

APPENDIX E
AQUATIC WEED CONTROL

Revision 5

July 10 2015

ROANOKE RAPIDS AND GASTON
SHORELINE MANAGEMENT PLAN
APPENDIX E - AQUATIC WEED CONTROL
July 10, 2015

1.0 Overview

The accidental introduction of exotic vegetation has resulted in the proliferation of several nuisance aquatic weeds in Lake Gaston and Roanoke Rapids Lake. Although there are some ancillary aquatic habitat benefits to these species, over-abundance of the weeds can result in significant reduction in the recreational quality of some portions of the lakes. Of greatest concern are the areas in and around public and private swimming areas, docks, boat landings and channels that provide ingress and egress to these structures.

2.0 State Regulation

Since portions of Lake Gaston fall within the boundaries of both North Carolina and Virginia, the regulations of both states for application of aquatic herbicides have been reviewed. The following are conclusions of the regulations:

2.1 In both states, the water in the lakes is considered to be “state property” by the state. As a result, the states are responsible for ensuring water quality and co-managing the fishery.

2.2 The bottom of the lake and the shoreline within the project boundary are owned by Dominion. Dominion is responsible to FERC to ensure proper management of aquatic and terrestrial resources within the project boundary.

2.3 Neither state allows for herbicide treatment in its waters unless the treatment is performed by a licensed applicator.

2.4 If an individual or homeowner association applies a weed control chemical in state waters and / or on Dominion land, they open themselves to potential prosecution. Penalties may be assessed including state fines, costs of mitigation for environmental damage, possible loss of construction and use permits from, and / or civil action by Dominion.

3.0 Lake Gaston Weed Control Council

In 1985 the Lake Gaston Weed Control Council was formed for the primary purposes of research, education, control and/or eradication of undesirable aquatic weeds in Lake Gaston. The Council is comprised of 3 persons from each of the 5 counties surrounding the lake. Funding for the council comes from both the public and private sectors. The Weed Control Council is responsible for contracting and overseeing aquatic weed herbicide applications and various other methods of weed control in the Lake. Typically, the Weed Control Council will contract an applicator from one to five-year contracts to treat nuisance aquatic vegetation.

4.0 Guidelines for Private Weed Control Application

4.1 No unlicensed or unregistered individual or group may apply aquatic weed control chemicals within the Lake Gaston or Roanoke Rapids Lake project boundaries.

4.2 If an individual or group (i. e. homeowners association) desires to apply chemical weed control in the area between their extended side property lines or within a subdivision cove(s) by a registered applicator other than the Weed Council's current contractor, Dominion must be notified at least 5 working days prior to application.

4.3 Notification of intention to treat shall be made to Dominion. Dominion may be faxed to (252) 535-6164, or e-mailed to either Mr. Will Miller (william.c.miller@dom.com) or Ms. Sarah Evan (sarah.g.evans@dom.com). **The information shall be provided in an editable format** so Dominion can remove the personal information before providing to the Lake Gaston Weed Control Council. The following information is required:

- a. Name of home / property owner
 - b. Phone number
 - c. Location to be treated
 - c.1 Subdivision
 - c.2 Address
 - c.3 Lot number
 - d. Name of Contractor applying chemical control
 - e. Phone number of contractor
 - f. Type of herbicide to be used
 - g. Date of anticipated herbicide application.
- Application area (ft²).
Plant species targeted.
Treatment chemical.

4.4 Dominion shall relay information (with the exception of 3a, 3.b, 3.d. and 3.e.) to the Weed Council contractor to ensure the area treated by the private contractor is not "double treated".

4.5 No native aquatic vegetation may be removed from the lake or shoreline by either mechanical or chemical methods without a Construction and Use Permit from Dominion.

5.0 Obtaining a Construction and Use Permit for native aquatic vegetation.

5.1 Background

Native plants provide many benefits to the Lake Gaston ecosystem and surrounding areas. They protect shorelines from erosion, stabilize deposited sediments, clean and clear lake water, provide valuable fish and wildlife habitat, and deter excessive growth of algae and weedy, non-native plants such as hydrilla. While these benefits are important, certain aggressive native species can occasionally grow to excess in Lake Gaston, causing concerns for boaters, swimmers, and lake front users. There may be instances where a property owner might wish to control the growth of these aggressive native plants.

5.2 Limits, non-fee removal of native species.

While efforts should be made to protect native aquatic, wetland, and riparian plant species, it is recognized that adjacent property owners require access to the open waters of Lake Gaston. In this regard, property owners are allowed, after filing for and obtaining appropriate permits from Dominion, to clear plants that could obstruct access to the lake from a 10-ft wide boat lane without mitigation. Only aquatic plant species listed in Table 1 may be removed.

5.2.1 Although no fee is required to remove plants in the 10-ft wide boat lane, adjacent property owners must obtain a permission from Dominion to do so. An electronic or mailed request must be submitted to Dominion at the Roanoke Rapids Dam office at 100 Oakwood Drive, Roanoke Rapids, NC. The permission may be obtained by mailing or e-mailing the request to the physical or electronic addresses noted in section 4.3 above.

5.2.2 Information that must be provided are

- a. Name, address, phone number, subdivision, legal lot number and pier permit number.
- b. A sketch to scale showing existing shoreline, improvements (dock, boathouse, etc), location or area occupied by plant you wish to remove and area highlighted where treatment is planned.
- c. A photograph of the existing conditions.
- d. Identification of the plant adjacent property owner desires to remove
- e. Once treatment is approved, applicant will be notified by e-mail or phone.
- f. Once weed treatment is approved, within 30 days of treatment, a photograph showing post-treatment condition.

Table 1: List of native aquatic, wetland, and riparian plant species that can be removed from Dominion shoreline property and on and within the waters of Lake Gaston.

Species Name	Common Name	Growth habit	Replace with
<i>Typha</i> spp.	Cattails	Emergent	Emergent
<i>Nelumbo lutea</i>	American lotus	Floating-leaved / emergent	Submersed
<i>Nuphar lutea</i>	Yellow water-lily	Floating-leaved	Submersed
<i>Nymphaea odorata</i>	American waterlily	Floating-leaved	Submersed
<i>Zizaniopsis miliacea</i>	Giant cutgrass	Emergent	Emergent
<i>Brasenia schreberi</i>	Watershield	Floating-leaved	Submersed

NOTE: Permits will not be issued for the removal of water willow.

5.3 Removal of aquatic native plants beyond the 10-foot wide boat lane.

Removal of plants outside the boat lane will require additional permitting and may only be conducted in conjunction with mitigation. Mitigation required for removal of native aquatic plants from Dominion property in areas outside the 10-ft boat lane is subject to the following rules and regulations.

5.3.1 Only aquatic plant species listed in Table 1 may be removed.

5.3.2 A permit from Dominion is required prior to removal.

5.3.3 Removal of plants beyond the 10-ft wide boat lane requires mitigation.

5.3.4 Permit Process

- a. A construction and use permit package must be submitted (acquired either on line or by contacting the phone number listed in section 4.3 above).

- b. All pertinent information required in the permit package must be provided
- c. A drawing to scale showing existing improvements (dock, bulkhead, imaginary extended lot lines)
- d. Clear notation on the drawing of location of plants applicant desires to remove
- e. Location and drawing showing a mitigation planting plan

The mandatory mitigation planting is at the cost of the homeowner. In this regard, homeowners are responsible for replanting with native plants in areas where aggressive plants were removed (or, with permission, at an alternate site approved by Dominion) to ensure no net loss of native aquatic, wetland, and/or riparian plant species in the lake.

Table 2 lists native aquatic, wetland and riparian plant species approved for planting on Dominion shoreline property or within or on the waters of Lake Gaston. These plants represent common species that are native to North Carolina/Virginia and provide important, often vital benefits to the lake ecosystem.

Table 2: Beneficial native aquatic, wetland, and riparian plant species approved for restoration programs on Dominion shoreline property and on and within the waters of Lake Gaston.

Common name	Scientific name	Growth habit
American bur-reed	<i>Sparganium americanum</i>	Emergent/submersed
American frog's-bit	<i>Limnobium spongia</i>	Floating
American pondweed	<i>Potamogeton nodosus</i>	Floating-leaved/submersed
Arrow arum	<i>Peltandra virginica</i>	Emergent
Arrowhead	<i>Sagittaria latifolia</i>	Emergent
Blue waterhyssop	<i>Bacopa caroliniana</i>	Emergent
Common spikerush	<i>Eleocharis palustris</i>	Emergent
Coontail	<i>Ceratophyllum demersum</i>	Submersed
Creeping burhead	<i>Echinodorus cordifolius</i>	Emergent
Crimson-eyed rosemallow	<i>Hibiscus moscheutos</i>	Emergent
Delta arrowhead	<i>Sagittaria platyphylla</i>	Emergent/submersed
Illinois pondweed	<i>Potamogeton illinoensis</i>	Submersed
Leafy pondweed	<i>Potamogeton foliosus</i>	Submersed
Lizard's tail	<i>Saururus cernuus</i>	Emergent
Pickerelweed	<i>Pontederia cordata</i>	Emergent
Sago pondweed	<i>Stuckenia pectinatus</i>	Submersed
Scouringrush horsetail	<i>Equisetum hyemale</i>	Emergent
Small pondweed	<i>Potamogeton pusillus</i>	Submersed
Soft rush	<i>Juncus effusus</i>	Emergent
Softstem bulrush	<i>Schoenoplectus tabernaemontani</i>	Emergent
Southern naiad	<i>Najas guadalupensis</i>	Submersed
Squarestem spikerush	<i>Eleocharis quadrangulata</i>	Emergent
Swamp smartweed	<i>Polygonum hydropiperoides</i>	Emergent
Water willow	<i>Justicia americana</i>	Emergent
Waterthread pondweed	<i>Potamogeton diversifolius</i>	Submersed/floating-leaved
Wild celery	<i>Vallisneria americana</i>	Submersed

Rate of mitigation planting is determined by plant type and total area of removal

For any and all emergent plant species rate of replanting shall be one mature, nursery grown plant for every 5 ft of shoreline length from which nuisance plants were removed.

For any and all floating-leaved plant species removed (Table 1), one protective enclosure (3-ft in diameter x 4-ft in height) planted with three individual mature, nursery-grown submersed plants (one each of three species from Table 2) will be installed to mitigate each 5 linear feet of shoreline. Enclosures will be distributed on 10-ft centers parallel to the shoreline at a depth of 1.5 to 2.5 ft. Enclosures will be constructed from 12 gage, 2-inch x 2-inch PVC coated wire mesh and each anchored firmly to the substrate with three lengths of rebar extending from the top of the enclosure and into the sediment to a depth of at least 12 inches. The enclosure will be secured to the rebar with cable ties (Figure 1).

5.4 Permit fees

A non-refundable permit fee of \$100.00 must accompany the permit application.

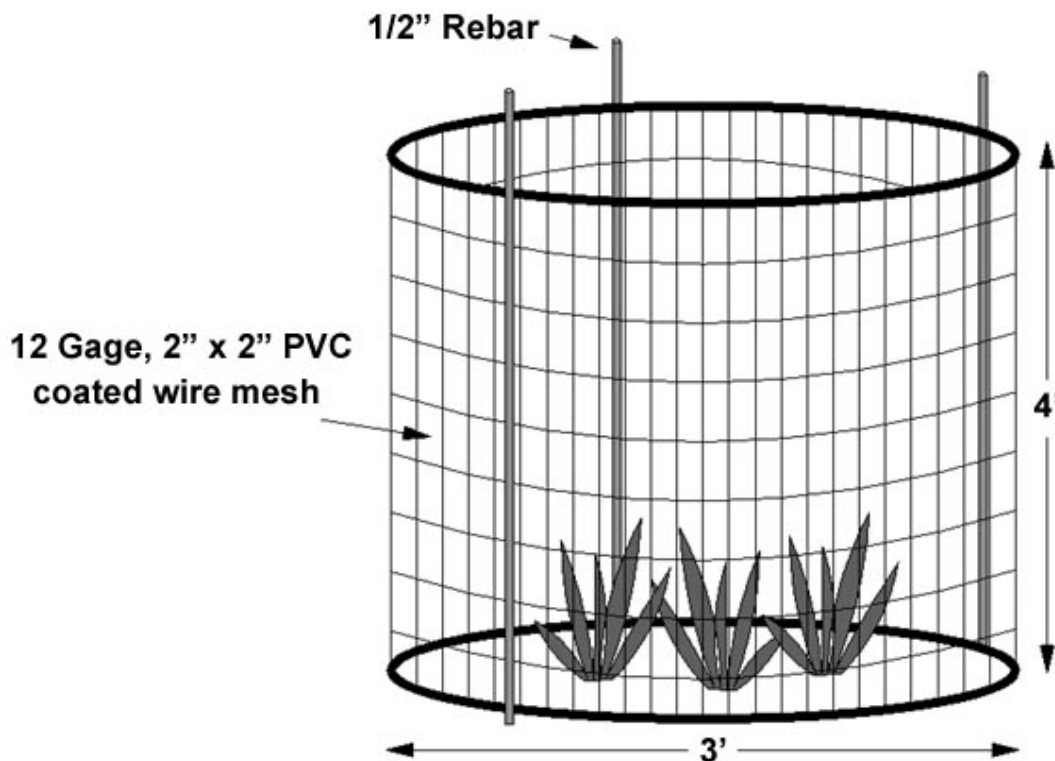


Figure 1. Enclosure design for mitigation planting. Enclosures contain three different floating-leaved/submersed aquatic plants from Table 2. (Mesh size is 2" X 2", height is 3 to 4 ft, anchors are 1/2" rebar).