November 16, 2020

Comments regarding: FR v85:#179 pp 57,298 - 57,395
Docket Number COE– 2020–0002 and/or RIN 0710–AA84

On behalf of the grower members of the Pacific Coast Shellfish Growers Association (PCSGA) and the East Coast Shellfish Growers Association (ECSGA), thank you for the opportunity to comment on the U.S. Army Corps of Engineers' (Corps) proposal to reissue and modify several Nationwide Permits, including 48, which is specific to shellfish culture. As organizations representing those who are regulated under NWP48, PCSGA and ECSGA opted to submit a joint letter to cover perspectives shared by these two organizations on NWP 48 as well as other aquaculture provisions such as NWP A and NWP B.

The PCSGA was founded in 1930 and represents approximately 100 private and tribal farms, providing over 3,000 jobs in Alaska, California, Hawaii, Washington, and Oregon. PCSGA's members are diverse in both farm size and location where oysters, clams, mussels, and geoduck are grown for both domestic and export markets at a value of nearly $300 million. The ECSGA represents 1200 farms from Maine to Florida, along with a nascent community of farms on the Gulf Coast, that collectively harvest over $170 million worth of sustainably farmed clams, mussels and oysters.

Shellfish has been an integral part of our nation's rural coastal communities for over a century. We look forward to reissuance of NWP 48 and its use across the nation in support of rural communities, food security, and environmental stewardship.

GENERAL OVERVIEW

PCSGA and ECSGA offer general support for the use of Nationwide Permits (NWPs) for activities, such as shellfish farming, which result in no more than minimal individual and cumulative adverse environmental impacts. NWPs provide a clear, consistent, and transparent pathway for permitting activities under the Corps authority of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Inclusion of seaweed and finfish mariculture as new categories under NWPs is a helpful step in addressing food security for our nation. The proposal generally accurately reflects the scope of shellfish-related activities and demonstrates the Corps' general familiarity with shellfish culture. The proposal also demonstrates what shellfish growers have observed for over a century – that the adverse effects related to shellfish culture are both minor and temporary. Equally important are the benefits of shellfish culture such as long-term benefits associated with improved water quality and sequestration of carbon and

nutrients; creation of habitat via culturing equipment and materials; pseudofeces as a nutrient enhancement that supports invertebrates, macroalgae, and seagrasses; and benefits to animal and plant life of minor benthic disturbance that expose infauna to predation and increase the depth of oxygenated sediments.

It is our collective belief that several statements and positions made in the proposal would benefit from further justification, and we request that noted sources included in this letter be included in the Corps' Decision Document.

- We request further clarification regarding the placement of material, including shell for seeding.
- We request that the Corps differentiate between "mechanical harvest" and dredging and fill. The terms are conflated in the document, and practices associated with shellfish culture are not equivalent to those traditionally thought of when using these terms.
- We request the addition of references provided in our response. Several statements and positions made in the proposal would benefit from further documentation. Specifically, we note many scientific studies that confirm Corps' findings regarding the compatibility of aquaculture activities and submerged aquatic vegetation, and the ecosystem services provided by shellfish aquaculture. We hope that these references, as well as others we provide, will help reinforce some of the rationale offered by the Corps for the changes and we request that they be included in the Decision Documents, as appropriate.

NWP 48 COMMENTS

Our NWP 48 comments are organized by the following topics: "Mariculture" vs. "Aquaculture", Seed and Shell Cultch; Dredging, Mechanical Harvest, and Fill; Submerged Aquatic Vegetation and Shellfish Aquaculture Interactions; Ecosystem Services; Cumulative Impacts; Chemical Use; Compliance Costs; Non-native Species.

"MARICULTURE" vs. "AQUACULTURE"

The Corps provides an extensive justification, on page 57330, column 2, for changing the term "aquaculture" to "mariculture" in NWP48 largely to acknowledge that shellfish, seaweed and marine finfish are grown in coastal waters. We appreciate the effort by the Corps to distinguish the culture location through the use of the term "mariculture." The term "mariculture" has been largely abandoned by the shellfish farming community in favor of the term "aquaculture." Both "mariculture" and "aquaculture" are used throughout the country and there is concern that changing the term to mariculture may result in the unintended consequence of confusing or invalidating local and regional policy and regulations. We respectfully suggest that the Corps follow the lead of the National Aquaculture Act of 1980 and add modifying terms to "aquaculture" and create improved specificity and/or recognize that the two terms can be used interchangeably in national discussions.

SEED AND SHELL CULTCH

We concur with the Corps that *"Placing shellfish seed on the bottom of a waterbody is not a "discharge of fill material" and thus does not require a section 404 permit."* (page 57334, column 3) Whether the placement of seed is done for commercial aquaculture, habitat restoration or fisheries enhancement we do not believe it should require a Corps permit unless there is significant placement of associated material in quantities adequate to alter the depth of the waters. Bottom culture of shellfish in the absence of structures (as defined) should not trigger the regulatory authority of the Corps under either the CWA or the RHA.

Page 57334, column 3 of the proposed rule states "*Placing gravel or shell on the bottom of a waterbody to provide suitable substrate for bivalve larvae to attach to is considered to be a "discharge of fill material" and would require section 404 authorization."* We request the Corps include language in the Decision Document to differentiate "sparsely placing shell to catch larva" with the intent of it being transplanted and/or harvested, which is a temporary activity, from "hummock building" and restoration efforts, which are intended to be in place for a longer or permanent period. These activities are different and have very different impacts and intentions. Sparsely placing shell at the correct location and time of year to catch naturally occurring larva closely mimics the act of planting shellfish seed and should be treated as such to the extent possible. Furthermore, NRC2010 specifically states that "*Shell is also an important source of sedimentary carbonate content. The carbonate budget of estuarine and coastal waters is now of concern because of extensive shell extraction*……" and "*Mariculture of bivalve molluscs can contribute favorably to shell production and preservation in coastal ecosystems if the operators return the shell resource to the environment after harvest*." Shell budgets in coastal estuaries are addressed by Powell and Klink 2007.

We support the Corps in its intentions that permanent placement of large volumes of materials that materially alter the bottom topography, result in large mounds, intentionally create new hummocks/reefs, or significantly change the depth profile should be examined for potential impacts to essential fish habitat (EFH), submerged aquatic vegetation (SAV) or navigation, and these should be permitted activities under Section 404, especially if they are in areas not previously recognized as naturally occurring shellfish beds or used for cultivation of shellfish.

Some shellfish farming may require the placement of material to enhance the bottom substrate to prevent planted seed from sinking into the mud or to generally enrich substrate for clam survival. Typically, these materials are clean, recycled shell or gravel that should <u>not</u> qualify as "fill." These practices have been used in shellfish farming and enhancement for decades, and in many cases were originally proposed and introduced by state resource managers. (Dugas et al. 1991; VanderKooy 2012). As long as these activities do not significantly alter the depth or bottom topography they should be exempt from RHA and CWA permit requirements as activities associated with normal farming activities, and therefore not subject to regulation under section 404. (See 33 CFR 323.4 for discharges that do not require permits.)

We request the Corps incorporate into the Decision Document, the above concepts and references regarding shellfish seeding and restoration activities as they relate to defining “structure”.

DREDGING, MECHANICAL HARVEST, AND FILL

In many sections of the Federal Register discussion on NWP 48 the term “dredging” is used related to the act of harvesting shellfish. Shellfish growers conduct “mechanical harvest” but do not “dredge” in the commonly understood definition of the word. We ask that the Corps provide in its Decision Document clear definitions of these terms and use only the terms associated with activities shellfish farmers actually do. Mechanical harvest of shellfish can utilize several types of equipment that have unfortunately been referred to as “dredges” (such as suction dredges, hydraulic dredges and simple towed “scrapes” which are essentially a rake fitted with a bag.) None of these harvest tools are designed to remove large quantities of material to improve the navigability of waters. As such these activities should be considered as normal farming practices, per 33 CFR §323.2(d)(3)(iii) (Creswell and McNevin 2008). It is neither the intention nor desire to displace significant amounts of sediment while harvesting. The sediment provides the benthos and substrate that is needed for future planting of shellfish. The sediment that may be disturbed during harvest should be exempted under 33 CFR §323.2(d)(1) as “incidental fallback” (Stokesbury et al. 2011).

If the Corps would like us to provide images of commonly used shellfish harvest equipment to help differentiate mechanical harvest from dredging, we would be happy to provide them.

Mechanical harvest of shellfish is intended to capture the shellfish while leaving the sediment in place. Sediment disturbed by rakes or mechanical harvest methods falls back to the benthos and according to Stokes Law; the larger heavier pebbles and sand settle immediately, while the finer silt and clay particles may remain in suspension for hours and may be dispersed over a large area depending on the tides. The mass of these “fines” varies with sediment type, but most researchers have found that while the appearance of these sediment plumes can be visually jarring, the mass of material contained in the sediment plume is insignificant once you get a few dozen meters from the harvest equipment (Godcharles 1971).

More specifically, researchers have documented that more than 98% of the mass of sediment that is disturbed through the mechanical harvesting of shellfish falls back to the bottom within a few meters of the dredge (depending on the dredge type and sediment type) (Godcharles 1971, Stokesbury et al. 2011). Tarnowski (2001) reported that hydraulic dredge impacts to turbidity are worst in fine silty clay sediments because the particles remain suspended longest. The maximum distance of detectable deposits resulting from hydraulic dredging was 22.9 m (75 ft), while another study found negligible sedimentation at 4.6 m (15 ft) from a shellfish harvesting site.

Numerous studies have documented the impacts of mechanical shellfish harvesting and found the impacts on benthic communities to be transient and reversible (DeAlteris et al. 1999, Goldberg et al 2012, Stokesbury et al. 2011, Review by Mercaldo-Allen and Goldberg 2011). In a before-after-control study of the impacts of hydraulic clam dredging in Long Island Sound researchers concluded that "shellfish dredging had minor effects and that cultivated shellfish beds support a wide diversity of organisms." Recruitment of clams was actually enhanced in beds that were dredge harvested in comparison to the controls (Goldberg et al. 2012, Mercado-Allen et al. 2016, Mercaldo-Allen et al. 2017).

A 2011 meta-analysis of 56 previous experimental studies on dredging by Mercaldo-Allen and Goldberg showed that gear type, region, and taxonomic class had the greatest influence on the benthic biota. Several previous studies on inshore clam dredging using a Maryland soft-shell escalator dredge, a hydraulic clam dredge, a mechanical hydraulic shellfish harvester and hydraulic dredge documented little to no persistent impacts of harvesting (Tarnowski 2001).

Most studies of shellfish harvest with hydraulic dredges report some level of immediate disturbance and incidental mortality to organisms located in the direct path of the harvesting device, but the extent and duration of effects are generally limited (Godcharles 1971, Tarnowski 2001). The exception is when these tools are used in habitats with vertical structure such as cobble, corals or sea grasses (Reviewed by Coen 1995, Collie et al. 1997). These habitats will suffer from the flattening of vertical structure and the uprooting of seagrasses can take years to recover. Tarnowski (2001) characterized the impact of hydraulic dredges on eelgrass as "catastrophic." This is not usually a concern for aquaculture sites which are typically harvested every two to five years and are located in areas that are typically devoid of vertical structure (and especially devoid of eelgrasses in areas permitted for hydraulic dredging) (Stokesbury et al. 2011). Conversely, a study in Willapa Bay (Dumbauld & McCoy 2015) included investigation of multiple culture and harvest methods, including mechanical harvesting, and concluded that "...Z. marina as habitat is resilient to oyster aquaculture as a disturbance and does not result in persistent effects at the landscape scale in this estuary."

Coen (1995) concludes: …*the organisms that live in these highly variable, estuarine ecosystems typically encounter elevated and highly variable suspended sediment loads, with ambient seston levels often varying by several orders of magnitude over short durations (e.g., daily), (Kyte et al. 1975, Tarnowski 2006). Hence, they are generally considered tolerant of short-term perturbations (Kyte et al. 1975). Also, most of the fishes and crustaceans (with the exception of barnacles) are highly mobile."* Simenstad (1990) concluded that most estuarine fishes move out or are adapted to elevated suspended sediments and that most behavioral or sublethal effects seen in the lab are even more ambiguous when extrapolated to the field. Auld and Schubel (1978) reached similar conclusions looking at eggs and larvae of six Chesapeake Bay anadromous fish species.

The use of mechanical harvest methods should not be conflated with the use of the terms "dredge and fill" under section 404 of the CWA.
The Corps asserts on page 57334, column 2, *"Some commercial shellfish mariculture activities involve mechanical or hydraulic harvesting techniques that may result in discharges of dredged material into jurisdictional waters and wetlands."* We do not believe that the resuspended material that may travel a few dozen meters during shellfish harvest should be considered "dredged material." This is not channel maintenance dredging and the activity is not intended to alter the navigable depth of the harvest area. Even in areas that have been cultured and repeatedly harvested with hydraulic dredges for decades, we do not detect significant alterations to water depth.

Similarly, the sediment plume that may come from shellfish harvest activities does not *"Chang[ing] the bottom elevation of any portion of a water of the United States."* (page 57334, column 3) as defined in 33 CFR 323.2(e). The mass of these fine materials is insignificant and dispersed widely, often over thousands of meters. Furthermore, these plumes of fine sediment are generated using the same harvest methods utilized in wild-harvest shellfisheries (rakes, scrapes or hydraulic dredges). These wild-harvest activities are regulated in NWP 4 and by state resource managers. We submit that aquaculture harvest activities should be regulated like wild-harvest shellfisheries.

On page 57333, column 1 the statement is made "*Mechanical harvesting can include grading, tilling, and dredging the substrate of the waterbody*." Mechanical harvest is designed not to change the elevation or to remove material, but rather to capture the shellfish while leaving the sediments intact. Farmed shellfish sites that have been harvested repeatedly for decades have not experienced measurable changes in depth or contours. (Stokesbury et al. 2011, Goldberg et al. 2012 & 2014). The vast majority of disturbed sediments rapidly settle back to the bottom within a few meters of the dredge (Godcharles 1971, reviewed in Mercado-Allen and Goldberg 2011). It is inaccurate to conflate these activities with "dredging" in the sense of "channel maintenance" or grading. The term "grading" does not describe shellfish culture methods.

On Page 57334, column 1 the Corps' section 10 regulations at 33 CFR 322.2(c) defines ''work'' as including, ''*without limitation, any dredging or disposal of dredged material, excavation, filling, or other modification of a navigable water of the United States*.'' It is important that the Corps not conflate the act of mechanically harvesting shellfish with the excavation and fill activities described above. Mechanical shellfish harvesting tools are not designed or intended to move or remove sediments, but rather (as noted above) these tools are designed to extract the shellfish from the sediment without altering the bottom topography. There may be some trenches or mounds created during the process, and some transient changes to the sediment geochemistry have been observed (Meseck et al. 2014); however, these small changes in elevation are typically eradicated in a few months, especially in shallow estuarine environments that are frequently exposed to turbulence during storm events (Reviews by Mercado-Allen and Goldberg 2011, Coen 1995, Tarnowski 2006).

Moreover, both wild and cultured shellfish are state-managed resources, with the exception of many tidelands in Washington State, and their harvest is managed by state resource managers, and should not require additional oversight and regulation by federal authorities. Harvesting activities do not involve structures and do not impact navigation in a way that should trigger regulation under the RHA. The incidental fall-back of sediments lifted by harvest activities does not require permits under the CWA. (See 33 CFR 323.4 for discharges that do not require permits.)

We are not aware of any shellfish culture activities that involve the discharge of dredged materials as defined in this section of the CFR which refers to excavations of marine sediments. The statement, on page 57334, column 2, "*Some commercial shellfish mariculture activities involve mechanical or hydraulic harvesting techniques that may result in discharges of dredged material into jurisdictional waters and wetlands*." is incorrect and needs to be rectified in the next version of this rule.

Mechanical harvest of shellfish should not be confused with dredging and should be considered as normal farming practices under CWA and should not be regulated differently than those same practices when used in the wild harvest fishery. PCSGA submitted detailed comments on this issue during the 2017 reissuance of the NWP 48. Specifically, pages 11-16 of that letter dated August 1, 2016, (attached) contain detailed information and references regarding the scope of the CWA authority with respect to shellfish farming and should be incorporated into the Corps Decision Document.

We request the Corps include in the Decision Document language and references from this discussion on dredging and mechanical harvest.

SUBMERGED AQUATIC VEGETATION (SAV) AND SHELLFISH AQUACULTURE INTERACTIONS

We strongly concur with the Corps view on page 57335, column 3 "*that commercial shellfish mariculture activities typically only have temporary impacts on submerged aquatic vegetation and that cultivated shellfish and submerged aquatic vegetation can sustain a healthy coexistence and provide estuarine and marine ecosystems with a variety of ecological functions and services, including habitat for a number of finfish and invertebrate species."*

Similarly, we agree with the Corps view on page 57334, column 1 that "*The continued persistence of submerged aquatic vegetation in coastal waterbodies in which shellfish mariculture has been conducted for decades indicates that adverse impacts to seagrasses are temporary. In waterbodies inhabited by submerged aquatic vegetation where shellfish mariculture is conducted, seagrass is in dynamic equilibrium with the shellfish mariculture activities (Dumbauld et al. 2009).*"

These statements are consistent with shellfish grower observations. In bays where eelgrass is healthy, and conditions are optimal, it reproduces both sexually and asexually and is incredibly resilient, rebounding quickly from shellfish farm activity

related perturbations or seasonal storms and annual dieback (Dumbauld & McCoy 2015).

We acknowledge that there is a broad body of literature documenting the habitat value of submerged aquatic vegetation because of the wide range of ecosystem services that are provided by the structure and by the vegetation themselves. Sea grasses especially are valued for providing nursery habitat, biodiversity, nutrient removal, forage, benthic stabilization and turbidity reduction, erosion mitigation and water quality improvements.

Several studies have documented how shellfish farming and sea grasses can co-exist, and in many cases the shellfish farms appear to enhance eelgrass production. Crawford et al. 2003 reported observing seagrasses at high density directly under an oyster farm. Sandoval-Gil et al 2016 observed higher photosynthetic rates, vegetative production, and above-ground to below-ground biomass ratio of seagrass near oyster longlines when compared to a reference site not influenced by oyster aquaculture.

Skinner et al. 2014 documented how eelgrass density recovers after the removal of oyster aquaculture gear, even in the most highly impacted experimental plots. Grabowski et al. 2012 noted: "*suspension-feeding bivalves potentially promote SAV by reducing turbidity and by depositing nutrients in biodeposits* (Everett et al. 1995, Carroll et al. 2008, Wall et al. 2008). Newell and Koch (2004) modeled the effects of oyster filtration on light penetration through the water column and subsequent effects on SAV. Their results suggested that relatively modest densities of oysters would promote SAV growth in shallow estuarine waters, where oyster reefs are prevalent in the southeast Atlantic and Gulf of Mexico.

Groner et al. 2018 determined that Pacific oysters may improve the health of eelgrass by filtering out pathogens such as *Labyrinthula zosterae*, which causes eelgrass wasting disease. This is yet another benefit of farming shellfish among eelgrass.

We request the Corps incorporate into the Decision Document, the above concepts and references regarding the positive interactions between shellfish and submerged aquatic vegetation.

ECOSYSTEM SERVICES OF SHELLFISH AQUACULTURE

The Millennium Ecosystem Assessment (MEA) (2005) describes four categories of ecosystem services: provisioning services, regulating services, cultural services, and supporting services. Provisioning services include the production of sustainable seafood, shell, jobs, and economic development. Regulating services include maintenance or improvement of water quality through the removal, retention, and recovery of nutrients, mitigation of eutrophication impacts, erosion control, mitigating erosion of marshes, and providing habitat for juvenile fish and other species important to commercial and recreational fisheries. Cultural services associated with shellfish farming include recreational opportunities associated with ecotourism and education. Shellfish farms also contribute supporting services such as erosion mitigation, nutrient

cycling and the acceleration of nutrient cycling through benthic-pelagic coupling (Brumbaugh and Torapova 2008, Grabowski et al. 2012, Coen et al. 2011).

There have been several recent, comprehensive reviews of ecosystem services (beyond food provisioning) provided by shellfish aquaculture including an entire book by van der Schatte Olivier et al. 2020 and another review by Alleway et al. 2019. In many cases shellfish farms provide ecosystem services that are similar to natural and restored oyster reefs and eelgrass beds. Costanza et al. 2014 estimated the economic value of these ecosystem services at $11,711 per acre. Newell 2004 provides a comprehensive review of the importance of both wild and cultured shellfish populations to overall ecosystem integrity.

Studies have shown that areal Nitrogen removal efficiencies by shellfish aquaculture (45–615 kg/acre/yr) are comparable with removal by existing agricultural (0.018–5.25 kg/acre/year) and stormwater (0–450 kg/acre/year) best management practices (BMPs), and that the cost per unit removed also compares favorably with approved BMPs (Bricker et al. 2020; Rose et al. 2015). The State of Maryland has established a nutrient credit trading program that includes credits for shellfish farmers for the nitrogen removed when growers harvest their crops (Parker and Bricker 2020, Cornwell et al. 2016). Similar programs are being studied in other states.

a. Water Quality Benefits

The Corps notes on page 57331, column 3: "*The species cultivated by mariculture activities also affect the aquatic environment and other species, for example by altering water quality through suspension feeding or competition for space. Those impacts can be positive, negative, or neutral, and can vary the techniques used for bivalve shellfish mariculture activities…*"

The water quality improvements associated with bivalve filtering activity include reductions in turbidity, the mitigation of eutrophication symptoms, and most notably removal of nutrients including nitrogen and phosphate from sensitive coastal waters (Bricker et al. 2018, 2015, Saurel et al. 2014, Rose et al. 2015a,b, Officer et al. 1982).

Microbial denitrification is enhanced where sediment organic carbon is elevated from the deposition of feces and pseudofeces associated with bivalve feeding activity. In many waterbodies the impacts of denitrification associated with shellfish has been shown to be quite significant (Humpheries et al. 2016, reviewed by Newell 2004).

Large populations of shellfish (both wild or farmed) have been shown to improve water clarity and reduce the intensity of algal blooms, including harmful algal blooms such as the noxious "Brown tide" organism *Aureococcus anaphagepherons* (Cerratto et al. 2004)

We request the Corps incorporate into the Decision Document, the above concepts and references regarding the water quality benefits provided by shellfish aquaculture.

b. Habitat Benefits

In the proposed rule the Corps discusses many of the West Coast studies on seagrasses, aquaculture and habitat value. We want to make the Corps aware of numerous studies that have demonstrated similar ecosystem services (eg. habitat provision) are provided by shellfish aquaculture. We request that these documents also be referenced in the Decision Document.

Many researchers have documented the multitude of ecosystem services associated with natural and restored oyster reefs showing that the structure and rugosity provides excellent nursery habitat for a multitude of commercially important fish and invertebrate species (Coen et al. 1999, Coen et al. 2007, Breitburg 1999, Brumbaugh and Torapova 2008, Erbland and Ozbay 2008, Harding and Mann 2001) This three-dimensional, emergent, complex, firm substrate creates a variety of microhabitats for use by resident macrofauna (Lenihan 1999; Harding and Mann, 2001; Glancy et al., 2003; Grabowski et al., 2012, Kroger and Guannel 2015). In terms of their structural heterogeneity and vertical relief, shellfish aquaculture operations can be considered to function ecologically in a manner similar to natural and artificial reefs (McKindsey et al. 2006; McKindsey et al. 2014, Tallman and Forrester, 2007). As with oyster reefs, the physical structures used in shellfish aquaculture (racks, cages, nets, tubes, ropes, trays and lines) provide refuge habitat as well as providing substantial increases in surface area for attachment of fouling organisms that in turn become forage for fish and other predators (Shumway et al. 2003; Tallman and Forrester 2007, O'Beirn et al. 2004). The feces and pseudofeces provide an important bentic-pelagic coupling function, delivering microalgal biomass to the benthos where it supports a variety of polychaete and amphipod deposit feeders that in turn form the base of the food chain for a variety of fish.

Even the plastic mesh used over planted clams develops epiphytic growth and vertical structure similar to eelgrass, supporting similar assemblages of mobile fish and crustaceans (Powers et al., 2007, Luckenbach et al. 2016).

DeAlteris et al. 2004 showed that oyster bottom cages provided excellent habitat for a multitude of fish and invertebrates with abundances of many species recorded at ten to ten thousand times the abundances recorded in nearby eelgrass beds. Species diversity was similar in the aquaculture cages as in the eelgrass beds nearby despite hyperdominance of mud crabs in the aquaculture gear. Tallman and Forrester 2007 used a mark and recapture study to demonstrate that bottom cages provided habitats of similar value for rocky reef-associated fishes as natural and reconstructed cobble and boulder habitats.

A 2009 study by Dumbauld also notes that there are a wide variety of off bottom techniques involving cages and racks that can shade eelgrass. We would point out that while the gear may provide shade, we also know that the feeding activity of the shellfish reduces turbidity and allows increased light penetration on a broad scale which should enhance eelgrass proliferation (Lindahl et al 2005, Peterson et al. 2014. Rose et al. 2014, Grant et al. 2007, Kellogg et al 2014, Wall et al 2008, Carroll et al. 2008, Grabowski et al. 2012, Everett et al. 1995).

Furthermore, we do not believe that predator nets placed over bottom-planted seed or even cages with a low profile should be considered “structures” or navigation hazards as defined in the RHA unless their vertical profile is more than 25% of the water depth at MLW. Similar cages and traps are used in the wild-harvest fisheries and have been exempted from Corps regulation and we believe that the same considerations should apply for aquaculture. We request the Corps update language to remove any unintended competitive edge for wild harvest fisheries, both in terms of allowable gear and harvest requirements.

Many researchers have documented high species diversity associated with shellfish culture (Peterson et al. 2003, Posey 1986, Erband and Ozbay 2008). It is logical to assume that the diversity of a large uninterrupted eelgrass meadow could be enhanced with periodic shellfish aquaculture structures interspersed, as each habitat has documented species associations, and both are documented as having high habitat value and species diversity (DeAlteris et al. 2004, zu Ermgassen 2015).

We request the Corps incorporate into the Decision Document, the above concepts and references regarding habitat improvements created by the presence of shellfish and shellfish aquaculture gear and practices.

c. Benthic Stabilization Benefits

The Corps acknowledges that some shellfish aquaculture structures may alter currents and result in the accumulation of sediments. In some areas where storms damage fragile marsh ecosystems and upland infrastructure, wave energy mitigation should be considered a valuable ecosystem service that helps reduce some of the erosive forces that may be enhanced by the dual threats of rising sea level and increased storm intensity associated with climate change. Many communities are installing artificial and restored oyster reefs, living shorelines and other structures designed to absorb wave energy and slow erosion, and doing so at great expense (Grabowski et al. 2012, Marani et al. 2011, Meyer et al. 1997). While the effects of shellfish aquaculture gear on wave energy have not been studied, most would agree that there is some beneficial wave energy mitigation associated with almost any structures in the water.

As shared during a National Marine Fisheries Services Eelgrass and Shellfish Aquaculture Workshop in 2017, fall and winter storms remove much of the vegetative mass from intertidal and shallow subtidal eelgrass plants leaving just the rhizomes under the surface of the sediment and eliminating its habitat value. Shellfish crops and gear can shelter eelgrass from damage caused by winter storms as well as provide durable structured, three-dimensional habitat and refuge year-round. This can be particularly valuable in early spring when juvenile salmon begin their migration to the sea before eelgrass emerges to provide habitat and refuge (NMFS, 2017).

We request the Corps incorporate into the Decision Document an acknowledgment that the accumulation of sediment around shellfish farming gear may be considered beneficial in certain environments, as well as provision of year-round durable, structured three-dimensional habitat and references listed above.

d. Cultural Benefits

Michaelis 2020 provides a description of the cultural services associated with shellfish aquaculture in Maryland. Beneficial contributions to the cultural aspects of a community can be a "service" and even though not much published research exists on this topic, it would be beneficial to include Michaelis' work in the Corps' Decision Document.

We request the Corps incorporate into the Decision Document, the above concepts and references regarding the many types of ecosystem services provided by shellfish aquaculture.

CUMULATIVE IMPACTS

Many studies have documented beneficial impacts associated with shellfish aquaculture and wild shellfish populations. However, there is concern that the cumulative impacts of these projects can exceed the ecological carrying capacity of the system. This can occur either if the shellfish consume too much of the seston and reduce that which would be available for other filter feeders, or if deposits of organic material (feces and pseudofeces) exceed the assimilative capacity of the benthos resulting in hypoxic conditions (Jiang and Gibbs 2005, McKindsey 2006). Examples of these sorts of impacts are typically associated with large projects in extremely food-rich waters where shellfish are planted at very high densities, often in large vertical arrays (Tenore and González 1976). We are not aware of projects in the U.S. where such impacts have been recorded. In fact, several studies have documented a lack of benthic impacts associated with floating shellfish aquaculture (Testa et al. 2015, Coumeau et al. 2014). Furthermore, there have been several assessments in the U.S. of shellfish farming and ecological carrying capacity, and each has demonstrated that cumulative farming impacts on seston concentrations are well below ecosystem carrying capacity thresholds (Byron et al. 2011, Ferriera et al. 2018).

Most shellfish culture projects are simply bringing populations back to levels approaching their natural densities prior to man's overharvesting activities (Pietros and Rice 2003). Populations at these levels perform important ecosystem functions including nutrient cycling, eutrophication mitigation and habitat and food provision for a multitude of other species. Froelich et al. 2017 point to the potential value of aquaculture in providing restorative benefits and conservation services to systems that have been degraded by overharvest. Until the ecological carrying capacity is exceeded, we believe that the cumulative impacts of many shellfish farms are additive benefits leading to the restoration of a healthy functioning ecosystem. (Bricker et al. 2018, Bricker et al. 2015, Bricker et al. 2014, Carmichael et al. 2012, Humphries et al. 2015).

Cumulative impacts on birds have also been noted as of concern. For example, the 2010 NRC study is quoted as saying "*The placement of bags in the intertidal zone may also reduce foraging habitat for shorebirds*" (NRC 2010). Many growers have shared photographs and video documenting shorebirds foraging on oyster growout bags. The provision of three-dimensional substrate in the marine environment is known to attract fouling organisms as well as myriad worms, crabs and amphipods that provide ample

fodder for dozens of species of shorebirds. So, while aquaculture may inhibit feeding by certain bird species by restricting access to sandy bottom, there is ample photographic evidence that many birds are attracted to shellfish gear for foraging. Munroe et al. 2020 evaluated horseshoe crab abundance around oyster racks and found no reduction despite resource manager's concerns about the impact of the gear on Red Knot foraging opportunities. There are two recent comprehensive reviews of wildlife interactions with aquaculture (Callier et al. 2018, Barrett et al 2019).

The NRC study is also quoted suggesting that "*Lines and nets used for commercial shellfish mariculture activities may pose a risk of entanglement for birds, marine mammals, and marine turtles* (NRC 2010). A NOAA global literature review and risk analysis (Price et al. 2016) "indicate interactions and entanglements with longline aquaculture gear worldwide are rare" and avoidable using prudent siting, Best Management Practices and gear design precautions.

Finally, in a review of available science to assess cumulative impacts of all aspects of geoduck clam aquaculture in Washington State over a 20-year period (~2015-2035), National Marine Fisheries Service concluded that impacts on endangered species, critical habitat, and essential fish habitat are diffuse and short-term, temporary rather than permanent, localized and ephemeral, and well within the range of natural variation experienced by Puget Sound aquatic organisms. (NMFS, 2016).

We request the Corps incorporate into the Decision Document, the above concepts and references regarding cumulative impacts associated with shellfish aquaculture.

CHEMICAL USE

We agree with and support the Corp in the reiteration on page 57332, column 1 that "*the discharge of pesticides into navigable waters is regulated under Section 402 of the Clean Water Act, not section 404.*"

The Corps references NRC 2010 and suggests that commercial shellfish culture may utilize chemicals to control fouling organisms. For example, the ECSGA Best Management Practices Manual condones the use of saturated brine solutions and air drying as the best fouling control solutions.

The standard on chemical use by the sustainability certifying group the Aquaculture Stewardship Council reads: "*Control measures include avoidance e.g., temporal or spatially keeping the crop away from the larval stages of the fouling organisms) mechanical removal (e.g. scraping, brushing or power washing) and killing the fouling organisms (e.g., air drying or dipping in various caustic solutions such as brine, acetic acid or lime). Most of these solutions are components already found in seawater (salt or CaCo3) and, as long as they are handled and disposed of properly (allowing for appropriate dilution), there should be little impact to non-target organisms*." (ASC 2019)

We are unaware of <u>any</u> shellfish operations that use chemicals to control predators. On page 57331, column 1 the NRC 2010 study is quoted asserting that "*Operators may*

also use pesticides to control predators…" NRC 2010 specifically refers to the chemical control of burrowing shrimp in Washington and states "*The shrimp are not direct predators……*" This misstatement that pesticides are used to control needs to be corrected to reflect the NRC2010 reference. Furthermore, we are unaware of any shellfish aquaculture operations that utilize pesticides to control predators in the U.S.

Some growers have used traps to control predation by crabs, conchs and starfish, but container culture to prevent losses to predators is more widespread.

We request the Corps include in the Decision Document language and references from this discussion on chemical use and specifically correct errors in this current draft.

COMPLIANCE COSTS

For the NWPs, the direct compliance costs are the costs required to prepare a PCN (required or voluntary). Section IV, Economic Impact summarizes the components of an NWP PCN and a standard individual permit application and the estimated range of costs are: $4,412 to $14,705 plus opportunity costs. Opportunity costs include permitting time and any development values missed because of the requirements in the Corps' regulations to avoid and minimize impacts to jurisdictional waters and wetlands to the maximum extent practicable. Opportunity costs also result from delays in project implementation caused by the time it takes to receive a standard individual permit or an NWP verification from the Corps.

A recent study by van Senten et al. 2020 estimated the total annual regulatory burden for Pacific coast shellfish farms at $15.6 million. Average annual costs were estimated to be $240,621 per farm and $68,936 per hectare. Additional losses due to lost sales and opportunity costs were also estimated.

We request the Corps include in its Decision Document information and references listed above, especially van Senten's work regarding compliance costs.

NON-NATIVE SPECIES

The Corps is *"proposing to remove the PCN threshold for commercial shellfish mariculture activities that include a species that has never been cultivated in the waterbody."* (page 57335, column 2) We support lifting this restriction as long as the Corps maintains the current prohibitions, specifically "*(1) the cultivation of a nonindigenous species unless that species has been previously cultivated in the waterbody, and (2) the cultivation of an aquatic nuisance species as defined in the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990."* (page 57335, column 2)

NWP 27, NWP A, NWP B COMMENTS

Regarding proposed changes to NWP 27 Aquatic Habitat Restoration, Enhancement and Establishment Activities. The concept of intentionally releasing sediments trapped behind dams to sustain or improve downstream habitats can have

unintended consequences on downstream activities such as bivalve aquaculture. Many estuarine habitats are already experiencing large scale burial of the rocky reef and cobble habitats after decades of sediments washing down from deforested uplands. Large tracts of most major estuaries are now silty muddy bottom, essentially devoid of structure and the associated species diversity.

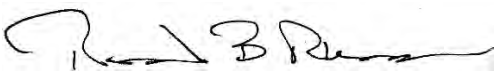
While the Corps submits that these sediments can have beneficial impacts on downstream habitats, it should be noted that sediment release might have unintended negative consequences. For example, sediments could be expected to fill in deeper riverine pools (often preferred fishing holes) and released sediments could smother downstream oyster reef habitats (which are considered essential fish habitat). Eelgrass and other submerged aquatic vegetation may be shaded by excess turbidity or if sediment accumulates on the blades. Excess sediments can also have impacts on shellfish aquaculture operations by burying and smothering bottom-planted oysters and mandating increased frequency of maintenance to clean out excessive sediments for farm operators who grow oysters in cages. Some shellfish growers have experienced significant mortalities in cage-grown oysters associated with large amounts of sediments resuspended by a series of significant storm events. Shellfish also have a higher metabolic cost associated with feeding under conditions of elevated sediment loads. Most aquatic populations are well adapted to periodic pulses of sediments, however sustained high sediment loads may not be well tolerated. The balance of the benefits and negative impacts on downstream activities should be carefully studied before such releases are approved.

We request the Corps include in the Decision Document, further clarification of the benefits and impacts on activities downstream and a provide a mechanism/approach that will carefully consider these potential impacts and offer practices aimed to reduce negative impacts.

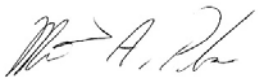
Regarding Proposed New NWPs A and B - Mariculture of fin fish and seaweed
As producers of food and stewards of the marine environment, PCSGA and ECSGA support the responsible production of seaweed and fin fish. The Corps' approach outlined in Section A and B and the inclusion of these two uses in a NWP provides much clarity and predictability for firms interested in seeking permits to grow fin fish and seaweeds.

Thank you again for the opportunity to review the proposed language and offer comments. Please do not hesitate to contact us if you have questions or need further information.

Respectfully,



Robert B. Rheault, PhD
Executive Director, ECSGA



Margaret A. Pilaro
Executive Director, PCSGA

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August 1, 2016

Via Email and Federal eRulemaking Portal
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U.S. Army Corps of Engineers
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RE: Docket Number COE-2015-0017
Pacific Coast Shellfish Growers Association Comments on Proposal to Reissue and Modify Nationwide Permit 48

Dear Mr. Olson:

On behalf of the Pacific Coast Shellfish Growers Association ("PCSGA"), thank you for providing an opportunity to comment on the U.S. Army Corps of Engineers' ("Corps'") proposal to reissue and modify Nationwide Permit 48 ("NWP 48") for 2017 as set forth in the Proposal to Reissue and Modify Nationwide Permits in Federal Register Volume 81, Number 105 ("Proposal").[1] PCSGA, founded in 1930, represents over 100 shellfish growers in Alaska, Washington, Oregon, California and Hawaii. Members of PCSGA grow a wide variety of healthful, sustainable shellfish including oysters, clams, mussels, and geoduck. As a representative of both private and tribal shellfishing interests, PCSGA submits the following comments on the Corps' Proposal.

SUMMARY

The 2017 draft NWP 48 properly authorizes new and continuing commercial shellfish aquaculture operations. It also contains appropriate modifications to help ensure commercial shellfish operations are efficiently administered consistent with numerous federal laws and policies that encourage shellfish farming in recognition of the important ecological, cultural, and economic benefits this activity provides. PCSGA supports issuance of the 2017 draft NWP 48, and it suggests the following three revisions to facilitate its effectiveness and to clarify the scope of the Corps' Clean Water Act authority with respect to commercial shellfish farms:

[1] Proposal to Reissue and Modify Nationwide Permits, 81 Fed. Reg. 35186 (June 1, 2016).

1. Clarify the definition of "new commercial shellfish aquaculture operation" as an operation in a project area where commercial shellfish aquaculture activities have not been conducted during the past 100 years.[2]

2. Clarify the protocols for submitting pre-construction notifications for commercial shellfish farms, along with modifications, during the effective period of the permit.[3]

3. Recognize that commercial shellfish aquaculture activities are not regulated under Section 404 of the Clean Water Act.[4]

Even with these revisions, however, PCSGA remains concerned that shellfish farming in Washington State will continue to be hindered by ineffective administration by the Seattle District of the Corps. Therefore, we further request that administrative responsibility for commercial shellfish farming activities in Washington State (including those proceeding under NWP 48 as well as individual permits) be transferred to either the Northwest Division or Corps Headquarters.

A. The 2017 Draft NWP 48 Is Consistent with Goals to Streamline Shellfish Permitting and Should Be Further Modified to Help Foster Shellfish Aquaculture

1. Numerous Laws and Policies Support Shellfish Farming and Recognize the Need for Streamlined Permitting

PCSGA supports issuance of the 2017 draft NWP 48 as it is consistent with numerous laws and policies that support the expansion of shellfish aquaculture and recognize the need for streamlined permitting. Congress passed the National Aquaculture Act of 1980 in response to findings that the nation has potential for significant aquaculture growth, but that this growth is inhibited by many scientific, economic, legal, and production factors.[5] Congress also found that, despite the nation's significant aquaculture potential, the United States imported more than 50 percent of its fish and shellfish in 1980 to satisfy the domestic market demand for seafood, and that this dependence on imports adversely affects the national balance of payments and contributes to the uncertainty of supplies.[6] The National Aquaculture Act identifies several strategies to support the growth of aquaculture.

In spite of the laudable goals of the National Aquaculture Act, our nation's overreliance on foreign seafood has worsened significantly over the last 30-plus years, as described by the National Oceanic and Atmospheric Agency ("NOAA") in its Marine Aquaculture Strategic Plan FY 2016-2020:

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[2] *Supra*, pp. 8-9.
[3] *Supra*, pp. 9-10.
[4] *Supra*, pp. 11-16.
[5] 16 U.S.C. § 2801(a). The National Aquaculture Act of 1980 is codified at Title 16, Chapter 48 of the United States Code.
[6] *Id.*

> The United States is one of the largest markets for seafood in the world. Despite possessing the world's largest Exclusive Economic Zone, the United States imports approximately 90 percent of the seafood consumed domestically by value. Even if all U.S. fisheries exports were consumed domestically, the United States would still remain approximately 1 million metric tons short of fulfilling current domestic demand for seafood. With a rising seafood trade deficit of more than $14 billion, this reliance on imports moves potential seafood jobs overseas and poses a risk to our nation's food security.[7]

Our nation's worsening overreliance on imported seafood prompted NOAA to adopt two new policies in 2011 to stimulate the growth of domestic aquaculture production—the Marine Aquaculture Policy and the National Shellfish Initiative. The Marine Aquaculture Policy "reaffirms that aquaculture is an important component of NOAA's efforts to maintain healthy and productive marine and coastal ecosystems, protect special marine areas, rebuild overfished wild stocks, restore populations of endangered species, restore and conserve marine and coastal habitat, balance competing uses of the marine environment, create employment and business opportunities in coastal communities, and enable the production of safe and sustainable seafood."[8]

Similarly, the National Shellfish Initiative's goal "is to increase populations of bivalve shellfish in our nation's coastal waters—including oysters, clams, and mussels—through commercial production and conservation activities."[9] This initiative recognizes shellfish aquaculture provides a "broad suite of economic, social, and environmental benefits" by improving water quality, providing habitat, assisting in species recovery, protecting shorelines, providing jobs and business opportunities, and meeting the growing demand for seafood.[10] Key strategies of the National Shellfish Initiative include improving permitting processes to make them more transparent, predictable, and efficient, and supporting innovative commercial culture and conservation techniques.[11]

Additionally, the National Ocean Council's National Ocean Policy Implementation Plan stresses "[t]he aquaculture industry will benefit from streamlined Federal permitting and coordinated research efforts to support sustainable aquaculture."[12] And NOAA's FY 2016-2020 Marine Aquaculture Strategic Plan identifies regulatory efficiency as "Goal 1" to expanding sustainable marine aquaculture production in the country, with multiple objectives and strategies designed to improve upon existing permit processes.[13] These recognitions of the need to

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[7] NOAA Fisheries Marine Aquaculture Strategic Plan FY 2016-2020, p. 3 (http://www.nmfs.noaa.gov/aquaculture/docs/aquaculture_docs/noaa_fisheries_marine_aquaculture_strategic_plan_fy_2016-2020.pdf).

[8] NOAA Marine Aquaculture Policy, p. 1 (http://www.nmfs.noaa.gov/aquaculture/docs/policy/noaa_aquaculture_policy_2011.pdf).

[9] NOAA National Shellfish Initiative Fact Sheet, p. 1 http://www.nmfs.noaa.gov/aquaculture/docs/policy/natl_shellfish_init_factsheet_summer_2013.pdf).

[10] *Id.*

[11] *Id.*

[12] National Ocean Policy Implementation Plan, p. 3 (https://www.whitehouse.gov/sites/default/files/national_ocean_policy_implementation_plan.pdf).

[13] NOAA Fisheries Marine Aquaculture Strategic Plan FY 2016-2020, pp. 10-11.

improve permitting programs are supported by academic studies that show "developed countries may have depressed their growth rates even further through regulatory regimes that do not utilize current knowledge and are inefficient in other respects."[14]

Washington State has additional laws and a policy initiative that recognize the importance of shellfish farming. The state Legislature passed the Bush and Callow Acts in 1895, shortly after statehood, to stimulate shellfish farming and in recognition of the State's excellent shellfish resources. The Bush and Callow Acts were re-codified in 2002, and the legislative findings reinforce that it is "the policy of this state to encourage the development and expansion of shellfish farming within the state and to promote the development of a diverse shellfish farming industry . . ."[15] Moreover, the Washington State Shoreline Management Act, which strives to achieve coordinated planning for the State's shorelines, identifies aquaculture as a preferred, water-dependent use that can have long-term benefits and protect the resources and ecology of the shoreline.[16] The Legislature has further emphasized the importance of aquaculture to Washington State through the Aquaculture Marketing Act, which encourages the development and expansion of aquaculture in the State in recognition of the important economic benefits this use provides.[17]

Consistent with these legislative and policy directives, former Governor Christine Gregoire launched the Washington Shellfish Initiative in 2011 to encourage shellfish farming in the State. The Washington Shellfish Initiative recognizes shellfish aquaculture is critically important to the State's ecology, economy, and culture.[18] Shellfish help filter and improve the quality of marine waters and are an important part of the solution to restore and preserve the health of endangered waters.[19] Washington State leads the country in the production of farmed clams, oysters, and mussels (10,500 metric tons in 2013) with an estimated total economic contribution of $184 million in 2010, and shellfish growers directly and indirectly employ over 2,700 people in the State and are among the largest private employers in some counties.[20] Accordingly, the Washington Shellfish Initiative lists several programs to restore and expand shellfish resources throughout the State, and it has already produced impressive results, including helping to reopen 2,429 acres of shellfish beds throughout Washington State by solving water pollution problems.[21] Another key effort of the Washington Shellfish Initiative is the creation of

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[14] Abate et al., Stringency of environmental regulation and aquaculture growth: A cross-country analysis, Aquaculture Economics & Management, 2016 Vol. 20, No. 2, 201-221, 219 (http://www.tandfonline.com/doi/pdf/10.1080/13657305.2016.1156191). It bears emphasizing that PCSGA is not opposed to efficient and science-based regulatory requirements. However, as recognized by multiple stakeholders, the current permitting regime for commercial shellfish aquaculture in the United States is overly complex and inefficient, and this plays a critical role in limiting our country's aquaculture potential, preventing economic growth, and endangering our food security.

[15] Wash. ESHB 2819 (2002 c 123 § 1).

[16] RCW 90.58.020; WAC 173-26-241(3)(b).

[17] RCW 15.85.010.

[18] Washington Shellfish Initiative, p. 1 (http://pcsga.org/wprs/wp-content/uploads/2013/04/Washington-Shellfish-Initiative.pdf).

[19] *Id.*

[20] Washington Shellfish Initiative – Phase II Policy Brief, p. 1 (http://www.governor.wa.gov/sites/default/files/shellfishoverview.pdf).

[21] *Id.*, p. 2 (http://www.governor.wa.gov/sites/default/files/shellfishoverview.pdf).

the Shellfish Interagency Permitting Team—a multi-agency team that includes the Corps and is designed to address issues around the permitting process.

Current Governor Jay Inslee recently launched Phase II of the Washington Shellfish Initiative earlier this year "to promote critical clean-water commerce, elevate the role that shellfish play in keeping our marine waters healthy and create family wage jobs."[22] A key goal of Phase II is to improve permitting processes to maintain and increase sustainable aquaculture.[23] Streamlining permitting requirements is critical to increasing shellfish production in Washington State, as shellfish farmers are subject to numerous federal, state, and local permitting requirements that can be extremely costly and difficult to navigate.

2. Commercial Shellfish Farms Benefit the Environment

PCSGA further supports issuance of the 2017 draft NWP 48 on the basis that commercial shellfish farming activities have minimal adverse impacts, and they can have beneficial effects on habitat and water quality. There is extensive scientific support for the finding that commercial shellfish aquaculture operations have minimal individual and cumulative adverse environmental impacts, much of which is identified in the Proposal and the draft Decision Document for NWP 48.[24] Additional scientific information demonstrating shellfish aquaculture has minimal adverse to beneficial impacts is presented in PCSGA's comment letter on the draft 2012 version of NWP 48.[25] As discussed in more detail in that letter:

- Shellfish and shellfish aquaculture gear provides structured habitat that is used by numerous species for refuge, foraging, and predator avoidance, thereby increasing species richness, abundance, and biodiversity.[26]

- Shellfish ingest and filter suspended materials in the water column, improving water quality and helping to transfer the load of suspended materials from the water quality to the benthos.[27]

- By providing structured habitat, improving water quality, and helping to transfer the load of suspended materials from the water column to the benthos, shellfish can help mitigate adverse impacts caused by several different types of human activities and developments. For these reasons, shellfish are increasingly being utilized in environmental restoration projects across the United States.[28]

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[22] *Id.*, p. 1.
[23] Washington Shellfish Initiative - Phase II Work Plan pp. 10-11 (http://www.governor.wa.gov/sites/default/files/ShellfishWorkPlan.pdf).
[24] Proposal to Reissue and Modify Nationwide Permits, 81 Fed. Reg. at 35202; Draft Decision Document, Nationwide Permit 48 (https://www.regulations.gov/document?D=COE-2015-0017-0049).
[25] Appendix A.
[26] *Id.*, pp. 2-3.
[27] *Id.*, pp. 3-4.
[28] *Id.*, pp. 6-7.

Since PCSGA submitted its prior comment letter on the 2012 version of NWP 48, additional scientific information has been released confirming shellfish aquaculture has minimal adverse to beneficial environmental impacts. Washington Sea Grant concluded its multi-year study regarding the environmental impacts associated with geoduck aquaculture, and it issued a final report to the state Legislature in November 2013.[29] That report concludes that the limited disruptions associated with geoduck aquaculture are within the range of natural variation experienced by benthic communities in Puget Sound. Highlights from the final report include:

- Geoduck harvest practices have minimal impacts on benthic communities of infaunal invertebrates, with no observed "spillover effect" in habitats adjacent to cultured plots, suggesting that disturbance is within the range of natural variation experienced by benthic communities in Puget Sound.

- Differences in the structure of mobile macrofauna communities between planted areas with nets and tubes and nearby reference beaches do not persist once nets and tubes are removed during the grow-out culture phase.

- Nutrients released from a typical commercial geoduck operation are low and localized effects are likely to be negligible.

- Geoduck aquaculture practices do not make culture sites unsuitable for later colonization by eelgrass.

Many of the findings reached by the Washington Sea Grant geoduck research program have been published in peer-reviewed journals, including the following articles: Glenn R. VanBlaricom et al., *Ecological effects of the harvest phase of geoduck (Panopea generosa Gould, 1850) aquaculture on infaunal communities in southern Puget Sound*, Washington, Journal of Shellfish Research Vol. 34, No. 1, pp. 171-87 (2015); P. Sean McDonald et. al, *Effects of geoduck (Panopea generosa Gould, 1850) aquaculture gear on resident and transient macrofauna communities of Puget Sound*, Washington, Journal of Shellfish Research Vol. 34, No. 1, pp. 189-202 (2015); McPeek et. al, *Aquaculture Disturbance Impacts the Diet but not Ecological Linkages of a Iniquitous Predatory Fish*, Estuaries and Coasts (Nov. 8, 2014). In fact, in April, 2015 a special issue of the Journal of Shellfish Research was published for the express purpose of disseminating the most current information on geoduck aquaculture, which has experienced a dramatic increase in scientific study in recent years. These studies demonstrate that, similar to other forms of shellfish aquaculture, properly managed geoduck farms do not have significant environmental impacts.

Additional studies have also been performed on the interaction of shellfish farming and eelgrass. This information, along with a review of prior studies on the relationship between shellfish farms and eelgrass and the ecosystem services offered by shellfish beds, is presented in

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[29] Appendix B. Washington Sea Grant submitted an additional report to the Washington State Legislature in December 2015. This report provides results from a research program that the legislature directed to promote and manage shellfish aquaculture in Washington State. Results from this research program include, among other things, a finding that aquaculture can mitigate eutrophication in western South Puget Sound. See Appendix C.

the attached technical report from Confluence Environmental Company.[30] Highlights from that report include the following findings:

- The most comprehensive analysis of factors that drive landscape-scale changes to eelgrass indicated that aquaculture operations have minor impacts to eelgrass cover (less than 1.5% of the total predicted eelgrass density in any year). This level of reduction is within the range of existing natural disturbances to the system (e.g., winter storms) that eelgrass is inherently adapted to. When the functional value of eelgrass and shellfish are combined, and the landscape matrix of habitats are considered, it is possible that a broader ecosystem perspective would find benefits from the presence of aquaculture.[31]

- Native eelgrass exhibits a stable and possibly increasing trend in distribution and abundance in areas like Willapa and Humboldt bays where oysters have been actively farmed for over 100 years and are currently used by commercial growers. This indicates that eelgrass is resilient to the level of shellfish aquaculture activities in these estuaries.[32]

- Many effects of shellfish aquaculture can be considered a positive interaction with eelgrass and the surrounding habitat. Shellfish can help protect shorelines from erosion by stabilizing sediments and dampening waves. This may benefit eelgrass, as eelgrass has been known to expand into areas after sediments are stabilized.[33]

- Shellfish aquaculture plots may recruit eelgrass through three main mechanisms: (1) recruitment of floating seeds as they travel singly or within detached reproductive shoots; (2) providing superior conditions for seed germination; and (3) increasing the survival of seedlings by increasing light levels, nutrients, and protecting against erosion.[34]

- Shellfish aquaculture beds can also reduce desiccation of eelgrass beds by expelling water when the tide recedes and creating micro-habitats.[35]

- Commercial geoduck aquaculture has been shown to facilitate the establishment of eelgrass beds in areas previously devoid of eelgrass, and eelgrass recovered and continued to thrive after disturbances from farm activities occurred.[36]

- Commercial shellfish beds provide broader ecosystem services, including helping to control nutrient loading to water bodies by filtering and removing nutrients from the

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[30] Appendix D (Eelgrass and Shellfish Aquaculture – Review of Relevant Scientific Literature on Ecological Functions and Interactions, Confluence Environmental Company, July 29, 2016).
[31] *Id.*, p. 5.
[32] *Id.*, p. 6.
[33] *Id.*, p. 6.
[34] *Id.*, pp. 6-11.
[35] *Id.*, pp. 14-15.
[36] *Id.*, pp. 7-8.

water column, enriching sediment; supporting the food web; and providing structured habitat and thereby increasing species abundance and diversity.[37]

All of this information supports the Corps' conclusion that commercial shellfish aquaculture activities have minimal individual and cumulative adverse environmental impacts, and hence NWP 48 should be reissued in 2017 authorizing continuing and new operations.

3. NWP 48 Should be Reissued with Additional Modifications

The Nationwide Permit program was established to streamline permitting for activities that have minimal adverse environmental effects.[38] NWP 48 has great potential to streamline commercial shellfish aquaculture activities as envisioned under the Nationwide Permit program and the various laws and policies discussed above.

PCSGA supports the reissuance of NWP 48. Similar to the current version of NWP 48 that was issued in 2012, the 2017 draft properly authorizes continuing and new commercial shellfish aquaculture activities. Additionally, PCSGA supports the numerous modifications included within the 2017 draft that should help streamline authorizations for commercial shellfish farms and advance numerous federal and state laws and policies. In particular, PCSGA supports adding a definition for a "new commercial shellfish aquaculture operation" and the modifications to the pre-construction ("PCN") notification requirements. PCSGA believes that, with some additional minor modifications, the 2017 version of NWP 48 can significantly contribute to streamlining the permitting process and fostering shellfish farming.

a. *The Definition of a New Commercial Shellfish Aquaculture Operation Should Be Modified to Ensure It Captures the Corps' Stated Intent*

The Proposal provides improved guidance by defining a new commercial shellfish aquaculture operation "as an operation in a project area where commercial shellfish aquaculture activities have not been conducted in the past 100 years."[39] This definition provides much needed clarity to shellfish farmers as well as regulators in determining whether a given operation is continuing or new. The 100-year timeframe is appropriate given that shellfish farms will often lie fallow or dormant for extended periods of time. Recognizing that such fallow or dormant areas qualify as continuing farms is particularly important in Washington State, where the state Legislature has encouraged shellfish farming for well over 100 years.

While the clear intent of this modification is to define a new commercial shellfish aquaculture operation "as an operation in a **project area** where commercial shellfish aquaculture activities have not been conducted in the past 100 years" the language used in the draft permit itself does not provide this level of clarity. Rather than define a new operation in terms of the "project area," it simply uses the term "area." Because the more general term "area" could potentially mean either the "project area" or instead a smaller portion of the entire project area,

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[37] *Id.*, pp. 10-18.
[38] Proposal to Reissue and Modify Nationwide Permits, 81 Fed. Reg. at 35202.
[39] *Id.* (emphasis added).

we request that the Corps modify this definition as follows (deletions are shown in ~~strikethrough~~ and additions are in underline):

> A "new commercial shellfish aquaculture operation" is an operation in ~~an~~ project area where commercial shellfish aquaculture activities have not been conducted during the past 100 years.

Similarly, we request that the Corps modify other statements in the text of the 2017 draft NWP 48 that discuss the 100-year timeframe, including the following:

> This NWP does not authorize . . . (d) Activities that directly affect more than ½-acre of submerged aquatic vegetation beds in project areas that have not been used for commercial shellfish aquaculture activities during the past 1000 years.
>
> **Notification:** The permittee must submit a pre-construction notification to the district engineer if: (1) The activity will include a species that has never been cultivated in the waterbody; or (2) the activity occurs in ~~an~~ project area that has not been used for commercial shellfish aquaculture activities during the past 100 years . . .

These modifications will help avoid confusion and ensure that new commercial shellfish aquaculture operations are identified consistent with the Corps' stated intent.

b. *The Proposed Modifications to PCN Requirements Are Helpful But Lack Necessary Specific Details*

PCSGA supports the numerous revisions to the proposed PCN submittal requirements. PCSGA also supports the basis for the some of these modifications—the need for NWP 48 "to do a better job of taking into account the dynamic nature of commercial shellfish aquaculture activities and to further streamline the authorization process."[40] Shellfish aquaculture is a highly dynamic activity, and farmers need the ability to revise their operations to respond to ever-changing market and environmental conditions. Shellfish farmers have been prevented from making these necessary changes in recent years, in part due to the lack of flexibility afforded in NWP 48.

The Proposal strives to better account for the dynamic nature of shellfish farming by allowing an operator to change the species cultivated in the project area, to allow certain portions of a project area to lie fallow, and to only require a PCN to be submitted once during the period that the NWP is in effect (assuming a PCN must be submitted at all). The Proposal states: "The one-time PCN would identify the species expected to be cultivated during the period the 2017 NWP 48 is in effect, and identify the entire project area, including active and fallow areas. If unanticipated changes to the commercial shellfish operation need to occur during this period, and

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[40] *Id.*

those changes involve activities regulated by the Corps, the operator should contact the Corps district to request a modification of the NWP verification, instead of submitting another PCN."[41]

PCSGA supports this approach, but it is also concerned that, absent more clear guidance, it may not be effective in practice. This concern is based on PCSGA members receiving disparate direction from different Corps personnel regarding information required to be submitted in applications. In many cases growers have been asked to present unreasonably precise and rigid information (e.g. providing exact longitude and latitude information on where each species is to be cultivated on a farm). Therefore, PCSGA requests that the text of NWP 48 be modified to clearly state that no more than one PCN needs to be submitted during the effective period of the permit, that the PCN may include all activities that the operator may utilize during the course of the permit, and that if the operator wants to utilize additional practices beyond those identified in the PCN then it can request a modification of the NWP verification. Additionally, unless a clear timeline is provided for the Corps to respond to the request for modification, operators will have no certainty that their modifications will be reviewed and approved in a timely manner. Accordingly, PCSGA additionally requests that NWP 48 be modified to state that if the Corps does not deny a modification request within 14 days, it shall be deemed approved. PCSGA's specific requested revisions to the Notification section of the 2017 NWP 48 are as follows:

> Notification: The permittee must submit a pre-construction notification to the district engineer if: (1) The activity will include a species that has never been cultivated in the waterbody; or (2) the activity occurs in ~~an~~ project area that has not been used for commercial shellfish aquaculture activities during the past 100 years. (See general condition 32.)
>
> In addition to the information required by paragraph (b) of general condition 32, the pre-construction notification must also include the following information: (1) A map showing the boundaries of the project area, with latitude and longitude coordinates for each corner of the project area; (2) the name(s) of the species that will be cultivated during the period this NWP is in effect; (3) whether canopy predator nets will be used; (4) whether suspended cultivation techniques will be used; and (5) general water depths in the project area (a detailed survey is not required). No more than one pre-construction notification must be submitted for a commercial shellfish operation during the effective term of this permit. The pre-construction notification may include all species and culture activities that may occur on the project area during the effective term of the permit. If an operator intends to undertake unanticipated changes to the commercial shellfish operation during this period, and those changes involve activities regulated by the Corps, the operator may contact the Corps district to request a modification of the NWP verification, instead of submitting another pre-construction notification. If the Corps does not deny such a modification request within 14 days, it shall be deemed approved. (Sections 10 ~~and 404~~)

[41] *Id.*

B. The Corps Should Clarify the Scope of Clean Water Act Authority with Respect to Shellfish Farming

The Proposal acknowledges that the use of long lines "is not a discharge of dredged or fill material and is not regulated under Section 404 of the Clean Water Act."[42] PCSGA agrees with this conclusion, so far as it goes, but the Corps' jurisdictional analysis stops short by failing to analyze additional shellfish aquaculture activities and acknowledge that none of those activities are appropriately regulated under Section 404 of the Clean Water Act ("Act").

1. Continuing Shellfish Farms Are Exempt from Regulation Under the Act's Farming Exemption

The Act specifically exempts normal farming activities from the requirement to obtain permits under Section 402 and 404 of the Act. Section 404 of the Act states the discharge of dredged or fill material "from normal farming, silviculture, and ranching activities such as plowing, seeding, cultivating, minor drainage, harvesting for the production of food, fiber, and forest products, or upland soil and water conservation practices . . . is not prohibited by or otherwise subject to regulation under this section or section 1311(a) or 1342 of this title (except for effluent standards or prohibitions under section 1317 of this title)."[43]

Continuing shellfish farms are normal farming operations that include seeding, cultivating, and harvesting for the production of food and fiber and, as such, satisfy each required element of the farming exemption.[44] The specific activities that shellfish farmers engage in fall squarely within the meaning of the terms "seeding," "cultivating" and "harvesting," as used in the statute and the Corps regulations.

- *Seeding*: Shellfish farming involves the preparation of beds for seeds on lands that have historically been used for this purpose. For example, in clam and oyster farming, clam and oyster seed is sown on beds that are prepared for the seeds through raking of debris and, in some cases, substrate enhancement. Oyster seeds may also be attached to nylon lines where they grow in clusters suspended on PVC pipe (long line culture). In geoduck

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[42] Proposal to Reissue and Modify Nationwide Permits, 81 Fed. Reg. at 35203.

[43] 33 U.S.C. § 1344(f)(1)(A). *See also* 33 C.F.R. § 323.4 and 40 C.F.R. § 232.3; *United States v. Brace*, 41 F.3d 117, 123 (3d. Cir. 1994). The farming exemption was added to the Act in 1977 when, after the initial adoption of the Act in 1972, "[t]he Corps proceeded to take [Section 404] and, by its interpretation, expand it far beyond any intent of Congress so that it found itself threatening regulation in areas of the country which the Corps had never imagined it had jurisdiction over." *A Legislative History of the Clean Water Act of 1977*, Vol. 4, p. 948 (remarks of Senator Muskie.)

[44] That shellfish aquaculture is a type of farming activity is demonstrated by the fact that the USDA has defined cultivated shellfish specifically as "livestock," which means "all farm-raised animals." Appendix E, p. 2 (Memorandum of Understanding between the United States Department of Agriculture ("USDA"), the Department of Interior's Fish and Wildlife Service and NOAA Fisheries authorizing certification of shellfish under USDA's Animal Plant Health Inspection Services). Shellfish aquaculture's classification as a type of farming activity is further reinforced by the fact that the Washington State Legislature has found "that aquaculture should be considered a branch of the agricultural industry of the state for purposes of any laws that apply to or provide for the advancement, benefit, or protection of the agriculture industry within the state." RCW 15.85.010.

farming, two to four seeds are placed into a PVC pipe that has been placed by hand into the substrate.

- *Cultivating:* Shellfish farmers also employ several different methods to improve the yield and quality of the harvest including use of predator netting to increase the yield in clam farming; transplanting small oysters to another area that is more nutrient rich for fattening prior to harvest; using harrows in muddy areas or on beds infested with burrowing shrimp at high tide to pull sinking oysters up out of the mud; using predator netting to increase mussel raft yield; and improving geoduck yield by covering the top of plastic pipe with mesh secured to exclude predators.

- *Harvesting*: Shellfish farmers harvest clams, oysters, mussels and geoducks either by hand, using a rake or a pump, by machine or mechanical dredge. With each of these methods, the crop is removed from the beds in which they grow.

Shellfish farming also satisfies the last element of the exemption—engaging in these activities for the production of food. After the shellfish seeds are cultivated and harvested, they are transported to processing plants or straight to market. [45]

Regulations promulgated by the Corps and Environmental Protection Agency ("EPA") clarify that the farming exemption covers an activity that is "part of an established (i.e., on-going) farming ... operation . . ."[46] The 2017 draft NWP 48 appropriately covers both new and continuing commercial shellfish operations, and it defines a new operation commercial shellfish operation as an operation in a project area where commercial shellfish aquaculture activities have not been conducted in the past 100 years. Hence, the 2017 draft should clearly state that the farming exemption applies to any commercial shellfish aquaculture operation in a project area where activities have occurred during the past 100 years.

2. Shellfish Farming Does Not Constitute the Discharge of Dredged or Fill Material

Even if shellfish farming activity is not exempt under the Act's exemption for normal farming operations, shellfish farming activities are not regulated under Section 404 of the Act because they do not involve the discharge of dredged or fill material from a point source. The objective of the Act is "to restore and maintain the chemical, physical, and biological integrity of the Nation's water."[47] Section 301(a) of the Act makes it unlawful to "discharge any pollutant" into the waters of the United States unless a permit is granted under Sections 402 or 404. "Discharge of a pollutant" is defined as "any addition of any pollutant to navigable waters from any point source."[48] Accordingly, courts have consistently held that a permit, whether under

[45] To be exempt under the Act, a party must also show the permit requirement is not "recaptured" under 33 U.S.C. § 1344(f)(2). *See U.S. v. Akers*, 785 F.2d 814, 819 (9th Cir., 1986). Shellfish farming activities are not recaptured because they do not involve converting an area of waters of the United States to a different use, or converting an area of waters of the United States to a non-wetland, or otherwise reducing the reach of the waters. In addition, shellfishing activities do not result in any discharge that elevates the bottom of waters of the United States, such that it alters the flow or circulation of waters of the United States.

[46] *See* 33 C.F.R. § 323.4(a)(1)(ii); 40 C.F.R. § 232.3(c)(1)(ii)(A).

[47] 33 U.S.C. § 1251(a).

[48] 33 U.S.C. § 1362(12).

Section 402 or 404 of the Act, is required only if an activity involves the elements of Section 301: (1) the discharge (2) of a pollutant (3) from a point source (4) into navigable waters.[49] No shellfish aquaculture method constitutes the discharge of a pollutant from a point source, as necessary to support jurisdiction under the Act, and 2017 NWP 48 should include this recognition.[50]

a. *Shellfish Aquaculture Does Not Constitute the Discharge of a Pollutant*

The bottom-culture farming of shellfish involves shell, seed, and shellfish by-products. Off-bottom culture involves the placement of PVC pipe, ropes, netting, or stakes. Neither method of shellfish farming involves regulated discharges; therefore, shellfish farms should not be required to obtain permits under the Act.

The Proposal appropriately recognizes that the use of long lines for oyster aquaculture does not involve the discharge of dredged or fill material and is not regulated under Section 404 of the Act.

> Long lines are used in commercial shellfish aquaculture to grow oysters in the water column, as an alternative to bottom culture. Sediment accretion caused by long lines is not a discharge of dredged or fill material and is not regulated under section 404 of the Clean Water Act because the sediment accumulation is an indirect effect of the use of long lines.[51]

Other types of aquaculture gear are also used for off-bottom and suspended aquaculture, including flip bags and rafts, and for the exact same reasons these forms of aquaculture do not involve a discharge of dredged or fill material and are not properly regulated under Section 404 of the Act. On-bottom clam aquaculture can use similar gear, including nets and, for geoduck aquaculture, nursery tubes, which also do not involve discharges of dredged or fill material.

With regard to the shellfish themselves, the United States Court of Appeals for the Ninth Circuit has already held that the biological materials involved with commercial shellfish aquaculture, including the shellfish and their by-products, are not regulated under the Act. *Association to Protect Hammersly, Eld and Totten Inlets v. Taylor Resources, Inc. ("Taylor")*, 299 F.3d 1007 (9th Cir. 2002). In reaching this holding, the *Taylor* court relied upon the fact that

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[49] *E.g.*, *Borden Ranch Partnership v. United States,* 261 F.3d 810, 814 (9th Cir. 2001) (analyzing Section 402 claims by way of the Section 301 elements); *United States v. Brace*, 41 F.3d 117, 120 (3d Cir.1994) ("The United States, either by stipulation or at trial, established the five elements of a prima facie case for violations of Section 404 of the Act: (1) defendants admitted that they are 'persons' within the meaning of the Act; (2) defendants admitted that the activities at the site were conducted without a permit; (3) defendants stipulated that the site was a wetland at the time of the discharges; (4) the district court held that the site constituted waters of the United States at the time of defendants' activities; and (5) the district court held that defendants' clearing, mulching, churning, and levelling of the formerly wooded and vegetated site constituted a discharge of pollutants into the waters of the United States and that defendants paid for excavation and installation of drainage tubing in an effort to drain the site.").

[50] One exception may be the deposit of gravel or shell material to enhance bottom-culture shellfish beds. However, even assuming this activity constitutes the discharge of fill material, it is still exempt from regulation under the Act's farming exemption, as discussed in the preceding discussion.

[51] Proposal to Reissue and Modify Nationwide Permits, 81 Fed. Reg. at 35203.

one of the fundamental goals of the Act and its permitting programs is the attainment of water that is clean enough to "provide for the propagation of fish, *shellfish*, and wildlife."[52] The *Taylor* court explained:

> In 1972, Congress passed the Clean Water Act amendments, 33 U.S.C. §§ 1251-1387, to respond to environmental degradation of the nation's waters. In the text of the Act, Congress plainly and explicitly listed the "protection and *propagation* of . . . shellfish" as one of the goals of reduced pollution and cleaner water. 33 U.S.C. § 1251(a)(2) (emphasis added [by the Court]); see also 33 U.S.C. §§ 1312(1), 1314(a)(2). It would be anomalous to conclude that living shellfish sought to be *protected* under the Act are, at the same time, "pollutants," the discharge of which may be *proscribed* by the Act. Such a holding would contravene clear congressional intent, give unintended effect to the ambiguous language of the Act and undermine the integrity of its prohibitions.[53]

The anomaly that the Ninth Circuit identified – arguing that what is protected under the Act is actually something the Act proscribes – applies not only to the mussel rafts at issue in *Taylor*, but to shellfish farming more generally. Just as the Ninth Circuit determined that mussel shells and related by-products were not "pollutants" under the Act "because these materials come from the natural growth and development of mussels and not from a transformative human process,"[54] neither are the living shellfish placed in the intertidal zone during bottom-culture (clam seed and oyster cultch) and their natural by-products "pollutants."[55] And as *Taylor* held, if an activity does not involve the discharge of a "pollutant," it does not require a permit under the Act. Thus, bottom-culturing of shellfish does not require a permit under the Act.[56]

Finally, the act of harvesting bottom-cultured shellfish does not bring bottom-culture within the Act's regulatory reach. Harvesting of such shellfish does not involve an "addition" for purposes of the Act. The D.C. Circuit has held that the Act cannot regulate activities in

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[52] 33 U.S.C. § 1251(a)(2) (emphasis added). *See also, A Legislative History of the Clean Water Act of 1977*, Volume 4, p. 920 (remarks of Senator Stafford) ("The statutory language authorizing the 404 programs requires the cooperation of the Corps [and the Environmental Protection Agency ("EPA")] to ensure that discharges of dredged materials and fill material will not have unacceptable adverse effects on . . . shellfish beds.")

[53] 299 F.3d at 1016 (emphasis in original).

[54] *Id.* at 1017-18.

[55] *See also id.* at 1016 ("We are persuaded that Congress did not intend that living shellfish and the natural chemicals and particulate biological matter emitted from them, or the occasional shells that separate from them, be considered pollutants.")

[56] *Taylor* cannot be distinguished on the basis that it addressed a challenge under Section 402 rather than Section 404 of the Act. As explained above, the Corps (and the United States more generally) has consistently taken the position in Section 404 judicial enforcement actions that it must establish under Section 301 that there has been a "discharge of a pollutant." The elements at issue in the Section 404 enforcement context are precisely the same elements at issue in *Taylor*. Accordingly, if there is no "discharge" of a "pollutant" from a "point source," there is no need for a permit under either Section 402 or 404 Act. *See id.* at 1009 (noting that the fundamental inquiry with regard to the Act's regulatory coverage is whether the activity "constitute[s] the discharge of pollutants without a permit in violation of the Clean Water Act, 33 U.S.C. § 1251-1376"); *Greenfield Mills, Inc. v. Macklin*, 361 F.3d 934, 945 (7th Cir. 2004) (distinguishing between the elements of jurisdiction under the Act and the Act's permit programs); 65 Fed. Reg. 21,292, 21,293 (April 20, 2000) (distinguishing between prohibition on discharge of pollutants and Act's 404 and 402 permitting programs).

which material is removed from waters of the United States and a small portion of it happens to fall back.[57] "Because incidental fallback represents a net withdrawal, not an addition, of material, it cannot be a discharge."[58] While some sediment movement may occur when shellfish are harvested, such movement is at most *de minimis*. Harvesting of bottom-cultured shellfish constitutes a "net withdrawal" of material from the water, not an "addition."[59] Therefore, harvesting activities do not constitute a discharge of dredged or fill material and cannot provide a basis for regulating commercial shellfish aquaculture under Section 404 of the Act.

b. Shellfish Farming Does Not Involve Point Sources

For a discharge to be regulated under the Act, it must come from a "point source."[60] The Act defines the term "point source" as:

> Any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft from which pollutants are or may be discharged.[61]

EPA has promulgated regulations defining when an aquaculture operation is a "point source" under the Act.[62] Under those regulations, shellfish farms involve a "point source" discharge only if they meet the regulatory definition of a Concentrated Aquatic Animal Production Facility ("CAAPF"). EPA's regulations make clear that the definition of a CAAPF does not include shellfish farms because shellfish farms do not add any feed to the water.[63]

EPA affirmed its decision to exclude shellfish farms from coverage under its aquaculture regulations under the Act when it decided not to promulgate effluent guidelines for molluscan shellfish farms. In explaining that decision, EPA noted:

> For large-scale production of molluscs for food, operators typically use bottom culture, bottom anchored racks, or floating (but tethered to the bottom) rafts in open waters. Because such operations do not typically add materials to waters of the United States, and because EPA has not found any generally-applicable pollutant control technologies to reduce any discharge, the Agency is not proposing effluent limitations guidelines and standards for discharges from open water mollusk culture. EPA notes that molluscs are filter feeders and, in some cases, are recommended not only as a food source, but also a pollution control

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[57] *National Mining Association v. U.S. Army Corps of Engineers*, 145 F.3d 1399 (D.C. Cir. 1998).
[58] *Id.* at 1404.
[59] *North Carolina v. FERC*, 112 F.3d 1175, 1187 (D.C. Cir. 1997) ("[T]he nearest evidence we have of definitional intent by Congress reflects, as might be expected, that the word 'discharge' contemplates the addition, not the withdrawal, of a substance or substances.")
[60] 33 U.S.C. § 1362(12).
[61] 33 U.S.C. § 1362(14).
[62] 40 C.F.R. § 122.24.
[63] 40 C.F.R. Pt. 122, App. C(a). *See also Taylor*, 299 F.3d at 1018 (holding that a mussel farm that does not add feed to waters is not a CAAPF and therefore not a "point source" under EPA's regulatory definitions).

> technology in and of themselves. Molluscs remove pollutants from ambient waters via filtration.[64]

Although EPA's CAAPF regulations and definitions are promulgated under EPA's NPDES permit program, not the Corps' Section 404 permit program, the statute does not distinguish between point sources for NPDES permits and for Section 404 permits.[65] Indeed, in *Taylor*, the Ninth Circuit rejected an argument that a shellfish farm that did not meet the definition of a CAAPF could nevertheless be deemed a "point source" under the Act. There, the appellant argued that, even if not a CAAPF, Taylor's mussel raft was nevertheless a "point source" because it was a "vessel or other floating craft," a type of point source specifically listed in the statutory definition of point source in 33 U.S.C. § 1362(14). The Ninth Circuit disagreed:

> In the context of aquatic animal harvesting, the EPA's regulations expressly exclude from the definition of "point source" facilities, like Taylor's, that do not meet the feeding thresholds. To hold that these facilities are nonetheless "point sources" under the statutory definition would render the EPA's concentrated aquatic animal production facility criteria superfluous and undermine the agency's interpretation of the Clean Water Act. Placing greatest weight on the regulations that are most directly related to the conduct under challenge, we hold that Taylor's facilities are not a point source under the Act.[66]

Because shellfish farms do not involve discharges of pollutants from point sources, they are not subject to the Act's permitting requirements. Accordingly, PCSGA requests that the Corps further modify NWP 48 to clarify that commercial shellfish aquaculture operations are not subject to Section 404 of the Act by including the following note:

> **Note 4:** Commercial shellfish aquaculture activities are not regulated under Section 404 of the Clean Water Act.

C. Shellfish Farming Regulation in Washington State Should Be Transferred to the Northwest Division or Headquarters

Corps Headquarters deserves commendation for significantly improving NWP 48 in an effort to streamline permitting for commercial shellfish aquaculture operations and account for the flexibility needed to operate successful shellfish farms. Nonetheless, PCSGA is convinced that unless shellfish farming regulation in Washington State is transferred outside of the Seattle District, these modifications will have no practical impact, and shellfish farmers will continue to be stuck in a regulatory morass and prevented from implementing required changes to their farms. Therefore, PCSGA respectfully requests that shellfish farming regulation in Washington State be transferred to either the Northwest Division or Headquarters.

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[64] 57 Fed. Reg. 57,872, 57,885 (September 12, 2002). *See also* 68 Fed. Reg. 75,068, 75,078 (December 29, 2003); 69 Fed. Reg. 51,892, 51,906 (August 23, 2004).
[65] 33 U.S.C. § 1362(14).
[66] *Taylor*, 299 F.3d at 1019.

NWP 48 was first issued in 2007, and programmatic Endangered Species Act ("ESA") consultations were performed for Washington State in 2009 with the Portland District of the Corps acting as the lead agency. After the programmatic ESA consultations concluded, authority for verifying farms' coverage under NWP 48 was transferred to the Seattle District. Despite the fact that NWP 48 had been in place for multiple years and ESA consultation had been concluded for existing farms, the Seattle District systematically failed to verify shellfish farms for coverage. Nearly all of the verification letters the Seattle District issued under NWP 48 were sent several years after shellfish farmers submitted PCNs and after the 2007 version of NWP 48 expired. This inexcusable delay not only directly contravened the goal of the Nationwide Permit program to streamline permitting for activities that have minimal adverse environmental impacts, but it also jeopardized the validity of shellfish farmers' verifications. Moreover, the Seattle District's verification letters were not simply inexplicably delayed for several years. They were substantively flawed as well. They purported to exclude from coverage many areas of existing shellfish farms that were clearly covered under the terms of NWP 48 and the programmatic ESA consultations, requiring shellfish farmers to resort to litigation to simply continue farming historic ground.

Compounding these problems, the Seattle District has steadfastly refused to meaningfully engage with shellfish farmers to gain an adequate understanding of their practical needs, the impacts of their farming activities, and alternative avenues for addressing areas of concern. As a result, the Seattle District continues to express fundamental misunderstandings on these issues and, through its failure to make timely and appropriate regulatory decisions, has drastically hindered the development of commercial shellfish aquaculture in Washington State.

Finally, and perhaps most concerning, the Seattle District has recently indicated that it may revoke NWP 48 in Washington State entirely and instead regulate commercial shellfish aquaculture activities through a regional general permit ("RGP"). The Seattle District has failed to offer a legitimate explanation for this decision. While it has stated a RGP can be written specific to practices in Washington State, so can NWP 48 through local conditions. In fact, the Seattle District issued 16 special conditions applicable to commercial shellfish farms in Washington State under the existing version of NWP 48 and with consultation of the U.S. Fish and Wildlife Service and National Marine Fisheries Service.[67] PCSGA is convinced that, rather than streamlining permitting and accounting for the dynamic nature of shellfish farming, a RGP in Washington State would further stifle the growth and innovation in the State by creating an even more fragmented regulatory regime and causing increased uncertainty—a scenario that the draft Decision Document for NWP 48 appropriately cautions against:

> The regulated public, especially those companies that conduct activities in more than one Corps district, would be adversely affected by the widespread use of regional general permits because of the greater potential for lack of consistency and predictability in the authorization of similar activities with no more than minimal individual and cumulative adverse environmental effects. These

[67] Seattle District Special Conditions for Commercial Shellfish Aquaculture Activities (http://www.nws.usace.army.mil/Portals/27/docs/regulatory/NWPs/Existing%20Aquaculture%20Activities%20-%20Special%20Conditions.pdf).

companies would incur greater costs in their efforts to comply with different regional general permit requirements between Corps districts.[68]

Even if the Seattle District chooses not to revoke NWP 48 in favor of a RGP, PCSGA is concerned that the Seattle District will attempt to impose unreasonable and/or unnecessary regional conditions that will not only stifle the growth of aquaculture but take extensive historic farming areas out of production. After years of delay, PCSGA has no confidence that the Seattle District will reverse course and efficiently administer permitting for commercial shellfish farming in Washington State. And, given PCSGA members have heard representatives of the Seattle District complain that they are spending a disproportionate amount of their time addressing shellfish aquaculture issues, it would appear that a transfer of responsibility for administering shellfish aquaculture regulatory programs outside of the Seattle District would be in everyone's best interest. It is also clear that a transfer of authority would be effective, as other offices have proven capable of administering the NWP 48 program (e.g. the Portland District efficiently administered NWP 48 in Washington State from 2007 through 2009, including acting as lead during the programmatic ESA consultations).

Accordingly, we respectfully request that administrative responsibility for commercial shellfish farming activities in Washington State (including those proceeding under NWP 48 as well as individual permits) be transferred to either the Northwest Division or Corps Headquarters.

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PCSGA thanks you for your consideration of these comments. Please do not hesitate to contact us at (206) 488-5188 if you have any questions.

Sincerely,

Samuel W. Plauché
Jesse G. DeNike

JGD:tat
Attachments
cc: Margaret P. Barrette, PCSGA Executive Director

[68] Draft Decision Document, Nationwide Permit 48, p. 6.