

MANAGING AQUATIC PLANTS IN LAKE GASTON

A Long-Term Action Plan

Prepared by:
Lake Gaston Stakeholder's Board
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**Managing Aquatic Plants in Lake Gaston
A Long-term Action Plan**

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Foreword

This plan lays out a strategy for future management of plants that grow in the waters of Lake Gaston. It was developed primarily by the people who live on the lake or benefit from the recreational and economic development opportunities it provides. A stakeholder group made up of various lake user interests (fishermen, boaters, homeowners, tourism and business councils, local and State government agencies, a power company and others) evaluated control options for aquatic plants and recommends the following management strategy tailored to the unique needs and preferences of Lake Gaston users.

The proposed strategy calls for an intensification of chemical and biological control procedures to control invasive species with encouragement of native aquatic vegetation to establish a healthy aquatic ecosystem. Mechanical harvesters and water drawdown are possible future techniques to be employed but they are not considered feasible at this time.

This plan reflects a commitment to managing aquatic plants in Lake Gaston in a way that is both responsive and responsible and achieves the related goals of meeting the recreational needs of as many lake users as possible while protecting the lake's ecological health and natural beauty.

Lake Gaston Stakeholder's Board

Stakeholder	Representative	email Address
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LG Striper Club	Jim Howell	jhow@lgaston.org
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LG Weed Control Council	Dr. Elton Brown	eyesh@meckcom.net
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Roanoke River Basin Assoc.	Harrel Johnson	hjohnson@rrba.org
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Lake Description

Lake Gaston is a 20,300 acre impoundment on the Roanoke River located on the North Carolina and Virginia borders. Gaston Reservoir comprises lands within Warren, Halifax, and Northampton counties in North Carolina, and Brunswick and Mecklenburg counties in Virginia. It is operated by Dominion for power generation and coincidentally serves a flood control role. The high quality water also provides a water source for cities in the region. Gaston has a diverse fisheries population of popular species including largemouth bass, striped bass, walleye, catfish and various pan fish.

Historical Review

Brazilian elodea (*Egeria densa*) was first reported in Gaston Reservoir in 1982. By 1984 several more weed complaints were made, primarily to Dominion. Citizens, state and local agencies, and Dominion officials were concerned that homeowner attempts to control weeds with improper use of chemicals would degrade the lake's water quality and cause ecological damage. Initial attempts were made to treat the Brazilian elodea with "Diquat" herbicide by Dominion and North Carolina State University.

Surveys conducted by North Carolina State University in 1985 discovered 200 acres of Brazilian elodea and 12 acres of hydrilla (*Hydrilla verticillata*). The Lake Gaston Weed Control Council, comprised of three members from each of the five lake counties, was formed in December 1985. The Lake Gaston Weed Control Council was to formulate solutions to the Brazilian elodea problem in the reservoir. Following additional herbicide treatments, the Lake Gaston Weed Control Council, with input from Dominion, the Army Corps of Engineers, and Virginia and North Carolina wildlife and water quality departments, decided on a winter drawdown to control Brazilian elodea. The drawdown began on December 1, 1987 and ended with water levels fully restored on March 20, 1988. A private applicator was hired to treat the soil of the lake bottom where hydrilla was present in an effort to control this newly established weed. Surveys of the reservoir concluded that the treatments were successful for Brazilian elodea but elimination of Brazilian elodea and the stimulatory effects of the drawdown on hydrilla tuber sprouting (Haller et al. 1976; Doyle and Smart 2001) may have contributed to a worsening of the hydrilla problem.

Hydrilla infestations increased from 25 acres to 429 acres by 1991. The Lake Gaston Weed Control Council created the Lake Gaston Task Force in 1991 to

provide technical expertise and guidance in weed control. The task force included members from Dominion, North Carolina Wildlife Resources Commission, Virginia Department of Game and Inland Fisheries, Army Corps of Engineers, NC Division of Environmental Health, NC Division of Water Resources, NC State University and the Lake Gaston Homeowners Association.

Additional treatments were made between 1991 and 1996 with little success and the acreage of hydrilla increased to 3,102 acres. A 1994 Army Corps of Engineers report suggested that hydrilla could potentially colonize up to 5,000 acres of the lake's surface area. Based on North Carolina Wildlife Resources Commission and Virginia Department of Game and Inland Fisheries recommendations, 20,000 grass carp were stocked into Gaston Reservoir in 1996.

In 1996, the Lake Gaston Weed Control Council signed a multi-year contract with Aquatic Nuisance Plant Control, a private applicator firm. Aquatic Nuisance Plant Control treated 690 acres of hydrilla in the reservoir that year. Funding was provided to the Lake Gaston Weed Control Council by the City of Virginia Beach, the North Carolina General Assembly, and the 5 surrounding Counties. Additionally 680 grass carp were stocked in the reservoir. The hydrilla survey by Aquatic Nuisance Plant Control reported an estimated 1,315 acres of Hydrilla, including 150 acres of new coverage. The estimates were based on visible growth of hydrilla and the Task Force believed that previously infested areas still had viable tubers capable of producing re-growth under favorable conditions and the estimate should be expanded to 3250 acres.

Herbicide treatments continued annually and an additional 30,392 grass carp were stocked into the reservoir between 1998 and 2005. Herbicide treatments and grass carp stockings can be viewed at the Lake Gaston Weed Control Council's website, lgwcc.org. Hydrilla acreage fluctuates annually but has remained around 3,500 acres. Details on the biological and ecological characteristics of Hydrilla and difficulties in its management may be reviewed in the paper entitled "*The Perfect Weed*" (Langeland 1996).

Shoreline Property Owner Perspective

Recreation users and property owners have become increasingly frustrated at the persistence of the weed problem. Herbicide treatments have been effective in some areas, however funding and flow patterns have limited treatments. Landowners are heavily affected by hydrilla, because it can prevent launching boats, accessing docks, skiing, and bank fishing or swimming in some parts of the lake. Some lake users find the large colonies unsightly which impacts the

aesthetic quality of the area for visitors and companies looking for relocation sites. Nuisance aquatic vegetation can also clog industrial water intake screens, potentially reduce local property values, decrease native plant diversity and create mosquito habitat. The problems are most severe in late summer and fall when the vegetation is topped out at the water surface.

Fish and Wildlife Perspective

Aquatic vegetation is an important component of productive fishery habitats at intermediate levels (Noble 1980). Hinkle (1986) reviewed literature on the relationship between vegetation and sport fish populations and estimated that optimal conditions most often occur at 10 to 40 percent plant cover. Littoral zones and the associated vegetation are a prime area for the spawning of most fish species. Aquatic macrophytes also serve to anchor bottom sediments, stabilize underwater slopes, and remove suspended particles and nutrients from overlying waters. Complete eradication of aquatic vegetation can have serious negative impacts on fisheries resources, shelter, fish spawning substrates and shoreline erosion (Taylor et al. 1984).

Aquatic vegetation is also a key component of productive waterfowl habitat and numerous studies confirm its importance for attracting and supporting significant waterfowl populations (Leslie et al. 1987).

Consequently, this management plan does not call for the eradication of aquatic vegetation but for removal of noxious invasives in selected areas and revegetation with native aquatic plants where feasible.

Plan Development

The Bass Anglers Sportsmen Society (BASS) reacting to concerns from its constituents concerning triploid grass carp stockings to control hydrilla convened a meeting of stakeholders with interests about the reservoir and aquatic plant management in December 2004 and February 2005. A key component of these stakeholders meetings was that the emphasis should be placed on management of vegetation in Gaston in general and not focused primarily on elimination or eradication of hydrilla. Eradication of hydrilla without filling the vacated niche with native species would not be prudent as a complete elimination of all or most of the aquatic vegetation in the lake might harm water quality and fish habitat. Additionally there are other species of noxious aquatic species already present in the reservoir that likely would expand to fill the niche vacated by hydrilla. In fact there is evidence that Eurasian watermilfoil (*Myriophyllum spicatum*) and black mat algae (*Lyngbya sp*) are increasing. In addition Brazilian elodea (the original problem plant) is also waiting for an opportunity to expand. Giant salvinia (*Salvinia molesta*), an extremely difficult plant to eradicate, has also been found

in North Carolina waters. Were hydrilla to be eliminated, these species may colonize suitable shallow water habitat and be difficult to control. The Stakeholders Board's goals are to help develop a process for involving local residents in addressing aquatic plant management issues on Gaston Reservoir and to provide effective management of aquatic vegetation to homeowners and lake users without adverse ecological and economic impacts to the lake.

The Lake Gaston Stakeholder's Board identified four critical elements necessary for the success of any vegetation management plan in Gaston Reservoir. These were governance, plan development and evaluation, funding and communication.

Lake Gaston Aquatic Vegetation Management Plan

Management Goal

The overall goal is to develop and maintain a healthy lake ecosystem based on a diverse plant community dominated by native species. Such a lake would meet the recreational needs of lake users, sustain the local economy and ecosystem, provide desirable water quality, fish and wildlife habitat, and ultimately reduce the need for expensive annual control of invasive exotic species.

This goal will be achieved by accomplishing the following objectives:

- Communicate to the public the need for aquatic vegetation and the distinction between desirable native vegetation and infestations of noxious weeds.
- Determine the amount of aquatic and riparian vegetation needed for the development of a healthy Lake Gaston ecosystem.
- Establish and maintain this acreage by revegetation with desirable native species while reducing the noxious exotic vegetation that appears in the lake.
- Develop an assessment program for identifying where nuisance plants occur, and how to quantitatively assess management success.
- Develop a long-term aquatic plant management plan that has as a principle goal the removal of *Hydrilla* and other nuisance plants or their maintenance at manageable levels.
- Aggressively manage *Hydrilla* and other nuisance species now to reduce the total population levels. Utilize public input from all stakeholders to establish priority areas for vegetation management.
- Identify other potential nuisance invasive plants either currently in Lake Gaston (e.g., *Egeria* and Eurasian watermilfoil) or that could infest the lake (e.g., giant salvinia) and include them in the management plan.

- Determine the specific infestations to be treated and treatments to be utilized. Use cost-effective, leading edge technology and continually evaluate new methods of controlling exotic vegetation.
- Utilize a variety of herbicides and application protocols to minimize the development of genetic resistance in target species.
- Evaluate the role of grass carp as a management tool in Lake Gaston. Determine and insert the number of grass carp per infested acre that can be introduced and maintained to control invasive species without detrimentally affecting desirable species of native vegetation.
- Develop a prevention program, which might include public education and signage at boat launches, to prevent the introduction of plants into the lake or transporting them to other lakes. Also inform the public of the need to control erosion and nutrient inputs from septic fields and yard runoff.
- Develop an adequate sustainable funding source for the management of aquatic vegetation in Lake Gaston.
- Improve communications with stakeholders to keep them advised of successes, failures and changes in management actions.

Five-Year Action Plans

A Technical Advisory Group (TAG) appointed by the Lake Gaston Stakeholder Board will provide recommendations for effective vegetative management based on 5-year cycles. The TAG should consist but not be limited to representatives from state fisheries and water quality agencies, aquatic plant management specialists, native plant establishment experts, university researchers, industry and the private sector. The TAG will make recommendations that allow them to meet the objectives of the plan. Components of the plans will include specific lake management strategies to be adopted by the Stakeholder Board on treatments to be used, timing of treatments, a quantifiable evaluation component, and native plant introductions and will identify any research needs during the 5-year cycle. A 5-year cycle will allow better planning, may induce herbicide applicators to reduce bid estimates if they are guaranteed long term contracts, and allow adequate time for evaluation of treatments. The TAG will meet annually to evaluate the previous year's treatments, assess cost estimates and recommend appropriate corrective actions. Adaptive management will allow for changes if necessary in the management directives for the following year(s).

Management recommendations and associated costs will be provided to the Lake Gaston Weed Control Council along with an evaluation of the previous year's management scheme. Stakeholders will provide feedback to the Lake Gaston Weed Control Council by identifying priority areas where treatments should be conducted and areas where management of beneficial vegetation will be encouraged. Treatment areas will fall into four major categories and will be given treatment priority as follows:

- Priority 1- Public and Residential Access
- Priority 2- Commercial Access
- Priority 3- Aesthetic and Ecological Integrity

Adaptive Management

Aquatic vegetation in Gaston Reservoir will be managed using a scientifically determined adaptive management approach. Adaptive management is a tool that allows managers to adjust management actions to improve success and adjust to changing environmental and economic conditions. It includes close monitoring of changes in lake vegetation to better understand the relationship between management actions and resultant changes in the environmental resources. The management action can then be adjusted, monitored and readjusted to achieve the desired objective. Adaptive management is increasingly popular because it provides a mechanism to make corrections to management plans when unintended consequences of management action become apparent or when unforeseen events (such as storms, floods, droughts, etc.) cause other changes in the system. Adaptive management further allows implementation of corrective management actions in response to system changes resulting from a variety of factors. Although adaptive management has historically been used primarily to manage environmental resources, it can include social and economic objectives. In this way, balancing of objectives to provide a healthy human environment can be achieved.

Treatment Options

Herbicide Treatments-Aquatic vegetation in designated areas will be controlled with herbicides approved by the Environmental Protection Agency and North Carolina Department of Agriculture for use in aquatic environments. Herbicides will be selected based on their effectiveness in controlling the target plant species. In some cases, these herbicides may be used in combination with EPA approved adjuvants to improve the effectiveness of control. Because re-growth is likely to occur in some areas following treatment, portions of the designated acreage for management may be treated more than once during the growing season.

Most herbicide treatments will be from the shoreline out 150 to 200 feet in areas with residential development, public access and recreational facilities, and commercial businesses and causeways. Herbicides can also be used to open and maintain access lanes in coves which are blocked by vegetation for ingress and egress of boats.

Herbicides will be applied from boats by certified contractors according to guidelines specified on the label. All treatment boats will be clearly marked with

identifiable numbers or other markings that indicates when the boat is applying herbicides. All treatments made in the vicinity of potable water intakes will be coordinated with the managers of water treatment plants to insure that drinking water supplies are not affected.

Treated areas will be posted with signs that include the date of treatment, name of herbicide applied, appropriate water-use restrictions, and telephone number of the contract applicator.

Mechanical Harvesters-Mechanical harvesters may be used to cut and maintain access lanes 30-50 feet wide through colonies of aquatic plants near developed areas to provide ingress and egress into these areas. Mechanical harvesters may have limited use on Lake Gaston due to the high costs involved, entrainment of juvenile fish, logistical constraints, stumps and rapid growth and fragmentation of hydrilla requiring multiple cuttings in a year. It may prove effective in the management of other noxious exotics and will be kept as a management tool.

Triploid Grass Carp-The triploid grass carp is a sterile fish used to control submersed aquatic vegetation (SAV). The fish is an herbivorous grazer. Due to their upturned mouth, grass carp tend to feed at the surface, unlike other carp. Grass carp typically feed in shallow water preferring SAV and the tender growing tips of young plants. Hydrilla and Egeria (Brazilian elodea) rank very high on the grass carp's order of preference (Sutton and Vandiver 1986). Grass carp have been used to control Hydrilla in Florida since the 1970's. More recently, triploid grass carp have been stocked in large lakes throughout the southeastern US for the purpose of SAV management. South Carolina successfully controlled hydrilla in Santee Cooper Lakes (Marion and Moultrie) during the 1990's. Since 2001, North Carolina has also had success using grass carp in Lake James and Lake Norman. Grass carp provide an economical management tool but overstocking will lead to denuding the ecosystem of all SAV and even some emergent plants (Klussman et al. 1988). Grass carp are not effective in managing all SAV because they are selective. However, they have proven to be a valuable part of integrated pest management.

Grass carp have been stocked in Lake Gaston but due to funding and political issues the number and frequency of insertions have been erratic and insufficient to establish an effective population. Maintaining density is key for effective SAV control and both carp populations and size of SAV infestation must be monitored annually. The target density for 2006 will be 10 carp/ Hydrilla acre.

Drawdowns-The use of drawdown for aquatic plant management is limited to lakes or ponds that have sufficient water control structures and hydrologic characteristics to adequately control water level, and where drawdown will not interfere with other primary water uses such as domestic or irrigation supplies,

navigation, or hydrologic power. Drawdown may be effective in preventing tuber formation in the fall and in slowing vegetative re-growth and sprouting of tubers in the spring (Haller et. al. 1976). One of the advantages of drawdown is that it does promote sprouting of dormant tubers (Haller et al 1976; Doyle and Smart 2001) and this can be used to help deplete the tuber bank. Drawdown can also be used to help promote the development of native aquatic vegetation in shallow water. Drawdown is being used in Lake Austin, Texas in conjunction with grass carp to increase their effectiveness for hydrilla management. Drawdown can also be effective in controlling the growth of plants that might be resistant to herbicide or unpalatable to grass carp. Drawdown and subsequent herbicide treatments may be a tool that can be utilized in Gaston but other factors such as lost revenue from generation, economic impacts and lost recreational activities will have to be considered prior to any drawdown.

Other Biological Controls-Insects may offer promise as biological suppressants for hydrilla, but as yet none has been shown to effectively fit into management programs. Over 40 species of insects have been found that feed on hydrilla. Several of these are presently being evaluated as potential hydrilla biosuppressants in the United States and other insects from Australia are under consideration (Center 1992). There is currently a test plot of flies (*Hydrellia pakistanae*) being evaluated in Gaston Reservoir. Key questions to be addressed are related to establishment and over wintering of the flies and their effectiveness in controlling monoecious hydrilla. As results of this ongoing investigation are made available the TAG will keep abreast of any new controls that look promising and approve of research efforts if deemed appropriate. Research currently underway with fungi will be monitored and brought into use in Lake Gaston if appropriate.

Native Plants-Planting of native plants in some areas may restrict hydrilla and provide a diverse native plant community with associated benefits to fish and wildlife species. They also help to demonstrate to anglers that the goal is not to eliminate fisheries habitat, but to restructure the plant community with beneficial native vegetation. The TAG will compile a list of beneficial native plants that could be successfully introduced into the reservoir and costs associated with such a program. Plantings would be done in residential areas with species that would not preclude the use of the area. Care will be exercised to ensure that all native plantings come from a source that has been determined is free from any exotic or nuisance native vegetation that could populate the reservoir.

2006 General Action Plan

Satellite and ground survey data taken in Fall 2005 should be used to determine distribution, density, and reproductive potential of *Hydrilla*, Eurasian milfoil, elodea, other nuisance plant species and all native aquatic plant species in Lake

Gaston. Attempt to determine the occurrence of grass carp and estimate their effect on invasive and native aquatic vegetation. The location of insertion of *Hydrilla* eating insects in 2004 should be mapped and their impact on the 2005 plant population determined.

The 2005 survey data will allow determination of exact locations of all developed areas (i.e. boathouses, commercial facilities, fire dry-hydrants, urban water intakes, swimming areas, and critical navigation channels) and the acreage infested by exotic invasives. High priority areas should be treated as necessary in 2006. Fluridone treatments should be applied in appropriate areas continuing the efforts initiated in 1997 to eliminate heavy infestations of *Hydrilla*. An attempt should be made to hold at least 15% vegetated acreage (3000 acres) at the end of 2006. Areas successfully reduced of invasive aquatic weeds by the 'Fluridone' treatments are proposed as targets for revegetation by "desirable natives." From 2006 through the 5-year management period, the goal would be to eliminate invasive species in the developed areas and to convert ecologically sensitive and undevelopable areas to native aquatic vegetation. This would require the establishment of a list of "desirable" and "undesirable" aquatic species.

To ensure effectiveness of the adaptive management scheme in future years, we propose utilizing external experts to monitor the results of the annual treatments. We recommend annual satellite or aerial remote sensing, and point-intercept sampling to determine species distribution, composition and diversity of the littoral zone. Core samples should be taken to determine biomass and reproductive production of selected populations. Appropriate methods should be used to determine impact of grass carp and *Hydrilla* eating insects. Volunteer monitors should be trained to periodically monitor selected areas watching for appearance and activity of native and new exotic vegetation. We recommend that professors and their students from near-by colleges (e.g. Virginia Tech, NC State, etc.) be solicited to conduct ecological studies of the lake to improve our understanding of the habitat and its response to our efforts.

To develop biological control methods for long term maintenance of the noxious invasives, we propose bringing the grass-carp density to 10/infested acre and attempting to hold it there by monitoring and inserting the number of fish required. The actual carp density will be set by Virginia and North Carolina Wildlife authorities and will be adjusted as part of the ongoing adaptive management approach. Research with insects will be continued and intensified if found to become useful in this habitat and climatic zone. Other biological control agents (e.g. fungi) should be considered and applied if deemed appropriate by state and federal authorities.

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APPENDICIES

**LAKE GASTON STAKEHOLDER BOARD PROPOSED
COMMUNICATION PLAN**

(Revised January 25, 2006)

PURPOSE OF THIS PLAN:

To set forth a plan of action and milestones for publication and presentation to area property owners, stakeholder organizations, the general public and the five local county governments, the results of Lake Gaston Stakeholder Board actions including but not limited to the approved Aquatic Plan, the 2006 and beyond Weed Treatment Plan(s), approved funding plans, and other decisions as deemed appropriate.

BACKGROUND:

The importance of property owner, business, angler, lake users, and other organizational buy in to the success of any noxious weed treatment, management, or funding plans cannot be overstated. In an environment where suspicion, frustration, and lack of or only partial knowledge of the problem and possible solutions abound, it is doubly important that goals, objectives, methods and reasons for decisions be effectively communicated to these groups to ensure success.

COMMUNICATION COMMITTEE:

1. A Communication Committee is hereby established for the expressed purpose of formulating this plan, gaining approval of the plan by the Stakeholder Board, and carrying out the actions included within the plan.

2. Composition:

Position	Name	Organization
Chairman	Doug Hughes	Lake Gaston Gazette
Vice Chairman	Pete Deschenes	Friends of Flotilla 93
Member	Doug Bearce	Littleton Observer
Member	John Slaton	Weed Council
Member	Sherm Merchant	WZRU radio
Member/Advisor	Harrel Johnson	TAG Team Leader
Member	Almira Papierniak	LG Chamber
Member	Don Beazley	Water Safety Council
Member	Bruce Johnson	Homeowner

3. Responsibilities:

Chairman: Produce a first draft of the communication plan. Facilitate meetings with other members to formulate the final plan. Present the final plan to members of the Stakeholder Group and incorporate changes as necessary. Ensure execution of the final plan.

Vice Chairman: Assist chairman as necessary. In role of public forum coordinator, with the support of members of the committee, organize and execute a schedule of public forums as detailed in this plan.

Members: Assist with the formulation of the plan, and carry out the plan as agreed upon by the committee.

COMMUNICATION PLAN: This Communication Plan centers around the utilization of all available resources and methods to convey Stakeholder Board actions and plans to interested citizens and groups for information, education, and feedback.

1. Resources:
 - a. Media, including newspapers, television, radio, newsletters and magazines (subject to further expansion):
 - i. Specific targeted media includes:
 1. Lake Gaston Gazette
 2. Littleton Observer
 3. Richmond-Times Dispatch
 4. Daily Herald
 5. Warren Record
 6. South Hill Enterprise
 7. Independent Messenger (Emporia)
 8. Charlotte Observer
 9. Raleigh News and Observer
 10. Virginian Pilot
 11. WRAL TV Channel 5
 12. WNCN Channel 17
 13. WTVD Channel 11
 14. News 20 (Roanoke Rapids)
 15. WWAVY TV 10 – Virginia Beach
 16. WZRU
 17. KISS
 18. Organizational newsletters, i.e. LGA, Water Safety Council, Striper Club, etc.
 19. BASS Times
 20. BASSMASTER
 21. Our State (North Carolina)
 22. NC Boating Lifestyles
 23. State Wildlife Publications
 - b. Vehicles
 - i. News releases
 - ii. Public Service Announcements
 - iii. TV/Radio spots
 - iv. Articles
 - v. Public forums utilizing Power Point presentations to gain public input/feedback
 - vi. Power Point presentations to organizations, homeowner associations, businesses through the Chamber, county boards
 - vii. Web sites
 - viii. Bamboo network
 1. Talking points laminated card for all local stakeholders
 - c. Actions:

	By whom	Date
i. Complete Com Plan	Com Committee	Done

ii.	Forward plan to board	Com Chair	Done
iii.	Revise plan per feedback	Com Committee	Done
iv.	Present for final approval	Com Chair	Ongoing
v.	Update LGA/WC Webs	Com Chair	Ongoing¹
vi.	Approve Stakeholder plans	Stakeholder Bd.	Done
vii.	Observer/Gazette articles	Observer/Gazette	Done
viii.	Stakeholder update to LGA	Vice Chair	Done
ix.	Update LGA/WC Webs	Com Chair	02/03/06²
x.	News release to print media	Com Committee	02/03/06³
xi.	Develop presentations	Com Committee	02/03/06⁴
xii.	Plan public forums	Com Committee	Done
xiii.	Conduct media blitz	Com Committee	02/08/06
xiv.	Schedule/hold public forums	Stakeholder Bd.	Feb/Mar06⁵

Notes:

- 1. Background has been updated and provided to LGA Exec. Dir. and WCC Secretary. WCC has added to site, along with copies of minutes. LGA update pending.**
- 2. Update to include synopsis of Dec. 15 meeting and a copy of the approved plan.**
- 3. Release will provide an overview of the plan and inform public where to review the entire plan (LGA/WC Web sites).**
- 4. Plans call for Power Point presentation including short history of problem and overview of management/treatment plans.**
- 5. Four Forums, Feb 16 and 25, and Mar 16 and 30 are scheduled, and locations are confirmed.**
- 6. Remaining action items for forums are: Procure a large overlay map; acquire lap top/presentation equipment; confirm members of TAG panel for each presentation; print copies of the plan and Q&A cards; do a rehearsal of the presentation with Com Committee.**

Governance Plan

Purpose Statements of the Lake Gaston Stakeholder Board

Lake Gaston Stakeholders Board is to account for and seek input from all interested groups. This will be achieved through the development, implementation, and continued improvement of the ecosystem through a sound aquatic vegetation management model by seeking and utilizing scientific information and research to be used in a consensus-based decision making process for the enhancement of Lake Gaston.

CHAPTER I: PURPOSES AND PRINCIPLES

Article 1

The Purposes of the Lake Gaston Stakeholder Board are:

1. To seek a balance between control of noxious weeds, native plant cover, and recreation on the lake through the implementation of an Adaptive Management Model for scientific-based consensus decision making;
2. To improve and refine this model through continual long-term, examination of decision model results and impacts.
- 3. To make Lake Gaston a preferred place to live, work and/or play, therefore contributing to the local economy.**

Article 2

The Board Members, in pursuit of the Purposes of the Board, shall act in accordance with the following Principles.

1. The ability of Members to exercise their rights (individually or on behalf of their represented group) and act independently shall not preclude Membership on the Board.
2. Established and newly created laws, regulations, and other legal agreements will be complied with and incorporated into discussions and decisions as they affect Lake Gaston.
3. The decision process will be long-term and continuing; Interest groups represented on the Board will make commitments accordingly.
4. Board Members will seek to communicate openly and honestly about the needs of their interest groups. If needs are not addressed, they will not be served.
5. Members of the Board will strive for candid discussion of difficult issues in face-to-face situations. Confrontational public approaches will be recognized as generally unproductive to the process.
6. Board Members will make every effort to be flexible and open to new ideas and to the input of fellow Members. No extreme positions that would result in dramatic win/lose proposals for Board Members will be introduced into Board discussions.
7. Board members will work for the good of Lake Gaston as a whole and not just to serve their individual interests

CHAPTER II: MEMBERSHIP

Article 3

1. The Members of the Lake Gaston Stakeholder Board shall be appointed, elected, or clearly identified spokespersons for their respective interest groups.
2. There shall be one spokesperson per interest group.

Article 4

1. Membership in the Lake Gaston Stakeholder Board will be open to all groups who are not represented by other stakeholder groups and who have a direct interest in the decision process, i.e. specific recreational, economic, safety or ecological interests in the water resources on Lake Gaston.
2. The process will not regress due to the entry of new Members. New stakeholders representatives will familiarize themselves with the process-to-date and contribute to the discussion from their point of entry.

Article 5

A Member of the Lake Gaston Stakeholder Board whose appointed representative has missed two (2) consecutive meetings, and who has not provided an adequate Alternate, will be asked to resign or provide another representative.

CHAPTER III: RULES OF ENGAGEMENT

Article 6

1. The interest group who has agreed to be a represented on the stakeholders board will make at least a three to five year commitment to stay actively engaged in the decision process.
2. Board Members will commit some level of time, talent, or treasure (resources) to the effort, a board member can only represent one interest group at any given time.

Article 7

1. A Technical Advisory Group (or Groups) (TAGs) may be established. The TAGs may consist of model builders, neutral biologists, neutral economists, and other technical experts as seen fit by the Board.
2. The TAGS will not act as decision-making bodies, but will solely serve an advisory role.

Article 8

1. A project manager may be sought to coordinate Board activities.
2. A Board Chairperson and Secretary shall be elected.

Article 9

1. Regular agendas and times for Board meetings will be planned and published at least fifteen days in advance of the meetings to enable maximum participation.
2. Before being incorporated into decision-making, scientific findings will be distributed at least fifteen days in advance of Board meetings to enable adequate technical preparation by Board Members.

CHAPTER IV: DECISION-MAKING

Article 10

1. The Board will seek consensus in all decisions, but when a vote is required, two thirds (2/3) vote of those present will constitute a decision on the model and basic objectives.
2. A quorum will consist of one (1) Member more than half (1/2) the Membership of the Board.

Article 11

1. Members of the Board may bring Alternates or Technical Advisors as non-voting participants.
2. Alternates selected by the interest group may vote if the Board Member is not present. Provided the Alternate has attended Board sessions regularly and/or is well informed on Board issues.

Article 12

Post-decision minority positions will be captured for later review, if requested.

Article 13

1. Proxy votes will not be accepted.
2. Teleconferencing will be acceptable, as determined by the Board.

Article 14

All meetings shall be open to the public. Public input will be part of ongoing meetings and operations, but any such input will be strictly non-voting.

CHAPTER V: RATIFICATION AND SIGNATURE

As the official representative of _____ on the Lake Gaston Stakeholders board. I _____ do certify that I have read the above rules of governance and will commit to adhere to them in their entirety for the overall best interest of lake Gaston.

Signature _____

Funding Plan

1-8-2006

Purpose

The Lake Gaston Stakeholders Board (LGSB) is challenged to put in place a funding plan to support the management of noxious weeds on Lake Gaston. This plan is a supplement to any existing funding currently secured by the Lake Gaston Weed Control Council (LGWCC). Any funds that evolve as a result of this effort will be directed to the LGWCC for the purpose of operationalizing our management plan.

2006 Funding

The LGWCC sources of funding for the 2006 treatment year are:

Virginia Beach	\$220,000*
North Carolina	\$200,000
Virginia	\$ 50,000
5 Counties	\$180,000

Current Total \$650.000

*Only the funds coming from Virginia Beach are considered to be ongoing and non-negotiable.

Funding Strategy

The LGSB Management Plan projects a cost for fully implementing a total lake Eco-management strategy of \$2,300,000. With projected out year expenses of \$2,300,000 annually and a current revenue stream of \$650,000, there is a gap of \$1,800,000 annually. Closing this gap is the challenge of this Funding Plan. The following is list summarizes additional funding opportunities and the members of the LGSB with the responsibility of pursuing these opportunities.

State of Virginia... Virginia currently contributes \$50,000 to the cost of vegetation management on Lake Gaston. The action necessary is to lobby for an additional \$150,000 annually. This would bring the State of Virginia in line with the current support level of the State of North Carolina.

Primary responsibility: Virginia Counties & others

Gap Closure Potential \$150,000

The US Army Corps of Engineers... The USACE is positioned to receive \$850,000 in 2006 for work on Lake Gaston relative to the management of noxious weeds. \$350,000 of

this amount is scheduled for research and \$500,000 will be dedicated to the actual treatment process. LGSB action is to continue to lobby for similar annual appropriations. Primary responsibility: LGSB Funding Team

Gap Closure Potential \$500,000

The US Department of Agriculture...The USDA is positioned to receive \$500,000 in 2006 for work on Lake Gaston relative to the treatment of noxious weeds. LGSB action is to continue to lobby for similar appropriations annually. Primary responsibility: LGSB Funding Team

Gap Closure Potential \$500,000

Dominion Generation has not directly contributed to the cost of noxious weed treatment in the recent past. As part of the LGSB, member of the Science Team and a partner with a considerable stake in the outcome of vegetation management on Lake Gaston, they will be encouraged to contribute \$100,000 annually. LGSB action is to convince Dominion to take some financial ownership to this management plan. Primary responsibility: LGSB Funding Team

Gap Closure Potential \$100, 000

Local Governments...The five counties surrounding Lake Gaston are all represented on the LGSB. Each county benefits from Lake Gaston both directly and indirectly. LGSB action is to facilitate and support future meetings of the five counties encouraging a total annual support level of \$ 580,000. Primary responsibility: LGSB Funding Team

Gap Closure Potential \$580,000

Grants... Research, analyze and apply for any available grant funds. Primary Responsibility: Almira Papierniak & Moira Underwood

Gap Closure Potential Unknown

Summary of Potential Funding

State of Virginia	\$150,000
USACE	\$500,000
USDA	\$500,000
Dominion	\$100,000
Local Governments	\$400,000
Total	\$1,650,000

Plan Summary

The LGSB will pursue these additional funds in order to meet the objectives of the Lake Gaston Management Plan (LGMP). If funding goals are not met, the success of the LGMP will be jeopardized and the timeline of the Plan extended. Additional sources of funding will continue to be explored with each additional contribution increasing the probability of success.

Should a negative gap occur between the annual Plan budget and available funding, treatments will be based on the established priorities contained in the LGMP until available funding is exhausted.

The ability to secure additional and future funding will depend largely on the LGSB ability to document successful treatments and to demonstrate significant strides toward meeting the management objectives set forth in the LGMP. In order to provide justification and incentives for government / granting organizations to contribute financially in successive years, it will be necessary to compile a terse and succinct report annually on successful treatments and progress on the management goals of the prior years.

This funding plan is a living document and will be adjusted periodically to accommodate the puts and takes of the funding process.