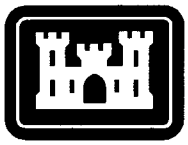

U.S. Army Corps
Of Engineers
Savannah District

AQUATIC PLANT MANAGEMENT PLAN

FOR

U.S. ARMY CORPS OF ENGINEERS, SAVANNAH DISTRICT WATER RESOURCE PROJECTS SOUTH CAROLINA AND GEORGIA

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Prepared by:
U. S. Army Corps of Engineers District, Savannah

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APPENDICES

1.0 Purpose, History, and Need for Action

Aquatic plants can be an important component of an aquatic ecosystem by providing habitat for insects, fish, and waterfowl. However, when fast growing plant species become well established, they can reach nuisance levels. This occurs when plants impact common uses of an impoundment, i.e., hydropower production, recreation, navigation, etc. Management of aquatic vegetation is required to maintain the value of multiple uses in many large reservoirs where nuisance levels of aquatic plants have become established. This Aquatic Plant Management Plan (APMP) will describe plans for managing the abundance and distribution of aquatic vegetation in the three Savannah River reservoirs and a portion of the Savannah River being managed by the U.S. Army Corps of Engineers, Savannah District (Corps). Annual management plans for the J. Strom Thurmond Lake, Richard B. Russell Lake, Hartwell Lake and the New Savannah Bluff Lock and Dam can be found in Appendix A. A summary of actions taken the previous year is included in Appendix A.

Prior to 1995, an over abundance of aquatic vegetation was not a concern at the Corps water resource projects on the Savannah River. However, hydrilla, ***Hydrilla verticillata,*** was located in J. Strom Thurmond Lake and in the Duke Power Company's Keowee Lake which is located upstream of Hartwell Lake in 1995. Hydrilla typically spreads rapidly often-reaching nuisance levels that require management. Therefore, an aquatic plant management program was initiated in 1995 and has become a part of the on-going operations and maintenance of the three large Corps projects and at the New Savannah Bluff Lock and Dam.

Hydrilla was discovered growing in two locations in the Little River, Georgia arm of J. Strom Thurmond Lake in the fall of 1995. Both biotypes, monoecious and dioecious, were identified. Monoecious hydrilla is prevalent adjoining Cherokee Recreation Area. Of the two biotypes, monoecious hydrilla is least common nation wide. During initial stages of infestations, monoecious hydrilla tends to grow laterally along the lake bottom for one or more growing seasons before growing upward toward the surface. This growth characteristic makes locating new plant populations difficult and has contributed to hydrilla spreading throughout the middle and lower Little River embayment and into the lower Savannah River portion of J. Strom Thurmond Lake.

In response to these initial infestations in J. Strom Thurmond Lake, the Corps treated all known hydrilla infestations in 1996 (115 acres). In 1997, over half of the known areas of hydrilla infestations were treated (316 acres). During these treatments, five aquatic herbicides were evaluated for effectiveness under conditions specific to J. Strom Thurmond Lake. All herbicides tested appeared effective in reducing plant biomass in shallow water (less than 10 ft.), and in sheltered areas (coves). Results were not as encouraging in open water areas having a depth of ten feet or greater. Even after two treatments per growing season in high use areas, plants began to show signs of recovery prior to the end of the growing season. The management plans for these evaluations and test results are available for review at the J. Strom Thurmond Operations Project Manager's Office.

Hydrilla was discovered in Richard B. Russell Lake during summer 2002. Additionally, brazilian elodea (Egeria densa) and water primrose (Ludwigia uruguayenis) increased in abundance and distribution within the reservoir. The abundance and distribution, potential impacts on Project purposes, cost of treatment, available funding, and expected re-growth following treatment was considered for future management plans for Richard B. Russell Lake. Aquatic plant abundance and associated treatment cost was large enough to adopt the treatment guidelines and priorities outlined in this plan.

Brazilian elodea has been found in J. Strom Thurmond Lake in isolated patches since the early 1980s. It is also common in the Savannah River downstream of J. Strom Thurmond Dam. Water primrose (*Ludwigia uruguayenis*) is present in both Richard B. Russell and Hartwell Lakes but has not been at nuisance levels. Waterhyacinth (*Eichhornia crassipes*) and Brazilian elodea have been identified in the Savannah River upstream from the New Savannah Bluff Lock and Dam and may require treatment in the future to ensure proper operation of this facility. Also, due to the popularity of boating and fishing, it is anticipated additional aquatic plants of concern will be introduced into these Corps lakes.

Maps of the known distribution of aquatic plants of primary concern are found in Appendix B. A list of aquatic and shoreline plants that are common in the southeastern region can be found in Appendix C.

2.0 Affected Environment

2.1 General Project Descriptions

Hartwell, Richard B. Russell, and J. Strom Thurmond Lakes are multipurpose projects operated and maintained by the Corps. They are located on the Savannah River near the southeastern margin of the Piedmont Plateau Region. Both Georgia and South Carolina border these lakes. At normal pool, Hartwell Lake has a surface area of approximately 56,000 acres, Richard B. Russell 26,000 acres, and J. Strom Thurmond Lake 71,100 acres. Water levels in these reservoirs vary considerably. Lake levels are lowered on Hartwell and J. Strom Thurmond Lakes during the fall and early winter in anticipation of late winter and spring rains. Normal fluctuations at all three projects are on the order of 2 to 5 feet although, lake levels have receded as much as 18 feet below full pool during severe droughts in the 1980s.

The New Savannah Bluff Lock and Dam is a Corps structure located 13 miles downstream from Augusta, Georgia. The Augusta-Richmond County consolidated government operates the lock and recreation facilities. The dam structure is operated by the Corps as a re-regulation structure to maintain flows for water supply withdrawals upstream and down stream of the structure. The Corps management responsibilities for waters impounded by the New Savannah Bluff Lock and Dam are limited to the regulatory programs authorized by Section 10 of the Rivers and Harbors Act (33 U.S.C. 403) and Section 404 of the Clean Water Act (33 U.S.C. 1344). Most of the property adjoining this portion of the Savannah River is in private ownership.

The climate of the area is temperate, characterized by long, hot summers and cool, short winters. However, water temperatures in the winter months drop sufficiently to cause most aquatic plants to become dormant.

Hartwell, Richard B. Russell, and J. Strom Thurmond Lakes are relatively deep having mean depths of 46, 40, and 36 feet, respectively. These impoundments can be turbid in the tributaries. The substrate of each lake varies dramatically from shallow fertile flats in the backs of coves to steep clay hardpan or rocky slopes in areas exposed to extensive wind and wave action. The water depth and morphology of these lakes indicate rooted aquatic plants will grow in a narrow band adjacent to the shoreline along main channel banks and in shallow water areas having suitable substrate. This may include coves, shoals, and points. Up to 20% to 30% of J. Strom Thurmond and Richard B. Russell Lake's total surface acreage may eventually be effected by aquatic vegetation in particular hydrilla. However, substrate type, lake level fluctuations, water clarity, and available nutrients should limit the total available habitat. Habitat suitable for hydrilla growth in Richard B. Russell and Hartwell Lakes is expected to be less than in J. Strom Thurmond since aquatic vegetation is limited by light penetration in deeper water and mean depth increases in these upstream lakes.

Respective Project Master Plans provide more detailed descriptions of each project. Also, the Savannah District Water Control Manual provides additional information concerning project operations. These documents are available at the Project Manager's Office for the project of interest. Additionally, the Savannah District Water Control Manual can be located on the Internet at http://saswc1.sas.usace.army.mil.

2.2 Lake Uses

The Corps lakes are used extensively for water based recreational activities including swimming, fishing, skiing, and pleasure boating. The estimated number of visitors in FY 02 for Hartwell, Richard B. Russell, and J. Strom Thurmond Lakes was 10.2, million, 1.2 million, and 7.8 million, respectively. There are many public recreation areas on these lakes operated by the Corps, state agencies, county governments, cities, the U.S. Forest Service, and private concessionaires. Numerous resort communities also adjoin both Hartwell and J. Strom Thurmond Lakes.

Municipalities withdraw water from all three lakes to serve their water systems. Adjoining property owners, homeowners associations, and state parks for irrigation purposes have installed numerous water intakes. Dry hydrant intakes have been installed by local fire departments to support firefighting efforts.

Hydroelectric power production is an essential part of operations for these Corps impoundments. The annual power production for Hartwell, Richard B. Russell, and J. Strom Thurmond Lakes is approximately 453, 464.5, and 698 megawatt hours, respectively. The addition of four pump turbine units in the Richard B. Russell power plant has recently been completed.

2.3 Biotic Communities

Hartwell, Richard B. Russell, and J. Strom Thurmond Lakes support fish populations typical of most large southeastern reservoirs. Predominant sport species include largemouth bass, bream, crappie, catfish, striped bass, and hybrid bass. Predominant forage species include blueback herring, gizzard shad, and threadfin shad.

Migratory waterfowl use these lakes on a limited basis. Loons, coots, woodducks, and mallards are relatively common. Through the combined efforts of the Corps, the South Carolina Department of Natural Resources, and the Georgia Department of Natural Resources, a resident flock of Canada geese has been established.

Shorebirds including herons, seagulls, and terns and some species of upland wildlife including white-tailed deer, doves, rabbits, and various songbirds use shoreline and drawdown zones for feeding and cover. Beavers, muskrats, and otters are common along the shoreline.

These lakes have never had an abundance of aquatic vegetation to provide fish and wildlife benefits. The growth of native aquatic plant species has been limited primarily by fluctuating lake levels, lack of suitable substrate, and relatively low fertility. However, an informal survey of J. Strom Thurmond Lake indicates that the abundance of aquatic plant species such as pondweed, naiads, maiden cane, and watergrass has increased within the last several years. This may be due in part to relatively stabile water levels in recent years and the continued deposition of sediments that favor plant growth.

There are no known Federally listed endangered species that only inhabit shoreline or open water areas of these Corps lakes. Southern bald eagles, a threatened species, have been nesting on lands around the J. Strom Thurmond Lake with increasing frequency. The lake is probably one of their major sources of food. A complete list of endangered and threatened species in the project area can be found in the Threatened and Endangered Species Manual for the Upper Savannah River Basin, U.S. Army Engineer District Savannah, December 2002.

The Rocky Shoals Spider Lilly is listed as an endangered species by the state of Georgia. Its only known location in J. Strom Thurmond Lake is at Anthony Shoals in the Broad River, a tributary to the lake. The Rocky Shoals Spider Lilly is also located in the Augusta Shoals area upstream from the New Savannah Bluff Lock and Dam. These areas are not expected to required aquatic plant management. If aquatic plant management is required in this area in the future, special consideration will be given to this endangered plant. Any action that may affect the plant will require obtaining prior approval from Georgia Department of Natural Resources.

3.0 Treatment Alternatives

3.1 General.

A complete assessment of alternative treatment methods is found in the *Environmental Assessment and Findings of No Significant Impact for Treatment of Nuisance Aquatic Vegetation at U.S. Army Corps of Engineers, Savannah District Water Resource Projects, South Carolina and Georgia, 1998* which is available at the respective project offices.

3.2 Unsuitable Treatment Alternatives

3.2.1 No action

Failure to treat nuisance levels of aquatic vegetation, especially in areas that severely impact project operations, public use, and water withdrawals is unacceptable.

3.2.2 Stocking sterile grass carp (*Ctenopharyngodon idella*)

The stocking of sterile grass carp is not viewed as a viable management alternative at this time. Since the three Corps reservoirs border two states, jurisdictional issues and interagency cooperation are major concerns. Each state has a different management position concerning the use of grass carp as part of an aquatic plant management program. While South Carolina aquatic plant control personnel have suggested that the Corps seriously consider the use of grass carp in J. Strom Thurmond Lake, the Georgia Department of Natural Resources is opposed to the unconfined stocking of grass carp in large public waters. Many issues related to the long term environmental effects resulting from the introduction of grass carp have not been adequately resolved.

The use of grass carp may be considered when infestations reach significant levels. There is a strong desire to have the Corps, the South Carolina Department of Natural Resources, and the Georgia Department of Natural Resources all agree to this management approach before implementation. It must be noted that a much more extensive environmental assessment of this alternative will be required prior to implementation.

3.2.3 Biological Control With Insects or Pathogens.

The use of insects or pathogens as a biological method to control hydrilla has yet to be effectively demonstrated at the operational level. Should this method prove to be effective in the future, this alternative can be revisited. It must be noted that a much more extensive assessment of this alternative will be required prior to implementation.

3.3 Preferred Treatment Methods

3.3.1 Herbicide Applications

The safe and effective use of aquatic herbicides to reduce nuisance levels of aquatic plants has been demonstrated nationwide. While herbicides applied in large reservoirs generally do not eradicate nuisance plants, the results of the applications do reduce water user conflicts without negative impacts to the natural resources.

Only those herbicides classified as "general use" by the Environmental Protection Agency (EPA) will be utilized. General use herbicides have been determined to not cause or pose an unreasonable risk to people or the environment when label instructions are followed. Appendix D contains web sites for current specimen labels (use instructions and warnings) for herbicides commonly used for the treatment of aquatic vegetation. These specimen labels include water use restrictions. Specific herbicides to be used in a given area will be determined by the effects of water use restrictions, cost, and desired level of control.

Herbicides will be applied by a contractor licensed in the Aquatic Plant category by the appropriate state. Contractors will be required to utilize application equipment that is capable of metering the herbicide as it is applied to assure proper application rate.

3.3.2 Mechanical Removal

Mechanical removal of aquatic vegetation will alleviate many of the problems associated with user conflicts. However, mechanical control has not proven to be an economically feasible or technically viable option for aquatic plant management on other large reservoirs due to the high cost per acre to remove and dispose of vegetation. Plant fragments that escape during the harvesting process can drift to uninfested areas and establish new plant populations. The abundance of submerged obstacles in the lake and the undulating substrate in most areas makes operating the harvesting equipment difficult. Mechanical harvest cutting depth is limited to 5 or 6 feet deep. Therefore, mechanical removal requires repeated harvests each growing season.

Mechanical removal of aquatic vegetation may be utilized when the water use restrictions from herbicide applications are unacceptable such as around municipal water intake structures and irrigation intakes. However, due to the large areas of shoreline involved around beaches, boat ramps, and other public use areas, mechanical removal is not recommended in these areas.

3.3.3 Water Level Management

Water levels in the three reservoirs can be controlled to produce conditions detrimental to the growth of rooted aquatic plants. Drawdowns are effective in killing the vegetative portions of plants such as hydrilla and elodea. If the draw down is timed to coincide with winter freezing, root structures may also be killed. However, studies at the Corps Waterways Experiment Station have found that hydrilla tubers can survive up to six years in hydrated soils and establish new growth when inundated. Therefore, water level management is not expected to be a tool to completely eliminate hydrilla within these lakes. Repeated drawdowns would be required to maintain aquatic vegetation below nuisance levels.

Draw downs during the summer months have been used in some reservoir systems to dry plants that grow to the surface and create thick mats along the reservoir margins. Summer drawdowns are usually applied in reservoirs with short water retention times, which make it possible to refill them quickly. These draw downs are usually short in duration (2 to 3 weeks) and do not include large changes in pool elevation (only 2 to 3 feet). Hartwell, Richard B. Russell, and J. Strom Thurmond Reservoirs have long water retention times and would require an extended period to refill, making a summer draw down marginal as a management option.

The J. Strom Thurmond and Hartwell reservoirs are typically drawn down in the winter months to provide additional storage for spring floods. Normal winter drawdowns could be expanded in either elevation or duration with the intent of drying areas where rooted vegetation has become established without major impacts to project uses. The potential cost savings for aquatic plant control using water level management must be weighed against potential lost benefits if the reservoir cannot be refilled in at timely manner. The J. Strom Thurmond Project staff will continue to monitor the effects of drawdowns on aquatic vegetation resulting from normal project operations. Information gathered will assist in determining the effectiveness and extent to which drawdowns may be used in conjunction with other aquatic plant management measures.

Water level management may be integrated into other treatment methods to increase overall effectiveness once nuisance levels of aquatic vegetation become problematic over a substantial portion of a reservoir. For example, plant beds can be located, mapped, and treated with herbicides more efficiently after lake levels have been lowered in the late summer or early fall. This would increase the effectiveness and reduce the cost of treatment. However, draw downs sufficient in magnitude (greater than 15 feet) and duration (more than 12 months) to provide long term control of hydrilla and other aquatic plants cannot be accommodated without major impacts to public use and project operations.

The New Savannah Bluff Lock and Dam is designed to maintain a relatively stable pool elevation with fluctuations insufficient to impact aquatic plants. Large reductions in the pool elevation would adversely impact municipal and industrial water withdrawals located upstream and downstream from the dam. Therefore, applications of water management techniques are not proposed at the New Savannah Bluff Lock and Dam.

3.4 Treatment Impacts

3.4.1 Impact to Public Use

Many of the user conflicts associated with the over abundance of aquatic vegetation can be minimized by reducing the biomass of these plants. Through regular treatments, selected shoreline areas can be maintained relatively free of aquatic vegetation that would otherwise restrict activities such as swimming and boat access.

Some aquatic herbicides have water use restrictions related to swimming and the consumption of fish caught in the treated area. The longest of these restrictions is 3 days. When such herbicides are used, the treated areas will be posted to advise lake users of these restrictions. Due to the availability of alternate recreation facilities and fishing areas, this should not pose an undue hardship on lake users. It should be noted that some aquatic herbicides do not carry water use restrictions for swimming and fish consumption and therefore would pose no inconvenience to the lake users except during the actual application. The decision on which herbicide to use will be based on an assessment of the herbicides demonstrated effectiveness, cost, and the impacts of the water use restrictions.

No water use restrictions are imposed following mechanical removal. However, insect and odor control problems have been associated with the improper disposal of plant material.

It is anticipated that drawdowns to facilitate aquatic plant management activities will be conducted during the fall and winter. This should have minimal effects on the majority of recreation users provided lake levels return to normal the following recreation season.

3.4.2 Impact to Biotic Communities

One of the major advantages of herbicide applications is that they can be applied directly to specific problem areas and specific target plant species. Sensitive areas can easily be avoided by proper planning. While non-target species of aquatic plants may be impacted in the treatment areas, the effect on the aquatic plant community lake wide should be minimal.

During EPA's approval process, numerous studies have been conducted to assure that approved aquatic herbicides, when applied in accordance with label instructions, cause minimal adverse effects to fish and wildlife. Approved herbicides do not accumulate in the environment. They break down rapidly through processes such as biotransformation, hydrolysis, oxidation, proteolysis, or volatilization. Application of herbicides from the shoreline outward minimizes the entrapment of fish in the treated areas.

Dissolved oxygen depletion caused by the decay of aquatic vegetation following treatment is a concern in areas of limited water circulation. This concern can be minimized by treating such areas in stages over an extended period.

Mechanical harvesters pose minimal concerns for fish and wildlife. However, because small fish hide in vegetation, some small fish may be removed along with the plants. Plant fragments which escape during the harvesting can drift to uninfested areas and establish new plant populations.

Fall and winter draw downs in excess of those normal associated with flood control activities should have minimal effect on native aquatic communities. The majority of desirable aquatic vegetation reproduces annually from seed or produce rhizomes that can over winter in moist soils. Most shoreline vegetation can tolerate dry conditions during the winter dormancy period. However, short-term impacts may be significant if the lake cannot be refilled prior to the next spawning and growing season.

3.4.3 Impacts to Water Withdrawals

Most aquatic herbicides have some restrictions for their use in the vicinity of intakes used to supply drinking water. Treatment of infestations adjoining these intakes will require the careful selection of herbicides or mechanical harvesting. Municipal water intakes are located well below anticipated draw down levels.

Likewise, aquatic herbicides have restrictions for use in the vicinity of intakes used for irrigation purposes. Either irrigation must be suspended during the restriction period or the nuisance plants must be removed by mechanical means. However, some intakes will be inoperable during periods of draw down.

Application of aquatic herbicides and mechanical removal of vegetation should have minimal effects on the use of dry hydrants. However, most dry hydrants will be inoperable during periods when draw down exceeds five feet.

3.4.4 Impacts to Hydropower Production

Impacts of herbicide applications and the use of mechanical harvesters for managing aquatic vegetation should have minimal effect on hydropower production. Due to the rapid decomposition and dilution of the herbicides in the lake system, herbicides should have no effect on plant life downstream of the dams.

Under normal conditions, water level management activities can be altered between the three projects to minimize the effects on hydropower production and flood control when one lake is drawn down for aquatic plant management activities. However, hydropower production may be significantly impacted if late winter and spring rains are substantially below normal and the reservoirs cannot be refilled.

3.4.5 Economic Impacts

The application of aquatic herbicides and mechanical removal should have minimal effect on the local economy. Water use restrictions in specific areas which effect visitor usage are short term in nature and can be minimized by herbicide selection and the timing of the application. Economic impacts from fall/winter draw down should be minimal unless the reservoir cannot be refilled by the next recreation season.

The most significant economic impact will be to the budgets of government agencies, concessionaires, and adjoining property owners. Cost for past herbicide applications at the J. Strom Thurmond Project range from $240 per acre to $950 per acre. This wide range of cost is highly dependent on which chemicals were used.

3.5 Recommendations

The use of aquatic herbicides approved for general use in accordance with manufacture's instructions is the most economical and environmentally prudent option for the treatment of hydrilla and other aquatic vegetation based on the present levels of infestation and anticipated rate of spread. Mechanical removal of aquatic vegetation may be considered when the water use restrictions from herbicide applications are unacceptable such as around municipal water intake structures and irrigation intakes.

By using herbicide applications and mechanical removal in combination, the major impacts to users and environmental resources can be reduced or eliminated. Herbicide applications may be used in those areas where water use restrictions do not pose long-term impacts to the operation of facilities or the biotic community. Mechanical removal should be considered for use in those areas where herbicide uses pose significant negative impacts such as around municipal or irrigation water intake structures.

Water level management may be integrated into other treatment methods to increase overall effectiveness once nuisance levels of aquatic vegetation become problematic over a substantial portion of a reservoir. The J. Strom Thurmond Project staff will continue to monitor the effects of drawdowns on aquatic vegetation resulting from normal project operations.

4.0 Management Strategy

4.1 Management Goal

It is the goal of the aquatic plant management program to minimize impacts to authorized project purposes caused by nuisance levels of aquatic vegetation. However, all programs must compete for limited funding. Therefore, the Corps of Engineers will not be able to treat all areas where aquatic vegetation reaches nuisance levels. Furthermore, as stewards of the taxpayer's money, it is understood that the benefits derived from treatment should exceed the cost of treatment. It is imperative that strong partnerships with state agencies, county governments, and private concessionaires be formed in order to meet public use demands.

4.2 Treatment Guidelines and Priorities

Each Operations Project Manager is responsible for determining available funding for treatment of nuisance levels of aquatic vegetation, establishing treatment area priorities, and coordinating treatment of non-Corps areas with outgrantees. Unless special appropriations are made for aquatic plant management, funding for this program must compete with other project programs, i.e., powerplant maintenance, recreation management, and natural resources management. In some instances, public use areas may not be treated when the funds are required for higher priority work in other program areas. Treatment of an area one or more times by the Corps does not constitute a commitment for continued treatment.

To establish a consistent and fair aquatic plant treatment program, the Savannah District has developed criteria that will be used to establish treatment priorities. These criteria will be applied to all areas identified as having nuisance levels of aquatic vegetation. Application of these requirements and development of a priority list will require regular communications with outgrantees and professional judgment by managers to determine the most effective expenditure of public funds. The criteria on the following page will be used annually to establish a priority list of treatment areas.

	Treatment Criteria
1.	Does treatment support one or more authorized project purposes? - Flood Control - Power Generation - Downstream Navigation - Recreation Management - Fish and Wildlife Management - Water Supply - Water Quality
2	Can the area be treated effectively with minimal adverse environmental or operational impacts?
3	Does anticipated loss of direct and indirect monetary benefits exceed the cost of treatment? - Direct monetary benefits - user fees collected, losses from water revenues, hydropower losses - Indirect monetary benefits - the estimated $ spent in the local community by the recreation user, estimated cost to local economy if municipal water supply is partially interrupted
4	Is this the only facility within a 5-mile radius (road miles) that will meet the user's demand?
5	Will operation of other areas be adversely effected if treatment is not made? (over used, inaccessible, etc.)
6	Will there be significant environmental, public safety, and health concerns if the area is not treated? (loss of aquatic habitat, vector control, crowding of major navigation channels, dry hydrant inoperable)
7	Will nuisance aquatic plants likely be transported to other areas of the lake or other lakes if the area is not treated?
8	Is the area/facility used by multiple user groups? - Recreation (pleasure boaters, fishermen, swimmers, campers, adjoining property owners) - Water intakes (municipal water users, irrigation)
9	Is operation of the area a priority function of the managing agency?
10	Is treatment consistent with the terms of the outgrant instrument?
11	Will the managing agency contribute (cost share) toward treatment of the area?

Treatment priorities will be established early each fiscal year (October or November) to facilitate planning and preparation of contract specifications for the next growing season. These treatment priorities will be coordinated with affected outgrantees as early as possible each year. Treatment areas will be subject to change during in the fiscal year due to budgetary constraints, discovery of new plant populations, and additional participation by non-Corps agencies. It must be noted that treatments may be split between fiscal years due to funding requirements or the rate of plant growth and migration. Appendix A contains treatment plans for the upcoming growing season and a summary of activities conducted the previous year. This appendix will be updated annually and distributed to effected parties.

4.3 Treatments Conducted by Others

4.3.1 Non-Corps Public Recreation Areas

Herbicide and mechanical treatments of nuisance levels of aquatic vegetation adjoining outgranted areas may be undertaken by Georgia Department of Natural Resources, South Carolina Department of Natural Resources, county government agencies, marina concessionaires, and the Fort Gordon Recreation Area directorate provided:

a. Only those herbicides classified as "general use" by the U.S. Environmental Protection Agency and designated for use on the target plant species may be utilized.

b. Herbicides must be applied by an applicator licensed in the Aquatic Plant category by the appropriate state. Applicators will be required to utilize application equipment capable of metering the herbicide as it is applied to assure proper application rate.

c. The managing agency is responsible for posting and enforcing all water use restrictions as specified on the label when using aquatic herbicides.

d. Plant waste generated by mechanical harvesting must be disposed of in a manner that does not to return plant fragments to the lake or result in insect and odor control problems.

e. The managing agency assumes full responsibility for any damage claims arising from such treatments.

A permit from the Corps is not required for such undertakings. However, managing agencies should inform the Operations Project Manager of their intent to treat specific areas. This will facilitate planning aquatic plant management activities by the Corps.

Permits are required for the installation of bottom barriers in accordance with the Section 10 Permit process. Such permits must be issued through the Regulatory Functions Branch of the Savannah or Charleston Districts. Permit fees are normally assessed for processing Section 10 Permits. Coordination with the appropriate project office is also required.

4.3.2 Adjoining Property Owners and Other Outgrantees.

Adjoining property owners and other outgrantees may treat nuisance levels of aquatic vegetation in the vicinity of their property. For the purposes of this plan, adjoining property owners are defined as persons or groups who have been issued a Permit/License for Lakeshore Use in accordance with the respective project's Shoreline Management Plan. Other outgrantees are those organizations, agencies, or companies that have been issued a lease, permit, easement, or license for use of public property.

Such entities include quasi-public organizations, private clubs, utility companies, and state highway departments.

In the interest of public health and safety, adjoining property owners and other outgrantees are required to obtain a permit from the Project Office for the herbicide treatments or mechanical harvesting of nuisance vegetation. The permits will be issued at no charge to the permittee. *Sample permits are shown in Appendix E*. Permits will contain the following conditions as applicable:

a. Only those herbicides classified as "general use" by the U.S. Environmental Protection Agency and designated for use on the target plant species may be utilized. Target species, site location, and herbicide to be used will be specified on the permit.

b. Herbicides must be applied by an applicator licensed in the Aquatic Plant category by the appropriate state. Applicators will be required to utilize application equipment that is capable of metering the herbicide as it is applied to assure proper application rate.

c. The permittee is responsible for posting water use restrictions and assuring other outgrantees operating water withdrawal systems in the vicinity are notified prior to the herbicide applications. (A list of water withdrawal systems operators will be maintained at the Project Office.)

d. Plant waste generated by mechanical harvesting must be disposed of in a manner that does not return plant fragments to the lake or result in insect and odor control problems.

e. The permittee assumes full responsibility for any damage claims arising from such treatments.

Permits are required for the installation of bottom barriers in accordance with the Section 10 Permit process. Such permits must be issued through the Regulatory Functions Branch of the Savannah or Charleston Districts. Permit fees are normally assessed for processing Section 10 Permits. Coordination with the appropriate project office is also required.

Permits are not required for the cutting and removing of aquatic vegetation from around private boat docks and single lane boat channels provided such work is accomplished with hand tools only.

4.4 Public Education

The following public educational activities will be implemented once hydrilla or other aquatic plants of potential concern are detected in a particular lake in an effort to reduce their spread:

a. Nuisance aquatic plant warning signs will be installed at all public boat ramps. The Corps of Engineers will provide these signs. Each managing agency will be responsible for installation and maintenance of these signs.

b. A flyer explaining the aquatic plant management program and outlining measures lake visitors can take to reduce the spread of nuisance aquatic plants will be made available to the public through the Project Visitor Centers, Corps recreation area gate houses, state park offices, and marinas.

c. As appropriate, news release and interpretive programs will contain information concerning measures visitors can take to reduce the spread of nuisance aquatic plants.

4.5 Surveillance and Monitoring Aquatic Vegetation

Reasonable efforts will be made to detect aquatic plants of concern before they become firmly established in an area. Most ranger personnel have received training necessary to identify aquatic vegetation common to this area. All reports of hydrilla or other aquatic vegetation of potential concern will be investigated. Periodic surveys will be conducted at all projects to identify new nuisance plant populations and determine the migration of existing populations. Aerial surveys will be conducted in late summer or fall when plant growth is expected to be at or near the surface. Maps will be maintained at each project office depicting the known distribution and estimated acreage of hydrilla and other aquatic vegetation of concern.

Little information concerning the rate of migration of aquatic plants, especially hydrilla, in relatively deep lakes is available. Additionally, information pertaining to the growth characteristics of monecious hydrilla is lacking. Therefore, migration and growth characteristics of hydrilla are being monitored closely by the J. Strom Thurmond Lake Staff in order to facilitate planning future management activities. Monitoring is also expected to provide beneficial information should hydrilla become established in Richard B. Russell or Hartwell Lakes.

4.6 Monitoring the Effects of Nuisance Levels of Aquatic Vegetation

The effects of nuisance levels of aquatic vegetation on lake users, waterfowl, and aquatic communities are usually surveyed and documented after infestations are well established. Little information has been located concerning impacts of hydrilla in lakes the size and depth of those along the Savannah River. Since the 1950s, the Savannah District in conjunction with the state departments of natural resources has had ongoing data collection processes to obtain information pertaining to visitation,

visitor activities, waterfowl populations, and fish populations. Information pertinent to the aquatic plant management program will be collected through existing data collection methods such as creel surveys and visitor use surveys. Such comparative information will afford an opportunity to better quantify the effects of nuisance levels of aquatic vegetation and better establish treatment priorities.

5.0 Coordination

This plan was made available for public review. The Savannah District coordinated this plan with Federal and State Resource Agencies and issued news releases to solicit comments from the public (Appendix F).

Annual treatment plans will be coordinated with affected outgrantees and will be made available to interested parties upon request.

6.0 APMP Revisions

The APMP will be reviewed annually to assure aquatic plant management activities are consistent with the stated objectives and methods. Significant changes to this plan will be coordinated with interested parties.

Appendix A

Annual Aquatic Plant Treatment Plan

And

Summary of Previous Year's Management Program

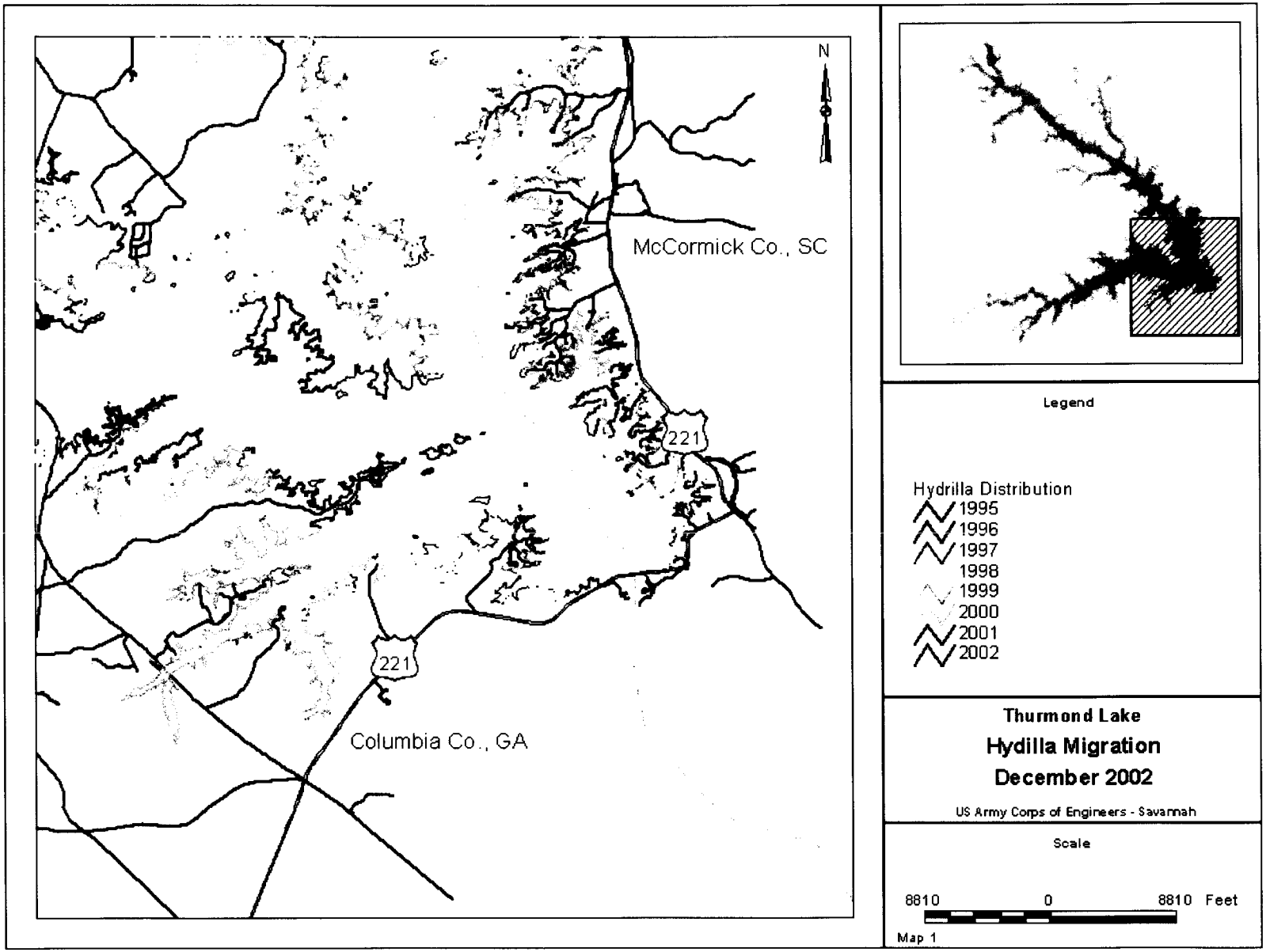
SEE ANNUAL APPENDIX A UPDATE

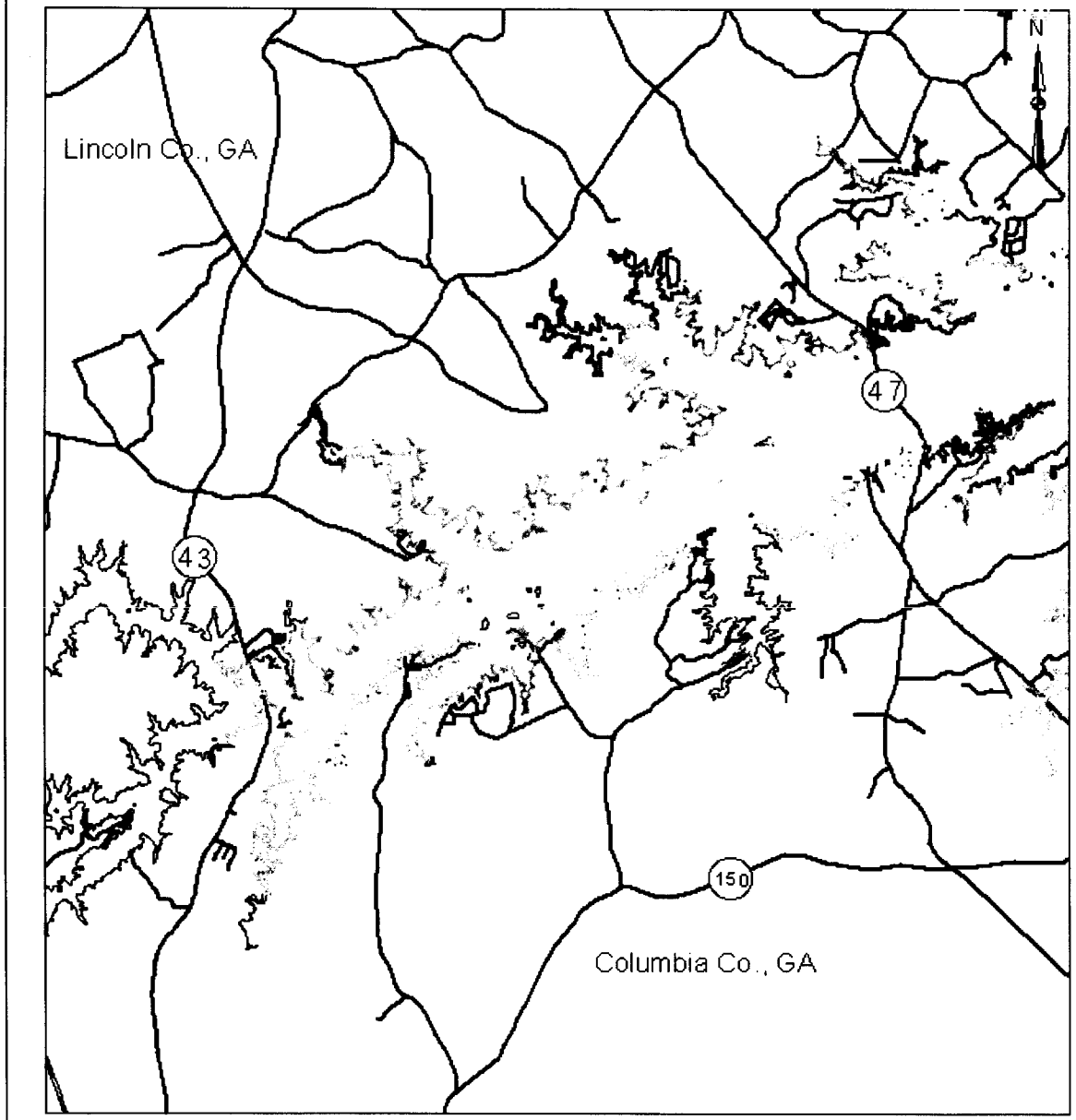
APPENDIX B

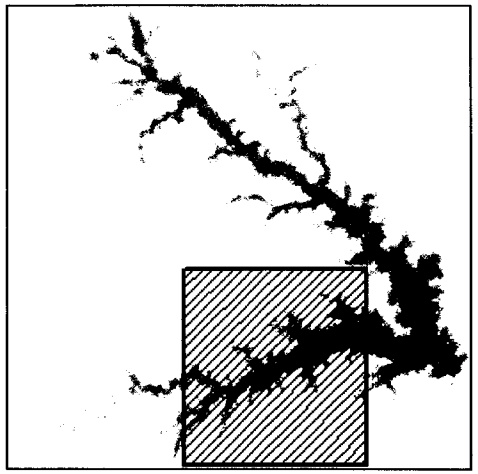
KNOWN DISTRIBUTION OF AQUATIC PLANTS OF PRIMARY CONCERN

PROJECT VICINITY MAPS

Updated December 2002


N
McCormick Co., SC
221
221
Columbia Co., GA
Legend
Hydrilla Distribution
1995
1996
1997
1998
1999
2000
2001
2002
Thurmond Lake
Hydilla Migration
December 2002
US Army Corps of Engineers - Savannah
Scale
8810
0
8810 Feet
Map 1





Legend

Hydrilla Distribution
1995
1996
1997
1998
1999
2000
2001
2002

Thurmond Lake

Hydilla Migration

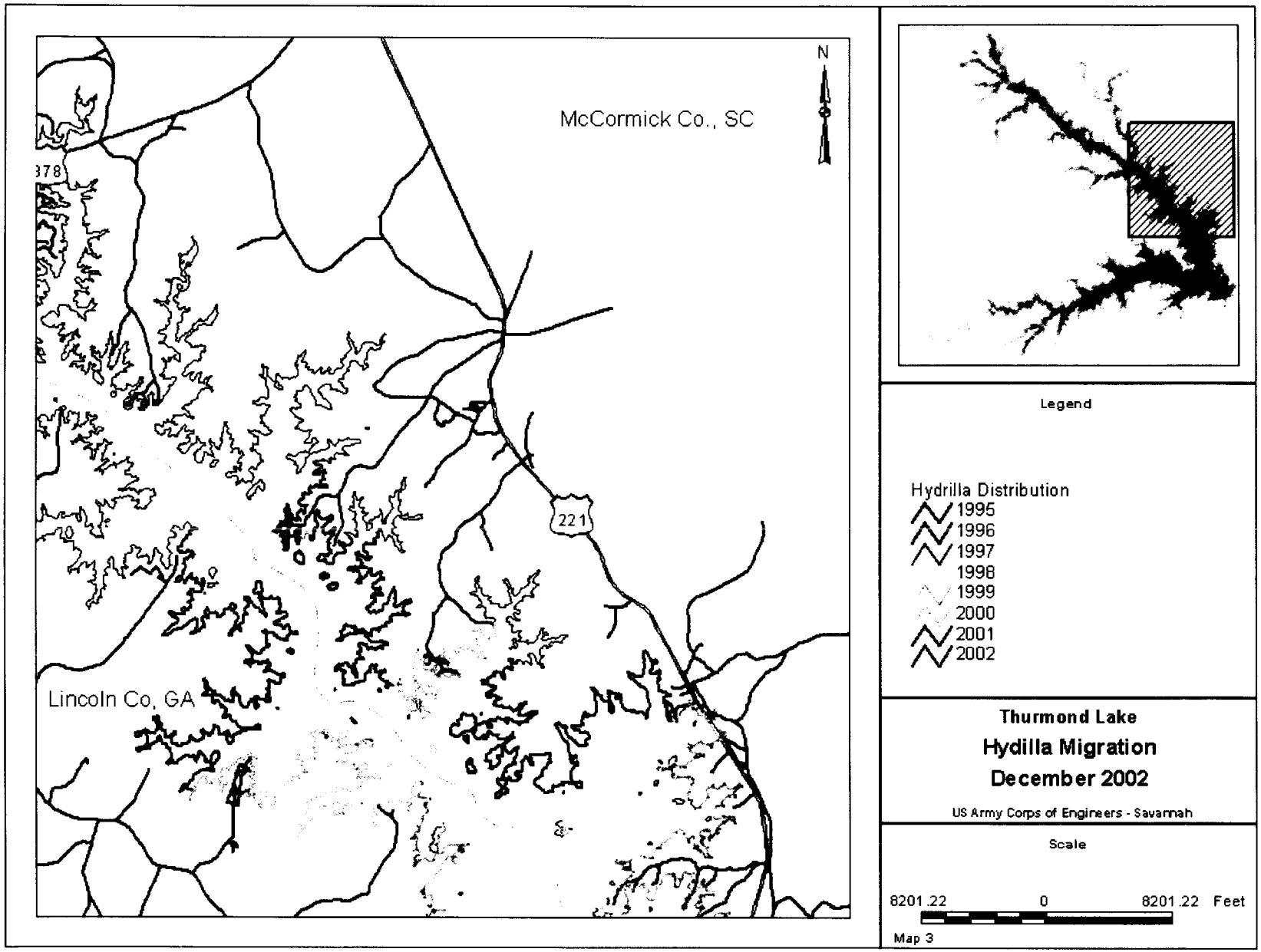
December 2002

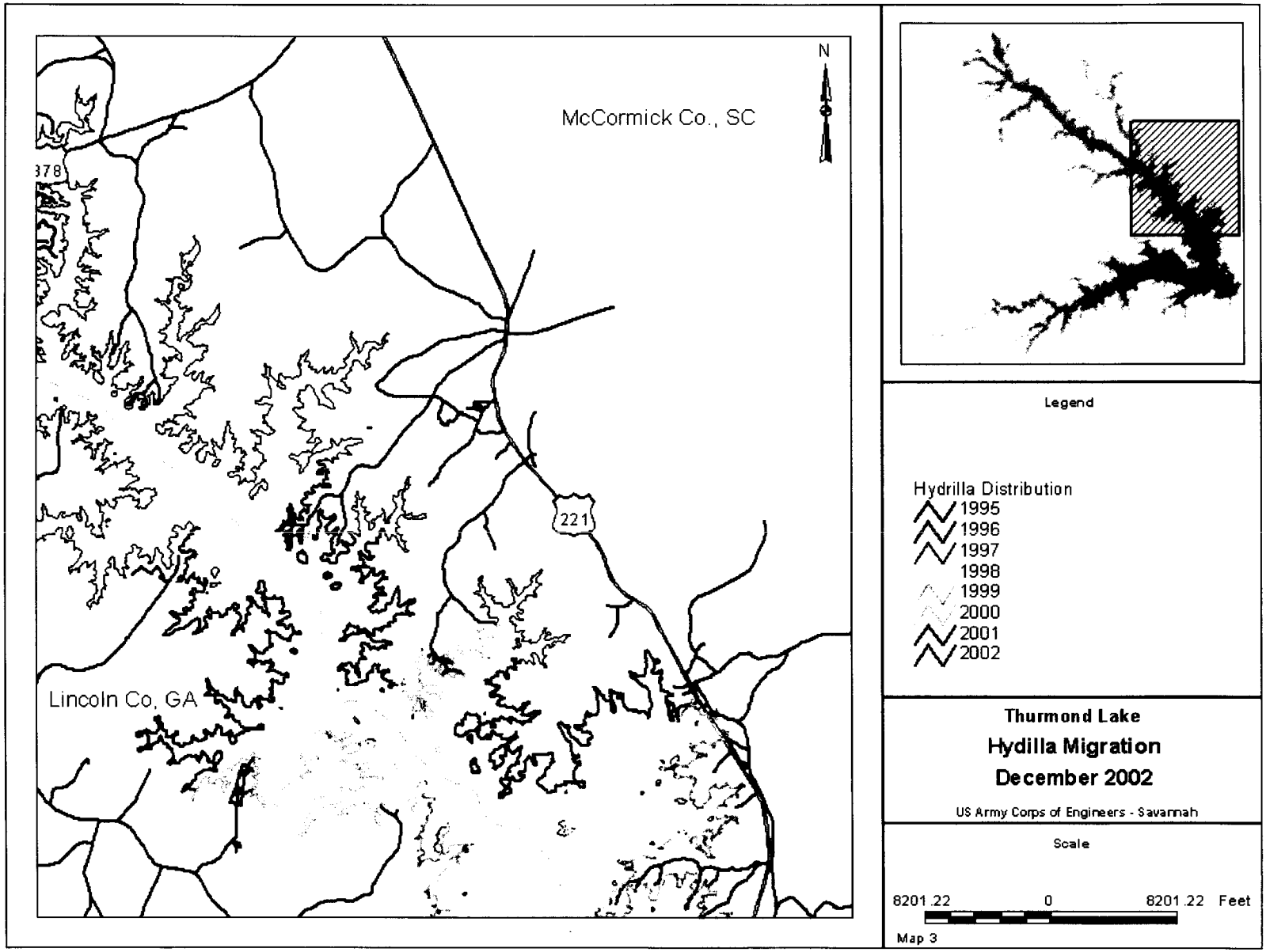
US Army Corps of Engineers - Savannah

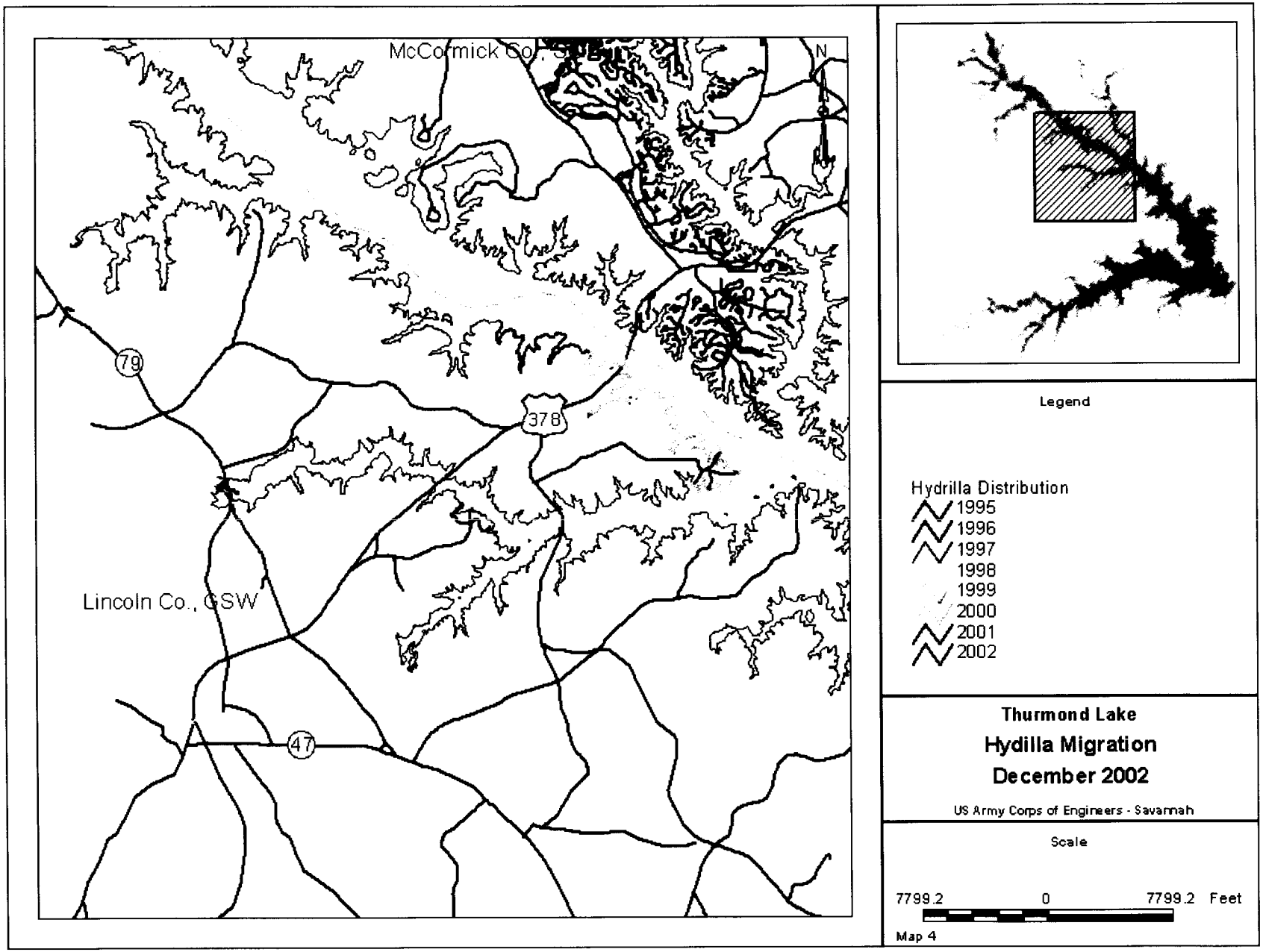
Scale

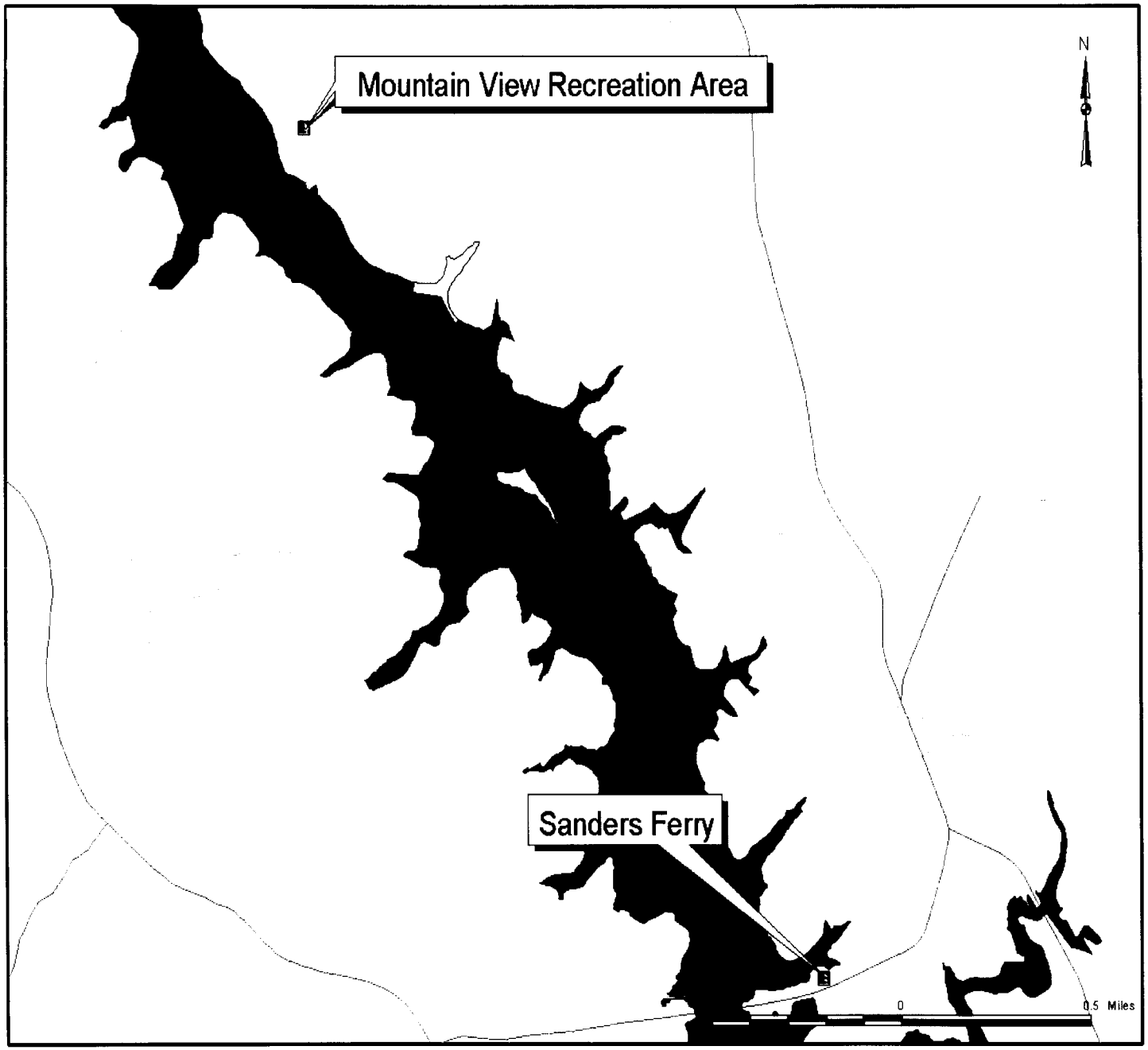
10303.22 0 10303.22 Feet

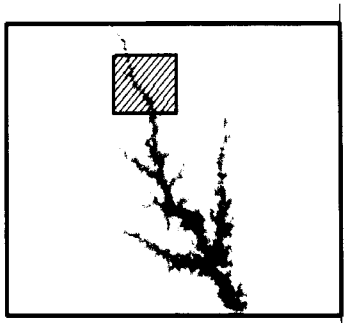
Map 2


N
McCormick Co., SC
378
221
Lincoln Co, GA
Legend
Hydrilla Distribution
1995
1996
1997
1998
1999
2000
2001
2002
Thurmond Lake
Hydilla Migration
December 2002
US Army Corps of Engineers - Savannah
Scale
8201.22
0
8201.22 Feet
Map 3


N
McCormick Co., SC
378
221
Lincoln Co, GA
Legend
Hydrilla Distribution
1995
1996
1997
1998
1999
2000
2001
2002
Thurmond Lake
Hydilla Migration
December 2002
US Army Corps of Engineers - Savannah
Scale
8201.22
0
8201.22 Feet
Map 3


McCormick Co., SC
N
79
378
Lincoln Co., GSW
47
Legend
Hydrilla Distribution
1995
1996
1997
1998
1999
2000
2001
2002
Thurmond Lake
Hydilla Migration
December 2002
US Army Corps of Engineers - Savannah
Scale
7799.2
0
7799.2 Feet
Map 4





LEGEND

- Parks and Recreation

Roads
- Primary
- Secondary
- foodplot

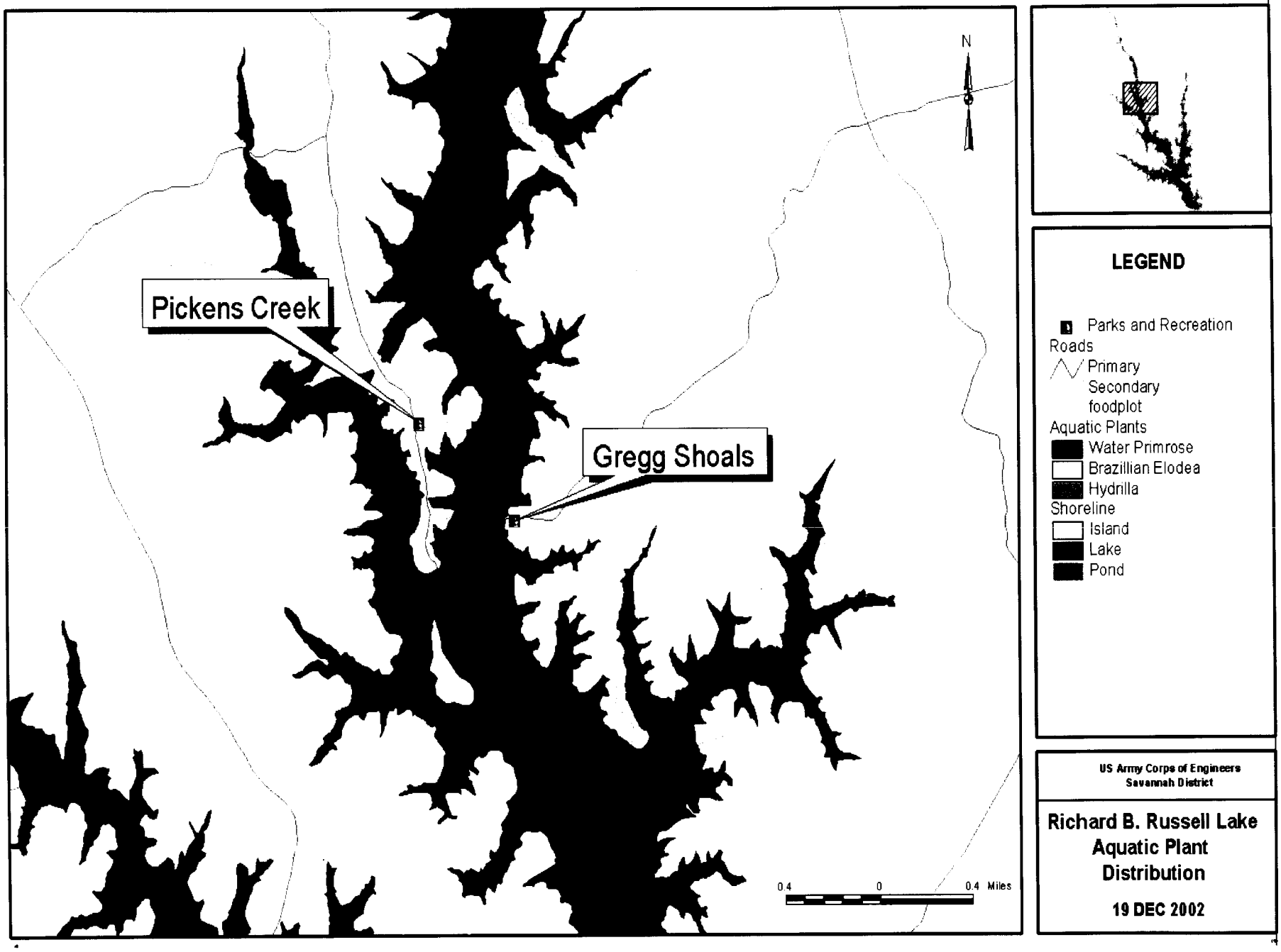
Aquatic Plants
- Water Primrose
- Brazillian Elodea
- Hydrilla

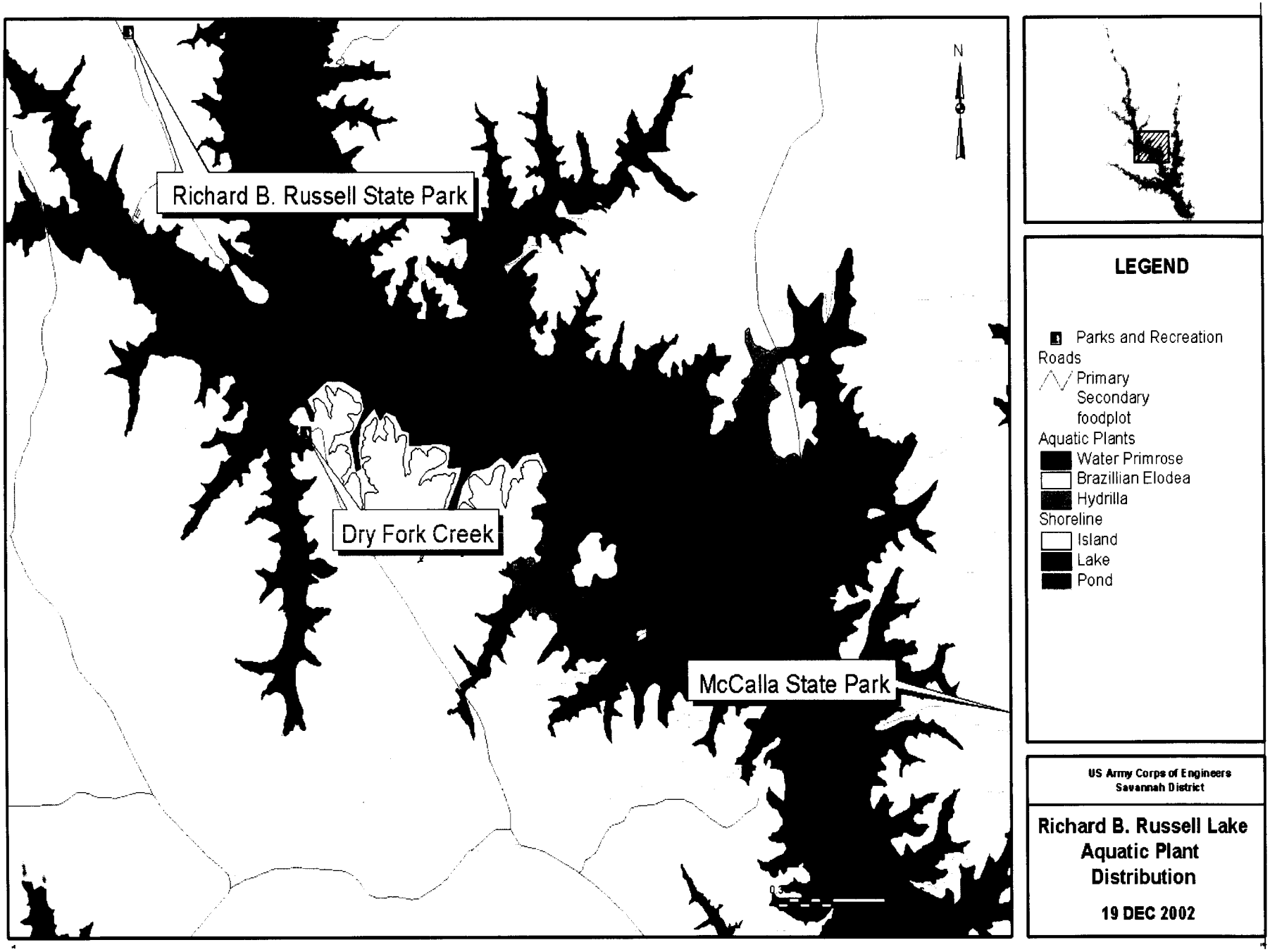
Shoreline
- Island
- Lake
- Pond

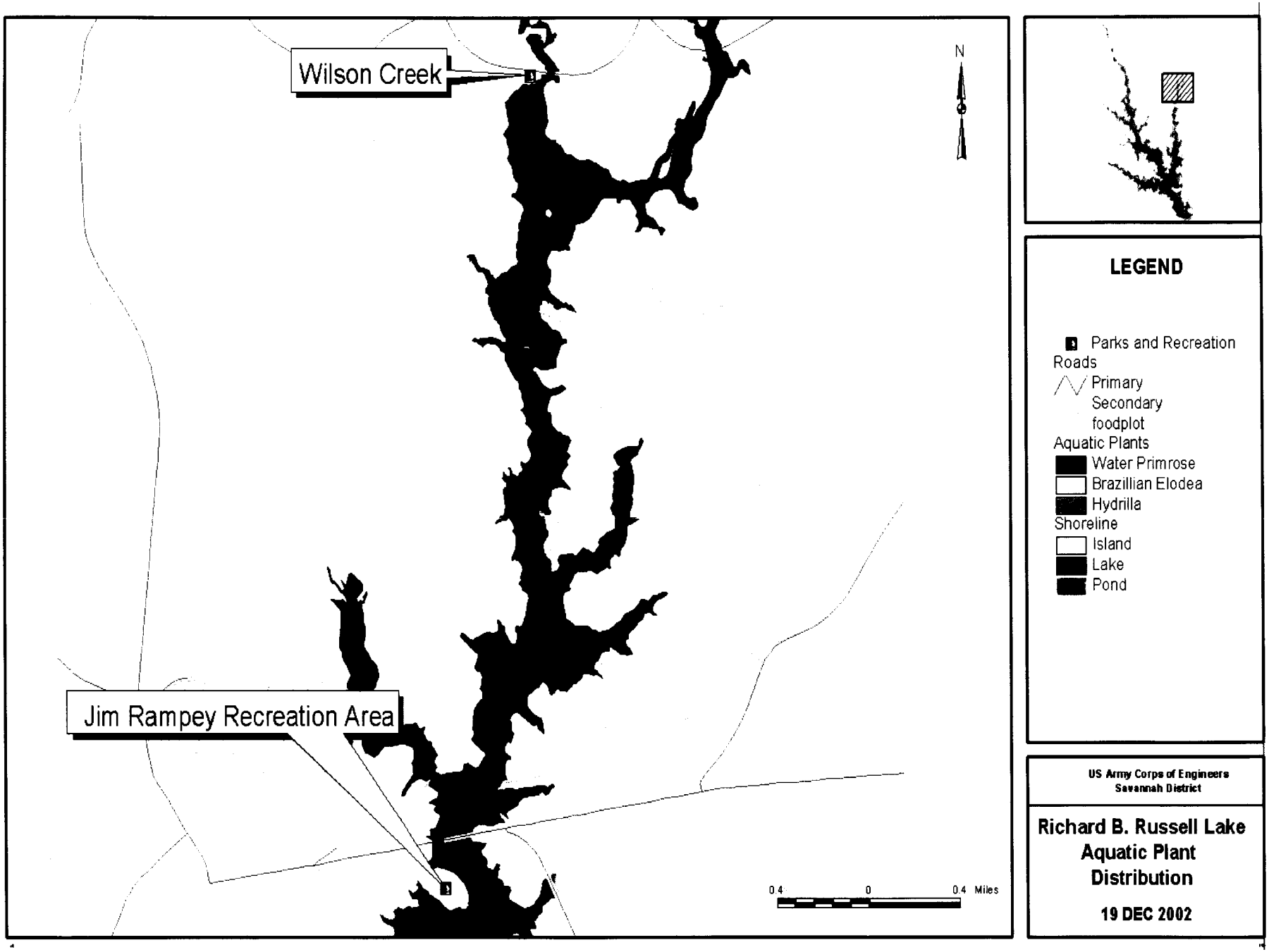
US Army Corps of Engineers
Savannah District

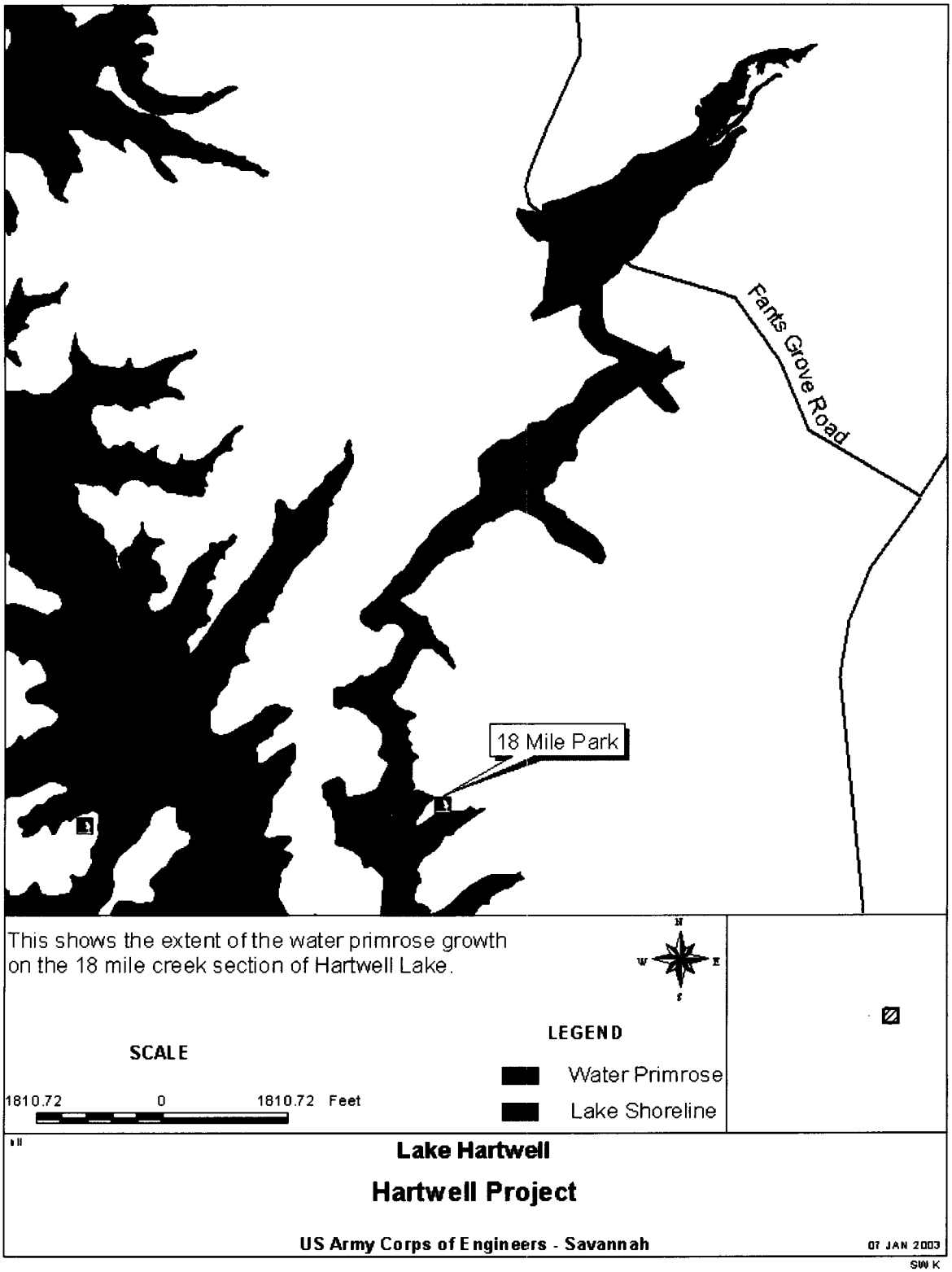
Richard B. Russell Lake Aquatic Plant Distribution

19 DEC 2002


N
Pickens Creek
Gregg Shoals
0.4
0
0.4 Miles
LEGEND
Parks and Recreation
Roads
Primary
Secondary
foodplot
Aquatic Plants
Water Primrose
Brazillian Elodea
Hydrilla
Shoreline
Island
Lake
Pond
US Army Corps of Engineers
Savannah District
Richard B. Russell Lake
Aquatic Plant
Distribution
19 DEC 2002


Richard B. Russell State Park
Dry Fork Creek
McCalla State Park
N
LEGEND
Parks and Recreation
Roads
Primary
Secondary
foodplot
Aquatic Plants
Water Primrose
Brazillian Elodea
Hydrilla
Shoreline
Island
Lake
Pond
US Army Corps of Engineers
Savannah District
Richard B. Russell Lake
Aquatic Plant
Distribution
19 DEC 2002


Wilson Creek
Jim Rampey Recreation Area
N
0.4
0
0.4 Miles
LEGEND
Parks and Recreation
Roads
Primary
Secondary
foodplot
Aquatic Plants
Water Primrose
Brazillian Elodea
Hydrilla
Shoreline
Island
Lake
Pond
US Army Corps of Engineers
Savannah District
Richard B. Russell Lake
Aquatic Plant
Distribution
19 DEC 2002


Fants Grove Road
18 Mile Park
This shows the extent of the water primrose growth on the 18 mile creek section of Hartwell Lake.
N
W
E
S
LEGEND
Water Primrose
Lake Shoreline
SCALE
1810.72 0 1810.72 Feet
Lake Hartwell
Hartwell Project
US Army Corps of Engineers - Savannah
07 JAN 2003
SWK

APPENDIX C

AQUATIC AND SHORELINE VEGETATION COMMON TO THE SOUTHEASTERN REGION

Species of Primary Concern

Scientific Name	Common Name
Egeria densa	Brazilian elodea, egeria
Eichhornia crassipes	Waterhyacinth
Hydrilla verticillata	Hydrilla
Ludwigia hexapetala	Water primrose
Myriophyllum aquaticum	Parrotfeather
Myriophyllum spicatum	Eurasian watermilfoil
Nelumbo lutea	American lotus, lotus lily, water chinquapin

Species of Lesser Concern

Scientific Name	Common Name
Alternanthera philoxeriodes	Alligatorweed
Cabomba caroliniana	Fanwort
Ceratophyllum demersum	Coontail, hornwort
Chara sp.	Chara, musk grass
Elodea canadensis	Elodea
Hibiscus moscheutos	Marsh Hibiscus
Hydrochloa caroliniensis	Southern watergrass
Hyrocotyle umbellata	Water pennywort
Justicis americana	Waterwillow
Najas guadalupensis	Southern naiad

Species of Lesser Concern (Con't)

Scientific Name	**Common Name**
Najas minor	Slender naiad, spiny-leaf naiad
Nymphaea odorata	Fragrant waterlily
Paspalum fluitans	Water paspalum
Pontederia cordata	Pickerelweed
Potemogeton sp.	Pondweed
Sagittaria sp.	Arrowheads
Typha sp.	Cattail
Utricullaria sp.	Bladderwort

APPENDIX D

SPECIMEN LABELS FOR

HERBICIDES COMMONLY USED FOR THE TREATMENT

OF AQUATIC VEGETATION

Specimen labels and/or MSDS sheets for herbicides currently used to treat hydrilla may be viewed from the following web pages:

Komeen, Reward, Aquathol, and K-TEA:
http://www.cdms.net/manuf/default.asp

Sonar and Nautique
http://www.sepro.com/pdf_lit/aquatics.htm

Appendix E

SAMPLE PERMITS FOR

TREATMENT OF AQUATIC VEGETATION

PERMIT FOR HERBICIDE TREATMENT OF AQUATIC VEGETATION
J. STROM THURMOND PROJECT
US Army Corps of Engineers, Savannah District

Applicant (Designated Agent):	Permit Number:
Address:	Telephone Numbers: Residence: Work: Other:

Permittees (Participants in Herbicide Treatment Permit. Add additional sheet if necessary):

Name:	Address:	Telephone Number:

Treatment Area Location: Subdivision: Lot Number(s): Other:	Treatment Area Dimension and Size:
Target Plant Species:	Herbicide(s) to be applied:

PERMIT CONDITIONS HERBICIDE TREATMENT OF AQUATIC VEGETATION

1. This permit is issued by the undersigned authorized representative of the J. Strom Thurmond Project, Georgia and South Carolina, in accordance with the Aquatic Plant Management Plan for U.S. Army Corps of Engineer, Savannah District Water Resource Projects, South Carolina and Georgia and the Environmental Assessment and Finding of No Significant Impact, Management of Nuisance Aquatic Vegetation at U.S. Army Corps of Engineers, Savannah District Water Resource Projects on the Savannah River, South Carolina and Georgia, on this _____day of _____.

2. The permittee(s) agrees to and does hereby release and agree to save and hold the United States Government harmless from any and all causes of action, suits at law or equity or claims or demands or from any liability of any nature whatsoever for or on account of any injuries or damages to persons or property growing out of the execution of and activities under this permit.

3. The permittee(s) assume full responsibility for any damage claims arising from such treatments. This includes replacement of or restitution for non-target vegetation, wildlife, or fish killed as a result of herbicide applications.

4. Only those herbicides classified as "general use" by the U.S. Environmental Protection Agency and designated for use on the target plant species may be utilized.

5. Herbicides must be applied by an applicator licensed in the Aquatic Plant category by the appropriate state. Applicators will be required to utilize application equipment that is capable of metering the herbicide as it is applied to assure proper application rate. Herbicides will be applied in accordance with all appropriate Federal, state and local laws, rules and regulations.

6. The permittee(s) is responsible for posting water use restrictions in accordance with herbicide label instructions. Notice of these restrictions must be visible and legible within 150 feet of the treatment area.

7. The permittee(s) must assure others operating water withdrawal systems in the vicinity are notified prior to the herbicide applications. Required distances and restriction periods are listed on the herbicide label.

8. The J. Strom Thurmond Project Authorized Representative may terminate this permit at any time by giving written notice to the permittee(s). In the absence of any notice of termination, this permit will terminate 30 days from date of issuance.

9. The attached aquatic herbicide application record must be completed by the permittee and herbicide applicator and return it to the Operations Project Manager within seven (7) days of completion of work. Failure to do so may preclude issuance of future permits.

_____

J. Strom Thurmond Project Authorized Representative

We, the undersigned parties, hereby agree to abide by all conditions and restrictions of this permit. We have read and understand the permit conditions and restrictions. We further agree to have the attached herbicide application record completed and returned to the Operations Project Manager within seven (7) days of completion of work. We hereby appoint _____ as our designated agent under this permit with full power and authority to act in each and all of our names and on each and all of our behalves in performing the activities authorized under this permit and in complying with the terms and conditions of this permit; however, we agree to remain each and all fully bound by the terms and conditions of this permit. The above instrument, together with all the terms and conditions thereof, is hereby accepted this ____ day of _____, 1997.

_____ Date	_____ Signature of Permittee / Designated Agent
_____ Date	_____ Signature of Permittee
_____ Date	_____ Signature of Permittee
_____ Date	_____ Signature of Permittee
_____ Date	_____ Signature of Permittee
_____ Date	_____ Signature of Permittee
_____ Date	_____ Signature of Permittee
_____ Date	_____ Signature of Permittee
_____ Date	_____ Signature of Permittee
_____ Date	_____ Signature of Permittee
_____ Date	_____ Signature of Permittee
_____ Date	_____ Signature of Permittee

AQUATIC HERBICIDE APPLICATION RECORD
J. STROM THURMOND PROJECT

Permit Number:	Permittee / Designated Agent
Aquatic Herbicide Applicators Information	
Company Name:	Address:
License Number	Applicator's Name(s)
Aquatic Herbicide(s) Applied:	Application Rate: (Gallons per surface acre or parts per million)
Total Quantity of Herbicide(s) Applied: (Gallons)	Date of Application

I hereby certify the specified aquatic herbicide(s) was applied in accordance with label directions and restrictions and in accordance with the terms and conditions of this permit.

_____ _____

Date Signature

Return this form completed within seven (7) days of completion of treatment to:

U.S. Army Corps of Engineers
J. Strom Thurmond Project Office
Rt. 1, Box 12
Clarks Hill, SC 29821

PERMIT FOR THE MECHANICAL REMOVAL OF AQUATIC VEGETATION
J. STROM THURMOND PROJECT
US Army Corps of Engineers, Savannah District

Applicant / Designated Agent	Permit Number:
Address:	Telephone Numbers: Residence: Work: Other:

Permittees (Participants in Removal Permit. Add additional sheet if necessary):

Name:	Address:	Telephone Number:

Treatment Area Location: Subdivision: Lot Number(s): Other:	Plant Removal Area Dimensions:
Target Plant Species:	Equipment operators name and address:
Location of plant material disposal area:	

PERMIT CONDITIONS FOR THE MECHANICAL REMOVAL OF AQUATIC VEGETATION

1. This permit is issued by the undersigned authorized representative of the J. Strom Thurmond Project, Georgia and South Carolina, in accordance with the Aquatic Plant Management Plan for U.S. Army Corps of Engineer, Savannah District Water Resource Projects, South Carolina and Georgia and the Environmental Assessment and Finding of No Significant Impact, Management of Nuisance Aquatic Vegetation at U.S. Army Corps of Engineers, Savannah District Water Resource Projects on the Savannah River, South Carolina and Georgia, on this _____day of _____.

2. The permittee(s) agrees to and does hereby release and agree to save and hold the United States Government harmless from any and all causes of action, suits at law or equity or claims or demands or from any liability of any nature whatsoever for or on account of any injuries or damages to persons or property growing out of the execution of and activities under this permit.

3. The permittee(s) assumes full responsibility for any damage claims arising from such treatments. This includes replacement of or restitution for vegetation, wildlife, or fish killed as a result of harvest operations.

4. Plant waste generated by mechanical harvesting must be disposed of in a manner that does not return plant fragments to the lake or result in insect and odor control problems.

5. The J. Strom Thurmond Project Authorized Representative may terminate this permit at any time by giving written notice to the permittee(s). In the absence of any notice of termination, this permit will terminate 30 days from date of issuance.

_____

J. Strom Thurmond Project Authorized Representative

We, the undersigned parties, hereby agree to abide by all conditions and restrictions of this permit. We have read and understand the permit conditions and restrictions. We hereby appoint _____ as our designated agent under this permit with full power and authority to act in each and all of our names and on each and all of our behalves in performing the activities authorized under this permit and in complying with the terms and conditions of this permit; however, we agree to remain each and all fully bound by the terms and conditions of this permit. The above instrument, together with all the terms and conditions thereof, is hereby accepted this ____ day of _____, 1997.

Date	Signature of Permittee / Designated Agent
Date	Signature of Permittee
Date	Signature of Permittee
Date	Signature of Permittee
Date	Signature of Permittee
Date	Signature of Permittee
Date	Signature of Permittee

Appendix F

LIST OF FEDERAL AND STATE RESOURCE AGENCIES THAT REVIEWED THE DRAFT THE AQUATIC PLANT MANAGEMENT PLAN

The draft Aquatic Plant Management plan was sent to the following agencies and groups for review and comment:

Mr. Heinz J. Mueller, Chief
Environmental Policy Section
Federal Activity Branch
U.S. Environmental Protection Agency
Region IV
345 Courtland Street, NE.
Atlanta, GA 30365

Mr. Roger Banks, Field Supervisor
U.S. Fish and Wildlife Service
P.O. Box 12559
Charleston, SC 29422-2559

District Ranger
Sumter National Forest
Lone Cane Ranger District
U.S. Forest Service
810 Buncomb St.
Edgefield, SC 29824

Mr. Joe Dirnberger, President
Georgia Lake Management Society
P.O. Box 1463
Stone Mountain, Georgia 30086

Ms. Sally Knowles, Director
South Carolina Department of Health and Environmental Control
Division of Water Quality and Shellfish Sanitation
2600 Bull Street
Columbia, SC 29201

Mr. Harold F. Reheis, Director
Environmental Protection Division
Georgia Department of Natural Resources
205 Butler Street, SE.
Floyd Towers East, Suite 1252
Atlanta, GA 30334

Ms. Grace G. McKown, Executive Director
South Carolina Department of Parks, Recreation and Tourism
1205 Pendleton Street
Columbia, SC 29201

Mr. John Thompson
Georgia State Parks
Region 2 Office
1 Conservation Way
Brunswick, GA 31520

Mr. Mike Gennings, Chief of Fisheries
Georgia Department of Natural Resources
Fisheries Section,
2070 US Hwy. 278 SE
Social Circle, GA 30279

Mr. Les Ager, Aquatic Plant Program Manager
Georgia Department of Natural Resources
Highway 341 South
Route 3, Box 75
Fort Valley, Georgia 31030

Mr. Jerry Germann, Fisheries Biologist
Georgia Department of Natural Resources
142 Bob Kirk Drive, N.W.
Thomson, GA 30824

Mr. Ed Bettross Fisheries Biologist
Georgia Department of Natural Resources
142 Bob Kirk Drive, N.W.
Thomson, GA 30824

Mr. Val Nash, Chief of Fresh Water Fisheries
South Carolina Department of Natural Resources
P.O. Box 167
Columbia, SC 29202

Mr. Alfred H. Vang, Deputy Director of Water Resources
South Carolina Department of Natural Resources
1201 Main Street
Suite 1100
Columbia, South Carolina 29201

Mr. Steven J. de Kozlowski, Aquatic Plant Program Manager
South Carolina Department of Natural Resources
1201 Main Street
Suite 1100
Columbia, South Carolina 29201

Mr. Douglas Burns, County Administrator
McCormick County
Rt. 2, Box 84 AAA
McCormick, SC 29201

Mr. David Tyler, Clerk
Wilkes County Board of Commissioners
Room 201
23 East Court Street
Washington, GA 30673

Ms. Joyce R. Blevins, Chairman
McDuffie County Board of Commissioners
P.O. Box 28
Thomson, GA 30824

Mr. Al Mitch, County Administrator
Elbert County Board of Commissioners
10 West Church St.
Elberton, GA 30635

Mr. Doug Pentecost
Raysville Marina
Rt. 6, Box 157
Thomson, GA 30824

Mr. Paul Stovall
Tradewinds Marina and Yacht Club
5577 Marina Parkway
Appling, GA 30802

Mr. George Selfridge
Plum Branch Yacht Club
Environmental Land Developers, Inc.
1685 Chevron Way
Dunwoody, GA 30350-4431

Mr. Bill Tinley, Superintendent
Mistletoe State Park
Rt. 1
Appling, GA 30802

Mr. Ted Williams, Superintendent
Hickory Knob State Park
Rt. 1, Box 199-B
McCormick, SC 29835

Mr. Rick Freeman, Superintendent
Hamilton Branch State Park
Rt. 1, Box 97
Plum Branch, SC 29845

Mr. Wade Bales, Fisheries Biologist
South Carolina Department of Natural Resources
205 Yosemite Dr.
Greenwood, SC 29649

Chairman
Lincoln County Board of Commissioners
P.O. Box 340
Lincolnton, GA 30817

Mr. Richard Reynolds, Chairman
Columbia County Board of Commissioners
P.O. Box 498
Evans, GA 30809

Mr. Richard Starks, County Administrator
Abbeville County Board of Commissioners
P.O. Box 579
Abbeville, SC 29620

Commander, Fort Gordon
HQS, U.S. Army Signal Center
ATTN: ATZH-DIC-M, (Ms. Williams)
Fort Gordon, Georgia 30905-5050

Ms. Pam Bugg
Little River Marina & Family Resort
4271 Old Lincolnton Rd.
Appling, GA 30802

Mr. Toye S. Hill
Soap Creek Marina
Rt. 4, Box 112
Lincolnton, GA 30817

Mr.Ralph Delgiorno, Superintendent
Bobby Brown State Park
2509 Bobby Brown State Park Road
Elberton, GA 30635

Mr. John Lanier, Superintendent
Elijah Clark State Park
Rt. 4, Box 293
Lincolnton, GA 30817

Mr. David Drake, Superintendent
Baker Creek State Park
Rt. 1, Box 219
McCormick, SC 29835

Mr. Robert Pollard
Columbia County Water Department
P.O. Box 204660
Martinez, GA 30917

Mr. Edward Deason
McCormick Water Department
214 Calhoun Street
McCormick, SC 29835

Mr. Stanley Parton
Lincolnton Water Department
P.O. Box 489
Lincolnton, GA 30817

Twin City Bass Masters
c/o Mr. Bill Stiger
641 Chimney Hill Circle
Evans, GA 30809

Robert Chapman
1947 Silver Bluff Road
Aiken, SC 29803

Leah Property Owners Association
c/o Ms. Anne Anderson
3780 Dunn Court
Appling, GA 30802

Pleasantview Homeowners Association
c/o Mr. Andrew Grimand
Rt. 2 Box 456
Lincolnton, GA 30817

Plantation Point Owners Association
c/o Ms. Rhonda Powell
1555 Plantation Circle
Lincolnton, GA 30817

Mr. Eric Motes
City of Abbeville, Water Intake
P.O. Box 40
Abbeville, SC 29620

Mr. Wayne Smith
City of Elberton, Water Intake
1457 Filter Plant Dr.
Elberton, GA 30635

Mr. Don Ferguson, Superintendent
Calhoun Falls State Park
Rt. 1, Box 360A
Calhoun Falls, SC 29628

Mr. David Brooks
Hart County Commissioners Office
P.O. Box 279
Hartwell, GA 30643

Stephens County Commissioner
P.O. Box 386
Toccoa, GA 30577

Franklin County Commissioners Office
P.O. Box 159
Carnesville, GA 30521

Mr. Stan Clements
Thomson Water Department
P.O. Box 1017
Thomson, GA 30824

Mr. Mike Sqeskew
Washington Water Department
P.O. Box 9
Washington, GA 30673

Georgia Bass Federation, Inc.
Mr. Scott Hendricks, Environmental Director
5131 Maner Road
Smyrna, GA 30080

S.C. Bass Federation, Inc.
Mr. Tom Hueble, Environmental Director
446 Baker Road
Whitmire, SC 29178-9280

Modoc Homeowners Association
c/o Mr. Bernard Hamby
22 Confederate Drive
Modoc, SC 29838

SVA Property Owners Association
c/o Mr. Floyd Marlow
101 Village Drive
McCormick, SC 29835

Mr. Danny Burt, Superintendent
Richard B. Russell State Park
2650 Russell State Park Road
Elberton, GA 30635

Ms. Nancy Crocker
Mohawk Industries, Inc.
P.O. Box 454
Calhoun Falls, SC 29628

Mr. Jimmy Renolds
Calhoun Falls, Water Intake
P.O. Box 246
Calhoun Falls, SC 29628

Anderson County Administrators Office
P.O. Box 8002
Anderson, SC 29622

Oconee County Supervisor
208 Booker Dr.
Walhalla, SC 29691

Pickens County Administrators Office
222 McDaniel Ave. B-1
Pickens, SC 29671

Mr. Ted Haney
Portman Marina
1629 Marina Rd
Anderson, SC 29625

Mr. Keith Ingram
Harbor Light Marina
1476 Harbor Light Marina Rd.
Lavonia, GA 30553

Mr. Gary Watson
Seneca Marina
180 Seneca Marina Dr.
Seneca, SC 29678

Hart State Park
330 Hart State Park Rd.
Hartwell GA 30643

Tugaloo State Park
1763 Tugaloo State Park Rd.
Lavonia, GA 30553

Mr. Ben Bee
Hartwell Marina
320 Big Water Rd.
Starr, SC 29684

Ms. Jane Davis
Big Water Marina
149 Hartwell Marina Rd
Hartwell, GA 30643.

Lake Hartwell State Park
19138-A South Hwy. 11
Fair Play, SC 29643

Sadlers Creek State Park
Providence Rd.
Anderson, SC 29624