

**NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD
SOUTH DAKOTA SUPPLEMENTS ITALICIZED**

FISHPOND MANAGEMENT

(no.)
CODE 399

DEFINITION

Developing or improving impounded water to produce fish for domestic use or recreation.

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.

CONDITIONS WHERE PRACTICE APPLIES

In warm-water and cold-water ponds, lakes, and reservoirs.

CRITERIA

General. All measures implemented under this practice shall comply with all applicable federal, state, and local laws, rules, and regulations. All required permits will be obtained prior to installation of any pond or beginning pond management.

Structures will meet or exceed the requirements of the appropriate National Standard; i.e., a constructed pond will meet or exceed the requirement in Pond (378).

If a new impoundment is constructed, the Water Rights Program with Department of Environment and Natural Resources (DENR) will be contacted to determine a need for and obtain a Water Rights Permit if needed.

The drainage area of ponds will not include untreated concentrations of organic wastes or other sources of pollution, including eroding croplands,

haylands, or pastures, sewage outfalls, livestock feed yards, winter pastures, canals, areas of pesticide or herbicide contamination, etc.

The site will be protected from flooding, sedimentation, and contamination.

Water Depth. *The source of water shall be adequate to maintain required water depths, water quality, and water temperatures:*

For warm water species ponds shall have a minimum depth of 12 feet where they receive a dependable and constant flow of water and a minimum depth of 15 feet if the pond is replenished by an intermittent flow of water.

For trout, ponds shall have a minimum depth of 15 feet where they have a dependable and constant flow of water and a minimum depth of 20 feet if the pond is replenished by an intermittent flow of water.

These depths are not sufficient to maintain fisheries through low water conditions caused by drought or through freeze up in periods of extreme cold. Restocking will be necessary following such conditions. To avoid such losses assure that at least one-third of the pond is at least 15 feet deep, or use the following depths recommended to maintain fisheries through periods of extreme drought or cold:

For warm water species, provide at least 15 feet of depth for ponds with constant water flow and at least 25 feet of depth for intermittent flow.

For trout, provide a minimum depth of 25 feet with permanent water flow and 30 feet of depth for intermittent flows.

Water temperature and dissolved oxygen. *Trout ponds will have a minimum dissolved oxygen content of five p.p.m; the recommended range for dissolved oxygen is 9-12 p.p.m. Water temperatures in trout ponds will not exceed 70 degrees Fahrenheit one*

Conservation practice standards are reviewed periodically and updated if needed. The current version of this standard is posted on our website at www.sd.nrcs.usda.gov or may be obtained at your local Natural Resources Conservation Service.

foot below the water surface during any part of the year.

Stocking and Population Management. Species for stocking will be limited to those that are legal for use in ponds, lakes or reservoirs in South Dakota.

Pond stocking will avoid any adverse impacts to threatened and endangered species and state species of special concern.

Species selection(s) and stocking rates shall be reviewed and approved by South Dakota Department of Game, Fish and Parks (SDGF&P).

Stocking rates and species selection and combinations shall depend upon the size, depth, water temperature, and water quality of the area to be stocked. Stocking recommendations are included in the SDGF&P publication "Managing South Dakota Ponds for Fish and Wildlife (1990)."

To maintain the desired species composition and species ratios a plan will be developed with the client to evaluate future species composition and species ratios through observations, seining and catch records.

Obtain fish from SDGF&P by contacting the local conservation officer for assistance or from licensed commercial dealers. Contact the state biologist or SDGF&P for a list of commercial dealers.

Fish toxicants will be used only if the eradication of fish is a management need. An applicators license is required. Authorization to obtain and use fish toxicants and technical assistance for their use shall be obtained from the SDGF&P and DENR and shall comply with South Dakota Surface Water Quality Standards.

Chemicals will be applied in compliance with manufacturer's recommendations as shown on the label. The operator is responsible for complying with federal, state, and local laws and regulations governing the use of chemicals.

Feeding. The desired level of production shall be maintained through liming, fertilization, or supplemental feeding. Supplemental feeding is not recommended for species other than trout or channel catfish. If feeding is used, follow manufacturer's guidelines for use of commercial fish foods.

Control of Aquatic Vegetation. Aquatic vegetation shall be controlled using one or more of the following methods:

Construct the pond or deepen the edges of the pond so that the water is three feet deep, six feet from the waters edge;

Pull, rake, or cut vegetation and remove from the pond;

Cover a third of the pond with black polyethylene or vinyl plastic for two to three weeks. The shade will kill most vegetation.

Chemical control of aquatic weeds will be used only in extreme circumstances and according to the following:

Consult with DENR prior to introducing any chemical controls into surface waters to ensure compliance with South Dakota Surface Water Quality Standards.

Consult the county extension agent for information regarding appropriate herbicides and proper use;

Consult with SDGF&P and DENR prior to using aquatic herbicides to determine if authorization is needed. SDGF&P will evaluate outflow from private lands into public waters;

Do not use chemicals that are not authorized for use in waters from which fish are to be used for human consumption.

Other Management Issues. Operators planning to sell fish or to harvest fish by other than approved sport fishing methods will contact SDGF&P for licensing requirements.

Contact SDGF&P or South Dakota State University for assistance in the diagnosis and treatment of diseases or parasites.

CONSIDERATIONS:

Consider effects to wetlands onsite and offsite.

Consider effects on water flows to down stream areas, including wetlands.

Consider the use of native species.

Consider the impacts of introducing predatory fish on the aquatic communities of surrounding waters, especially threatened or endangered species or other species of special concern. Such species are listed and monitored by the SDGF&P and the South Dakota Natural Heritage Program.

Do not consider the use of species that may become invasive in surrounding waters.

Consider excluding livestock from the shoreline to maintain water quality.

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.

Utilize BMP's to ensure that discharges from ponds, lakes, and reservoirs will meet state water quality standards.

Precautions will be considered to prevent the fish in the pond, lake, and reservoir from escaping into adjoining waters.

Precautions will be considered to prevent introduction of non-native species into adjoining waters where native species might be adversely affected.

Consider using only species of fish or aquatic organisms that are specifically adapted to impounded waters.

Decaying aquatic weeds could cause oxygen depletion and result in a fish die-off if weed control is done late in the season.

Consider effects of pesticide and nutrient use and fish feeding on surface and ground water quality.

Consider effects on the movement of dissolved substances to ground water.

Consider effects on the visual quality of water resources.

PLANS AND SPECIFICATIONS:

Plans and specifications for fish and other aquatic organism management will be in keeping with this standard and will describe the requirements for applying this practice to achieve its intended purpose. Specifications for this practice will be prepared for each site. Specifications will be recorded using approved specifications sheets, job sheets, narrative statements in the conservation plan, or other documentation.

Requirements for the operation and maintenance of this practice shall be incorporated into site specifications.

OPERATION AND MAINTENANCE:

The client will receive a plan or specifications describing the following management and any corrective actions that are required for the successful management of the pond, lake, or reservoir.

Managing fish or other aquatic organism populations.

Supplemental feeding.

Removing undesirable and overpopulated organisms.

Aquatic plant control.

Fertilizing.

REFERENCES

Willis, D.W., M.D. Beem, and R.L. Hanten. 1990. Managing South Dakota Ponds for Fish and Wildlife. South Dakota Department of Game, Fish and Parks. 70 pp.