

MEMORANDUM FOR RECORD

SUBJECT: Department of the Army Environmental Assessment and Statement of Findings for the Above-Referenced Standard Individual Permit Application

This document constitutes the Environmental Assessment, 404(b)(1) Guidelines Evaluation, as applicable, Public Interest Review, and Statement of Findings for the subject application.

- 1.0 Introduction and Overview:** Information about the proposal subject to one or more of the U.S. Army Corps of Engineers' (Corps) regulatory authorities is provided in Section 1, detailed evaluation of the activity is found in Sections 2 through 11 and findings are documented in Section 12 of this memorandum. Further, summary information about the activity including administrative history of actions taken during project evaluation is attached (ORM2 Summary) and incorporated in this memorandum.
- 1.1 Applicant: Jamestown S'Klallam Tribe (JSKT or Tribe)
- 1.2 Activity location: In Dungeness within the Dungeness National Wildlife Refuge (Refuge), near Sequim, Clallam County, Washington.
- 1.3 Description of activity requiring permit: The proposed work is to cultivate 34 acres of Pacific oyster (*Crassostrea gigass*) using two on-bottom methods: 1) mesh bag culture and 2) loose culture. Up to 5 acres would be the on-bottom mesh bag culture method and the remaining acreage would be the on-bottom loose culture method. Work would occur within a 50-acre tideland parcel leased from Washington State Department of Natural Resources (DNR). The contiguous 5-acre area for on-bottom bag culture would be located near the northeastern boundary of the lease.

Oyster seed to stock the on-bottom bags or for placement on the beach within the lease area will primarily be sourced from the Tribe's hatchery and nursery operations. Per Washington State regulatory guidelines, WACs 2220-340-050 and 220-340-150, appropriate Shellfish Import or Transfer Permits will be obtained prior to the import or transfer of oyster seed into the lease area.

Mesh bag culture: Installation of the oyster bag lines would establish 5 acres of on-bottom, plastic bag culture at a bag density of up to 4000 bags/acre for a total of 20,000 bags. The bags would be secured to a line and the line then secured to the substrate using screw anchors. The lines would be spaced 10 feet apart, within the +1-foot (ft) to -1-ft tidal elevations (mean lower low water (MLLW)). The bags can flip back and forth on the lines with the waves and tides, resulting in a spacing of 4-7 feet between the bags. Bags will have a 25-ft setback to native eelgrass. Young seed oysters would typically grow for 14-15 months within the bags. The oysters are then removed from the bags and spread out onto the beach as loose culture where they would continue to grow until harvest.

Loose culture: Placement of oysters directly on the substrate would occur on the remaining 29-acres of cultivatable area with a 25-ft setback to native eelgrass. The

loose beach method entails spreading the oysters directly onto the substrate. Harvest is done by hand by collecting and placing the oysters into oyster harvest bags. The bags are then lifted onto a marine vessel for transport. Loose culture cultivation would occur between the +3-ft and -2-ft tidal elevations (MLLW).

- 1.3.1 Proposed avoidance and minimization measures: The applicant proposed to avoid and minimize effects of the project through a 25-ft. setback of work activities from native eelgrass and implementation of the conservation measures and applicable terms and conditions from the Programmatic Biological Opinions for Shellfish Activities in Washington State Inland Marine Waters (U.S. Fish and Wildlife Service (USFWS) Reference number 01EWF00-2016-F-0121, National Marine Fisheries Service (NMFS) Reference number WCR-2014-1502). In addition, the applicant proposed to do all cultivation activities by hand to avoid mechanical disturbance of the substrate.
- 1.3.2 Proposed compensatory mitigation: No compensatory mitigation was proposed.
- 1.4 Existing conditions and any applicable project history:

Existing Conditions: The project area is a 34 acre gently sloping intertidal flat in the northwestern part of Dungeness Bay. Dungeness Bay is formed from the protection of Dungeness Spit, which is one of the world's longest natural sand spits. Dungeness Spit is narrow, curving spit extending more than 5.5 miles into the Strait of Juan de Fuca and is formed by large volume of longshore movement of sediment from feeder bluffs to the west. The Dungeness River is about 2 miles to the east. Dungeness Bay is split into two water bodies by two smaller sand spits. The two water bodies are commonly termed: 1) Dungeness Bay or outer Dungeness Bay, and 2) Dungeness Harbor or inner Dungeness Bay. The larger of the two smaller sand spits is north-south orientated limb of Dungeness Spit known as *Graveyard Spit*. Just to the west is a smaller cusped foreland extending northward from the southern shore known as *Cline Spit*. The inner Bay to the west of Graveyard Spit and Cline Spit is shallow and drains to the east in a circuitous channel between the spits. The average depth of the inner Dungeness Bay is 8.3 feet. The substrate of the project area is sandy/mud with pockets of eelgrass (*Zostera marina*) and sea lettuce (*Ulva spp.*) present.

The topography of Dungeness and Graveyard spits is largely flat, with most areas below 15.0 feet North American Vertical Datum 1988 (NAVD88) in elevation (PSLC 2001). The spits are comprised of series of shallow dune ridges and troughs with a large accumulation of drift logs on the surface. The narrowest portion of Dungeness Spit measures only approximately 50 feet wide, and intermittent over-wash events have been documented during and after large storms.

The project area is within a Washington State Department of Health shellfish growing area classified as conditional for commercial shellfish. As of 1 January 2020, the area is closed for shellfish harvesting from 1 November through 31 January based on seasonable, water quality conditions.

Dungeness Bay is central to a wide range of territory occupied by the JSKT people for thousands of years...since time immemorial. Within a few miles of the proposed project site are six known JSKT heritage sites including four villages and two camp sites. There are other culturally significant sites in the vicinity. These sites have spiritual importance and their presence is part of the Tribe's ongoing connection to the Bay. The native fish and shellfish resources of the JSKT are a treaty reserved water resources. Harvesting, consuming and trading shellfish has always been a way of life for the JSKT.

A historic site, the New Dungeness Lighthouse, is situated on the distal end of the spit. Graveyard Spit, a second spit, is attached to the west of the main Dungeness Spit at about 4 miles. Graveyard Spit is designated as a Research Natural Area due to the quality of the native shoreline vegetation (strand) species; these native species are also the predominant vegetation on Dungeness Spit. Dungeness Spit regularly breaches from wave and ocean currents. The arch of Dungeness Spit creates nutrient-rich tideflats for migrating shorebirds in spring and fall; a bay with calmer waters for wintering waterfowl; an isolated beach for harbor seals and their pups; and abundant eelgrass beds which provide important habitat for fish and wildlife species, such as Black Brant geese, Dungeness crab, and salmonids. Native migratory birds nest on the bay side of the spit and the shoreline is used for haul-out and pupping by harbor seals.

The project location is within the boundaries of the Dungeness Wildlife Refuge on second-class tidelands held by U.S. Fish and Wildlife Service (USFWS) under a use easement from Washington State for the purpose of a National Wildlife Refuge (NWR). The refuge was established by Executive Order 2123 on 20 January 1915, for the land to be "...as a refuge, preserve and breeding ground for native birds." In 1943, Washington State granted a use easement of the second-class tidelands adjacent to Dungeness Spit to the United States for the purposes of a wildlife refuge. Pursuant to the terms of the use easement deed, Washington State may grant additional authorizations for use of the tidelands which are not in conflict with the purpose of the easement. Washington State Department of Natural Resources (DNR) has since exercised the right to grant use of shellfish aquaculture. Poor water quality resulted in oyster cultivation activities being stopped in 2005. DNR commenced a lease with JSKT on 1 August 2007. Renewal of the lease terminated on 31 July 2017, and the tenancy is now considered month-to-month. The applicant must acquire all necessary federal, state, and local permits before DNR may offer a new lease.

In accordance with the National Wildlife Refuge System Administrative Act, the USFWS completed a Comprehensive Conservation Plan for the Refuge in 2013. Under the plan, portions of the refuge are closed for public access. Public access to the proposed project area tideland is only allowed by boat between 15 May and 30 September; and is closed to public access from 1 October to 14 May. Access to the shoreline of the proposed project area is closed year-round to public access. These closures are to provide sanctuary for wildlife during critical feeding, resting, and nesting times.

Project History: The JSKT submitted an application for a Nationwide Permit 48 to commercially cultivate 34 acres of Pacific oysters in an intertidal area of Dungeness Bay. The project proposal was for an on-bottom cultivation using plastic mesh culture bags.

Between 75,000 to 150,000 mesh bags would be placed on the tideland and anchored to lines between the +3 and -3 ft. elevations. Mature oysters would also be spread loosely onto the natural substrate.

The District Engineer determined the adverse environmental effects of the proposed activity were more than minimal due to the proposed project being sited entirely within the Dungeness National Wildlife Refuge creates more than minimal impacts to the refuge. Activities authorized under a Nationwide Permit must be minimally impacting individually and cumulatively. Therefore, the activity did not qualify for authorization under the Nationwide Permit and would be evaluated under a standard individual permit.

A subsequent application for an individual permit was received on 17 July 2018, proposing 34 acres of Pacific oyster cultivation with up to 20 acres using the on-bottom plastic mesh culture. The 3-foot by 2-foot bags were to be secured to a line spaced 10-feet apart, and the line secured to the substrate using screw anchors. The bags would flip back and forth on the lines, resulting in a spacing of 4-7 feet between the bags. The bag density was to be 4,000 bags/acre and would be installed over a three-year period for a total of 80,000 mesh bags. Typically, the oysters would be removed from the bags after a growing period of 14-15 months and then spread directly on the substrate over the remaining 14 acres. A joint public notice with Washington State Department of Ecology (Ecology) was issued on 3 December 2018. The public notice stated the Corps would review the work in accordance with Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. Ecology would review the work pursuant to Section 401 of the CWA, with applicable provisions of State water pollution control laws and the Coastal Zone Management Act. A follow-up erratum to correct the reported latitude/longitude, and tidal elevations was issued on 10 December 2018.

On 13 January 2020, Clallam County Hearing Examiner decided to approve the Shoreline Substantial Development Permit and Shoreline Conditional Use Permit 'in part'. The examiner limited the County's approval regarding the mesh bag cultivation method to 5 acres of mesh bag cultivation at a maximum commercial bag density of 4,000 bags per acre, as well as on-bottom beach harvest of mature oysters. This approval differed from the application received by the Corps and Ecology for up to 20 acres in mesh bag cultivation with the remainder of the 34 acres in loose cultivation.

Due to the Clallam County Hearing Examiner's decision, the Corps will undertake an evaluation of authorizing 34 acres of which 5-acres is mesh bag culture and the remainder is loose cultivation. Additional acreage for the mesh bag cultivation method would be speculative per the Corps' guidelines, as the Corps cannot meaningfully evaluate with reasonable certainty JSKT's ability to secure a shoreline permit for additional acreage in the future. If additional acres for mesh bag cultivation are ever permitted by the County, the Tribe may apply for a permit modification for expansion of the bag culture methodology.

A joint public notice erratum was issued with Ecology on 20 April 2020, for the work described above in Section 1.3. The public notice stated the Corps would review the work in accordance with Section 404 of the Clean Water Act and Section 10 of the

Rivers and Harbors Act. Ecology would review the work pursuant to Section 401 of the CWA, with applicable provisions of State water pollution control laws and the Coastal Zone Management Act.

Upon review of the project specifics and the extensive public comments, the Corps determined that while the project does not contain discharge of dredge or fill material under Section 404 of the Clean Water Act, it is the subject of opposition such that a letter of permission is not appropriate and it will be evaluated as a standard individual permit.

- 1.5 Permit Authority: The installation and use of structures such as racks, cages, bags, lines, nets, and tubes, in navigable waters for commercial bivalve shellfish mariculture activities in navigable waters requires Department of the Army authorization under Section 10 of the Rivers and Harbors Act of 1899.

The placement of mariculture structures in the water column or on the bottom of a waterbody does not result in a discharge of dredged or fill material that is regulated under section 404. While the presence of these structures in a waterbody may alter water movement and cause sediment to fall out of suspension onto the bottom of the waterbody, that sediment deposition is not considered a discharge of dredged or fill material because those sediments were not discharged from a point source. In general, the placement of bivalve shellfish mariculture structures on the bottom of a navigable waterbody, or into the substrate of a navigable waterbody does not result in discharges of dredged or fill material into waters of the United States that are regulated under Section 404 of the Clean Water Act. In addition, the seeding and harvest of the oysters off the substrate by hand does not result in a discharge of dredged or fill material that is regulated under 404. The work activities will occur by hand. The oysters will be placed on the substrate by hand; bag placement, maintenance, and collection will occur by hand; and harvest of the oysters will occur by hand. No rakes or other such equipment that would disturb the substrate would occur. Therefore, the work activities are being evaluated under Section 10 of the Rivers and Harbors Act of 1899. The work activities are not being evaluated under Section 404 of the Clean Water Act.

Jurisdictional Determination (JD): No JD requested. Work would occur in marine waters subject to tidal action, waterward of the +3-ft. (MLLW) tidal elevation.

2.0 Scope of review for National Environmental Policy Act (i.e. scope of analysis), Section 7 of the Endangered Species Act (i.e. action area), and Section 106 of the National Historic Preservation Act (i.e. permit area)

- 2.1 Determination of scope of analysis for National Environmental Policy Act (NEPA):

The scope of analysis includes the specific activity requiring a Department of the Army permit. Other portions of the entire project are included because the Corps does have sufficient control and responsibility to warrant federal review.

Final description of scope of analysis: The scope of analysis includes Dungeness Inner Bay, where noise and human activity would be expected to affect wildlife use and where loose cultivation gear may accumulate after high wave and storm events.

2.2 Determination of the "Corps action area" for Section 7 of the Endangered Species Act (ESA): The action area is the area directly or indirectly affected by the proposed action (taking into account ground disturbance, water quality, noise, and lighting effects), including upland work that is interdependent and interrelated with the permitted activities. ESA scope of analysis includes Dungeness Inner Bay, including shoreline/estuary areas subject to tidal action within the Refuge, where loose cultivation gear may accumulate after high wave and storm events.

2.3 Determination of permit area for Section 106 of the National Historic Preservation Act (NHPA):

The permit area includes only those areas comprising waters of the U.S. that will be directly affected by the proposed work or structures. Activities outside of waters of the U.S. are not included because all three tests identified in 33 CFR 325, Appendix C(g)(1) have not been met.

Final description of the permit area: The Corps' permit area is defined by all areas of proposed in-water activity. The Corps is not responsible for identifying or assessing potentially eligible historic properties outside of the permit area, particularly those which are within the Refuge and, therefore, under the ownership of USFWS. The USFWS will follow their own internal procedures to meet their 106 compliance responsibilities.

3.0 Purpose and Need

3.1 Purpose and need for the project as provided by the applicant and reviewed by the Corps: The applicant's need for this project is to cultivate Pacific oysters (*Crassostrea gigas*) on tidelands leased from DNR within Dungeness Bay for commercial and cultural purposes. The JSKT has previously engaged in shellfish cultivation on their proposed site and is interested in this site due to its historic and legal designation for shellfish aquaculture and the Tribe's cultural ties to Dungeness Bay. With this project proposal, the JSKT (a sovereign nation) and Jamestown Seafood (a Tribally-owned business) intend to continue to enjoy and share their ancestral resources, and commercially cultivate an introduced oyster species (Pacific oysters).

3.2 Basic project purpose, as determined by the Corps: The basic project purpose of the project is to cultivate oysters for human consumption.

3.3 Water dependency determination: N/A, Section 10 only activity.

3.4 Overall project purpose, as determined by the Corps: To install a commercial shellfish aquaculture operation for cultivation of oysters within the Jamestown S'Klallam Tribe's cultural lands and historic shellfish harvesting areas, which include Dungeness and Sequim Bays.

4.0 Coordination

- 4.1 The results of coordinating the proposal on Public Notice (PN) are identified below, including a summary of issues raised, any applicant response and the Corps' evaluation of concerns.

Were comments received in response to the PN? Yes

Were comments forwarded to the applicant for response? Yes

Was a public meeting and/or hearing requested and, if so, was one conducted? Yes, a public meeting/hearing was requested but was not held. A public hearing was requested, however, the Corps determined that there was no valid interest to be served by a hearing, per 33 CFR 327.4 (b). Public hearings are held when a hearing would provide the Corps with additional information that is necessary for a thorough evaluation of permit issues and when that information is not otherwise available. The public notices issued for the project were extensively circulated through the community for comment and the comments received by the public reflected a substantial understanding of the project.

Extensive comments were received from interested public, non-governmental organizations (national, regional, and local), scientific-educational institutions, and federal and state government agencies. The comments have been categorized and summarized by the topic, followed by a summary of the applicant's response and the Corps evaluation of the comment. Based on a review of these comments, it is apparent that no additional information on the project would be generated from the hearing, and no greater understanding of the project would be gained.

Comments received in response to public notice:

Comment Topic 1: Opposed to siting a commercial oyster aquaculture operation within a National Wildlife Refuge (NWR); commercial project incompatible with the purposes of an NWR.

Almost every comment (190+) stated they opposed siting a commercial oyster aquaculture operation within an NWR. Many stated they supported the JSKT's treaty rights but opposed a 'commercial' shellfish operation cultivating non-native species as described in the project description within the NWR. A couple of commenters believed the JSKT would operate with sensitivity for the environment. Many requested the JSKT consider other culturally appropriate, alternative commercial sites outside the Refuge.

Comments were received regarding the role of U.S. Fish and Wildlife Service in the Corps' evaluation. One commenter stated "the Army Corps should not be permitting commercial aquaculture in a National Wildlife Refuge, since the National Wildlife Refuge System was created specifically to set aside lands for 'the conservation of fish and wildlife, including species that are threatened with extinction.' 16 U.S.C. § 668dd(a)(1). Any NEPA environmental assessment on the project must be jointly prepared with the U.S. Fish and Wildlife Service to ensure that the assessment addresses the potential wildlife and environmental impacts of the proposed operation, and to ensure that the proposed operation is compatible with the purposes of the Dungeness National Wildlife

Refuge. Id. § 668dd(d)(1)(A). The proposed oyster operation do not fulfill, and is in fact incompatible with, these purposes of the Dungeness National Wildlife Refuge, and must not be allowed to go forward without at least a full analysis of its impacts on the Wildlife Refuge by U.S. Fish and Wildlife Service."

Applicant's Response: The JSKT recognizes that some community members are generally opposed to any commercial activities within Dungeness Bay, particularly within the bounds of Dungeness NWR. The JSKT acknowledges the establishing purpose of Dungeness NWR; however, the JSKT strives to resume historic oyster farming activities within the Bay. Dungeness Bay, including what is known as the Dungeness NWR, is the ancestral home of the Jamestown S'Klallam people, where they have harvested fish, shellfish, and wildlife for millennia. The S'Klallams ceded millions of acres of land to the U.S. but reserved all their rights to fishing and shellfishing within their "usual and accustomed" harvest area by signing the Treaty of Point No Point. Tribal commerce and trade were sophisticated at that time (1855).

Washington State is the underlying owner of the project tideland area. Washington State granted a use easement to the U.S. for the purpose of the Refuge but retained the right to authorize other uses. There is a history of commercial shellfish farming in Dungeness Bay. Since at least 1963, Washington State has authorized shellfish farming on this project lease site. The lease area is covered by the settlement agreement arising from the Shellfish Litigation and is legally designated for shellfish aquaculture (per DNR comment letter, January 2019).

The JSKT will operate in an environmentally conscious and sustainable manner by implementing best farm management practices and implementing site-specific conservation measures. The project site is identified as a "sensitive" area of the Refuge which has closed periods to public access. However, the JSKT proposed activity is constrained, whereby a few workers (up to 6) are present of the site on average of once per week for maintenance and harvest activities (by hand or using a lift onto a boat at high tide). A larger crew (up to 15) may access the site one or two times per year for planting and gear removal. The JSKT will schedule higher intensity activities during the lease sensitive times of year for migratory birds.

The JSKT is committed to the protection and restoration of Dungeness Bay and its tributaries and believes commercial oyster cultivation can be done in a manner that is environmentally sensitive; does not compromise the health of Dungeness Bay; and is compatible with Dungeness NWR management objectives.

Corps Response: Dungeness NWR is managed by the U.S. Fish and Wildlife Service (USFWS) as part of the National Wildlife Refuge System (Refuge System) (Dungeness National Wildlife Refuge Comprehensive Conservation Plan, October 2013, <https://www.fws.gov/pacific/planning/main/docs/wa/docsdungeness.htm>).

The mission of the Refuge System is "to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans" [National Wildlife Refuge System Administration Act of 1966, as amended (16 U.S.C. 668dd et seq.)] Dungeness National Wildlife Refuge (NWR) was established by Executive Order (E.O.) 2123 on January 20, 1915 for the land to be "...as a refuge, preserve and breeding

ground for native birds." The original 226.02 acres were known as the Dungeness Spit Reservation. This purpose applies to all portions of Dungeness NWR. In 1943, the Refuge received a permanent easement to 321 acres of second-class tidelands within the northern portion of Dungeness Bay from the State of Washington.

In their comment to the Corps, DNR stated that pursuant to the terms of the 1943 easement, DNR may grant additional authorizations for other uses on these tidelands, so long as those uses are not in conflict with the purposes [i.e., wildlife refuge] of the easement. The determination of whether a use is or is not in conflict with the terms of the easement is a determination made by the Refuge and Washington State. See Sections 7.1 land use for additional discussion of DNR's identification of the area as covered lands under the Settlement Agreement. The Corps' Tribal Trust Responsibilities are discussed below in Section 10.4.

Refuges are guided by various Federal laws and executive orders, Service policies, and international treaties. The USFWS is responsible for compliance with these various Federal laws and executive orders, Service policies, and international treaties. In their official comment letter dated 6 August 2019, the USFWS stated, "we recognize there is little site-specific research available on impacts of commercial, on-bottom bag aquaculture to bird species found on the Refuge and note that different parties can derive divergent conclusions from the same studies. Nevertheless, we are concerned about potential impacts to Refuge wildlife and habitat based on the proposed location for this activity. We recommend [shellfish aquaculture] operations and monitoring activities occur outside of the migration and wintering periods for shorebirds and waterfowl, should a permit be provided." USFWS also stated, "We are committed to assisting with finding the least resource-disturbing approaches to this potential use."

The USFWS requested and received copies of the public comments. The Corps requested USFWS's response to the comments regarding compatibility of the project with the Refuge purposes. From the Corps' discussions with USFWS, we understand the USFWS (through the Department of the Interior) has an easement from the State of Washington (State) for use of the 2nd class tidelands in Dungeness Bay for the purpose of a NWR, and that coordination must ensue between these parties. We also were informed the USFWS will not be in a position to provide the Corps any comments detailing the outcome of its discussion with DNR prior to the Corps concluding its permit decision.

The Corps also asked USFWS to take the position of federal lead on this project, which was declined. It is the Corps understanding that USFWS, as the responsible and knowledgeable federal agency for the NWR, has the responsibility of completing the evaluation of whether siting a commercial shellfish aquaculture within the NWR is compatible with the Refuge management, and consistent with their related federal laws and executive orders, Service policies, and treaties. While the Corps has analyzed the impacts of the project generally, it cannot assess further what impact the project will have on refuge management.

In their letter dated 25 June 2021, USFWS stated it would continue to coordinate with JSKT on any required compatibility determinations and special use permits for the project and no further coordination with the Corps was necessary before a permit decision was made.

Therefore, as a condition of the permit, the Corps will require a copy of the DNR lease prior to work activities starting. This condition will ensure that the project meets any requirements of USFWS for refuge management which may result from the USFWS and Washington State discussion.

Comment Topic 2: Opposed to the cultivation method using plastic polyethylene bags.

Most of the commenters objected to the on-bottom bag cultivation method, and particularly the use of plastic bags. The placement of 5 acres with up to 20,000 plastic bags secured with lines and anchors was specifically identified in the comments. The stated concerns included the potential for entrapment/ingestion by wildlife, alteration of the substrate, loss of feeding/foraging habitat, introduction of plastics into the marine environment, and the compatibility of plastic bags on the tidelands to the Refuge establishing purpose and visitor use. A commenter opposed bag cultivation as a potential to increase invasive green crab. One commenter stated from personal experience that after each high wind occurrence the black mesh bags used to raise and harvest oysters bags drift all over Samish, Chuckanut, and Bellingham Bays; and a second commenter described having picked-up more than 100 of these type bags in Tarboo Bay.

Applicant's Response: The JSKT sourced studies showing microplastics are widespread and ubiquitous in marine environment and documented in the Pacific Northwest. However, they concluded current science is inconclusive as to the role of oyster bags as a source of microplastic pollution. The bags will be rotated out of use before the degradation process occurs, reducing the potential for contribution to microplastic pollution. The bags will be sealed shut and have a mesh size of less than 1/3 inch which inhibits access by most marine life except for small benthic invertebrates or small fish which are able to enter or exit the bags freely.

The JSKT acknowledges that marine debris from shellfish growing operations is a concern and management practices will be in place to avoid any gear loss. The JSKT would take strict measures to prevent the bags from breaking free by securely anchoring lines and will coordinate with the USFWS for retrieval of any lost gear. The JSKT further intends to reduce the use of plastics as new, commercially viable materials are developed, but are not aware of any such alternatives currently available.

Corps Response: The Corps requested JSKT investigate not using plastic bag cultivation as an on-site alternative. The Corps agreed with JSKT's resulting alternative analysis that beach cultivation alone without the on-bottom bags would be less impactful to Refuge wildlife species and habitat, eliminate plastic in the environment, and reduce the visibility of the operation to only periods of active work. However, the JSKT stated commercial cultivation of any oyster species would not be viable in Dungeness Bay if on-bottom bags were eliminated. Predation rates from oyster drill snails, crab, and birds, during the more vulnerable juvenile state would be too high during the juvenile stage resulting in the habitat not being suitable for oyster cultivation. See Section 5.3 below (on-site alternative 2 for loose oyster cultivation only) for additional discussion.

The European green crab exists in the area. It is likely that the concentration of oysters could provide habitat and a food source potentially resulting in an increase in oyster drills and highly invasive European green crab, recently found adjacent to the project

shoreline. However, the required transfer permits from the Washington Department of Fish and Wildlife (WDFW) would help prevent the spread of these invasive species to other water bodies. The permits are required for the transfer of shellfish, shellfish aquaculture products (including oyster seed, cultch and shell), aquaculture equipment (including aquaculture vehicles and vessels) or any marine organisms adversely affecting shellfish. Brady Blake, WDFW, said he expected a transfer permit from the preferred site would be required to include conditions that eliminate or reduce the risk of transferring oyster drills and European green crabs to another waterbody.

Loss of aquaculture equipment, such as oyster bags and lines, is regularly reported to the Corps. Due to the dynamic marine environment of Dungeness Bay, within the Strait of Juan de Fuca, there is a high risk of equipment being lost during high waves and storms. Dungeness Spit is well-known for its extensive miles of large wood. The intertidal tidal height of the bags and lines will be within feet of the surface even at high tides. A small anchoring system would not be expected to withstand a log rolling in the waves over the shallow lines. Minimizing and retrieving marine debris, including a site-specific gear management plan, is required as special permit conditions to meet the terms and conditions of their Endangered Species Consultation.

Additional discussion of the impacts to wildlife habitat, and benthic ecology will be discussed below.

Comment Topic 3: Impacts to Refuge fish and wildlife use and populations.

The project site location within the Refuge was identified as a high use area for waterfowl and shorebirds, particularly for wintering foraging and during migratory seasons, and many had concerns with the impacts of human disturbance from aquaculture activities. Commenters were also concerned with impacts to eelgrass, which provides food, refuge, and spawning habitat for multiple species of waterfowl, fish, and crabs.

Multiple scientific, educational organizations commented that the project site is proposed in important section of the Refuge for migratory birds and other wildlife and requested consideration of other sites for the commercial aquaculture. The U.S. Shorebird Conservation Partnership (collective federal, state, agencies and organizations) stated the level of use qualifies the area as a site of Regional Importance in the Western Hemisphere Shorebird Reserve Network. Another scientific organization stated the project site is one of the highest use sites in the refuge for shorebirds and waterfowl, including one of largest Brandt [Black Brant] haul out sites in the state of Washington and critical wintering habitat and migratory stopover site for shorebirds in the fall and winter. One researcher who has studied the relationships between Black Brant, eelgrass and oyster culture operations in Dungeness Bay thought the project would likely result in reduced use of the bay by Black Brant and other waterfowl species. One national organization stated Dungeness has been used by the migratory birds for centuries, but we cannot assume waterfowl and shorebirds of international significance can find critical feeding and resting areas elsewhere or that disturbance from the aquaculture operation will not impact critical feeding and resting requirements birds need during their migration. Two researchers mentioned data that could be acquired by monitoring the impacts of the project.

Commenters called for every effort being taken to minimize human disturbance to migratory birds during critical spring and fall migrations as well as during the critical wintering season. One commenter stated human and industrial activities are in direct conflict with a refuge created to minimize human disturbance to the normal behavior of wildlife; implementation of the aquaculture operation at low tides, whether during the day or nighttime, will disturb avian resting and feeding practices. Commenters were concerned with the impacts to migratory marine birds in an area set-aside as Refuge, as many species using Dungeness Bay have precipitously declined populations throughout the Salish Sea.

In their comment letter dated 6 August 2019, USFWS stated, "We recognize there is little site-specific research available on impacts of commercial, on-bottom bag aquaculture to bird species found on the Refuge and note that different parties can derive divergent conclusions from the same studies. Nevertheless, we are concerned about potential impacts to Refuge wildlife and habitat based on the proposed location for this activity. We recommend operations and monitoring activities occur outside of the migration and wintering periods for shorebirds and waterfowl, should a permit be provided. The attached reference list may be of assistance in understanding Refuge habitat, management, and wildlife use and assessing potential impacts from human disturbance and in-water structures."

Many commenters also identified concerns with impacts to forage fish (sand lance, surf smelt, herring) and salmon species.

Applicant's Response: The JSKT did not find evidence that past commercial oyster farming has negative impacts to migratory birds or other wildlife, including disruption to feeding and resting behaviors. In acknowledgement of the limited information available for site-specific potential disruption to Refuge birds, the Tribe has proposed on-going monitoring on bird-farm interactions to detect any potential disruptions. As a condition of their Clallam County Shoreline Permit, the JSKT would be required to develop a monitoring plan in coordination with USFWS.

The proposed oyster farming activities will avoid identified forage fish spawning habitat. The cultivation activities are sited waterward of the tidal elevations where sand lance or surf smelt spawn in the substrate. The Tribe has no knowledge of studies where shellfish aquaculture has contributed to declines in Puget Sound salmon stocks. The Tribe is a local leader in salmon recovery efforts and has a deep commitment to the protection and restoration of salmon, which is a cultural identity and way of life for JSKT citizens.

Corps Response: The Corps agrees the project site is an area of both national and regional significance for migratory shorebirds and waterfowl, including Brant geese. The Corps believes the aquaculture work activities will alter the behavior and availability of feeding, resting/rooting and grit collection habitat necessary for these species at the project site. To prevent human disturbance to Refuge wildlife species, USFWS currently manages public access and activities within the project site (tideland) to preclude public access within the migratory and wintering time periods of shorebirds and waterfowl. The project tideland is closed year-round to any access by shore and closed between 1 October and 14 May to access by boat. The tideland is currently open to public access by boat (no wake) during daylight hours from 15 May through 30 September. The proposed aquaculture activities would occur during the current public closed periods

during the migratory and wintering time periods. Smaller groups of workers (up to 6 and vessels) would be on the site on average of once a week year-round for maintenance and harvest. A larger group (up to 15 and vessels) would limit access to one or two times a year for set up and gear removal. The larger group activities are proposed to be located outside the sensitive times of year for migratory birds, but activities would occur weekly year-round. Because aquaculture activities would occur at low tides, the activities between 1 Oct and 14 May would occur at the same tidal periods migratory shorebirds would be feeding on the area and Brant would be foraging on exposed eelgrass within and adjacent to the lease area. Within the area with oyster bag cultivation, the predominant migratory shorebird species, which feed by directly probing the tidelflat substrate for prey while the tide is out, would have a 50% reduction of available feeding area.

The project will occur in an area with documented sand lance and herring spawning, and potential surf smelt spawning. The Corps agrees with JSKT's response that the shellfish activities would avoid forage fish spawning habitat. The Tribe has proposed to comply with the ESA programmatic conservation measures and terms and conditions in the Programmatic Biological Opinion for Shellfish Activities in Washington State Inland Marine Waters (USFWS Ref. No. 01EWF00-2016-F-0212, and NMFS Ref. No. WCR-2014-1502). The conditions do not authorize activities above the +5 ft. (MLLW) tidal elevation to protect Pacific sand lance and surf smelt spawning habitat and will require the area be surveyed for Pacific herring eggs between 15 January and 30 April when work (such as moving bags or harvesting) would occur outside the approved work window. If spawn is observed, activities will stop until the eggs have hatched. The project will avoid eelgrass where herring could also spawn.

Bag culture could possibly entrap fish species by creating a physical barrier across the tidelands. This barrier may temporarily impound water and/or prevent fish from returning to deeper water during a receding tide which would result in stranding fish on the tidelands. How the bags are orientated along the shoreline would also determine the risk level of stranding. However, the bags will have a low profile on the tideland so the risk would probably be inconsequential.

To avoid disturbance to Hood Canal summer-run salmon juvenile salmon, between 1 February and 30 April, shellfish planting and harvesting shall not occur within 15 ft. waterward of the waterline. Other salmon species would be expected to occur in deeper waters during low tide shellfish aquaculture activities.

The USFWS is the knowledgeable federal agency with expertise on the behavior and habitat requirements of the Refuge's migratory bird species and is tasked the responsibility for ensuring activities within the Refuge are compliant with regulations for national wildlife refuges and the establishing authority of Dungeness NWR. The USFWS sent initial comment letters to the Corps and then withdrew those comments after meeting extensively with the Tribe about this project. In place of the prior comments, USFWS submitted their August 6, 2019, letter referenced above. Beyond these comments, USFWS has stated they will not be providing further comments to the Corps. They will undertake their coordination with DNR regarding compatibility at a later date.

The USFWS's letter recommended work windows for operations and monitoring activities occur outside the migration and wintering periods for shorebirds and waterfowl if a permit is issued but did not propose dates for the work windows. The project

tideland is closed year-round to any public access by shore and open to public access by boat (no wake) during daylight hours from 15 May through 30 September. However, the project as proposed could not be reasonably expected to occur if all work activities were limited to 15 May through 30 September.

In lieu of a work window, an avian monitoring plan was developed by JSKT and coordinated with USFWS and the Corps. In their letter dated 25 June 2021, USFWS stated they had no further comments at that time but appreciated the plan was flexible and could be adjusted during the period of the permit. Adherence to the avian monitoring plan will be required as a condition of the permit.

In coordination with the USFWS, ESA Consultation & Conservation Planning Division, and Dungeness NWR, JSKT has also developed a gear management plan with a work window to access the areas closed to public use outside the lease area. This plan minimizes the impacts to wildlife. If, as part of their evaluation for siting the JSKT proposal within Dungeness NWR, the USFWS believes additional restrictions are required for the shorebirds and waterfowl, they can propose any work window adjustments as a condition of the DNR lease.

The USFWS, as the responsible and knowledgeable federal agency, has the responsibility of completing the evaluation of whether siting a commercial shellfish aquaculture within an NWR is compatible with the Refuge management, and consistent with their federal laws and executive orders, Service policies, and treaties. As a condition of the permit, the Corps will require a copy of the DNR lease prior to work activities starting. This condition will ensure that the project meets any requirements of USFWS for refuge management which may result from the USFWS and Washington State discussion.

Comment Topic 4: Impacts to benthos and sediment dynamics.

Commenters were concerned with impacts to the benthic habitat and sediment dynamics of Dungeness Spit, particularly from the bag cultivation method. One commenter said placing up to large amounts [up to 20,000] plastic bags on the surface of the tidelands and then to have them harvested by boat would destroy large area of creatures living in the sediment who form the very basis of the food chain. Another commenter noted the concentrated amount of a particular marine shellfish species, i.e., non-native "Pacific oysters" that would cause a large amount of detritus in a small area that will impact the nearby protected marine environment. Commenters were concerned the oyster bags are comprised of High-density Polyethylene (HDPE), which is a toxic material that is able to attract toxics such as Polychlorinated Biphenyls (PCBs). Commenters were also concerned with changes in the natural current flow and sediment transport within the Bay with resulting adverse effects on benthic communities and eelgrass beds well beyond the area of cultivation.

Applicant's Response: The proposed commercial density of oyster cultivation bags will only cover up to 50% of the sediments of the 5-acres being used for bag cultivation and the mesh bags allow for water and oxygen to readily pass through. While there is the potential for alteration of food source or foraging habitat, current science does not implicate on-bottom oyster bags as having a negative impact on benthic organisms on which waterfowl or shorebirds feed. Studies have been reported that increased structure from oyster cultivation provides habitat for fish and invertebrates which result in diversity

and abundance. Tribe believes there were historically more waterfowl and shorebirds in the lease area when the oyster operation was last operational. They also did not observe any changes in sedimentation processes in ortho and oblique air photos of the Dungeness Bay lease vicinity during previous oyster operations.

Corps Response: This will be the first use of concentrated structures (e.g., mesh bag culture) being placed directly on the substrate. The Corps does not agree that any correlation between the proposed activity and the impact of past oyster cultivation on waterfowl or shorebird population counts can be made. This operation will be a change and result in an increase in cultivation intensity from past methods.

Benthic community diversity and/or composition and benthic macrofauna may be altered as a result of physical changes to the substrate from installing bag structures. It is not specifically known what change in benthic macrofauna would occur. However, even if the altered macrofauna benefited a prey species for the migratory shorebirds, the bags would exclude the mud/sand probing shorebirds flocks from feeding in the substrate within their footprint.

Oyster bottom culture also results in a shift in the composition of the benthic community to an oyster-dominated community. The Pacific oyster is a non-native species of oysters introduced for aquaculture in Washington State, which grows to 5 times the size of the native oyster. Native oysters are not believed to have been present in Dungeness Bay. The JSKT stated no area within Dungeness Bay is known to have both low-energy and proximate freshwater, which is a habitat requirement of the native oyster (see Section 5.3 on-site alternative 4 below). There is no record of populations of Olympia oysters in Dungeness Bay and due to lack of suitable habitat it is unlikely that there was ever a historic presence of Olympia oysters within the Bay. The native Olympia oyster adult seldom exceeds 3 inches in length and grows slowly, taking about four years to reach adult size. Whereas, the Pacific oyster grows rapidly, reaching lengths of 4-6 inches in two to four years. If left to grow the Pacific oyster will attain a size of 15 inches.

The project would convert a sand/mud intertidal substrate with intermittent eelgrass to a high-density Pacific oyster dominated substrate. The shift would be expected to alter the benthic substrate and ecological community to one more favorable to a rockier shoreline and would predictably exclude the flocks of shorebirds which feed by probing sandy/mud sediment as the tide recedes. This shift would be expected throughout the entire 34 acres in oyster cultivation.

If the sediment should build up either around the bags or due to the high density of Pacific oyster shell throughout the site, this may result change in the longshore transport of sediments. Although this may benefit some species within the project site by stabilizing the sediment, it could negatively impact the next drift cell and other species. The sediment also comes over the spit during winter storm waves and breaching events. This sediment could build up on the shoreland side of the bags and shell and may result in a raise in the elevation of the cultivation area. This could result in eelgrass within the area or vicinity being desiccated in the summer through longer exposure time during daylight hours. Predictably, the oyster cultivation would shift waterward and populate the area currently in eelgrass if this should happen.

The JSKT provided a plan for monitoring the long-term transport of sediment in the project area. Results of the monitoring will be provided to the Corps, USFWS, and DNR. Implementation of the plan will be required as a condition of the permit.

Comment Topic 5: Impacts to eelgrass.

Commenters were concerned with impacts to native eelgrass both within the project area and in the surrounding waters in Dungeness Bay stating that eelgrass provides: 1) ecological services for organisms from micro-invertebrates to threatened fish and bird species, 2) anchors seafloor sediment with its spreading roots and rhizomes so it prevents erosion and maintains shoreline stability, and 3) provides vital habitat for forage fish that sustain the salmon. One commenter was concerned about the damage done to eelgrass by boat propellers accessing the site and oyster harvesters wading throughout the lease area, particularly during the winter nocturnal tides. Because eelgrass spreads by rhizomes, the area with oyster bag could smother the growth of eelgrass.

Applicant's Response: All farm activities, including site access, will avoid eelgrass habitat as the Tribe is providing a minimum 25-ft. buffer between oyster cultivation and eelgrass. This exceeds the Corps' programmatic ESA consultation conservation measure for shellfish activities in Washington State Inland Marine Waters (ESA Programmatic) of 16 horizontal ft. between shellfish activities and native eelgrass. The Tribe will monitor eelgrass and submit an annual monitoring report to Clallam County and Ecology for review and approval. Therefore, no negative impacts to eelgrass from the proposed project ought to occur.

Corps Response: The inner Dungeness Bay is shallow with an average depth of 8.3 ft. and has extensive eelgrass beds. The project site is within the tidelands which are exposed at low tides. To access the project site, the applicant would probably either cross the tidal flats at high tide and wait while the tide recedes to expose the project tidelands or try to traverse deeper drainage channels in the tidelands. The access method would probably depend on the draft of the vessel.

There is a potential for eelgrass to be stressed by boat grounding, anchoring or prop scarring. Eelgrass can also be stressed by trampling. The ESA Programmatic conservation measures require a 16 horizontal ft. set-back to eelgrass to avoid disturbing the rhizomes. In addition, the ESA Programmatic does not allow vessels to ground or anchor in native eelgrass or kelp or establish paths through native eelgrass or kelp. If there is no other access to the site other than through native eelgrass, a site-specific plan must be developed with practices to minimize negative effects to eelgrass and kelp from vessel operations and accessing the shellfish area.

The bag cultivation area will be sited with a 25-ft. buffer to native eelgrass. Once installed the bags would preclude colonization by eelgrass in the footprint of the bag cultivation area.

Comment Topic 6: Public Use Concerns.

Besides opposition to siting the commercial oyster aquaculture operation within an NWR because of potential wildlife and environmental impacts of the activities, many of the commenters opposed the project due to impacts to their use and enjoyment of the Refuge. More than 100,000 people visit Dungeness NWR annually to engage in wildlife-

dependent recreation activities, such as bird watching, environmental education, beach activities, photography, shellfishing (clams), fishing, and crabbing within the areas and seasons open to public access. Most of these commenters stated the commercial activities would negatively impact their experiences. Although the Refuge has visitors from all over the world and some commenters were from out-of-state, most of the commenters were from the local/regional area of Western Washington. Many stated the commercial activities would detract from their opportunity to view wildlife and diminish their Refuge experience. Many described very personal benefits they receive from visiting the natural shoreline. One commenter said he personally moved to the area to be near the Refuge and described the area as essential to health and wellbeing and "walked the refuge multiple times per week, year-round to clear my mind and settle my spirit. Any industrial, commercial activity in this area will destroy the peace and refuge this area provides me [a veteran], and so many other visitors who have lived lives of service to our country and communities."

Applicant's Response: The use of low-relief, on-bottom cultivation methods, along with site-specific conservation measures, will reduce visual and noise impacts to refuge visitors and surrounding homeowners. Visual and noise pollution will be minimal to non-existent. The Tribe submitted a visual impacts assessment as part of their Shoreline Permit application materials to Clallam County. In that assessment it was identified that oyster bags will only be exposed by negative low tides; which occur ~10% of daylight hours annually. Because recreational visitors (except for seasonal boaters) are restricted to the outside of Dungeness Spit, the closest distance that most recreational users can view on-bottom oyster bags ranges from 430– 945 ft. Given the low vertical profile (< 1 ft.) of the bags, and dark color (which blends in with the substrate), they are difficult to see from this distance without the use of binoculars.

Noise levels associated with farm activities will be low. Farm boat traffic will be minimal (1-2 small vessels per ~weekly site visit) and will maintain no-wake speeds when accessing the project site. Boxes constructed with noise insulation will house the hydraulic winch motor to further reduce noise levels (< 50 dB) associated with oyster harvest activities. Site access will occur through deep tidal channels that already experience seasonal recreational boating May – October, and year-round commercial fishing activity.

Corps Response: The visual analysis seems more appropriate for other types of visual shoreline assessments than the specific type of public use expected on a Refuge shoreline. The oyster bags, lines and anchoring systems are low-relief structures. However, the workers and vessels are much taller and are mobile. Visitors remain on the outside of the spit and used the taller driftwood backbone as a structure to observe wildlife on the bay side of the spit. The extensive driftwood backbone acts as a blind allowing close wildlife viewing without disturbance. This results in visitors being able to view wildlife exhibiting normal behaviors, such as hunting, foraging, and nesting. Visitors to the Refuge typically have binoculars and spotting scopes to enhance their viewing ability for up to 3,000 yards.

Work activities will occur between the +3 to -2 ft. tidal elevations. The times of year and hours when the shellfish operation is easily visible in the daytime will directly correlate with the times of year and hours when visitors are more numerous. This is because it is more difficult to walk the shoreline spit during high tides and daytime low tides occur from spring through late summer when visitor use is highest. Work activities in the fall

through early spring would occur at night to coincide with the low tides. Visitors would not be present at that time.

The applicant will need to provide sanitation facilities for the shellfish workers on their vessels as the workers will be easily visible to the public from spring through late summer. Further discussion on loss of recreational activities is below in Section 7 under the Public Interest evaluation.

The USFWS, as the responsible and knowledgeable federal agency, has the responsibility of completing the evaluation of whether siting a commercial shellfish aquaculture within an NWR is compatible with the Refuge management, and consistent with their federal laws and executive orders, Service policies, and treaties. As a condition of the permit, the Corps will require a copy of the DNR lease prior to work activities starting. This condition will ensure that the project meets any requirements of USFWS for refuge management which may result from the USFWS and Washington State discussion.

Additional discussion of submitted comments, applicant response and/or Corps' evaluation:

Comments were received supporting the commercial oyster operation providing economic benefits to the community in the form of jobs. Other commenters stated the Refuge's economic benefits to the community outweigh the benefits from the oyster operation. Further discussion of economics is below in Section 7.0.

Some commenters were also concerned with the cumulative impacts of the proposed work activity on the public interest. An evaluation of cumulative impacts is below in Section 9.0.

The Environmental Protection Administration (EPA) provided comments regarding the alternatives analysis stating their concerns that not all potentially practicable measures to avoid and minimize these adverse impacts have been taken pursuant to 40 CFR Part 230.10(a)(2) and 40 CFR Part 230.10(d). The EPA indicated that further avoidance and minimization measures should be pursued, including further evaluation of alternative locations and/or harvest techniques to minimize the potential magnitude of impacts proposed at this location. Section 5 below addresses these comments.

4.2 Were additional issues raised by the Corps including any as a result of coordination with other Corps offices? No

4.3 Were comments raised that do not require further discussion because they address activities and/or effects outside of the Corps' purview? Yes
If yes, provide discussion: One commenter requested Clallam County restrict access to the County boat ramp at Cline Spit to off-set the use of the applicant to access Dungeness Bay. Clallam County boat ramp usage is outside the Corps purview.

5.0 **Alternatives Analysis** (33 CFR Part 325 Appendix B(7), 40 CFR 230.5(c) and 40 CFR 1502.14). An evaluation of alternatives is required under NEPA for all jurisdictional activities. An evaluation of alternatives is required under the Section 404(b)(1) Guidelines for projects that include the discharge of dredged or fill material. NEPA

requires discussion of a reasonable range of alternatives, including the no action alternative, and the effects of those alternatives; under the Guidelines, practicability of alternatives is taken into consideration and no alternative may be permitted if there is a less environmentally damaging practicable alternative.

Because this action does not involve a discharge of dredged or fill material under Section 404, no 404(b)(1) alternatives evaluation is required.

- 5.1 Site selection/screening criteria: In order to be practicable, an alternative must be available, achieve the overall project purpose (as defined by the Corps), and be feasible when considering cost, logistics and existing technology.

Criteria for evaluating alternatives as evaluated and determined by the Corps:

- Located within the JSKT's cultural lands and historic shellfish harvesting areas.
- Located within suitable oyster growing habitat (e.g., firm substrate conditions, intertidal elevations between +3 and -2.5, slope grade 2% or less for loose oysters, protection from high wind/wave energy)
- Located within Washington Department of Health approved and/or conditional approved shellfish growing area.

5.2 Description of alternatives

- 5.2.1 No action alternative: This alternative would result in no additional commercial Pacific oyster operations being established within the JSKT's cultural lands and historic shellfish harvesting areas.

5.2.2 Off-site alternatives

1. Off-site alternative 1- Refuge Inner Bay Shoreline: (Applicant's Alternative 2) These 3 parcels (44345 and 44024) are located along the south end shoreline of the inner Dungeness Bay. These tidelands are within the boundary of the Dungeness National Wildlife Refuge under an easement from Washington State to the U.S.

2. Off-site alternative 2- Refuge Cline Spit: (Applicant's Alternative 3) This tideland parcel surrounds Cline Spit and is within the boundary of the Dungeness National Wildlife Refuge under an easement from Washington State to the U.S. The distal end of Cline Spit is under ownership of San Juan Farm Association, which operates as a private duck hunting club. Clallam County also owns and maintains a public boat ramp and parking area on Cline Spit.

3. Off-site alternative 3- Dungeness River: (Applicant's Alternatives 4 and 5) (parcels 43785 and 27808) These tidelands are owned by Dungeness Farms, which operate as a private duck hunting club. They are located just outside the mouth of the Dungeness River.

4. Off-site alternative 4- WDFW-3Crabs: (Applicant's Alternative 6) (parcels 27813-27822) This alternative consists of 10 adjacent parcels owned by Washington

Department of Fish and Wildlife (WDFW) and collectively known as the "Marshall/3 Crabs Property". The parcels are in the outer Dungeness Bay, east of the Dungeness River mouth along 3 Crabs Road.

5. Off-site alternative 5- Clallam County: (Applicant's Alternative 7) This tideland area (parcel 16575) is in the outer Dungeness Bay under ownership of Clallam County.

6. Off-site alternative 6- Graysmarsh: (Applicant's Alternative 8) This tideland is adjacent to alternative 5 in the outer Dungeness Bay but under ownership of Graysmarsh LLC (parcel 16575). The upland is a private family estate with pastures, berry farming and a private waterfowl reserve.

7. Off-site alternative 7- John Wayne: (Applicant's Alternative 9) This tideland is in Sequim Bay adjacent to John Wayne Marina, under ownership of John Wayne Enterprises.

8. Off-site alternative 8- Dawley Unit: (Applicant's Alternative 10) This tideland (parcel 24323) is in Sequim Bay adjacent to the JSKT reservation tidelands. It is owned by USFWS and within the boundaries of Dungeness National Wildlife Refuge.

9. Off-site alternative 9- (WA Parks Inner Bay Shoreline): (The applicant verified that this shoreline area between Alternative 2 parcels #44345 (east) and #44024 is State-owned tidelands but is not under ownership or management of USFWS.

5.2.3 On-site alternatives

1. On-site alternative 1 (applicant's preferred alternative): See description in Section 1.3 above. The proposed work is to cultivate 34 acres of Pacific oyster (*Crassostrea gigass*) using two on-bottom methods: mesh bag culture and loose culture. Up to 5 acres would be the on-bottom mesh bag culture method and the remaining acreage would be the on-bottom loose culture method. Work would occur within the boundary of Dungeness National Wildlife Refuge, on a 50-acre tideland lease from DNR. This lease is one of a finite set of aquatic lands leases that are considered "covered leases" governed under the 2007 Settlement Agreement (United States of America vs. State of Washington; NO.C70-9213-Subproceeding 89-3 (Shellfish).

2. On-site alternative 2 (Loose oyster cultivation method only): The JSKT initially considered both suspended above-substrate cultivation methods (e.g., long-lines, tumble bags, racks structures) and on-bottom oyster cultivation methods (e.g., bags and loose). After pre-coordination with agencies, the JSKT determined that suspended oyster cultivation would be more impactful to Refuge wildlife due to impediments to foraging, disturbance, and debris/gear loss and to public due to aesthetics and navigational hazards compared to on-bottom oyster cultivation. Therefore, suspended cultivation methods were not included in the application and will not be discussed further.

Two types of cultivation methods are proposed as the preferred alternative above: on-bottom bag cultivation and loose oyster cultivation. This alternative would eliminate the

on-bottom bag cultivation and only loose oyster cultivation would occur in the JSKT preferred site.

3. On-site alternative 3 (Combined on-site and off-site alternative): On-site alternative 3 combines two or more sites. Two types of cultivation are proposed to occur on the applicant's preferred site: loose on-bottom and bag on-bottom. In this alternative, loose oyster cultivation without use of gear (bags/lines/anchors) would be limited to the applicant's preferred site described above (on-site alternative 1). The on-bottom oyster bag cultivation method used to grow oysters during their juvenile stage before spreading at applicant's the preferred site would be directed to nearby parcels, such as off-site alternative 1 (Refuge Inner Bay Shoreline), off-site alternative 8 (Dawley Unit), or other locations.

On-site alternative 4 (Native oyster cultivation): The proposed species to be cultivated is the Pacific oyster (*Crassostrea gigass*) which was introduced from Japan. The species of oyster native to Washington State is the Olympia oyster (*Ostrea lurida*). Due to the preferred alternative's location within a national wildlife refuge, early coordination discussion with USFWS identified an alternative to cultivate native oysters to avoid additional introduction of a non-native species into the refuge.

- 5.3 Evaluate alternatives and whether or not each is practicable under the Guidelines or reasonable under NEPA

Off-site alternative 1 (Refuge Inner Bay Shoreline): The three parcels along the south end of inner Dungeness Bay are backed by bluffs and have a steeper beach profile ranging from 3-8% resulting in a narrower strip of beach within the tidal elevations suitable for loose on-bottom oyster cultivation. The applicant reports wave and wind action may be substantial at this site. See on-site alternative 3 below for further evaluation of this site for the oyster bag cultivation proposed by the applicant.

Off-site alternative 2 (Refuge Cline Spit): The tideland parcel surrounds Cline Spit at the entrance into the inner Dungeness Bay. Tidal exchange between the outer Dungeness Bay and Inner Bay occurs through a narrow channel between Graveyard Spit and Cline Spit. The distal end of Cline Spit has been breached so the water flows between the breach and at the formed "Cline Spit Island". This constricted flow sets up enhanced water velocity and scouring. As such, the tideland area surrounding Cline Spit exhibits increased sediment suspension and transport that is not similarly observed along the inside of Dungeness Spit in the inner Bay. These dynamic processes provide unstable conditions and unsuitable habitat for oyster cultivation, as proposed. Therefore, these tidelands surrounding Cline Spit are not reasonable under NEPA.

Off-site alternative 3 (Dungeness River): These tidelands at the mouth of the Dungeness River are classified as prohibited by DOH for a commercial shellfish growing area due to poor water quality and is therefore not reasonable under NEPA.

Off-site alternative 4 (WDFW-3Crabs): The tidelands known as the Marshall/3 Crabs Property are not available and cannot be reasonably obtained for commercial shellfish

aquaculture. The tideland parcels were acquired by WDFW through federal grant funds for the purpose of "permanently conserving coastal wetlands to expand conservation areas, increase future restoration opportunities and enhance habitat conditions." WDFW informed JSKT that by the terms of the grant the commercial aquaculture is not considered to be an approved for which the property was acquired. This site cannot be reasonably obtained or utilized to fulfill the project purpose and is therefore not reasonable under NEPA.

Off-site alternative 5 (Clallam County): The parcel was identified by the applicant as being susceptible to high wave energy as a result of wind fetch. This high degree of wave energy on the shoreline would result in burial or 'blow out' of oysters and increase the likelihood of gear loss. Because this site is unsuitable for oyster cultivation, it is therefore not reasonable under NEPA.

Off-site alternative 6 (Graysmarsh): After a period of consideration in October 2019, Graysmarsh LLC communicated to the applicant that they are not interested in selling or leasing the parcel tidelands for the purposed of commercial shellfish cultivation at this time. Because this site cannot be reasonably obtained or utilized to fulfill the project purpose, it is not reasonable under NEPA.

Off-site alternative 7- (John Wayne): This 19-acre tideland parcel is part of a larger, contiguous unit that comprises a total of 166 acres of land area. John Wayne Enterprises is selling the 166-acre property, including the tidelands, as a full package for the purposes of housing and/or resort development and is on the market for \$9.75 million dollars. The property is located adjacent to John Wayne Marina, which is managed by the Port of Port Angeles, and offers boat ramps, moorage for private recreational vessels, a restaurant, and store. JSKT has a commercial raft system (FLUPSY) at the Marina. The FLUPSY is used to grow out shellfish seed to a size suitable for planting on the shoreline. JSKT did not disclose their intent to purchase this property and any future development opportunities JSKT avails itself to at this location are outside the scope of the Corps' evaluation. Therefore, currently the site cannot be reasonably obtained or utilized to fulfill the project purpose, so it is not reasonable under NEPA.

Off-site alternative 8- (Dawley Unit): The Dawley Unit includes a 16-acre tideland. The land was donated to USFWS in 1989 and is within the Dungeness National Wildlife Refuge. Based on prior comments from the Refuge management, this site may be reasonably obtained for the purpose of commercial oyster cultivation. This availability has not been approved or confirmed by USFWS. No prior commercial cultivation activity has occurred on the site. It is adjacent to the commercial shellfish operation currently operating on the tidelands within JSKT reservation and commercial shellfish leases JSKT holds with Washington State. The area is within an approved commercial growing area classified by DOH. However, it has an extensive native eelgrass bed on the lower tideland range of the parcel. A minimum buffer of 16-ft. between the cultivation activities and the eelgrass, would reduce the cultivable area to about 2 acres. The JSKT has proposed a 25-ft. buffer at their preferred site, which at this site reduces the available

acreage even more. Therefore, this site would not be tenable for the JSKT and is not reasonable under NEPA.

Off-site alternative 9- (WA Parks Inner Bay Shoreline): State ownership of this stretch of shoreline, down to Extreme Low Tide (-4.0 ft. MLLW), was set aside and reserved for park purposes by Commissioner's Order on September 20, 1939 (pers. comm. Sean Carlson, DNR District Land Manager on 6/9/20). The order states that "said land shall be under the care, charge, control, and supervision of the State Park Committee, and shall not be disposed of except on direction of the State Legislature". Therefore, this tideland area cannot be reasonably obtained or utilized to fulfill the project purpose, so it is not reasonable under NEPA.

On-site alternative 1 (applicant's preferred site): This site would meet the Tribe's desire to resume shellfish cultivation in Dungeness Bay for commercial and cultural purposes. The JSKT has strong cultural identity tied to Dungeness Bay. The location has suitable oyster growing habitat and is located within a conditional approved shellfish growing area. This proposal is reasonable under NEPA.

On-site alternative 2 (Loose oyster cultivation method only): Eliminating the on-bottom bag cultivation on the preferred on-site location and only cultivating loose oysters was considered to eliminate the plastic gear. The applicant stated the use of on-bottom bags reduces loss of oysters from predators, such as oyster drill snails, crab, and birds, during the more vulnerable juvenile state. The applicant's preferred site has documented presence of oyster drills and abundant crab populations. The JSKT recognized that beach cultivation alone without the on-bottom bags would be less impactful; however, commercial cultivation of any oyster species would not be viable if on-bottom bags were eliminated. Predation rates would be too high during the juvenile stage resulting in the habitat not being suitable for oyster cultivation. Therefore, the method of loose oyster cultivation is not reasonable on-site under NEPA.

On-site alternative 3 (Combined on-site and off-site alternative): The applicant investigated off-site Alternative 1 (Refuge Inner Bay Shoreline) for on-bottom bag cultivation during the oyster's juvenile stage. Once the oysters are large enough to avoid predation, they would then be moved to the preferred on-site location and spread loose on the substrate to finish maturing until harvest. This would increase the acreage proposed for commercial cultivation but redirect the bag cultivation method which requires gear maintenance to other areas potentially less sensitive to human-caused disturbance.

The applicant stated approximately 1-acre of tideland area of parcel #44024 could be suitable for the use of on-bottom bags that are secured to the substrate. This 1-acre of potentially suitable bag cultivation area was located between +3 to -2 ft. (MLLW) tidal elevation. Although a total of 1-acre of tideland area associated with off-site Alternative 1 was identified as potentially being suitable for the use of secured on-bottom bag cultivation, the applicant was concerned this shoreline still experiences heightened wind/wave energy and tideland was identified. The applicant stated one acre in bag cultivation for the juvenile stage would not be tenable for the Tribe's purpose.

Off-site Alternative 8 (Dawley Unit) was also investigated for the on-bottom bag cultivation. This is a 16-acre parcel, but JSKT stated nearly 14 acres is constrained by a continuous eelgrass bed and associated conservation buffer, leaving up to two acres available for shellfish cultivation. The two acres span a narrow width of tideland area between the +3 and 0 ft (MLLW) tidal elevation. The JSKT stated the two acres would not provide enough juvenile oyster to satisfy the Tribe's purpose for commercial oyster cultivation.

No other off-site locations were identified for the bag cultivation method during the juvenile oyster state. Therefore, the alternative to direct the bag cultivation method used during the juvenile oyster stage to an off-site alternative and only cultivate loose oysters at the preferred site is not reasonable under NEPA.

On-site alternative 4 (Native oyster cultivation): The proposed Pacific oyster has different habitat requirements and environmental impacts than the native Olympia oyster. Both oysters are cultivated for commercial sale, but the Pacific oyster greatly dominates the market. The Pacific oyster has a higher tolerance to a range of temperature and salinity fluctuations than the native Olympia oysters and faster growth rate making it more commercially competitive. The Olympia oyster adult seldom exceeds 3 inches in length and takes about four years to reach a harvestable size. Whereas, the Pacific oyster grows rapidly, reaching lengths of 4-6 inches in two to four years. If left to grow the Pacific oyster will attain a size of 15 inches.

Cultivation of the native Olympia rather than the introduced, non-native Pacific oyster was considered at the preferred site, at Off-site Alternative 1 shorelines in inner Dungeness Bay and at the Dawley Unit in Sequim Bay. All these sites are within the Dungeness National Wildlife Refuge.

Populations of Olympia oysters are typically found near the heads of inlets and bays in low-energy environments. Being a small oyster (< 50mm), Olympia oysters require a high degree of protection as they can be damaged by wave action. Other important characteristics of suitable intertidal habitat for Olympia oysters include consistent sources of water and freshwater influence found near estuaries and stream outlets. Unlike Pacific oysters, which can withstand periodic exposure at low tides, Olympia oysters are vulnerable to hot and cold temperatures if not covered by water. There is no record of populations of Olympia oysters in Dungeness Bay and due to lack of suitable habitat it is unlikely that there was ever a historic presence of Olympia oysters within the Bay.

A small test plot to assess Olympia oyster survival was conducted, in partnership with the Clallam County MRC, between September 2017 and April 2018 on private tidelands adjacent to off-site Alternative 1 (#44024) within inner Dungeness Bay. Results from the test plot showed substantial loss (< 5% recovery) of Olympia oysters that were spread on the beach as a result of 'blow out' from the high degree of wind and wave action along the Southern shoreline during winter months. Final assessment was made that

the southern shoreline of inner Dungeness Bay would not provide suitable habitat for Olympia oysters.

The intertidal mudflats along the inside of Dungeness Spit associated with Alternative 1 and the lagoon area of Graveyard spit provide the lowest energy environments, and therefore, more suitable for Olympia oyster cultivation. However, there is no freshwater influence. Hence, no area within Dungeness Bay is known to have both low-energy and proximate freshwater.

The Dawley Unit tidelands were also assessed by the JSKT and Clallam County MRC and found to not be suitable habitat for Olympia oysters.

Based on this investigation by the JSKT, it is unlikely there was a historic presence of Olympia oysters within Dungeness Bay, or the Dawley Unit in Sequim Bay. Therefore, cultivation of Olympia oysters although native to Washington State would not be considered restoration of a historic presence/habitat at the sites under review. Due to the lack of suitable habitat for the Olympia oyster, commercially cultivating this species is not reasonable under NEPA.

- 5.4 Least environmentally damaging practicable alternative under the 404(b)(1) Guidelines (if applicable) and the environmentally preferable alternative under NEPA:

The applicant's proposed alternative is the only reasonable alternative and therefore the environmentally preferable alternative under NEPA.

- 6.0 **Evaluation for Compliance with the Section 404(b)(1) Guidelines.** N/A, the proposed project is subject to only Section 10 of the Rivers and Harbors Act of 1899.

7.0 **General Public Interest Review (33 CFR 320.4 and RGL 84-09)**

The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest as stated at 33 CFR 320.4(a). To the extent appropriate, the public interest review below also includes consideration of additional policies as described in 33 CFR 320.4(b) through (r). The benefits which reasonably may be expected to accrue from the proposal are balanced against its reasonably foreseeable detriments.

- 7.1 All public interest factors have been reviewed and those that are relevant to the proposal are considered and discussed in additional detail. See Table 9 and any discussion that follows.

Table 9: Public Interest Factors	Effects					
	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	Not Applicable
1. Conservation: See below for discussion			x			
2. Economics: See below for discussion.					x	
3. Aesthetics: See below for discussion.			x			
4. General Environmental Concerns: See below for discussion.			x			
5. Wetlands: See below for discussion.			x			
6. Historic Properties: See below for discussion.			x			
7. Fish and Wildlife Values: See below for discussion.			x			
8. Flood Hazards:						x
9. Floodplain Values:						x
10. Land Use: See below for discussion.			x			
11. Navigation: See below for discussion.				x		
12. Shoreline Erosion and Accretion: See below for discussion.				x		
13. Recreation: See below for discussion.		x				
14. Water Supply and Conservation:						x
15. Water Quality: See below for discussion.				x		
16. Energy Needs:						x
17. Safety: See below for discussion.			x			
18. Food and Fiber Production: See below for discussion.					x	
19. Mineral Needs:						x
20. Consideration of Property Ownership: See below for discussion.			x			
21. Needs and Welfare of the People: See below for discussion.			x			

Overall consideration of effects on factors above:

The USFWS, as the responsible and knowledgeable federal agency regarding impacts to and management of the Refuge, has the responsibility of completing the evaluation of whether siting a commercial shellfish aquaculture within an NWR is compatible with the Refuge management, and consistent with its governing federal laws and executive orders, Service policies, and treaties. The USFWS coordination with DNR could result, as necessary, in measures to off-set (mitigate) the effects on conservation, aesthetics, general environmental concerns, fish and wildlife values, consideration of property ownership, and needs and welfare of the people as it relates to the Refuge. As a condition of the permit, the Corps will require a copy of the DNR lease prior to work activities starting. This condition will ensure that the project meets any requirements of USFWS for refuge management which may result from the USFWS and Washington State discussion.

Additional discussion of effects on factors above:

Conservation: Broadly defined, conservation is the planned management of natural resources to prevent or minimize exploitation, destruction, or neglect. The proposed activity would result in changes to the natural resource characteristics of the project area from an area currently managed only as an NWR, to one with additional management considerations for the commercial oyster operation. The project would not lead to an exploitation of natural resource materials. Neither will the project result in destruction of natural resources at this site. The effect of this action on the Refuge's function with respect to the wildlife it manages will be assessed by USFWS, however as described, this project is not expected to result in significant impact of any such species or their habitat. An evaluation as to whether and how the action may be appropriate in light of any conservation mission of the Refuge will be undertaken by the USFWS when they evaluate the lease proposal with DNR. If a lease is granted, it is the Corps' understanding additional conditions could be imposed, as necessary, to address USFWS concerns regarding Refuge use, beyond those addressed by this permit.

Economics: The JSKT will receive an economic benefit from the sale of the oysters. In addition, the community will benefit from any jobs generated from cultivating and marketing the oysters. The Refuge provides an economic benefit to the community from visitors, identified by USFWS as \$1,983,000 in expenditures made by the public and \$324,000 in tax revenue generated within Clallam County. Adjacent to the Refuge is a Clallam County campground and recreation area to facilitate visitation to the Refuge. The 34 acres of commercial oyster operation would not prohibit public use to other areas of the Refuge open for public use.

Aesthetics: The proposed project would change the visual landscape from its current state. The proposed location of the aquaculture operation may have visual impacts for visitors coming to enjoy the beauty of the refuge and to connect with nature. The visitors to the Refuge use the driftwood backbone of the spit as a blind to observe wildlife in a natural setting. Visitors participating in wildlife-dependent uses, such as watching birds, marine mammals, and the visiting the historic lighthouse, typically are using binoculars

or scopes and will have a clear view of the 5 acres of plastic oyster bags at low tides and the workers. Aquaculture activities such as maintenance, planting, and harvest would be expected at the low tides, which from April through September coincide with the highest visitor use. However, visitors seeking to view the migratory waterfowl, such as Brant geese, and the shorebirds, would be expected to also visit the area during the winter and fall/spring migrations. Aesthetics is subjective: some visitors may enjoy or not mind watching oyster cultivation; others may have their experience on an NWR impacted by a commercial activity.

General Environmental Concerns: Work would occur within a National Wildlife Refuge, which was established as “a refuge, preserve, and breeding ground for native birds”. The USFWS provided comments requesting any authorized work avoid impacts to Refuge wildlife but did not provide comments that would distinguish if the work activities would result in a minor or major impact to the Refuge purpose.

Native eelgrass was delineated by the applicant in the vicinity of their proposed project site and proposed work was located to avoid native eelgrass. The proposed work would occur at least 25-feet away from native eelgrass. Some effect to eelgrass would be expected when work vessels travel within Dungeness Bay. Depending on the tidal height, vessel props can entangle in eelgrass during the active growing time resulting in scour. However, it would be expected for the applicant to avoid or minimize this occurrence as it is also potentially damaging to the vessel and the applicant has stated their commitment to protect native eelgrass beds.

The placement of 5 acres with up to 20,000 plastic bags secured with lines and anchors would introduce plastics into the marine environment. However, a gear management plan and other ESA conservation measures will be required as a special condition of the permit to prevent escapement of the plastic mesh bags.

Wetlands: Based on the waves and tidal movement, it is a reasonable possibility any loose gear could be deposited in the salt marshes in Graveyard Spit or at the bayside base of Dungeness Spit. A Gear Monitoring and Retrieval Plan (dated 28 August 2020) was developed with guidance and input provided by Refuge managers. This plan has site-specific guidelines to monitor and retrieve derelict gear within the Refuge, which includes the salt marshes. The Corps would include implementation of the plan as a special ESA condition for the permit. See 10.1.2 below for additional information.

Historic Properties: See Section 10.3 below.

Fish and Wildlife Values: The project is within a National Wildlife Area where the level of shorebird use qualifies the area as a site of Regional Importance in the Western Hemisphere Shorebird Reserve Network. The project site is one of the highest use sites in the refuge for shorebirds and waterfowl, including one of the largest Brandt [black brant] geese haul out sites in the state of Washington and critical wintering habitat and migratory stopover site for shorebirds in the fall and winter.

In addition to the black brant, wigeon, pintail, mallard, and diving waterfowl such as surf scoter, grebes, and bufflehead ducks, spend their winters here. Seabirds such as rhinoceros auklets and marbled murrelets, and wading birds such as great blue heron also feed in the bay at high tides. Neotropical migratory birds, seabirds such as Caspian terns, and the black oystercatcher (shorebird), nest on the shoreline, particularly in areas closed to public access.

Surf smelt, herring, Pacific sand lance and other species of marine forage fish breed and rear within the bay. Anadromous fish such as Chinook, chum, pink, coho salmon and steelhead and cutthroat trout are dependent on nearshore habitats within Dungeness Bay and Harbor during the juvenile rearing period. Bull trout spawn in the nearby Dungeness River and are found in Dungeness Bay during the marine period of their life histories. The bay also serves as a vital nursery area for commercially important species such as marine invertebrates (e.g., Dungeness crab) which seek these areas for refugia. One the largest state harbor seal haul outs and nurseries is on the spit. In addition, the rare northern elephant seal hauls out on the spit each year. Sea lions, seals, and occasionally whales are observed feeding in the inner Dungeness Bay.

The effect of this action on the Refuge's function with respect to the wildlife it manages will be assessed by USFWS as the responsible and knowledgeable agency. Work windows to avoid or minimize effects to Refuge wildlife, particularly migratory shorebirds and brant, could be assessed by USFWS. However as described, this project is not expected to result in significant impact to such species or their habitat. An evaluation as to whether and how the action may be appropriate in light of any conservation mission of the Refuge will be undertaken by the USFWS when they evaluate the lease proposal with DNR and for any required compatibility determinations and special use permits for the project.

The project would convert a sand/mud intertidal substrate with intermittent eelgrass to a high-density Pacific oyster dominated substrate. The shift would be expected to alter the benthic substrate and ecological community to one more favorable to a rockier shoreline and would predictably exclude the flocks of shorebirds which feed by probing sandy/mud sediment as the tide recedes. This shift would be expected throughout the entire 34 acres in oyster cultivation. The up to 20,000 plastic mesh bags secured with lines and anchors could potentially result in entrapment of wildlife if caught in the bags (e.g., Dungeness crab) or have talons that become snagged in the openings (e.g., bald eagles). Also, small or juvenile fish have been documented to become entrapped in the mesh bag openings. The implementation of ESA conservation measures would prevent or minimize the potential for the bags to become unsecured. Reporting to the Services of entrapment and entanglement of ESA-listed or other fish species is a requirement of the Biological Opinions.

ESA-listed salmon species, marbled murrelet and bull trout are present within the project area. Sand lance and herring are also documented to spawn within the project site and surf smelt is documented to spawn on the adjoining shoreline. The project has been designed to avoid impacting the spawning areas of these forage fish species. The project will occur at tidal elevations where surf smelt and sand lance would not be

expected to spawn, eelgrass beds are avoided, and the implementation of ESA conservation measures will further prevent impacts to these species. See Section 10 below for further information.

Implementation of the ESA conservation measures will also prevent or minimize impacts to other marine species, such as the Dungeness crab. Seals would be expected to be disturbed from the area during times of work activities. Harbor seals pup on the shoreline and new pups are often hauled out while the mother is hunting. Work activities could prevent any new pups in the project area from being reunited with their mothers. However, pups separated from their mothers would be easily observed. Dungeness Spit has full-time staff on site, including a ranger, to assist with stranded pups.

Land Use: The determination of the Refuge boundaries, and suitability of DNR issuing a lease for commercial oyster aquaculture on second class tidelands leased to the U.S. government for an NWR rests with Washington State and USFWS. It is not expected that there are issues of overriding national importance significant enough for the district engineer to take responsibility for making these determinations.

Navigation: The proposed project would not result in additional navigation rules. The project site waters are open to public boat access between May 15 to September 30 and closed to public boat access between October 1 and May 14. See further discussion under 'Recreation' and 'Safety' below.

Shoreline Erosion and Accretion: If the sediment accumulates from the placement of 20,000 bags/acre or due to the high density of Pacific oyster shell, this may result in a change in the longshore transport of sediments. This would be considered to be an indirect effect and would not be regulated as a discharge of dredged or fill material because these sediments were not discharged from a point source. Although this may benefit some species within the project site by stabilizing the sediment, it could negatively impact the next drift cell and other species. Besides input from the Dungeness River, sediment comes over the spit during winter storm waves and breaching events and deposited on the Bayside shoreline. This sediment could build up on the shoreland side of the bags and shell, resulting in a raise in the elevation of the project area. This could result in eelgrass within the project area or vicinity being desiccated in the summer through longer exposure time during daylight hours. While it is acknowledged the temporary sediment accumulation could potentially occur, it is not expected to occur at such a substantial level as to permanently adversely affect the project area or the next drift cell. Any accumulated sediment would be redistributed once the bags are moved, either because the bags flip back and forth with the waves and the tides or once the bags are removed. The applicant will be regularly monitoring the long-shore transport of sediment on the site and, as excessive unforeseen sediment buildup would adversely affect the oysters, the bags would be lifted on top of the surface and the sediment could potentially move on during the next wave and tidal cycle. Implementation of a long-shore sediment transport monitoring plan will be required as a condition of the permit. Should any substantial sediment buildup occur such that changes to the work activities would be necessary, the JSKT would be required to request a modification of

their permit. Also, the Corps may reevaluate its decision on this permit if significant new information surfaces which was not considered.

Recreation: The tideland area is currently open seasonally from 15 May to 30 Sept for the public to recreationally shellfish, boat, or wildlife watch. Access is by boat only (no access from the Spit, which is closed to all public access year-round in this area) at slow speeds with no wake. The area in commercial shellfish activities would not be available for the public to use to recreationally shellfish. The shellfish structures (bags, lines, and anchors) would limit any boat landings and could possibly preclude shallow vessels such as kayaks from navigating through the lease area where structures are present.

The most popular visitor activity to the Refuge is wildlife watching and landscape viewing. Wildlife watching opportunities during the shorebird and waterfowl wintering and migratory use times would be temporarily reduced during work activities.

Water Quality: The proposed project is located in a WDOH commercial shellfish growing area that as of January 1, 2020, is conditionally closed for commercial shellfish harvest from November 1 through January 31 based on seasonable, water quality conditions.

On 4 February 2021, the Washington State Department of Ecology issued Section 401 Water Quality Certification (Certification) for the project. To ensure that there are no adverse effects on water quality, General Condition 5 of this permit would require compliance with the conditions specified in the Certification.

Safety: The waters within the project site are open to public boat access between May 15 to September 30. Refuge regulations require vessels to maintain an upper speed limit that will result in a no wake being created. The bags, lines and anchors used to secure the plastic bags could potentially entangle props and/or paddles navigating through the project area at high tides or if the gear were to become loose in the bay. The slow speeds required by the Refuge management would be expected to minimize the risk of accidents that would endanger the public within Refuge waters during the open season from May 15 to September 30. To minimize the risk that gear becomes loose and creates a safety hazard for boaters, Special Conditions "i" through "k" of this permit would require gear be secured, maintained and retrieved if detached.

Food and Fiber Production: The project would provide oysters which are a popular shellfish food item for many people and a culturally significant food source for the JSKT. Harvesting, consuming and trading shellfish has always been a way of life for the JSKT.

Consideration of Property Ownership: The public provided extensive comments that the proposal would create impacts to the public lands both owned by DNR under lease to USFWS and those lands owned by U.S for purpose of a National Wildlife Refuge. The refuge was established by Executive Order 2123 on 20 January 1915, for the land to be "... as a refuge, preserve and breeding ground for native birds." The project area is located within a second-class tideland under a use easement deed granted from Washington State to the United States in 1943 for the purposes of a wildlife refuge. The state has retained fee ownership of the land.

Dungeness Bay, including what is known as the Dungeness NWR, is the ancestral home of the Jamestown S'Klallam people, where they have harvested fish, shellfish, and wildlife for millennia. The S'Klallams ceded millions of acres of land to the U.S. but reserved all their rights to fishing and shellfishing within their "usual and accustomed" harvest area by signing the Treaty of Point No Point.

In 2007, parties to the Stevens Treaty and the State of Washington entered into a settlement agreement specific to the rights reserved by the tribes specific to shellfish harvesting. Specifically, Washington State included the project area tidelands under the multiparty 2007 Settlement Agreement for Subproceeding No. 89-3 (Shellfish) filed under the U.S. District Court, Western District of Washington, which resulted in the project area having 'covered' status governed under the 2007 Settlement Agreement. The Settlement Agreement explicitly addresses shellfish treaty rights reserved by the Tribes under the Stevens Treaty. The location and/or extent of the covered leases is fixed through the Settlement Agreement. Adjustments to the location and/or extent of a covered lease would presumably require amendment to the Settlement Agreement and create additional coordination between DNR and the settlement parties.

DNR has expressed to the Corps a preference for continuing to work with the JSKT toward prospective reauthorization of a lease at the proposed project location. DNR states any new lease for aquaculture at that location would include applicable habitat stewardship measures, in addition to those which may be included as conditions from regulatory agencies. The public may provide through the DNR lease process their concerns to DNR to ensure the habitat stewardship measures address the affects to public lands.

Needs and Welfare of the People: The project would meet the need of the JSKT to enjoy and derive income from Dungeness Bay where they have strong cultural ties. The project would also meet the public need for oysters to eat. Oysters have a strong cultural tie to not only the JSKT but also to others who associate them with special events and holidays. The applicant's and public's need for oysters is balanced against the public need to have lands within special sanctuaries, such as national wildlife refuges, where wildlife populations are managed for their conservation value and wildlife-dependent public activities are available for the public's benefit.

- 7.1.1 Climate Change. The proposed activities within the Corps federal control and responsibility likely will result in a negligible release of greenhouse gases into the atmosphere when compared to global greenhouse gas emissions. Greenhouse gas emissions have been shown to contribute to climate change. Aquatic resources can be sources and/or sinks of greenhouse gases. For instance, some aquatic resources sequester carbon dioxide whereas others release methane; therefore, authorized impacts to aquatic resources can result in either an increase or decrease in atmospheric greenhouse gas. These impacts are considered de minimis. Greenhouse gas emissions associated with the Corps' federal action may also occur from the combustion of fossil fuels associated with the operation of construction equipment, increases in traffic, etc. The Corps has no authority to regulate emissions that result from the combustion of

fossil fuels. These are subject to federal regulations under the Clean Air Act and/or the Corporate Average Fuel Economy Program. Greenhouse gas emissions from the Corps action have been weighed against national goals of energy independence, national security, and economic development and are determined not contrary to the public interest.

7.2 The relative extent of the public and private need for the proposed structure or work:

The public has a need for nutritional foods such as oysters and the job opportunities created by the cultivation, sales, and distribution of oysters to the market. Dungeness Bay is the ancestral home of the JSKT. Within a few miles of the proposed project site are six known S'Klallam heritage sites including four villages and two camp sites. In the immediate vicinity of Dungeness Bay there are multiple locations of cultural significance named in the S'Klallam language. Harvesting, consuming and trading shellfish has always been a way of life for the S'Klallam Indians. Massive shellfish middens documenting the physical remnants of hundreds of years of shellfish consumption by the S'Klallam are documents in Dungeness Bay at Dungeness and Cline Spits, the bluffs, and previous location of the town of Dungeness. The project would enable the JSKT (a sovereign nation) and the Jamestown Seafood (a Tribally-owned business) to continue to enjoy and share their ancestral resources in a sustainable manner, growing an oyster species which has naturalized (not native but can reproduce) in Dungeness Bay.

7.3 If there are unresolved conflicts as to resource use, explain how the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work was considered.

Discussion: Other sites within Dungeness Bay and Sequim Bay were considered as well as other cultivation methods; however, the JSKT's Tribes proposed project was determined to be reasonable (See Section 5.2 above). Any unresolved conflicts between the Refuge establishing purpose and regulations will appropriately be considered by USFWS and DNR in their respective processes and coordination. The USFWS, as the responsible and knowledgeable federal agency, has the responsibility of completing the evaluation of whether siting a commercial shellfish aquaculture within an NWR is compatible with the Refuge management, and consistent with its federal laws and executive orders, Service policies, and treaties.

7.4 The extent and permanence of the beneficial and/or detrimental effects that the proposed work is likely to have on the public and private use to which the area is suited:

Detrimental effects are expected to be more than minimal and temporary.

Beneficial effects are expected to be more than minimal and temporary.

Disturbance to wildlife species and the public use are expected to occur during the time periods while work activities are occurring and aquaculture gear is present. The substrate ecology will be altered by the Pacific oyster cultivation benefiting some species that prefer a rockier substrate but impacting others requiring a sandy/muddy substrate.

Effects would last through the permit time. However, potential detrimental effects should be readily observed by the JSKT, DNR, and Refuge management and work could then be ceased or modified if necessary. The JSKT, USFWS, and DNR would be expected to adaptively manage the area and modify or stop the activities if needed. Beneficial effects to the JSKT would last through the permit time.

8.0 Mitigation(33 CFR 320.4(r), 33 CFR Part 332, 40 CFR 230.70-77, 40 CFR 1508.20 and 40 CFR 1502.14)

8.1 Avoidance and Minimization: When evaluating a proposal including regulated activities in waters of the U.S., consideration must be given to avoiding and minimizing effects to those waters. Avoidance and minimization measures are described above in Sections 1 and 3.

Were any other mitigative actions including project modifications discussed with the applicant implemented to minimize adverse project impacts? (see 33 CFR 320.4(r)(1)(i))
Yes

The applicant was requested to evaluate only using the on-bottom, loose cultivation method, without the bag cultivation method, to avoid the use of plastic gear and potential loss of plastic debris on the Refuge. See Section 5.3 on-site alternatives 2 and 3 for discussion of diverting the bag cultivation time-period to another location.

See Section 9.6 below for additional avoidance and minimization measures proposed by the applicant.

8.2 Is compensatory mitigation required to offset environmental losses resulting from proposed unavoidable impacts to waters of the United States? No

Rationale: This project does not involve impacts which trigger compensatory mitigation under 33 CFR 332. Compensatory mitigation is not required, and none is proposed. No compensatory mitigation is required because there the impacts are considered temporary. No permanent loss of waters of the U.S. would occur.

9.0 Consideration of Cumulative Impacts (40 CFR 230.11(g) and 40 CFR 1508.7, RGL 84-9) Cumulative impacts are the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor direct and indirect but collectively significant actions taking place over a period of time. A cumulative effects assessment should consider how the direct and indirect environmental effects caused by the proposed activity requiring Department of the Army authorization (i.e., the incremental impact of the action) contribute to cumulative effects, and whether that incremental contribution is significant or not.

9.1 Identify/describe the direct and indirect effects caused by the proposed activity:

The effects will be expected to be more than minimal but considered temporary as they would be limited to the time period of the permit. The proposed project would change the visual landscape from its current state. These impacts would be visible during work activities and persist for the life of the permit. The proposed location of the aquaculture operation may have visual impacts for visitors coming to enjoy the beauty of the refuge and to connect with nature. Wildlife watching opportunities during the shorebird and waterfowl wintering and migratory use times would be temporarily impacted during work activities. The area in commercial shellfish activities would not be available for the public to use to recreationally shellfish. The shellfish structures (bags, lines, and anchors) would limit any boat landings and possibly preclude shallow vessels such as kayaks from navigating through the lease area where structures are present. These effects do not rise to the level of significant.

The project would convert a sand/mud intertidal substrate with intermittent eelgrass to a high-density Pacific oyster dominated substrate while in oyster cultivation. The shift would be expected to alter the benthic substrate and ecological community and would predictably exclude the flocks of shorebirds which feed by probing sandy/mud sediment as the tide recedes. Disturbance to wildlife species and the public use are expected to occur periodically during the time periods while work activities are occurring and aquaculture gear is present. An avian monitoring plan will be implemented by the applicant to identify disturbance to migratory birds from work activities and adaptively manage the project if necessary.

Because the area is actively managed by USFWS, effects such as change in the shoreline sediment transport of the spit and disturbance to wildlife species and public use could be observed early and the permit modified, as necessary. In addition, the applicant will be regularly monitoring the site for excessive unforeseen sediment buildup which would adversely affect the oysters. Should substantial sediment buildup occur such that changes to the work activities would be necessary, the JSKT would be required to request a modification of their permit. The Corps may reevaluate its decision on this permit if significant new information surfaces which was not considered.

The project would allow the JSKT to enjoy and derive income from Dungeness Bay where they have strong cultural and significant spiritual ties. The community will benefit from any jobs generated from cultivating and marketing the oysters and the availability of oysters for their enjoyment.

9.2 The geographic scope for the cumulative effects assessment is:

The nearshore coastline of the area covered by WRIA 18 from Dungeness Spit to the Sequim Bay portion of WRIA 17. The nearshore is defined as being "from the top of shoreline bluffs to the depth of offshore where light penetrating the Sound's water falls below a level supporting plant growth, and upstream in estuaries to the head of tidal influence. It includes bluffs, beaches, mudflats, kelp and eelgrass beds, salt marshes, gravel spits, and estuaries."

9.3 The temporal scope of this assessment covers: the time period dating from circa 1850 at the point of active European Settlement through 2030.

- 9.4 Describe the affected environment: Dungeness and Sequim Bays are located in Clallam County on the northern coast of the Olympic Peninsula in the state of Washington. The nearest city is Sequim, which has a population of 6,273 (U.S. Census Bureau 2012). The largest employer in Clallam County is local and state government. The area is known for its low rainfall (average rainfall is less than 17 inches) and sunny skies. Known as "Sunny Sequim" or "the Blue Hole," Sequim and the surrounding Dungeness Valley lie in the rainshadow of the Olympic Mountains. The climate has attracted much development of the valley. The Sequim area has become an attractive retirement community, with the average age in Sequim rising to the 60s.

Dungeness Bay is central to a wide range of territory occupied by the JSKT people for thousands of years...since time immemorial. Within a few miles of the proposed project site are six known JSKT heritage sites including four villages and two camp sites. There are other culturally significant sites in the vicinity. These sites have spiritual importance and their presence is part of the Tribe's ongoing connection to the Bay. The native fish and shellfish resources of the JSKT are a treaty reserved water resource. Harvesting, consuming and trading shellfish has always been a way of life for the JSKT. The JSKT has reservation tidelands in Sequim Bay where they currently have their Tribal center offices.

Prior to Euro-American settlement, the area surrounding the Refuge and the Olympic Peninsula generally was heavily forested to the saltwater edge, except for occasional meadows, prairies, open water, and wetland areas. With settlement came the development of the Dungeness Valley into agriculture, residential, commercial, and industrial lands; an increase in human-caused wildlife disturbance; the introduction of contaminants and marine debris into the aquatic environment; and the loss of native species accompanied by a large influx of nonnative and invasive plants and animals into the system.

Dungeness Bay is an area of both national and regional significance for migratory shorebirds and waterfowl, including Brant geese, and supports some of the largest eelgrass beds in the northwest. The Audubon Society has designated Dungeness Bay as an Important Bird Area. Adjacent coastal wetlands contain fresh water and estuarine marshes and ponds maintained by a seasonally high-water table. Dungeness Spit and adjacent intertidal areas lie within the Dungeness National Wildlife Refuge.

Dungeness Bay has an important Tribal, commercial, and recreational crab fishery. Dungeness crab get their name from the area, where the first commercial fishing was done for the species. Tribal, commercial and recreational salmon fishing also occur in both Dungeness and Sequim Bay. The JSKT exercises its established treaty rights for fish and shellfish resources in both bays.

The proposed project would be the only shellfish aquaculture project currently authorized in Dungeness Bay, and, within the cumulative impact study area, would be the second largest commercial shellfish project area after the JSKT operation in Sequim Bay.

Currently, no commercial shellfish aquaculture occurs in Dungeness Bay. Taylor Shellfish leased 97.8 acres of tidelands in Dungeness Bay, east of the Dungeness River, from the San Juan Farms duck club with 30 acres considered in 2014 for commercial geoduck aquaculture. The project did not go forward at that time; however, the private lease does not expire until March 2028.

Currently, Sequim Bay supports commercial aquaculture operations. The total acreage in shellfish aquaculture operation leases or ownership in Sequim Bay/Dungeness Bay is 158.50 acres, with 96.5 acres in cultivation. In Sequim Bay there are 9 currently authorized project areas, 3 of which are DNR leases. The JSKT has the largest cultivation area in Sequim Bay. This area combines a current DNR lease with JSKT-owned Tribal tidelands for a total of 110.5 acres with 19.5 acres in cultivation of clams, oyster (suspended and bottom), and geoduck.

The other 2 DNR leases are to a private shellfish aquaculture company which also owns an additional 6 private-owned project areas in Sequim Bay. The private-owned tidelands range from 2 to 11 acres in size. Most tideland areas are cultivating clams, or oysters on-bottom. The JSKT has suspended cultivation authorized on their area in Sequim Bay. A couple of areas are cultivating geoduck.

- 9.5 Determine the environmental consequences: The project would convert a sand/mud intertidal substrate with intermittent eelgrass to a high-density Pacific oyster dominated substrate while in oyster cultivation. The shift would be expected to alter the benthic substrate and ecological community. The use of plastic mesh bags for cultivation and/or high density of oyster shell would predictably exclude the flocks of shorebirds which feed by probing sandy/mud sediment as the tide recedes and potentially could entrap or entangle small or juvenile fish, crabs and other wildlife in the plastic mesh bags. Disturbance to wildlife species, such as migratory shorebirds and waterfowl, including Black Brant, are expected to occur periodically during the time periods while work activities are occurring and aquaculture gear is present. Disturbances would primarily be in the form of temporary noise, visual and physical human presence, and of structures. Plastic marine debris would be expected to result from detachment of the mesh bags during winter storms and high wave events but monitoring for such debris will occur and clean up in coordination with USFWS would occur, as necessary.
- 9.6 Discuss any mitigation to avoid, minimize or compensate for cumulative effects: The applicant proposed to avoid and minimize effects of the project through implementation of the conservation measures and applicable terms and conditions from the Programmatic Biological Opinions for Shellfish Activities in Washington State Inland Marine Waters (U.S. Fish and Wildlife Service (USFWS) Reference number 01EWF00-2016-F-0121, National Marine Fisheries Service (NMFS) Reference number WCR-2014-1502). Forage fish spawning areas and native eelgrass beds would be avoided. Work would be set-back 25-feet from eelgrass to provide a buffer and vessels will not ground or anchor in native eelgrass or kelp and all cultivation activities will occur by hand to avoid mechanical disturbance of the substrate. Gear such as the bags, lines, and anchors would be firmly secured and monitored for loss. A gear monitoring and retrieval plan would be implemented to minimize plastic marine debris

from escapements (see 10.1.2 below). The applicant would also implement monitoring plans for avian disturbance and long-shore transport of sediment.

- 9.7 Conclusions regarding cumulative impacts: When considering the overall impacts that will result from the proposed activity, in relation to the overall impacts from past, present, and reasonably foreseeable future activities, the incremental contribution of the proposed activity to cumulative impacts in the area described in section 9.2, are not considered to be significant. Compensatory mitigation will not be required to help offset the impacts to eliminate or minimize the proposed activity's incremental contribution to cumulative effects within the geographic area described in Section 9.2. Compensatory mitigation required for the proposed activity is discussed in Section 8.0.

10.0 Compliance with Other Laws, Policies, and Requirements

- 10.1 **Section 7(a)(2) of the Endangered Species Act (ESA):** Refer to Section 2.2 for description of the Corps' action area for Section 7.

- 10.1.1 Has another federal agency been identified as the lead agency for complying with Section 7 of the ESA with the Corps designated as a cooperating agency and has that consultation been completed? No

On 26 May 2016, the Seattle District Council coordinated with USFWS Refuge management and the Department of the Interior solicitor on federal lead status for compliance with the ESA (email notes in file). The Corps maintained that USFWS as manager of the tidelands for Refuge purposes should be the Federal Lead.

On 15 July 2020, the Corps requested confirmation the USFWS would not act as lead agency. In a follow-up email dated 28 July 2020, the USFWS stated, "The US Fish and Wildlife Service does not hold the authority to issue permits for the proposed action (i.e., Army Corps of Engineers permit # NWS-2007-1213). Therefore, we will not act as the federal lead agency for Endangered Species Act, Section 7 consultation for this permit process."

- 10.1.2 Are there listed species or designated critical habitat present or in the vicinity of the Corps' action area? Yes

Effect determination(s), including no effect, for all known species/habitat, and basis for determination(s): The effect determinations and rationale are listed in the programmatic consultation Programmatic Biological Opinion for Shellfish Activities in Washington State Inland Marine Waters (USFWS Ref. No. 01EWF00-2016-F-0212, and NMFS Ref. No. WCR-2014-1502).

The project is consistent with the required conditions for coverage under the above programmatic consultation except for the condition requiring beach patrols at least every three months in the project vicinity to retrieve debris from gear. Instead, the applicant is proposing to implement the Gear Monitoring and Retrieval Plan (dated 28 August 2020) to achieve similar protections. The plan was developed with guidance and input provided by Refuge managers and includes notification and reporting requirements, seasonally- specific and area-specific requirements and protocols, and additional

measures to ensure the protection of Refuge trust resources. The Corps will include implementation of the plan as a special ESA condition for the permit.

- 10.1.3 Consultation with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) was completed as required, for any determinations other than "no effect" (see the attached "Summary" sheet for begin date, end date and closure method of the consultation). On 16 November 2020 and 20 October 2020, the NMFS and USFWS, respectively, provided their agreement the project is consistent with the required conditions under the programmatic consultation with the implementation of the Gear Monitoring and Retrieval Plan dated 28 August 2020. The Corps will add special conditions "j" through "l" that the permittee comply with the Terms and Conditions of the Programmatic consultation and the Gear Monitoring and Retrieval Plan described above.

Based on a review of the information above, the Corps has determined that it has fulfilled its responsibilities under Section 7(a)(2) of the ESA.

10.2 Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), Essential Fish Habitat (EFH).

- 10.2.1 Has another federal agency been identified as the lead agency for complying with the EFH provisions of the Magnuson-Stevens Act with the Corps designated as a cooperating agency and has that consultation been completed? No

- 10.2.2 Did the proposed project require review under the Magnuson-Stevens Act? Yes

- 10.2.3 If yes, EFH species or complexes considered: Pacific salmon, groundfish, and coastal pelagic species.

Effect determination and basis for that determination: The Corps has determined that the proposal is consistent with the effect determinations and rationale for Pacific salmon, groundfish, and coastal pelagic species are listed in the programmatic consultation Programmatic Biological Opinion for Shellfish Activities in Washington State Inland Marine Waters (USFWS Ref. No. 01EWF00-2016-F-0212, and NMFS Ref. No. WCR-2014-1502).

- 10.2.4 Consultation with the National Marine Fisheries Service was initiated and completed as required (see the attached "Summary" sheet for consultation type, begin date, end date and closure method of the consultation). The NMFS determined the proposal may affect, and is likely to adversely affect EFH, and that the Section 305(b) consultation under the MSA with NMFS has been completed through the programmatic consultation referenced in Section 10.1.

Based on a review of the information above, the Corps has determined that it has fulfilled its responsibilities under EFH provisions of the Magnuson-Stevens Act.

- 10.3 Section 106 of the National Historic Preservation Act (Section 106):** Refer to Section 2.3 for permit area determination.

- 10.3.1 Has another federal agency been identified as the lead federal agency for complying with Section 106 of the National Historic Preservation Act with the Corps designated as a cooperating agency and has that consultation been completed? No

USFWS declined to act as lead federal agency for complying with Section 106 of the National Historic Preservation Act.

- 10.3.2 Known historic properties present? Yes. Additional consultation is necessary to ensure compliance of the regulated activity with Section 106 of the NHPA.

Effect determination and basis for that determination: The Corps has determined the proposed action has a potential to cause effects to historic properties listed or eligible for listing in the National Register of Historic Places. Refer to Section 106 MFR in file.

- 10.3.3 Consultation was initiated and completed with the appropriate agencies, tribes and/or other parties for any determinations other than "no potential to cause effects" (see the attached ORM2 Summary sheet for consultation type, begin date, end date and closure method of the consultation). See Section 106 Consultation Record and 106 MFR dated 2 February 2017 for details. The Corps determined the proposed project would have no effect to historic properties.

Based on a review of the information above, the Corps has determined that it has fulfilled its responsibilities under Section 106 of the NHPA. Compliance documentation is incorporated by reference.

10.4 Tribal Trust Responsibilities

Treaty Rights. In the mid-1850s, the United States entered into treaties with a number of Indian tribes in Washington. These treaties guaranteed the signatory tribes the right to "take fish at usual and accustomed grounds and stations . . . in common with all citizens of the territory" [U.S. v. Washington, 384 F.Supp. 312 at 332 (WDWA 1974)]. In U.S. v. Washington, 384 F.Supp. 312 at 343 - 344, the court also found that the Treaty tribes had the right to take up to 50 percent of the harvestable anadromous fish runs passing through those grounds, as needed to provide them with a moderate standard of living (Fair Share). Over the years, the courts have held that this right comprehends certain subsidiary rights, such as access to their "usual and accustomed" fishing grounds. More than de minimis impacts to access to usual and accustomed fishing areas may violate this treaty right [Northwest Sea Farms v. Wynn, F.Supp. 931 F.Supp. 1515 at 1522 (WDWA 1996)]. In U.S. v. Washington, 759 F.2d 1353 (9th Cir 1985) the court indicated that the obligation to prevent degradation of the fish habitat would be determined on a case-by-case basis. The Ninth Circuit has held that this right also encompasses the right to take shellfish [U.S. v. Washington 135 F.3d 618 (9th Cir 1998)].

- 10.4.1 Were federally recognized tribes notified of the permit application? Yes. See Summary Sheet for notification details.

Comments were received. See below.

On 24 February 2017, the JSKT responded Dungeness Spit is a culturally and historically significant location for the JSKT, but historical use was concentrated to Graveyard Spit. JSKT does not believe cultural resources would be impacted by the project.

On 3 February 2017, the Lower Elwha Klallam Tribe responded they had no issues with the project and concurred with the Corps decision "no historic properties affected". Lower Elwha Tribe requested an inadvertent discovery condition to the project.

10.4.2 Was government-to-government consultation conducted with Federally-recognized Tribe(s)? Yes

Provide a description of any consultation (s) conducted including results and how concerns were addressed.

In a letter dated 17 April 2018, Tribal Chairman W. Ron Allen (Chairman) questioned the Corps decision to evaluate their project under the individual permit process as there has been previous oyster operations at the proposed site and requested consultation.

In a letter dated 12 May 2018, Tribal Chairman W. Ron Allen requested to meet with Colonel Geraldini (District Engineer (DE)) to address the Tribe's concerns with the additional cost and delay with the individual permit process. The shellfish resources of the JSKT are a treaty reserved water resource and requested the Corps participation as a federal trustee in finding a timely solution to shellfish growing and harvesting in Dungeness Bay.

The DE responded in a letter dated 21 May 2018, summarizing that a staff meeting with the JSKT was helpful in understanding the JSKT's concerns and JSKT's history of commercial aquaculture at this site. He further explained his decision that the activity does not qualify for authorization under an NWP does not mean the activity has been denied an authorization from the Department of the Army. The DE encouraged the JSKT to participate in pre-application meetings to further discuss the project and the individual permitting process, including the factors the Corps will be considering in the permit decision.

On 26 July 2018, Chairman W. Ron Allen expressed his concern that the Corps was considering a defined geographic area for the overall purpose statement which was larger than their DNR lease project proposal site in Dungeness Bay. The JSKT requested the Corps only consider the proposed project site as the geographic area limiting the overall purpose to only the proposed project site. The JSKT agreed to provide a map of the area of Dungeness Bay which they are proposing the Corps use as the geographic boundary. On 10 August 2018, Chairman W. Ron Allen and Colonel Geraldini further discussed the overall purpose statement. The JSKT had provided a map identifying Dungeness Bay as the starting point for the bounds of the overall purpose statement. Information was provided by the Corps explaining the geographic area could not be so narrow as to preclude any alternatives, and the guidance for establishing a project purpose and will ensure the geographic scope will be seriously and fairly evaluated to inform our decision.

In a letter dated 26 November 2018, Chairman W. Ron Allen formally objected to the Corps purpose statement but wished for the Corps to proceed with the public notice and further permit review.

In a follow-up phone call with Colonel Geraldini on 30 November 2018, Chairman W. Ron Allen explained he was concerned with the process fairness and reminded the Corps of its duty to protect treaty, aboriginal and Indian rights and lands. Colonel Geraldini assured Chairman Allen that the Corps wants to move the permit request along as quickly as feasible and ensure when done it is defensible.

In a letter dated 23 May 2019, Chairman W. Ron Allen requested a meeting with Colonel Geraldini for the DE to reconsider decision for an Individual Permit (IP) evaluation as the Tribe prefers evaluation under a Nationwide Permit 48 (NWP) and had concerns the requirement for an IP and elements of the IP alternatives analysis (identification of geographic area and project criteria for an alternatives analysis) was deliberate steps toward permit denial.

In a letter dated 11 June 2019, Colonel Geraldini responded reiterating his decision that the proposed activity does not qualify for authorization under a NWP; however, the decision to evaluate as an IP does not mean the activity has or will be denied an authorization from the Department of the Army. Colonel Geraldini explained potential permitting paths may be available with a different project location that would enable the evaluation under an NWP 48. Colonel Geraldini explained he was being deployed for the summer/fall but proposed staff-level meeting at the earliest date to discuss schedules and potential permitting paths for the project as proposed or for alternative site locations.

On 4 October 2019, a G2G meeting occurred where LTC Mark DeSantis explained the work as proposed did not qualify for authorization under the NWP because the DE had determined the adverse environmental effects of the proposed activity are more than minimal as the proposed project, sited entirely within Dungeness National Wildlife Refuge, creates more than minimal impacts to the Refuge. Discussion was raised on minimizing and avoiding effects by eliminating or relocating the plastic bag cultivation methodology and only proposing loose oyster cultivation (eliminating use of plastic bags, lines, and anchors), and avoiding sensitive areas of the Refuge.

On 8 October 2019, Chairman W. Ron Allen expressed the historic and cultural significance the JSKT places on continuing oyster cultivation at their proposed project location in Dungeness Bay. Colonel Geraldini responded in a letter dated 29 October 2019, that the Corps understands the dual nature of the location as being both within the boundaries of Dungeness National Wildlife Refuge, which provides important habitat for birds and other wildlife, as well as availability for shellfish cultivation. He was cognizant the JSKT used Dungeness Bay well before the Refuge was established, and knew they had the tideland lease at the site until 12 years ago when water quality closures forced cultivation to stop. The basis for taking discretionary authority remains the same: the project as proposed in the location desired may result in more than minimal adverse effects to the aquatic environment. The historic and unique cultural significance of this site are incorporated into the permit process by identifying them in the purpose statement, which influences all other aspects of the overall process. A discussion of the historical use of the site will be discussed in the cumulative impacts analysis of the project.

On 28 July 2020, Colonel Bullock met with Chairman W. Ron Allen. Chairman Allen provided an overview of their permit experience and history of the Tribe's shellfish cultivation in Dungeness Bay. He expressed his concerns with permitting delays, requests for additional information, and decision by the Corps to issue an addendum public notice. He was concerned with the extensive public response to the public notices were not favorable to the Tribe. Colonel Bullock stated his commitment to completing this permit action as soon as possible. He reiterated that the Treaty signed by JSKT is the supreme law of the land, the history and cultural importance of the site to the Tribe. He emphasized that the Corps is neither a proponent or opponent of the permit application but recognized the unique relationship and responsibilities to the Tribe. Colonel Bullock concluded that the additional information they provided to us verbally and will submit in writing will support a timely permit decision. Colonel Bullock provided a follow-up letter dated 24 August 2020, to Chairman Allen. The letter outlined the next steps for the evaluation process: 1) JSKT will coordinate with USFWS to complete documentation for the ESA consultation, 2) JSKT will submit information requested by Corps and the JSKT's responses to the public comments, and 3) Corps will use the provided information to make a final permit determination as soon as possible. Colonel Bullock stated he deeply appreciated the history and perseverance of the JSKT and the cultural and economic importance of the site to the Tribe is evident and noted.

On 16 June 2021, Colonel Bullock and Chairman W. Ron Allen discussed the Corps' initial proffered permit conditions. Chairman Allen had requested the term of the permit be 10 years, had concerns with a permit condition requiring work activities authorized by this permit being compatible with U.S. Fish and Wildlife Service's management, laws and executive orders, policies, and treaties and lease agreement prior to work activities starting and had concerns with details of the avian monitoring plan. As per coordination with Ecology, Colonel Bullock agreed the 10-year permit term is appropriate and committed to further coordination with USFWS to refine the permit conditions.

The work proposed in this application has been analyzed with respect to its effects on the treaty rights described above, and my conclusions are that: (1) the work will not interfere with access to usual and accustomed fishing grounds or with fishing activities or shellfish harvesting; (2) the work will not cause the degradation of fish runs and habitat; and (3) the work will not impair the tribes' ability to meet moderate living needs.

The Corps has determined that it has fulfilled its tribal trust responsibilities.

10.4.3 Other Tribal issues including any discussion of Tribal Treaty rights?

The JSKT has Tribal Treaty rights for fish and shellfish in an area that includes Dungeness Bay. These are discussed above in the public interest section. The decision to issue the permit would not have effects to the treaty rights of the JSKT. Other Tribes with Tribal Treaty rights for fish and shellfish resources within the project area did not provide comments to the JSKT commercial cultivation of oysters.

10.5 Section 401 of the Clean Water Act – Water Quality Certification (WQC)

- 10.5.1 Is a Section 401 WQC required, and if so, has the certification been issued, waived or presumed? An individual WQC is required and has been issued by the certifying agency. Pursuant to 40 CFR § 121.12, the EPA completed their neighboring jurisdiction

determination and determined there will be no effect to water quality in a neighboring jurisdiction.

10.6 Coastal Zone Management Act (CZMA)

10.6.1 Is a CZMA consistency concurrence required, and if so, has the concurrence been issued, waived or presumed? An individual CZMA consistency concurrence is required and has been issued by the appropriate agency.

10.7 Wild and Scenic Rivers Act

10.7.1 Is the project located in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system? No

10.8 Effects on Corps Civil Works Projects (33 USC 408)

10.8.1 Does the applicant also require permission under Section 14 of the Rivers and Harbors Act (33 USC 408) because the activity, in whole or in part, would alter, occupy or use a Corps Civil Works project? No, there are no federal projects in or near the vicinity of the proposal.

10.9 Corps Wetland Policy (33 CFR 320.4(b))

10.9.1 Does the project propose to impact wetlands? No

10.9.2 Based on the public interest review herein, the beneficial effects of the project outweigh the detrimental impacts of the project.

10.10 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC 103)

10.10.1 Does the activity require notification under Section 103 of CERCLA because the project is at/near a Superfund site? No, the project is not located at/near a Superfund site.

11.0 Special Conditions

11.1 Are special conditions required to protect the public interest, ensure effects are not significant, and/or ensure compliance of the activity with any of the laws above? Yes

11.2 Required special condition(s)

a. You shall provide a copy of the permit transmittal letter, permit form, and permit drawings to all contractors involved in the authorized work.

b. If future operations by the United States require the removal, relocation, or other alteration of the work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, you will be required, upon due notice from the U. S Army Corps of Engineers, to remove, relocate, or alter the structural work or

obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

c. The authorized work shall not interfere with the public's right to free navigation on navigable waters of the U.S.

d. Permittee shall comply with the conditions specified in the Washington State Department of Ecology Coastal Zone Management Consistency Determination dated February 18, 2021.

e. You shall provide the Dungeness National Wildlife Refuge management and Washington State Department of Natural Resources a copy of the U.S. Army Corps of Engineers permit transmittal letter, permit form, and permit drawings.

f. You shall provide a copy of your Department of Natural Resources lease agreement with the Jamestown S'Klallam Tribe to the U.S. Corps of Engineers, Seattle District, Regulatory Branch, prior to work activities starting.

g. You shall provide a copy of your Washington State Department of Fish and Wildlife shellfish transfer permit specific to this site to prevent the introduction or spread of disease or harmful species such as the invasive European green crabs (*Carcinus maenas*) to other water bodies to the U.S. Corps of Engineers, Seattle District, Regulatory Branch, prior to work activities starting.

h. You shall implement and abide by the mitigation plan, Avian Monitoring Plan for Jamestown's Dungeness Bay Oyster Farm dated June 9, 2021, and the Monitoring Plan for Long-Shore Transport of Sediment in Area of Jamestown S'Klallam Tribe's Shellfish Farm in Dungeness Bay dated April 23, 2021.

i. This U.S. Army Corps of Engineers (Corps) permit does not authorize you to take a threatened or endangered species. In order to legally take a listed species, you must have a separate authorization under the Endangered Species Act (ESA) (e.g., an ESA Section 10 permit, or ESA Section 7 consultation Biological Opinion with non-discretionary "incidental take" provisions with which you must comply). The Programmatic Biological Opinions for Shellfish Activities in Washington State Inland Marine Waters (BOs) - the National Marine Fisheries Service (NMFS) and Errata, dated September 2, 2016 and September 30, 2016, respectively (NMFS Reference Number WCR-2014-1502), and the U.S. Fish and Wildlife Service (USFWS), dated August 26, 2016 (USFWS Reference Number 01EWF00-2016-F-0121), contain mandatory terms and conditions to implement the reasonable and prudent measures associated with the specified "incidental take". The authorization under this Corps permit is conditional upon your compliance with all of the mandatory terms and conditions associated with incidental take of the BOs. These terms and conditions are incorporated by reference in this permit. Failure to comply with the terms and conditions associated with incidental take of the BOs, where a take of the listed species occurs, would constitute an unauthorized take, and it would also constitute non-compliance with your Corps permit. The USFWS and NMFS are the appropriate authorities to determine compliance with the terms and conditions of its BO and with the ESA.

j. In order to meet the requirements of the Endangered Species Act (ESA) and Magnuson-Stevens Fishery Conservation and Management Act (MSA), you must comply with the conservation measures in the Programmatic Biological Opinions for Shellfish

Activities in Washington State Inland Marine Waters (BOs) - the National Marine Fisheries Service (NMFS) and Errata, dated September 2, 2016 and September 30, 2016, respectively (NMFS Reference Number WCR-2014-1502), and the U.S. Fish and Wildlife Service (USFWS), dated August 26, 2016 (USFWS Reference Number 01EWF00-2016-F-0121), as modified below. These conservation measures are included in the enclosed document, Enclosure 1, Conservation Measures for Activities Covered under the Shellfish Activities Programmatic Consultation Biological Opinions. If you cannot comply with these conservation measures, you must, prior to commencing construction, contact the U.S. Army Corps of Engineers, Seattle District, Regulatory Branch for individual ESA/MSA consultation. The USFWS and NMFS are the appropriate authorities to determine compliance with the ESA.

k. The conservation measures in the Programmatic Biological Opinions for Shellfish Activities in Washington State Inland Marine Waters (BOs) - the National Marine Fisheries Service (NMFS) and Errata, dated September 2, 2016 and September 30, 2016, respectively (NMFS Reference Number WCR-2014-1502), and the U.S. Fish and Wildlife Service (USFWS), dated August 26, 2016 (USFWS Reference Number 01EWF00-2016-F-0121), are hereby modified as follows:

1. Due to the location of the proposed project within the vicinity of areas in the Dungeness National Wildlife Refuge (Refuge) closed to access to protect Refuge wildlife and vegetation communities, the following conservation measure from the Programmatic Biological Opinions for Shellfish Activities in Washington State Inland Marine Waters (U.S. Fish and Wildlife Service (USFWS) Reference Number 01EWF00-2016-F-0121, National Marine Fisheries Service (NMFS) Reference Number WCR-2014-1502) shall not occur within the boundaries of the Refuge: "At least once every three months, beaches in the project vicinity will be patrolled by crews who will retrieve debris (e.g., anti-predator nets, bags, stakes, disks, tubes) that escape from the project area. Within the project vicinity, locations will be identified where debris tends to accumulate due to wave, current, or wind action, and after weather events these locations shall be patrolled by crews who will remove and dispose of shellfish related debris appropriately. A record shall be maintained with the following information and the record will be made available upon request to the Corps, NMFS, and USFWS: date of patrol, location of areas patrolled, description of the type and amount of retrieved debris, other pertinent information."

2. You shall implement the *Jamestown S'Klallam Tribe Gear Monitoring and Retrieval Plan to Satisfy Conservation Measure #22* dated August 28, 2020, within the boundaries of the Dungeness National Wildlife Refuge.

12.0 Findings and Determinations

12.1 Section 176(c) of the Clean Air Act General Conformity Rule Review: The proposed permit action has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the activities proposed under this permit will not exceed de minimis levels of direct or indirect emissions of a criteria pollutant or its precursors and are exempted by 40 CFR Part 93.153. Any later indirect emissions are generally not within the Corps' continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons, a conformity determination is not required for this permit action.

12.2 Presidential Executive Orders (EO):

12.2.1 EO 13175, Consultation with Indian Tribes, Alaska Natives, and Native Hawaiians: This action has no substantial effect on one or more Indian tribes, Alaska or Hawaiian natives. See Section 10.4 for a detailed discussion.

12.2.2 EO 11988, Floodplain Management: This action is not located in a floodplain.

12.2.3 EO 12898, Environmental Justice: The Corps has determined that the proposed project would not use methods or practices that discriminate on the basis of race, color or national origin nor would it have a disproportionate effect on minority or low-income communities.

12.2.4 EO 13112, Invasive Species: Through special conditions, which are listed in this evaluation, the permittee will be required to control the introduction and spread of exotic species.

12.2.5 EO 13212 and EO 13302, Energy Supply and Availability: The proposal is not one that will increase the production, transmission, or conservation of energy, or strengthen pipeline safety.

12.3 Findings of No Significant Impact: Having reviewed the information provided by the applicant and all interested parties and an assessment of the environmental impacts, I find that this permit action will not have a significant impact on the quality of the human environment. Therefore, an environmental impact statement will not be required.

12.4 Compliance with the Section 404(b)(1) Guidelines: Having completed the evaluation above, I have determined that
N/A – Section 10 activity

12.5 Public interest determination: Having reviewed and considered the information above, I find that the proposed project is not contrary to the public interest.

PREPARED BY:



Pamela Sanguinetti

Date: 15 JULY 2021

REVIEWED BY:



Matthew Bennett

16 July 2021

Date: _____

APPROVED BY:



Michelle Walker

Date: 16 JULY 2021

APPROVED BY:



Col. Alexander "Xander" L. Bullock

Date: 26 Jul 2021