



National Shellfish Sanitation Program
Guide for the Control of Molluscan Shellfish
2007

Section II. Model Ordinance
Chapter VI. Shellfish Aquaculture

Guide Contents

Requirements for the Authority

[Note: The Authority must meet the requirements of this section even if the Authority does not formally adopt this section in regulation.]

@.01 General.

- A. The Authority may distinguish between two types of aquaculture:
 - (1) Commercial - product cultivated for direct marketing.
 - (2) Shellfish gardening - product cultivated to enhance water quality, or to improve shellfish resources, and not for sale for consumption.
- B. The Authority shall maintain the following records while the aquaculture activity continues:
 - (1) Construction and remodeling plans for any permitted aquaculture facility;
 - (2) Aquaculture operational plans; and
 - (3) Aquaculture permits.
- C. The Authority shall inspect commercial aquaculture systems at least every six months.

@.02 Seed Shellstock.

- A. The Authority shall establish the submarket size for each species of shellfish in accordance with §.01B. and §.01C.
- B. All sources of seed shall be sanctioned by the Authority.

@.03 Open Water and Land Based Aquaculture

- A. Inspection. The Authority shall inspect land-based and float aquaculture sites at least every six months.
- B. The Authority shall approve the written operational plan for any land-based or float aquaculture facility prior to its implementation.

@.04 Shellfish Gardening

If a state recognizes shellfish gardening the Authority:

- A. Shall permit or register shellfish gardening activities.
- B. Shall establish permit or registration conditions and determine classification of waters where shellfish gardening can take place prior to its implementation.
- C. Shall provide information to the shellfish gardener on the risk of consuming shellfish from private docks, piers, and shellfish floats attached to piers or docks and from waters not classified and open to harvest for direct consumption.
- D. May require that the shellfish gardener maintain records on the disposition of the shellfish product and provide these records to the Authority.

Requirements for the Harvester/Dealer

.01 Exceptions.

The following activities are exempted from these requirements:

- A. Hatcheries;
- B. Nursery products which do not exceed 10 percent of the market weight; and
- C. Nursery products which are 6 months or more growing time from market size.

.02 General.

- A. Aquaculture encompasses both monoculture and polyculture.
- B. Any person who performs aquaculture or operates an aquaculture facility to raise shellfish for human consumption shall obtain:
 - (1) A permit from the Authority for the activity or for construction and functioning of his facility;
 - (2) A harvester's license; and
 - (3) Certification as a dealer, where necessary.
- C. Shellfish aquaculture shall be practiced only in strict compliance with the provisions of the permit issued by the Authority for the aquaculture activity. Authorization shall be based on the aquaculturist's written operational plan.
- D. Prior to beginning his activity, an aquaculturist shall obtain the permission of the Authority for use of his site.
- E. Water quality at any site used for aquaculture shall meet the criteria for the approved, conditionally approved, restricted or conditionally restricted classification.
- F. Shellfish cultured in any aquaculture system meeting the criteria for the approved classification of a growing area throughout the culture period may be immediately marketed.
- G. Any shellfish raised in aquaculture shall be subjected to relaying or depuration prior to direct

marketing if the culture area or facility is located in or using water which is in:

- (1) The closed status of the conditionally approved classification;
- (2) The restricted classification; or
- (3) The open status of the conditionally restricted classification.

H. Only drugs sanctioned by the FDA shall be used for shellfish treatment.

I. Harvesting, processing, storage, and shipping requirements for shellfish raised in aquaculture shall be the same as the requirements for wild shellfish specified in Chapters V, VII, VIII, IX, X, XI, XII, XIII and XIV.

J. Complete and accurate records shall be maintained for at least two (2) years by the aquaculturist and shall include the:

- (1) Source of shellfish, including seed if the seed is from growing areas which are not in the approved classification;
- (2) Dates of transplanting and harvest; and
- (3) Water source, its treatment method, if necessary, and its quality in land based systems.

.03 Seed Shellstock.

A. Seed may come from any growing area, or from any growing area in any classification, provided that:

- (1) The source of the seed is sanctioned by the Authority.
- (2) Seed from growing areas or growing areas in the restricted or prohibited classification have acceptable levels of poisonous or deleterious substances; and
- (3) Seed from growing areas or growing areas in the prohibited classification are cultured for a minimum of 6 months.

.04 Open Water Aquaculture.

Any open water aquaculture activity shall be in compliance when it meets the requirements of §.01, §.02, and §.03, as appropriate.

.05 Land Based Aquaculture.

A. Operational Plan. Each land based aquaculture facility shall have a written operational plan. The plan shall be approved by the Authority prior to its implementation and shall include:

- (1) A description of the design and activities of the culture facility;
- (2) The specific site and boundaries in which shellfish culture activities will be conducted;
- (3) The types and locations of any structures, including rafts, pens, cages, nets, tanks, ponds, or floats which will be placed in the waters;
- (4) The species of shellfish to be cultured and harvested;

- (5) If appropriate, the source and species of other organisms to be cultured in any polyculture systems;
- (6) Procedures to assure that no poisonous or deleterious substances are introduced into the activities;
- (7) A program of sanitation, maintenance, and supervision to prevent contamination of the final shellfish products;
- (8) A description of the water source, including the details of any water treatment process or method, if necessary;
- (9) A program to maintain water quality, which includes collection of microbial water samples and their method of analysis and routine temperature and salinity monitoring. The bacterial indicator monitored shall be the same as used for monitoring growing areas;
- (10) Collection of information on the microbial and chemical quality of shellfish harvested from the aquaculture site;
- (11) Collection of data concerning the quality of food production (algae or other) used in the artificial harvest system;
- (12) Maintenance of the required records; and
- (13) How shellstock will be harvested, processed if applicable, and sold.

B. Water Systems.

- (1) If the aquaculture system is of continuous flow through design, water from a growing area classified as approved, or in the open status of the conditionally approved classification at all times shellfish are held, may be used without treatment.
- (2) Water used in land-based aquaculture incorporating a closed or recirculating system shall:
 - (a) Not contaminate shellfish with residues that are not Generally Recognized As Safe (GRAS);
 - (b) Come from a source meeting the restricted classification criteria at a minimum;
 - (c) Be maintained, at a minimum, at the bacteriological quality of the restricted classification; and
 - (d) Be measured at least five times per year.
- (3) If the water in the closed or recirculating system meets the criteria for the conditionally approved classification, the operational plan, prior to shellstock harvest, shall require, at a minimum:
 - (a) Collection of three water samples from the tank at least three days apart over a 14 day period; and
 - (b) A fecal coliform of less than 14 MPN per 100 ml in each water sample from the holding tank.

C. Shellstock Quality.

- (1) Shellstock cultured in any system meeting the criteria for the approved classification throughout the culture period may be used in direct marketing.
- (2) If the water in a closed or recirculating system is classified as conditionally approved and in the open status, and if the water quality meets a fecal coliform level of less than 14 MPN per 100 ml in each sample collected in the 14 days prior to harvest, the shellstock may be used in direct marketing.
- (3) Shellstock cultured in a closed or recirculating system which does not meet the requirements of §B.(1) or §B.(2) shall be relayed or depurated prior to direct marketing.

.06 Polyculture Systems.

A polyculture system shall:

- A. Meet all requirements in §. 05 Land Based Systems;
- B. Provide information concerning all sources of and species of all organisms to be cultivated, cultured, and harvested;
- C. Include in its operational plan requirements to:
 - (1) Monitor for human pathogens, unacceptable levels of animal drugs, and other poisonous or deleterious substances that might be associated with polyculture activities; and
 - (2) Subject all harvested shellstock to relaying or depuration if human pathogens, unacceptable levels of animal drugs, and other poisonous or deleterious substances exist at levels of public health significance.

.07 Requirements for the Shellfish Gardener

- A. Shellfish gardening shall be practiced only in strict compliance with the provisions of the permit issued by the Authority for the oyster/shellfish gardening activity.
 - B. Shellfish gardeners shall document that they understand the risks associated with consumption for shellfish grown from docks or private piers.
 - C. If required by the Authority, shellfish gardeners shall keep accurate records on the fate or final destination of all shellfish grown at their shellfish garden site and provide these records to the Authority upon request.
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