose of CWA permits. First, the Corps' regulations require it to make a "determination of *secondary effects* on the aquatic ecosystem." 40 C.F.R. § 230.11 ("Secondary effects are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. Information about secondary effects on aquatic ecosystems shall be considered prior to the time final section 404 action is taken by permitting authorities."). The §404(b) guidelines require secondary effects to be considered prior to issuing a general permit. *Wyoming Outdoor Council Powder River Basin Resources Council v. U.S. Army Corps of Engineers*, 351 F.Supp.2d 1232, 1255 (D. Wyo. 2005) (finding the Corps' cumulative effects determination for a general permit was unlawful, in part, because it failed to evaluate the secondary effects to non-wetland aquatic environments). *See also Fox Bay Partners v. U.S. Corps of Eng'rs*, 831 F. Supp. 605, 609-10 (N.D. Ill. 1993) (upholding the Corps' denial of a private marina project based on its evaluation of the cumulative and *secondary* impacts, including increasing boat traffic in an already heavily trafficked area).

Second, the Corps has authority to impose conditions that are "reasonably related" to the purpose of the permit (here, commercial shellfish aquaculture). *United States v. Mango*, 199 F.3d 85, 93 (2d Cir. 1999) (citing the Corps' own regulations that interpret the CWA authority to issue permits as including conditions directly *or indirectly* related to the discharge). The court in *Mango* found that the Corps' regulations giving it authority to include indirectly related conditions to a Section 404 permit were reasonable based on the CWA's mandate to consider the effect of discharges "on human health or welfare," "ecosystem diversity," and "esthetic, recreation, and economic values." *Id.*; *see also Nat'l Ass'n of Home Builders v. U.S. Army Corps of Eng'rs,* 453 F. Supp. 2d 116, 134 (D. D.C. 2006) (holding that "the requirement to establish and maintain vegetated buffers when practicable is reasonably related to the discharges of dredged or fill material."); *Save Our Sonoran, Inc. v. Flowers,* No. CV-02-0761-PHX-SRB, 2006 WL 1160191, at *16-17 (D. Ariz. May 2, 2006) (Corps modified permit imposing specific mitigation requirements for removal of upland vegetation were "reasonably relate[d] to the permitted discharge and are within the Corps' jurisdiction to impose); *WaterWatch of Oregon v. U.S. Army Corps of Eng'rs,* CIV. NO. 99-861-BR, 2000 WL 1100059, at *9 (D. Or. June 7, 2000) (conditions on the construction of water pumping stations regarding the operation of these stations were reasonably related to the purpose of the permits). Thus, even if the Corps determines that some shellfish aquaculture activities do not constitute discharge of dredge or fill, it must still document them and consider whether to condition them as reasonably related to the discharge activities. All shellfish aquaculture activities are reasonably related to the jurisdictional ones, as they would have no purpose without each other and are completely interrelated/intertwined.

E. The Corps Must Comply With ESA Section 7 and MSA Prior to Issuing NWP 48.

The Corps must consult if its proposed issuance of NWP 48 may affect listed species or their critical habitat. Rather than comply with ESA Section 7 (as it has in past years for nationwide permits), the Corps reiterates its 2017 position that it does not have to consult on the NWPs before issuing them because it is requiring individual consultation under General Condition 18. This position is not based on any science or legally justified (as explained above Section 7 clearly requires consultation *before* the action and the trigger for consultation is very low). Rather, the Corps Regulatory Program Manager acknowledged that "for the 2017 NWPs, *we would have to do a new consultation*," but instead stated that the Corps could make a "no effect" determination to avoid programmatic consultation and "[w]e could continue to make the national 'no effect' determination for each NWP reissuance until it is challenged in federal court and a judge rules against the Corps. If we lose in federal court, then we would start doing the national programmatic consultations again." [63] That is exactly what happened. *N. Plains Res. Council v. U.S. Army Corps of Eng'rs,* 454 F. Supp. 3d 985, 994 (D. Mont. 2020) (holding that the Corps violated the ESA by failing to programmatically consult on the issuance of NWP 12).

NWP 48 more than meets the low threshold for consultation as it "may affect" listed species: commercial shellfish aquaculture impacts water quality, sediments/benthos, and habitat/food (like eelgrass) for ESA-listed species. *See supra* (shellfish aquaculture impacts). It overlaps directly with habitat (including designed critical habitat) for numerous species. In Washington where the bulk of NWP 48 authorizations are, this is abundantly clear and the Seattle District has previously conducted programmatic consultation (resulting NMFS biological opinion found likely adverse impacts to five fish species).[64] However, that consultation does not cover *all* of NWP 48, either as adopted in 2017 or as proposed now: it was limited to Washington, and only included a certain number of acres of existing commercial aquaculture in a "footprint," limited new acres, and only operations that were limited to several dozen Conservation Measures, and those that did not use pesticides. As proposed, NWP 48 goes far beyond these limitations, covering unlimited new operations without any conditions to protect seagrass and other sensitive habitats and species, including no acreage limits or any prohibition on pesticide use. If the Seattle District seeks to adopt NWP 48 again—which it cannot do legally under CWA—it will at minimum need to reinitiate consultation based on the mismatch between NWP 48 and the prior programmatic consultation. 50 C.F.R. § 402.16(a)-(d). But before getting to the district level, the Corps must consult on NWP 48 prior to issuance.

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[63] Email from David Olson (Jan. 17, 2014).

[64] NMFS *Endangered Species Act Section 7 Formal Biological Programmatic Opinion and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for Shellfish Aquaculture Activities in Washington State* (2016) (2016 BIOP), https://www.nws.usace.army.mil/Portals/27/docs/regulatory/160907/NMFS_2016_09-02_WA%20Shellfish%20Aquaculture_WCR-2014-1502.pdf.

The Corps must also consult on a nationwide programmatic basis with NMFS under the MSA, 16 U.S.C. § 1855(b)(2), because Essential Fish Habitat is adversely affected by shellfish aquaculture.[65] Because the proposed NWP 48 differs substantially from the action previously consulted on, even the Seattle District cannot rely on past EFH consultation.

IV. COMMENTS SPECIFIC TO NWP B FOR OFFSHORE FINFISH AQUACULTURE

A. NWP B Will Have Cumulatively Significant Impacts

NWP B authorizes "the installation of cages, net pens, anchors, floats, buoys, and other similar structures" including structures anchored to the seabed in waters overlying the outer continental shelf, for finfish aquaculture. Beyond the most basic of PCNs, this general permit contains no conditions, quantitative or otherwise, to ensure minimal individual or cumulative impacts. But offshore or open ocean aquaculture is a novel type of activity, and while it has not been practiced on a commercial scale in US federal waters, the impacts on state waters and other nations' experience with this industry indicate that this permit *cannot* ensure minimal impacts. Indeed, the Corps can point to no reason to use a NWP rather than individual permits other than Executive Order 13921. But Executive Orders cannot change the substantive requirements on the Corps, including the requirement that any NWP only allow "activities are substantially similar in nature and cause only minimal individual and cumulative environmental impacts." 33 C.F.R. § 322.2. Because finfish aquaculture has many harmful impacts, the Corps cannot reasonably determine that such operations will only have minimal impacts, either individually or cumulatively. Further, the opening of federal waters to floating fish factory farms is of great public interest, the Corps must require individual permits for any such operations, and give the public ample ability to comment on specific operations.

The Corps' decision as to whether to issue NWP B must "be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest." 33 C.F.R. § 320.4. This includes a balancing of any benefits with reasonably foreseeable detriments. *Id.* The Corps must consider all factors relevant to a proposal, including in part conservation, economics, aesthetics, general environmental concerns, historic properties, fish and wildlife values, navigation, recreation, water supply and conservation, water quality, and the needs and welfare of the people. *Id.* This includes the cumulative effects of these various impacts. The Corps must also consider "[w]here there are unresolved conflicts as to resource use, the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work." *Id.* § 320.4(2).

The Corps' minimal effects determination for NWP B is deficient in the following ways:

- Affected Environment appears to discuss only jurisdictional waters within the coterminous United States and *completely ignores* the federal marine waters (coastal and Exclusive Economic Zone between 3 and 200 miles offshore) that would be impacted by this permit.

[65] NMFS, 2016 BIOP at 105-111.

- Repeatedly defers to District Engineers to condition NWP B authorizations to ensure only minimal impacts, but must start with a "national decision document that actually evaluates the impacts of the proposed activity in light of any regional conditions imposed." *Coalition to Protect Puget Sound Habitat*, 417 F.Supp.3d at 1366. Corps cannot support its minimal effects determination by punting to DEs.
- Minimal effect determination is based on non-existent "acreage limits or any other quantitative limits in the text of the NWP," general conditions (without explanation), and as-yet-determined regional or activity-specific conditions. A minimal effect determination cannot rest on such conclusory evidence.
- Impacts section describes none of the foreseeable impacts from finfish aquaculture, nor the unknown impacts from this relatively new concept in the U.S. and internationally.
- The Corps estimates that 25 operations may use this permit to install finfish aquaculture operations, but provides no other estimates of how big these operations might be or their impacts from fish escapes, marine wildlife entanglements, pollutants, etc. While exact numbers may not be known, the Corps must at least use the information widely available as to the known impacts of net pen finfish aquaculture, *see supra.*
- No limits imposed; despite briefly describing some potential limits (site selection of well-flushed waters, avoiding seagrass beds, corals, etc) the permit includes none of these requirements.
- Economics section of public interest analysis ignores harm to traditional fishing communities from finfish aquaculture as well as disruptions to other marine-reliant industries, activities, and coastal communities. *See supra*.
- Relies on General Condition 23 to minimize adverse environmental effects, but how can DEs even condition these permits if Corps lacks authority to do so?
- Does not acknowledge potential conflicts between traditional fishing (commercial, recreational) and these facilities.

Further, the Corps has not described in any detail the various types of finfish aquaculture operations in terms of equipment or species, but does not dispute the variety of possible operations and impacts. The Corps has not supported a determination that the activities authorized under NWP B are "similar in nature" as required by 33 C.F.R. § 322.2.

Most disturbingly, the Corps acknowledges harms from escaped fish (genetic, disease transfer), pollutants and nutrients from these facilities, Dec. Doc. at 46-48, 59-61, and admits that they are likely to have adverse effects on the general environment, *id.* at 49-50, but includes no mitigating measures to avoid this known harm. Instead the Corps claims it lacks authority to impose any of the conditions it identifies that may mitigate these serious impacts. *Id.* at 47. But the Corps cannot issue a NWP if it will have more than minimal adverse impacts, so the Corps' alleged lack of authority to condition this permit does not excuse issuing a permit that does not comply with its own regulations. Because the Corps cannot ensure that NWP B will have minimal adverse individual or cumulative impacts, it must not issue the permit.

B. Corps Must Comply With NEPA and EIS Required

The Corps seems to have concluded without any analysis that an EIS is not required. But this document (including the Corps' environmental assessment) falls far short of the Corps' NEPA duties, including the requirement to take a "hard look" at potential impacts. Given substantial questions as to significant impact and existence of several triggering "intensity" factors, an EIS is required. The EA is deficient as follows:

- **No purpose and need statement**. EAs must include a discussion of the need for the proposal. 40 C.F.R. § 1508.9(b). Without this discussion, the public cannot know the scope of potentially reasonable alternatives.

- **Inadequate alternatives.** The alternatives are the "heart" of the NEPA analysis, and they are required in an EA, including a "no action" alternative and other reasonable alternatives. *Id.*, § 1508.25(b). The only meaningfully considered alternative is the Corps' proposed NWP B. While the Corps lists the "no action" alternative, it is barely analyzed. The "national modification" alternative is not an alternative, but rather the proposed NWP. The "regional modification" alternative is also not a real alternative as it includes no conditions or changes from the proposed NWP 48, leaving it entirely open to potential conditions from regions or DEs. The Corps also includes a "case-specific on-site" alternative, that is whatever individual conditions a DE might attach to an individual operation. Like the "regional modification" this not a real alternative. The Corps cannot assess and *compare* the impacts of alternatives that do not exist yet. Thus, the Corps did not consider any other alternatives, and this is not a reasonable range. *See Muckleshoot Indian Tribe v. U.S. Forest Serv.,* 177 F.3d 800, 812 (9th Cir. 1999); *'Ilio'ulaokalani Coalition v. Rumsfeld*, 464 F.3d 1083, 1101 (9th Cir. 2006). Moreover, this individual conditioning "alternative" merely highlights the need for individual review of offshore finfish aquaculture operations, and the only purpose of a NWP in that case seems to be cutting out the public, as they are unable to review or challenge individual authorizations under NWPs.

- **Significance Determination**. The Corps fails to discuss the context and intensity factors that might indicate that this proposed NWP will have a "significant impact to the human environment" and thus require an EIS. But several of the intensity factors are implicated here: the size and effect of finfish aquaculture operations authorized under this NWP are controversial; there are possible effects on the human environment that are highly uncertain or involve unique or unknown risks; NWP B has the potential to be cumulatively significant, particular when added to the other impacts and stressors to the ocean; and NWP B may harm threatened or endangered species. Any one of these intensity factors alone triggers the need to perform an EIS. The Corps admits the myriad harms from finfish aquaculture in its public interest review, but fails to describe how those potentially significant harms will be mitigated below the level of significance. An EIS is required.

- **Mitigation**. None required but still mitigation by DEs is relied upon to support insignificant impact finding. NEPA requires agencies to explain mitigation and why it will be effective to reduce impacts below significance.

- **Direct, Indirect, and Cumulative Effects.** The Corps says it considered the reasonably foreseeable direct, indirect, and cumulative effects of NWP B, Dec. Doc. at 35. But while its assessment lists generally the harmful impacts from finfish aquaculture, it fails to assess these types of impacts to the regions most likely to be affected by operations authorized under the permits. In particular, NOAA has recently announced its designation of southern California and the Gulf of Mexico as "aquaculture opportunity areas" pursuant to the same Executive Order that bred these NWPs.[66] While this permit is nationwide, the Corps can certainly predict which areas of the federal waters are most likely to see project applications and has a duty to assess the impacts to those regions at the outset, before issuing the permits. While regional Corps offices must conduct further regional analysis, the Corps cannot entirely defer this duty to later piecemeal analysis. *Coalition to Protect Puget Sound Habitat*, 417 F.Supp.3d at 1365-67. Further, analysis of "alternatives" other than proposed permit is completely inadequate and conclusion that "no action" would have more significant impacts is illogical and unsupported.

C. Corps Must Comply With ESA and MSA

NWP B would authorize activities that "may affect" marine mammals, birds, and turtles that are listed as endangered or threatened under the ESA, and may adversely affect Essential Fish Habitat under the MSA. ESA Section 7 requires consultation with the Services prior to issuing this permit, and the MSA requires consultation with NMFS. The Corps must do this at the outset, before issuing the permit. For the same reasons as stated above for NWP 48, the Corps cannot defer consultation on these impacts to the individual project level. As one court has already determined, General Condition 18 does not comply with the ESA.

V. COMMENTS SPECIFIC TO NWP A FOR OFFSHORE SEAWEED AND SHELLFISH MARICULTURE

The supporting documentation for this permit suffers from the same deficiencies as described above.

The following changes for NWP A are required to ensure that our marine ecosystems and coastal communities are adequately protected: (1) no facilities should be permitted in or near marine protected areas or sensitive areas, such as essential habitat for seagrass, wild fish, and coral

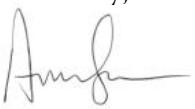
[66] On August 20, 2020, NOAA announced the designation of federal waters in the Gulf of Mexico and Southern California regions as Aquaculture Opportunity Areas (AOAs). NOAA, Press Release, NOAA Announces Regions for First Two Aquaculture Opportunity Areas under Executive Order on Seafood (Aug. 20, 2020).

reef; (2) no facilities should be permitted that utilize plastic equipment or inputs such as pesticides, herbicides, or pharmaceuticals; (3) the permits should require extensive documentation of compliance with all design and operation standards, with routine reporting mandates; and (4) the permits should incorporate more rigorous operation, emergency response, and pollution standards, with swift and severe repercussions for noncompliance, including revocation of permits. If the Corps cannot require these measures, it cannot issue the permit.

CONCLUSION

The Corps should not adopt NWP 48, for the same reasons NWP 48 was found unlawful in *Coalition to Protect Puget Sound Habitat v. U.S. Army Corps. Of Engineers*, 417 F.Supp.3d 1354 (W.D. Wash. 2019). Absent lawful regional general permits, the Corps must require individual permits for the remaining shellfish aquaculture operations. The Corps should not adopt the new NWP B for finfish aquaculture in federal waters, because these operations have significant effects and do not met the criteria for minimal individual or cumulative impacts. As to NWP A, if it is to be issued, it must include additional protections to ensure only minimal cumulative impacts. The Corps should defer issuance of any permits until after the transition of administrations, particularly those based solely on Executive Orders.

Sincerely,



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