



## AGENDA ITEM SUMMARY

### BACKGROUND

Commercial cultivation of shellfish has a long history in Oregon. The aquaculture industry has focused primarily on growing oysters, and operations frequently require transport of living material across state lines. In some cases, transport of shellfish has been shown to function as a vector for inadvertent transmission of unwanted pests, viruses, and pathogens. New safeguards are periodically needed to address emerging biosecurity threats and to ensure that mariculture practices and products are safe and sustainable in Oregon.

Commercial culture of oysters began in the late 1890's and early 1900's in Oregon shortly after the collapse of the native oyster (*Ostrea lurida*) populations due to overharvest. Oysters from the coast of Japan, known as Pacific oysters (*Crassostrea gigas*), were transported and planted into waters of several estuaries along the Pacific Northwest, including in Oregon. By 1930, non-native Pacific oysters had become the predominant species cultivated in Oregon bays and estuaries. The Pacific oyster and other imported species have limited capacity for natural reproduction in Oregon's estuaries. Consequently, commercial mariculture of Pacific oysters requires the import of a variety of living life-stages, including broodstock adults, larval stages, recently settled spat, juvenile cultch, oyster shells, and other biotic products that are transported into Oregon from other states or countries.

The oyster aquaculture industry in Oregon was historically subject to limited management regulations until 1966 when the Oregon Fish Commission was given statutory authority regarding commercial cultivation of shellfish. While most of this authority extended over leasing of submersible lands for plats, the legislation also included the first actions to regulate shellfish movements by requiring a permit prior to transporting oysters and clams into state waters.

By this time, several invasive and exotic species had already been inadvertently brought into Oregon during oyster transport. These included eastern softshell clams (*Mya arenaria*), Japanese oyster drills (*Ocenebrellus inornatus*), and Japanese eelgrass (*Zostera japonica*), as well as other species. While the new regulations certainly reduced the number of invasive pests being brought into the state by oyster transport, the new permit did little to restrict import of shellfish diseases and pathogens.

In 1997, statutory authority for leasing of aquaculture plats was transferred to the Oregon Department of Agriculture (ODA), and shellfish culture operations were defined as farms. The Oregon Department of Fish and Wildlife (ODFW) retained regulatory authority for shellfish transport, and the regulations have remained virtually unchanged over the past 25 years. Since then, several new diseases and pathogens have been identified that have had far-reaching impacts to the commercial oyster aquaculture industry. Due to this, the only changes have included requirements for shellfish health certificates prior to transport, as well as restrictions on the locations and timing for transport activities. Disease and pathogens are projected to continue to increase with climate and ocean changes.

Currently, the shellfish mariculture industry in Oregon is relatively small in comparison to Washington or California. The Oregon industry is comprised of up to 20 shellfish mariculture facilities that operate in six estuaries (per ODA shellfish farm permits; Netarts Bay, Tillamook Bay, Yaquina Bay, Siuslaw Bay, Winchester Bay and Coos Bay). Coos Bay is the largest producer of oysters in Oregon, followed by Tillamook Bay. The Whiskey Creek Shellfish Hatchery operates as a commercial facility in Netarts Bay and the Oregon State University (OSU) / Molluscan Broodstock Program operates as a research facility at the Hatfield Marine Science Center in Yaquina Bay. Pacific oysters are the most commonly cultivated species in Oregon, and interest has been expressed in growing other species of oysters and clams for the commercial market.

Over the last five years, a total of eight individual mariculture facilities submitted applications and received the free ODFW transport permit to import shellfish into state waters. The annual average number of transport permits during that timeframe is 14 applications, and the commercial hatchery and OSU research facilities account for the majority of permits (>50%). The commercial hatchery and research facility are typically issued permits to allow transport of adult or broodstock oysters from Washington to be brought into Oregon, and these oysters are either maintained in rearing/hatchery facilities or quarantine facilities. The remainder of shellfish transport permits (<50%) are issued to allow transport of oyster larvae or seed that originate from nurseries and hatcheries located in Washington, California (Humboldt Bay), and Hawaii. These imports typically allow the larvae to set on shell followed by out planting into leased plats where they grow for 1 to 3 years before being harvested for the seafood market.

## **PUBLIC INVOLVEMENT**

ODFW sent a letter to participants in the shellfish mariculture industry in September 2021 to notify the eight facilities that have applied for and received transport permits in the last five years. ODFW also had personal discussions with the two facilities that apply for and receive the most transport permits.

## **ISSUE**

### **Shellfish Mariculture Transport Biosecurity Regulation Updates**

## **ANALYSIS**

In the spring of 2017, ODFW received an application from a commercial oyster mariculture facility in Coos Bay to import juvenile Pacific oysters from San Diego, CA to be out planted into Coos Bay. The California Department of Fish and Wildlife (CDFW) received notification of this application and alerted the Washington Department of Fish and Wildlife (WDFW). Resource managers at WDFW contacted the ODFW Shellfish Program with concerns about biosecurity and encouraged the Department to deny the request to import Pacific oysters from San Diego into Coos Bay due to severe risk from Oyster Herpes Virus (OsHV). At that time WDFW prohibited all imports of oysters from California south of Cape Mendocino. WDFW indicated that current testing procedures (Quantitative Polymerase Chain reaction; qPCR analysis) conducted along the west coast were inadequate

to prevent imports of infected oysters because the OsHV virus has a latency stage. WDFW notified ODFW that in the event that the transport application was approved, and any further importation of oysters was allowed from south of Cape Mendocino, then Oregon would be considered by WDFW as a restricted area. Designation of Oregon as a restricted area for the shipping of oysters would have significant, adverse consequences, including an ongoing prohibition of transport for any Oregon mariculture shellfish products into Washington. Such a classification would negatively impact the Oregon shellfish mariculture industry. ODFW and WDFW had several subsequent discussions in 2017, and WDFW provided ODFW with a comprehensive list of approved areas, suppliers, and a list of required diseases and pests that must be included in the shellfish health certificates prior to authorization for transport permits.

In 2019, the Oyster Herpes Virus microvariant-1 (OsHV-1) was detected in cultivated Pacific Oysters in San Diego, California. This event marked the first observation of this microvariant in the USA. OsHV-1 is a dangerous viral disease for molluscan shellfish and has caused oyster mortality rates of 100% in France and Ireland. Cross-species contamination of OsHV-1 has also been observed for other bivalves, both cultured and wild. To control the potential spread of OsHV-1 along the west coast, imports of any shellfish for mariculture that originate south of Cape Mendocino, CA are not currently permitted into Oregon or Washington.

In February 2020, ODFW staff met with other state agencies and representatives from the West Coast Commerce Region (WCCR) of the U.S. Aquaculture Society to discuss OsHV-1 and the biosecurity measures necessary to prevent the spread of the virus. The WCCR includes the states of California, Oregon, Washington, Alaska, and Hawaii. Washington is the largest importer and exporter of cultured shellfish in the WCCR and annually ranks in the top three in the nation. State shellfish aquaculture industry and shellfish managers have a vested interest in creating biosecurity policies and regulations to reduce or eliminate the spread of OsHV-1 and other pathogens and pests.

Regulations for importing shellfish from other WCCR states, such as from Oregon into Washington set the standard regarding the level of biosecurity that should be achieved throughout the WCCR. The Oregon shellfish mariculture industry currently does significant business with Washington mariculture facilities and is interested in meeting the WDFW biosecurity requirements to continue inter-state trade. ODFW reviewed the current Oregon Administrative Rules and identified amendments necessary to reflect the new biosecurity requirements to control the spread of OsHV-1, or any other pathogen or pest. Shellfish mariculture activities in other states (CA and HI) that rely upon Washington inter-state trade have also met the WDFW biosecurity requirements.

ODFW staff propose several modifications to strengthen current Oregon Administrative Rules (OARs). These modifications will update the rules to include:

- A revised definition of species that require a mariculture transport permit;
- Information required of applicants when applying for mariculture transport permits;
- A requirement that ODFW identify shellfish pathologists who are authorized to issue shellfish health certificates; and
- Activities that require a mariculture transport permit.

## **Species Definition**

Current OARs specify that a mariculture transport permit is only required for one genus of oysters (*Crassostrea spp.*). This narrow application is outdated. Currently, other genera of oysters are being transported (i.e., *Ostrea*), and applications are frequently received for other types of shellfish (clams, mussels, other species). Since these are all species intended for cultivation in mariculture facilities within state waters, they all have an inherent risk for transmission of diseases, pathogens, and pests without adequate health screening, spatial and temporal restrictions on imports, or outright prohibition of transport. Potential importers frequently ask Department staff about which species require a transport permit. Amendment of the OARs to include a definition that encompasses the species groups that are transported in the WCCR will improve shellfish biosecurity in Oregon.

## **Essential Information for Transport Permits**

Current OARs are ambiguous regarding the information required during application for the transport permit. The Department has identified that essential information necessary to improve the shellfish biosecurity in Oregon should include specific details about the source where transport originates (estuary and mariculture facilities) and the destination where shellfish transport will conclude. This information is critical to allow the Department to understand the source, destination, and industry participants associated with each transport activity. Without this essential information, the Department is unable to determine if a specific area or bay should be restricted, and where to establish an effective closure line to prohibit transport of pathogens or pests into the state.

## **Identification of Approved Shellfish Pathologist**

The Department has identified a priority need to specify which pathologists are authorized to issue shellfish health certification and the specific tests the health certificate must include. This information is not currently specified by the ODFW mariculture transport permit. Currently, the WCCR requires that all shellfish health certifications be conducted by laboratories operated by shellfish pathologists with credentials issued by the American Fisheries Society. On the west coast, only a few laboratories meet these standards. While the specific tests are not included within the proposed OARs, the rationale is that pathogens and pests and the specific tests for identification are constantly changing. The WCCR fully understands that new pathogens and pests are periodically observed in the region, and that the technology for identifying them will continue to improve. Specific tests for pathogens and pests will be updated in the application and subsequent permit on an as-needed basis as they are identified by the Department and the WCCR.

## **Activities Requiring a Transport Permit**

Current OARs do not specify particular situations when a shellfish mariculture transport permit is required. To date, Department staff have only required a transport permit for interstate transport of oysters. Many facilities that currently obtain shellfish mariculture transport permits for interstate movements also apply for permits for intrastate transport. In many cases, the same lot or group of animals transported within the state already have a health certificate because they are also transported to other states such as California and Washington. After consultation with the WCCR, Department staff determined that permits should be required for all mariculture transport that occurs between states as well as within state waters. This new regulation would include transport of shellfish from one estuary to another within the state. The current OARs should be updated to assist with the approval,

monitoring, and tracking of all shellfish transport activities. In the event a pathogen or pest is identified within the WCCR, this improvement in shellfish biosecurity will assist in determining if the state is at risk and help identify what (if any) mitigative actions should be undertaken.

## **OPTIONS**

1. Staff recommendations, as reflected in draft OARs:
  - Update the definition of species groups that would require a mariculture transport permit from one genus of oysters to a broader group of shellfish that include, but are not limited to oysters, mussels, clams, abalone, and shrimp
  - Update the required information provided by the applicant for the permit, and identify shellfish pathologists who are approved to provide certificates of shellfish health
  - Update the activities that require a shellfish mariculture transport permit, including both interstate and intra-state movements of shellfish
2. Modify staff recommendation for one or more items
3. Status quo

## **STAFF RECOMMENDATION**

1. Option 1.

## **DRAFT MOTION**

I move to amend OAR 635 Division 005 as proposed by staff in Attachment 3.

EFFECTIVE DATE: Upon filing