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Compliance Guide for the Concentrated Aquatic Animal Production Point Source Category

Chapter 15: Waste Collection and Disposal, Transport or Harvest Discharge, and Carcass Removal for Net Pen Facilities

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

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Chapter 15: Waste Collection and Disposal, Transport or Harvest Discharge, and Carcass Removal for Net Pen Facilities 

The CAAP ELGs require net pen facilities to collect and properly dispose of solid waste (such as feed bags, packaging materials, rope, or netting). In addition, net pen facilities are required to minimize the discharge associated with harvest and transport, particularly blood, viscera, or animal carcasses. These facilities should also prevent the discharge of animal mortalities by properly removing and disposing of carcasses. The following describes practices that may be used to achieve these requirements.

Waste Collection and Disposal

The CAAP ELGs require facilities to collect, return to shore, and properly dispose of all feed bags, packaging materials, waste rope, and netting.

Examples of Waste Collection and Disposal Practices

1) Conduct a systematic review of your operation; a waste management plan can be used to effectively manage, use, and dispose of wastes generated during production; the plan identifies all wastes generated on a site or from a facility 

Waste management plans clearly identify all wastes generated on a site and classify them with respect to any risks associated with their collection and appropriate disposal. The waste management plan may be designed to minimize the generation of waste while recognizing the practical challenges associated with marine operations.

Waste management plans encourage recycling of waste except when human or animal health may be compromised. In these cases, a clear containment and disposal method may be outlined. These methods and actions may be designed to minimize any human or fish health risks associated with the waste. Waste management plans may address feed bags, packaging materials, waste rope, and netting. Other wastes include aquatic animal mortalities and chemical/fuel spills. These substances are addressed in the next section on "Carcass Removal" and in "Chapter 13: Perform Training for Flow-through, Recirculating, and Net Pen Facilities," respectively.

2) Avoid the discharge of substances associated with in-place pressure washing of nets into the waters of the United States 

Whenever possible, use gear and production strategies that minimize or eliminate the need for on-site wash down and rinsing to reduce biofouling. The use of air-drying, mechanical, biological, and other non-chemical procedures to control net fouling are strongly encouraged. In some areas with high flushing rates or great depth, in-place net washing may be acceptable. In areas with high fouling rates, treatment of nets with anti-fouling compounds permitted by EPA may represent a lower environmental risk than frequent net washing.

3) Collect, return to shore, and properly dispose of all feed bags, packaging materials, waste rope, and netting (using methods approved by appropriate regulatory authorities); recycling is strongly encouraged 

4) Be proactive about minimizing all types of solid waste generation 

Facilities should review their operations and consider whether there are alternative practices that help reduce the use of materials that generate solid waste. For example, consider the use of packaging and materials handling methods that reduce total packaging needs.

Transport or Harvest Discharge

Facilities should properly dispose of transport or harvest discharge (e.g., viscera, blood) when aquatic animals are harvested.

Examples of Transport or Harvest Discharge Practices

1) Design and operate harvest procedures and equipment in a fashion that reduces any associated discharges; harvest and post-harvest vessel and equipment clean up procedures should minimize any wastes discharged overboard 

2) Collect and properly dispose of any processing and harvesting waste 

Facilities should dispose of processing or harvesting waste in a manner that prevents it from entering into waters of the United States.

It may be useful to keep a general operations log to track activities at your facility concerning waste disposal, transport or harvest discharge, and carcass removal. For example:

- *9/15/04: hauled feed bags and waste rope to shore; disposed of these materials in a dumpster.*
- *10/4/04: transported aquatic animals (no water spilled).*

Carcass Removal

Proper aquatic animal health management is the best method of managing mortalities in net pens and cages. Optimizing aquatic animal health will reduce the need to deal with dead fish. Even under optimal conditions some mortalities can occur. Net pens should contain and collect any mortalities that may occur. This facilitates the close monitoring of mortality rates and their timely removal. Severe weather may temporarily prevent mortality removal. Remove mortalities as soon as weather permits. Keeping records of severe weather days is recommended.

An example log for tracking carcass removal and disposal is available in Appendix T. This log could be useful for facilities tracking aquatic animal mortalities and in subtracting out mortalities from calculations for feed conversion ratios.

Examples of Carcass Removal Practices

1) Weather permitting, regularly and frequently collect mortalities to prevent their discharge to waters of the United States 

When collecting and removing mortalities, use methods that do not stress remaining

animals, jeopardize worker safety, or compromise biosecurity. Mortalities should only be stored and transported in closed containers with tight fitting lids. Mortalities should be returned to shore and disposed of properly, using methods approved by appropriate regulatory authorities. Facilities may want to consider practices such as composting as a method to treat mortalities.

As part of your facility's BMP plan, outline the process for removing and properly disposing of carcasses from your facility.

2*) Proactively manage your aquatic animal stocks to optimize animal health*