

FY 2026-2027 ANNUAL SOUTH CAROLINA AQUATIC PLANT MANAGEMENT PLAN



Prepared by the
Aquatic Nuisance Plants Program
South Carolina Department of Environmental Services
and Approved by the
South Carolina Aquatic Plant Management Council
2026

2026 SOUTH CAROLINA AQUATIC PLANT MANAGEMENT COUNCIL

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PART II – FY2026-2027 ANNUAL MANAGEMENT PLAN

INTRODUCTION

The Annual Management Plan for 2026 was developed by application of the procedures described in the Aquatic Plant Management Plan, Part I (Procedural Management Plan). The phases of development of the Annual Management Plan include 1) identification of areas where aquatic plants interfere with water use, 2) development of a description of each problem area, 3) development of a management strategy for each problem area, and 4) determination of the distribution of available funding among problem areas.

Common and Scientific Names of Aquatic Plants Referenced in the Plan			
Common Name	Scientific Name	Common Name	Scientific Name
Alligatorweed	<i>Alternanthera philoxeroides</i>	Giant salvinia	<i>Salvinia molesta</i>
Bladderwort	<i>Utricularia spp.</i>	Hydrilla	<i>Hydrilla verticillata</i>
Brazilian elodea	<i>Egeria densa</i>	East Indian hygrophila	<i>Hygrophila polysperma</i>
Bur Marigold	<i>Bidens spp.</i>	Illinois Pondweed	<i>Potamogeton illinoensis</i>
Cattails	<i>Typha spp.</i>	Lotus	<i>Nelumbo lutea</i>
Chinese Tallow	<i>Sapium sebiferum</i>	Musk-grass	<i>Chara spp.</i>
Coontail	<i>Ceratophyllum demersum</i>	Parrotfeather	<i>Myriophyllum aquaticum</i>
Common reed (Phragmites)	<i>Phragmites australis</i>	Pondweed	<i>Potamogeton spp.</i>
Common salvinia	<i>Salvinia minima</i>	Slender naiad	<i>Najas minor</i>
Creeping rush	<i>Juncus repens</i>	Smartweed	<i>Polygonum densiflorum</i>
Crested Floating-heart	<i>Nymphoides cristata</i>	Southern naiad	<i>Najas guadalupensis</i>
Cuban bulrush	<i>Cyperus blepharoleptos</i>	Spatterdock	<i>Nuphar luteum macrophyllum</i>
Curly-leaf pondweed	<i>Potamogeton crispus</i>	Spikerush	<i>Eleocharis spp.</i>
Cyanobacteria	<i>Anabaena, Aphanizomenon, and Microcystis spp., etc.</i>	Stonewort	<i>Nitella</i>

Duckweed	<i>Lemna spp.</i>	Swamp loosestrife	<i>Decodon verticillatus</i>
Eel Grass	<i>Vallisneria americana</i>	Variable-leaf pondweed	<i>Potamogeton diversifolius</i>
Eurasian watermilfoil	<i>Myriophyllum spicatum</i>	Water hyacinth	<i>Eichhornia crassipes</i>
Fanwort	<i>Cabomba caroliniana</i>	Water lettuce	<i>Pistia stratiotes</i>
Filamentous algae	<i>Pithophora, Microseira</i> (form. <i>Lyngbya</i>), <i>Hydrodictyon spp.</i>	Waterlily	<i>Nymphaea odorata</i>
Floating bladderwort	<i>Utricularia inflata</i>	Watermilfoil	<i>Myriophyllum spp.</i>
Floating heart	<i>Nymphoides spp.</i>	Water pennywort	<i>Hydrocotyle</i> <i>ranunculoides</i>
Frog's bit	<i>Limnobium spongia</i>	Water primrose	<i>Ludwigia hexapetala</i>
Giant cutgrass	<i>Zizaniopsis miliacea</i>	Watershield	<i>Brasenia schreberi</i>

AQUATIC PLANT PROBLEM AREAS

Areas where aquatic plants interfere with water use were identified from information provided by S.C. Aquatic Plant Management Council members, an aquatic plant survey conducted by the S.C. Department of Environmental Services (SCDES) staff and public input. The identified problem areas listed below are open to access and use by the public and are therefore considered by the Council as eligible for some type of public funding. Acres of infestation (coverage) are approximations based on observations made in 2025. Some water bodies are not active every year but remain in the plan because of previous major problems. Problematic species may change throughout the current year and inclusion in the plan is no guarantee the listed work will be done this year. All control work is based on existing funding and priority levels of both the invasive species and the water bodies in the plan. SPECIAL NOTE: Due to budget constraints and to continue to serve all the areas around the state, each water body will only be eligible for up to \$30,000 of cost share money from the SCDES.

Water body	Location	Surface acres	Aquatic plants	Coverage acres	Potentially impaired activities
Ashepoo River	Colleton County	Unknown	Water hyacinth, Alligatorweed, Water primrose, Parrotfeather, Frog's bit, Pennywort	150	Boating, hunting, fishing, public access

Water body	Location	Surface acres	Aquatic plants	Coverage acres	Potentially impaired activities
Back River Reservoir	Berkeley County	850	Hydrilla, Water hyacinth, Water primrose, Alligatorweed, Common salvinia, Fanwort, Cutgrass, Phragmites	360	Boating, fishing, hunting, swimming, industrial water supply, municipal water supply, electric power generation, public access
Baruch Institute	Georgetown County	Unknown, adjacent to Winyah Bay	Phragmites	50	Boating, hunting, fishing, public access
Black Mingo Creek	Georgetown County	Unknown	Alligatorweed, Parrotfeather, Water hyacinth, Frog's bit, Pennywort	50	Boating, hunting, fishing, public access
Black River	Georgetown County	Unknown	Alligatorweed, Water primrose, Water hyacinth, Parrotfeather, Frog's bit, Pennywort, Phragmites	120	Boating, hunting, fishing, public access
Bonneau Ferry WMA	Berkeley County	Multiple Reserves and impoundments	Water hyacinth, Water primrose, Frog's bit, Lotus, Cattails, Cutgrass, Pennywort, Parrotfeather, Fanwort, Coontail, Duckweed	40	Boating, hunting, fishing, public access
Broad River	Fairfield and Newberry counties	Unknown	Hydrilla, Alligatorweed	14	Boating, fishing, recreation, water quality
Broadway Lake	Anderson County	300	Hydrilla, Brittle Naiad	45	Boating, fishing, recreation and public access
Charleston County Parks	Charleston County (CawCaw and Laurel Hill)	Unknown	Hydrilla, Water primrose, Water hyacinth, Phragmites, Chinese tallow, Milfoil, Waterlily	5	Recreational and public access
Combahee River	Colleton County	Unknown	Water hyacinth, Hydrilla, Egeria, Water primrose, Alligatorweed, Parrotfeather, Frog's bit	150	Boating, hunting, fishing, public access
Cooper River (and adjacent rice fields)	Berkeley County	Unknown	Hydrilla, Water primrose, Water hyacinth, Brazilian elodea, Giant salvinia, Fanwort	approx. 2,800	Boating, hunting, fishing, public access
Donnelley / Bear Island WMA	Colleton County	Multiple impoundments and rivers	Cutgrass, Frog's bit, Cattails, Phragmites, Swamp loosestrife, Cuban bulrush, Tallow tree	200	Hunting, public access, Wood stork nesting site
Dungannon Plantation Heritage Preserve	Charleston County	Unknown	Cutgrass, Frog's bit, Cattails, Water primrose, Swamp loosestrife, Bur Marigold	14	Wood stork nesting site, public access

Water body	Location	Surface acres	Aquatic plants	Coverage acres	Potentially impaired activities
Goose Creek Reservoir	Berkeley County	600	Water hyacinth, Water lettuce, Water primrose, Hydrilla, Common salvinia, Spatterdock, East Indian hygrophyla, Watermilfoil, Fanwort, Duckweed, Bladderwort	180	Boating, fishing, public access, industrial water supply, floodway
Lake Blalock	Spartanburg County	1,105	Chara	3.5	Boating, fishing, hunting, swimming, industrial water supply, municipal water supply, public access
Lake Bowen & Reservoir #1	Spartanburg County	1534 & 272	Muskgrass (Chara), Bladderwort	175	Boating, fishing, hunting, swimming, industrial water supply, municipal water supply, public access
Lake Cunningham	Greenville County	160	Brazilian elodea, Water primrose, Fragrant Waterlily, Spatterdock	10	Boating, hunting, fishing, public access
Lake Greenwood	Laurens and Greenwood counties	11,400	Hydrilla, Slender naiad, Eel grass (Vallisneria), Water primrose	<100	Electric power generation, boating, swimming, vector control, public access
Lake Keowee	Pickens and Oconee counties	18,300	Hydrilla, Slender naiad	10	Electric power generation, municipal water supply, boating, swimming, vector control, public access
Lake Lyman	Spartanburg County	350	Water primrose	75	Boating, swimming fishing, public access
Lake Monticello (Recreation Lake)	Fairfield County	6,700 (400)	Hydrilla	<1 (180)	Boating, swimming, fishing, vector control, public access
Lake Murray	Lexington and Richland counties	50,000	Hydrilla, Illinois pondweed, Curly-leaf pondweed, Water primrose, Southern naiad, Alligatorweed	4,200	Boating, swimming, domestic and municipal water intakes, public access
Lake Wateree	Kershaw County	13,710	Hydrilla, Giant salvinia, cutgrass, Microseria (Lyngbya)	30	Potential impacts to boating, swimming, vector control, public access
Little Pee Dee River	Marion and Horry counties	Unknown	Alligatorweed, Water hyacinth	30	Boating, hunting, fishing, public access
Lumber River	Marion and Horry counties	Unknown	Alligatorweed	5	Boating, hunting, fishing, public access

Water body	Location	Surface acres	Aquatic plants	Coverage acres	Potentially impaired activities
Pee Dee River	Georgetown County	Unknown	Water hyacinth, Phragmites, Common salvinia	30	Boating, hunting
Prestwood Lake	Darlington County	300	Milfoil, Watershield, Filamentous algae, Water hyacinth	40	Boating, fishing, recreation
Samworth WMA	Georgetown County	Unknown	Phragmites, Water hyacinth, Common salvinia, Zizaniopsis	60	Hunting, public access
Santee Coastal Reserve WMA	Georgetown County	Unknown	Phragmites	3000	Hunting, public access
Santee Delta WMA	Georgetown County	Unknown	Phragmites	100	Hunting, public access
Waccamaw River	Georgetown and Horry counties	Unknown	Water hyacinth, Water primrose, Alligatorweed, Phragmites, Common salvinia	200	Boating, hunting, fishing, public access
Yawkey Wildlife Center	Georgetown County	Unknown	Phragmites, Cattails, Cutgrass	25	Hunting, public access
Santee Cooper Lakes					
Lake Marion	Sumter, Clarendon, Calhoun, Berkeley, and Orangeburg counties.	110,000	Alligatorweed, Brazilian elodea, Hydrilla, Water primrose, Water hyacinth, Crested floating heart, Giant salvinia, Common salvinia, Cuban bulrush, Filamentous algae*, Fanwort*, Giant cutgrass*, Water milfoil*, Waterwillow* *When necessary.	TBD	Boating, swimming, public access, electric power generation, domestic and irrigation water withdrawals
Lake Moultrie	Berkeley County	60,400	Alligatorweed, Brazilian elodea, Hydrilla, Water primrose, Water hyacinth, Crested floating heart, Giant salvinia, Common salvinia, Filamentous algae*, Fanwort*, Giant cutgrass*, Water milfoil*, Waterwillow* *When necessary.	TBD	Electric power generation, boating, swimming, public access, domestic and irrigation water withdrawals
Santee Cooper Area WMA'S					

Water body	Location	Surface acres	Aquatic plants	Coverage acres	Potentially impaired activities
Hatchery WMA	Berkeley County	Unknown	Crested Floating Heart, Cattails, Hydrilla, Water Primrose, Giant salvinia, Common salvinia, Alligatorweed	70	Boating, hunting, fishing, public access
Hickory Top WMA	Clarendon County	Unknown	Cutgrass, Cattails, Misc. Woody Species, Giant salvinia, Common salvinia	30	Boating, hunting, fishing, public access
Potato Creek WMA	Clarendon County	Unknown	Hydrilla, Water Hyacinth, Water Primrose, Bladderwort, Cutgrass, Lotus, Giant salvinia, Common salvinia	20	Boating, hunting, fishing, public access
Sandy Beach WMA	Berkeley County	Unknown	Crested Floating Heart, Cattails, Cutgrass, Lotus, Water Primrose, Misc. Woody Species, Hydrilla, Giant salvinia, Common salvinia	40	Boating, hunting, fishing, public access
Santee Cooper WMA	Orangeburg County	Unknown	Crested Floating Heart, Cattails, Cutgrass, Lotus, Water Primrose, Waterlily, Misc. Woody Species, Giant salvinia, Common salvinia	150 (multiple waterbodies)	Boating, hunting, fishing, public access
S.C. Parks, Recreation and Tourism, State Park Lakes					
Aiken State Park	Aiken County	16	Floating heart, Cattails, Lemon bacopa, Watershield	10	Fishing, swimming, aesthetics
Barnwell State Park	Barnwell County	12	Waterlily, Cattails, Pondweed, Maidencane	9	Fishing, swimming, aesthetics
Charles Towne Landing State Park	Charleston County	5	Duckweed, Alligatorweed, Pennywort, Cyanobacteria, Algae	4	Fishing, tourism, aesthetics
Cheraw State Park	Chesterfield County	280	Floating heart, Waterlily, Spatterdock, Watermilfoil	10	Fishing, swimming, aesthetics
Croft State Park	Spartanburg County	145	Hydrilla	50	Fishing, swimming, aesthetics
H. Cooper Black Recreation Area	Chesterfield County	2	Spatterdock, Waterlily, Watershield	2	Recreational activities

Water body	Location	Surface acres	Aquatic plants	Coverage acres	Potentially impaired activities
Hunting Island State Park	Beaufort County	1	Duckweed, Parrotfeather, Algae (filamentous <i>Cladophora</i>)	1	Fishing, swimming, aesthetics
Huntington Beach State Park	Horry County	84	Cutgrass, Phragmites, Cattails	20	Recreational activities
Kings Mountain State Park Crawford Lake	York County	9	Slender naiad, Misc. species	4	Swimming, boating
Lee State Park	Lee County	2	Watermilfoil, Bladderwort	1	Fishing, swimming, aesthetics
Little Pee Dee State Park	Dillon County	75	Spikerush, Spatterdock, Waterlily, Watershield	15	Fishing, boating
Misty Lake State Park	Aiken County	7	Water primrose, Milfoil, Bladderwort, Naiad	2	Fishing, aesthetics
N.R. Goodale State Park	Kershaw County	160	Waterlily, Watershield, Bladderwort	60	Boating, fishing
Oconee State Park	Oconee County	30	Bladderwort, Milfoil	3	Fishing, boating, swimming, aesthetics
Paris Mountain State Park	Greenville County	9.5	Slender naiad, Watershield, Pondweed	6	Fishing, swimming, aesthetics
Poinsett State Park	Sumter County	9	Spatterdock, Cattails, Watermilfoil	5	Fishing, swimming, aesthetics
Ramsey Grove State Park	Georgetown County	10	Water primrose, Bladderwort	10	Fishing, boating
Sesquicentennial State Park	Richland County	25	Waterlily, Watershield, Fanwort, Watermilfoil	12	Swimming, fishing
S.C. Department of Natural Resources (SCDNR) State Lakes					
Lake Cherokee	Cherokee County	50	Water primrose, Chara, Hydrilla	5	Boating, fishing
Lake Edwin Johnson	Spartanburg County	40	Water primrose, Hydrilla, Pondweed	10	Boating, fishing
Jonesville Reservoir	Union County	25	Water primrose, Pondweed	10	Boating, fishing

Water body	Location	Surface acres	Aquatic plants	Coverage acres	Potentially impaired activities
Mountain Lakes	Chester County	70	Water primrose, Alligatorweed, Parrotfeather	5	Boating, fishing
Lancaster Reservoir	Lancaster County	61	Water primrose, Alligatorweed	8	Boating, fishing, hunting
Sunrise Lake	Lancaster County	25	Pondweed	15	Boating, fishing
Lake Ashwood	Lee County	75	Waterlily	spotty	Boating, fishing
Lake Edgar Brown	Barnwell County	100	Water primrose, Coontail, Water hyacinth	40	Boating, fishing
Lake George Warren	Hampton County	400	Cattails, Water primrose, Coontail	20	Boating, fishing
Lake Thicketty	Cherokee County	100	Hydrilla	5	Boating, fishing
Dargan's Pond	Darlington County	50	Pondweed	15	Boating, fishing
Lake Paul Wallace	Marlboro County	300	Hydrilla, naiad	200	Boating, fishing
Draper WMA Lakes	York County	5	Naiad	5	Fishing
South Carolina Border Lakes					
Lake Wylie	York County, SC; Gaston and Mecklenburg County, NC	13,443	Hydrilla, Alligatorweed	<100 (all in NC waters)	Electric power generation, boating, swimming, public access, domestic and irrigation water withdrawals
Lake Thurmond	South Carolina, Georgia Border	71,100	Hydrilla	> 7000	Electric power generation, boating, swimming, public access, domestic and irrigation water withdrawals

AQUATIC PLANT MANAGEMENT STRATEGY

The following management strategies were developed for each identified problem area considered eligible for public funding. Planned expenditures are based on known available federal funds, estimated state funds and anticipated local support as of the date of this plan. Problematic species may change based on environmental conditions. Therefore, this plan is fluid and will utilize an adaptive management approach. For water bodies in which final funding is inadequate to conduct all proposed control operations, the extent of control will be reduced, and priority areas and target plants will be determined by the SCDES in cooperation with the

local sponsor. A summary of proposed expenditures for 2026 and a location map of problem water bodies are located at the end of this section.

SPECIAL NOTE: Due to budget constraints (to serve all the areas around the state), each water body will only be eligible for up to \$30,000 of cost share money from the SCDES and will be dependent on funding availability.

Public Waters

1. Ashepoo River (Colleton County)

Problem plant species:

Water hyacinth, Alligatorweed, Water Primrose, Parrotfeather, Frog's bit, Pennywort

Management objectives:

Reduce problem plant populations to enhance public access, navigation, and water flow.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied:

Through river system upstream and downstream of US 17 bridge. Control will be limited to freshwater and low salinity (≤ 10 ppt) areas, with salinity testing being done on a regular basis.

Method of application of control agents:

Spray herbicide on surface of emergent foliage with appropriate surfactant or apply herbicide to submersed vegetation by subsurface injection.

Timing and sequence of control application:

Apply herbicide periodically to vegetation during growing season for systemic control or outside of growing season to reduce biomass.

Other control application specifications:

Herbicide label rates will be stringently adhered to.

Control is to be applied in a manner that will not significantly degrade water quality in the treatment area. This may involve treating only a portion of the area at any one time.

Entity to apply control agents:

Commercial applicator, SCDES staff.

Estimated cost of control operations:

\$20,000

Potential sources of funding:

Colleton County 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy:

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.

- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

2. Back River (Bushy Park) Reservoir (Berkeley County)

Problem plant species:

Hydrilla, Water hyacinth, Common salvinia, Fanwort, Water primrose, Alligatorweed, Cutgrass, Phragmites

Management objectives:

Reduce water hyacinth, water primrose, alligatorweed, common salvinia, and cutgrass populations throughout the reservoir to enhance public access, navigation, water flow and minimize impacts to water intakes from floating islands.

Reduce hydrilla in upper Foster Creek and Chicken Creek (Back River Tributary) areas to improve water quality, water flow and navigation.

Reduce hydrilla and fanwort in 62.50-acre area adjacent to Dominion Energy's Williams Station intake to enhance water flow, minimize clogging of water intake, and enhance public boating and fishing use in this area.

Reduce hydrilla and fanwort in a 2-acre area at Bushy Park Landing to enhance public boating and fishing use in this area.

Treat native vegetation only in areas where it is impeding navigation, access, or water intakes.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied:

Floating and emergent vegetation throughout the reservoir as needed.

Submersed vegetation in areas near Dominion Energy intake, adjacent to Bushy Park Landing, and in the upper reaches of Foster Creek and Chicken Creek as needed.

Method of application of control agents:

Spray herbicide on surface of emergent foliage with appropriate surfactant or apply herbicide to submersed vegetation by subsurface injection.

Timing and sequence of control application:

Apply herbicide periodically to vegetation during growing season for systemic control or outside of growing season to reduce biomass.

Other control application specifications:

All herbicide treatments conducted within 1600 feet of the Charleston Commissioners of Public Works (CPW) water intake will use Triclopyr at a rate of 0.5 gallons per acre or less or Penoxsulam at a rate of 2 to 6 oz/acre. Diquat treatments will be conducted at least 1600 feet from the intake.

No herbicide treatments will be made within 1000 feet of the CPW water intake. CPW will arrange for a plant harvester to clear vegetation from that area as needed.

If filamentous algae are present on submersed macrophytes, an algaecide, such as K-TEA, will be used in addition to selected herbicides to assist in control.

Control is to be applied in a manner that will not significantly degrade water quality in the treatment area. This may involve treating only a portion of the area at any one time or limiting treatments to times when dissolved oxygen is high enough to support the decay of the vegetation.

Label rate of herbicide will be stringently adhered to.

Entity to apply control agents:

Commercial applicator, SCDES staff.

Estimated cost of control operations:

\$55,000

Potential sources of funding:

Water primrose and water hyacinth -

Charleston Water System 30%

Dominion Energy 20%

SCDES 50% (up to \$30,000 cost share for all treatments in reservoir)

Hydrilla and fanwort (near Dominion Energy intake) -

Dominion Energy. 50%

SCDES 50% (up to \$30,000 cost share for all treatments in reservoir)

Hydrilla (Foster Creek, boat ramp, and Back River) -

CPW 30%

Dominion Energy 20%

SCDES 50% (up to \$30,000 cost share for all treatments in reservoir)

Long term management strategy:

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.
- d) Effective long-term control of water hyacinth in the reservoir must also include control of this species in the Cooper River to which the reservoir is connected.

3. Baruch Institute (Georgetown County)

Problem plant species:

Phragmites

Management objective:

Through a comprehensive, multi-year approach, reduce Phragmites populations to the greatest extent possible.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied:

50 acres of phragmites throughout area

Method of application of control agent:

Spray herbicide on surface of foliage with appropriate surfactant.

Timing and sequence of control application:

Apply when plants are actively growing. Note: Proceed as funds are available from Baruch Institute.

Other control application specifications:

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent:

Commercial applicator

Estimated cost of control operations:

\$15,000

Potential sources of funding:

Baruch Institute 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy:

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.
- d) Continue to coordinate treatment areas with local conservation groups.

4. Black Mingo Creek (Georgetown County)

Problem plant species:

Alligatorweed, Parrot feather, Frog's bit, Pennywort, Water hyacinth

Management objective:

Reduce or remove nuisance weed infestation at public access points, the main creek channel, and connecting lakes to improve water quality and navigation.

Treat native vegetation only in areas where it is impeding navigation, access, or water intakes.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied:

Entire creek as needed.

Method of application of control agent:

Spray on surface of foliage with appropriate surfactant.

Timing and sequence of control application:

Apply herbicide periodically to vegetation during growing season for systemic control or outside of growing season to reduce biomass.

Other control application specifications:

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent:

Commercial applicator, SCDES staff.

Estimated cost of control operations:

\$10,000

Potential sources of funding:

Georgetown County 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy:

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.
- d) Continue to coordinate treatment areas with local conservation groups.

5. Black River (Georgetown County)

Problem plant species:

Alligatorweed, Water Primrose, Parrot feather, Frog's bit, Pennywort, Phragmites, Water hyacinth

Management objective:

Reduce or remove nuisance weed infestation at public access points, the main river channel, and connecting lakes to improve water quality and navigation.

Treat native vegetation only in areas where it is impeding navigation, access, or water intakes.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied:

Entire river as needed.

Method of application of control agent:

Spray on surface of foliage with appropriate surfactant.

Timing and sequence of control application:

Apply herbicide periodically to vegetation during growing season for systemic control or outside of growing season to reduce biomass.

Other control application specifications:

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent:

Commercial applicator, SCDES staff.

Estimated cost of control operations:

\$30,000

Potential sources of funding:

Georgetown County 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy:

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.
- d) Continue to coordinate treatment areas with local conservation groups and State Scenic Rivers Coordinator.

6. Bonneau Ferry WMA (Berkeley County)

Problem plant species:

Water Primrose, Water hyacinth, Cattails, Lotus, Cutgrass, Pennywort, Frog's bit, Parrotfeather, Duckweed, Fanwort, Coontail

Management objective:

Reduce nuisance plant populations to the greatest extent possible throughout Bonneau Ferry impoundments to enhance water quality, water flow, waterfowl habitat, fishing, and hunting opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied:

Problematic plants throughout the reserves and impoundments of Bonneau Ferry.

Method of application of control agent:

Spray herbicide on surface of emergent foliage with appropriate surfactant.

Timing and sequence of control application:

Apply herbicide periodically to vegetation during growing season for systemic control or outside of growing season to reduce biomass.

Other control application specifications:

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent:

Commercial applicator

Estimated cost of control operations:

\$5,750

Potential sources of funding:

SCDNR 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy:

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.

7. Broad River (Fairfield, Newberry County)

Problem plant species:

Hydrilla, alligatorweed

Management objective:

Reduce or remove vegetation infestation at public access points and navigation channels.

Treat native vegetation only in areas where it is impeding navigation or access.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied:

Problematic plants in the shoals area located in the mid- to western side of river below the Parr Reservoir Dam and west of the large island down to the SC 213 bridge.

Method of application of control agent

Apply herbicide to emergent vegetation with appropriate surfactant, to submersed vegetation by surface spray or subsurface injection, or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Herbicides - Commercial Applicator, SCDES staff.

Estimated cost of control operations

\$20,000

Potential sources of funding

Dominion Energy 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

8. Broadway Lake (Anderson County)

Problem plant species:

Hydrilla, Brittle Naiad

Management objective:

Reduce or remove vegetation infestation at public access points and navigation channels.

Treat native vegetation only in areas where it is impeding navigation or access.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied:

Problematic plants throughout lake.

Method of application of control agent

Apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Herbicides - Commercial Applicator, SCDES staff.

Triploid Grass Carp - A commercial supplier with supervision by the SCDES.

Estimated cost of control operations

\$20,000

Potential sources of funding

Anderson County 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- d) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- e) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- f) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

9. Charleston County Parks

(Caw Caw Interpretative Center, Laurel Hill Plantation)

(Charleston County)

Problem plant species:

Phragmites, milfoil, waterlily, hydrilla, water primrose, water hyacinth, Chinese tallow

Management objective:

Reduce or remove problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied:

5 acres

Method of application of control agent:

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application:

Apply when plants are actively growing.

Other control application specifications:

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent:

Commercial applicator, SCDES staff.

Estimated cost of control operations:

\$1,000

Potential sources of funding:

Charleston Co. Parks 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy:

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

10. Combahee River (Colleton County)

Problem plant species:

Water hyacinth, Alligatorweed, Parrot feather, Frog's bit, Hydrilla, Egeria, Water primrose

Management objective:

Reduce or remove vegetation infestation at public access points, the main river channel, and connecting lakes.

Treat native vegetation only in areas where it is impeding navigation, access, or water intakes.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied:

Problematic plants throughout river. Control will be limited to freshwater and low salinity (≤ 10 ppt) areas, with salinity testing being done on a regular basis.

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply herbicide periodically to vegetation during growing season for systemic control or outside of growing season to reduce biomass.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator, SCDES staff.

Estimated cost of control operations

\$30,000

Potential sources of funding

Colleton County 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.
- d) Continue to coordinate treatment areas with local conservation groups.

**11. Cooper River
(Berkeley County)****Problem plant species**

Giant salvinia, Hydrilla, Water hyacinth, Water primrose, Brazilian elodea, Fanwort

Management objectives

Reduce floating and emergent vegetation populations to the greatest extent possible in the Main River and public rice fields.

Open limited boat trails in hydrilla infested rice fields to enhance public access to the river and selected rice fields.

Treat native vegetation only in areas where it is impeding navigation, access, or water intakes.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Through river system, with primary emphasis on West and East branches. Control will be limited to freshwater and low salinity (≤ 10 ppt) areas, with salinity testing being done on a regular basis.

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply herbicide periodically to vegetation during growing season for systemic control or outside of growing season to reduce biomass. In-water treatment of boat trails should be conducted as tide is coming in to maximize contact time.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator, SCDES staff.

Estimated cost of control operations

\$60,000

Potential sources of funding

Berkeley County 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.
- d) Long term management must include consideration of water hyacinth control in many privately owned rice fields to which the public does not have boat access. Water hyacinth from these rice fields can reinfest public areas.

**12. Donnelley WMA/Bear Island WMA/ACE Basin
(Colleton County)**

Problem plant species

Frog's bit, Cattails, Cutgrass, Phragmites, Swamp loosestrife, Cuban bulrush, Chinese tallow tree

Management objective

Reduce problem plant populations to enhance waterfowl habitat, public access and use.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Impoundments and wetlands throughout the area.

Method of application of control agent

Spray on surface of foliage with appropriate surfactant.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator

Estimated cost of control operations

\$100,000

Potential sources of funding

Donnelley WMA/USF&W/Nature Conservancy 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.

**13. Dungannon Plantation Heritage Preserve
(Charleston County)**

Problem plant species

Frog's bit, Cattails, Bur Marigold, Cutgrass, Water Primrose, Swamp loosestrife

Management objective

Reduce problem plant populations to enhance wood stork nesting habitat, public access and use.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Around wood stork nesting area and boardwalks.

Method of application of control agent

Spray on surface of foliage with appropriate surfactant.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator

Estimated cost of control operations

\$10,000

Potential sources of funding

Dungannon HP 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Enhance aquatic plant communities to benefit waterfowl and to increase nesting activities of Wood storks and other waterfowl.

**14. Goose Creek Reservoir
(Berkeley County)****Problem plant species**

Hygrophila, Water hyacinth, Water primrose, Water lettuce, Hydrilla, Watermilfoil, Fanwort, Common salvinia, Duckweed, Spatterdock, Bladderwort

Management objective

Reduce invasive plant populations to the greatest extent possible throughout the lake to enhance navigation, water flow, access, and public use.

Maintain diverse aquatic plant community through selective application of control methods.

Treat native vegetation only in areas where it is impeding navigation, access, or water intakes.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Problematic vegetation throughout reservoir.

Release triploid grass carp in areas of the reservoir with greatest hydrilla growth to achieve best control possible.

Method of application of control agents

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

The Aquatic Plant Management Council is committed to maintenance stocking of triploid grass carp in Goose Creek Reservoir to provide long-term control of hydrilla. A maintenance stocking plan approved for other water bodies provided for stocking a small number of grass carp, 1 carp to 8 or 10 surface acres, to control hydrilla while encouraging the expansion of a diverse, native aquatic plant community.

Hydrilla populations will be carefully monitored and, if significant regrowth occurs during the year, the Aquatic Plant Management Council may consider the need for additional grass carp or treat with herbicides to give short-term control as needed.

Control is to be applied in a manner that will not significantly degrade water quality in the treatment area. This may involve treating only a portion of the area at any one time or limiting treatments to times when dissolved oxygen is high enough to support the decay of the vegetation.

Label rates will be strictly adhered to.

Entity to apply control agents

Herbicides - Commercial Applicator, SCDES staff.

Triploid Grass Carp - A commercial supplier with supervision by the SCDES.

Estimated cost of control operations

\$45,000

Potential sources of funding

Charleston Water System 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species.

**15. Lake Blalock
(Spartanburg County)****Problem plant species:**

Chara

Management objective:

Reduce or remove vegetation infestation at public access points and navigation channels.

Treat native vegetation only in areas where it is impeding navigation or access.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Triploid grass carp stocking at an initial rate of 10-15 fish per vegetated acre, with maintenance stockings as needed to control vegetation.

Area to which control is to be applied:

Problematic plants throughout lake.

Method of application of control agent

Apply herbicide to submersed vegetation by subsurface injection.

Triploid grass carp – Using standard techniques to minimize loss, stock sterile grass carp in areas of the lake with the greatest vegetation growth, if possible.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Herbicides - Commercial Applicator, SCDES staff.

Triploid Grass Carp - A commercial supplier with supervision by the SCDES.

Estimated cost of control operations

\$350

Potential sources of funding

Spartanburg CPW 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**16. Lake Bowen, Reservoir #1
(Spartanburg County)****Problem plant species**

Muskgrass (Chara), Bladderwort

Note: Reservoir 1, which is fed by Lake Bowen, is a direct potable water supply lake for Spartanburg Water. Control in either water body of algae/diatoms or bacteria that increases levels of Geosmin or

MIBs, which affects potable water supplies, will be accomplished for Spartanburg Water by independent contractors. All contractors must be properly certified and licensed. SCDES will be pre-notified of the details and timing of this control so as not to cause unexpected problems with any control carried out for regular aquatic plant management activities by either SCDES or Spartanburg Water's contractors. For information concerning taste and odor issues for potable water please contact Spartanburg Water directly.

Management objective

Reduce or remove problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Triploid grass carp stocking at an initial rate of 10-15 fish per vegetated acre, with maintenance stockings as needed to control vegetation.

Area to which control is to be applied

Problematic plants throughout the lake.

Method of application of control agents

Apply herbicide to submersed vegetation by subsurface injection.

Triploid grass carp – Using standard techniques to minimize loss, stock sterile grass carp in areas of the lake with the greatest vegetation growth.

Timing and sequence of control application

Herbicide - Apply when plants are actively growing.

Triploid grass carp to be released as soon as possible in the spring of 2026 (March-May). RESULTS FROM GRASS CARP MAY NOT BE EVIDENT FOR TWO OR MORE YEARS.

Lake Bowen – 60 triploid grass carp for maintenance control

Reservoir #1 – 20 triploid grass carp for maintenance control

Other control application specifications

If available, all sterile grass carp will be a minimum of 12 inches in length. Sterile grass carp shipments for Lake Bowen and Reservoir #1 will be certified by the SCDNR for sterility and checked for size and condition prior to stocking in the lake and additional incremental stockings may be necessary based on the possibility of escape via the outflow at the dam. Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Herbicides - Commercial Applicator, SCDES staff.

Triploid Grass Carp - A commercial supplier with supervision by the SCDES.

Estimated cost of control operations

\$1,000

Potential sources of funding

Spartanburg CPW 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) A long-term integrated management strategy has been implemented to control submersed nuisance species. Triploid grass carp have been stocked to control submersed nuisance species growth lake-wide and approved aquatic herbicides are used to control localized growth in priority use areas. Future plans include annual maintenance stocking of grass carp to maintain the population at a level that is sufficient to maintain control of submersed nuisance species but to minimize impacts on desirable native plant populations.
- d) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.
- e) Periodically revise the management strategy and specific control sites as new environmental data, management agents and techniques, and public use patterns become available.

17. Lake Cunningham (Greenville County)

Problem plant species

Brazilian elodea, Fragrant waterlily, Water primrose, Spatterdock

Management objective

Reduce nuisance plant populations to the greatest extent possible throughout lake to enhance water quality, water flow, waterfowl habitat, fishing, and hunting opportunities.

Treat native vegetation only in areas where it is impeding navigation, access, or water intakes.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Triploid grass carp stocking at an initial rate of 10-15 fish per vegetated acre, with maintenance stockings as needed to control vegetation. Maintaining a 1 fish per 8 surface acre density should provide adequate control.

Area to which control is to be applied

Problematic plants throughout the lake.

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.
Triploid grass carp – Using standard techniques to minimize loss, stock sterile grass carp in areas of the lake with the greatest Brazilian elodea growth.

Timing and sequence of control application

Herbicide - Apply when plants are actively growing.

Zero triploid grass carp to be released as soon as possible in the spring of 2026 (March-May).

RESULTS FROM GRASS CARP MAY NOT BE EVIDENT FOR TWO OR MORE YEARS.

Other control application specifications

If available, all sterile grass carp will be a minimum of 12 inches in length. Sterile grass carp shipments will be certified by the SCDNR, per regulations, for sterility and checked for size and condition prior to stocking. Additional incremental stockings may be necessary based on the possibility of escape via the outflow at the dam.

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Herbicides - Commercial Applicator, SCDES staff.

Triploid Grass Carp - A commercial supplier with supervision by the SCDES.

Estimated cost of control operations

\$10,000

Potential sources of funding

Greer CPW 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) A long-term integrated management strategy has been implemented to control Brazilian elodea. Triploid grass carp have been stocked to control Brazilian elodea growth lake-wide and approved aquatic herbicides are used to control localized growth in priority use areas. Future plans include annual maintenance stocking of grass carp to maintain the population at a level that is sufficient to maintain control of Brazilian elodea but to minimize impacts on desirable native plant populations.
- d) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.
- e) Periodically revise the management strategy and specific control sites as new environmental data, management agents and techniques, and public use patterns become available.

18. Lake Greenwood
(Greenwood and Laurens counties)

Problem plant species

Slender naiad, Hydrilla, Water primrose, Eel grass (Vallisneria)

Management objectives

Maintain reduced hydrilla growth throughout the lake to minimize its spread within the lake, help prevent its spread to adjacent public waters, and minimize adverse impacts to drinking water withdrawals and public use and access.

Monitor water primrose growth and consider control options if impacts are greater than anticipated.

Treat native vegetation only in areas where it is impeding navigation, access, or water intakes. When possible, some of this problematic vegetation may be transplanted to undeveloped areas to improve overall fish and wildlife habitat.

Maintain diverse aquatic plant community through selective application of control methods and introduction of desirable native plant species.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Triploid grass carp stocking at an initial rate of 10-15 fish per vegetated acre, with maintenance stockings as needed to control vegetation. Stock 0 sterile grass carp in 2026 at the request of lake management, due to a very low amount of hydrilla seen in the system over the last few years. This will move the total population to a 1 carp to 8.2 surface acre ratio.

The Aquatic Plant Management Council is committed to maintenance stocking of triploid grass carp in Lake Greenwood to provide long-term control of hydrilla. The Aquatic Plant Management Council, with recommendations from SCDNR and Lake Greenwood staff, agrees that the adaptive stocking plan should be continued, based on current observations of collected data, Herbicide treatments may be utilized to provide temporary control of hydrilla when necessary. Changes to the strategy will be implemented if survey results, regrowth, or habitat loss warrant.

Area to which control is to be applied

Problematic plants throughout lake.

Method of application of control agents

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Triploid grass carp – Using standard techniques to minimize loss, stock sterile grass carp in areas of the lake with the greatest hydrilla growth.

Timing and sequence of control application

Herbicide to be applied when plants are actively growing.

Triploid grass carp to be released as soon as possible in the spring (March-May).

Other control application specifications

Treatment of control area is to be conducted in a manner that will not significantly degrade water quality. Treatment of native vegetation will be limited to developed shoreline areas, public access sites, and areas of high public use not related to fishing or hunting.

Label rate of herbicide will be stringently adhered to.

Entity to apply control system

Herbicides - Commercial Applicator, SCDES staff.

Triploid Grass Carp - A commercial supplier with supervision by the SCDES.

Estimated cost of control operations

\$10,000

Potential sources of funding

Greenwood County 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

19. Lake Keowee

(Pickens and Oconee counties)

Problem plant species

Hydrilla, Slender naiad

Management objectives

Keep hydrilla growth suppressed to minimize its spread within the lake, help prevent its spread to adjacent public waters and minimize adverse impacts to water use activities.

Treat native vegetation only in areas where it is impeding navigation, access, or water intakes.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Lake drawdowns to move nutrients to deeper water, dry out and potentially freeze vegetation.

Triploid grass carp stocking as follows:

- stock sterile grass carp as needed for maintenance of hydrilla
- 380 sterile grass carp for maintenance of hydrilla in main lake.
- 250 sterile grass carp for maintenance of vegetation in the intake canal.
- Future stocking to attain and maintain 1 to 10 surface acres density when population dictates.

Area to which control is to be applied

Problem vegetation in entire lake.

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Triploid grass carp – Using standard techniques to minimize loss, stock sterile grass carp in areas of the lake with the greatest hydrilla growth.

Drawdown - decrease lake depth, preferably during the winter months.

Timing and sequence of control application

Herbicide to be applied when plants are actively growing.

380 + 250 triploid grass carp to be released as soon as possible in the spring of 2026 (March-May).

Drawdown - Drawdown lake from October through February.

Other control application specifications

Herbicide application - Herbicide used only upon notification of all local potable water supply authorities and approval by SCDES. Treatment of control area will be conducted in a manner that will not significantly degrade water quality. Label rate of herbicide will be stringently adhered to.

Drawdown - Extent and duration of drawdown is dependent on operational limits of hydroelectric project, Federal regulations, electric demand, precipitation, and inflow.

Entity to apply control system

Herbicide application - Commercial applicator or Duke Energy

Triploid Grass Carp - A commercial supplier with supervision by the SCDES or Duke Energy.

Drawdown - Duke Energy

Estimated cost of control operations

Herbicide application - \$0

Triploid Grass Carp - \$15,000

Drawdown - Undetermined

Potential sources of funding

Duke Energy 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

20. Lake Lyman (Spartanburg County)

Problem plant species:

Water primrose

Management objective:

Reduce or remove vegetation infestation at public access points and navigation channels.

Treat native vegetation only in areas where it is impeding navigation or access.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied:

Problematic plants throughout the lake.

Method of application of control agent

Spray on surface of foliage with appropriate surfactant.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator, SCDES staff.

Estimated cost of control operations

\$10,000

Potential sources of funding

SJWD Water District 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**21. Lake Monticello (Recreation Lake)
(Fairfield County)**

Problem plant species

Hydrilla

Management objectives

Manage hydrilla growth throughout the Recreation Lake section to minimize its spread to Lake Monticello, help prevent its spread to adjacent public waters, and minimize adverse impacts to agricultural irrigation withdrawals, and public use and access.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Triploid grass carp stocking at an initial rate of 10-15 fish per vegetated acre, with maintenance stockings as needed to control vegetation.

Area to which control is to be applied

Problematic plants throughout lake.

Method of application of control agents

Apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Triploid grass carp – Using standard techniques to minimize loss, stock sterile grass carp in areas of the lake with the greatest hydrilla growth.

Timing and sequence of control application

Herbicide to be applied to hydrilla when plants are actively growing but prior to tuber production.

Triploid grass carp (1800) to be released as soon as possible in the spring of 2026 (March-May).
RESULTS FROM GRASS CARP MAY NOT BE EVIDENT FOR TWO OR MORE YEARS.

Other control application specifications

Treatment of control area is to be conducted in a manner that will not significantly degrade water quality. Treatment of native vegetation will be limited to developed shoreline areas, public access sites, and areas of high public use.

Label rate of herbicide will be stringently adhered to.

Entity to apply control system

Herbicides - Commercial Applicator, SCDES staff.

Triploid Grass Carp - A commercial supplier with supervision by the SCDES.

Estimated cost of control operations

\$111,000

Potential sources of funding

Triploid grass carp:

Dominion Energy, Fairfield County 50%

SCDES 50% (up to \$30,000 cost share for all control methods)

Mechanical harvester:

Dominion Energy, Commercial marina operators, and residential property owners.

Aquatic herbicides:

Dominion Energy, Fairfield County 50%

SCDES 50% (up to \$30,000 cost share for all control methods)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

22. Lake Murray **(Lexington, Newberry, Richland and Saluda Counties)**

Problem plant species

Hydrilla, Water Primrose, Illinois Pond Weed, Curly-leaf pondweed, Southern Naiad, Alligatorweed

Management objectives

Minimize invasive aquatic plant growth throughout the lake to prevent its spread within the lake, help prevent its spread to adjacent public waters and avoid adverse impacts to drinking water withdrawals and public use and access.

Maintain diverse aquatic plant community through selective application of control methods and introduction of desirable native plant species.

Treat native vegetation only in areas where it is impeding navigation, access, or water intakes.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Stock 2,650 sterile grass carp to help control of hydrilla and curly-leaf pondweed. This will maintain the total population to 13,142 fish, a ratio of about 1 fish to 4 surface acres. Vegetation acreage was not assessed this year, but the vegetation is estimated to have increased slightly.

The Aquatic Plant Management Council is committed to maintenance stocking of triploid grass carp in Lake Murray to provide long-term control of hydrilla and curly-leaf pondweed while limiting damage to native vegetation. The Aquatic Plant Management Council, with recommendations from SCDES, SCDNR and Dominion staff, agrees that the adaptive stocking plan should be continued, based on current observations of collected data. Herbicide treatments may be utilized to provide temporary control of hydrilla when necessary. Changes to the strategy will be implemented if survey results, regrowth, or habitat loss warrant.

Area to which control is to be applied

Problem plants throughout lake.

Use aquatic herbicides to provide control at high priority public access points, such as boat ramps and park sites.

Method of application of control agent

Triploid grass carp - Using standard techniques to minimize loss, stock sterile grass carp in areas of the lake with the greatest vegetation growth, if possible.

All agents to be applied when plants are actively growing.

Timing and sequence of control application

Additional grass carp should be stocked in the spring/fall following Council approval.

Apply herbicides to aquatic vegetation as it becomes problematic.

Other control application specifications

All sterile grass carp will be a minimum of 12 inches in length. All sterile grass carp shipments for Lake Murray will be examined by the SCDNR for sterility, size, and condition at the Campbell Fish Hatchery in Columbia prior to stocking in the lake.

Control by Residential/Commercial Interests:

This plan is designed to provide relief from noxious aquatic vegetation for the public at large. Private entities such as lake-front residents and commercial interests may have site specific concerns not addressed immediately using grass carp or herbicides at public access areas. Residential and commercial interests may remove nuisance aquatic vegetation manually or by use of mechanical harvesting devices. Of the three-major control methods, the following conditions apply.

- 1) Mechanical harvesters – Commercial aquatic plant harvesting services may be hired to remove hydrilla and Illinois pondweed from areas adjacent to residential and commercial property after approval of Dominion Energy.
- 2) Aquatic herbicides – Dominion Energy opposes regular or general application of herbicides in Lake Murray. It is illegal for aquatic herbicides to be applied to the lake by lakefront property owners or anyone else not licensed to do so.
- 3) Sterile grass carp - A sufficient number of grass carp have been stocked by SCDES to control nuisance aquatic vegetation. Stocking additional grass carp in Lake Murray is prohibited.

Entity to apply control agent

Herbicides - Commercial Applicator, SCDES staff.

Triploid Grass Carp - A commercial supplier with supervision by the SCDES.

Estimated cost of control operations

Triploid grass carp - \$32,000

Aquatic herbicides - \$32,000

Potential sources of funding

Triploid grass carp:

Dominion Energy, Lexington and Richland Counties 50%

SCDES 50% (up to \$30,000 cost share total for all control methods)

Mechanical harvester:

Dominion Energy, Commercial marina operators, and residential property owners.

Aquatic herbicides:

Dominion Energy, Lexington and Richland Counties 50%

SCDES 50% (up to \$30,000 cost share total for all control methods)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.
- d) Improve public awareness and understanding of aquatic plant management activities through the maintenance of the Lake Murray Aquatic Plant Management web site. The web site includes up-to-date information on annual management plans, dates and locations of current and historical control operations, locations of habitat enhancement activities, and other pertinent information.
- e) Periodically revise the management strategy and specific control sites as new environmental data and control agents and techniques become available and public use patterns change.

23. Lake Wateree **(Fairfield, Kershaw and Lancaster Counties)**

Problem plant species

Giant salvinia, Hydrilla, Lyngbya, Cutgrass

Management objective

Keep invasive plant growth suppressed to prevent its spread within the lake, help prevent its spread to adjacent public water and minimize adverse impacts to water use activities and navigation.

Try to eradicate giant salvinia in the system before it spreads out of the arm where it was found.

Maintain diverse aquatic plant community through selective application of control methods and introduction of desirable native plant species.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Fall/winter drawdown.

Triploid grass carp stocking at an initial rate of 10-15 fish per vegetated acre, with maintenance stockings as needed to control vegetation.

Area to which control is to be applied

Use aquatic herbicides to provide control of invasive vegetation across the lake, especially at public access points, such as boat ramps.

Stock triploid grass carp as needed to control hydrilla.

Drawdown - Entire Lake, to the greatest extent possible within project limits.

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Triploid grass carp – Using standard techniques to minimize loss, stock sterile grass carp in areas of the lake with the greatest hydrilla growth.

Drawdown - Draw lake down

Timing and sequence of control application

Apply herbicide periodically to vegetation during growing season for systemic control or outside of growing season to reduce biomass.

Drawdown - Drawdown lake from October through February.

Other control application specifications

Herbicide used only upon notification of all local potable water supply authorities and approval by SCDES. Treatment of control area will be conducted in a manner that will not significantly degrade water quality. Label rate of herbicide will be stringently adhered to.

Drawdown - Extent and duration of drawdown is dependent on operational limits of hydroelectric project, Federal regulations, electric demand, precipitation, and inflow.

Entity to apply control agent

Herbicides - Commercial Applicator, SCDES staff or Duke Energy.

Triploid Grass Carp - A commercial supplier with supervision by the SCDES.

Drawdown - Duke Energy

Estimated cost of control operations

Herbicide application - \$190,000

Drawdown - Undetermined

Potential sources of funding

Duke Energy 50%

SCDES 50% (up to \$30,000 cost share)

The Catawba Wateree Water Management Group serves as the Financial Administrator for local funding provided by a group of stakeholders in Kershaw, Fairfield, Chester, and Lancaster Counties to help control Lyngbya.

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

24. Little Pee Dee River (Marion and Horry Counties)

Problem plant species

Alligatorweed, Water hyacinth

Management objective

Reduce water hyacinth and alligatorweed populations to the greatest extent possible

Selected control method:

Herbicide applications at rates specified in Appendix A.

Alligatorweed flea beetle (*Agasicles hygrophila*) stocking.

Area to which control is to be applied

Problem Plants throughout river

Method of application of control agent

Herbicide - Spray on surface of foliage with appropriate surfactant.

Biological Control - Release in alligatorweed populations to supplement existing populations of alligatorweed flea beetles.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator or SCDES staff.

Estimated cost of control operations

\$20,000

Potential sources of funding

Horry and Marion Counties 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.
- d) Continue to coordinate treatment areas with local conservation groups and State Scenic Rivers Coordinator.

25. Lumber River (Marion and Horry Counties)

Problem plant species

Alligatorweed

Management objective

Reduce or remove alligatorweed infestation at public access points, the main river channel, and connecting lakes.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Alligatorweed flea beetle (*Agasicles hygrophila*) stocking.

Area to which control is to be applied

Problematic plants throughout river.

Method of application of control agent

Herbicide - Spray on surface of foliage with appropriate surfactant.

Biological Control - Release in alligatorweed populations to supplement existing populations of alligatorweed flea beetles.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator, SCDES staff.

Estimated cost of control operations

\$1,500

Potential sources of funding

Horry and Marion counties 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

- d) Continue to coordinate treatment areas with local conservation groups and State Scenic Rivers Coordinator.

26. Pee Dee River (Georgetown County)

Problem plant species

Water hyacinth, Phragmites, Common salvinia

Management objective

Reduce problem plant populations to the greatest extent possible.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Problematic plants throughout river and adjacent public rice fields.

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant.

Timing and sequence of control application

Apply herbicide periodically to vegetation during growing season.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator or SCDES staff

Estimated cost of control operations

\$10,000

Potential sources of funding

Georgetown County 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

27. Prestwood Lake (Darlington County)

Problem plant species

Milfoil, Watershield, Filamentous algae, Water hyacinth

Management objective

Maintain diverse aquatic plant community through selective application of control methods and introduction of desirable native plant species.

Treat native vegetation only in areas where it is impeding navigation, access, or water intakes.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Triploid grass carp stocking at an initial rate of 10-15 fish per vegetated acre, with maintenance stockings as needed to control vegetation. Zero fish in 2026.

Area to which control is to be applied

Use aquatic herbicides to provide control at high priority public access points, such as boat ramps and park sites

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Triploid grass carp – Using standard techniques to minimize loss, stock sterile grass carp in areas of the lake with the greatest milfoil growth.

Timing and sequence of control application

Agent to be applied when plants are actively growing.

Other control application specifications

Herbicide used only upon notification of all local potable water supply authorities and approval by SCDES as needed. Treatment of control area will be conducted in a manner that will not significantly degrade water quality. Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator or SCDES staff

Estimated cost of control operations

\$10,000

Potential sources of funding

City of Hartsville 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations

where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.

- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

28. Samworth WMA (Georgetown County)

Problem plant species

Water hyacinth, Phragmites, Cutgrass (*Zizaniopsis*), Common salvinia

Management objective

Reduce problem plant populations to the greatest extent possible

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Problem plant throughout public rice fields and adjacent river.

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant.

Timing and sequence of control application

Apply herbicide periodically to vegetation during growing season.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator or SCDES staff

Estimated cost of control operations

\$30,000

Potential sources of funding

Samworth WMA 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

29. Santee Coastal Reserve WMA (Charleston and Georgetown Counties)

Problem plant species

Phragmites

Management objective

Through a comprehensive, multi-year approach, reduce Phragmites populations to the greatest extent possible throughout the Santee Coastal Reserve.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Phragmites throughout the rice fields.

Method of application of control agent

Spray on surface of foliage with appropriate surfactant.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator

Estimated cost of control operations

\$600,000

Potential sources of funding

Santee Coastal Reserve 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.

30. Santee Delta WMA (Georgetown County)

Problem plant species

Phragmites

Management objective

Reduce Phragmites populations to the greatest extent possible.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Phragmites throughout the rice fields.

Method of application of control agent

Spray on surface of foliage with appropriate surfactant.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator

Estimated cost of control operations

\$60,000

Potential sources of funding

Santee Coastal Reserve 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.

**31. Waccamaw River
(Horry County)**

Problem plant species

Water hyacinth, Water primrose, Alligatorweed, Phragmites, Common salvinia

Management objective

Reduce problem plant populations to the greatest extent possible.

Treat native vegetation only in areas where it is impeding navigation, access, or water intakes.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Problem plants throughout river system

Method of application of control agent

Spray on surface of foliage with appropriate surfactant

Timing and sequence of control application

Apply herbicide periodically to vegetation during growing season for systemic control or outside of growing season to reduce biomass.

Other control application specifications

Treatment of control area will be conducted in a manner that will not significantly degrade water quality.

Entity to apply control agent

Commercial applicator, SCDES staff.

Estimated cost of control operations

\$ 40,000

Potential sources of funding

Horry County 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**32. Yawkey Wildlife Center
(Georgetown County)**

Problem plant species

Phragmites, Cattails, Cutgrass

Management objective

Reduce problem plant populations to the greatest extent possible.

Selected control method

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Problem plants throughout the ricefields.

Method of application of control agent

Spray on surface of foliage with appropriate surfactant.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator

Estimated cost of control operations

\$12,000

Potential sources of funding

SCDNR/Yawkey Foundation 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.

Santee Cooper Lakes

33. Lake Marion

(Calhoun, Clarendon, Orangeburg, Berkeley, and Sumter Counties)

34. Lake Moultrie

(Berkeley County)

NOTE: The following management plan applies to both lakes.

Problem plant species

Hydrilla, Brazilian elodea, Alligatorweed, Water hyacinth, Water primrose, Crested floating heart, Giant salvinia, Common salvinia, Cuban bulrush, **Giant cutgrass, ** algae **Cattail, **Fanwort, **Watermilfoil, **Waterwillow

**Species are only treated when they impede access or navigation in priority use areas, or when they pose a threat to drinking water quality.

Management objectives

Foster a diverse aquatic plant community through selective treatment of nuisance aquatic vegetation (to avoid adverse impacts to existing native plant species) and the introduction of desirable native plant species when and where appropriate.

Control invasive aquatic plant growth throughout the main lakes and sub-impoundments to minimize its spread within the lakes, help prevent its spread to adjacent public waters, and minimize

adverse impacts to native plant populations, electric power generation, agricultural irrigation withdrawals, public drinking water withdrawals, and public use and access.

Reduce giant cutgrass populations throughout the lakes, especially in Wildlife Management Areas and upper Lake Marion, to enhance wildlife habitat and hunting opportunities.

Reduce crested floating heart, fragrant waterlily, American lotus and giant cutgrass populations throughout Wildlife Management Areas to enhance wildlife habitat and hunting opportunities.

Reduce other nuisance aquatic vegetation in priority use areas, such as electric power generation facilities, public drinking water intakes, public and commercial access sites (boat ramps, piers, swimming areas, marinas) and residential shoreline areas in the main lake and sub impoundments.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Triploid grass carp stocking:

The Aquatic Plant Management Council is committed to maintenance stocking of triploid grass carp in the Santee Cooper Lakes to provide long-term control of hydrilla. The Aquatic Plant Management Council, with recommendations from SCDES, SCDNR and Santee Cooper staff, annually reviews the stocking rate on the system, based on current observations of collected survey data, historical relevant data sets, and triploid grass carp surveys conducted jointly by SCDNR and Santee Cooper staff. Since 2019, the aquatic vegetation acreage numbers have been determined using multispectral analysis of satellite imagery only. No additional acreage from boat or drone surveys has been added. SCDNR Freshwater Fisheries staff are continuously studying the age and health of the carp population. Recent data indicates young grass carp are robust and in good condition, meaning that aquatic vegetation is abundant enough to keep the population well fed.

A reduced rate stocking of 10,000 grass carp occurred annually from 2017-2022, which moderated the decline in the grass carp population and diversified the age structure of the population. In 2022, the Santee Cooper staff saw an increase in hydrilla acreage. In the spring of 2023, 11,025 sterile grass carp were stocked to replace the fish lost in 2022 due to normal mortality, which kept the total number of fish at 34,450, a ratio of 1 grass carp per 4.64 surface acres of water. In 2023, the aquatic vegetation survey detected a total of 5,232 acres of hydrilla, a 6,721% increase from 2022. In response to this, 16,580 carp were stocked in 2024, which brought the standing stock population to 40,006 fish, a ratio of 1 grass carp per 4 surface acres of water. In 2024, the aquatic vegetation survey detected 5,617 acres of hydrilla, an increase of 7.359% from 2023. As the carp population was not sufficient to curtail the hydrilla expansion, 22,796 carp were stocked in the spring of 2025. That brought the total population to 50,000 fish, a ratio of 1 grass carp per 3.2 acres.

The 2025 aquatic vegetation survey found 6,409 acres of hydrilla, a 14% increase from 2024. Since the current population of carp continue to be insufficient in reducing the expansion of hydrilla, 40,000 carp will be stocked in the spring of 2026. This will bring the population to 74,000 fish, a ratio of 1 fish per 2.2 acres. Stockings will be made as close to the densest areas of hydrilla. When compared to historic stockings, this continues to be a conservative approach to reducing the hydrilla acreage. Santee Cooper staff believe that continuing to increase the carp population until there is a decrease in hydrilla acreage is the appropriate approach. When there are decreases in hydrilla acreage, carp stockings will be reduced to prevent overstocking.

Annual data should include estimates of hydrilla acreage, estimates of native vegetation acreage, and triploid grass carp surveys. Grass carp surveys should function to further assess the relative condition of the population and aid in yearly stocking decisions. All efforts will be made to

determine an appropriate balance in the Santee Cooper system by maintaining control of hydrilla while promoting beneficial native vegetation. Herbicide treatments may be utilized to provide temporary control of hydrilla when necessary. Changes to the strategy will be implemented if survey results, regrowth, or habitat loss warrant.

Area to which control is to be applied

Problem plants throughout lake, with the emphasis on invasive plants, public and commercial access sites (boat ramps, piers, swimming areas, marinas, and residential shoreline areas in the main lake), electric power generation facilities, State and Federal wildlife management areas and residential shoreline areas

Isolated Sub-Impoundments:

Fountain Lake Impoundment (53 acres), Dean's Swamp Impoundment (100 acre), Church Branch Impoundment (80 acres)

The general management strategy is to transition from hydrilla dominated plant communities to ones dominated by a diversity of native plant species, which are beneficial to wildlife, by use of aquatic herbicides and sterile grass carp. Specific control methods for the sub-impoundments will be determined cooperatively between Santee Cooper and SCDES staff.

Fountain Lake Impoundment - 500 triploid grass carp

Dean's Swamp Impoundment - 1,500 triploid grass carp

Church Branch Impoundment - 0 triploid grass carp

Methods and goals will be consistent with both groups' interests for control of invasive plant species such as hydrilla while promoting vegetation beneficial to wildlife and waterfowl through other habitat enhancement projects.

Method of application of control agents

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Salvinia weevil- Using industry standards for stocking while targeting areas of the lake with the greatest salvinia growth.

Triploid grass carp – Using standard techniques to minimize loss, stock sterile grass carp in areas of the lake with the greatest hydrilla growth.

Timing and sequence of control application

Herbicide applications - Apply herbicide periodically to vegetation during growing season for systemic control or outside of growing season to reduce biomass.

Triploid grass carp – 40,000 fish to be released as soon as possible in 2026. If available, all sterile grass carp will be a minimum of 10-12 inches in length. Sterile grass carp shipments for the Santee Cooper Lakes will be certified by the SCDNR for sterility and checked for size and condition prior to stocking in the lake.

Salvinia weevils- released as early as possible in 2026.

Other control application specifications:

Treatment of the control area is to be conducted in a manner that will not significantly degrade water quality. This may require that only a portion of the control area be treated at any one time.

Hydrilla, Giant Salvinia, Cuban bulrush, Water hyacinth and Crested floating heart treatments will be considered a high priority to minimize spread to other areas of the lake system. Treatments should be conducted wherever the plants occur and access by boat is feasible. Areas inaccessible by boat or large acreages will be treated aurally. Frequent treatments in these areas will be necessary to meet management objectives.

Entity to apply control agents

Herbicide application – Santee Cooper and/or commercial applicator.

Triploid Grass Carp - Commercial supplier with supervision by SC Public Service Authority and/or SCDES.

Estimated cost of control operations

\$2,400,000

Note: The budgeted amount is based on aquatic plant coverage and treatment needs from previous years. Actual expenditures will depend on the extent of noxious aquatic plant growth in 2026 and available funds provided by South Carolina Public Service Authority.

Potential sources of funding

Santee Cooper 67% and U.S. Army Corps of Engineers 33%

Long term management strategy

- a) Support the management goals previously established by the SCDNR and Santee Cooper which attempts to achieve a diverse assemblage of native aquatic vegetation in a minimum of 10% of the total surface area of the lake and to effectively control non-native invasive species.
- b) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- c) A long-term integrated adaptive management strategy has been implemented to control hydrilla. Triploid grass carp have been stocked to control hydrilla growth lake-wide and approved aquatic herbicides are used to control localized growth in priority use areas. Future plans include annual stocking of grass carp to maintain the population at a level that is sufficient to maintain control of hydrilla but to minimize impacts on desirable native plant populations.
- d) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- e) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.
- f) Periodically revise the management strategy and specific control sites as new environmental data, management agents and techniques, and public use patterns become available.

Santee Cooper Area WMAs

35. Hatchery WMA
(Includes Pond1 adjacent to old ramp)
(Berkeley County)

Problem plant species

Crested Floating Heart, Cattails, Hydrilla, Water Primrose, Giant salvinia, Common salvinia, Alligatorweed

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Salvinia weevil (*Cyrtobagous salviniae*) stocking:

Area to which control is to be applied

70 acres (Lake Moultrie), 3 acres (Pond 1)

Method of application of control agent

Foliar application using appropriate surfactant from airboat. Granular herbicides spread evenly using appropriate rate. Subsurface application using appropriate rate

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator, SCDNR or SCDES staff.

Estimated cost of control operations

\$20,000

Potential sources of funding

SCDNR WFF 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

36. Hickory Top WMA (and Greentree Reservoir) (Clarendon County)

Problem plant species

Hyacinth, Giant Salvinia, Common salvinia, Cutgrass, Cattails, Misc. Woody Species

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Salvinia weevil (*Cyrtobagous salviniae*) stocking

Area to which control is to be applied

Problem plants within WMA.

Method of application of control agent

Foliar application using appropriate surfactant from airboat, ATV, or helicopter.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator or SCDES staff.

Estimated cost of control operations

\$60,000

Potential sources of funding

SCDNR WFF 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

37. Potato Creek WMA (Clarendon County)

Problem plant species

Hydrilla, Water Hyacinth, Water Primrose, Bladderwort, Cutgrass, Lotus, Giant salvinia, Common salvinia

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Salvinia weevil (*Cyrtobagous salviniae*) stocking

Area to which control is to be applied

Problem plants within WMA.

Method of application of control agent

Foliar application using appropriate surfactant from airboat. Subsurface application spread evenly using appropriate rate.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator or SCDES staff.

Estimated cost of control operations

\$6,000

Potential sources of funding

SCDNR WFF 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations

**38. Sandy Beach WMA
(Berkeley County)**

Problem plant species

Crested Floating Heart, Cattails, Cutgrass, Lotus, Water Primrose, Misc. Woody Species, Hydrilla, Giant salvinia, Common salvinia

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Salvinia weevil (*Cyrtobagous salviniae*) stocking

Area to which control is to be applied

Problem plants within WMA.

Method of application of control agent

Foliar application using appropriate surfactant.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator, SCDES staff.

Estimated cost of control operations

\$10,000

Potential sources of funding

SCDNR WFF 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations

**39. Santee Cooper WMA
(Orangeburg County)****Problem plant species**

Crested Floating Heart, Cattails, Cutgrass, Lotus, Water Primrose, Misc. Woody Species, Water lily, Giant salvinia, Common salvinia

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Treat native vegetation only in areas where it is impeding navigation, access, or water intakes.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Salvinia weevil (*Cyrtobagous salviniae*) stocking

Area to which control is to be applied

Problem plants within WMA.

Method of application of control agent

Foliar application using appropriate surfactant.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator, SCDES staff.

Estimated cost of control operations

\$30,000

Potential sources of funding

SCDNR WFF 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

South Carolina Department of Parks, Recreation and Tourism (SCPRT), State Park Lakes**40. Aiken State Park**

(Aiken County)

Problem plant species

Floating Heart, Cattails, Lemon Bacopa, Watershield

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Problem plants in lakes (Swimming, Childrens, Fishing and Cabin)

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator monitored by SCPRT or SCDES staff.

Estimated cost of control operations

\$10,000

Potential sources of funding

SCPRT 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**41. Barnwell State Park (Swimming Lake)
(Barnwell County)****Problem plant species**

Waterlily, Cattails, Pondweed, Maidencane

Management objective:

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Problem plants in lakes.

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator monitored by SCPRT or SCDES staff.

Estimated cost of control operations

\$7,000

Potential sources of funding

SCPRT 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**42. Charles Towne Landing State Historic Park
(Charleston County)**

Problem plant species

Duckweed, Alligatorweed, Pennywort, Cyanobacteria, Algae

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Problem plants in ponds.

Method of application of control agents

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application.

Herbicides to be applied when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator monitored by SCPRT or SCDES staff.

Estimated cost of control operations

\$4,000

Potential sources of funding

SCPRT 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**43. Cheraw State Park
(Chesterfield County)****Problem plant species**

Floating heart, Waterlily, Spatterdock, Watermilfoil

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Problem plants in Lake Juniper along boardwalk, main swimming area, and swimming areas at Camps Forest & Juniper

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator monitored by SCPRT or SCDES staff.

Estimated cost of control operations

\$6,000

Potential sources of funding

SCPRT 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**44. Croft State Park
(Spartanburg County)**

Problem plant species

Hydrilla

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Triploid grass carp stocking at an initial rate of 10-15 fish per vegetated acre, with maintenance stockings as needed to control vegetation.

Area to which control is to be applied

Problem plants in Lake Craig.

Rate of control agent to be applied

Triploid Grass Carp – 0 fish

Method of application of control agent

Apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Triploid grass carp – Using standard techniques to minimize loss, stock sterile grass carp in areas of the lake with the greatest hydrilla growth.

Timing and sequence of control application

Triploid grass carp to be released as soon as possible in the spring of 2026 (March-May). RESULTS FROM GRASS CARP MAY NOT BE EVIDENT FOR TWO OR MORE YEARS.

Other control application specifications

Treatment of the control area is to be conducted in a manner that will not significantly degrade water quality. This may require that only a portion of the control area be treated at any one time.

Label rate of herbicide will be stringently adhered to.

If available, all sterile grass carp will be a minimum of 12 inches in length. Sterile grass carp shipments will be certified by the SCDNR for sterility and checked for size and condition prior to stocking in the lake.

Other control application specifications

Monitor plant growth prior to treatment.

Entity to apply control agent

Commercial applicator contracted and monitored by SCPRT or SCDES staff.

Estimated cost of control operations

\$1,250

Potential sources of funding

SCPRT 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**45. H. Cooper Black State Recreation Area
(Chesterfield County)****Problem plant species**

Waterlily, Watershield, Spatterdock

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Problem plants in lake.

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator monitored by SCPRT.

Estimated cost of control operations

\$1000

Potential sources of funding

SCPRT 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**46. Hunting Island State Park
(Beaufort County)**

Problem plant species

Duckweed, Parrot's feather

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Problem plants adjacent to the parks use area

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator monitored by SCPRT or SCDES staff.

Estimated cost of control operations

\$1,200

Potential sources of funding

SCPRT 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**47. Huntington Beach State Park
(Georgetown County)****Problem plant species**

Phragmites, Cutgrass, Cattails, Algae (filamentous *Cladophora*)

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified In Appendix A.

Area to which control is to be applied

Problem plants in lakes (Mallard, Mullet, & Sandpiper).

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Label rate of herbicide will be stringently adhered to.

Entity to apply control agent

Commercial applicator monitored by SCPRT.

Estimated cost of control operations

\$6,000

Potential sources of funding

SCPRT 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**48. Kings Mountain State Park
(York County)****Problem plant species**

Slender naiad, Misc. species

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at a rate specified in Appendix A.

Triploid grass carp stocking at an initial rate of 10-15 fish per vegetated acre, with maintenance stockings as needed to control vegetation.

Area to which control is to be applied

Problem plants in Lake York and in swimming and paddle boat area of Crawford Lake.

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas. Triploid grass carp – Using standard techniques to minimize loss, stock sterile grass carp in areas of the lake with the greatest problem growth.

Timing and sequence of control application

Apply herbicide periodically to vegetation during growing season 0 Triploid grass carp to be released in Lake York as soon as possible in the spring of 2026 (March-May). RESULTS FROM GRASS CARP MAY NOT BE EVIDENT FOR TWO OR MORE YEARS.

Other control application specifications

Treatment of the control area is to be conducted in a manner that will not significantly degrade water quality. This may require that only a portion of the control area be treated at any one time.

All sterile grass carp should be a minimum of 12 inches in length. Sterile grass carp shipments will be certified by the SCDNR for sterility and checked for size and condition prior to stocking in the lake.

Entity to apply control agent

Commercial applicator monitored by SCPRT or SCDES.

Estimated cost of control operations

\$2,000

Potential sources of funding

SCPRT 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**49. Lee State Park
(Lee County)**

Problem plant species

Watermilfoil, Bladderwort

Management objective

Reduce or remove problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Problem plants in ponds.

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Herbicide label rates will be stringently adhered to.

Entity to apply control agent

Commercial applicator monitored by SCPRT.

Estimated cost of control operations

\$1,500

Potential sources of funding

SCPRT 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**50. Little Pee Dee State Park
(Dillon County)**

Problem plant species

Spatterdock, Water lily, Watershield, Spikerush

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications as specified in Appendix A.

Area to which control is to be applied

Problem plants in lakes.

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Herbicide label rates will be stringently adhered to.

Entity to apply control agent

Commercial applicator monitored by SCPRT or SCDES staff.

Estimated cost of control operations

\$3,000

Potential sources of funding

SCPRT 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**51. Misty Lake State Park
(Aiken County)**

Problem plant species

Water primrose, Milfoil, Bladderwort, Naiad

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications as specified in Appendix A.

Area to which control is to be applied

Problem plants in lake.

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Herbicide label rates will be stringently adhered to.

Entity to apply control agent

Commercial applicator monitored by SCPRT or SCDES staff.

Estimated cost of control operations

\$2,000

Potential sources of funding

SCPRT 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

52. N.R. Goodale State Park (Kershaw County)

Problem plant species

Waterlily, Watershield, Bladderwort

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Problem plants in lake.

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Herbicide label rates will be stringently adhered to.

Entity to apply control agent

Commercial applicator monitored by SCPRT or SCDES staff.

Estimated cost of control operations

\$10,000

Potential sources of funding

SCPRT 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations

where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.

- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

53. Oconee State Park (Oconee County)

Problem plant species

Bladderwort, milfoil

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Triploid grass carp stocking at an initial rate of 10-15 fish per vegetated acre, with maintenance stockings as needed to control vegetation.

Area to which control is to be applied

Swimming Lake: Treat problem plants with grass carp and/or herbicide.

Campground Lake: Treat problem plants with herbicide until carp gate can be installed.

Method of application of control agent

Triploid grass carp – Using standard techniques to minimize loss, stock sterile grass carp in the lakes.

Herbicide – Subsurface injection.

Timing and sequence of control application

0 Triploid grass carp to be released in Swimming Lake as soon as possible in the spring of 2026 (March-May). RESULTS FROM GRASS CARP MAY NOT BE EVIDENT FOR TWO OR MORE YEARS.

Herbicide - Apply during growing season.

Other control application specifications

Herbicide label rates will be stringently adhered to. Treatment of the control area is to be conducted in a manner that will not significantly degrade water quality. This may require that only a portion of the control area be treated at any one time.

All sterile grass carp will be a minimum of 12 inches in length. Sterile grass carp shipments will be certified by the SCDNR for sterility and checked for size and condition prior to stocking in the lake.

Entity to apply control agent

Commercial applicator monitored by SCPRT.

Estimated cost of control operations

\$2,000

Potential sources of funding

SCPRT 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**54. Paris Mountain State Park
(Greenville County)****Problem plant species**

Slender Naiad, Watershield, Pondweed

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Triploid grass carp stocking at an initial rate of 10-15 fish per vegetated acre, with maintenance stockings as needed to control vegetation.

Area to which control is to be applied

Lake Placid: Treat problem plants with herbicide or grass carp

Lake Buckhorn: Treat problem plants with herbicide.

Method of application of control agent

Triploid grass carp – Using standard techniques to minimize loss, stock sterile grass carp in areas of the lake with the greatest hydrilla growth.

Herbicide - Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

0 Triploid grass carp to be released in Lake Placid as soon as possible in the spring of 2026 (March-May). RESULTS FROM GRASS CARP MAY NOT BE EVIDENT FOR TWO OR MORE YEARS.

Herbicide - Apply when plants are actively growing.

Other control application specifications

Herbicide label rates will be stringently adhered to. Treatment of the control area is to be conducted in a manner that will not significantly degrade water quality. This may require that only a portion of the control area be treated at any one time.

All sterile grass carp will be a minimum of 12 inches in length. Sterile grass carp shipments will be certified by the SCDNR for sterility and checked for size and condition prior to stocking in the lake.

Entity to apply control agent

Commercial applicator monitored by SCPRT or SCDES staff.

Estimated cost of control operations

\$1,300

Potential sources of funding

SCPRT 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- d) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- e) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- f) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**55. Poinsett State Park
(Sumter County)****Problem plant species**

Water primrose, Spatterdock, Cattails, Water milfoil

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Problem plants in the lake.

Method of application of control agent

Herbicide - Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Herbicide label rates will be stringently adhered to.

Entity to apply control agent

Commercial applicator monitored by SCPRT.

Estimated cost of control operations

\$1,500

Potential sources of funding

SCPRT 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**56. Ramsey Grove State Park
(Georgetown County)**

Problem plant species

Water primrose, Bladderwort

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Problem plants in lake.

Method of application of control agent

Herbicide - Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Herbicide label rates will be stringently adhered to.

Entity to apply control agent

Commercial applicator monitored by SCPRT or SCDES staff.

Estimated cost of control operations

\$10,000

Potential sources of funding

SCPRT 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**57. Sesquicentennial State Park
(Richland County)**

Problem plant species

Waterlily, Watershield, Fanwort, Watermilfoil

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Problem plants in swimming and bank fishing portions of the lake.

Method of application of control agent

Herbicide - Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Herbicide label rates will be stringently adhered to.

Entity to apply control agent

Commercial applicator monitored by SCPRT or SCDES staff.

Estimated cost of control operations

\$3,000

Potential sources of funding

SCPRT 50%

SCDES 50% (up to \$30,000 cost share)

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

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58. Lake Cherokee (Cherokee County)

Problem plant species

Water primrose, Chara, Hydrilla

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Triploid grass carp stocking at an initial rate of 10-15 fish per vegetated acre, with maintenance stockings as needed to control vegetation.

Area to which control is to be applied

Problem plants in lake.

Release triploid grass carp during late spring in close proximity to areas of the lake with the greatest problematic growth.

Method of application of control agent

Spray on surface of foliage with appropriate surfactant. Submersed vegetation should be treated using either a surface spray or trail hoses depending on the herbicide used.

Using standard techniques to minimize loss, stock sterile grass carp in areas of the lake with the greatest hydrilla and chara growth.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Herbicide label rates will be stringently adhered to.

Entity to apply control agent

SCDNR, WFF, Lake Management staff and/or commercial applicator.

Estimated cost of control operations

\$*

Potential sources of funding

SCDNR WFF 100%

SCDES 0%

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**59. Lake Edwin Johnson
(Spartanburg County)****Problem plant species**

Water primrose, Hydrilla, Pondweed

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Triploid grass carp stocking at an initial rate of 10-15 fish per vegetated acre, with maintenance stockings as needed to control vegetation.

Area to which control is to be applied

Problem plants in lake.

If conditions warrant, release triploid grass carp during late spring in close proximity to areas of the lake with the greatest problematic growth and use herbicide applications to provide immediate short-term control of localized growth in those areas.

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Triploid grass carp – Using standard techniques to minimize loss, stock sterile grass carp in areas of the lake with the greatest hydrilla growth.

Timing and sequence of control application

Herbicide - Apply when plants are actively growing.

Triploid grass carp – If conditions warrant, triploid grass carp to be released as soon as possible.

Other control application specifications

Treatment of the control area is to be conducted in a manner that will not significantly degrade water quality. This may require that only a portion of the control area be treated at any one time. Herbicide label rates will be stringently adhered to.

All sterile grass carp will be a minimum of 12 inches in length. Sterile grass carp shipments will be certified by the SCDNR for sterility and checked for size and condition prior to stocking in the lake.

Entity to apply control agent

Herbicide application – SCDNR, WFF, Lake Management staff and/or commercial applicator.

Triploid Grass Carp - SCDNR, WFF, Lake Management staff and/or a commercial supplier with supervision by the SCDNR.

Estimated cost of control operations

\$*

Potential sources of funding

DNR WFF 100%

SCDES 0%

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**60. Jonesville Reservoir
(Union County)**

Problem plant species

Water primrose, Pondweed

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

10 acres in lake.

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Herbicide label rates will be stringently adhered to.

Entity to apply control agent

SCDNR-WFF, Lake Management staff.

Estimated cost of control operations

\$*

Potential sources of funding

SCDNR WFF 100%

SCDES 0%

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**61. Mountain Lakes
(Chester County)**

Problem plant species

Water primrose, Alligatorweed, Parrotfeather

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Problem plants in lake.

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Herbicide label rates will be stringently adhered to.

Entity to apply control agent

SCDNR-WFF, Lake Management staff.

Estimated cost of control operations

\$*

Potential sources of funding

SCDNR WFF 100%

SCDES 0%

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**62. Lancaster Reservoir
(Lancaster County)**

Problem plant species

Water primrose, Alligatorweed

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Problem plants in lake.

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Herbicide label rates will be stringently adhered to.

Entity to apply control agent

SCDNR-WFF, Lake Management staff.

Estimated cost of control operations

\$*

Potential sources of funding

SCDNR WFF 100%

SCDES 0%

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**63. Sunrise Lake
(Lancaster County)**

Problem plant species

Pondweed

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Problem plants in lake.

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Herbicide label rates will be stringently adhered to.

Entity to apply control agent

SCDNR-WFF, Lake Management staff.

Estimated cost of control operations

\$*

Potential sources of funding

SCDNR WFF 100%

SCDES 0%

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

64. Lake Ashwood (Lee County)

Problem plant species

Waterlily

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Problem plants in lake.

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Herbicide label rates will be stringently adhered to.

Entity to apply control agent

SCDNR-WFF, Lake Management staff.

Estimated cost of control operations

\$*

Potential sources of funding

SCDNR WFF 100%

SCDES 0%

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.

- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

65. Lake Edgar Brown (Barnwell County)

Problem plant species

Water primrose, Coontail, water hyacinth

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities. Control efforts will extend into the Turkey Creek area adjacent to the Barnwell Hatchery.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Area to which control is to be applied

Problem plants in lake.

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Timing and sequence of control application

Apply when plants are actively growing.

Other control application specifications

Herbicide label rates will be stringently adhered to.

Entity to apply control agent

SCDNR-WFF, Lake Management staff.

Estimated cost of control operations

\$*

Potential sources of funding

SCDNR WFF 100%

SCDES 0%

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations

where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.

- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

66. Lake George Warren (Hampton County)

Problem plant species

Water primrose, Cattails, Coontail, Naiad

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Triploid grass carp stocking at an initial rate of 10-15 fish per vegetated acre, with maintenance stockings as needed to control vegetation.

Area to which control is to be applied

Problem plants in lake.

Method of application of control agent

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Triploid grass carp – Using standard techniques to minimize loss, stock sterile grass carp in areas of the lake with the greatest hydrilla growth.

Timing and sequence of control application

Apply when plants are actively growing.

Triploid grass carp – If conditions warrant, triploid grass carp to be released as soon as possible.

Other control application specifications

Treatment of the control area is to be conducted in a manner that will not significantly degrade water quality. This may require that only a portion of the control area be treated at any one time. Herbicide label rates will be stringently adhered to.

All sterile grass carp will be a minimum of 12 inches in length. Sterile grass carp shipments will be certified by the SCDNR for sterility and checked for size and condition prior to stocking in the lake.

Entity to apply control agent

Herbicide application – SCDNR WFF, Lake Management staff and/or commercial applicator.

Triploid Grass Carp - SCDNR WFF, Lake Management staff and/or a commercial supplier with supervision by the SCDNR.

Estimated cost of control operations

\$*

Potential sources of funding

SCDNR WFF 100%

SCDES 0%

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**67. Lake Thicketty
(Cherokee County)**

Problem plant species

Hydrilla

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Triploid grass carp stocking at an initial rate of 10-15 fish per vegetated acre, with maintenance stockings as needed to control vegetation.

Area to which control is to be applied

Problem plants in lake and creek adjacent to hatchery.

Method of application of control agents

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Triploid grass carp – Using standard techniques to minimize loss, stock sterile grass carp in areas of the lake with the greatest hydrilla growth.

Timing and sequence of control application

All herbicides to be applied when plants are actively growing.

Triploid grass carp – If conditions warrant, triploid grass carp to be released as soon as possible.

Other control application specifications

Treatment of the control area is to be conducted in a manner that will not significantly degrade water quality. This may require that only a portion of the control area be treated at any one time. Herbicide label rates will be stringently adhered to.

All sterile grass carp will be a minimum of 12 inches in length. Sterile grass carp shipments will be certified by the SCDNR for sterility and checked for size and condition prior to stocking in the lake.

Entity to apply control agent

Herbicide application – SCDNR WFF, Lake Management staff and/or commercial applicator.

Triploid Grass Carp - SCDNR WFF, Lake Management staff and/or a commercial supplier with supervision by the SCDNR.

Estimated cost of control operations

\$*

Potential sources of funding

SCDNR WFF 100%

SCDES 0%

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**68. Dargan's Pond
(Darlington County)**

Problem plant species

Pondweed

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Triploid grass carp stocking at an initial rate of 10-15 fish per vegetated acre, with maintenance stockings as needed to control vegetation.

Area to which control is to be applied

Problem plants in lake.

Method of application of control agents

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Triploid grass carp – Using standard techniques to minimize loss, stock sterile grass carp in areas of the lake with the greatest hydrilla growth.

Timing and sequence of control application

All herbicides to be applied when plants are actively growing.

Triploid grass carp – If conditions warrant, triploid grass carp to be released as soon as possible.

Other control application specifications

Treatment of the control area is to be conducted in a manner that will not significantly degrade water quality. This may require that only a portion of the control area be treated at any one time. Herbicide label rates will be stringently adhered to.

All sterile grass carp will be a minimum of 12 inches in length. Sterile grass carp shipments will be certified by the SCDNR for sterility and checked for size and condition prior to stocking in the lake.

Entity to apply control agent

Herbicide application – SCDNR WFF, Lake Management staff and/or commercial applicator.

Triploid Grass Carp - SCDNR WFF, Lake Management staff and/or a commercial supplier with supervision by the SCDNR.

Estimated cost of control operations

\$*

Potential sources of funding

SCDNR WFF 100%

SCDES 0%

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**69. Lake Paul Wallace
(Marlboro County)****Problem plant species**

Hydrilla, Naiad

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Triploid grass carp stocking at an initial rate of 10-15 fish per vegetated acre, with maintenance stockings as needed to control vegetation.

Area to which control is to be applied

200 acres in lake.

Method of application of control agents

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Triploid grass carp – Using standard techniques to minimize loss, stock sterile grass carp in areas of the lake with the greatest hydrilla growth.

Timing and sequence of control application

All herbicides to be applied when plants are actively growing.

Triploid grass carp – If conditions warrant, triploid grass carp to be released as soon as possible.

Other control application specifications

Treatment of the control area is to be conducted in a manner that will not significantly degrade water quality. This may require that only a portion of the control area be treated at any one time. Herbicide label rates will be stringently adhered to.

All sterile grass carp will be a minimum of 12 inches in length. Sterile grass carp shipments will be certified by the SCDNR for sterility and checked for size and condition prior to stocking in the lake.

Entity to apply control agent

Herbicide application – SCDNR WFF, Lake Management staff and/or commercial applicator.

Triploid Grass Carp - SCDNR WFF, Lake Management staff and/or a commercial supplier with supervision by the SCDNR.

Estimated cost of control operations

\$*

Potential sources of funding

SCDNR WFF 100%

SCDES 0%

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

**70. Draper WMA Lakes
(York County)**

Problem plant species

Naiad

Management objective

Reduce problem plants to the extent they do not interfere with recreational opportunities.

Selected control method:

Herbicide applications at rates specified in Appendix A.

Triploid grass carp stocking at an initial rate of 10-15 fish per vegetated acre, with maintenance stockings as needed to control vegetation.

Area to which control is to be applied

Problem plants in 3 lakes.

Method of application of control agents

Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Triploid grass carp – Using standard techniques to minimize loss, stock sterile grass carp in areas of the lake with the greatest hydrilla growth.

Timing and sequence of control application

All herbicides to be applied when plants are actively growing.

Triploid grass carp – If conditions warrant, triploid grass carp to be released as soon as possible.

Other control application specifications

Treatment of the control area is to be conducted in a manner that will not significantly degrade water quality. This may require that only a portion of the control area be treated at any one time. Herbicide label rates will be stringently adhered to.

All sterile grass carp will be a minimum of 12 inches in length. Sterile grass carp shipments will be certified by the SCDNR for sterility and checked for size and condition prior to stocking in the lake.

Entity to apply control agent

Herbicide application – SCDNR WFF, Lake Management staff and/or commercial applicator.

Triploid Grass Carp - SCDNR WFF, Lake Management staff and/or a commercial supplier with supervision by the SCDNR.

Estimated cost of control operations

\$*

Potential sources of funding

SCDNR WFF 100%

SCDES 0%

Long term management strategy

- a) Manage the distribution and abundance of nuisance aquatic plant populations at levels that minimize adverse impacts to water use activities and the environment using federal and state approved control methods.
- b) Maintain or enhance native aquatic plant populations at levels beneficial to water use, water quality, and fish and wildlife populations through selective control of nuisance plant populations where feasible, introduction of native plant species where appropriate, and public education of the benefits of aquatic vegetation in general.
- c) Seek to prevent further introduction and distribution of problem species through public education, posting signs at boat ramps, regular surveys of the water body, and enforcement of existing laws and regulations.

South Carolina Border Lakes

Approval for Lake Wylie was accomplished by SCDES staff in conjunction with staff from North Carolina Natural Resource agencies, Duke Energy staff, and the Lake Wylie Marine Commission.

71. Lake Wylie

(York County, SC; Gaston and Mecklenburg County, NC)

Problem plant species

Hydrilla, Alligatorweed

Management objective

Reduce hydrilla growth lake-wide and prevent the spread of hydrilla to other systems.

Achieve measurable reduction of hydrilla within two or three years and once hydrilla has been controlled, prevent it from reestablishing.

Control hydrilla by using a low enough density of triploid grass carp that potentially other forms of native vegetation can become established.

Selected control method

Triploid (sterile) grass carp used lake wide for long-term control.

Registered and properly applied herbicides should be used for initial suppression and on behalf of homeowners for spot treatments. Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Area to which control is to be applied

Triploid grass carp will be released from boat ramps near the greatest concentration of hydrilla.

Rate of control agent to be applied

Recommendation for supplemental grass carp stocking in the spring of 2026. Because of the loss of sterile grass carp to mortality (disease, predation, fishing, bow hunting, etc.) we recommend 576 grass carp, be stocked in the lake during the spring of 2026. This is a supplemental stocking of 32% (average of national grass carp annual mortality curves, Phil Kirk pers. com.) of the original 1800 grass carp introduced in 2009. Duke Energy will continue to monitor the effectiveness of the introduced fish.

Method of application of control agents

Herbicide- Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Triploid grass carp – Triploid grass carp stocking at an initial rate of 10-15 fish per vegetated acre, with maintenance stockings as needed to control vegetation.

Timing and sequence of control application

Herbicide applications - To be applied when plants are actively growing.

Triploid grass carp to be released as soon as possible in the spring of 2026 (March-May) and yearly at the same time for at least the next three years. RESULTS FROM GRASS CARP MAY NOT BE EVIDENT FOR TWO OR MORE YEARS. After hydrilla has been controlled, follow up stocking,

currently estimated at maintaining triploid grass carp stocking densities of approximately 1 fish per every 8 surface acres of Lake Wylie will be continued using mortality estimates derived from the population and population models.

Other control application specifications

Treatment of the control area is to be conducted in a manner that will not significantly degrade water quality. This may require that only a portion of the control area be treated at any one time. Herbicide label rates will be stringently adhered to.

Triploid grass carp will be a minimum of 12 inches total length. All shipments will be examined for condition and length specified in the contract with the vendor.

Estimated cost of control operations

All work to be done in North Carolina Section of the lake.

Entity to apply control agent

Herbicide application - Commercial applicator or Duke Energy

Drawdown - Duke Energy

Potential sources of funding

Duke Energy 100% - All control work at present time is in North Carolina.

Long term management strategy

- a) Manage hydrilla's potential adverse impacts to the Lake Wylie ecosystem using primarily triploid grass carp after initial suppression using approved herbicides.
- b) Maintain or enhance native aquatic vegetation by maintaining the lowest possible stocking rates of triploid grass carp, especially once major stands of hydrilla have been controlled.
- c) Seek to prevent further introduction and distribution of problem aquatic species through public education and enforcement of existing laws and regulations.
- d) Periodically revise management plans and strategy as new environmental data becomes available.
- e) Plan for long-term control of hydrilla, once control has been achieved, by maintaining very low densities of triploid grass carp. Stockings will be determined from mortality estimates generated from triploid grass carp collected on Lake Wylie and the use of age-structure population models developed for fisheries.

72. Lake Thurmond

(South Carolina - Georgia)

Lake Thurmond is a U.S. Army Corps of Engineers (USACOE) lake which borders South Carolina and Georgia. The control and maintenance issues associated with this lake fall under the jurisdiction of the USACOE. The USACOE coordinates with both Georgia and SC natural resource agencies on a variety of issues that affect natural resource management. A consensus has not been reached by the entities involved on management activities for invasive species, specifically hydrilla. Ongoing meetings and correspondence will continue on this and many other subjects.

NOTE: The following description is not binding for management activities but represents the Aquatic Plant Management Council's opinion on managing hydrilla in Lake Thurmond.

Problem plant species

Hydrilla

Management objective

Reduce hydrilla growth lake-wide and prevent the spread of hydrilla to other systems.

Achieve measurable reduction of hydrilla within two or three years and once hydrilla has been controlled, prevent it from reestablishing.

Control hydrilla by using a low enough density of triploid grass carp that potentially other forms of native vegetation can become established.

Selected control method

Triploid (sterile) grass carp used lake wide for long-term control.

Registered and properly applied herbicides should be used for initial suppression and on behalf of homeowners for spot treatments. Spray herbicide on surface of emergent foliage with appropriate surfactant, apply herbicide to submersed vegetation by subsurface injection or spread granular product evenly in vegetated areas.

Area to which control is to be applied

Triploid grass carp will be released from boat ramps near the greatest concentration of hydrilla.

Rate of control agent to be applied

Triploid grass carp stocking at an initial rate of 10-15 fish per vegetated acre, with maintenance stockings as needed to control vegetation.

Drawdown - To the greatest extent possible within project limits.

Method of application of control agents

Herbicide- subsurface application by airboat.

Triploid grass carp – Using standard techniques to minimize loss, stock sterile grass carp in areas of the lake with the greatest hydrilla growth.

Drawdown - Draw lake down

Timing and sequence of control application

Herbicide applications - To be applied when plants are actively growing.

Triploid grass carp to be released as soon as possible. RESULTS FROM GRASS CARP MAY NOT BE EVIDENT FOR TWO OR MORE YEARS. After hydrilla has been controlled, follow up stocking, currently estimated at maintaining triploid grass carp stocking densities of approximately 1 fish per every 8 surface acres of Lake Thurmond will be continued using mortality estimates derived from the population and population models.

Drawdown - Drawdown lake from October through February.

Other control application specifications

Treatment of the control area is to be conducted in a manner that will not significantly degrade water quality. This may require that only a portion of the control area be treated at any one time. Herbicide label rates will be stringently adhered to.

Triploid grass carp will be a minimum of 12 inches total length. All shipments will be examined for condition and length specified in the contract with the vendor.

Drawdown - Extent and duration of drawdown is dependent on operational limits of hydroelectric project, Federal regulations, electric demand, precipitation, and inflow.

Estimated cost of control operations

No estimate available

Entity to apply control agent

Herbicide application - Commercial applicator or USACOE

Drawdown - USACOE

Potential sources of funding

USACOE 100%

Long term management strategy

- a) Manage hydrilla's potential adverse impacts to the Lake Thurmond ecosystem using primarily triploid grass carp after initial suppression using approved herbicides.
- b) Maintain or enhance native aquatic vegetation by maintaining the lowest possible stocking rates of triploid grass carp, especially once major stands of hydrilla have been controlled.
- c) Seek to prevent further introduction and distribution of problem aquatic species through public education and enforcement of existing laws and regulations.
- d) Periodically revise management plans and strategy as new environmental data becomes available.
- e) Plan for long-term control of hydrilla, once control has been achieved, by maintaining very low densities of triploid grass carp. Stockings will be determined from mortality estimates generated from triploid grass carp collected on Lake Thurmond and the use of age-structure population models developed for fisheries.

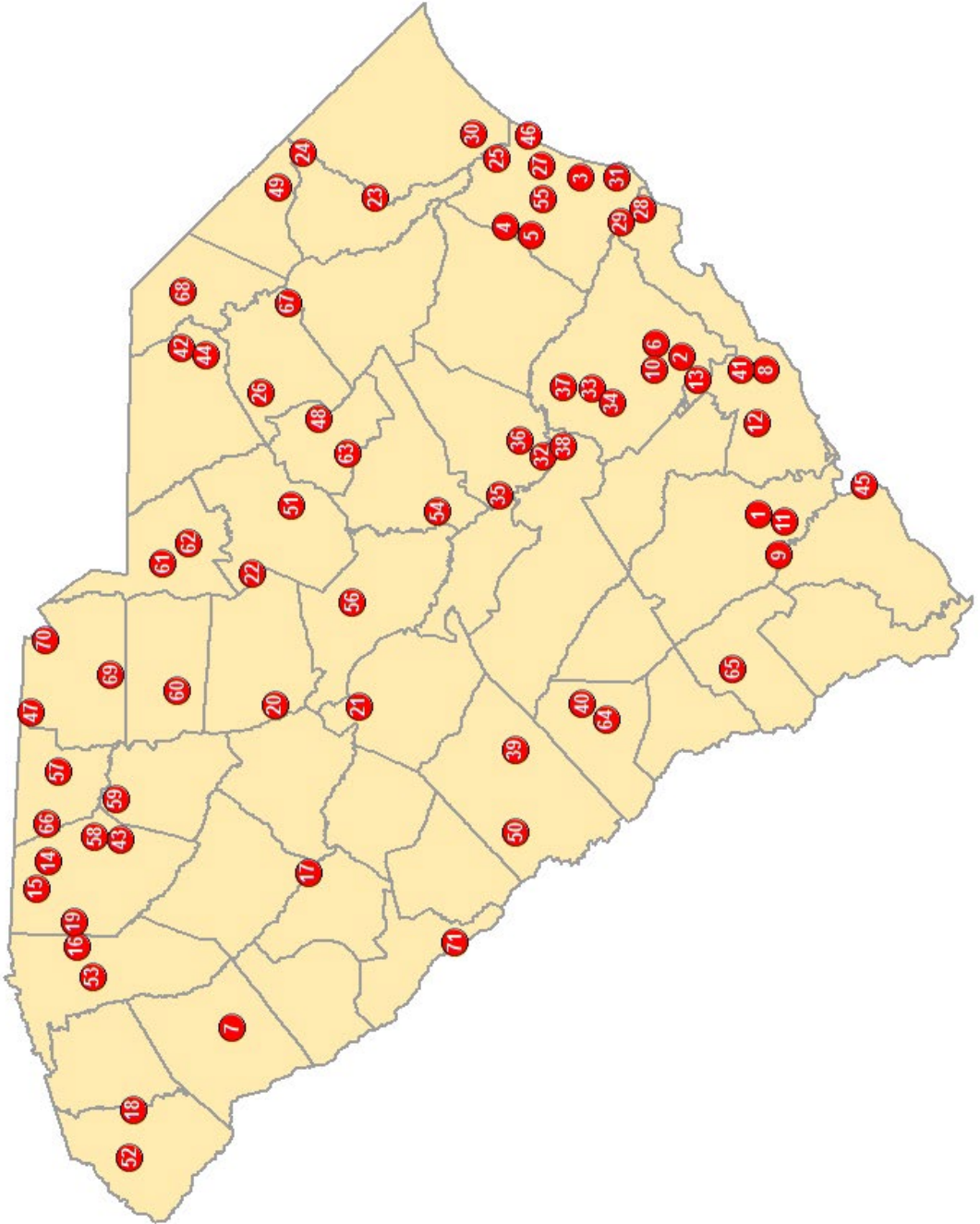
Summary of Proposed Management Operation Expenditures for 2026-2027

	Water Body Name	Total Cost	Local	State	Federal	Local Sponsor
1	Ashepoo	\$20,000	\$10,000	\$10,000	\$0	Colleton County
2	Back River Reservoir	\$55,000	\$27,500	\$27,500	\$0	Dominion Energy, Chas. Water Sys.
3	Baruch	\$15,000	\$7,500	\$7,500	\$0	Baruch
4	Black Mingo Creek	\$10,000	\$5,000	\$5,000	\$0	Georgetown Co.
5	Black River	\$30,000	\$15,000	\$15,000	\$0	Georgetown Co.
6	Bonneau Ferry WMA	\$5,750	\$2,875	\$2,875	\$0	SCDNR, WFF Div.
7	Broadway Lake	\$4,500	\$2,250	\$2,250	\$0	Anderson County
8	Charleston Co. Parks	\$1,000	\$500	\$500	\$0	Charleston Parks
9	Combahee River	\$30,000	\$15,000	\$15,000	\$0	Colleton Co.
10	Cooper River	\$60,000	\$30,000	\$30,000	\$0	Berkeley Co.
11	Donnelley/Bear Island WMA	\$100,000	\$70,000	\$30,000	\$0	SCDNR, WFF Div.
12	Dungannon WMA	\$10,000	\$5,000	\$5,000	\$0	SCDNR, WFF Div.
13	Goose Creek Reservoir	\$45,000	\$22,500	\$22,500	\$0	Chas. Water Sys.
14	Lake Blalock	\$350	\$175	\$175	\$0	Spartanburg CPW
15	Lake Bowen	\$1,000	\$500	\$500	\$0	Spartanburg CPW
16	Lake Cunningham	\$10,000	\$5,000	\$5,000	\$0	Greer CPW
17	Lake Greenwood	\$10,000	\$5,000	\$5,000	\$0	Greenwood Co.
18	Lake Keowee	\$15,000	\$7,500	\$7,500	\$0	Duke Energy
19	Lake Lyman	\$10,000	\$5,000	\$5,000	\$0	SJWD Water District
20	Lake Monticello (Rec. Lake)	\$111,000	\$81,000	\$30,000	\$0	Dominion Energy
21	Lake Murray	\$62,000	\$32,000	\$30,000	\$0	Dominion Energy, Lex. & Rich. Cos.
22	Lake Wateree	\$30,000	\$15,000	\$15,000	\$0	Duke Energy
23	Little Pee Dee River	\$20,000	\$10,000	\$10,000	\$0	Horry & Marion Cos.
24	Lumber River	\$1,500	\$750	\$750	\$0	Horry & Marion Cos.
25	Pee Dee River	\$10,000	\$5,000	\$5,000	\$0	Georgetown Co.
26	Prestwood Lake	\$10,000	\$5,000	\$5,000	\$0	City of Hartsville
27	Samworth WMA	\$30,000	\$15,000	\$15,000	\$0	SCDNR, WFF Div.
28	Santee Coastal Reserve	\$600,000	\$270,000	\$30,000	\$0	SCDNR, WFF Div.
29	Santee Delta WMA	\$60,000	\$30,000	\$30,000	\$0	SCDNR, WFF Div.
30	Waccamaw River	\$40,000	\$20,000	\$20,000	\$0	USF&W/Horry Co.
31	Yawkey Wildlife Center	\$12,000	\$6,000	\$6,000	\$0	SCDNR, WFF Div.
Santee Cooper Lakes						
32	Lake Marion	\$1,500,000	\$1,005,000	\$0	\$495,000	Santee Cooper / USACOE

33	Lake Moultrie	\$900,000	\$603,000	\$0	\$297,000	Santee Cooper
	Santee Cooper Area WMA's					
34	Hatchery WMA	\$20,000	\$10,000	\$10,000	\$0	SCDNR, WFF Div.
35	Hickory Top WMA	\$60,000	\$30,000	\$30,000	\$0	SCDNR, WFF Div.
36	Potato Creek WMA	\$10,000	\$5,000	\$5,000	\$0	SCDNR, WFF Div.
37	Sandy Beach WMA	\$10,000	\$5,000	\$5,000	\$0	SCDNR, WFF Div.
38	Santee Cooper WMA	\$30,000	\$15,000	\$15,000	\$0	SCDNR, WFF Div.
	State Parks					
39	Aiken State Park	\$10,000	\$5,000	\$5,000	\$0	SCPRT
40	Barnwell SP	\$7,000	\$3,500	\$3,500	\$0	SCPRT
41	Charlestown Landing SP	\$4,000	\$2,000	\$2,000	\$0	SCPRT
42	Cheraw SP	\$6,000	\$3,000	\$3,000	\$0	SCPRT
43	Croft SP	\$1,200	\$600	\$600	\$0	SCPRT
44	H Cooper Black SP	\$1,000	\$500	\$500	\$0	SCPRT
45	Hunting Island SP	\$1,200	\$600	\$600	\$0	SCPRT
46	Huntington Beach SP	\$6,000	\$3,000	\$3,000	\$0	SCPRT
47	Kings Mountain SP	\$2,000	\$1,000	\$1,000	\$0	SCPRT
48	Lee SP	\$1,500	\$750	\$750	\$0	SCPRT
49	Little Pee Dee SP	\$3,000	\$1,500	\$1,500	\$0	SCPRT
50	Misty Lake SP	\$2,000	\$1,000	\$1,000	\$0	SCPRT
51	NR Goodale SP	\$10,000	\$5,000	\$5,000	\$0	SCPRT
52	Oconee SP	\$2,000	\$1,000	\$1,000	\$0	SCPRT
53	Paris Mountain SP	\$1,300	\$650	\$650	\$0	SCPRT
54	Poinsett SP	\$1,500	\$750	\$750	\$0	SCPRT
55	Ramsey Grove SP	\$10,000	\$5,000	\$5,000	\$0	SCPRT
56	Sesquicentennial SP	\$3,000	\$1,500	\$1,500	\$0	SCPRT
*	57-69 done entirely by SCDNR State Lakes Program, budget not provided					
	70-71 are border lakes with either Federal or other State jurisdictions, budget not provided					
	SCDES Total	\$1,419,100	\$726,050	\$393,050	\$0	
	SCDNR WMA Total	\$130,000	\$65,000	\$65,000	\$0	
	State Park Lake Total	\$72,700	\$36,350	\$36,350	\$0	
	Santee Cooper Total	\$2,400,000	\$1,608,000	\$0	\$792,000	
	Grand Total	\$4,021,800	\$2,435,400	\$494,400	\$792,000	

NOTE: Planned expenditures are based on anticipated aquatic plant problems. The extent of proposed management operations will be modified depending on actual aquatic plant growth and funding availability in 2025 (Percentage of match subject to change based on availability of State funding.) * Control operations on Lakes Marion and Moultrie may receive federal funds from the Corps of Engineers' St. Stephen Plant, if control activities are directly related to maintaining operation of the St. Stephen Hydropower Facility. Those funds should be used whenever possible instead of APC cost-share funds from the Charleston District.

Location of 2025 Management Sites



APPENDICES

APPENDIX A: Controls and Application Rates for Target Plants

Common Name	Scientific Name	Agents and Application Rates	Biological/Other Controls
Alligatorweed	<i>Alternanthera philoxeroides</i>	Triclopyr—0.500 to 0.750 gallons per acre. Imazapyr—0.250 - 0.750 gallons per acre. Imazamox—1 to 4 pints per acre. Glyphosate—up to 0.937 gallons per acre. Flumioxazin—2 oz/ac as an efficacy booster for foliar application.	Alligatorweed Flea Beetles—600-1000 per acre
Bladderwort	<i>Utricularia spp.</i>	Copper—up to 1 ppm Fluridone—10 to 45 ppb ProcellaCOR-SC—1-5 PDUs per acre foot for submersed application Endothall—3-4 gallons per acre. Diquat—1-2 gallons per acre 2,4-D—50-200 pounds per acre for granular product, up to 5 gallons per acre for liquid product	Grass Carp—10-15 fish per vegetated acre
Brazilian elodea	<i>Egeria densa</i>	Copper—up to 1 ppm (12-16 gallons per acre) Diquat—1-2 gallons per surface acre for submersed application Fluridone—Liquid form (Sonar AS, Avast): 1-4 pints per acre depending on water depth; Pellet forms (Sonar PR, Sonar SRP, Avast SRG): 15 to 80 pounds per acre depending on water depth.	Grass Carp—10-15 fish per vegetated acre
Bur Marigold	<i>Bidens spp</i>	Triclopyr—0.500 to 0.750 gallons per acre. Imazapyr—2 to 3 pints per acre. Imazamox—1 to 4 pints per acre. Glyphosate—up to 6 pints per acre. ProcellaCOR-SC—1-2 PDUs per acre for foliar application. Flumioxazin—2 oz/ac as an efficacy booster for foliar application.	
Cattails	<i>Typha spp.</i>	Imazapyr—0.250 - 0.750 gallons per acre. Imazamox—up to a 5% solution for spot spray. Glyphosate—up to 0.937 gallons per acre. ProcellaCOR-SC—1-5 PDUs per acre foot for submersed application, 1-2 PDUs per acre for foliar application. Flumioxazin—2 oz/ac as an efficacy booster for foliar application.	Maintain high water level during growing season

Chinese Tallow	<i>Sapium sebiferum</i>	Imazapyr—2 to 3 pints per acre. Imazamox—1 to 4 pints per acre, or 5% solution for spot spray Glyphosate—up to 0.937 gallons per acre.	
Coontail	<i>Ceratophyllum demersum</i>	Copper—up to 1 ppm (about 10- 16 gallons per acre). Copper/Diquat—4 gallons/2 gallons per acre. Endothall—3.0-4.0 ppm (full water column treatment) Fluridone AS—10 to 30 ppb. Diquat—1-2 gallons per acre for submersed plants. Flumioxazin—6-12 oz. per surface acre (not to exceed 400ppb) 2,4-D—5 gallons per acre (liquid form); 150 to 200 pounds per acre (granular form)	
Common reed	<i>Phragmites australis</i>	Glyphosate—Up to 7 1/2 pints per acre (up to 0.937 gallons per acre) Imazapyr—1 to 6 pints per acre Imazamox—1 to 6 pints per acre	Maintain high water level during growing season
Common salvinia	<i>Salvinia minima</i>	Fluridone AS—10 to 30 ppb. Fluridone Q, Fluridone PR, Fluridone One—up to 40 ppb (approx 10 pounds/acre). Diquat—0.500 gallon per acre. Penoxsulam—2 to 6 fluid ounces per acre as foliar application Flumioxazin—6-12 oz/acre for foliar application	
Crested Floating-heart	<i>Nymphoides cristata</i>	Endothall—3.0-4.0 ppm Imazamox—0.250 to 1.00 gallons per acre Glyphosate—up to 1.25 gallons per acre Triclopyr/2,4-D—up to 320 pounds per acre Fluridone AS—10 to 30 ppb Fluridone Q, Fluridone PR, Fluridone One—up to 40 ppb (approx 10 pounds/acre) ProcellaCOR-SC—1-5 PDUs per acre foot for submersed application, 1-2 PDUs per acre for foliar application Flumioxazin—6-12 oz. per surface acre (not to exceed 400ppb)	
Cuban bullrush	<i>Cyperus blepharoleptos</i>	ProcellaCOR-SC—1-2 PDUs per acre for foliar application Triclopyr—0.500 to 0.750 gallons per acre Flumioxazin—2 oz/ac as an efficacy booster for foliar application Diquat—0.500 gallon per acre	

Curly-leaf pondweed	<i>Potamogeton crispus</i>	Copper—0 part per million of copper (12-16 gallons per acre) or mix two gallons of copper complex and two gallons of Diquat per acre Diquat—1-2 gallons per surface acre 2,4-D—5 gallons per acre (liquid form); 150 to 200 pounds per acre (granular form) Endothall—3 to 4 gallons per acre Fluridone—Liquid form (Sonar AS, Avast): 1-4 pints per acre depending on water depth; Pellet forms (Sonar PR, Sonar SRP, Avast SRG): 15 to 80 pounds per acre depending on water depth Imazamox—1 to 4 pints per acre.	Grass Carp—10-15 fish per vegetated acre
Cyanobacteria	<i>Anabaena, Aphanizomenon, and Microcystis spp., etc</i>	*Copper—up to 1 ppm	
Duckweed	<i>Lemna spp.</i>	Flumioxazin—5 to 12 oz/ac as a foliar application Flumioxazin—2 oz/ac as an efficacy booster for foliar application, submersed application up to 0.09375 gallons per acre. Fluridone AS—10 to 30 ppb. Fluridone Q, Fluridone PR, Fluridone One—up to 40 ppb (approx 10 pounds/acre). Penoxsulam—2 to 12 fl oz per acre. Diquat—0.500 gallon per acre. Flumioxazin—2 oz/ac as an efficacy booster for foliar application, 5 to 12 oz/ac as a foliar application	
Eel Grass	<i>Vallisneria americana</i>	Endothall—0.500 to 4 ppm (about 3 to 8 gallons per acre depending on depth) Fluridone—0.075 to 0.250 ppm Copper*—up to 1 ppm	

Eurasian watermilfoil	<i>Myriophyllum spicatum</i>	Triclopyr/2,4-D—200 lbs per acre 2,4-D—up to 5 gallons per acre Imazamox—up to 5% solution for spot spray ProcellaCOR-SC—1-5 PDUs per acre foot for submersed application, 1-2 PDUs per acre for foliar application.	
Fanwort	<i>Cabomba caroliniana</i>	Copper*—up to 1 ppm (about 10- 16 gallons per acre) Copper*/Diquat—4 gallons/2 gallons per acre	
Filamentous algae	<i>Pithophora</i> , <i>Lyngbya</i> , <i>Hydrodictyon</i> <i>spp.</i>	Copper (Cutrine Plus, K-TEA, Captain)*—up to 1 ppm (about 10- 16 gallons per acre) Peroxide-based products—Subsurface application by airboat Endothall—3.0-4.0 ppm Diquat—1 gallon per acre	
Floating bladderwort	<i>Utricularia inflata</i>	Copper*—up to 1 ppm Fluridone—10 to 40 ppb ProcellaCOR-SC—1-5 PDUs for submersed application Diquat—1-2 gallons per surface acre 2,4-D—Granular form (2,4-D BEE): 150 to 200 pounds per acre depending on target species. Liquid form (2,4-D DMA): 5 gallons per acre Endothall—3 or more gallons per acre (liquid); 22-323 pounds per acre (granular)	Grass Carp—10-15 fish per vegetated acre
Floating heart	<i>Nymphoides spp.</i>	Endothall—3.0-4.0 ppm Imazamox—0.250 to 1.00 gallons per acre Glyphosate—up to 1.25 gallons per acre Triclopyr—0.375 to 0.750 gallons per acre Triclopyr/2,4-D—up to 320 pounds per acre Fluridone—10 to 45 ppb ProcellaCOR-SC—1-2 PDUs per acre Flumioxazin—6-12 oz. per surface acre	

Frog's bit	<i>Limnobium spongia</i>	Diquat—0.500 gallon per acre. ProcellaCOR-SC—1-2 PDUs per acre Penoxsulam—2 to 12 fl oz/acre Flumioxazin—2 oz/ac as an efficacy booster for foliar application Triclopyr—0.500 to 0.750 gallons per acre Imazapyr—2 to 3 pints per acre Imazamox—1 to 4 pints per acre Glyphosate—up to 6 pints per acre	
Giant cutgrass	<i>Zizaniopsis miliacea</i>	Diquat—0.500 gallons per acre Imazapyr—0.250 - 0.750 gallons per acre Imazamox—0.250 - 0.750 gallons per acre Glyphosate—up to 1.25 gallons per acre Flumioxazin—2 oz/ac as an efficacy booster for foliar application or 6-12 oz per surface acre ProcellaCOR-SC—1-2 PDUs per acre for foliar application	
Giant salvinia	<i>Salvinia molesta</i>	Diquat—0.500 gallons per acre Triclopyr—0.375 to 0.750 gallons per acre Triclopyr/2,4-D—up to 320 lbs per acre 2,4-D—up to 1.000 gallon per acre Flumioxazin—6-12 oz. per surface acre (not to exceed 400ppb) Fluridone—10 to 45 ppb Carfentrazone—4 to 8 oz per acre Penoxsulam—4 oz per acre Metsulfuron-Methyl—0.5-1.0 dry ounce per surface acre (refer to Special Local Need 24(c) registration)	Salvinia weevils
Hydrilla	<i>Hydrilla verticillata</i>	Copper*—up to 1 ppm (about 10- 16 gallons per acre) Copper*/Diquat—4 gallons/2 gallons per acre ProcellaCOR-SC—1-5 PDUs per acre foot for submersed application Fluridone—0.075 to 0.250 ppm Endothall—0.500 to 4 ppm (about 3 to 8 gallons per acre depending on depth) Imazamox—1-4 pints per acre Komeen Crystal—0.5-1.0 ppm Komeen/Diquat—4 gallons per acre / 2 gallons per acre	Grass Carp—10-15 fish per vegetated acre

East Indian hygrophila	<i>Hygrophila polysperma</i>	Triclopyr—0.500 to 0.750 gallons per acre 2,4-D—up to 5 gallons per acre Imazapyr—up to 4 pints per acre Imazamox—1 to 4 pints per acre Glyphosate—up to 6 pints per acre Flumioxazin—2 oz/ac as an efficacy booster for foliar application, 5 to 12 oz/ac as a foliar application, submersed application 1 lb/ac foot	
Illinois Pondweed	<i>Potamogeton illinoensis</i>	2,4-D—150-200 pounds per acre (granular form); 5 gallons per acre (liquid form) Diquat—1-2 gallons per acre Copper*—12-16 gallons per acre Endothall—3 gallons or more per acre (liquid form); 54-323 pounds per acre (pellet form). Fluridone—1-4 pints per acre (liquid form); 15-80 pounds per acre (pellet form) Glyphosate—up to 0.937 gallons per acre Imazamox—1 to 4 pints per acre ProcellaCOR-SC—1-5 PDUs per acre-foot	Grass Carp—10-15 fish per vegetated acre
Lotus	<i>Nelumbo lutea</i>	Triclopyr—0.500 – 0.750 gallons per acre 2,4-D—up to 1.000 gallon per acre Imazapyr—0.500 – 0.750 gallons per acre Glyphosate—up to 0.937 gallons per acre Imazamox—up to 1.000 gallon per acre Flumioxazin—2 oz/ac as an efficacy booster for foliar application Fluridone—up to 45 ppb ProcellaCOR-SC—1-2 PDUs per acre foot	
Musk-grass	<i>Chara spp.</i>	Copper*—up to 1 ppm Fluridone—up to 30 ppb in treatment area ProcellaCOR-SC—1-5 PDUs per acre for submersed application	Grass Carp—10-15 fish per vegetated acre

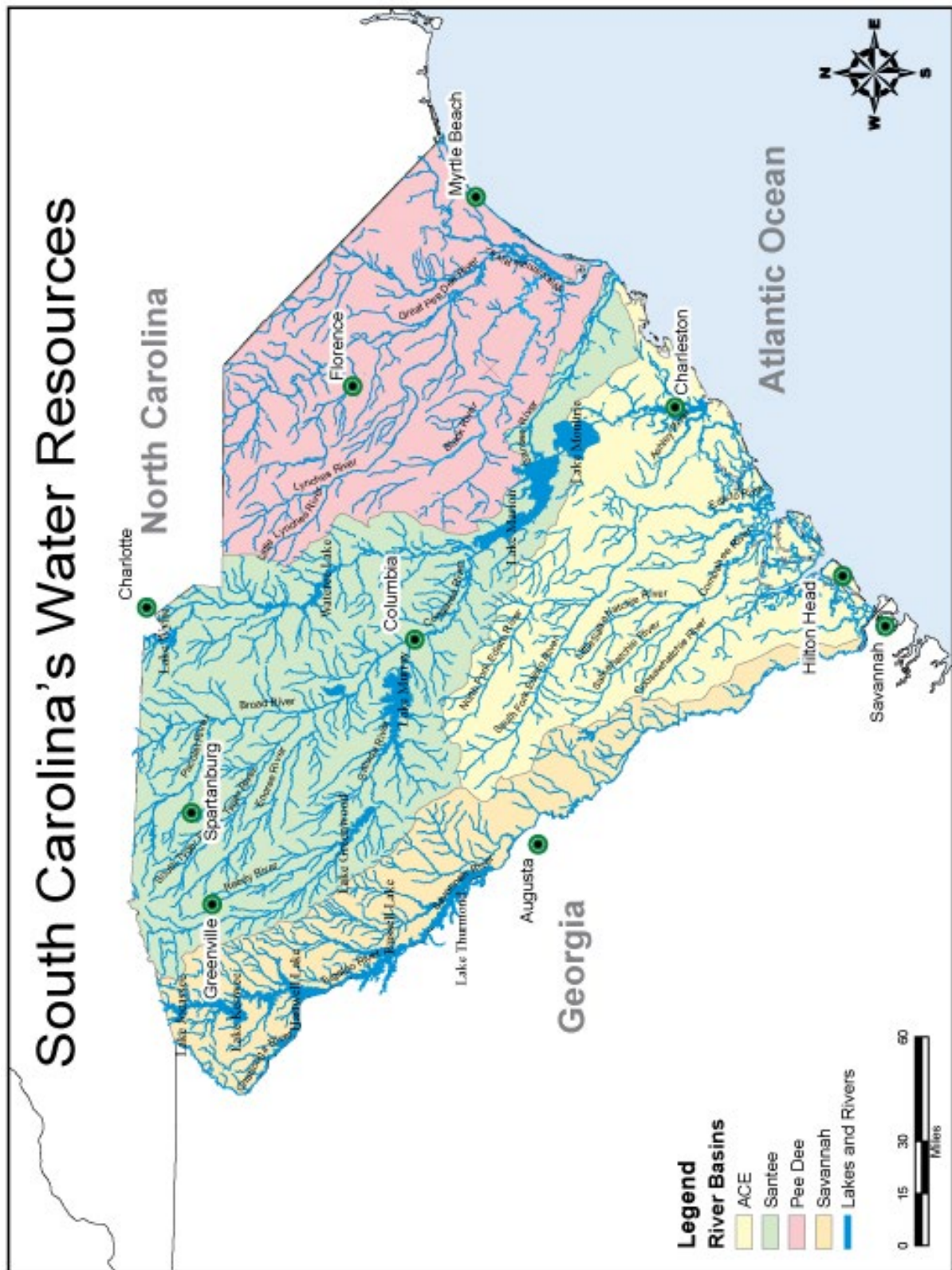
Parrotfeather	<i>Myriophyllum aquaticum</i>	Diquat—0.500 gallon per acre ProcellaCOR-SC—1-2 PDUs per acre for foliar application Penoxsulam—2 to 6 fl oz/acre as foliar application Imazapyr—0.250 - 0.750 gallons per acre Imazamox—up to a 5% solution for spot spray Flumioxazin—2 oz/ac as an efficacy booster for foliar application Glyphosate—up to 0.937 gallons per acre	
Pondweed	<i>Potamogeton spp.</i>	2,4-D—150-200 pounds per acre (granular form); 5 gallons per acre (liquid form) Diquat—1-2 gallons per acre Copper*—12-16 gallons per acre Endothall—3 gallons or more per acre (liquid form); 54-323 pounds per acre (pellet form). Fluridone—1-4 pints per acre (liquid form); 15-80 pounds per acre (pellet form) Glyphosate—up to 0.937 gallons per acre Imazamox—1 to 4 pints per acre ProcellaCOR-SC—1-5 PDUs per acre-foot	
Slender naiad	<i>Najas minor</i>	Copper*—up to 1 ppm (about 10- 16 gallons per acre) Copper*/Diquat—4 gallons/2 gallons per acre Diquat—0.500 gallons per acre for floating plants; 2 gallons per acre for submersed plants ProcellaCOR-SC—1-5 PDUs per acre foot for submersed application Fluridone—0.075 to 0.40 ppm Flumioxazin—6-12 oz. per surface acre (not to exceed 400ppb) Endothall—0.500 to 4 ppm (about 3 to 8 gallons per acre depending on depth)	Grass Carp—10-15 fish per vegetated acre
Smartweed	<i>Polygonum densiflorum</i>	2,4-D—150-200 pounds per acre (granular form); 5 gallons per acre (liquid form) Glyphosate—Up to 7.5 pints per acre	

Southern naiad	<i>Najas guadalupensis</i>	Copper*—up to 1 ppm (about 10- 16 gallons per acre) Copper*/Diquat—4 gallons/2 gallons per acre Diquat—0.500 gallons per acre for floating plants; 2 gallons per acre for submersed plants ProcellaCOR-SC—1-5 PDUs per acre foot for submersed application Fluridone—0.075 to 0.40 ppm Flumioxazin—6-12 oz. per surface acre (not to exceed 400ppb) Endothall—0.500 to 4 ppm (about 3 to 8 gallons per acre depending on depth)	
Spatterdock	<i>Nuphar luteum macrophyllum</i>	Triclopyr—0.500 to 0.750 gallons per acre Triclopyr/2,4-D—200 lbs per acre 2,4-D—150 to 200 pounds per acre (granular form); 5 gallons per acre (liquid form) Imazapyr—up to 4 pints per acre Imazamox—1 to 4 pints per acre ProcellaCOR-SC—1-2 PDUs per acre for foliar application Flumioxazin—5 to 12 oz/ac as a foliar application Glyphosate—up to 0.937 gallons per acre	
Spikerush	<i>Eleocharis spp.</i>	Triclopyr/2,4-D—200 lbs per acre Imazamox—0.500 – 0.750 gallons per acre Imazapyr—0.500 – 0.750 gallons per acre Glyphosate—up to 0.937 gallons per acre ProcellaCOR-SC—1-5 PDUs per acre foot for submersed application, 1-2 PDUs per acre for foliar application Flumioxazin—2 oz/ac as an efficacy booster for foliar application	
Swamp loosestrife	<i>Decodon verticillatus</i>	Imazapyr—2 to 3 pints per acre Imazamox—1 to 4 pints per acre Glyphosate—up to 0.937 gallons per acre	

Water hyacinth	<i>Eichhornia crassipes</i>	Triclopyr—0.500 - 0.750 gallons per acre Diquat—0.500 gallons per acre Imazamox—0.250 - 0.750 gallons per acre Penoxsulam—2 to 6 fl oz/acre as foliar application Imazapyr—0.250 - 0.750 gallons per acre Glyphosate—up to 0.937 gallons per acre ProcettaCOR-SC—1-2 PDUs per acre for foliar application Flumioxazin—2 oz/ac as an efficacy booster for foliar application	
Water lettuce	<i>Pistia stratiotes</i>	Triclopyr— 0.500 to 0.750 gallons per acre Diquat—0.500 gallon per acre Penoxsulam— 2 to 6 fl oz/acre as foliar application Flumioxazin—2 oz/ac as an efficacy booster for foliar application, 5 to 12 oz/ac as a foliar application ProcettaCOR-SC—1-2 PDUs per acre for foliar application	
Water lily	<i>Nymphaea odorata</i>	Imazamox—up to 1.000 gallon per acre Imazapyr—0.500 – 0.750 gallons per acre Flumioxazin—2 oz/ac as an efficacy booster for foliar application ProcettaCOR-SC—1-2 PDUs per acre for foliar application	
Watermilfoil	<i>Myriophyllum spp.</i>	2,4-D—up to 5 gallons per acre Diquat—0.500 gallon per acre Triclopyr/2,4-D—200 lbs per acre Triclopyr— 0.500 to 0.750 gallons per acre Imazamox—up to 5% solution for spot spray ProcettaCOR-SC—1-5 PDUs per acre foot for submersed application Flumioxazin—2 oz/ac as an efficacy booster for foliar application Endothall—3 gallons or more per acre (liquid form); 54-323 pounds per acre (granular form) Fluridone—1-4 pints per acre (liquid form); 15-80 pounds per acre (pellet form)	
Water pennywort	<i>Hydrocotyle ranunculoides</i>	Triclopyr—0.500 to 0.750 gallons per acre Imazapyr—0.250 - 0.750 gallons per acre Imazamox—1 to 4 pints gallons per acre Glyphosate—up to 0.937 gallons per acre Flumioxazin—2 oz/ac as an efficacy booster for foliar application	

Water primrose	<i>Ludwigia hexapetala</i>	Triclopyr—0.500 - 0.750 gallons per acre 2,4-D—up to 1.000 gallon per acre Diquat—0.500 gallons per acre Imazamox—0.250 - 0.750 gallons per acre Penoxsulam—2 to 6 fl oz/acre as foliar application Imazapyr—0.250 - 0.750 gallons per acre Glyphosate—up to 0.937 gallons per acre ProcettaCOR-SC—1-2 PDUs per acre for foliar application OR 1-5 PDU per acre-foot to depth Flumioxazin—2 oz/ac as an efficacy booster for foliar application	
Watershield	<i>Brasenia schreberi</i>	2,4-D—up to 5 gallons per acre Triclopyr OTF—40 pounds per acre Triclopyr/2,4-D—up to 200 pounds per acre ProcettaCOR-SC—1-2 PDUs per acre for foliar application Flumioxazin—2 oz/ac as an efficacy booster for foliar application	
		*may be toxic to fish and aquatic invertebrates at recommended application rates, especially in soft water	

APPENDIX B: Major River Basins in South Carolina



APPENDIX C: Additional Documentation for NPDES General Permit

NPDES Required Information Details

Aquatic Nuisance Plant Program Emergency Numbers

SCDES Columbia Office 803-898-3432	SCDES Emergency # for Chemical Spill or Fish Kill 888-481-0125	Clemson Department of Pesticide Regulation 864-646-2120
National Response Center 800-424-8802	Poison Control Hotline 800-222-1222	
Julie Holling Program Manager SCDES ANP Program 2600 Bull St. Columbia, SC 29201 803-898-0051 Office 803-528-4720 Cell	Ashley Graham Field Coordinator SCDES ANP Program 2600 Bull St. Columbia, SC 29201 803-898-0057 Office 803-995-3314 Cell	
John Crabb Sr. Aquatics Director Estate Management Services 305 Indigo Drive Brunswick, GA 31525 Toll-Free: 866-812-6588 Phone: 912-214-5633	Derek Smith Aqua Services Inc 23360 US Highway 431 Guntersville, AL 35976 256-673-4448	

Pest Management Area Description

(See AQUATIC PLANT MANAGEMENT STRATEGY section for Specific Water body.)

Control Measure Description

(See AQUATIC PLANT MANAGEMENT STRATEGY section for Specific Water body.)

Schedules and Procedures

(See AQUATIC PLANT MANAGEMENT STRATEGY section for Specific Water body.)

PESTICIDE SPILL POLICY AND PROCEDURES

- Put on protective clothing as may be appropriate: rubber boots, aprons, gloves, mask, and respirator. Use special caution if two different materials are spilled and mix together. They may react chemically to form noxious fumes.
- Immediately contain the spill. Use absorbents, dikes, mops or brooms, dirt or sand to retard the spread of the spill.
- Notify your Contacts listed above or person in charge.
- Recover the spill into containers (usually 5-gallon buckets or 30-gallon drums). Each warehouse should have at least one clean, empty 30-gallon drum for the purpose.

- e. After sealing each recovered material container, mark it or attach a tag clearly to identify its contents, approximate quantity and date.
- f. Move containers of spilled materials to a secure area.
- g. Prepare a spill report giving relevant information including date; location; material spilled; approximate quantity; actions taken; location of recovered material; cause or circumstances leading to spill; and recommendations on how to avoid this problem in the future.
- h. Contact the office for disposal instructions.

DO NOT USE OR DISPOSE OF SPILLED MATERIALS WITHOUT PRIOR REVIEW.

- i. Depending on the circumstances, the best disposal method will differ. Some potential alternatives are:
 - 1. Use in the normal course of business;
 - 2. Dilute and wash into sanitary sewer;
 - 3. Shipment to an approved hazardous waste facility; neutralization / detoxification on site.
 - 4. Since a decision on how best to dispose of a spill may be quite complex, we may want input from manufacturers, regulatory officials or technical advisors. Consult the office before acting.

SPILL RESPONSE

Purpose: To ensure the safety of all individuals participating in or affected by herbicide use, to minimize the SCDES's and Contractor's exposure to liability, to ensure the appropriate and effective application of herbicides as a management tool, and to minimize detrimental effects to the environment.

The following information will be provided following the discovery and initial telephonic reporting of the spill:

1.	Time spill occurred or was first observed: _____
2.	Name of person first observing spill: _____
3.	Location of initial spill and present location if moving: * _____
4.	Type of spilled material: _____
5.	Estimate of amount spilled or rate of release if continuing: _____
6.	Environmental conditions e.g., wind direction and speed, wave action, and currents: _____
7.	If from mobile container (e.g., 2.5, 5, 15, 30, 55, tote): _____
8.	Description of area likely to be affected by spill --e.g., riverbanks, lakes, land areas, wildlife areas: _____ _____
9.	Cause of spill, if determined: _____
10.	Action taken to combat spill, if any: _____ _____ _____
11.	Activities or authorities notified: _____ _____ _____
12.	_____ *Please provide lat/long and attach detailed map of spill area if possible.

SPILL KIT CONTENTS

A spill kit is required to be assembled and placed in locations where pesticides are mixed, and on vehicles, which transport pesticides.

Shop Kit Quantity	Vehicle Kit Quantity	Item
1 (55 gal)	1 (5 gal)	open-head drum
1	1	pesticide spill policy and procedures
4	2	pairs of nitrile gloves
2	1	pairs of unvented goggles
2	1	respirator and pesticide cartridges
2	1	aprons (chemical resistant)
2	1	pairs of rubber boots
2	1	pairs of Tyvek coveralls
1	1	dustpan
1	1	shop brush
12	6	heavy ply, polyethylene bags w/ties
1	1	first aid kit
80	10	lbs absorbent material
1	1	dozen blank labels
0	1	portable eyewash
1	0	synthetic fiber push broom
1	0	square-point "D" handle shovel

SCDES Required Practices

Required practices, described below, are designed to ensure that the SCDES's standards for use of herbicides meet or exceed the U.S. EPA's Worker Protection Standard for Agricultural Pesticides.

- Prior to implementing use of any herbicide, the need for its use relative to management goals shall be described in the SC Aquatic Plant Management Plan, and/or in a Weed Plan specific to the site.
- Only employees or contractors, who are certified/licensed by state and/or local regulations, are authorized to apply herbicides.
- Application techniques, monitoring strategies, and impacts/progress toward goals and required reporting information shall be documented.
- Standard safety practices for storage, mixing, transportation, disposal of containers and unused herbicide, and spill management will be followed.

- e. Herbicide containers and related equipment will be stored in a secure containment area away from people, animals and food. Herbicide containers will be stored closed and inspected periodically. Hazardous waste will be labeled appropriately and include accumulation start dates.
- f. Additional training required for the proper use and maintenance of personal protective equipment (PPE) and other equipment or required by the Occupational Safety and Health Administration (OSHA) shall be coordinated.
- g. The point(s) of contact and threshold size for spills that must be reported shall be verified in advance with the appropriate local agency. This information and other emergency related information shall be provided to all applicators and initial responders through a written contingency plan.
- h. Directions and contact numbers of the nearest emergency medical treatment facility will be provided to all applicators.
- i. Investigations of herbicide related accidents and receipt of employee suggestions or complaints relating to safety and health issues involving herbicides will be used as a feedback mechanism that can be used to improve the program.
- j. Decontamination kits must be readily available and must include two one-gallon (or more) containers filled with potable water, eyewash kits or eyewash bottles with buffered isotonic eyewash, hand or body soap, paper or other disposable towels, a full Tyvek coverall with foot covers, and a map and directions to the nearest medical facility. Whenever possible, those who apply herbicides shall have access (within 15 minutes travel time or at the nearest vehicle access point, whichever is closest) to an eyewash kit and either a 1) shower or large sink, or 2) emergency decontamination and first aid kits.
- k. Treated areas should be closed to public access until they are judged safe for re-entry (or until the herbicide dries or for the minimum period required by the product label, whichever is longer). Posting is not required in most places, but where it is required (usually by local statute), place notices at points of entry or the perimeter of treated areas. Posting notices should include a statement that the area has been or will be treated, name of the herbicide, date of treatment, appropriate precautions to be taken or the date when re-entry is judged to be safe, and a phone number for additional information. Notices should be removed after it is judged safe to re-enter the area.
- l. Under the NPDES Permit requirements, the SCDES is required to maintain records for all herbicide application activities. These records shall include information on site(s), purpose(s), name(s) and amount(s) of product(s) used, name(s) of applicator(s), and licensing requirements for all herbicide applications in the previous 12 months. In addition, a yearly report shall include the same information, with estimates for the upcoming 12 months.

Adverse Incident Response

Any incident which results in adverse impacts to fish, wildlife, or non-target plant species will be reported to the appropriate contacts as listed above. Additionally, the causes of the adverse impact will be determined through a scientific assessment to prevent or mitigate future problems.

Pesticide Monitoring Requirements

- a. While there are no specific pesticide residue monitoring requirements the SCDES will maintain the following information along with any required monitoring data:
- b. Records of equipment maintenance and calibration are to be maintained only by the entity performing the pest application activity (on behalf of self or client).
- c. A copy of the NOI submitted to the Department and any correspondence exchanged between you and the Department specific to coverage under this permit;
- d. The date on which you knew or reasonably should have known that you would exceed an annual treatment area threshold during any calendar year, as identified in Part 1.2.2;
- e. Surveillance method(s) used, date(s) of surveillance activities, and findings of surveillance;
- f. Target pest(s);
- g. Pest density prior to pesticide application;
- h. Company name and contact information for pesticide applicator;
- i. Pesticide application date(s);
- j. Description of treatment area, including location and size (acres or linear feet) of treatment area and identification of any waters, either by name or by location, to which you discharged any pesticide(s) (a GIS record of the specific area where discharge of herbicide occurs);
- k. Name of each pesticide product used, including the EPA registration number;
- l. Quantity of pesticide applied (and specify if quantities are for the pesticide product as packaged or as formulated and applied);
- m. Concentration (%) of active ingredient in formulation;
- n. For pesticide applications directly to waters, the effective concentration of active ingredient required for control;
- o. Any unusual or unexpected effects identified to non-target organisms;
- p. Documentation of any equipment cleaning, calibration, and repair (to be kept by pesticide application equipment operator); and
- q. A copy of your PDMP, including any modifications made to the PDMP during the term of this permit.

General Specifications

- a. The Contractor and SCDES shall utilize equipment specifically designed for commercial application of herbicides. Equipment shall be always kept in good operating condition and must meet or exceed all safety requirements for this type of work. The equipment must be calibrated to disperse herbicides at the prescribed rate as outlined in the plan and records of said calibration shall be maintained. As a minimum requirement, the equipment shall meet the following conditions:
- b. The Contractor shall have a minimum of two watercraft (airboats) and a skiff with a motor (not a "mudmotor") capable of traveling through heavily vegetated waterways. The watercraft shall be equipped with depth finders capable of locating vegetation underwater. The Contractor shall also have a computerized herbicide delivery spray system which is calibrated and has Global

Positioning System capability on each watercraft capable of recording exact positions of all treatments. Such unit shall be capable of creating a file, such as a shape file, which will be capable of being imported into a Geographic Information System program such as ESRI's ArcView or any Arc Info based software and will provide SCDES with a copy of such file in a timely manner. All data will become the property of SCDES. The watercraft shall be capable of operation by one or two persons and shall be set up for underwater injection, handgun application, or granular broadcast application. A helicopter contract or access must also be available to the Contractor for performing aerial application of herbicides as needed at specified sites when needed.

- c. SCDES reserves the right to inspect and approve all equipment to be utilized prior to the award. Non-conformance of equipment to SCDES standards shall be reason for rejection of daily work.
- d. Regulations and Standards:
- e. The work shall comply with all laws, ordinances, and regulations of all legally constituted authorities that have jurisdiction over any part of this work. These requirements supplement these specifications and shall take precedence in case of conflict.
- f. All work shall be performed and completed in a thoroughly workman like manner in accordance with best modern practices and any permit requirements, regardless of any omissions from the attached specifications and/or drawings.

Qualifications

- a. The Contractor must have a minimum of five years of professional experience around chemical aquatic weed control on large public waterbodies.
- b. All persons applying chemicals must be certified by the Clemson University Department of Pesticide Regulation in Category 5 (Aquatic Pest Control) or must work under the direct supervision of a person so tested and present on the spray boat.
- c. All persons applying chemicals must be capable of identifying target plants in the field.
- d. The Contractor must maintain liability insurance coverage of at least Five Million Dollars (\$5,000,000) to fulfill requirements of PART II.A.12.

APPENDIX D: Enabling Legislation

South Carolina Code of Laws Section 49-6-10/40

Title 49 – Waters, Water Resources and Drainage

CHAPTER 6 AQUATIC PLANT MANAGEMENT

SECTION 49-6-10. Purpose; administering agency.

There is hereby created the South Carolina Aquatic Plant Management Program for the purpose of preventing, identifying, investigating, managing, and monitoring aquatic plant problems in public waters of South Carolina. The program will coordinate the receipt and distribution of available federal, state, and local funds for aquatic plant management activities and research in public waters.

The Department of Natural Resources (department) is designated as the state agency to administer the Aquatic Plant Management Program and to apply for and receive grants and loans from the federal government or such other public and private sources as may be available for the Aquatic Plant Management Program and to coordinate the expenditure of such funds.

SECTION 49-6-20. Aquatic Plant Management Trust Fund.

There is created the South Carolina Aquatic Plant Management Trust Fund which must be kept separate from other funds of the State. The fund must be administered by the department for the purpose of receiving and expending funds for the prevention, management, and research of aquatic plant problems in public waters of South Carolina. Unexpended balances, including interest derived from the fund, must be carried forward each year and used for the purposes specified above. The fund shall be subject to annual audit by the Office of the State Auditor.

The fund is eligible to receive appropriations of state general funds, federal funds, local government funds, and funds from private entities including donations, grants, loans, gifts, bond issues, receipts, securities, and other monetary instruments of value. All reimbursements for monies expended from this fund must be deposited in this fund.

SECTION 49-6-30. Aquatic Plant Management Council; membership; duties.

There is hereby established the South Carolina Aquatic Plant Management Council, hereinafter referred to as the council, which shall be composed of ten members as follows:

1. The council shall include one representative from each of the following agencies, to be appointed by the chief executive officer of each agency:

- (a) Water Resources Division of the Department of Natural Resources;
- (b) South Carolina Department of Health and Environmental Control;
- (c) Wildlife and Freshwater Fish Division of the Department of Natural Resources;
- (d) South Carolina Department of Agriculture;
- (e) Coastal Division of the Department of Health and Environmental Control;
- (f) South Carolina Public Service Authority;
- (g) Land Resources and Conservation Districts Division of the Department of Natural Resources;
- (h) South Carolina Department of Parks, Recreation and Tourism;

(i) Clemson University, Department of Fertilizer and Pesticide Control.

2. The council shall include one representative from the Governor's Office, to be appointed by the Governor.

3. The representative of the Water Resources Division of the Department of Natural Resources shall serve as chairman of the council and shall be a voting member of the council.

The council shall provide interagency coordination and serve as the principal advisory body to the department on all aspects of aquatic plant management and research. The council shall establish management policies, approve all management plans, and advise the department on research priorities.

SECTION 49-6-40. Aquatic Plant Management Plan.

The department, with advice and assistance from the council, shall develop an Aquatic Plant Management Plan for the State of South Carolina. The plan shall describe the procedures for problem site identification and analysis, selection of control methods, operational program development, and implementation of operational strategies. The plan shall also identify problem areas, prescribe management practices, and set management priorities. The plan shall be updated and amended at appropriate intervals as necessary; provided, however, problem site identification and allocation of funding shall be conducted annually. In addition, the department shall establish procedures for public input into the plan and its amendments and priorities. The public review procedures shall be an integral part of the plan development process. When deemed appropriate, the department may seek the advice and counsel of persons and organizations from the private, public, or academic sectors.

The council shall review and approve all plans and amendments. Approval shall consist of a two-thirds vote of the members present. The department shall have final approval authority over those sections which do not receive two-thirds approval of the council.

Some of the Specific State Laws which pertain to Illegal, Noxious, or Nuisance Species:

Title 46 - Agriculture

Chapter 9 - State Crop Pest Commission

SECTION 46-9-10. Commission established; duties and responsibilities; membership of commission.

The State Crop Pest Commission is established. It shall execute this chapter, Section 46-1-140, Chapters 10, 13, 25, 26, 33, 35, and 37 of this title and other duties and responsibilities assigned by law. The commission consists of no less than three members of the Agriculture and Natural Resources Committee of the Clemson University Board of Trustees, or the committee's successor, as designated by the board.

SECTION 46-9-15. Definitions.

(5) "Plant pest" means a living stage of insects, mites, nematodes, slugs, animals, protozoa, snails or other invertebrate animals, bacteria, weeds, fungi, other parasite plants or their reproductive parts, or viruses, or organisms similar to or allied with the foregoing, including genetically engineered organisms or infectious substances which directly or indirectly may injure or cause disease or damage in plants or their parts or processed, manufactured, or other products of plants, and which may be a serious agricultural threat to the State, as determined by the director.

SECTION 46-9-40. Authority to promulgate and enforce regulations; other powers of commission.

The commission, in accordance with the Administrative Procedures Act, may promulgate and enforce reasonable regulations as in the judgment of the commission may be necessary to eradicate or prevent the introduction, spread, or dissemination of plant pests, including genetically engineered plants or plant pest organisms, and prevent fraud or misrepresentation in the sale and dissemination of fruit trees, nut trees, shade and ornamental trees, vines, shrubs, plants, bulbs, and roots for propagation purposes. The commission may regulate or prohibit the shipment within, or the importation into, this State of plants, farm products, or other articles of any nature or character from a state, territory, or foreign country when, in the opinion of the commission, the regulation or prohibition is necessary to prevent the introduction or dissemination of plant pests.

The commission may carry out operations, including quarantines or measures to locate, suppress, control, or eradicate or to prevent or retard the spread of plant pests, independently or in cooperation with counties or their political subdivisions, municipalities, farmers' associations or similar organizations, individuals, federal agencies, or agencies of other states, by regulation, compliance agreement, judicial action, or other appropriate means.

Title 46, Chapter 23 - South Carolina Noxious Weed Act

SECTION 46-23-30. Commission may prevent introduction and dissemination of noxious weeds in State; remedies of owner of property destroyed or disposed of; regulations.

(a) The commission may, when it deems it necessary as an emergency measure in order to prevent the introduction into or the dissemination within South Carolina of any noxious weed new to or not theretofore widely prevalent or distributed within and throughout the State, seize, quarantine, treat, destroy, apply other remedial measures to, export, return to shipping point, or otherwise dispose of in such a manner as it deems appropriate, any noxious weed or any product or article of any character whatsoever or any means of conveyance which it has reason to believe contains or is contaminated with any noxious weed, offered for movement, moving, or has moved into or through the State or intrastate. Provided, that no such noxious weed, product, article, or means of conveyance shall be destroyed, exported, or returned to the shipping point or so ordered to be destroyed, exported, or returned to the shipping point, unless in the opinion of the commission, there is no less drastic action which would be adequate to prevent the introduction or dissemination of noxious weeds.

SECTION 46-23-80. Penalty.

Any person who violates any provision of this chapter is guilty of a misdemeanor and, upon conviction, shall be punished by a fine not exceeding five hundred dollars, or by imprisonment not exceeding one year, or both.

SECTION 50-13-1415 -Importation, possession, or placing water hyacinth and hydrilla in waters of the state.

No person shall possess, sell, offer for sale, import, bring, or cause to be brought or imported into this State, or release or place into any waters of this State any of the following plants:

(1) Water Hyacinth

(2) Hydrilla

Provided, however, that the department may issue special import permits to qualified persons for research purposes only.

The department shall prescribe the methods, control, and restrictions which are to be adhered to by any person or his agent to whom a special permit under the provisions of this section is issued. The department is authorized to promulgate such regulations as may be necessary to effectuate the provisions of this section and the department, by regulation, is specifically authorized to prohibit additional species of plants from being imported, possessed, or sold in this State when, in the discretion of the department, such species of plants are potentially dangerous.

SECTION 50-13-1630. Importing, possessing or selling certain fish unlawful; special permits for research; Department shall issue rules and regulations.

(A) A person may not possess, sell, offer for sale, import, bring, or cause to be brought or imported into this State or release into the waters of this State the following fish or eggs of the fish:

- (1) carnero or candiru catfish (*Vandellia cirrhosa*);
- (2) freshwater electric eel (*Electrophorus electricus*);
- (3) white amur or grass carp (*Ctenopharyngodon idella*);
- (4) walking catfish or a member of the Clariidae family (*Clarias*, *Heteropneustea*, *Gymnallabes*, *Channallabes*, or *Heterobranchus* genera);
- (5) piranha (all members of *Serrasalmus*, *Rooseveltiella*, and *Pygocentrus* genera);
- (6) stickleback;
- (7) Mexican banded tetra;
- (8) sea lamprey;
- (9) rudd (*Scardinius erythrophthalmus*-Linnaeus); and
- (10) snakehead (all members of family Channidae).

(B) The department may issue special import permits to qualified persons for research and education only.

(C) (1) The department may issue special permits for the stocking of sterile white amur or grass carp hybrids in the waters of this State. The special permits must certify that the permittee's white amur or grass carp hybrids have been tested and determined to be sterile. The department may charge a fee of one dollar for each white amur or grass carp hybrid that measures five inches or longer or twenty-five cents for each white amur or grass carp hybrid that measures less than five inches. The fee collected for sterility testing must be retained by the department and used to offset the costs of the testing.

(2) The department is authorized to promulgate regulations to establish a fee schedule to replace the fee schedule contained in item (1) of this subsection. Upon these regulations taking effect, the fee schedule contained in item (1) of this subsection no longer applies.

(D) The department may issue special permits for the importation, breeding, and possession of nonsterile white amur or grass carp hybrids. The permits must be issued pursuant to the requirements contained in Chapter 18 of this title. Provided, however, that no white amur or grass carp hybrids imported, bred, or possessed pursuant to a special permit issued pursuant to this section may be stocked in the waters of this State except as provided in subsection (C) of this section.

(E) It is unlawful to take grass carp from waters stocked as permitted by this section. Grass carp caught must be returned to the water from which it was taken immediately.

(F) The department must prescribe the qualifications, methods, controls, and restrictions required of a person or his agent to whom a special permit is issued. The department must condition all permits issued under this section to safeguard public safety and welfare and prevent the introduction into the wild or release of nonnative species of fish or other organisms into the waters of this State. The department may promulgate regulations necessary to effectuate this section and specifically to prohibit additional species of fish from being imported, possessed, or sold in this State when the department determines the species of fish are potentially dangerous.

South Carolina Code of Regulations

Chapter 27 Clemson University (Statutory Authority: 1976 Code §§ 46–9–40; 46–13–30; 46–13–55)

ARTICLE 10

DESIGNATION OF PLANT PESTS

27–135. Designation of Plant Pests.

1. The Commission hereby delegates to the Director the authority to determine and implement appropriate measures to eradicate, control, or slow the spread of plant pests in South Carolina. This authority extends to a decision that a plant pest has become so widespread that the initiation or continuation of control measures would be ineffective.

2. An advisory committee made up of at least 5 members will meet at least annually to review and make recommendations on the official listing of plant pests in SC. The committee members will be: The State Plant Regulatory Official for South Carolina (or designee), the USDA State Plant Health Director for South Carolina (or designee), a Clemson University Cooperative Extension Service Representative, and at least 2 at large representatives from other stakeholder agencies, such as the SC Department of Natural Resources, the SC Forestry Commission, or the SC Department of Agriculture. At large members shall be nominated and voted on by the advisory committee at its annual meeting. Additional at large members may be nominated and voted in at the annual advisory committee meeting. At large members from stakeholder agencies shall each serve a three-year term.

3. The official listing of plant pests in SC shall be maintained and made publicly available on Clemson's website located at: www.clemson.edu/invasives

APPENDIX E: Aquatic Plant Control Agents

Listed below are the major aquatic plant control agents which are currently available for use in South Carolina. While the list is not all inclusive, it does contain those agents considered most useful for aquatic plant management. Costs for the agents are approximations and will vary somewhat depending on the source and amount purchased. Application costs are approximations of commercial applicator rates.

I. Chemical Control

A. Diquat (Reward, Tribune, Solera)

Target Plants

Submersed species - Bladderwort, coontail, elodea, naiad, pondweeds, watermilfoil, and hydrilla.
Floating species - Pennywort, Salvinia, water hyacinth, water lettuce, and duckweed.

Application Rate

Submersed species - One to two gallons per surface acre. Floating species - One half to one gallon per surface acre, depending on target species.

Cost -Diquat costs approximately \$99 per gallon. Assuming an application rate of two gallons per acre and an application cost of \$41 per acre, the total cost would be \$239 per acre per application for submersed species. The treatment cost for floating species at one-half gallon per acre rate would be \$90 per acre.

Use Considerations -Diquat is not toxic to fish or wildlife at normal use concentrations. It is non-volatile and nonflammable but can cause irritation to eyes and skin upon contact. Its effectiveness is greatly reduced at temperatures below 50-60°F, by overcast conditions, and by turbid waters.

Water Use Restrictions - Water treated with Diquat cannot be used for drinking for up to 3 days, livestock consumption for one day, irrigation of food crops for 5 days, and irrigation of turf and ornamentals for up to 3 days depending on application rate or until approved analysis indicates that diquat ion concentrations are less than 0.02 ppm. There are no fishing or swimming restrictions. Do not apply this product within 1600 feet upstream of an operating water intake in flowing water bodies (rivers, streams, canals) or within 400 feet of an operating water intake in standing water bodies (lakes, reservoirs). To make applications within these restricted areas, the intake must be turned off for the time periods specified on the Federal label for the appropriate use category (Drinking, Livestock consumption, Irrigation) or until the treated area contains less than 0.02 ppm of diquat dibromide.

B. 2,4-D (Aqua-Kleen, Navigate, Hardball, Sinkerball, Renovate Max G)

Target Plants

Emergent species - Broadleaf species such as water primrose, waterlily, spatterdock, watershield, smartweed, pondweeds, and floating heart. Submersed species - Watermilfoil, bladderwort, and coontail. Floating species - Water hyacinth.

Application Rate

Granular form (2,4-D BEE) - 150 to 200 pounds per acre depending on target species. Liquid form - (2,4-D DMA) - 5 gallons per acre.

Cost

The granular form of 2,4-D costs about \$36 per pound. Assuming an application rate of 200 pounds per acre and an application cost of \$47 per acre, the total cost would be \$519 per application. The liquid form of 2,4-D costs approximately \$31 per gallon. Assuming an application rate of 5 gallons per acre and an application cost of \$41 per acre, the total cost would be \$196 per application

Use Considerations - The recommended formulations of 2,4-D are not toxic to fish or wildlife at normal use concentrations. This chemical is nonflammable and noncorrosive.

Water use Restrictions - Do not apply to waters used for irrigation, agricultural sprays, watering dairy animals, or domestic water supplies.

C. Chelated Copper (Cutrine Plus, Clearigate, Komeen, K-TEA, Nautique, Captain, Natrix)

Target Plants

Algae - Cutrine Plus, K-TEA, Captain

Submersed species (Hydrilla, Brazilian elodea, pondweed and southern naiad) - Komeen, Nautique, Cutrine Plus, Clearigate, and Captain

Application Rate

Algae - Treatment concentration of 0.2-0.5 parts per million of copper. Submersed species - 0 part per million of copper (12-16 gallons per acre) or mix two gallons of copper complex and two gallons of Diquat per acre.

Cost - Copper products cost about \$17 per gallon. Assuming an application rate of 16 gallons per acre and an application cost of \$41 per acre, the total cost would be \$313 per acre.

Use Considerations - Copper may be toxic to fish and aquatic invertebrates at recommended application rates, especially in soft water. Copper-based product should be carefully applied and monitored to minimize the risk of fish kills.

Water Use Restrictions - Copper complexes may be used in domestic and irrigation water supplies without water use restrictions.

D. Endothall - (AquaStrike, Aquathol, Aquathol K, Aquathol Super K granular, Hydrothol 191 granular and liquid)

Target Plants

Aquathol products are effective for submersed species such as naiads, bladderwort, coontail, watermilfoil, pondweed, hydrilla, and cabomba

Hydrothol 191 is effective on the species listed above as well as filamentous and macrophytic algae.

Application Rate

Aquathol

Liquid form (Aquathol K) - three gallons or more per acre depending on the target species. Granular form - Aquathol: 54-323 pounds per acre depending on water depth and the target species.

Aquathol Super K: 22-66 pounds per acre depending on the water depth and the target species.

Hydrothol 191

Heavy Infestations - Evenly spread 160 - 270 pounds per acre foot of water (0 - 0 ppm) applied evenly.
Moderate or light infestations - Use 55 - 110 pounds per acre foot (0 - 0 ppm) applied evenly.

Cost

Aquathol

Aquathol K costs approximately \$57 per gallon. Assuming an application rate of 5 gallons per acre and an application cost of \$41 per acre, the total cost would be \$326 per acre. Aquathol Super K costs about \$15 per pound at an application rate of 30 pounds per acre and an application cost of \$47 per acre, the total cost would be \$510 per acre.

Hydrothol 191

Hydrothol 191 costs approximately \$64 per gallon. Assuming an application rate of 7 gallons per acre and an application cost of \$41, the total cost would be \$492 per acre.

Hydrothol 191 granular costs approximately \$78 per pound. Assuming an application rate of 240 pounds per acre and an application cost of \$47, the total cost would be \$714 per acre.

Use Considerations - Concentrated endothall formulations are toxic to man if ingested or absorbed through the skin. They are also irritating to the skin and eyes. Avoid contact with or drift to other crops or plants as injury may result. Generally, not toxic to fish at normal use concentrations, however, fish may be killed by dosages of Hydrothol 191 in excess of 0.3 ppm.

Water Use Restrictions - Water treated with endothall cannot be used for watering livestock, preparing agricultural sprays for food crops, for irrigation or domestic purposes for 7 to 25 days after treatment (depending on treatment concentration) or until such time that the water does not contain more than 0.2 ppm of endothall. Do not use fish from treated areas for feed or food for three days after treatment.

Aquastrike

Aquastrike costs approximately \$73 per gallon.

Use Considerations - AquaStrike is a convenient combination of Aquathol K and Diquat. AquaStrike is designed and formulated for fast and effective control of many submersed nuisance and exotic aquatic plants, especially spike rush when used with a Flumioxazin product.

Water Use Restrictions – Do not use water treated with Aquastrike for irrigation to food crops or ornamentals for 7 days. Do not treat within 600 feet of a potable water intake. There are no fishing or swimming restrictions.

E. Glyphosate (Rodeo, Aquastar, Touchdown Pro, Glypro)

Target Plants - Emergent broadleaf plants and grasses such as alligatorweed, water primrose, smartweed, and Phragmites.

Application Rate - Up to 7 1/2 pints per acre, the specific rate depending on the target species.

Cost - Glyphosate products range in price from \$21-\$39 per gallon. At an application rate of 5 pints per acre and an application cost of \$41 per acre, the total would range from \$63-\$78 per acre per application.

Use Considerations - Glyphosate is not toxic to mammals, birds or fish at recommended use concentrations. Glyphosate products with aquatic labels can be used in and around aquatic sites, including all bodies of fresh and brackish water which may be flowing or nonflowing.

Water Use Restrictions - Do not apply within 0.5 miles upstream of potable water intakes unless water intake is shut off for 48 hours. There are no restrictions on water use for irrigation or recreation after treatment.

F. Flumioxazin (Clipper, Schooner)

Target Plants – Duckweed, water meal, water lettuce, frog's-bit, water fern, alligatorweed

Application Rate - Up to 12 ounces of formulated product per acre, on surface applications or 200 -400 ppb for subsurface treatment.

Cost - Flumioxazin products range in price from \$120-140 per pound. At an application rate of 12 ounces per acre and an application cost of \$41 per acre, the total would range from \$131-\$146 per acre per application.

Use Considerations - Flumioxazin is not toxic to mammals, birds or fish at recommended use concentrations. Flumioxazin products with aquatic labels can be used in and around aquatic sites, including all bodies of fresh and brackish water which may be flowing or nonflowing.

Water Use Restrictions There are no restrictions on potable water use or recreation after treatment. Treated water may not be used for irrigation purposes on food crops until at least five (5) days after application. Do not use in water utilized for crawfish farming. Do not re-treat the same section of water with *Clipper* Herbicide more than 6 times per year. Do not exceed 400 ppb of *Clipper* Herbicide during any one application. On surface spray applications of less than 3 feet of depth there is a 12-hour restriction for irrigation of turf and landscape ornamentals and a restriction of subsurface treatment applications of 1 to 3 days depending on the concentration used. There is also a 5-day restriction for ornamentals grown for production in greenhouses and nurseries for both surface and subsurface application.

G. Fluridone (Sonar, Avast)

Target Plants - Primarily submersed plants, such as hydrilla, Brazilian elodea, watermilfoil, pondweeds, duckweeds and naiads; also, effective on lilies and some grasses.

Application Rate - Liquid form (Sonar AS, Avast) - 1-4 pints per acre depending on water depth. Pellet forms (Sonar PR, Sonar SRP, Avast SRG) - 15 to 80 pounds per acre depending on water depth.

Cost - The liquid formulation ranges from \$1468-\$1650 per gallon. Assuming an application rate of 5 pints per acre (2 pounds active ingredient per acre) and an application cost of \$40 per acre, the total cost would be \$349 per acre per application. The pellet formulations range in price from \$200-\$200 per pound. Assuming an application rate of 20 pounds per acre (2 pounds active ingredient per acre) and an application cost of \$47 per acre, the total cost would be \$567 per acre per application.

Use Considerations - In large lakes and reservoirs fluridone should be applied to areas greater than five acres. This herbicide requires a long contact time and is not effective in sites with significant water movement or rapid dilution. Fluridone is slow acting and may require 30 to 90 days to achieve desired control under optimal conditions. Unlike other aquatic herbicides, fluridone has proven effective in inhibiting viable hydrilla tuber production.

Water Use Restrictions - Do not apply within 1/4 mile of a functioning potable water intake unless concentrations are less than 20 ppm. Water treated with fluridone cannot be used for irrigation for 7-30 days depending on target crop.

H. Imazapyr (Habitat)

Target Plants - Phragmites, Alligatorweed, Water primrose, and Cutgrass.

Application Rate - 1 to 6 pints per acre depending on target species.

Cost - Habitat (Imazapyr) costs \$245 per gallon. Assuming the application rate of 16 oz. per acre and an application cost of \$41 per acre, the total cost would be \$78 per acre.

Use Considerations - Applications to public waters can only be made by federal, state, or local agencies or those applicators which are licensed or certified as aquatic pest control applicators and are authorized by state or local agencies. Do not use in close proximity to hardwoods.

Water Use Restrictions - Do not apply within ½ mile of potable water intakes. For applications within ½ mile of a potable water intake, the intake must be turned off for a minimum of 48 hours. Do not apply within 1 mile of active irrigation intakes on still or slow-moving waters. Irrigation water usage may be continued 120 days after application or when Habitat (Imazapyr) residue levels are determined by laboratory analysis to be 0 ppb or less.

Aerial Applications may only be made by helicopter.

I. Imazamox (Clearcast)

Target Plants - Phragmites, Alligatorweed, Water primrose, and Cutgrass.

Application Rate - 1 to 6 pints per acre depending on target species.

Cost -Clearcast (Imazamox) costs \$175 per gallon. Assuming the application rate of 16 oz. per acre and an application cost of \$41 per acre, the total cost would be \$63 per acre.

Use Considerations - Applications to public waters can only be made by federal, state, or local agencies or those applicators which are licensed or certified as aquatic pest control applicators and are authorized by state or local agencies. Can be used in close proximity to hardwoods

Water Use Restrictions - Do not apply within ½ mile of potable water intakes. For applications within ½ mile of a potable water intake, the intake must be turned off for a minimum of 48 hours. Do not apply within 1 mile of active irrigation intakes on still or slow-moving waters. Irrigation water usage may be continued 120 days after application or when Habitat (Imazapyr) residue levels are determined by laboratory analysis to be 0 ppb or less.

Aerial Applications may only be made by helicopter.

J. Triclopyr (Renovate 3, Tahoe)

Target Plants - Alligatorweed, Eurasian watermilfoil, water hyacinth, parrotfeather, and water primrose.

Application Rate - 2-8 qts. per acre depending on target species.

Cost - Triclopyr products cost \$96 per gallon. Assuming the application rate of 2 qts per acre and an application cost of \$41 per acre, the total cost would be \$89 per acre.

Use Considerations - Triclopyr is not toxic to fish or wildlife at normal use concentrations. It can cause severe irritation to eyes and skin upon contact. It is suggested that it is used in a manner to reduce the possibility of drift. The proper personal protective equipment should be used as prescribed by the Federal label.

Water Use Restrictions - For floating and emergent applications do not apply within 200 feet of operating potable water intakes when using 4 - 8 qts. per acre. There are no setback restrictions for potable water intakes when 2 qts. per acre or less is applied to emergent vegetation. To make applications within these restricted areas, follow the label directions. There are no restrictions on the use of treated water for recreational purposes or for livestock consumption.

K. Penoxsulam (Galleon SC)

Target Plants

Submersed species – Hydrilla, Cabomba, Egeria, Eurasian watermilfoil

Floating species – Floating species – Water hyacinth, Water lettuce, Water fern, Duckweed, Frog's bit, Mosquito fern

Application Rates

0.174 fl oz per acre foot to achieve minimum effective concentration of 25 – 75 ppb.

Floating species – 2- 6 fl oz per acre as foliar application.

Cost – Penoxsulam costs approximately \$1650 per gallon. Assuming an application rate of 11 fl oz per acre and an application cost of \$41 per acre, total cost would be \$183 per acre for submersed plants. Assuming an application rate of 6 fl oz per acre, and an application cost of \$41 per acre, total cost would be \$113 per acre for emergent plants.

Use considerations – Penoxsulam has no potable water restrictions or irrigation restrictions except for irrigation of food crops. It must have prolonged contact times similar to fluridone (>21 days).

Water Use Restrictions - Food crop irrigation waters cannot be used if penoxsulam concentrations are above 1ppb

L. Florpyrauxifen-benzyl (ProcellaCOR-SC)

Target Plants

Submersed/emergent species – Hydrilla, Egeria, Watermilfoil, Eurasian watermilfoil, Lotus, Alligatorweed, Water primrose, Watershield, Crested floating heart, Parrotfeather, Water pennywort

Floating species – Floating species – Water hyacinth, Frog's bit, Mosquito fern

Submerged species - 1-5 PDU's per acre foot to achieve effective control based on density and species.

Floating species – 1-2 PDU's per acre as foliar application.

Cost –ProcellaCOR-SC costs approximately \$3800 per gallon. The application rate is conveniently provided in PDU's directly from a built-in measurement device. 1 PDU equals approximately 1.35 ounces of product. Application rates for foliar are 1-2 PDU's per acre and for submersed from 1-5 PDU's per average acre foot. Assuming an application rate of 4 PDU per acre foot at a dept of 4 feet (4 PDU X 4 ac/ft=16 PDU's) and an application cost of \$41 per acre, total cost would be \$681 per acre for submersed plants. Assuming an application rate of 1 PDU acre, and an application cost of \$41 per acre, total cost would be \$81 per acre for emergent plants.

Use considerations – ProcellaCOR-SC has no potable water restrictions or irrigation restrictions except for irrigation of food crops and some landscape plants.

Water Use Restrictions - Food crop irrigation waters cannot be used if ProcellaCOR-SC concentrations are above 1 ppb

NOTE: This unique formula requires 40x-100x less active ingredient and achieves significantly longer control. With a *Reduced Risk* classification from the EPA, it is designed to reduce risk *To Our Health, Nontarget Plants, And Our Water Supply*

II. Biological Control

A. Alligatorweed Flea Beetle (*Agasicles hygrophila*)

Target Plant - Alligatorweed

Stocking Rate - 600-1,000 per acre.

Cost - The U.S. Army Corps of Engineers office in Palatka, Florida will provide lots of 6,000 flea beetles for the cost of shipping which is about \$50 per shipment. Flea beetles may also be obtained from the U.S. Department of Agriculture.

Use Considerations - Flea beetles feed only on alligatorweed and pose no threat to desirable plant species. They produce no adverse impact on the aquatic environment. As with all biological control agents, flea beetles may not remain in the area where stocked but may migrate to other areas of alligatorweed infestation. These insects are not able to survive severe winters and may require occasional restocking. The effectiveness of these insects may be enhanced by use with an aquatic herbicide such as 2, 4-D, or Rodeo.

B. Alligatorweed Stem Borer Moth (*Vogtia malloi*)

Target Plant - Alligatorweed

Cost - Approximately the same as for flea beetle.

Use Considerations - Same as for flea beetle.

C. Alligatorweed Thrip (*Amynothrips andersonii*) - This insect feeds on alligatorweed and has been stocked in South Carolina. It has failed to become established in the State and is considered less desirable than flea beetles or stem borers for control of alligatorweed.

D. Triploid White Amur or grass carp (*Ctenopharygodon idella*)

Target Plant - Primarily submersed plants including Brazilian elodea, hydrilla, bladderwort, coontail, naiads, pondweeds.

Cost - Triploid white amur cost \$5 to \$10 each. At a stocking rate of 10 to 15 fish per vegetated acre, the total cost could range from \$60 to \$175 per acre.

Use Considerations - Only the triploid (sterile) white amur may be stocked in South Carolina for aquatic weed control. The introduction and stocking of this fish is regulated by the SCDNR and requires a permit. Escapement over some dams may occur during high flow periods. Use of barriers in some lakes should prevent fish loss. While grass carp are effective on a wide variety of submersed plants, they generally do not provide effective control of watermilfoil species. Plants should be carefully identified prior to stocking to ensure proper stocking rates and potential efficacy.

E. Tilapia (*Tilapia* sp.) - Several species of this herbivorous fish have been used to control filamentous algae and submersed macrophytes. Tilapia cannot overwinter in South Carolina. Introduction of fish is regulated by the SCDNR.

III. Mechanical Control

Harvesters, Cutters, Dredges and Draglines

Target Plants - All species

Cost - Harvesters range in cost from \$5,000 to over \$150,000 for the initial investment. Operating cost range from \$300 to \$700 per acre.

Use Consideration - Harvesters can be used in irrigation and drinking water supplies without water use restrictions. They may actually spread some plants such as Brazilian elodea and hydrilla by dispersing plant fragments which form new colonies. Harvesting requires the availability of a land disposal site for harvested plants. These devices cannot be used on water bodies which have debris and obstructions which interfere with operation. Harvesters are slow, with a maximum coverage of about five acres per day.

Fiberglass Bottom Screens

Target Plants - All species which root in the bottom.

Cost \$10,000 per acre.

Use Considerations - Bottom screens may be detrimental to bottom-dwelling aquatic organisms. Due to high cost, use is usually restricted to beaches and other swimming areas where a relatively small area of control is required.

IV. Environmental Alterations

Water Level Manipulation - Some species of aquatic plants can be controlled by a periodic raising or lowering of water level. Shoreline grasses, cattails, and Phragmites can be controlled, to some extent, by maintaining higher than normal water levels during the plant growing season. Periodic lowering of water and drying of the bottom can reduce abundance of a number of submersed and emergent species. Disadvantages are that water level fluctuation can adversely affect water uses such as recreation, hydroelectric power production, wildlife protection, and others. Also, some plant species may actually be favored by water level variations. Many factors must be considered before using this method for aquatic plant control.

Reduction in Sedimentation and Nutrient Loading - Sedimentation decreases depth of the water body and increased the area where aquatic plants can grow. Nutrient enrichment resulting from man's activities usually does not create aquatic plant problems but does contribute to existing problems. Reduction in these two environmental factors can assist in aquatic plant management but is not a sufficient control method by itself. The mechanism for control of these factors is through implementation of Best Management Practices for Control of Non-Point Source Pollution developed by the SCDES, and through the wastewater discharge permitting program (NPDES) also administered by the SCDES.

APPENDIX F: Summary of Public Comments, Responses, and Plan Modifications to the Draft 2026 South Carolina Aquatic Plant Management Plan

Positive: 0

Negative: 15

Neutral: 3

Comments:

From: M. P.

Subject: Lyman Lake SC

Date: Sun. 2/8/2026 9:59 PM

You are endangering our lives when you apply these chemicals. Please DO NOT!

Have the labor done to remove the weeds.

Prevent the runoff from adjacent properties that cause the problems.

You cause health problems when you allow these chemicals.

From: M. P. (same person as above)

Subject: These are my comments to be presented on the brief scientific proof of health effects the chemicals are causing.

Date: Tues. 2/10/26 12:13 PM

Triclopyr:

Triclopyr, causes damage to kidneys, liver, and blood, developmental toxicity and reproductive issues in animal studies (Beyond Pesticides, 1990; San Francisco Forest Alliance, 2024).

Triclopyr can persist in dead vegetation for up to two years, which is one of the reasons why the San Francisco Forest Alliance refuses to use the chemical anymore (San Francisco Forest Alliance, 2024).

In 2020, a pesticide application at a middle school made 47 students fall ill after a pest control company sprayed an herbicide cocktail containing chemicals like 2,4-D, triclopyr, and clopyralid (Beyond Pesticides, 2020).

2,4-D:

In a multigenerational reproductive studies, significant increases in mammary gland swelling, stiffening of mammary glands, uterine weight, earlier menarche in females, and Estradiol were caused by exposure to 2,4-D (Cardona & Rudel, 2021).

It also known to cause kidney damage, and decreases in hematocrit, platelets, and erythrocyte counts (NCBI, 2024).

The Safe Food Campaign, Pesticide Action Network, Soil & Health, and the Breast Cancer Network pushed for a ban of 2,4- D on golf courses and lawns because "2,4-D is an

organochlorine that has been linked to prenatal brain damage, breast and other cancers.” (Sherrod, 2007).

2,4-D has been banned in Europe for over 20 years, and is banned or severely restricted in Denmark, Belize, Norway, Kuwait, and providences of Canada and Australia (Ministère de l’Environnement, 2005; Ontario.ca, 2016; APVMA, 2013; Gaberell & Viret, 2020).

A citizen petition by PANNA prompted the Obama administration to ban 2,4-D and the EWG stated, “EPA lawyers told the U.S. Court of Appeals for the 9th Circuit that Dow AgroSciences had withheld data showing that the chemical mix has “synergistic effects,” meaning that the combination of pesticides intensifies the toxicity of the product to plants and possibly other living things” (EWG, 2015; Abrams, 2022). It was banned in prior to 2020 due to its damage to endangered species and natural areas, before the ban being reversed by the Trump administration (Hettinger, 2024). The Biden administration reversed Trump’s undoing and passed the ban once again in 2022 (Abrams, 2022).

Imazamox:

Hepatic and pancreatic toxic effects - increases ALT and glucose levels, decreases AST levels for days after exposure (Sevim et al, 2018).

Liver damage within days of exposure (Sevim et al, 2018).

“it is possible that exposure to imazamox at low doses, via contaminated water, over a prolonged period of time may cause a change in cellular structure and function, even if it is not toxic at high doses.” (Sevim et al, 2018)

It has been observed that this herbicide can cause cell death (Sevim et al, 2018)

Adverse effects of Imazamox on plants (Sevim et al, 2018)

Imazamox has a soil half-life of 1 to 3 months (approx. 27–92 days) (PubChem, 2024).

In deep, dark water with little oxygen, the half-life can extend to approximately 2 years, as it binds to sediments (PubChem, 2024).

Imazamox should be considered hazardous to non-target plant species (DNR, 2024).

The MSDS for IMOX states it is “very toxic to aquatic life” (DNR, 2024).

“Do not apply to water that may move. Be sure that any water has no chance of movement for several days before treating an area with standing water.” (DNR, 2024).

“reduce contact with water resources and minimize application amounts and number of applications.” (DNR, 2024). “unintentional spray drift has potential to significantly increase risk to the environment and public welfare.” (DNR, 2024).

Penoxsulam:

Linked to large granular lymphocyte (LGL) leukemia in male rats at all dose levels and Mononuclear Cell Leukemia (MNCL) at high doses (EPA, 2019; Wisconsin, 2022).

Endocrine disruptor (Wisconsin, 2022) and targets the liver and kidneys (Sondhia et al, 2016)
Neurotoxicant (PPDB, 2024)

Birds chronic ecotoxicity: Moderate; Fish acute ecotoxicity: Moderate; Earthworms acute ecotoxicity: Moderate; Earthworms chronic ecotoxicity: Moderate (PPDB, 2024)

Penoxsulam and its metabolites, have been identified as potentially meeting the structural definition of per- and polyfluoroalkyl substances (PFAS). (Sondhia et al, 2016)

Induce oxidative stress, DNA damage, and inhibit reproductive behavior in soil organisms (Sondhia et al, 2016)

This class of triazolopyrimidine sulphonamides are linked to:

Imazapyr:

This herbicide has been detected in groundwater up to eight years after its application (Börjesson et al, 2004).

Imazapyr can effect the endocrine system and target the thyroid (Babalola et al, 2021).

Glyphosate:

Professor Christopher Portier an expert in environmental health data said, “Malignant lymphomas, kidney and liver tumours, skin keratoacanthomas... glyphosate fuels cancer and the list goes on. No matter how you look at it, there is more than enough evidence of carcinogenicity, and this evidence meets the criteria to classify glyphosate as a substance presumed to have carcinogenic potential for humans.” (Health and Environment Alliance, 2022). Dr. Angeliki Lyssimachou said, “To beat cancer starts here and now with a ban on glyphosate.” (Health and Environment Alliance, 2022).

For example, glyphosate, one of the most widely used herbicides in the world, has been shown to cross the blood-brain barrier (Beyond Pesticides, 2023).

significant tumors linked to glyphosate exposure (Health and Environment Alliance, 2022).

Glyphosate is linked to cancer, malignant lymphomas, kidney and liver tumors (Costas-Ferreira et al., 2022; Kafshgiri et al., 2021; Meftaul et al., 2020; Health and Environment Alliance, 2022). An exposure to glyphosate can put people at a 2x greater risk of multiple myeloma, a type of blood cancer (De Roos et al., 2004, 49-54).

Mounting scientific evidence continues to reveal the potential dangers of glyphosate, linking it to a 41% increase in NHL cancer (Health and Environment Alliance, 2024).

Dr. Angeliki Lyssimachou said, “Scientific proof showing that glyphosate may cause cancer and hence is dangerous to human health keeps piling up” (Health and Environment Alliance, 2024). Those exposed to Glyphosate have an 80% increased risk of melanoma (De Roos et al., 2004, 49-54).

Colorectal cancer is linked to pesticide exposures such as: Imazethapyr, Atrazine, Dicamba, Glyphosate, Metolachlor, and Trifluralin (Mesnage & Antoniou, 2021; Kang et al., 2008; <https://pmc.ncbi.nlm.nih.gov/articles/PMC9880902/>).

Exposure to Boscalid, Dicamba, Dimethanamid, Glyphosate, Metolachlor are linked to Pancreatic cancer (Gerkin et al, 2024)

Linked to malignant lymphomas, including cancers that affect the lymphatic and blood systems—both closely tied to cardiovascular health (Health and Environment Alliance, 2022; Meftaul et al., 2020).

Age-related macular degeneration (AMD) is related to exposures of Organophosphates (such as diazinon, dichlorvos, malathion, parathion, and phorate), Organochlorines (such as aldrin, chlordane, dichlorodiphenyltrichloroethane (DDT), dieldrin, heptachlor, and lindane), insecticides phenoxyacetate herbicides (such as fenoprop; 2,4,5-TP, 2,4-D, and 2,4,5-T), Malathion, permethrin, glyphosate, benomyl, Captan, and ethylene dibromide (Montgomery et al, 2017).

Exposure to Glyphosate, Pendimethalin, Aldicarb, Fluazinam, Chlorothalonil, Tetramethrin, Pyrethrin and Paraquat have also been linked to asthma (Beard et al., 2003, 724-730). Glyphosate, has been linked to neurotoxic outcomes such as oxidative stress, inflammation, and neuronal damage (Costas-Ferreira et al., 2022; Kafshgiri et al., 2021; Meftaul et al., 2020). Glyphosate, for example, disrupts the production of essential aromatic amino acids by inhibiting an enzyme called EPSP synthase, which is crucial for many microorganisms but absent in humans (Román et al., 2024). Glyphosate exposure is linked to leaky-gut syndrome (Costas-Ferreira et al., 2022; Kafshgiri et al., 2021; Meftaul et al., 2020). Exposure to Glyphosate, DDE, and DDT and their metabolites are linked to celiac disease (Costas-Ferreira et al., 2022; Kafshgiri et al., 2021; Meftaul et al., 2020). Glyphosate, a globally dominant herbicide, has been shown to disturb the endocrine system and interfere with hormone regulation at multiple levels (Costas-Ferreira et al., 2022; Kafshgiri et al., 2021; Meftaul et al., 2020). Glyphosate, one of the most widely used herbicides, can impair reproductive function through its endocrine-disrupting effects (Costas-Ferreira et al., 2022). Other Herbicides such as 2,4-D, Alachlor, Butachlor, Glyphosate, Paraquat, Propanil have also been linked to Diabetes (Juntarawijit & Juntarawijit, 2018). Glyphosate, Fonofos, Maneb, Pyrethroids, Insecticides, and Toxaphene are all linked to Rheumatoid Arthritis (Parks et al., 2022; Meyer et al., 2017; Parks et al., 2016). Glyphosate exposure has been discovered to cause several heart rhythm issues (Quilliec et al., 2023). These include problems with the heart's electrical signals, such as a prolonged QT interval and delays in how signals travel through the heart chambers (Quilliec et al., 2023). Over 162 DNA methylations have also been linked to the active ingredient of pesticides, specifically: Dicamba, Heptachlor, Picloram, Mesotrione, Acetochlor, Metolachlor, Glyphosate, Atrazine, and Malathion (Hoang et al., 2021). Some chemicals, like Azoxystrobin or Glyphosate, remain toxic even in trace amounts. Glyphosate can remain in groundwater for up to 91 days (Costas-Ferreira et al., 2022). Glyphosate, a commonly used pesticide in the U.S., can persist in soil for up to 6 months (National Pesticide Information Center, 2024) Repeated use of this chemical can be found in plants 365 days later (Costas-Ferreira et al., 2022)

ProcellaCOR-SC:

Ingredients:

Florpyrauxifen-benzyl - immunotoxicity and cell damage in mice, Spleen Damage, Immunosuppression, elevated levels of pro-inflammatory cytokines, splenic apoptosis (Morsi et al, 2024)

Propylene glycol - Propylene Glycol has been shown to cause arrhythmias and hemolysis (ATSDR, 2024). Not only disrupts heart rhythm but also causes hemolysis, underscoring its dual hematologic and cardiac impact (ATSDR, 2022).

In the air, Propylene Glycol has a half life of 50 hours (CDC, 2024).

Propylene Glycol can cause metabolic acidosis, arrhythmia, hypotension, multi system organ failure, hemolysis, renal dysfunction, seizure, central nervous system decrease and coma (Agency for Toxic Substances and Disease Registry, 2024).

Exposure to Propylene Glycol caused increased hemoglobin in monkeys (Agency for Toxic Substances and Disease Registry (US), 1997).

Balance (contains Isoxaflutole) - causes liver and/or thyroid tumors (Bayer SDS sheet)

Flumioxazin:

damaging the fertility of the unborn child. Developmental studies in rats have shown cardiac and skeletal malformations, along with reduced offspring viability. (WSDT, 2021; EPA, 2003)

Endocrine disruptor (EPA, 2003)

Causes anemia and increased liver, spleen, and kidney weights (EPA, 2003)

Flumioxazin is toxic to aquatic invertebrates and non-target plants (WSDT, 2021; EPA, 2003)

Diquat:

Diquat binds and accumulates indefinitely to sediments in water, and can be found in water for 35 days after application (Wisconsin Department of Natural Resources, 2012).

Epidemiological data shows a 62% increased risk of Parkinson's disease with exposure to Paraquat or Diquat (Pouchieu et al., 2018).

Diquat, banned in the EU, causes tremors, convulsions, and death (NJ.gov, 2024).

Diquat, often used as a desiccant on crops, has been linked to kidney damage in multiple studies (EPA, n.d.; NJ.gov, 2024).

Diquat, another commonly used herbicide, is linked to hepatic damage (EPA, n.d.; NJ.gov, 2024).

Additionally, pesticides like Diquat and Imidacloprid can damage tight junctions in the intestinal epithelium, leading to weakened cell cohesion and increased permeability of the intestinal barrier (Román et al., 2024).

Diquat can decrease male fertility (NJ.gov, 2024; EPA, 2024).

The herbicide Diquat, induces DNA changes and increases genetic mutations by 2-3x in lymphoma cells (Formoli, 1994).

Ten pesticides are directly toxic to neurons and linked to Parkinson's development, those chemicals include: dicofol, endosulfan, naled, propargite, diquat, endothall, trifluralin, copper sulfate, folpet (UCLA Health & Harvard, 2023).

Traces of Organochlorines such as Aldrin, Chlordane, DDT, and Lindane; Organophosphates like Diazinon, Malathion, and Parathion; Pyrethroids and Pyrethrins, Deethylatrazine, Cyanazine, Alachlor, Chlorpyrifos, Simazine, 2,4-D, Diuron, Tebuthiuron, Prometon, Diquat, Permethrin, Bifenthrin, Imazethapyr, Simazine, Atrazine, Thiamethoxam, Chlorothalonil and Glyphosate can all be found in our water supply (Syafudin et al., 2021;

<https://pubmed.ncbi.nlm.nih.gov/935854/>; Minnesota Department of Health, 2024;

International Agency for Research on Cancer, 1999; EPA, 2006).

From: K. P.

Subject: Herbiscides

Date: Wed. 2/11/2026 2:27 PM

Please do NOT use harmful herbicide's and pesticides to curb growth of unwanted plants especially in sites that eventually become drinking water. Specifically I am referring to Lake Keowee.

Thank you

From: J. C.

Subject: Disapproval of plan

Date: Wed. 2/11/2026 4:04 PM

I'm dissatisfaction with the plan and I'm not in favor of using herbicides and pesticides in the water that becomes our drinking water, the water we may swim in or the water that is the habitat for the fish we may consume.

From: K. H.

Subject: Herbicides and Pesticides

Date: Wed. 2/11/2026 4:47 PM

I am not in favor of any plan that allows the introduction of pesticides and herbicides into our ponds, lakes and streams for the control of invasive weeds.

From: A. H.

Subject: using chemicals to kill the aquatic plants

Date: Wed. 2/11/2026 6:09 PM

To whom it may concern,

I am a resident of Greenville County and have just learned there is a possible plan to utilize herbicides and pesticides to kill aquatic plants. Putting these dangerous chemicals into the area lakes and reservoirs will create countless health problems for residents, including children.

I urge you to find another solution that will not put the surrounding communities at risk.

Thanking you in advance,

From: L. C.

Subject: Waterways

Date: Wed. 2/11/2026 7:33 PM

Please do not allow more pollution of our waterways by the use of dangerous pesticides and herbicides to kill invasive plants. Remember that Roundup was once stated to be safe. We need to protect our environment.

From: G. C.

Subject: herbicides and pesticides

Date: Thurs. 2/12/2026 8:45 AM

I am not in favor of your plan to use these.

From: R. W.

Subject: Proposed placement of herbicides and pesticides in our lakes and reservoirs

Date: Thurs. 2/12/2026 12:00 PM

I am opposed to placing herbicides and pesticides in water sources that provide drinking water, swimming, and habitat for fish we consume.

Please consider alternatives to the subject proposal.

From: S. S.

Subject: SC Aquatic Plant Management Plan

Date: Thurs. 2/12/2026 2:24 PM

To Whom It May Concern

I want to let you know about my dissatisfaction with the SC Aquatic Plant Management Plan. I am not in favor of using herbicides and pesticides in the water that becomes our drinking water, the water we may swim in or the water that is the habitat for the fish we may consume. Surely there are other methods of killing aquatic plants that does not use pesticides and herbicides.

Thank you for considering other options.

From: R. K.

Subject: 2026 Proposed SCDES Aquatic Plant Management Plan

Date: Sun. 2/15/2026 4:43 PM

These comments pertain to Lake Wateree.

Duke Energy reported in their latest inspection of the area in Wateree Creek where the only hydrilla on the lake had been previously observed, that it is no longer there. So I suggest not allocating any resources on hydrilla, and instead focusing on lyngbya, giant salvinia, and cutgrass. If the target of grass carp is hydrilla, that would seem to be totally unnecessary.

Cutgrass is mentioned as a problem species; however, it should be emphasized that as a result of the extended drawdown for Duke's dam modification, it has taken on a massive presence all over the lake, negatively affecting navigation and shore/dock access, particularly in the many shallow areas and smaller coves. Lakefront property owners need guidance and assistance on treatment or safe removal options. I've talked to many waterfront residents who have injured themselves trying to pull up or shovel it out.

The multi-year lyngya treatment program led by CWWMG with strong support from LWA is an excellent program, and deserves DES's continued participation. This professionally managed/implemented effort is focused not just on public access and water intakes, although those are definitely important, but will be urgently needed all over the lake for years to come. Thank you for participating, and please look for ways to contribute more aggressively to the effort.

Thank you for posting the draft plan and taking public input.

From: K. W.

Subject: Aquatic NuisancePlants

Date: Sun. 2/19/2026 2:20 PM

This will be the third year that we have not been able to use our lake in any capacity. We have

an infestation of pond weed and have not been able to get any help eradicating these weeds. We can not participate in any activities that this lake offers. We have a large family and we have not been able to swim, fish or any water sports. Our entire cove is experiencing the same. The value of our home has severely diminished. Any assistance you can give us will be greatly appreciated. Please reach out to us if we can be of any assistance.
(Editor's Note: This comment is in regard to Lake Murray, based on phone conversations.)

From: D. T.

Subject: 2026 Proposed Aquatic Plant Management Plan (Lake Wateree)

Date: Thur. 2/26/2026 12:03 PM

Dear SCDES Review Team,

I am submitting the following comments regarding the 2026 Proposed Aquatic Plant Management Plan for Lake Wateree.

I appreciate the continued effort to manage aquatic vegetation on our lake; however, several elements of the proposed plan require clarification, strengthening, and redirection to adequately address current conditions and emerging threats.

1. Species Identification & Omissions

Specify Lyngbya Clearly: The plan should explicitly identify Lyngbya (filamentous cyanobacteria) rather than using the broad term "filamentous algae." Precision in terminology is critical for effective management strategies and funding allocation.

Recognize Active Threats: The plan appropriately references giant salvinia and cutgrass, but it must clearly acknowledge the severity and ongoing expansion of Lyngbya across multiple areas of the lake.

2. Surveying & Data Accuracy

Require a Comprehensive Lake Survey: Reliance on a limited-area inspection (e.g., Wateree Creek) is insufficient to conclude the absence or limited presence of invasive species in other coves and shoreline areas. A full-lake survey is necessary to provide accurate, defensible data.

Document Scope of Algal Growth: The plan should include an updated, lake-wide assessment of algae distribution and density. Current growth patterns indicate increasing coverage that is not fully reflected in the draft.

3. Resource Allocation & Strategic Priorities

Clarify Budget Language: The reference to "\$30,000 for Lake Wateree" lacks transparency. It is unclear how much funding is specifically dedicated to giant salvinia versus Lyngbya control, and

whether treatment of one species may reduce available funds for another. This should be clearly itemized.

Shift Focus from Hydrilla: Hydrilla is no longer present in Lake Wateree. Resources—including funding for triploid grass carp—should be redirected toward urgent, active threats: Lyngbya, giant salvinia, and cutgrass.

Reject a “Public Access Only” Strategy: Limiting treatments to public access areas is not a viable long-term approach. Invasive aquatic vegetation does not respect property boundaries. A lake-wide strategy is necessary to prevent continued spread and reinfestation.

Support Continued Participation in the Multi-Year Lyngbya Treatment Program: Ongoing professional, science-based management is essential to maintaining long-term control.

4. Economic & Property Owner Impact

Complete and Update the Budget Section: The plan should reflect realistic funding needs. Lyngbya control alone has been estimated at approximately \$160,000 annually. The cost section should clearly include projected funding requirements for algae and giant salvinia management.

Address the Surge in Cutgrass: Following the dam drawdown, cutgrass expansion has significantly increased along many shorelines. In my own case, cutgrass overgrowth is limiting safe access to the water from my property. Navigation and dock access in multiple coves have been compromised.

The plan must provide:

- Clear guidance for property owners regarding permissible treatment or removal methods.
- Coordinated assistance where necessary.
- A defined strategy for managing shoreline cutgrass before it becomes further entrenched.

Unmanaged cutgrass not only restricts access but also impacts property values, recreation, and overall lake usability.

Lake Wateree is both a critical natural resource and a significant economic driver for surrounding communities. The 2026 management plan should reflect current on-the-water realities and prioritize proactive, lake-wide control of invasive and nuisance species.

Thank you for considering these comments. I respectfully request that these concerns be formally addressed before the plan is finalized.

From: B.P.

Subject: Proposed 2026 Draft Aquatic Management Plan for South Carolina

Date: Fri. 2/27/2026 10:26 AM

SCDES & Aquatic Plant Management Council,

Please see the attached letter in opposition to the proposed 2026 Draft Aquatic Management Plan for South Carolina. The Blue Ridge Rural Water Company feels strongly that the proposed use of dangerous herbicides and pesticides in or around waterways is a practice that should not be allowed.

If you have any questions or I can be of assistance please let me know.



February 27, 2026

**S.C. Department of Environmental Services
2600 Bull Street
Columbia, SC 29201
Attn: Aquatic Nuisance Plants**

Re: 2026 Draft Aquatic Plant Management Plan

S.C. Department of Environmental Services
& Aquatic Plant Management Council,

I am writing you on behalf one of the largest member owned, not-for-profit water utilities in the state of South Carolina. The Blue Ridge Rural Water Company (BRRWC) serves a population greater than 40,000 customers and covers nearly 18% of Greenville County. After reviewing the 2026 draft South Carolina Aquatic Management Plan the BRRWC hereby would like to voice its concern and strong opposition to the proposed plan. BRRWC is gravely concerned with the S.C. Department of Environmental Services (SCDEC) and the Aquatic Plant Management Council (Council) allowing, promoting and funding pesticides and herbicides being applied to waterways and lakes that serve millions of customers drinking water in South Carolina. BRRWC understands the challenges with invasive aquatic plant life and the difficulties removing them from waterways and lakes. While acknowledging these challenges BRRWC knows there are alternate means of controlling and removing these species that do not involve the use of herbicides and pesticides. The exposure to these dangerous chemicals has been well documented across the world and many of these chemicals are currently banned from use in other countries. For the SCDEC, as well as the Council, to promote and fund the use of these chemicals within the waterways of South Carolina is simply not acceptable. Furthermore, the residents of South Carolina that enjoy these waterways for recreation, fishing and ultimately consume treated water from these waterways, frankly, deserve to be protected by the S.C. Department of Environmental Services. BRRWC would ask that SCDEC and the Council eliminate the use of these chemicals altogether in state waterways and instead use the same funding to assist in the control or removal of these aquatic plant species by the use of mechanical means or by best management watershed practices. Thank you for your help and if you need further information, please contact me at (864) 895-1719.

Sincerely,

Brad Powers
General Manager / COO

2241 Fews Chapel Road, Greer, S.C. 29651
864-895-1719 | BRRWC.ORG

From: R. S.

Subject: Cutgrass Invasion

Date: Fri. 2/27/2026 12:47 PM

I live in Wateree Keys. About 10 years ago, I contacted Kermit Taylor at Duke Energy when I noticed the grass growing along my shoreline to see if they would do anything about getting rid of it. I was told that Duke would not because it was native to South Carolina. When the water was taken down to install the bladder, the grass started aggressively growing everywhere. I again contacted Mr. Taylor and was told Duke would not do anything and that it would be up to the property owners to get rid of it. I then contacted Charly Greenthaler at the Clemson Extension Service. I gave her a sample of the grass which she sent to Jacob Taylor Ph.D., Plant Taxonomist at Clemson University, who identified it as giant cutgrass *Zizaniopsis miliacea*. I then contacted Julie Holling at SCDES to see if they would help and was told that, because Duke managed Lake Wateree, they could not help. This grass invasion has become overwhelming, is ruining recreational use, and is adversely affecting property values on the lake. I am asking that Duke, who is responsible for managing the lake, and any other agencies work together to control this grass. This has already been done on Lake Marion and Lake Moultrie.

From: J. S.

Subject: Invasive plants

Date: Fri. 2/28/2026 8:29 PM

I am writing to give input for the support for the management of an invasive plant(s) (saw grass) On Lake Wateree .When Duke energy pulled down the lake for the southern dam modification, this plant took root and invaded mine and neighbors properties along the shore lines and has rendered our docks unaccusable. It has invaded numerous other areas on the lake. It has limited the use of our properties and decreased property values. I and my neighbors have been in contact with Duke energy lake management and were informed that they would not do anything because the plant is native to SC. Any help would be greatly appreciated in the management of this invasive plant on our property and many other areas along the shore lines of Lake Wateree. If any other input would be helpful I and my neighbors would be more than happy to assist.

Please see the attached photos.





From: P. B.

Subject: Lake Wateree Public Comment regarding Invasive Weeds/Plants

Date: Sun. 3/1/2026 2:37 PM

It is my understanding that approximately \$30k with an equal matching amount from Duke Energy is allocated for the treatment annually of Lyngbya. Based on the information provided by the Lake Wateree Association, this treatment is grossly underfunded. Please address how DES will insure the proper treatment of the increasing amount of Lyngbya algae in Lake Wateree.

Since the drawdown of Lake Wateree by Duke Energy for southern dam repairs, Cutgrass is

now heavily present along the banks of the lake where it didn't exist prior to the lake drawdown. How will DES address the proliferation of Cutgrass due to the Duke Energy drawdown and who will be responsible for removal of this weed?

From: L. W. & B. W.

Subject: Lake Wateree management

Date: Mon. 3/2/2026 9:45 AM

To whom it may concern:

We have owned our property on Lake Wateree since 1997. With the drawdown for dam work, the Cutgrass explosion has taken over much of our section of the lake. It is impacting navigation and enjoyment of the lake. Our grandchildren are at risk for injury. Several owners further back in the cove are unable to navigate the lake and get boats in or out of their property. While Lyngbya is a known prior issue, this seems to be controlled, and attention should be turned to management of the Cutgrass.

A Full Lake Survey is encouraged. Simply checking Wateree Creek seems insufficient to justify the absence of invasive species elsewhere. We are just North of there, and the Cutgrass exploded. We do not have an accurate assessment of the growing volume and geographic spread of algae across the lake. I have volunteered in the past and performed algae checks with neighbors. I would encourage attention toward the urgent threats of Lyngbya, Giant Salvinia, and Cutgrass. It seems unreasonable and unfair to limit treatment to public areas. Private owners are being left out. A lake-wide strategy is needed to manage this sprawling infestation effectively. A finalized increased budget is needed to combat all the invasive species.

As a property owner, cutgrass has compromised navigation and dock access for ourselves and our neighbors. We welcome input and guidance and assistance for safe removal or treatment.

From: C. D.

Subject: Invasive weeds

Date: Mon. 3/2/2026 6:08 PM

Good day my name is C. D., I live on the Camden side of Lake Wateree. As a member of the Lake Wateree association(LWA) , I am concerned about your failure to include Lyngbya as a problem in the lake. My husband and I volunteered to collect data on the survey of this algae in 2025. Although I live in the deepest waters of the lake, we found through our survey, many places that contain this horrible smelling algae. It was interesting to see the worst places we found, was where the intake for Camden water was. This algae has been a problem for years. It travels with the numerous fishing tournaments we have here and will impact the fishing and recreation activities. Think about the property values as well. Duke needs to commit to more funding to treat this problem. In the last year alone, LWA with collaboration of water and counties spent 160,000 to treat. This funding only as of now, covers acession areas, and water intake places. It's not enough. We have now found giant salvia in our lake. This has all been done through people who are LWA members or owners of properties on the lake. We

need help in the long term control of these invasive species. The 30 thousand dollars Duke has proposed is not enough. This is a beautiful lake, that is enjoyed by thousands... THOSE WHO OWN PROPERTIES ON LAKE SHOULD NOT BE RESPONSIBLE FOR THE CONTROL OF ALGAE.

Response:

1. Objections to the use of herbicides

The Aquatic Plant Management Council (Council) understands the concerns. However, we are faced with invasive plants that grow unchecked in many South Carolina water bodies. There are no natural controls in our water bodies to control or eliminate these invasive plant species that spread rapidly. Due to the lack of natural controls, these invasive plants can shade out and kill the natives, reduce water flow, and reduce oxygen in the water, which is imperative for fish and natural plant growth. The invasive plants increase the water temperature, increase mosquito populations, and impede navigation on SC water. Controlling this invasive vegetation improves water quality for the overall ecosystem, the native plants and animals that use them, and withdrawal for human consumption.

Not all areas included in the plan are worked on each year. The plan provides guidelines if control work is needed.

For several decades, the Aquatic Nuisance Plants Program (ANPP) has used and continues to use many options to control and manage invasive and nuisance species in our publicly accessible waters. We use biological control agents (sterile grass carp and insects) when possible, but those are only effective for a small number of the species we need to control. In lakes, regular drawdowns are used to help control problem vegetation in shallow areas. Physical removal is rarely used, as it is very expensive and often causes additional problems, including spreading the vegetation and removing invertebrates and small fish that support the food chain. The most effective and efficient control method is EPA approved aquatic herbicides, which are used in a judicious and targeted manner, following the label guidelines and using the smallest amount needed to control the vegetation while minimizing impacts to non-target species.

All aquatic herbicides used in South Carolina must be approved and registered by the US Environmental Protection Agency (EPA) and again registered with each state. The EPA approval process requires stringent testing over many years and strict regulation before herbicides may be used in the environment. Registration of herbicides assures that proper use of the herbicide will not result in unwanted impacts on human health or the environment. Aquatic herbicides require more testing than terrestrial herbicides to ensure our water bodies are kept safe. Data from nearly 150 tests, including toxicity, environmental persistence and other factors, are submitted to and evaluated by the EPA before any herbicide is even considered for approval to be used.

Many of the plants we control receive the application of herbicide to the vegetation above the water, so there is very little herbicide getting into the water. All applications are following label instructions of the approved and registered EPA herbicide and are designed to use the minimum

amount of herbicide needed for control, target the invasive or nuisance plants, and limit impacts to non-target species.

Depending on the product, the active ingredients either break down through hydrolysis, photolysis or microbial action, with a few being adsorbed or precipitating out of solution. The time it takes to break down varies by ingredient and environmental conditions. Many break down within a week or two, therefore limiting the time they are in the water system. Most of the studies that have been conducted are on terrestrial herbicides.

2. Lake Wateree issues.

Lake Wateree is under the control of Duke Energy. Per their FERC license, they are responsible for invasive vegetation control. ANPP assists them as they request with consultations, treatments, and sterile grass carp stockings on all their lakes in SC. ANPP will cost share with Duke on treatments and carp stockings if they request assistance with those actions.

As Duke is the manager of the lake, surveying is primarily their responsibility. Traditionally, they surveyed the entirety of Wateree every 2-3 years. Due to increasing issues and staffing reductions, they have focused on trying to quantify existing populations for management purposes and partnered with local groups to do presence/absence surveys. ANPP will be surveying for giant salvinia until it is determined that it is no longer an issue. If other issues are seen during that process, they will be relayed to Duke. Additional surveying by ANPP will be done as time permits between the surveying and treatment of all the other water bodies where we are responsible for managing invasive plants. It is also important that property owners and lake users assist in identifying problem plants, especially invasives, and reporting them. They may do so to Duke (<https://survey123.arcgis.com/share/91765ba34b4f4dc9aeeb45bf4708e323>) or ANPP (<https://survey123.arcgis.com/share/2af2bef79d46456cbc2fb182d7e639f3>). Reports to ANPP will be relayed to Duke.

We are aware that hydrilla is not currently a problem in Lake Wateree and there is no plan to release grass carp into the system or do any herbicide treatments this year. If it comes back in the future, we will look at addressing it.

The funding potentially available for cost share from ANPP is \$30,000. This is always dependent on the funding received and the treatments needed for other water bodies. Because we can't predict what vegetation will grow fastest each year, funding is not designated to specific plants each year. Because giant salvinia is an emerging issue and can get very bad very quickly, our focus in 2026 will be to continue to attempt to eradicate this species. If it is determined that it is no longer present in the system, we will move to support the control of Lyngbya.

Lyngbya is a problem. However, it is not on the prohibited plant list, which is one of the requirements under Duke's FERC license to initiate treatment. Duke has supported the management of it by providing technical support, doing data compilation, and providing some funding to the Catawba Wateree Water Management Group (CWWMG). ANPP has also provided some financial assistance for Lyngbya control and will continue to do so when the

salvinia issue is resolved.

Cutgrass is a native plant which can become problematic. There is a possibility that some of the new plants will not be able to tolerate the deeper water since the lake levels returned to normal and die off. As it is native, Duke will not currently fund treatment of it by ANPP unless there is a general navigation issue. They are allowing homeowners to contract with a licensed applicator to manage growth impacting shoreline uses by submitting a request to their Lake Services group (LakeServices@duke-energy.com). Requests must include name, address, dock permit number, and location and photos of the plants impacting use.

3. Lake Murray Issues

Additional grass carp will be added to Lake Murray this year, which will hopefully start impacting the curly leaf pondweed and hydrilla. ANPP will be having discussions with Dominion about herbicide treatments as the year goes on.