

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD**

FISHPOND MANAGEMENT

(Ac.)

CODE 399

DEFINITION

Managing impounded water for the production of fish or other aquatic organisms.

Implement State Aquatic Nuisance Species Management Plan recommendations.

Protect the site from flooding, sedimentation, and contamination.

Control undesirable aquatic vegetation.

PURPOSE

- To provide favorable habitat for fish and other aquatic organisms.
- To develop and maintain a desired species composition and ratio.
- To develop and maintain a desired level of production.

Criteria to Develop and Maintain a Desired Species Composition and Ratio

Species for stocking shall be limited to those that are adapted for use in ponds, lakes or reservoirs in local area.

Species selection(s) and stocking rates shall follow the guidelines published by the by the North Carolina Wildlife Resources Commission and the North Carolina Cooperative Extension Service in *Pond Management Guide* (see Technical Reference File - Biology)

CONDITIONS WHERE PRACTICE APPLIES

In warm and cold water ponds, lakes, and reservoirs not managed for commercial aquaculture purposes.

Criteria to Develop and Maintain a Desired Level of Production

The desired level of production shall be maintained through liming, fertilization, or supplemental feeding according to the guidelines published by the North Carolina Wildlife Resources Commission and the North Carolina Cooperative Extension Service in *Pond Management Guide* (see Technical Reference File - Biology)

CRITERIA

General Criteria Applicable To All Purposes

Structures and/or supporting practice will meet or exceed the requirements of the appropriate NRCS Field Office Technical Guide practice standard.

All Federal, State and local regulations shall be followed and necessary permits obtained prior to stocking, applying chemicals if needed, or other activities associated with this standard.

Aquatic organism health issues directly affect production levels and need to be included in the pond management plan. Proper diagnostic sampling procedures should be followed during fish kills and

when submitting samples to diagnostic labs.

CONSIDERATIONS

Consider the use of native fish species, rather than non-native species.

Consider liming acidic soils in the watershed to achieve a neutral pH for best production.

Consider alternatives to the use of pesticides in the drainage area above the site, which may have negative impacts to water quality and aquatic organisms.

Consider the use of erosion control and nutrient and pest management practices in the watershed to maintain water quality.

Consider the effect of additional uses (e.g., livestock watering, recreation, irrigation, etc.) on the fish and/or aquatic organism population.

Consider the use of appropriate water treatment practices below structures to ensure that discharges from ponds, lakes, and reservoirs will meet state water quality standards.

Consider methods to prevent the fish in the pond, lake, and reservoir from escaping or being introduced into adjoining waters where native species might be adversely affected.

Consider providing additional fish and wildlife habitat within or around the impoundment for cover and breeding purposes. Grassy cover around the impoundment that may provide nesting habitat should not be mowed until after the primary nesting season.

PLANS AND SPECIFICATIONS

A pond management plan will be prepared using approved specification sheets, job sheets, technical notes, narrative statements in the conservation plan, or other documentation.

The plan will include:

- A location map and plan view of the site;
- Statement of purpose that describes the species(s) desired and management goals;
- Evaluation methods (observation, seining, electroshocking, catch record, etc.) for determining the population dynamics of fish and other aquatic organisms;
- Reference to State Aquatic Nuisance Species Management Plan recommendations, if applicable; and
- Permit requirements and regulations, if applicable.

Specifications shall address the following as necessary:

- Stocking
 - Describe the species that were selected for stocking, stocking rates, sizes of fish to be stocked, and the month and year when each species will be stocked
- Depopulation of Overstocked Ponds
 - Describe the methods to be used to assess the fish population (e.g., through observations, seining, or catch records), species and sizes to be reduced in number, methods to be used to reduce populations, and whether any pen-nits are needed.
- Removing Undesirable Fish or Other Animals
 - Describe the species to be removed, methods of removal, and whether any permits are needed.
- Maintaining Water Quality
 - Describe the minimum water quality requirements (e.g., levels of dissolved oxygen,

- temperature, pH, alkalinity, turbidity) needed to support the desired species.
 - For fertilization or liming, describe the reason why fertilizer or lime is needed, the type of fertilizer or lime to be used and the rate and timing of application.
 - Specify Access Control, if needed, to prevent the degradation of water quality from livestock access.
- Control of Nuisance Aquatic Plants
 - Describe the species to be controlled, and control methods. If chemicals are needed, cite the NC Agricultural Chemicals Manual as a reference for selecting the appropriate control material. Chemical name, rate of application, precautions, appropriate waiting periods for use, and permit requirements may be cited directly from the NC Agricultural Chemicals Manual.

OPERATION AND MAINTENANCE

Develop an operation and maintenance plan that includes the following actions that are required for the successful management of the pond, lake, or reservoir:

1. Evaluation of habitat conditions on a regular basis;
2. Management of fish or other aquatic organism populations;
3. Supplemental feeding where applicable;
4. Removal of undesirable and overpopulated organisms;
5. Management and control of aquatic vegetation;

6. Managing pond fertility to meet fish production goals;
7. Monitoring and maintenance of desired water quality conditions (e.g., dissolved oxygen level, pH, alkalinity, etc.);
8. Periodic inspection and maintenance of structural components (e.g., water level control equipment); and
9. Detection and identification of fish pathogens and instructions for collecting and preserving samples.

REFERENCES

A Manual of Fish Culture. Fish Culture Section, American Fisheries Society, 1999.

Inland Fisheries Management in North America, Second Edition. Chapter 21, Small Impoundments. Kohler, C.C. and W.A. Hubert, editors. American Fisheries Society, 1999.

Managing Aquatic Vegetation with Grass Carp. J.R. Cassani, editor. American Fisheries Society, 1996.

Mississippi Interstate Cooperative Resource Association: Summary of Permit Authority and Prohibited Species by State with Special Emphasis on Asian Carp. Aquatic Nuisance Species Task Force, 2000.

NC Wildlife Resources Commission and NC Cooperative Extension Service, Pond Management Guide, revised May 1999. This document is available from:

<http://www.ces.ncsu.edu/nreos/wild/aquatics/pond/index.html>

The NC Cooperative Extension Service provides very comprehensive reference materials concerning Pond Fisheries Management at their internet site:

<http://www.ces.ncsu.edu/nreos/wild/aquatics/index.html>

Suggested Procedures for the Detection and Identification of Certain Finfish and Shellfish Pathogens (Blue Book). Fish Health Section, American Fisheries Society, 2004.