

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

## **Appendix E1: BMP Plan Template**

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

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## BMP Plan Template

You may want to use the following BMP plan template when writing your BMP plan. Fill in the sections marked in blue and/or italics.

*Aquaculture Facility Name*  
Prepared: *Date*  
NPDES Number: *#for your facility*  
Facility Manager: *name, phone number*

### A. Description of Facility

*Provide a description of your facility. This description may include the following types of information:*

- *Type of fish produced*
- *Annual amount of fish produced*
- *When the facility was constructed*
- *What type of systems (e.g., flow-through) are used at the facility*
- *Information about the systems (12 feet long raceways, etc.)*
- *Number of discharge points*

### B. Water Source

*Include a description of the source of the water at your facility. This description may include the following information:*

- *Type of source – stream, ground, spring, etc.*
- *Name of the source (e.g., Upper Spring)*
- *If available, information about the quality of the water source (e.g., low in TSS)*
- *How the water arrives at the facility (e.g., ditch)*
- *Anything your facility does to treat incoming water (e.g., an inflow trash rack screen is used to catch vegetation from the spring and ditch prior to entering the facility. The trash rack screen is cleaned at least daily to prevent vegetation from affecting the water flow to facility)*

### C. Treatment System(s) Used

*Describe the treatment systems used at your facility. This description may include the following information:*

- *Type of treatment system*
- *Design flow*
- *Normal operation*

- *Cleaning procedures*
- *Maintenance procedures*

## D. Other Information

*Provide any other additional information that might be useful to your permitting authority (e.g., additional information about how water flows into your facility or about oxygen recharge). In the following sections, describe in detail how you will achieve the specific requirements of the CAAP ELGs. Where helpful, you might attach example logs/forms used at your facility to physically show your permitting authority how you are complying with the CAAP ELGs.*

## E. Solids Control

### FLOW-THROUGH AND/OR RECIRCULATING SYSTEMS



1. Efficient feed management (to limit feed input to the minimum amount reasonably necessary to achieve production goals and sustain targeted rates of aquatic animal growth).

*Describe the practices your facility uses to achieve efficient feed management. A form for tracking and calculating feed conversion ratios is available in Appendix N of the BMP Guidance.*

2. Procedures for routine cleaning of rearing units and offline settling basins.

*Describe the cleaning procedures used. Also describe how your facility defines "routine." An example log to track cleaning is available in Appendix Q of the BMP Guidance.*

3. Procedures for inventorying, grading, and harvesting aquatic animals (that minimize discharge of accumulated solids).

*Describe the procedures used.*

4. 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).

*Describe the procedures for removal and disposal. A form for tracking carcass removal and disposal is available in Appendix T of the BMP Guidance.*

## F. Material Storage

### FLOW-THROUGH, RECIRCULATING AND/OR NET PEN SYSTEMS

A form for tracking spills and leaks at your facility is available in Appendix O of the BMP Guidance.

1. Proper storage of drugs, pesticides, and feed to prevent spills that may result in the discharge to waters of the United States.

*Describe the practices used.*

2. Procedures for properly containing, cleaning, and disposing of any spilled materials.

*Describe the procedures used.*

## G. Maintenance

Forms for tracking inspection and maintenance are available in Appendix P of the BMP Guidance.

### FLOW-THROUGH AND/OR RECIRCULATING SYSTEMS



1. Routinely inspect production systems and wastewater treatment systems to identify and promptly repair damage.

*Describe the routine inspections performed. Also describe how your facility defines "routine."*

2. Regularly conduct maintenance of production systems and wastewater treatment systems to ensure their proper function.

*Describe the regular maintenance performed. Also describe how your facility defines "regular."*

### NET PEN SYSTEMS



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

*Describe the routine inspections performed. Also describe how your facility defines "routine."*

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

*Describe the regular maintenance performed. Also describe how your facility defines "regular."*

## H. Record-keeping

Use the checklist in Appendix R of the BMP Guidance to ensure that you are meeting the record-keeping requirements of the CAAP ELGs.

### FLOW-THROUGH AND/OR RECIRCULATING SYSTEMS



1. 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.

*Describe the records your facility keeps for documenting feed amounts and estimates of aquatic animals for calculating FCRs. A form for tracking and calculating FCRs is available in Appendix N of the BMP Guidance.*

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

*Describe the records your facility keeps to document this. Appendix P of the BMP Guidance contains forms for tracking inspection, maintenance, and repairs; Appendix Q of the BMP Guidance contains a form for tracking cleaning.*

### NET PEN SYSTEMS



1. 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.

*Describe the records your facility keeps for documenting feed amounts and estimates of aquatic animals for calculating FCRs. A form for tracking and calculating FCRs is available in Appendix N of the BMP Guidance.*

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

*Describe the records your facility keeps to document this. Appendix P of the BMP Guidance contains forms for tracking inspection, maintenance, and repairs.*

## I. Training

Appendix S of the BMP Guidance contains a log for tracking employee training.

### FLOW-THROUGH AND/OR RECIRCULATING SYSTEMS



1. 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.

*Describe the procedures for training personnel in spill prevention and response.*

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

*Describe the procedures for training personnel on proper operation and cleaning.*

### NET PEN SYSTEMS



1. 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.

*Describe the procedures for training personnel in spill prevention and response.*

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

*Describe the procedures for training personnel on proper operation and cleaning.*

## J. Feed Monitoring

### NET PEN SYSTEMS

1. 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.

*Describe the practices your facility uses to achieve efficient feed management. A form for tracking and calculating feed conversion ratios is available in Appendix N of the BMP Guidance.*

2. Minimize accumulation of uneaten feed beneath the pens through active feed monitoring and management strategies approved by your permitting authority.

*Describe practices and management strategies to minimize uneaten feed beneath net pens.*

## K. Waste Collection and Disposal

### NET PEN SYSTEMS

1. Collect, return to shore, and properly dispose of all feed bags, packaging materials, waste rope, and netting.

*Describe practices to accomplish this.*

## L. Transport or Harvest Discharge

### NET PEN SYSTEMS

1. Minimize any discharge associated with the transport or harvesting of aquatic animals (including blood, viscera, aquatic animal carcasses, or transport water containing blood).

*Describe practices used to accomplish this.*

## M. Carcass Removal

### NET PEN SYSTEMS

1. Remove and dispose of aquatic animal mortalities properly on a regular basis to prevent their discharge into waters of the United States.

*Describe procedures for removing and disposing of aquatic animal mortalities. Appendix T of the BMP Guidance contains a log for tracking carcass removal and disposal.*

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**N. Diagram or Map**

A diagram/map of the facility is helpful to illustrate the layout of the operation.

**O. Review and Endorsement of the BMP Plan**

We, the facility manager and the individuals responsible for implementing the BMP plan, have reviewed and endorsed this BMP plan.

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(Facility Name)

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(NPDES #)

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(Facility Manager – Printed Name)

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(Facility Manager – Signature)

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(Other Individual – Printed Name & Title)

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(Other Individual – Signature)

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(Other Individual – Printed Name & Title)

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(Other Individual – Signature)

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(Other Individual – Printed Name & Title)

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(Other Individual – Signature)

## **P. Certifying the BMP Plan with the Permitting Authority**

Once your BMP plan has been developed and the facility manager and individuals responsible for implementing the BMP plan have reviewed and endorsed the plan, you must do the following:

1. Keep a copy of the BMP plan in your records. The plan must be made available to the permitting authority upon request.
2. Send a signed letter/form to your permitting authority stating that you have developed a BMP plan. The letter/form should include your name and title, name of the facility, NPDES number, and date the BMP plan was developed. An example certification form that may be submitted to your permitting authority is available in Appendix F of the BMP Guidance.

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## BMP Plan Checklist for Flow-Through and Recirculating Facilities

This checklist may be used to ensure that all required components are included in your BMP plan.

### FACILITY DESCRIPTION

- A short description of your facility.

### SOLIDS CONTROL

- Description of feed management/feeding strategies that limit feed input to achieve production goals and sustain targeted rates of aquatic animal growth, while minimizing potential discharges of uneaten feed/waste products to waters of the U.S.
- Description of procedures for routine\* cleaning of rearing units and offline settling basins.
- Description of procedures for inventorying, grading, and harvesting aquatic animals that minimize discharge of accumulated solids.
- Description of the process for removing and disposing of aquatic animal mortalities on a regular basis to prevent discharge to waters of the United States, except where authorized by the permitting authority in order to benefit the aquatic environment.

### MATERIAL STORAGE

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

### STRUCTURAL MAINTENANCE

- Description of routine\* procedures for inspecting production systems and wastewater treatment systems to identify and promptly repair damage.
- Description of regular\* procedures for conducting maintenance of production systems and wastewater treatment systems to ensure their proper function.

### RECORD-KEEPING

- Description of how you will maintain records for aquatic animal rearing units documenting feed amounts and estimates of the numbers and weights of aquatic animals to calculate FCRs.
- Description of how you will keep records documenting frequency of cleaning, inspections, maintenance, and repairs.

### TRAINING

- Description of procedures for training all relevant personnel in spill prevention and how to respond to a spill to ensure proper clean-up and disposal of spilled materials.
- Description of procedures for training personnel on proper operation/cleaning of production and wastewater treatment systems (includes feeding procedures and proper equipment use).

### CERTIFICATION

- Sent a letter to your permitting authority, certifying that a BMP Plan was developed for your facility. Refer to Appendix F for an example of a certification letter.

\* Be sure to define "routine" and "regular" (which can vary during the year) in your BMP Plan.

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## BMP Plan Checklist for Net Pen Facilities

This checklist may be used to ensure all required components are included in your BMP plan.

### FACILITY DESCRIPTION

- A short description of your facility.

### FEED MANAGEMENT

- Description of feed management/feeding strategies that limit feed input to achieve production goals and sustain targeted rates of aquatic animal growth, while minimizing potential discharges of uneaten feed/waste products to waters of the U.S.
- Description of using active feed monitoring and management strategies (approved by the permitting authority) to minimize accumulation of uneaten feed beneath the pens.

### WASTE COLLECTION AND DISPOSAL, TRANSPORT OR HARVEST DISCHARGE, CARCASS REMOVAL

- Description of how you will make sure to collect, return to shore, and properly dispose of all feed bags, packaging materials, waste rope, and netting.
- Description of practices to minimize discharge associated with transport or harvesting of aquatic animals (including blood, viscera, carcasses, or transport water containing blood).
- Description of procedures to ensure removal and disposal of aquatic animal mortalities properly on a regular basis to prevent their discharge into water of the U.S.

### MATERIAL STORAGE

- Description of procedures/practices to ensure proper storage of drugs, pesticides, and feed to prevent spills that may result in discharge to waters of the U.S.
- Procedures for properly containing, cleaning, and disposing of any spilled materials.

### MAINTENANCE

- Description of routine\* procedures for inspecting production systems to identify/repair damage.
- Description of regular\* procedures for conducting maintenance of production systems to ensure their proper function.

### RECORD-KEEPING

- Description of how you will maintain records documenting feed amounts and estimates of numbers and weights of aquatic animals to calculate FCRs.
- Description of how you will document net changes, inspections, and repairs.

### TRAINING

- Description of procedures for training all relevant personnel in spill prevention and how to respond to spills to ensure proper clean-up and disposal of spilled materials.
- Description of procedures for training personnel on proper operation and cleaning of production systems, including feeding procedures and proper use of equipment.

### CERTIFICATION

- Sent a letter to your permitting authority, certifying that a BMP Plan was developed for your facility. Refer to Appendix F for an example of a certification letter.

\* Be sure to define "routine" and "regular" (which can vary during the year) in your BMP Plan.