Request for Clean Water Act
Section 401 Water Quality Certification
Washington State Department of Ecology
Phone: (360) 407-6076 or E-mail: ecyrefedpermits@ecy.wa.gov

AGENCY USE ONLY
Date Received: 5/23/2023
Aquatics ID No.: 138765
Team: HQ
Valid Request: 5/23/2023

This Section 401 Water Quality Certification (WQC) Request form identifies information needed in order to review and process a Section 401 WQC Request. Please see Department of Ecology's (Ecology) webpage for more information about the Section 401 WQC Request process.

Submit this Section 401 WQC Request form along with a Joint Aquatic Resources Permit Application (JARPA) and supporting information[1] to ecyrefedpermits@ecy.wa.gov and copy the federal permitting agency.

A. Federal Permit or License Reference Number, if known: NWS-2007-1333-AQ

Department of Ecology (Ecology) Aquatics ID Number, if known: _____

Project Name: Shellfish farm Tenglin **County:** Mason

B. Project Proponent Name: Seattle Shellfish LLC, Derek Epps

C. Documentation showing that the Pre-Filing Meeting Request was submitted at least 30 days prior to submitting this Section 401 WQC Request. Attach either of the following:

- ■ E-mail acknowledgement of receipt from Ecology
- ☐ Copy of previously submitted Pre-Filing Meeting Request Form

D. A completed, signed, and dated JARPA should be submitted with this form.

Did you attach a JARPA? ☐ Yes ■ No

E. The following is a list of documents needed for Ecology's WQC review, along with a brief explanation.

Depending on the project, additional information may be requested.

Please let us know what information you are submitting with this WQC request form.

Required for all projects:

1. State Environmental Policy Act (SEPA) determination and/or checklist:
   - ☐ Final SEPA determination attached
   - ☐ SEPA determination pending
   - ■ Exempt from SEPA (see SEPA Guidance)
   - ■ SEPA is not required (e.g., federal agency projects)

[1] To submit documents over 25MB, e-mail ecyrefedpermits@ecy.wa.gov to request a secure link.

To request an ADA accommodation, contact Ecology by phone at (360) 407-6076 or email at ecyrefedpermits@ecy.wa.gov, or visit https://ecology.wa.gov/accessibility.
For Relay Service or TTY call 711 or 877-833-6341.

Si necesita este formulario en español, por favor, llámenos a (360) 407-6076
o envíenos un correo electrónico a: ecyrefedpermits@ecy.wa.gov

2. Project drawings attached:
   - ☒ Vicinity map
   - ☒ Plan view
   - ☒ Cross-section(s)
   - ☒ Plan set
   - ☐ Other:_____

3. Best management practices and construction methodology, provided in the attached:
   - ☐ JARPA
   - ☒ Water Quality Monitoring and Protection Plan (WQMPP)
   - ☒ Project drawings, sheets:_____
   - ☐ Mitigation Plan pages:_____
   - ☒ Other document(s): PCSGA ECOP

   Notes:
   - This is needed for in-water work (below ordinary high water mark), including wetlands.
   - Describe best management practices to be implemented to protect water quality.
   - Describe construction sequencing and methodology.

4. Water quality monitoring, provided in the attached:
   - ☐ Water Quality Monitoring Plan (WQMP).
   - ☐ Water Quality Monitoring and Protection Plan (WQMPP is similar to WQMP, but includes best management practices).
   - ☒ Other (please identify location, such as JARPA, Part 8): Cover Letter page two

   Notes:
   - Include language in the plans that allows Ecology to review and approve all substantive changes to a plan prior to implementation.
   - A plan is needed when conducting work in a waterbody (e.g., creek, ditch, river, lake, pond, marine, estuarine).
   - Include water quality parameters such as turbidity, oil sheen, pH (e.g., poured in-place concrete, concrete demolition), etc.
   - See State Water Quality Standards for Surface Waters (Chapter 173-201A-200 or -210 WAC)
   - If needed, templates are available.

Required depending on the project type:

5. Erosion and sediment control for upland work (above ordinary high water mark) that addresses stormwater during construction and long-term:

   This information is included in the attached:
   - ☐ JARPA
   - ☐ Project drawings, sheets:_____
   - ☐ Stormwater Pollution Prevention Plan, pages:_____
   - ☐ Mitigation Plan, pages:_____
   - ☒ Other document(s): No upland work

6. Wetland report, including the attached:
   - ☐ Wetland delineation report
   - ☐ Delineation data sheets
   - ☐ Wetland rating forms

Notes:

- Needed when there is a discharge (dewatering, excavation or fill) to wetlands.
- Report needs to include both a wetland delineation and rating.
- Include delineation data sheets and rating forms.
- For more information see wetland delineation resources and hiring a qualified wetland professional.
- Include language in the plans that allows Ecology to review and approve all substantive changes to a plan prior to implementation.

7. Mitigation, avoidance and minimization
   - ☐ Wetland avoidance and minimization checklist
   - ☐ Other aquatic resource avoidance and minimization demonstration
   - ☐ Mitigation Plan
   - ☐ Other:_____

   Notes:
   - Wetland avoidance and minimization webpage.

8. Mitigation plan, provided in the attached:
   - ☐ Riparian Planting and Monitoring Plan (Needed when riparian vegetation is removed or modified)
   - ☐ Wetland or stream/other aquatic resource Mitigation Plan
   - ☐ Wetland Mitigation Bank Use Plan (use when proposing mitigation bank use)
   - ☐ In-Lieu Fee (ILF) Use Plan (use when proposing ILF mitigation)
   - ☐ Project drawings, sheets:_____
   - ■ Other: None required

   Notes:
   - Needed to offset impacts to wetland, stream, marine, or other aquatic habitat.
   - Include language in the plans that allows Ecology to review and approve all substantive changes to a plan prior to implementation.
   - For more information, see wetland compensatory mitigation.

9. Dredging
   - ☐ Dredging Plan attached
   - ☐ Suitability Determination attached

   Notes:
   - Needed when sediments will be dredged for maintenance, navigation, or other purposes.
   - Covers in-water disposal and sediment anti-degradation.
   - Dredging Plan should include dredge footprint and depth, dredge type, best management. practices, disposal plan, off-loading plan for upland disposal, etc.
   - Include language in the plans that allows Ecology to review and approve all substantive changes to a plan prior to implementation.
   - For informationon suitability determinations, see Dredged Material Management Office.

10. Dewatering
    - ☐ Dewatering Plan attached

    Notes:
    - Needed for complex in-water work or management of excavated/dredged material.

- Include language in the plans that allows Ecology to review and approve all substantive changes to a plan prior to implementation.
- May also be required for some excavation projects.

F. Required Certification Statements:

The project proponent hereby certifies that all information contained herein is true, accurate, and complete, to the best of my knowledge and belief.

Initial SS-DCE

The project proponent hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.

Initial SS-DG

Signature: Derek C. Epps (Seattle Shellfish LLC) Date: 04/13/23

Print Name: Derek Epps

Date: April 13, 2022

To: WA Department of Ecology, Federal Permit Coordination; U.S. Army Corps of Engineers, Seattle District;

From: Derek Epps, Seattle Shellfish LLC;

RE: Description of Farming methods for the following shellfish farm - **Tenglin (NWS-2007-1333)**

Tenglin (NWS-2007-1333) Shellfish Cultivation Description:

Seattle Shellfish will farm shellfish using methods and materials described in the programmatic Endangered Species Act/Essential Fish Habitat consultation for shellfish activities in Washington State inland marine waters ("Programmatic Consultation"), and Seattle Shellfish will comply with all the Programmatic Consultation's terms, conditions, and conservation measures. Programmatic Biological Assessment, Shellfish Activities in Washington State Inland Marine Waters, U.S. Army Corps of Engineers Regulatory Program, October 2015 ("PBA"); Programmatic Biological Opinion, National Marine Fisheries Service, September 2016; Programmatic Biological Opinion for Shellfish Activities in Washington State Marine Waters, U.S. Fish and Wildlife Service, August 2016; Revised ITS and Biological Opinion Errata, National Marine Fisheries Services, September 2016 (collectively "PBAO").

The proposed project converts a current Nationwide Permit ("NW") 48 authorization to an individual permit, continues an existing unchanged commercial shellfish aquaculture operation that may cultivate geoduck clam (Panopea generosa), non-geoduck clams such as the littleneck clam (Leukoma staminea), Manila clam (Venerupis philippinarum), butter clam (Saxidomus gigantea), Eastern soft shell clam (Mya arenaria), horse clam (Tresus nuttallii and Tresus capax), razor clam (Siliquapatula), and the cockle (Clinocardium nuttallii) and oysters such as the Pacific oyster (Crassostrea gigas), Kumamoto oyster (Crassostrea sikamea), Eastern oyster (Crassostrea virginica), European flat oyster (Ostrea edulis), and the Olympia oyster (Ostrea conchaphila). The proposed farm site is located on parcel **12030-11-00000**. All farming activities would occur on privately-owned tideland within an area defined by ≤+5.0' Mean Lower Low Water ("MLLW") tidal elevation and the outer boundary at approximately -4.5' MLLW tidal elevation, Extreme Low Water ("ELW") MLLW tidal elevation, or other property boundary, and within the surveyed property boundaries, see drawings. The calculated project area is **~6.5** acres with no fallow ground. Geoduck clams and other species may be cultivated on approximately **~4.5** acres with a transition to non-geoduck species cultivation in the remaining **~2.0** acres, see drawings.

Seattle Shellfish LLC

2101 4th Ave E • Suite 201 • Olympia, WA 98506 • (360) 236-0462 • Fax (360) 236-0471

Seattle Shellfish LLC does not use the following methods including mechanical bed preparation with excavated materials holding down nets, graveling/frosting beds, or blank shell stock. All seeding is done by hand. Where and when nets are used, rebar or something similar is used with a minimum footprint to hold the nets. This is installed by hand and everything is retrieved by hand when the nets are removed or changed. All methods are unchanged continuations of 2017 NW 48 verifications and the vast majority receiving multiple verifications through the NW 48 system and its predecessors. Seattle Shellfish is requesting permit authorization for geoduck at 15 years and other species at 10 years. This timeframe will allow for up to 2 geoduck and 2-3 other species full crop rotations, which is critical for ensuring the farm generates sufficient production to recoup costs and expenses. Work entails the following elements:

Geoduck Cultivation Description

Seeding and Planting

Juvenile geoducks are planted in the substrate in nursery gear to protect them from predation. Geoduck seed is obtained from a certified hatchery. Typical nursery gear consists of PVC or flexible mesh tubes, up to 6 inches in diameter and up to 13 inches in length. The tubes are inserted into the substrate such that only the top section (approximately 1/3) of the tube protrudes above the beach. Two to four seed clams are placed in each tube where they burrow into the substrate. Tubes are typically installed at a density of about 1 tube per square foot.

PVC tubes may be covered by individual and/or area netting. Individual netting consists of a small, plastic mesh net secured to the tube by a UV-resistant rubber band. Area netting is made of nylon or similarly approved materials with various mesh sizes consistent with those described in the PBAO. Area netting is secured with rebar stakes placed vertically into the substrate. Sometimes rebar stakes are laid horizontally along the netting to ensure that netting does not become dislodged. Individual nets are not used with flexible mesh tubes, but area nets may be installed over flexible mesh tubes in the same manner as for PVC tubes. Netting is used when and where necessary.

Maintenance and Grow-out

Nursery tubes remain in place for approximately the first two years of grow-out. During this period, crews conduct frequent site inspections to ensure that gear remains properly secured and to retrieve any gear that may become loose. Fouling organisms may also be removed from nursery tubes. After tube removal, area netting may be redeployed over the bed for continued predator protection and to allow the geoducks to acclimate to the lack of nursery tubes.

Geoducks remain in place for multiple more years until they are ready for harvest. Activities during grow-out are limited to site inspections and monitoring of cultured organisms.

Harvest

Cultivated geoducks may take 8 years after planting to reach market size or when they reach approximately 1.5 to 2 pounds.

Geoducks are harvested at any tide. Regardless for harvest method, geoducks are harvested using hand-operated water wand. Typically, a wand is a pipe about 18 to 24 inches long with a nozzle on the end that releases surface-supplied seawater from a hose at a pressure of approximately 40 pounds per square inch (about the same pressure as that from a standard garden hose) and a flow of 20-30 gallons per minute.

Multiple divers may work in an area at one time. Harvest occurs until all harvestable-sized geoduck are removed from the harvest area. Harvesters may make several sweeps of a tract to ensure all harvestable-sized geoduck are removed. Intakes for supplying water to the onboard pumps are positioned several feet below the water surface. The water intake hose includes a 2.38 mm wire mesh screen covering the intake to prevent fish entrainment in the low-pressure pump. The water nozzle is at the end of an approximately 150' long, 2" delivery hose.

Oyster Bag Culture Description

Seeding and Planting

Bag culture entails growing oysters within plastic bags or other containers. Cultivated species of oysters may include the Pacific oyster (Crassostrea gigas), Kumamoto oyster (Crassostrea sikamea), Eastern oyster (Crassostrea virginica), European flat oyster (Ostrea edulis), and the Olympia oyster (Ostrea conchaphila). We do not use mechanical bed preparation equipment.

Oysters may be grown in bags secured directly to the substrate bottom or in a tumble/flip bag system. Single-set seed or oyster cultch is placed in reusable plastic net bags closed with plastic ties or galvanized metal rings. Bags are attached to the racks, stakes, or lines using reusable plastic or wire ties. Installation occurs during low tide.

Oyster tumbling involves attaching a buoy and securing the bags to a horizontal crossbeam (stainless steel rod, polypropylene or nylon line, or plastic coated cable) for the hanging lines and held in place by rebar stakes or similar posts driven into the substrate. The oyster-seed filled bags pivot on the crossbeam and float with the tide. The ebb and flow of the tide agitates the oysters or "tumbles" them. See attached drawings.

Maintenance and Grow-out

Oysters grow in the bags and are checked periodically during low tides to ensure that the bags remain secure and to remove fouling organisms and predators. Bags may be turned routinely to control fouling organisms. Oysters may be periodically redistributed between bags to reduce densities. Oysters may be placed in progressively larger mesh size bags as the oysters grow.

Harvest

Oysters are harvested at low tide by removing the bags from their supports and transferring them to a boat or vehicle for transport to shore. Oyster bags may also be loaded on a boat at high tide. Biofouling is common on the bags with barnacles and mussels the primary fouling organisms. To removal biofouling, bags may be placed in upland areas where they are allowed to dry, which allows for easy removal of fouling organisms prior to re-use.

Manila Clam Bottom and Bag Culture Description

Planting and seeding

Clam seed may be planted using different dispersal methods including at low tide on bare, exposed substrate, on an incoming tide when water depth is approximately four inches, on an outgoing tide in water depth of two to three feet, or at high tide from a boat. Any of these methods may be used anytime of the year depending on various seasonal and environmental conditions, predation, and survivability.

Immediately after seeding, cover or area nets may be placed over the seeded areas to protect clams from predators such as crabs and ducks. Area netting is made of nylon, polypropylene, or similarly approved materials with various mesh sizes consistent with those described in the PBAO. Area netting is secured with rebar stakes placed vertically into the substrate. Sometimes rebar stakes are laid horizontally along the netting to ensure that netting does not become dislodged. Netting is used when and where necessary.

Clam nursery systems, including bags or trays, may be used until seed is of sufficient size to plant. Clam bag culture uses similar methods and materials as the oyster bag culture. Clams are typically grown in plastic mesh bags, placed in the lower intertidal areas, and anchored with metal, rebar, or other materials. Depending on various seasonal and environmental conditions, clam nurseries may be periodically turned, and any fouling or predators may be removed from the area. When clams reach outplant size, the bags are removed from the growing area and taken to operation facilities for reuse.

Grow-out and maintenance

After each growing season, surveys may be conducted during low tide to assess survival, distribution, estimation of yield, and projection of harvest schedule. Based on survey results, additional seeding activity may occur. Netting used to protect clams from predation can become fouled with various marine organisms, so where netting is used, site visits typically involve inspecting and staking nets as well as removal of debris from beds. Depending on local conditions, net cleaning may occur not at all or as often as monthly. Any unnatural debris will be recovered, reused or properly disposed of at operation facilities.

Harvest

Harvesters dig clams during low tides using clam rakes, shovels or other hand tools, then subsequently smooth the substrate. Market-size clams may take up to four years to grow, so they are selectively harvested, placed in buckets, bagged, tagged, and removed from the beds. Undersized clams are left in the beds for future harvests. Multiple crops may be in the ground at any time, depending on the level of productivity. Harvested clams will be taken to operation facilities where they may be left in net bags in wet storage for at least 24 hours to purge sand.