REGIONAL SHELLFISH SEED BIOSECURITY PROGRAM

RSSBP

rssbp.org

Hatchery Audit Form

Audit Date:
Start time:
End Time:
Hatchery Name:
List the names of all audit participants:
Activity Type (Initial, Follow-up or Annual):

Recommendation to the Shellfish Health Advisory Council based on audit findings

____ Approval of BMP-Compliant Facility status

_x___ Conditional Approval of BMP-Compliant Facility status (please explain corrective actions necessary). Broodstock tank (untreated water) drainage needs to be upgraded to eliminate the potential foot traffic spread and clean equipment contact.

____ Denial of BMP-Compliant Facility status (please explain)

Auditor(s) Signature: **Date signed:**

General Facility Comments (optional):

Audit 1: Overall, this facility maintains biosecurity and has plans to improve water filtration systems to better facilitate production and further ensure biosecurity. During this first visit, the area between buildings was wet and muddy in spots, creating a poor aesthetic appearance. While this does not constitute a biosecurity issue, the appearance was distracting from the great care taken in other areas to maintain a neat appearance. It is highly recommended that the facility corrects this.

Audit 2: This facility has continued to upgrade its water delivery system with the installation of additional filtration capabilities for all incoming water, increasing the ability to maintain biosecure water in all areas of the facility. The facility has also corrected the conditions outside which were mentioned on the first visit.

Verification of RSSBP Best Management Practices *- please provide comments on how the facility is implementing each of the BMPs and give an implementation rating. Refer to the Appendix for rating descriptions.*

RSSBP Best Management Practice	***Rating***
1. Water treatment to prevent pathogen exposure during early life stage cultivation should employ a series of filters to get to 1µm or demonstrate another means to minimize the risk of pathogen exposure from source water (e.g., pasteurization, well water, etc.). *Validate filtration level, UV dosage, etc. as applicable.* *Comments:* *General water flow: Incoming raw water – mixed media (sand and charcoal) filter – 50 um bag filtration - 10 um bag filter – 5 um bag filter – 1 um bag filtration bags at individual tanks during the filling process. Facility maintains a back-up plan should there be poor ambient water quality, such as a reduced inflow or collection of water prior to reduced water quality and held in large storage tanks (recirculating during holding to maintain quality). Water for algal culture chlorinated/de-chlorinated, with final filtration to 0.3 um.*	__ *Exceeds* ***_x_ Meets*** __ *Corrective action* __ *Does not meet*
2. Adequate separation is required between untreated water and treated water to avoid cross contamination. 2-a. Physical separation of areas *Validate the broodstock area, handling, quarantine and spawning biosecurity such as disposal of materials, etc.* *Comments:* *The hatchery is one room with adequately segregated broodstock, larval, post-set and cleaning areas (for glassware and small items). Algae culture is in a separate enclosed space.*	__*Exceeds* ***_x_ Meets*** __*Corrective action* __*Does not meet*
2. Adequate separation is required between untreated water and treated water to avoid cross contamination. 2-b. Water drainage *Validate how untreated water is contained* *Comments:* *Water drainage is directed to the grated floor troughs throughout the facility. However, in the broodstock/conditioning area flow-through water from the holding tanks is released to the floor where it pools and flows a short distance (approximately 2-3 feet) to the drain. This leaves the potential for untreated water to be transported to clean areas on staff shoes as they go in and out of the area.* *The audit team is requiring a corrective action which could be to install piping to discharge directly to the floor drain, however, this would significantly increase tank drainage time during cleaning. An alternative may be to use a larger diameter drain pipe manifold of sufficient size to manage the volume of water with a raised platform for foot traffic. Or the use of a commercially available spill barrier and post-drainage bleach-based floor sanitation protocol.*	__ *Exceeds* __ *Meets* ***_x_ Corrective action*** __ *Does not meet*

RSSBP Best Management Practice	***Rating***
2. Adequate separation is required between untreated water and treated water to avoid cross contamination. 2-c. Equipment *Validate how equipment is used and /or effectively sanitized between uses when shared. If disinfected – ensure there is a protocol that includes the dosage.* *Comments:* *There is dedicated equipment for each functional area (broodstock, larvae, algae) however it is not labeled. I recommend labeling each set - color coded handles, etc. to avoid any accidental movement into other areas of the hatchery. This is not a requirement, but rather a recommendation to improve biosecurity of the facility.*	*__Exceeds* ***_x_ Meets*** *__Corrective action* *__Does not meet*
2. Adequate separation is required between untreated water and treated water to avoid cross contamination. 2-d. Workflow *Validate employee training, signage, and facility access prevents the introduction of raw water and contaminants from entering treated water areas.* *Comments:* *Staff understand the need to separate treated/untreated activities and the use of dedicated equipment. The larvae and treated area work is the first task of the day with broodstock maintenance at the end of the day. There are signs posted on entryways to remind employees to wash hands and change aprons if coming from untreated areas. The hatchery has an annual training for employees which includes biosecurity/RSSBP BMPS.*	***_x_Exceeds*** *__ Meets* *__Corrective action* *__Does not meet*
2. Adequate separation is required between untreated water and treated water to avoid cross contamination. 2-e. Cleaning *Validate where equipment cleaning (filters, etc.) occurs to ensure it avoids cross contamination with treated water areas.* *Comments:* *Equipment used for broodstock is stored and cleaned outside the facility. Filters are cleaned in another outside area and not in the hatchery*	*__Exceeds* ***_x_ Meets*** *__Corrective action* *__Does not meet*

RSSBP Best Management Practice	***Rating***
3. Records. 3 –a. Broodstock records must be maintained that document source, location, genetic background and collection date. *Comments:* *There is a broodstock binder in the facility which has all required documentation. The facility does not house non-native broodstock, but does employ a quarantine area (separate from all other areas) for non-local broodstock as required by the state authority*	*__Exceeds* ***_x_ Meets*** *__Corrective action* *__Does not meet*
3. Records. 3 –b. Spawning records must be maintained that document the specific broodstock used from the broodstock records, spawn code/name, and date spawned to accommodate trace back from health certification results. *Comments:* *The spawning records are on a state-of the art digital record system which track individual cohorts through time.*	***_x_Exceeds*** *__ Meets* *__Corrective action* *__Does not meet*
3. Records. 3-c. Maintenance records should be kept indicating maintenance of systems to eliminate POCs from source water (e.g., filter change regimes, relative "age" of all active filters). Labels on equipment indicating maintenance are strongly recommended to alert staff. *Comments:* *Filters have label tape indicating last change. The hatchery has started a log book for filter changes to be compliant with RSSBP.*	*__Exceeds* ***_x_ Meets*** *__Corrective action* *__Does not meet*
4. Health examinations should be conducted on animals experiencing unexplained, atypical mortality and records kept. *Ask about the relationship with the shellfish pathology community, the approach to evaluating unexplained mortality.* *Comments:* *The operator routinely sends samples for health examinations and maintains a close relationship with the pathologist who can be contacted if there is concern over a health issue.*	*__Exceeds* ***_x_ Meets*** *__Corrective action* *__Does not meet*

Appendix – Rating Descriptions

Not all facilities will be able to achieve an "exceeds" rating as it might require a level of sophistication or technology that is unattainable.

"Meets" expectation is all that is required for RSSBP compliance. Auditors may include suggestions that would elevate the rating from "meets" to "exceeds", but it is not required to have an "exceeds" rating.

"Corrective action" is selected if the auditor determines a practice modification is needed to meet the BMP. This will be elevated to the RSSBP Shellfish Health Advisory Council for discussion and follow-up with the hatchery. Once the corrective action is implemented, a follow-up visit is scheduled to verify, and the hatchery can be approved. This does not count against the hatchery as the intent of the Program is to find ways to improve biosecurity.

"Does not meet" will be elevated to the RSSBP Shellfish Health Advisory Council for discussion and follow-up with the hatchery. Not all facilities will be able to fully comply with the BMPs. The intent is to help facilities improve biosecurity, and facilities that cannot meet expectations can simply continue batch health evaluations.