

# **Compliance Guide for the Concentrated Aquatic Animal Production Point Source Category**

## **Chapter 7: Narrative Requirements for Flow-through, Recirculating, and Net Pen Facilities**

Full document available at  
<http://www.epa.gov/waterscience/guide/aquaculture>

## Chapter 7: Narrative Requirements for Flow-through, Recirculating, and Net Pen Facilities



EPA established narrative requirements for flow-through, recirculating, and net pen CAAP facilities. Under the requirements for flow-through and recirculating facilities, you must develop and maintain a BMP plan on site that describes how you will achieve the following requirements:

- Solids control
- Material storage
- Structural maintenance
- Record-keeping
- Training

The plan must be made available to your permitting authority upon request. You must also certify that a BMP plan has been developed. Guidance on developing and certifying a BMP plan is available in Chapter 8 of this document. An example form for certifying your BMP plan is available in Appendix F.

Under the narrative requirements for net pen facilities, you must develop and maintain a BMP plan on site that describes how you will achieve the following requirements:

- Feed management
- Waste collection and disposal
- Transport or harvest discharge
- Carcass removal
- Material storage
- Maintenance
- Record-keeping
- Training

The plan must be made available to your permitting authority upon request. You must also certify that a BMP plan has been

developed. Guidance on developing and certifying a BMP plan is available in Chapter 8 of this guidance. An example form for certifying your BMP plan is available in Appendix F.

### What is required for solids control?

The following is required for solids control for flow-through and recirculating facilities:



- Use efficient feed management and feeding strategies that limit feed input to the minimum amount reasonably necessary to achieve production goals and sustain targeted rates of aquatic animal growth.
- Identify and implement procedures for routine cleaning of rearing units and offline settling basins.
- Identify procedures for inventorying, grading, and harvesting aquatic animals that minimize discharge of accumulated solids.
- Remove and dispose of aquatic animal mortalities properly on a regular basis to prevent discharge to waters of the United States, except where authorized by your permitting authority in order to benefit the aquatic environment.



Figure 7.1. Cleaning out a raceway

Specific guidance for achieving solids control is available from Chapter 9 of this document. An example log for tracking and calculating feed conversion ratios is available in Appendix N.

Regulation: 40 CFR 451.11(a)

### What is required for materials storage?

The following is required for materials storage for flow-through, recirculating, and

net pen facilities:



- Ensure proper storage of drugs, pesticides, and feed in a manner designed to prevent spills that may result in the discharge to waters of the United States.
- Implement procedures for properly containing, cleaning, and disposing of any spilled materials.

Specific guidance for achieving materials storage is available from Chapter 10 of this guidance. An example log for tracking spills and leaks is available in Appendix O.

Regulation: 40 CFR 451.11(b) and 451.21(e)



Figure 7.2. Storage container for an INAD drug

### What is required for maintenance?

The following is required for structural maintenance for flow-through and recirculating facilities:

- Routinely inspect production systems and wastewater treatment systems to identify and promptly repair damage.
- Regularly conduct maintenance of production systems and wastewater treatment systems to ensure their proper function.

The following is required for maintenance for net pen facilities:

- Routinely inspect production systems to identify and promptly repair damage.

- Regularly conduct maintenance of production systems to ensure their proper function.

Specific guidance for achieving maintenance is available from Chapter 11 of this document. Example inspection and maintenance logs for performing maintenance are available in Appendix P.

 Regulation: 40 CFR 451.11(c) and 451.21(f)

### What is required for record-keeping?

The following is required for record-keeping:

- Maintain records for aquatic animal rearing units documenting feed amounts and estimates of the numbers and weights of aquatic animals in order to calculate representative feed conversion ratios.



- Keep records documenting frequency of cleaning, inspections, maintenance, and repairs.



- Keep records documenting net pen changes, inspections, and repairs.



Specific guidance for record-keeping is available from Chapter 12 of this guidance. A checklist of the record-keeping requirements of the CAAP ELGs is available in Appendix R. An example log for tracking cleaning of production systems and/or wastewater treatment systems is available in Appendix Q.

 Regulation: 40 CFR 451.11(d) and 451.21(g)

### What is required for training?

The following is required for training:

- Train all relevant personnel in spill prevention and how to respond in the event of a spill to ensure proper clean-up and disposal of spilled materials. 

- Train personnel on proper operation and cleaning of production and wastewater treatment systems, including feeding procedures and proper use of equipment. 

- Train personnel on proper operation and cleaning of production systems, including feeding procedures and equipment. 

Specific guidance for training is available from Chapter 13 of this document. An example log for tracking training of employees is available in Appendix S.

 Regulation: 40 CFR 451.11(e) and 451.21(h)

### What is required for feed management?

The following is required for feed management for net pen facilities:



- Employ efficient feed management and feeding strategies that limit feed input to the minimum amount reasonably necessary to achieve production goals and sustain targeted rates of aquatic animal growth.
- Minimize accumulation of uneaten feed beneath the pens through active feed monitoring and management

strategies approved by your permitting authority.

Specific guidance for feed management is available from Chapter 14 of this guidance. An example log for tracking and calculating feed conversion ratios is available in Appendix N.

 Regulation: 40 CFR 451.21(a)

### What are additional requirements for net pens?

The following requirements apply to net pen facilities:



- Collect, return to shore, and properly dispose of all feed bags, packaging materials, waste rope, and netting.
- Minimize any discharge associated with the transport or harvesting of aquatic animals (including blood, viscera, aquatic animal carcasses, or transport water containing blood).
- Remove and dispose of aquatic animal mortalities properly on a regular basis to prevent their discharge into waters of the United States.

Specific guidance related to the above net pen requirements is available from Chapter 15 of this document. An example log for tracking carcass removal and disposal is available in Appendix T.

 Regulation: 40 CFR 451.21(b), (c), (d)