

2025 Survey of Aquatic Plant Species in Mississippi Waterbodies



A report submitted to the Mississippi Aquatic Invasive Species Council

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Executive Summary

Conclusions

- All of the 14 sites surveyed contained introduced species in the aquatic plant community.
- Generally, sites in the Pascagoula River and Tennessee-Tombigbee Waterway systems were more species rich and diverse than those in the Pearl River system.
- In the Pascagoula River and Pear River basins, coastal sites were more species rich and diverse than inland sites.
- The three most widespread species were *Taxodium distichum* (13 sites; 92.9%), *Alternanthera philoxeroides* (12 sites; 85.7%), and *Cephalanthus occidentalis* (11 sites; 78.6%).
- Federal noxious weeds included *Hydrilla verticillata* (3 sites; 21.7%) and *Salvinia molesta* (1 site; 7.1%). State Noxious weeds included *Triadica sebifera* (9 sites 64.3%) and *Panicum repens* (2 sites; 14.3%).
- During these surveys, county records are reported for *Vallisneria* × *pseudorosulata* (Monroe Co.), *Hymenocallis choctawensis* (George Co.), *Utricularia vulgaris* complex (Itawamba Co.), and *Wolffiella gladiata* (George Co.).

Recommendations

- Continue monitoring waterbodies within Mississippi for the presence of non-native aquatic plant species.
- Implement early detection, rapid response (EDRR) management options on populations of those non-native aquatic plant species known to be in Mississippi; specifically small, isolated populations before they colonize other sites (*i.e.* *V. × pseudorosulata* in Aberdeen Lake).
- Determine suitable goals for management of large populations of non-native aquatic plant species.
- Implement management strategies on those populations of native species that have grown to nuisance levels in Mississippi waterbodies.

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Introduction

The state of Mississippi (MS) has significant water resources that, many times, are impaired by invasive aquatic and wetland plant species. Impaired waterbodies can then act as source populations to introduce non-native vegetation to other waterbodies in the region. The likelihood of being a source population increases if the waterbody in question has a high frequency of boat traffic. Many times, small waterbodies that have significant amounts of boat traffic are overlooked due to the size of the waterbody. The world's surface waters are dominated by small waterbodies (<250 acres; Downing et al. 2006). In the state of Mississippi, 192,050 acres are covered by small waterbodies (<100 acres; Neal and Willis 2012) which is greater than the five largest reservoirs (117,840 acres; Ross Barnett, Sardis, Grenada, Enid, and Arkabutla reservoirs) in the state combined (USACE 2023). The state has more small waterbodies (> 160,000) and a greater density (1 per 0.51 mi²) of small waterbodies than any other state in the MidSouth (MS, AL, AR, TN, LA, and GA) region of the United States (Neal and Willis 2012).

Many waterbodies in the state that receive the highest amount of traffic are those owned and managed by the state of MS. The Mississippi Department of Wildlife, Fisheries, and Parks (MDWFP) and the Pat Harrison Waterway District are two state agencies that are responsible for managing state owned waterbodies in Mississippi. Other waterbodies that receive a significant amount of traffic are federal lakes operated by the US Fish and Wildlife Service (USFWS), the US Forest Service (USFS), or the US Army Corps of Engineers (USACE). Aside from state and federally operated waterbodies, there are also waterbodies operated by homeowners' associations and other private entities within the state. Many of these waterbodies are known to have problematic vegetation while others have never been surveyed.

Two federally listed noxious weeds have been found within the state: *Hydrilla verticillata* (Hydrilla or Waterthyme) and *Salvinia molesta* (giant salvinia). Additionally, torpedo grass (*Panicum repens*) and tallowtree (*Triadica sebifera*) are invasive species listed on the MS noxious weed but not the federal list; both species are known to cause localized problems in the waterbodies they infest.

This annual plant survey effort is the only to have been conducted on small to medium sized lakes (100-7,500 acres) in Mississippi. Ongoing surveys will allow management bodies to annually track the spread of invasive species and provide information to resource managers for decision making purposes. The objectives of this year's effort were to conduct surveys of aquatic vegetation targeted at lentic and lotic waterbodies in the Tennessee-Tombigbee Waterway, Pearl River, and Pascagoula River systems.

Methodology

Survey methods

Survey sites were selected based on a combination of size, frequency of boat traffic, location within the state, and previous survey status. A total of 14 sites across three river basins were surveyed during June 2025 (Table 1; Loshbaugh et al. 2013) All sites were positioned in the Tennessee-Tombigbee Waterway, Pearl River, and Pascagoula River basins (Fig 1). All

waterbodies surveyed were within the geographic boundaries of the state of Mississippi with the exception of the Pear River channel which was partly shared-waters with Louisiana. Of the 14 sites surveyed in 2025, 9 had not been visited during previous survey efforts (App 1, App 2; Turnage and Shoemaker 2018, Turnage et al. 2019, 2020, Lee et al. 2023, Schmid and Turnage 2023, 2025).

Table 1. Community metrics of sites surveyed during June 2025.

River System	Site Name	Sample Points (<i>t</i>)	Richness			Mean Richness			Diversity	Evenness
			<i>s</i>	<i>s_i</i>	<i>s_n</i>	$\bar{x}_s$	$\bar{x}_{si}$	$\bar{x}_{sn}$	α	<i>J</i>
Tenn-Tom	Pickwick Lake	21	33	4	29	5.20	0.90	4.30	3.23	0.93
Tenn-Tom	Aberdeen Lake	4	35	7	28	13.00	3.00	10.00	3.44	0.97
Tenn-Tom	Fulton Lake	8	34	4	30	10.75	1.00	9.75	3.38	0.96
Tenn-Tom	Smithville Lake	7	30	2	28	8.71	0.71	8.00	3.19	0.94
Pearl	channel reach 4	11	8	1	7	1.55	0.27	1.27	1.81	0.87
Pearl	channel reach 3	23	17	3	14	2.22	0.30	1.91	2.51	0.88
Pearl	channel reach 2	24	16	4	12	2.58	0.38	2.21	2.46	0.89
Pearl	channel reach 1	22	44	8	36	11.00	1.86	9.14	3.43	0.91
Pascagoula	channel reach 3	49	25	2	23	2.43	0.12	2.31	2.57	0.80
Pascagoula	channel reach 2	79	36	2	34	3.72	0.38	3.34	2.99	0.83
Pascagoula	channel reach 1	48	76	8	68	7.52	0.92	6.60	3.89	0.90
Pascagoula	Hutson Lake	17	44	5	39	18.88	2.88	16.00	3.48	0.92
Pascagoula	unnamed swamp	11	10	1	9	2.18	0.18	2.00	1.83	0.79
Pascagoula	Ware Bayou	13	30	1	29	9.31	0.15	4.65	3.02	0.89

Sites were surveyed using point surveys of the littoral zone. Points were placed on a path that followed the shoreline. Points were placed on a path that followed the shoreline. Survey points were taken by boat at intervals ranging from 100-1,000 m, depending on overall lake shoreline length. In general, increased length of shoreline resulted in increased distances between sampling points. Survey points were taken in the littoral zone of each waterbody, which was determined through Secchi readings (3 times the average secchi depth). At each survey point the GPS location and water depth were recorded. Macrophytes at each point were documented via species presence for all aquatic plants (angiosperms, ferns, lycophytes, marchantiophytes, and mosses) and charophytes (Wetzel 2001). All visible macrophytes within 3.05 m (10 ft) of any part of the boat were recorded. At each survey point, a plant rake was deployed to determine the presence and identity of submersed macrophytes. Macrophytes that were observed on a waterbody but not within a sampling point were noted. Macrophytes were primarily identified *in situ*, but when *in situ* identification was difficult, specimens were collected for later identification with a dichotomous key. Taxonomic treatments for tracheophytes (vascular plants), marchantiophytes, and charophytes followed Weakley et al. (2025), Stotler and Crandall-Stotler (2017), and Wehr et al. (2015) respectively. Most observations were identified to species, but in

instances of cryptic species with inadequate diagnostic characteristics observations were reported at a coarser level. In total, 95 specimens plus several duplicates were collected, pressed, dried, and deposited in the Mississippi State University Herbarium (MISSA) as voucher specimens.

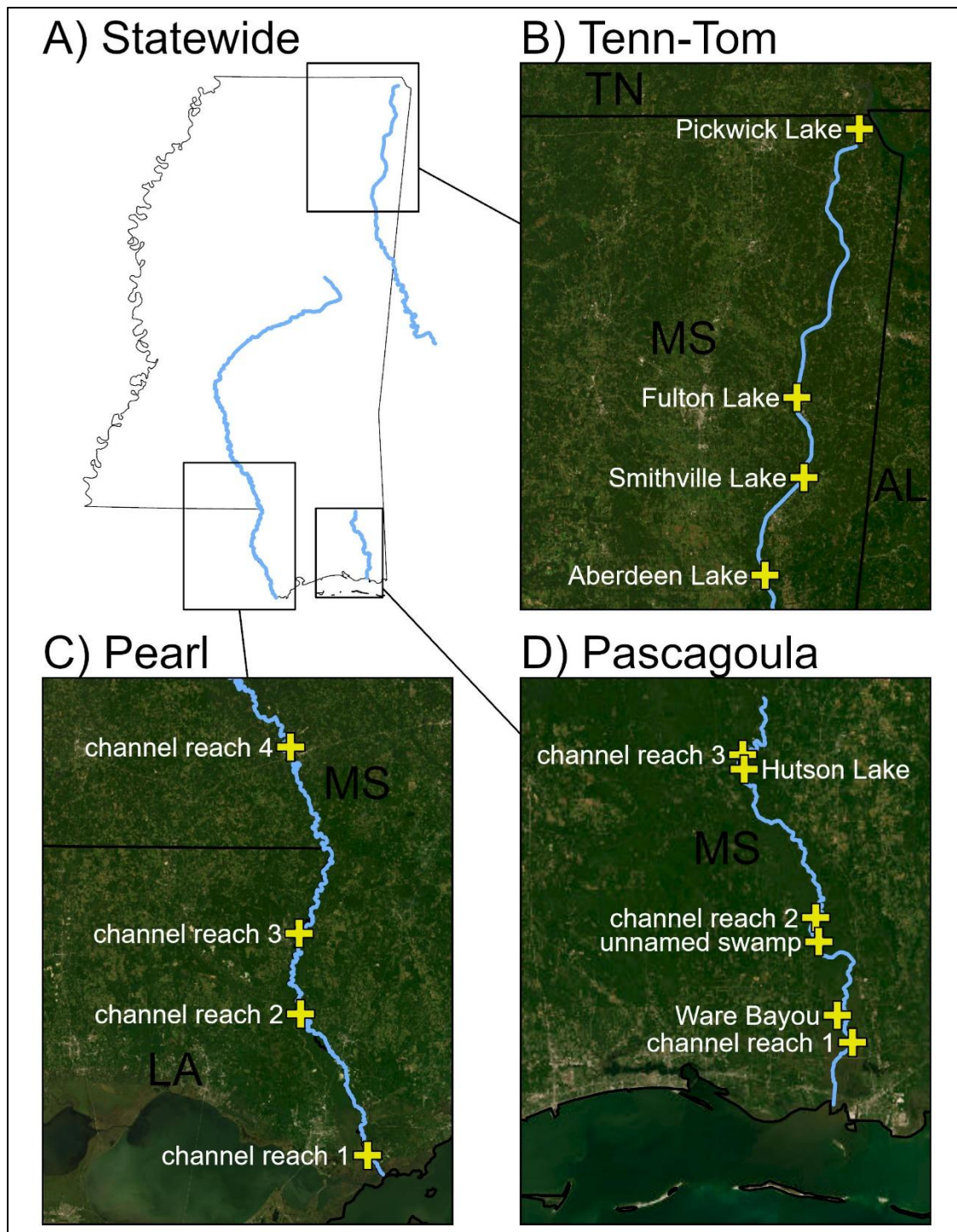


Fig 1. (A) locations of river systems surveyed across Mississippi. Sites surveyed located in (B) Tennessee-Tombigbee Waterway, (C) Pearl River, and (D) Pascagoula River.

Macrophyte community statistics

Species lists for each waterbody were compiled, including total points surveyed, percent of littoral zone vegetated, points present, and the native/introduced status of each species. Species frequency and proportion were calculated for each species at each site and mean species richness, Shannon-Weiner Index, and Shannon Evenness were calculated for each waterbody as descriptive statistics of macrophyte communities. Species frequency and proportion both represent the prevalence of individual species in each community. Species frequencies were reported in species lists whereas species proportions were used to calculate Shannon-Weiner Indices. Mean species richness represents a measure of central tendency for the number of different species at sample points in the same waterbody. Shannon-Weiner Index and Shannon Evenness correspond to α -diversity and evenness respectively. Said metrics were calculated using the following formulae:

Species Frequency¹ (F_i):

$$F_i = \frac{n_i}{t}$$

Mean Species Richness² ($\bar{x}_s$):

$$\bar{x}_s = \frac{N}{t}$$

Species Proportion³ (p_i):

$$p_i = \frac{n_i}{N}$$

Shannon-Weiner Index³ (H'):

$$H' = -\sum_{i=1}^s p_i \ln p_i$$

Shannon Evenness³ (J):

$$J = \frac{H'}{\ln s}$$

Definition of symbols:

n_i = number of occurrences for species i

N = number of occurrences for all species

t = number of survey points

s = number of species in plant community (richness)

Notes:

¹percent frequency = $F_i \cdot 100$

² $\bar{x}_s$ refers to mean species richness of entire community whereas $\bar{x}_{sn}$ and $\bar{x}_{si}$ refer to mean richness of native and introduced species respectively.

³formula retrieved from Gurevitch et al. (2002).

Results and Discussion

Statewide

In total, 138 macrophyte species were observed across all waterbodies in 2025. Of the 138 species, 31 of them were not reported in previous iterations of this survey (App 3; Turnage and Shoemaker 2018, Turnage et al. 2019, 2020, Lee et al. 2023, Schmid and Turnage 2023, 2025). All sites surveyed in 2025 had introduced species. Of sites surveyed, Hutson Lake ($s = 44$, $\bar{x}_s = 18.88$, $\alpha = 3.48$, $J = 0.79$), Pascagoula – channel reach 1 ($s = 76$, $\bar{x}_s = 7.52$, $\alpha = 3.89$, $J = 0.90$), and Pearl – channel reach 1 ($s = 44$, $\bar{x}_s = 11.00$, $\alpha = 3.43$, $J = 0.91$) had among the most robust littoral zones, and Pearl – channel reach 4 ($s = 8$, $\bar{x}_s = 1.55$, $\alpha = 1.81$, $J = 0.87$) and Pascagoula – unnamed swamp ($s = 10$, $\bar{x}_s = 2.18$, $\alpha = 1.83$, $J = 0.79$) were the most depauperate (Table 1). The three most common species observed during the surveys were *Taxodium distichum* at 13 sites (95.9%), *Alternanthera philoxeroides* at 12 sites (85.7%), and *Cephalanthus occidentalis* at 11 sites (78.6%). Pearl – channel reach 1 and Pascagoula – channel reach 1 were tied for the greatest number of introduced species present ($s_i = 8$; Table 1). Aberdeen Lake had the greatest mean richness of introduced species ($\bar{x}_{si} = 3.00$; Table 1). Pearl – channel reach 4, unnamed swamp, and Ware Bayou all were tied for the fewest number of introduced species ($s_i = 1$; Table 1). *Hydrilla verticillata* and *Salvinia molesta* are both federally listed noxious weeds and were observed at three survey sites (21.4%) and one survey site (7.1%) respectively. *Triadica sebifera* and *Panicum repens* are both state listed noxious weeds and were observed at nine (64.3%) and two (14.3%) survey sites respectively. *Vallisneria* $\times$ *pseudorosulata* (= *Vallisneria denseserrulata* $\times$ *spiralis*) was reported for the second time in Mississippi and for the first time in Monroe County at Aberdeen Lake (33.87900, -88.54090; June 6, 2025). This observation is in addition to the surveys in 2024 which was also on the Tennessee-Tombigbee Waterway (Schmid and Turnage 2025a). This hybrid was identified *in situ* using morphological characteristics, but *Vallisneria* spp. can be morphologically cryptic. Samples were sent to Dr. Ryan Thum at Montana State University for genetic confirmation. *Vallisneria* $\times$ *pseudorosulata* is an invasive species that is problematic in the reservoirs of the Tennessee River. The population of *V. \times pseudorosulata* within Aberdeen Lake was very limited and this early detection should be capitalized on for rapid response. *Wolffiella gladiata* and *Hymenocallis choctawensis*, both rare, native plants, were reported for the first time in George County. A species from the *Utricularia vulgaris* complex was observed in Fulton Lake. This population lacked reproductive structures and was unable to be distinguished between *U. macrorhiza* and *U. tenuicaulis*. However, either of these species being observed in Mississippi would be exceedingly rare and county records for

Itawamba County, with the only one collection of *U. tenuicaulis* coming from the 2024 surveys and the most recent collection of *U. macrorhiza* from almost a century ago (Schmid and Turnage 2025a).

Tennessee-Tombigbee Waterway

Pickwick Lake

Pickwick Lake (34.96188, -88.23033) was surveyed June 4, 2025. Pickwick Lake ranked 7th in species richness ($s = 33$) and 8th in mean species richness ($\bar{x}_s = 5.20$; Table 1). It ranked 6th in species diversity ($\alpha = 3.23$) and 4th in species evenness ($J = 0.93$; Table 1). The most frequent species were *Alnus serrulata* (45.0%), *Taxodium distichum* (45.0%), *Alternanthera philoxeroides* (35.0%), *Cephalanthus occidentalis* (35.0%), and *Hydrilla verticillata* (35.0%; Table 2). The only federal noxious weed was *Hydrilla verticillata* (35.0%; Table 2). Other introduced species included *Alternanthera philoxeroides* (35.0%), *Albizia julibrissin* (10.0%), and *Myriophyllum aquaticum* (10.0%; Table 2).

Table 2. Macrophyte community of Pickwick Lake. Species in red are introduced and species in bold font are listed as federal and/or Mississippi state noxious weeds.

Pickwick Lake			
Littoral Depth (ft)	-	Date Surveyed	June 4, 2025
Species Richness	33	Total Pts. Sur	21
Native Species Richness	29	Total Pts. Veg	20
		%-Littoral Veg	95.2
Scientific Name	Common Name	# Pts. Present	%-Frequency
<i>Acer negundo</i>	box elder	2	10.0
<i>Albizia julibrissin</i>	mimosa	2	10.0
<i>Alnus serrulata</i>	smooth alder	9	45.0
<i>Alternanthera philoxeroides</i>	alligatorweed	7	35.0
<i>Amorpha fruticosa</i>	indigobush	5	25.0
<i>Cephalanthus occidentalis</i>	common buttonbush	7	35.0
<i>Diospyros virginiana</i>	American persimmon	1	5.0
<i>Echinodorus cordifolius</i>	creeping burhead	3	15.0
<i>Hydrilla verticillata</i>	hydrilla	7	35.0
<i>Itea virginica</i>	Virginia sweetspire	1	5.0
<i>Juncus acuminatus</i>	tapertip rush	2	10.0
<i>Juncus effusus</i>	common rush	6	30.0
<i>Justicia americana</i>	American water-willow	4	20.0
<i>Liquidambar styraciflua</i>	sweetgum	4	20.0
<i>Myriophyllum aquaticum</i>	parrotfeather	2	10.0
<i>Nyssa aquatica</i>	water tupelo	2	10.0
<i>Peltandra virginica</i>	green arrow arum	1	5.0

<i>Persicaria hydropiperoides</i>	swamp smartweed	5	25.0
<i>Platanus occidentalis</i>	American sycamore	4	20.0
<i>Quercus bicolor</i>	swamp white oak	1	5.0
<i>Quercus michauxii</i>	swamp chestnut oak	1	5.0
<i>Quercus nigra</i>	water oak	2	10.0
<i>Quercus phellos</i>	willow oak	1	5.0
<i>Sagittaria striata</i>	American cupscale	2	10.0
<i>Sagittaria latifolia</i>	broadleaf arrowhead	2	10.0
<i>Sagittaria platyphylla</i>	delta arrowhead	1	5.0
<i>Salix nigra</i>	black willow	2	10.0
<i>Saururus cernuus</i>	lizard's tail	4	20.0
<i>Taxodium distichum</i>	bald cypress	9	45.0
<i>Triadenum walteri</i>	greater marsh St. Johnswort	1	5.0
<i>Typha latifolia</i>	broadleaf cattail	2	10.0
<i>Zizania aquatica</i>	southern wild rice	1	5.0
<i>Zizaniopsis miliacea</i>	giant cutgrass	1	5.0

Aberdeen Lake

Aberdeen Lake (33.84084, -88.52251) was surveyed June 6, 2025. Aberdeen Lake ranked 5th in species richness ($s = 35$) and 2nd in mean species richness ($\bar{x}_s = 13.00$; Table 1). It ranked 3rd in species diversity ($\alpha = 3.44$) and 1st in species evenness ($J = 0.97$; Table 1). The most frequent species were *Alternanthera philoxeroides* (100.0%), *Hibiscus lasiocarpus* (75.0%), *Pontederia crassipes* (75.0%), and *Triadenum walteri* (75.0%; Table 3). The only federal noxious weed was *Hydrilla verticillata* (25.0%; Table 3). Other introduced species included *Alternanthera philoxeroides* (100.0%), *Pontederia crassipes* (75.0%), *Colocasia esculenta* (25.0%), *Cyperus blepharoleptos* (25.0%), *Myriophyllum aquaticum* (25.0%), and *Vallisneria × pseudorosulata* (25.0%; Table 3).

Table 3. Macrophyte community of Aberdeen Lake. Species in red are introduced and species in bold font are listed as federal and/or Mississippi state noxious weeds.

Aberdeen Lake			
Littoral Depth (ft)	-	Date Surveyed	June 6, 2025
Species Richness	35	Total Pts. Sur	4
Native Species Richness	28	Total Pts. Veg	4
		%-Littoral Veg	100.0
Scientific Name	Common Name	# Pts. Present	%-Frequency
<i>Alnus serrulata</i>	smooth alder	1	25.0
<i>Alternanthera philoxeroides</i>	alligatorweed	4	100.0

<i>Arundinaria gigantea</i>	river cane	2	50.0
<i>Bacopa caroliniana</i>	blue waterhyssop	1	25.0
<i>Carex lurida</i>	sallow sedge	1	25.0
<i>Carex tribuloides</i>	blunt broom sedge	1	25.0
<i>Carex vulpinoidea</i>	foxtail sedge	1	25.0
<i>Cephalanthus occidentalis</i>	common buttonbush	2	50.0
<i>Colocasia esculenta</i>	wild taro	1	25.0
<i>Cyperus blepharoleptos</i>	Cuban bulrush	1	25.0
<i>Diospyros virginiana</i>	American persimmon	1	25.0
<i>Dulichium arundinaceum</i>	three-way sedge	2	50.0
<i>Equisetum praealtum</i>	scouring rush	1	25.0
<i>Hibiscus lasiocarpus</i>	wooly rosemallow	3	75.0
<i>Hydrilla verticillata</i>	hydrilla	1	25.0
<i>Hydrocotyle ranunculoides</i>	floating marshpennywort	2	50.0
<i>Hydrocotyle umbellata</i>	manyflower marshpennywort	1	25.0
<i>Juncus effusus</i>	common rush	1	25.0
<i>Justicia americana</i>	American water-willow	1	25.0
<i>Limnobium spongia</i>	American frogbit	1	25.0
<i>Ludwigia peploides</i>	floating primrose-willow	1	25.0
<i>Myriophyllum aquaticum</i>	parrotfeather	1	25.0
<i>Peltandra virginica</i>	green arrow arum	1	25.0
<i>Platanus occidentalis</i>	American sycamore	1	25.0
<i>Pontederia crassipes</i>	waterhyacinth	3	75.0
<i>Potamogeton nodosus</i>	American pondweed	2	50.0
<i>Saururus cernuus</i>	lizard's tail	2	50.0
<i>Scirpus atrovirens</i>	black bulrush	1	25.0
<i>Sesbania herbacea</i>	bigpod sesbania	2	50.0
<i>Sparganium americanum</i>	American bur-reed	1	25.0
<i>Taxodium distichum</i>	bald cypress	2	50.0
<i>Triadenum walteri</i>	greater marsh St. Johnswort	3	75.0
<i>Typha latifolia</i>	broadleaf cattail	1	25.0
<i>Vallisneria</i> × <i>pseudorosulata</i>	hybrid eelgrass	1	25.0
<i>Zizaniopsis miliacea</i>	giant cutgrass	1	25.0

Fulton Lake

Fulton Lake (34.28722, -88.42428) was surveyed June 6, 2025. Fulton Lake ranked 6th in species richness ($s = 34$) and 4th in mean species richness ($\bar{x}_s = 10.75$; Table 1). It ranked 5th in species

diversity ($\alpha = 3.38$) and 2nd in species evenness ($J = 0.96$; Table 1). The most frequent species were *Ludwigia peploides* (75.0%), *Justicia americana* (75.0%), and *Hibiscus lasiocarpus* (62.5%; Table 4). The only federal noxious weed was *Hydrilla verticillata* (12.5%; Table 4). Other introduced species included *Alternanthera philoxeroides* (100.0%), *Colocasia esculenta* (25.0%), and *Myriophyllum aquaticum* (12.5%; Table 4).

Table 4. Macrophyte community of Fulton Lake. Species in red are introduced and species in bold font are listed as federal and/or Mississippi state noxious weeds.

Fulton Lake			
Littoral Depth (ft)	-	Date Surveyed	June 6, 2025
Species Richness	34	Total Pts. Sur	8
Native Species Richness	30	Total Pts. Veg	8
		%-Littoral Veg	100.0
Scientific Name	Common Name	# Pts. Present	%-Frequency
<i>Alnus serrulata</i>	smooth alder	4	50.0
<i>Alternanthera philoxeroides</i>	alligatorweed	4	50.0
<i>Carex lurida</i>	sallow sedge	4	50.0
<i>Carex vulpinoidea</i>	foxtail sedge	2	25.0
<i>Cephalanthus occidentalis</i>	common buttonbush	2	25.0
<i>Ceratophyllum demersum</i>	coontail	1	12.5
<i>Colocasia esculenta</i>	wild taro	2	25.0
<i>Dichanthelium scoparium</i>	velvet panicgrass	2	25.0
<i>Eleocharis quadrangulata</i>	squarestem spikerush	2	25.0
<i>Hibiscus lasiocarpus</i>	wooly rosemallow	5	62.5
<i>Hydrilla verticillata</i>	hydrilla	1	12.5
<i>Hydrocotyle ranunculoides</i>	floating marshpennywort	1	12.5
<i>Juncus effusus</i>	common rush	1	12.5
<i>Justicia americana</i>	American water-willow	6	75.0
<i>Limnobia spongia</i>	American frogbit	2	25.0
<i>Liquidambar styraciflua</i>	sweetgum	1	12.5
<i>Ludwigia peploides</i>	floating primrose-willow	6	75.0
<i>Myriophyllum aquaticum</i>	parrotfeather	1	12.5
<i>Nuphar advena</i>	spatterdock	2	25.0
<i>Peltandra virginica</i>	green arrow arum	1	12.5
<i>Potamogeton diversifolius</i>	waterthread pondweed	2	25.0
<i>Potamogeton nodosus</i>	American pondweed	3	37.5
<i>Sagittaria striata</i>	American cupscale	2	25.0
<i>Sagittaria latifolia</i>	broadleaf arrowhead	4	50.0

<i>Sagittaria platyphylla</i>	delta arrowhead	3	37.5
<i>Saururus cernuus</i>	lizard's tail	1	12.5
<i>Sesbania herbacea</i>	bigpod sesbania	4	50.0
<i>Sparganium americanum</i>	American bur-reed	4	50.0
<i>Taxodium distichum</i>	bald cypress	2	25.0
<i>Triadenum walteri</i>	greater marsh St. Johnswort	3	37.5
<i>Typha latifolia</i>	broadleaf cattail	2	25.0
<i>Utricularia gibba</i>	humped bladderwort	3	37.5
<i>Utricularia vulgaris</i> complex		1	12.5
<i>Zizaniopsis miliacea</i>	giant cutgrass	2	25.0

Smithville Lake

Smithville Lake (34.08580, -88.40396) was surveyed June 5, 2025. Smithville Lake ranked 8th in species richness ($s = 30$) and 6th in mean species richness ($\bar{x}_s = 8.71$; Table 1). It ranked 7th in species diversity ($\alpha = 3.19$) and 3rd in species evenness ($J = 0.94$; Table 1). The most frequent species were *Triadenum walteri* (85.7%), *Ludwigia peploides* (71.4%), *Justicia americana* (71.4%), and *Alnus serrulata* (71.4%; Table 5). There were no federal or state noxious weeds in Smithville Lake. Introduced species included *Alternanthera philoxeroides* (42.9%) and *Myriophyllum aquaticum* (28.6%; Table 5).

Table 5. Macrophyte community of Fulton Lake. Species in red are introduced.

Smithville Lake			
Littoral Depth (ft)	-	Date Surveyed	June 5, 2025
Species Richness	30	Total Pts. Sur	7
Native Species Richness	28	Total Pts. Veg	7
		%-Littoral Veg	100.0
Scientific Name	Common Name	# Pts. Present	%-Frequency
<i>Acer negundo</i>	box elder	1	14.3
<i>Alnus serrulata</i>	smooth alder	5	71.4
<i>Alternanthera philoxeroides</i>	alligatorweed	3	42.9
<i>Brasenia schreberi</i>	watershield	1	14.3
<i>Carex lurida</i>	sallow sedge	1	14.3
<i>Carex tribuloides</i>	blunt broom sedge	1	14.3
<i>Carex vulpinoidea</i>	foxtail sedge	1	14.3
<i>Diospyros virginiana</i>	American persimmon	1	14.3
<i>Eleocharis quadrangulata</i>	squarestem spikerush	2	28.6
<i>Hibiscus lasiocarpus</i>	wooly rosemallow	2	28.6

<i>Itea virginica</i>	Virginia sweetspire	2	28.6
<i>Juncus acuminatus</i>	tapertip rush	1	14.3
<i>Juncus effusus</i>	common rush	1	14.3
<i>Justicia americana</i>	American water-willow	5	71.4
<i>Limnobiium spongia</i>	American frogbit	2	28.6
<i>Liquidambar styraciflua</i>	sweetgum	1	14.3
<i>Ludwigia peploides</i>	floating primerose-willow	5	71.4
<i>Myriophyllum aquaticum</i>	parrotfeather	2	28.6
<i>Nuphar advena</i>	spatterdock	1	14.3
<i>Nyssa aquatica</i>	water tupelo	2	28.6
<i>Ostrya virginiana</i>	hop hornbeam	1	14.3
<i>Peltandra virginica</i>	green arrow arum	2	28.6
<i>Persicaria hydropiperoides</i>	swamp smartweed	1	14.3
<i>Potamogeton nodosus</i>	American pondweed	3	42.9
<i>Quercus phellos</i>	willow oak	1	14.3
<i>Sagittaria platyphylla</i>	delta arrowhead	1	14.3
<i>Saururus cernuus</i>	lizard's tail	3	42.9
<i>Sparganium americanum</i>	American bur-reed	1	14.3
<i>Taxodium distichum</i>	bald cypress	2	28.6
<i>Triadenum walteri</i>	greater marsh St. Johnswort	6	85.7

Pearl River

Channel reach 4

Pearl – channel reach 4 (31.25628, -89.84987) was surveyed June 9, 2025. Pearl – channel reach 4 ranked 14th in species richness ($s = 8$) and 14th in mean species richness ($\bar{x}_s = 1.55$; Table 1). It ranked 14th in species diversity ($\alpha = 1.81$) and 11th in species evenness ($J = 0.87$; Table 1). The most frequent species were *Platanus occidentalis* (54.5%), *Salix nigra* (27.3%), and *Triadica sebifera* (27.3%; Table 6). The only state noxious weed present was *Triadica sebifera* (27.3%; Table 6).

Table 6. Macrophyte community of Pearl – channel reach 4. Species in red are introduced and species in bold font are listed as federal and/or Mississippi state noxious weeds.

Pearl River - channel reach 4			
Littoral Depth (ft)	-	Date Surveyed	June 9, 2025
Species Richness	8	Total Pts. Sur	11
Native Species Richness	7	Total Pts. Veg	8
		%-Littoral Veg	72.7
Scientific Name	Common Name	# Pts. Present	%-Frequency
<i>Alnus serrulata</i>	smooth alder	1	9.1
<i>Arundinaria gigantea</i>	river cane	1	9.1
<i>Carya aquatica</i>	water hickory	1	9.1
<i>Cephalanthus occidentalis</i>	common buttonbush	1	9.1
<i>Planera aquatica</i>	water elm	1	9.1
<i>Platanus occidentalis</i>	American sycamore	6	54.5
<i>Salix nigra</i>	black willow	3	27.3
<i>Triadica sebifera</i>	tallowtree	3	27.3

Channel reach 3

Pearl – channel reach 3 (30.78759, -89.82028) was surveyed June 10, 2025. Pearl – channel reach 3 ranked 11th in species richness ($s = 17$) and 12th in mean species richness ($\bar{x}_s = 2.22$; Table 1). It ranked 11th in species diversity ($\alpha = 2.51$) and 10th in species evenness ($J = 0.88$; Table 1). The most frequent species were *Salix nigra* (47.8%), *Planera aquatica* (30.4%), and *Platanus occidentalis* (30.4%; Table 7). The only state noxious weed present was *Triadica sebifera* (17.4%; Table 7). Other introduced species included *Colocasia esculenta* (8.7%), and *Alternanthera philoxeroides* (4.3%; Table 7).

Table 7. Macrophyte community of Pearl – channel reach 3. Species in red are introduced and species in bold font are listed as federal and/or Mississippi state noxious weeds.

Pearl River - channel reach 3			
Littoral Depth (ft)	12.0	Date Surveyed	June 10, 2025
Species Richness	17	Total Pts. Sur	23
Native Species Richness	14	Total Pts. Veg	21
		%-Littoral Veg	91.3
Scientific Name	Common Name	# Pts. Present	%-Frequency
<i>Alternanthera philoxeroides</i>	alligatorweed	1	4.3
<i>Arundinaria gigantea</i>	river cane	2	8.7
<i>Betula nigra</i>	river birch	2	8.7
<i>Carya aquatica</i>	water hickory	2	8.7
<i>Colocasia esculenta</i>	wild taro	2	8.7
<i>Commelina virginica</i>	Virginia dayflower	1	4.3
<i>Cyperus pseudovegetus</i>	marsh flatsedge	1	4.3
<i>Forestiera acuminata</i>	eastern swamp privet	3	13.0
<i>Lemna minor</i>	common duckweed	1	4.3
<i>Planera aquatica</i>	water elm	7	30.4
<i>Platanus occidentalis</i>	American sycamore	7	30.4
<i>Quercus falcata</i>	southern red oak	1	4.3
<i>Quercus nigra</i>	water oak	3	13.0
<i>Quercus phellos</i>	willow oak	2	8.7
<i>Salix nigra</i>	black willow	11	47.8
<i>Taxodium distichum</i>	bald cypress	1	4.3
<i>Triadica sebifera</i>	tallowtree	4	17.4

Channel reach 2

Pearl – channel reach 2 (30.58508, -89.81396) was surveyed June 11, 2025. Pearl – channel reach 2 ranked 12th in species richness ($s = 16$) and 10th in mean species richness ($\bar{x}_s = 2.58$; Table 1). It ranked 12th in species diversity ($\alpha = 2.56$) and 9th in species evenness ($J = 0.89$; Table 1). The most frequent species were *Planera aquatica* (58.3%), *Salix nigra* (33.3%), and *Triadica sebifera* (25.0%; Table 8). The only state noxious weed present was *Triadica sebifera* (25.0%; Table 8). Other introduced species included *Albizia julibrissin* (4.2%), *Alternanthera philoxeroides* (4.2%), and *Echinochloa crus-galli* (4.2%; Table 8).

Table 8. Macrophyte community of Pearl – channel reach 2. Species in red are introduced and species in bold font are listed as federal and/or Mississippi state noxious weeds.

Pearl River - channel reach 2			
Littoral Depth (ft)	1.8	Date Surveyed	June 11, 2025
Species Richness	16	Total Pts. Sur	24
Native Species Richness	12	Total Pts. Veg	24
		%-Littoral Veg	100.0
Scientific Name	Common Name	# Pts. Present	%-Frequency
<i>Albizia julibrissin</i>	mimosa	1	4.2
<i>Alternanthera philoxeroides</i>	alligatorweed	1	4.2
<i>Betula nigra</i>	river birch	5	20.8
<i>Carya aquatica</i>	water hickory	3	12.5
<i>Cephalanthus occidentalis</i>	common buttonbush	1	4.2
<i>Echinochloa crus-galli</i>	barnyard grass	1	4.2
<i>Forestiera acuminata</i>	eastern swamp privet	4	16.7
<i>Planera aquatica</i>	water elm	14	58.3
<i>Platanus occidentalis</i>	American sycamore	2	8.3
<i>Quercus falcata</i>	southern red oak	1	4.2
<i>Quercus nigra</i>	water oak	4	16.7
<i>Quercus phellos</i>	willow oak	4	16.7
<i>Salix nigra</i>	black willow	8	33.3
<i>Taxodium distichum</i>	bald cypress	5	20.8
<i>Triadica sebifera</i>	tallowtree	6	25.0
<i>Zizaniopsis miliacea</i>	giant cutgrass	2	8.3

Channel reach 1

Pearl – channel reach 1 (30.23071, -89.61631) was surveyed June 12, 2025. Pearl – channel reach 1 ranked 3rd in species richness ($s = 44$) and 3rd in mean species richness ($\bar{x}_s = 11.00$; Table 1). It ranked 4th in species diversity ($\alpha = 3.43$) and 6th in species evenness ($J = 0.91$; Table 1). The most frequent taxa were *Phragmites australis* (81.8%), *Symphyotrichum* subg. *Astropolium* (77.3%), and *Ipomoea sagittata* (72.7%; Table 9). Federal and state noxious weeds present included *Panicum repens* (18.2%), *Salvinia molesta* (18.2%), and *Triadica sebifera* (13.6%; Table 9). Other introduced species included *Alternanthera philoxeroides* (50.0%), *Myriophyllum spicatum* (40.9%), *Salvinia minima* (36.4%), *Colocasia esculenta* (4.5%), and *Myriophyllum aquaticum* (4.5%; Table 9).

Table 9. Macrophyte community of Pearl – channel reach 1. Species in red are introduced and species in bold font are listed as federal and/or Mississippi state noxious weeds.

Pearl River - channel reach 1			
Littoral Depth (ft)	5.1	Date Surveyed	June 12, 2025
Species Richness	44	Total Pts. Sur	22
Native Species Richness	36	Total Pts. Veg	22
		%-Littoral Veg	100.0
Scientific Name	Common Name	# Pts. Present	%-Frequency
<i>Acer negundo</i>	box elder	1	4.5
<i>Alternanthera philoxeroides</i>	alligatorweed	11	50.0
<i>Baccharis halimifolia</i>	eastern baccharis	8	36.4
<i>Bolboschoenus robustus</i>	seacoast bulrush	2	9.1
<i>Cabomba caroliniana</i>	fanwort	1	4.5
<i>Cephalanthus occidentalis</i>	common buttonbush	2	9.1
<i>Ceratophyllum demersum</i>	coontail	14	63.6
<i>Cicuta maculata</i>	water hemlock	8	36.4
<i>Colocasia esculenta</i>	wild taro	1	4.5
<i>Crinum americanum</i>	southern swamp crinum	2	9.1
<i>Hibiscus lasiocarpus</i>	wooly rosemallow	7	31.8
<i>Ipomoea sagittata</i>	saltmarsh morning-glory	16	72.7
<i>Juncus roemarianus</i>	black needlerush	4	18.2
<i>Kosteletzkya pentacarpos</i>	saltmarsh mallow	3	13.6
<i>Lemna minor</i>	common duckweed	1	4.5
<i>Ludwigia palustris</i>	marsh seedbox	1	4.5
<i>Ludwigia peploides</i>	floating primrose-willow	6	27.3
<i>Lythrum lineare</i>	saltmarsh loosestrife	2	9.1
<i>Morella cerifera</i>	southern bayberry	2	9.1
<i>Myriophyllum aquaticum</i>	parrotfeather	1	4.5
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil	9	40.9
<i>Nitella sp.</i>	stonewort	1	4.5
<i>Nuphar advena</i>	spatterdock	11	50.0
<i>Panicum repens</i>	torpedograss	4	18.2
<i>Persicaria hydropiperoides</i>	swamp smartweed	7	31.8
<i>Phragmites australis</i>	common reed	18	81.8
<i>Pontederia cordata</i>	pickerelweed	3	13.6
<i>Ptilimnium capillaceum</i>	eastern bishopweed	7	31.8

<i>Quercus falcata</i>	southern red oak	1	4.5
<i>Ruppia maritima</i>	widgeon-grass	4	18.2
<i>Sabal minor</i>	dwarf palmetto	5	22.7
<i>Sagittaria lancifolia</i>	bulltongue arrowhead	13	59.1
<i>Sagittaria latifolia</i>	broadleaf arrowhead	1	4.5
<i>Salvinia minima</i>	common salvinia	8	36.4
<i>Salvinia molesta</i>	giant salvinia	4	18.2
<i>Saururus cernuus</i>	lizard's tail	2	9.1
<i>Schoenoplectus tabernaemontani</i>	softstem bulrush	11	50.0
<i>Sesbania vesicaria</i>	bladderpod	1	4.5
<i>Sporobolus cynosuroides</i>	big cordgrass	9	40.9
<i>Symphyotrichum</i> subg. <i>Astropolium</i>	saltmarsh aster	17	77.3
<i>Taxodium distichum</i>	bald cypress	5	22.7
<i>Triadica sebifera</i>	tallowtree	3	13.6
<i>Vallisneria spiralis</i>	southern eelgrass	4	18.2
<i>Zizania aquatica</i>	southern wild rice	1	4.5

Pascagoula River

Channel reach 3

Pascagoula – channel reach 3 (30.89660, -88.76400) was surveyed June 19, 2025. Pascagoula – channel reach 3 ranked 10th in species richness ($s = 25$) and 11th in mean species richness ($\bar{x}_s = 2.43$; Table 1). It ranked 10th in species diversity ($\alpha = 2.57$) and 13th in species evenness ($J = 0.80$; Table 1). The most frequent species were *Salix nigra* (75.5%), *Platanus occidentalis* (24.5%), *Planera aquatica* (20.4%), and *Quercus nigra* (20.4%; Table 10). The only state noxious weed present was *Triadica sebifera* (8.2%; Table 10). The only other introduced species was *Alternanthera philoxeroides* (4.1%; Table 10).

Table 10. Macrophyte community of Pascagoula – channel reach 3. Species in red are introduced and species in bold font are listed as federal and/or Mississippi state noxious weeds.

Pascagoula River - channel reach 3			
Littoral Depth (ft)	2.0	Date Surveyed	June 19, 2025
Species Richness	25	Total Pts. Sur	49
Native Species Richness	23	Total Pts. Veg	45
		%-Littoral Veg	91.8
Scientific Name	Common Name	# Pts. Present	%-Frequency
<i>Alnus serrulata</i>	smooth alder	1	2.0
<i>Alternanthera philoxeroides</i>	alligatorweed	2	4.1
<i>Amorpha fruticosa</i>	indigobush	1	2.0
<i>Betula nigra</i>	river birch	3	6.1
<i>Carpinus caroliniana</i>	American hornbeam	2	4.1
<i>Carya aquatica</i>	water hickory	3	6.1
<i>Cephalanthus occidentalis</i>	common buttonbush	1	2.0
<i>Commelina virginica</i>	Virginia dayflower	1	2.0
<i>Diospyros virginiana</i>	American persimmon	3	6.1
<i>Forestiera acuminata</i>	eastern swamp privet	4	8.2
<i>Hypericum galioides</i>	bedstraw St. Johnswort	2	4.1
<i>Ilex vomitoria</i>	yaupon	1	2.0
<i>Justicia ovata</i>	looseflower water-willow	2	4.1
<i>Liquidambar styraciflua</i>	sweetgum	2	4.1
<i>Nyssa sylvatica</i>	black tupelo	1	2.0
<i>Persicaria hydropiperoides</i>	swamp smartweed	5	10.2
<i>Planera aquatica</i>	water elm	10	20.4
<i>Platanus occidentalis</i>	American sycamore	12	24.5
<i>Quercus nigra</i>	water oak	10	20.4
<i>Quercus phellos</i>	willow oak	1	2.0
<i>Salix nigra</i>	black willow	37	75.5
<i>Taxodium distichum</i>	bald cypress	3	6.1

<i>Triadica sebifera</i>	tallowtree	4	8.2
<i>Ulmus americana</i>	American elm	7	14.3
<i>Viburnum scabrellum</i>	southern toothed viburnum	1	2.0

Channel reach 2

Pascagoula – channel reach 2 (30.65028, -88.65687) was surveyed June 18, 2025. Pascagoula – channel reach 2 ranked 4th in species richness ($s = 36$) and 9th in mean species richness ($\bar{x}_s = 3.72$; Table 1). It ranked 9th in species diversity ($\alpha = 2.99$) and 12th in species evenness ($J = 0.83$; Table 1). The most frequent species were *Salix nigra* (62.0%), *Planera aquatica* (38.0%), and *Quercus nigra* (31.6%), and *Triadica sebifera* (31.6%; Table 11). The only state noxious weed present was *Triadica sebifera* (31.6%; Table 11). The only other introduced species was *Alternanthera philoxeroides* (6.3%; Table 11).

Table 11. Macrophyte community of Pascagoula – channel reach 2. Species in red are introduced and species in bold font are listed as federal and/or Mississippi state noxious weeds.

Pascagoula River - channel reach 2			
Littoral Depth (ft)	2.3	Date Surveyed	June 18, 2025
Species Richness	36	Total Pts. Sur	79
Native Species Richness	34	Total Pts. Veg	77
		%-Littoral Veg	97.5
Scientific Name	Common Name	# Pts. Present	%-Frequency
<i>Alternanthera philoxeroides</i>	alligatorweed	5	6.3
<i>Amorpha fruticosa</i>	indigobush	1	1.3
<i>Betula nigra</i>	river birch	12	15.2
<i>Carpinus caroliniana</i>	American hornbeam	3	3.8
<i>Carya aquatica</i>	water hickory	20	25.3
<i>Cephalanthus occidentalis</i>	common buttonbush	3	3.8
<i>Commelina virginica</i>	Virginia dayflower	3	3.8
<i>Diospyros virginiana</i>	American persimmon	4	5.1
<i>Forestiera acuminata</i>	eastern swamp privet	19	24.1
<i>Fraxinus caroliniana</i>	swamp ash	2	2.5
<i>Hibiscus laevis</i>	halberdleaf rosemallow	1	1.3
<i>Hydrocotyle umbellata</i>	manyflower marshpennywort	2	2.5
<i>Hymenocallis choctawensis</i>	panhandle spiderlily	1	1.3
<i>Hypericum galioides</i>	bedstraw St. Johnswort	2	2.5
<i>Ilex decidua</i>	possumhaw	5	6.3
<i>Ilex vomitoria</i>	yaupon	2	2.5
<i>Justicia ovata</i>	looseflower water-willow	1	1.3
<i>Lemna minor</i>	common duckweed	2	2.5

<i>Liquidambar styraciflua</i>	sweetgum	7	8.9
<i>Nyssa aquatica</i>	water tupelo	1	1.3
<i>Nyssa biflora</i>	swamp tupelo	1	1.3
<i>Persicaria hydropiperoides</i>	swamp smartweed	3	3.8
<i>Planera aquatica</i>	water elm	30	38.0
<i>Platanus occidentalis</i>	American sycamore	12	15.2
<i>Quercus bicolor</i>	swamp white oak	2	2.5
<i>Quercus falcata</i>	southern red oak	2	2.5
<i>Quercus nigra</i>	water oak	25	31.6
<i>Quercus phellos</i>	willow oak	14	17.7
<i>Quercus stellata</i>	post oak	3	3.8
<i>Quercus virginiana</i>	southern live oak	1	1.3
<i>Sabal minor</i>	dwarf palmetto	10	12.7
<i>Salix nigra</i>	black willow	49	62.0
<i>Taxodium distichum</i>	bald cypress	9	11.4
<i>Triadica sebifera</i>	tallowtree	25	31.6
<i>Ulmus americana</i>	American elm	5	6.3
<i>Viburnum scabrellum</i>	southern toothed viburnum	7	8.9

Channel reach 1

Pascagoula – channel reach 1 (30.46205, -88.57309) was surveyed June 17, 2025. Pascagoula – channel reach 1 ranked 1st in species richness ($s = 76$) and 7th in mean species richness ($\bar{x}_s = 7.52$; Table 1). It ranked 1st in species diversity ($\alpha = 3.89$) and 7th in species evenness ($J = 0.90$; Table 1). The most frequent species were *Sabal minor* (66.7%), *Taxodium distichum* (45.8%), and *Triadica sebifera* (39.6%; Table 12). Federal and state noxious weeds present included *Triadica sebifera* (39.6%) and *Panicum repens* (2.1%; Table 12). Other introduced species included *Alternanthera philoxeroides* (25.0%), *Salvinia minima* (12.5%), *Cyperus blepharoleptos* (4.2%), *Pontederia crassipes* (4.2%), *Colocasia esculenta* (2.1%), and *Myriophyllum spicatum* (2.1%; Table 12).

Table 12. Macrophyte community of Pascagoula – channel reach 1. Species in red are introduced and species in bold font are listed as federal and/or Mississippi state noxious weeds.

Pascagoula River - channel reach 1			
Littoral Depth (ft)	2.7	Date Surveyed	June 17, 2025
Species Richness	76	Total Pts. Sur	48
Native Species Richness	68	Total Pts. Veg	48
		%-Littoral Veg	100.0
Scientific Name	Common Name	# Pts. Present	%-Frequency
<i>Alnus serrulata</i>	smooth alder	2	4.2

<i>Alternanthera philoxeroides</i>	alligatorweed	12	25.0
<i>Azolla caroliniana</i>	Carolina mosquitofern	2	4.2
<i>Baccharis halimifolia</i>	eastern baccharis	8	16.7
<i>Betula nigra</i>	river birch	4	8.3
<i>Bidens discoidea</i>	swamp beggarticks	1	2.1
<i>Carpinus caroliniana</i>	American hornbeam	2	4.2
<i>Carya aquatica</i>	water hickory	12	25.0
<i>Cephalanthus occidentalis</i>	common buttonbush	10	20.8
<i>Ceratophyllum demersum</i>	coontail	1	2.1
<i>Cicuta maculata</i>	water hemlock	8	16.7
<i>Cladium mariscus</i>	sawgrass	3	6.3
<i>Colocasia esculenta</i>	wild taro	1	2.1
<i>Commelina virginica</i>	Virginia dayflower	3	6.3
<i>Cornus foemina</i>	stiff dogwood	2	4.2
<i>Cyperus blepharoleptos</i>	Cuban bulrush	2	4.2
<i>Cyperus virens</i>	green flatsedge	4	8.3
<i>Cyrilla racemiflora</i>	swamp titi	4	8.3
<i>Diospyros virginiana</i>	American persimmon	2	4.2
<i>Forestiera acuminata</i>	eastern swamp privet	3	6.3
<i>Fraxinus caroliniana</i>	swamp ash	3	6.3
<i>Hibiscus lasiocarpus</i>	wooly rosemallow	1	2.1
<i>Hygrophila costata</i>	Gulf swampweed	6	12.5
<i>Hypericum galioides</i>	bedstraw St. Johnswort	10	20.8
<i>Ilex decidua</i>	possumhaw	1	2.1
<i>Ilex vomitoria</i>	yaupon	4	8.3
<i>Ipomoea sagittata</i>	saltmarsh morning-glory	3	6.3
<i>Itea virginica</i>	Virginia sweetspire	1	2.1
<i>Juncus acuminatus</i>	tapertip rush	1	2.1
<i>Juncus coriaceus</i>	leathery rush	2	4.2
<i>Juncus roemarianus</i>	black needlerush	5	10.4
<i>Juncus validus</i>	roundhead rush	1	2.1
<i>Limnobium spongia</i>	American frogbit	2	4.2
<i>Liquidambar styraciflua</i>	sweetgum	1	2.1
<i>Morella cerifera</i>	southern bayberry	6	12.5
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil	1	2.1
<i>Nuphar advena</i>	spatterdock	9	18.8
<i>Nyssa aquatica</i>	water tupelo	2	4.2
<i>Nyssa biflora</i>	swamp tupelo	5	10.4
<i>Nyssa sylvatica</i>	black tupelo	1	2.1

<i>Panicum repens</i>	torpedograss	1	2.1
<i>Persicaria hydropiperoides</i>	swamp smartweed	3	6.3
<i>Persicaria setacea</i>	bog smartweed	1	2.1
<i>Phragmites australis</i>	common reed	7	14.6
<i>Planera aquatica</i>	water elm	4	8.3
<i>Platanus occidentalis</i>	American sycamore	1	2.1
<i>Pontederia cordata</i>	pickerelweed	3	6.3
<i>Pontederia crassipes</i>	waterhyacinth	2	4.2
<i>Ptilimnium capillaceum</i>	eastern bishopweed	4	8.3
<i>Quercus falcata</i>	southern red oak	5	10.4
<i>Quercus nigra</i>	water oak	13	27.1
<i>Quercus phellos</i>	willow oak	1	2.1
<i>Quercus virginiana</i>	southern live oak	9	18.8
<i>Sabal minor</i>	dwarf palmetto	32	66.7
<i>Sabatia calycina</i>	coastal rose gentian	5	10.4
<i>Sacciopeles striata</i>	American cupscale	2	4.2
<i>Sagittaria lancifolia</i>	bulltongue arrowhead	12	25.0
<i>Sagittaria subulata</i>	dwarf arrowhead	1	2.1
<i>Salix nigra</i>	black willow	4	8.3
<i>Salvinia minima</i>	common salvinia	6	12.5
<i>Saururus cernuus</i>	lizard's tail	1	2.1
<i>Schoenoplectus tabernaemontani</i>	softstem bulrush	7	14.6
<i>Scirpus cyperinus</i>	woolgrass	2	4.2
<i>Sesbania vesicaria</i>	bladderpod	2	4.2
<i>Spartina spartinae</i>	Gulf cordgrass	2	4.2
<i>Sporobolus cynosuroides</i>	big cordgrass	1	2.1
<i>Symphyotrichum</i> subg. <i>Astropolium</i>	saltmarsh aster	6	12.5
<i>Tamala palustris</i>	swamp bay	4	8.3
<i>Taxodium distichum</i>	bald cypress	22	45.8
<i>Triadica sebifera</i>	tallowtree	19	39.6
<i>Typha domingensis</i>	southern cattail	1	2.1
<i>Ulmus americana</i>	American elm	2	4.2
<i>Vallisneria neotropicalis</i>	southern eelgrass	1	2.1
<i>Viburnum scabrellum</i>	southern toothed viburnum	3	6.3
<i>Zizania aquatica</i>	southern wild rice	8	16.7
<i>Zizaniopsis miliacea</i>	giant cutgrass	13	27.1

Hutson Lake

Hutson Lake (30.87460, -88.76154) was surveyed June 26, 2025. Hutson Lake ranked 3rd in species richness ($s = 44$) and 1st in mean species richness ($\bar{x}_s = 18.88$; Table 1). It ranked 2nd in species diversity ($\alpha = 3.48$) and 5th in species evenness ($J = 0.92$; Table 1). The most frequent species were *Taxodium distichum* (100.0%), *Alternanthera philoxeroides* (94.1%), *Ceratophyllum demersum* (94.1%), *Lemna minor* (94.1%), *Limnobia spongia* (94.1%) and *Persicaria setacea* (94.1%; Table 13). The only state noxious weed was *Triadica sebifera* (35.3%; Table 13). Other introduced species included *Alternanthera philoxeroides* (94.1%), *Cyperus blepharoleptos* (76.5%), *Myriophyllum aquaticum* (76.5%), and *Albizia julibrissin* (5.9%; Table 13).

Table 13. Macrophyte community of Hutson Lake. Species in red are introduced and species in bold font are listed as federal and/or Mississippi state noxious weeds.

Pascagoula River - Hutson Lake			
Littoral Depth (ft)	7.8	Date Surveyed	June 26, 2025
Species Richness	44	Total Pts. Sur	17
Native Species Richness	39	Total Pts. Veg	17
		%-Littoral Veg	100.0
Scientific Name	Common Name	# Pts. Present	%-Frequency
<i>Acer rubrum</i>	red maple	2	11.8
<i>Albizia julibrissin</i>	mimosa	1	5.9
<i>Alternanthera philoxeroides</i>	alligatorweed	16	94.1
<i>Azolla caroliniana</i>	Carolina mosquitofern	3	17.6
<i>Bidens discoidea</i>	swamp beggarticks	8	47.1
<i>Cephalanthus occidentalis</i>	common buttonbush	12	70.6
<i>Ceratophyllum demersum</i>	coontail	16	94.1
<i>Cyperus blepharoleptos</i>	Cuban bulrush	13	76.5
<i>Cyperus virens</i>	green flatsedge	1	5.9
<i>Dichanthelium scoparium</i>	velvet panicgrass	3	17.6
<i>Echinodorus cordifolius</i>	creeping burhead	8	47.1
<i>Eleocharis vivipara</i>	viviparous spikerush	6	35.3
<i>Hydrolea uniflora</i>	oneflower false fiddleleaf	1	5.9
<i>Hygrophila costata</i>	Gulf swampweed	12	70.6
<i>Hypericum galioides</i>	bedstraw St. Johnswort	9	52.9
<i>Itea virginica</i>	Virginia sweetspire	2	11.8
<i>Juncus repens</i>	lesser creeping rush	1	5.9
<i>Justicia ovata</i>	looseflower water-willow	2	11.8
<i>Lemna minor</i>	common duckweed	16	94.1
<i>Limnobia spongia</i>	American frogbit	16	94.1
<i>Liquidambar styraciflua</i>	sweetgum	1	5.9

<i>Ludwigia palustris</i>	marsh seedbox	6	35.3
<i>Ludwigia peploides</i>	floating primrose-willow	8	47.1
<i>Myriophyllum aquaticum</i>	parrotfeather	13	76.5
<i>Nyssa aquatica</i>	water tupelo	13	76.5
<i>Orontium aquaticum</i>	goldenclub	2	11.8
<i>Persicaria hydropiperoides</i>	swamp smartweed	9	52.9
<i>Persicaria setacea</i>	bog smartweed	16	94.1
<i>Planera aquatica</i>	water elm	2	11.8
<i>Potamogeton diversifolius</i>	waterthread pondweed	1	5.9
<i>Rhynchospora corniculata</i>	shortbristle horned beaksedge	5	29.4
<i>Riccia fluitans</i>	floating crystalwort	11	64.7
<i>Ricciocarpos natans</i>	liverwort	1	5.9
<i>Sabal minor</i>	dwarf palmetto	1	5.9
<i>Sacciopelis striata</i>	American cupscale	12	70.6
<i>Salix nigra</i>	black willow	4	23.5
<i>Saururus cernuus</i>	lizard's tail	2	11.8
<i>Scirpus cyperinus</i>	woolgrass	1	5.9
<i>Spirodela polyrhiza</i>	greater duckweed	9	52.9
<i>Taxodium distichum</i>	bald cypress	17	100.0
<i>Triadenum walteri</i>	greater marsh St. Johnswort	12	70.6
<i>Triadica sebifera</i>	tallowtree	6	35.3
<i>Utricularia gibba</i>	humped bladderwort	15	88.2
<i>Wolffiella gladiata</i>	sword bogmat	6	35.3

Unnamed swamp

Unnamed swamp (30.61411, -88.63142) was surveyed June 23, 2025. Unnamed swamp ranked 13th in species richness ($s = 10$) and 13th in mean species richness ($\bar{x}_s = 2.18$; Table 1). It ranked 13th in species diversity ($\alpha = 1.83$) and 14th in species evenness ($J = 0.79$; Table 1). The most frequent species were *Taxodium distichum* (100.0%), *Bacopa monnieri* (27.3%), *Alternanthera philoxeroides* (18.2%), and *Bacopa rotundifolia* (18.2%; Table 14). No state or federal noxious weeds were observed (Table 14). The only introduced species present was *Alternanthera philoxeroides* (18.2%; Table 14).

Table 14. Macrophyte community of unnamed swamp. Species in red are introduced.

Pascagoula River - unnamed swamp			
Littoral Depth (ft)	6.0	Date Surveyed	June 23, 2025
Species Richness	10	Total Pts. Sur	11
Native Species Richness	9	Total Pts. Veg	11
		%-Littoral Veg	100.0
Scientific Name	Common Name	# Pts. Present	%-Frequency
<i>Alternanthera philoxeroides</i>	alligatorweed	2	18.2
<i>Arundinaria gigantea</i>	river cane	1	9.1
<i>Bacopa monnieri</i>	herb-of-grace	3	27.3
<i>Bacopa rotundifolia</i>	roundleaf waterhyssop	2	18.2
<i>Bidens discoidea</i>	swamp beggarticks	1	9.1
<i>Carex intumescens</i>	bladder sedge	1	9.1
<i>Cephalanthus occidentalis</i>	common buttonbush	1	9.1
<i>Ludwigia peploides</i>	floating primrose-willow	1	9.1
<i>Planera aquatica</i>	water elm	1	9.1
<i>Taxodium distichum</i>	bald cypress	11	100.0

Ware Bayou

Ware Bayou (30.50297, -88.59948) was surveyed June 24, 2025. Ware Bayou ranked 9th in species richness ($s = 30$) and 5th in mean species richness ($\bar{x}_s = 9.31$; Table 1). It ranked 8th in species diversity ($\alpha = 3.02$) and 9th in species evenness ($J = 0.89$; Table 1). The most frequent species were *Nyssa biflora* (100.0%), *Sabal minor* (100.0%), and *Taxodium distichum* (84.6%; Table 15). The only state noxious weed present was *Triadica sebifera* (15.4%; Table 15). No other introduced species were observed (Table 15).

Table 15. Macrophyte community of Ware Bayou. Species in red are introduced and species in bold font are listed as federal and/or Mississippi state noxious weeds.

Pascagoula River - Ware Bayou			
Littoral Depth (ft)	3.0	Date Surveyed	June 24, 2025
Species Richness	30	Total Pts. Sur	13
Native Species Richness	29	Total Pts. Veg	13
		%-Littoral Veg	100.0
Scientific Name	Common Name	# Pts. Present	%-Frequency
<i>Acer rubrum</i>	red maple	5	38.5
<i>Amorpha fruticosa</i>	indigobush	1	7.7
<i>Callicarpa americana</i>	American beautyberry	2	15.4
<i>Carpinus caroliniana</i>	American hornbeam	1	7.7
<i>Carya aquatica</i>	water hickory	3	23.1
<i>Cornus foemina</i>	stiff dogwood	2	15.4
<i>Crinum americanum</i>	southern swamp crinum	4	30.8
<i>Cyrilla racemiflora</i>	swamp titi	5	38.5
<i>Dichanthelium scoparium</i>	velvet panicgrass	4	30.8
<i>Forestiera acuminata</i>	eastern swamp privet	1	7.7
<i>Fraxinus caroliniana</i>	swamp ash	10	76.9
<i>Hymenocallis choctawensis</i>	panhandle spiderlily	7	53.8
<i>Ilex vomitoria</i>	yaupon	1	7.7
<i>Itea virginica</i>	Virginia sweetspire	5	38.5
<i>Morella cerifera</i>	southern bayberry	1	7.7
<i>Nuphar advena</i>	spatterdock	2	15.4
<i>Nyssa aquatica</i>	water tupelo	6	46.2
<i>Nyssa biflora</i>	swamp tupelo	13	100.0
<i>Persicaria hydropiperoides</i>	swamp smartweed	4	30.8
<i>Quercus nigra</i>	water oak	2	15.4
<i>Ruppia maritima</i>	widgeon-grass	1	7.7
<i>Sabal minor</i>	dwarf palmetto	13	100.0
<i>Salvinia minima</i>	common salvinia	1	7.7
<i>Saururus cernuus</i>	lizard's tail	1	7.7
<i>Symphyotrichum</i> subg. <i>Astropolium</i>	saltmarsh aster	10	76.9
<i>Tamala palustris</i>	swamp bay	1	7.7
<i>Taxodium distichum</i>	bald cypress	11	84.6
<i>Triadenum walteri</i>	greater marsh St. Johnswort	1	7.7
<i>Triadica sebifera</i>	tallowtree	2	15.4
<i>Zizaniopsis miliacea</i>	giant cutgrass	1	7.7

Acknowledgements

Literature Cited

Downing, J. A., Y. T. Prairie, J. J. Cole, C. M. Duarte, L. J. Tranvik, R. G. Striegl, W. H.

McDowell, P. Kortelainen, N. F. Caraco, J. M. Melack, and J. J. Middelburg. 2006. The global abundance and size distribution of lakes, ponds, and impoundments. *Limnology and Oceanography* 51:2388–2397.

Gurevitch, J., S. Scheiner, and G. Fox. 2002. *The Ecology of Plants*. Sinauer Associates, Sunderland, MA, USA.

Lee, M., S. A. Schmid, and G. Turnage. 2023. 2022 survey of aquatic plant species in Mississippi waterbodies. Technical report, Mississippi State University, Geosystems Research Institute, Mississippi State, MS, USA.

Loshbaugh, A. K., R. Campanella, S. Meaux, and Members of Mississippi Aquatic Invasive Species Task Force. 2013. Mississippi state management plan for aquatic invasive species. Page 161. Management Plan, Mississippi Department of Environmental Quality.

Neal, J. W., and D. W. Willis. 2012. *Small Impoundment Management in North America*. American Fisheries Society, Bethesda, MD, USA.

Schmid, S. A., and G. Turnage. 2023. 2023 survey of aquatic plant species in Mississippi waterbodies. Technical report, Mississippi State University, Geosystems Research Institute, Mississippi State, MS, USA.

Schmid, S. A., and G. Turnage. 2025a. Noteworthy collections: Aquatic and wetland flora of Alabama, Arkansas, and Mississippi. *Castanea* 90:80–86.

- Schmid, S. A., and G. Turnage. 2025b. 2024 survey of aquatic plant speceis in Mississippi waterbodies. Technical report, Mississippi State University, Geosystems Research Institute, Mississippi State, MS, USA.
- Stotler, R. E., and B. Crandall-Stotler. 2017. A Synopsis of the Liverwort Flora of North America North of Mexico. *Annals of the Missouri Botanical Garden* 102:574–709.
- Turnage, G., A. Lazaro-Lobo, S. L. Sanders, and M. Thomas. 2019. 2019 survey of aquatic plant species in Mississippi waterbodies. Technical report, Mississippi State University, Geosystems Research Institute, Starkville, MS, USA.
- Turnage, G., A. Sample, and C. McLeod. 2020. 2020 survey of aquatic plant species in Mississippi waterbodies. Technical report, Mississippi State University, Geosystems Research Institute, Starkville, MS, USA.
- Turnage, G., and C. Shoemaker. 2018. 2017 survey of aquatic plant speices in Mississippi waterbodies. Technical report, Mississippi State University, Geosystems Research Institute, Starkville, MS, USA.
- USACE. 2023. United States Army Corps of Engineers. <https://www.mvk.usace.army.mil/>.
- Weakley, A. S. and Southeastern Flora Team. 2025. Flora of the southeastern United States. University of North Carolina Herbarium, Chapel Hill, NC, USA.
- Wehr, J. D., R. G. Sheath, and J. P. Kociolek. 2015. Freshwater Algae of North America: Ecology and Classification. Elsevier.
- Wetzel, R. G. 2001. Limnology. 3rd ed. Academic Press, San Diego, CA, USA.

Appendix

App 1. Lakes surveyed in 2017, 2019, 2020, 2022, 2023, 2024, and 2025. An ‘X’ indicates year(s) lake was surveyed. Lakes where non-native species were observed for at least one survey are in **red font**. Lakes where federal and/or state noxious weed(s) were observed are in **bold**.

Lakes	2017	2019	2020	2022	2023	2024	2025	Management Entity*
Aberdeen (TTW)		X					X	USACE
Amory (TTW)		X						USACE
Anchor	X							Private
Archusa Creek	X			X	X			PHW
Bay Springs (TTW)	X			X		X		USACE
Bee	X							Private
Big Creek				X				PHW
Bill Waller	X			X	X			MDWFP
Bogue Homa	X							MDWFP
Bluff	X			X				USFWS
Calling Panther	X				X			MDWFP
Caroline	X							Private
Choctaw				X				USFS
Chotard						X		MDWFP
Clarkco Lake	X							MDWFP
Claude Bennett	X				X			MDWFP
Columbia	X			X	X			MDWFP
Columbus (TTW)	X		X					USACE
Dalewood Shore			X					Private
Doyle Arm			X	X				USFWS
Dry Creek	X				X			PHW
Dump						X		Private
Eddins					X			Private
Elvis Presley	X	X						MDWFP
English	X							MDWFP
Flint Creek	X				X			PHW
Fulton (TTW)		X					X	USACE
Geiger	X				X			MDWFP
George			X					Private
Hideaway	X							Private
Hutson							X	MDWFP
Horseshoe			X					Private
Ivy					X			MDWFP
Jackson						X		Private
Kemper	X			X				MDWFP

Lamar Bruce	X	X						MDWFP
Lee						X		MDWFP
Lincoln	X				X			MDWFP
Little Eagle			X			X		Private
Loakfoma	X			X				USFWS
Long Branch						X		USFWS
Lower			X					USACE
Lowndes	X			X				MDWFP
Mary	X							Private
Mary Crawford	X			X	X			MDWFP
Maynor Creek	X			X	X			PHW
McIntyre Scatters						X		MDWFP
Mike Connor	X				X			MDWFP
Moon	X	X						Private
Mosquito Run						X		USFWS
Natchez	X				X			MDWFP
Okatibbee			X	X				MDWFP
Okhissa	X				X			USFS
Old Yazoo Cutoff						X		MDWFP
Perry	X			X	X			MDWFP
Pickwick (TTW/TVA)		X				X	X	USACE/TVA
Pool D (TTW)		X				X		USACE
Pool E (TTW)		X				X		USACE
Prentiss Walker	X			X	X			MDWFP
Roebuck			X					Private
Roosevelt	X							MDWFP
Ross Branch				X				USFWS
Round						X		MDWFP
Simpson-Legion	X				X			MDWFP
Six Mile						X		MDWFP
Smithville (TTW)		X					X	USACE
Spring		X		X				MDWFP
Tangipahoa	X				X			MDWFP
Tippah	X							MDWFP
Tom Bailey					X			MDWFP
Tombigbee	X							MDWFP
Trace State Park			X	X				MDWFP
TTW AL-Col		X						USACE
TTW Canal		X						USACE
Turkey Creek	X			X				PHW
Turkey Fork	X			X	X			PHW

Walthall	X				X		MDWFP
Washington	X	X					Private
Wasp			X				Private
Wolf						X	MDWFP

App 2. Streams surveyed in 2020, 2023, and 2025. An ‘X’ indicates year(s) lake was surveyed. Lakes where non-native species were observed for at least one survey are in **red font**. Lakes where federal and/or state noxious weed(s) were observed are in **bold**.

Basin	Stream	2020	2023	2025
Big Black River Drainage Basin	Big Black R.	X		
Coastal Streams Drainage Basin	Biloxi R.	X	X	
Coastal Streams Drainage Basin	Jourdan R.	X	X	
Coastal Streams Drainage Basin	Tchoutacabouffa R.	X	X	
Coastal Streams Drainage Basin	Wolf R.	X	X	
North Independent Streams Basin	Hatchie R.	X		
North Independent Streams Basin	Little Hatchie R.	X		
Pascagoula River Drainage Basin	Chichasawhay R.	X		
Pascagoula River Drainage Basin	Chunky R.	X		
Pascagoula River Drainage Basin	Leaf R.	X		
Pascagoula River Drainage Basin	Okatibbee R.	X		
Pascagoula River Drainage Basin	Pascagoula Delta	X	X	X
Pascagoula River Drainage Basin	Pascagoula R.	X		X
Pascagoula River Drainage Basin	Ware Bayou			X
Pearl River Drainage Basin	Bogue Chitto R.	X		
Pearl River Drainage Basin	Pearl Delta	X	X	X
Pearl River Drainage Basin	Pearl R.	X		X
South Independent Streams Basin	Homochitto R.	X		
Tombigbee River Drainage Basin	Buttahatchie R.	X		
Tombigbee River Drainage Basin	Line C.	X		
Tombigbee River Drainage Basin	Luxapallila C.	X		
Tombigbee River Drainage Basin	Tibbee C.	X		
Tombigbee River Drainage Basin	Town C.	X		
Yazoo River Drainage Basin	Coldwater R.	X		
Yazoo River Drainage Basin	Hickahala C.	X		
Yazoo River Drainage Basin	Hurricane C.	X		
Yazoo River Drainage Basin	Little Tallahatchie R.	X		
Yazoo River Drainage Basin	Skuna R.	X		
Yazoo River Drainage Basin	Sunflower R.	X		
Yazoo River Drainage Basin	Tallahatchie R.	X		

Yazoo River Drainage Basin	Yalobusha R.	X		
Yazoo River Drainage Basin	Yazoo R.	X		
Yazoo River Drainage Basin	Yocona R.	X		

App 3. List of all species observed in surveys conducted in 2017, 2019, 2020, 2022, 2023, 2024, and 2025. Numbers in year columns indicate number of waterbodies the respective species was observed in. Status column indicates whether the species is native (Nat), non-native (Non-nat), or unknown (-).

Scientific Name	Common Name	Status	'17	'19	'20	'22	'23	'24	'25
<i>Acer negundo</i>	box elder	Nat	-	-	10	-	-	3	3
<i>Acer rubrum</i>	red maple	Nat	1	3	9	-	-	-	2
<i>Acer saccharinum</i>	silver maple	Nat	-	-	5	-	-	-	-
<i>Acmella repens</i>	Creeping spotflower	Nat	-	-	-	-	-	1	-
<i>Albizia julibrissin</i>	mimosa	Non-nat	-	8	4	-	-	4	3
<i>Algae sp.</i>	algae	-	7	-	-	17	-	-	-
<i>Alnus serrulata</i>	smooth alder	Nat	-	-	1	-	6	9	7
<i>Alnus sp.</i>	alder	Nat	-	9	1	-	-	-	-
<i>Alternanthera philoxeroides</i>	alligatorweed	Non-nat	30	7	14	21	26	13	12
<i>Amaranthus tuberculatus</i>	roughfruit waterhemp	Nat	-	-	2	-	-	-	-
<i>Amorpha fruticosa</i>	indigobush	Nat	-	-	-	-	-	4	4
<i>Apocynum cannabinum</i>	hemp dogbane	Nat	-	-	2	-	-	-	-
<i>Arundinaria gigantea</i>	river cane	Nat	2	3	-	-	14	1	4
<i>Azolla caroliniana</i>	Carolina mosquitofern	Nat	1	-	2	1	1	5	2
<i>Baccharis halimifolia</i>	eastern baccharis	Nat	5	5	7	-	6	-	2
<i>Bacopa caroliniana</i>	blue waterhyssop	Nat	4	1	1	2	3	-	1
<i>Bacopa monnieri</i>	herb-of-grace	Nat	-	-	1	-	2	-	1
<i>Bacopa rotundifolia</i>	roundleaf waterhyssop	Nat	-	-	-	-	-	-	1
<i>Bacopa sp.</i>	waterhyssop	-	2	-	-	-	1	-	-
<i>Bambusa vulgaris</i>	common bamboo	Nat	-	-	1	-	-	-	-
<i>Betula nigra</i>	river birch	Nat	-	-	13	2	-	-	5
<i>Bidens discoidea</i>	swamp beggarticks	Nat	-	-	-	-	-	-	3
<i>Bidens sp.</i>	beggarticks	-	-	-	-	-	-	1	-
<i>Boehmeria cylindrica</i>	smallspike false nettle	Nat	2	1	21	-	-	-	-
<i>Bolboschoenus robustus</i>	seacoast bulrush	Nat	-	-	-	-	4	-	1
<i>Brasenia schreberi</i>	watershield	Nat	16	3	2	-	13	1	1
<i>Brunnichia ovata</i>	redvine	Nat	-	-	2	-	-	-	-
<i>Cabomba caroliniana</i>	fanwort	Nat	-	-	2	-	5	1	1
<i>Callicarpa americana</i>	American beautyberry	Nat	1	-	-	-	-	-	1
<i>Carex intumescens</i>	bladder sedge	Nat	-	-	-	-	-	-	1
<i>Carex lurida</i>	sallow sedge	Nat	-	-	-	-	-	-	3

<i>Carex sp.</i>	sedge	-	1	2	9	21	7	3	-
<i>Carex tribuloides</i>	blunt broom sedge	Nat	-	-	-	-	-	-	2
<i>Carex vulpinoidea</i>	foxtail sedge	Nat	-	-	-	-	4	4	3
<i>Carya aquatica</i>	water hickory	Nat	2	-	6	-	-	9	7
<i>Carya glabra</i>	pignut hickory	Nat	-	-	1	-	-	-	-
<i>Castanea dentata</i>	American chesnut	Nat	-	-	1	-	-	-	-
<i>Cephalanthus occidentalis</i>	common buttonbush	Nat	21	8	17	21	18	14	11
<i>Ceratophyllum demersum</i>	coontail	Nat	10	8	7	5	7	5	4
<i>Cercis canadensis</i>	eastern redbud	Nat	-	-	1	-	-	-	-
<i>Chara sp.</i>	muskgrass	Nat	11	5	7	11	9	4	-
<i>Chasmanthium sessiflorum</i>	longleaf woodoats	Nat	-	-	1	-	-	-	-
<i>Cicuta maculata</i>	water hemlock	Nat	-	-	-	-	7	-	2
<i>Cinnamomum camphora</i>	camphortree	Non-nat	-	-	1	-	-	-	-
<i>Cladium mariscus</i>	sawgrass	Nat	-	-	4	1	6	-	1
<i>Clethra alnifolia</i>	coastal pepperbush	Nat	-	-	1	-	-	-	-
<i>Colocasia esculenta</i>	wild taro	Non-nat	8	5	2	2	4	-	5
<i>Commelina virginica</i>	Virginia dayflower	Nat	-	-	11	-	1	4	4
<i>Cornus foemina</i>	stiff dogwood	Nat	-	-	-	-	-	-	2
<i>Crataegus sp.</i>	hawthorn	Nat	1	-	-	-	-	-	-
<i>Crinum americanum</i>	southern swamp crinum	Nat	-	-	3	-	4	-	2
<i>Crotalaria sp.</i>	rattlebox	-	-	1	-	-	-	-	-
<i>Cynodon dactylon</i>	Bermuda grass	Non-nat	-	-	1	-	-	-	-
<i>Cyperus blepharoleptos</i>	cuban bulrush	Non-nat	7	3	4	3	4	2	3
<i>Cyperus esculentus</i>	yellow nutsedge	Non-nat	4	-	21	-	-	-	-
<i>Cyperus iria</i>	rice flatsedge	Non-nat	-	-	1	-	-	-	-
<i>Cyperus odoratus</i>	fragrant flatsedge	Nat	4	-	-	-	-	-	-
<i>Cyperus pseudovegetus</i>	marsh flatsedge	Nat	-	-	-	-	-	-	1
<i>Cyperus sp.</i>	flatsedge	-	1	-	-	-	11	4	-
<i>Cyperus virens</i>	green flatsedge	Nat	-	-	2	-	-	-	2
<i>Cyrilla racemiflora</i>	swamp titi	Nat	-	-	1	-	7	-	2
<i>Dicanthelium latifolia</i>	broadleaf panicgrass	Nat	-	-	1	-	-	-	-
<i>Dichantherium scoparium</i>	velvet panicgrass	Nat	-	-	-	-	-	-	3
<i>Didiplis diandra</i>	water purslane	Nat	-	-	-	-	-	1	-
<i>Digitaria sp.</i>	crabgrass	-	2	-	-	-	-	-	-
<i>Diodia virginiana</i>	Virginia buttonweed	Nat	-	-	1	6	-	-	-
<i>Diospyros virginiana</i>	American persimmon	Nat	-	-	9	-	-	8	6
<i>Drepanocladus sp.</i>	watermoss	-	1	-	-	-	-	-	-
<i>Dulichium arundinaceum</i>	three-way sedge	Nat	1	-	-	5	4	1	1
<i>Echinochloa crus-galli</i>	barnyard grass	Non-nat	-	-	1	-	-	-	1
<i>Echinodorus cordifolius</i>	creeping burhead	Nat	5	-	1	-	6	6	2
<i>Eleocharis compressa</i>	flatstem spikerush	Nat	-	-	-	8	-	-	-

<i>Eleocharis elongata</i>	slim spikerush	Nat	-	-	-	1	-	-	-
<i>Eleocharis obtusa</i>	blunt spikerush	Nat	4	2	3	2	1	-	-
<i>Eleocharis palustris</i>	common spikerush	Nat	-	-	1	1	-	-	-
<i>Eleocharis parvula</i>	dwarf spikerush	Nat	-	-	1	-	-	-	-
<i>Eleocharis quadrangulata</i>	squarestem spikerush	Nat	2	6	3	9	7	1	2
<i>Eleocharis sp.</i>	spikerush	-	1	-	1	-	3	-	-
<i>Eleocharis vivipara</i>	viviparous spikerush	Nat	14	2	1	1	16	3	1
<i>Elymus virginicus</i>	Virginia wildrye	Nat	-	-	1	-	-	-	-
<i>Equisetum praealtum</i>	scouring rush	-	2	5	1	-	-	-	1
<i>Eupatorium serotinum</i>	lateflowering thoroughwort	Nat	3	-	2	-	-	-	-
<i>Foresteria acuminata</i>	eastern swamp privet	Nat	-	-	6	-	-	3	6
<i>Fraxinus caroliniana</i>	swamp ash	Nat	-	-	1	-	-	-	3
<i>Fraxinus pennsylvanica</i>	green ash	Nat	3	-	2	-	-	1	-
<i>Gleditsia aquatica</i>	water locust	Nat	-	-	5	-	-	3	-
<i>Heteranthera limosa</i>	blue mudplantain	Nat	-	-	-	-	-	2	-
<i>Heteranthera reniformis</i>	kidneyleaf mudplantain	Nat	-	-	-	-	-	2	-
<i>Hibiscus laevis</i>	halberdleaf rosemallow	Nat	2	-	-	-	-	6	1
<i>Hibiscus lasiocarpus</i>	wooly rosemallow	Nat	-	-	1	2	-	6	5
<i>Hibiscus moscheutos</i>	crimson-eyed rosemallow	Nat	1	-	4	-	-	-	-
<i>Hydrilla verticillata</i>	hydrilla	Non-nat	5	9	1	5	1	4	3
<i>Hydrocotyle ranunculoides</i>	floating marshpennywort	Nat	2	5	2	-	7	4	4
<i>Hydrocotyle sp.</i>	pennywort	-	4	-	-	13	-	-	-
<i>Hydrocotyle umbellata</i>	manyflower marshpennywort	Nat	12	7	7	1	18	4	4
<i>Hydrolea quadrivalvis</i>	waterpod	Nat	6	2	-	2	-	-	-
<i>Hydrolea uniflora</i>	oneflower false fiddleleaf	Nat	-	-	-	-	4	-	1
<i>Hygrophila costata</i>	Gulf swampweed	Nat	-	-	-	-	-	-	2
<i>Hymenocallis choctawensis</i>	panhandle spiderlily	Nat	-	-	-	-	-	-	2
<i>Hypericum galioides</i>	bedstraw St. Johnswort	Nat	-	-	-	-	-	-	4
<i>Hypericum lobocarpum</i>	five-lobed St. Johnswort	Nat	-	-	-	-	1	-	-
<i>Hypericum mutillum</i>	dwarf St. Johnswort	Nat	-	-	-	-	1	-	-
<i>Hypericum sp.</i>	St. Johnswort	Nat	-	-	-	-	5	-	-
<i>Ilex aquifolium</i>	English holly	Non-nat	-	-	1	-	-	-	-
<i>Ilex decidua</i>	possumhaw	Nat	-	-	4	-	-	2	2
<i>Ilex vomitoria</i>	yaupon	Nat	-	-	-	-	-	-	4
<i>Ipomoea sagittata</i>	saltmarsh morning-glory	Nat	-	-	-	-	-	-	2
<i>Iris sp.</i>	iris	-	-	-	-	2	2	-	-

<i>Itea virginica</i>	Virginia sweetspire	Nat	-	-	-	-	-	2	5
<i>Juncus acuminatus</i>	tapertip rush	Nat	-	-	6	1	-	1	3
<i>Juncus canadensis</i>	Canada rush	Nat	-	-	-	-	2	-	-
<i>Juncus coriaceus</i>	leathery rush	Nat	-	-	-	-	-	-	1
<i>Juncus dudleyi</i>	Dudley's rush	Nat	-	-	-	1	-	-	-
<i>Juncus effusus</i>	common rush	Nat	15	12	7	19	15	6	4
<i>Juncus marginatus</i>	grassleaf rush	Nat	-	-	-	1	-	-	-
<i>Juncus pelocarpus</i>	brownfruit rush	Nat	-	-	-	3	-	-	-
<i>Juncus repens</i>	lesser creeping rush	Nat	3	-	-	-	8	1	1
<i>Juncus roemerianus</i>	black needlerush	Nat	-	-	5	-	6	-	2
<i>Juncus sp.</i>	rush	-	3	-	-	-	6	-	-
<i>Juncus validus</i>	roundhead rush	Nat	-	-	-	-	-	-	1
<i>Justicia americana</i>	American water-willow	Nat	6	11	22	3	1	4	4
<i>Justicia ovata</i>	looseflower water-willow	Nat	-	-	-	-	3	1	3
<i>Kosteletzkya pentacarpos</i>	saltmarsh mallow	Nat	-	-	-	-	-	-	1
<i>Landoltia punctata</i>	spotted duckweed	Nat	-	4	9	-	-	3	-
<i>Leersia oryzoides</i>	rice cutgrass	Nat	2	-	12	10	-	-	-
<i>Lemna minor</i>	common duckweed	Nat	3	4	11	4	4	8	4
<i>Lemna sp.</i>	duckweed	-	3	-	-	-	-	-	-
<i>Leptochloa panicoides</i>	Amazon sprangletop	Nat	-	-	1	-	-	-	-
<i>Ligustrum sinense</i>	Chinese privet	Non-nat	-	-	1	-	-	-	-
<i>Lilaeopsis carolinensis</i>	Carolina grasswort	Nat	-	-	-	-	1	-	-
<i>Limnobia spongia</i>	American frogbit	Nat	3	4	2	3	4	3	-
<i>Lindera benzoin</i>	northern spicebush	Nat	4	-	-	-	-	-	-
<i>Liquidambar styraciflua</i>	sweetgum	Nat	4	-	4	-	13	4	-
<i>Liriodendron tulipifera</i>	tulip poplar	Nat	-	-	-	-	-	1	-
<i>Ludwigia arcuata</i>	Piedmont primrose-willow	Nat	2	-	-	-	-	-	-
<i>Ludwigia hexapetala</i>	six-petal primrose-willow	Nat	-	-	-	5	3	-	-
<i>Ludwigia leptocarpa</i>	anglestem primrose-willow	Nat	-	6	10	11	-	-	-
<i>Ludwigia palustris</i>	marsh seedbox	Nat	3	-	-	-	-	-	2
<i>Ludwigia peploides</i>	floating primrose-willow	Nat	18	8	7	14	17	7	6
<i>Ludwigia sp.</i>	primrose	Nat	2	-	-	-	8	3	-
<i>Lychnothamnus barbatus</i>		Nat	-	-	-	-	1	-	-
<i>Lythrum lineare</i>	saltmarsh loosestrife	Nat	-	-	5	-	5	-	1
<i>Magnolia grandiflora</i>	southern magnolia	Nat	-	-	1	-	-	-	-
<i>Magnolia virginiana</i>	sweetbay	Nat	-	-	1	-	-	-	-
<i>Mayaca fluviatilis</i>	stream bogmoss	Nat	1	-	-	-	3	-	-

<i>Mentha aquatica</i>	watermint	Non-nat	-	-	-	-	1	-	-
<i>Mikania scandens</i>	climbing hempvine	Nat	-	-	2	-	-	-	-
<i>Mimulus rigens</i>	Allegheny monkeyflower	Nat	-	-	-	1	-	-	-
<i>Morella cerifera</i>	southern bayberry	Nat	-	-	6	12	-	-	3
<i>Myriophyllum aquaticum</i>	parrotfeather	Non-nat	6	6	2	5	6	3	6
<i>Myriophyllum heterophyllum</i>	variableleaf watermilfoil	Nat	1	-	-	-	6	2	-
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil	Non-nat	3	4	2	9	5	1	2
<i>Najas guadalupensis</i>	southern naiad	Nat	10	-	1	1	7	3	-
<i>Najas minor</i>	brittle naiad	Non-nat	12	2	3	-	1	4	-
<i>Nekemias arborea</i>	peppervine	Nat	-	-	6	-	-	-	-
<i>Nelumbo lutea</i>	American lotus	Nat	11	6	4	11	5	5	-
<i>Nitella sp.</i>	stonewort	-	7	-	-	-	6	-	1
<i>Nuphar advena</i>	spatterdock	Nat	4	-	3	-	6	2	5
<i>Nymphaea odorata</i>	American white waterlily	Nat	20	3	2	14	14	1	-
<i>Nyssa aquatica</i>	water tupelo	Nat	4	-	3	-	-	6	6
<i>Nyssa biflora</i>	swamp tupelo	Nat	-	-	-	-	10	2	3
<i>Orontium aquaticum</i>	goldenclub	Nat	-	-	-	-	2	-	1
<i>Panicum hemitomon</i>	maidencane	Nat	1	-	-	-	11	2	-
<i>Panicum repens</i>	torpedograss	Non-nat	15	4	3	7	26	1	2
<i>Panicum rigidulum</i>	redtop panicgrass	Nat	1	-	-	-	-	-	-
<i>Panicum sp.</i>	panicgrass	-	4	-	-	-	-	-	-
<i>Parthenocissus quinquefolia</i>	Virginia creeper	Nat	-	-	1	-	-	-	-
<i>Paspalum distichum</i>	knotgrass	Nat	-	-	4	2	-	-	-
<i>Paspalum floridanum</i>	Florida paspalum	Nat	-	-	2	-	-	-	-
<i>Paspalum notatum</i>	bahiagrass	-	-	-	-	1	-	-	-
<i>Paspalum sp.</i>	paspalum	-	-	-	25	-	-	-	-
<i>Paspalum urvillei</i>	Vasey's grass	Non-nat	-	-	1	-	-	-	-
<i>Peltandra virginica</i>	green arrow arum	Nat	2	8	2	5	9	2	4
<i>Persicaria amphibium</i>	water knotweed	Nat	3	-	-	-	-	-	-
<i>Persicaria hydropiperoides</i>	swamp smartweed	Nat	7	-	6	14	-	-	8
<i>Persicaria pennsylvanicum</i>	Pennsylvania smartweed	Nat	1	1	7	4	-	-	-
<i>Persicaria setacea</i>	bog smartweed	Nat	-	-	-	-	-	-	2
<i>Persicaria sp.</i>	knotweed	-	10	-	14	8	16	8	-
<i>Phalaris arundinacea</i>	reed canary grass	Non-nat	-	-	-	1	-	-	-
<i>Phragmites australis</i>	common reed	Non-nat	1	-	5	-	6	-	2
<i>Pinus elliotii</i>	slash pine	Nat	-	-	4	-	-	-	-
<i>Pinus sp.</i>	pine	Nat	-	-	2	-	-	-	-
<i>Planera aquatica</i>	water elm	Nat	-	-	-	-	-	-	8

<i>Platanus occidentalis</i>	American sycamore	Nat	7	3	14	-	-	6	8
<i>Pluchea camphorata</i>	camphorweed	Nat	2	-	-	-	-	-	-
<i>Pontederia cordata</i>	pickerelweed	Nat	-	-	14	-	7	-	2
<i>Pontederia crassipes</i>	waterhyacinth	Non-nat	8	5	7	2	7	6	2
<i>Populus deltoides</i>	eastern cottonwood	Nat	-	-	4	-	-	1	-
<i>Potamogeton crispus</i>	curlyleaf pondweed	Non-Nat	1	-	-	-	-	-	-
<i>Potamogeton diversifolius</i>	waterthread pondweed	Nat	8	-	-	7	14	-	2
<i>Potamogeton foliosus</i>	leafy pondweed	Nat	10	-	-	1	-	1	-
<i>Potamogeton illinoensis</i>	Illinois pondweed	Nat	2	-	-	-	1	-	-
<i>Potamogeton nodosus</i>	American pondweed	Nat	6	9	3	9	2	4	3
<i>Potamogeton pulcher</i>	spotted pondweed	Nat	-	-	-	4	1	-	-
<i>Potamogeton pusillus</i>	small pondweed	Nat	-	-	-	-	2	-	-
<i>Proserpinaca pectinata</i>	combleaf mermaidweed	Nat	-	-	-	-	1	-	-
<i>Ptilimnum capillaceum</i>	eastern bishopweed	Nat	-	-	1	-	-	-	2
<i>Quercus alba</i>	white oak	Nat	-	-	2	-	-	-	-
<i>Quercus bicolor</i>	swamp white oak	Nat	-	-	-	-	-	5	2
<i>Quercus falcata</i>	southern red oak	Nat	-	-	-	-	-	-	5
<i>Quercus laurifolia</i>	laurel oak	Nat	-	-	-	-	-	-	-
<i>Quercus lyrata</i>	overcup oak	Nat	-	-	2	-	-	-	-
<i>Quercus michauxii</i>	swamp chestnut oak	Nat	-	-	-	-	-	-	1
<i>Quercus nigra</i>	water oak	Nat	1	2	6	-	-	9	7
<i>Quercus phellos</i>	willow oak	Nat	-	-	3	-	-	4	7
<i>Quercus rubra</i>	red oak	Nat	-	-	1	-	-	-	-
<i>Quercus stellata</i>	post oak	Nat	-	-	1	-	-	-	1
<i>Quercus virginiana</i>	southern live oak	Nat	-	-	2	-	-	2	2
<i>Rhexia mariana</i>	pale meadowbeauty	Nat	-	-	-	-	-	1	-
<i>Rhychospora sp.</i>	beaksedge	Nat	-	-	-	-	5	1	-
<i>Rhynchospora chalarocephala</i>	loosehead beaksedge	Nat	-	-	-	3	-	-	-
<i>Rhynchospora corniculata</i>	shortbristle horned beaksedge	Nat	5	-	-	4	7	-	1
<i>Rhynchospora glomerata</i>	clustered beaksedge	Nat	-	-	-	-	1	-	-
<i>Riccia fluitans</i>	floating crystalwort	Nat	-	-	-	-	-	1	1
<i>Ricciocarpos natans</i>	liverwort	Nat	-	-	1	3	-	3	1
<i>Rotala sp.</i>	rotala	Nat	-	-	-	-	4	-	-
<i>Rubus sp.</i>	blackberry	Nat	-	-	3	-	-	-	-
<i>Ruppia maritima</i>	widgeon-grass	Nat	-	-	-	-	-	-	2
<i>Sabal minor</i>	dwarf palmetto	Nat	-	-	7	-	6	-	5
<i>Sabatia calycina</i>	coastal rose gentian	Nat	-	-	1	-	1	-	1
<i>Saccharum giganteum</i>	sugarcane plumegrass	Nat	6	-	-	-	-	-	-
<i>Sacciolepis striata</i>	American cupscale	Nat	5	1	2	-	-	-	4

<i>Sagittaria graminea</i>	grassy arrowhead	Nat	3	3	-	-	-	-	-
<i>Sagittaria lancifolia</i>	bulltongue arrowhead	Nat	11	5	6	15	6	-	2
<i>Sagittaria latifolia</i>	broadleaf arrowhead	Nat	9	10	4	4	11	7	3
<i>Sagittaria montevidensis</i>	giant arrowhead	Non-nat	2	-	-	-	-	-	-
<i>Sagittaria papillosa</i>	nipplebract arrowhead	Nat	-	-	-	-	1	-	-
<i>Sagittaria platyphylla</i>	delta arrowhead	Nat	-	-	-	15	10	4	3
<i>Sagittaria subulata</i>	dwarf arrowhead	Nat	-	-	-	-	-	-	1
<i>Salix nigra</i>	black willow	Nat	12	3	28	15	3	10	8
<i>Salvinia minima</i>	common salvinia	Non-nat	3	2	3	-	6	1	3
<i>Salvinia molesta</i>	giant salvinia	Non-nat	-	2	2	-	5	-	1
<i>Samolus parviflorus</i>	water pimpernel	Nat	-	-	-	-	1	-	-
<i>Saururus cernuus</i>	lizard's tail	Nat	17	9	5	20	18	3	8
<i>Schoenoplectus americanus</i>	three-square bulrush	Nat	-	-	3	-	-	1	-
<i>Schoenoplectus tabernaemontani</i>	softstem bulrush	Nat	-	-	6	-	6	1	2
<i>Scirpus atrovirens</i>	black bulrush	Nat	-	-	-	-	-	-	1
<i>Scirpus cyperinus</i>	woolgrass	Nat	9	7	-	7	8	1	2
<i>Scirpus pendulus</i>	rufous bulrush	Nat	-	-	-	-	-	1	-
<i>Senna sp.</i>	senna	-	-	-	1	-	-	-	-
<i>Sesbania herbacea</i>	bigpod sesbania	Nat	1	7	5	-	-	8	2
<i>Sesbania punicia</i>	scarlet sesbania	Non-nat	-	-	2	-	-	-	-
<i>Sesbania vesicaria</i>	bladderpod	Nat	-	-	-	-	-	-	2
<i>Setaria pumila</i>	yellow foxtail	Non-nat	-	-	1	-	-	-	-
<i>Sideroxylon lanuginosum</i>	gum bumelia	Nat	-	-	2	-	-	-	-
<i>Sium suave</i>	waterp parsnip	Nat	-	-	3	-	-	-	-
<i>Smilax sp.</i>	breenbriar	Nat	-	-	3	-	-	-	-
<i>Solidago canadensis</i>	canada goldenrod	Nat	-	-	5	-	-	-	-
<i>Sorghum halepense</i>	Johnson's grass	Non-nat	-	-	1	-	-	-	-
<i>Sparganium americanum</i>	American bur-reed	Nat	7	1	6	1	6	-	3
<i>Spartina alterniflora</i>	smooth cordgrass	Nat	-	-	5	-	-	-	-
<i>Spartina patens</i>	saltmeadow cordgrass	Nat	-	-	2	-	-	-	-
<i>Spartina spartinae</i>	Gulf cordgrass	Nat	-	-	-	-	-	-	1
<i>Spirodela polyrhiza</i>	greater duckweed	Nat	-	-	-	-	1	5	1
<i>Sporobolus cynosuroides</i>	big cordgrass	Nat	-	-	6	-	-	-	2
<i>Sporobolus sp.</i>	dropseed	-	-	-	-	-	5	-	-
<i>Stuckenia pectinata</i>	sago pondweed	Nat	4	-	1	-	1	-	-
<i>Symphyotrichum divaricatum</i>	southern annual saltmarsh aster	Nat	-	-	2	-	-	-	-
<i>Symphyotrichum lanceolatum</i>	lance-leafed aster	Nat	-	-	1	-	-	-	-
<i>Symphyotrichum subg. Astropolium</i>	saltmarsh aster	Nat	-	-	-	-	-	-	3

<i>Symphiotrichum subulatum</i>	eastern annual saltmarsh aster	Nat	-	-	6	-	-	-	-
<i>Tamala palustris</i>	swamp bay	Nat	-	-	2	-	-	-	2
<i>Taxodium ascendens</i>	pond cypress	Nat	-	-	-	-	1	-	-
<i>Taxodium distichum</i>	bald cypress	Nat	19	12	17	12	17	-	13
<i>Tillandsia usneoides</i>	Spanish moss	Nat	1	-	1	-	-	-	-
<i>Toxicodendron radicans</i>	poison ivy	Nat	-	-	1	-	-	-	-
<i>Triadenum walteri</i>	greater marsh St. Johnswort	Nat	2	-	4	-	20	7	6
<i>Triadica sebifera</i>	tallowtree	Non-nat	1	3	11	-	20	2	9
<i>Tripsacum dactyloides</i>	eastern gamagrass	Nat	-	-	-	-	1	-	-
<i>Typha angustifolia</i>	narrowleaf cattail	Nat	-	-	-	-	1	-	-
<i>Typha domingensis</i>	southern cattail	Nat	-	-	-	-	3	-	1
<i>Typha latifolia</i>	broadleaf cattail	Nat	-	8	5	-	16	5	3
<i>Typha sp.</i>	cattail	-	23	-	-	12	2	-	-
<i>Ulmus alata</i>	winged elm	Nat	-	-	2	-	-	-	-
<i>Ulmus americana</i>	American elm	Nat	-	-	1	-	-	-	3
<i>Ulmus sp.</i>	elm	Nat	-	-	14	-	-	5	-
<i>Utricularia biflora</i>	longspur bladderwort	Nat	-	-	-	-	2	-	-
<i>Utricularia gibba</i>	humped bladderwort	Nat	-	-	-	-	7	6	2
<i>Utricularia macrorhiza</i>	common bladderwort	Nat	-	2	8	-	-	1	-
<i>Utricularia radiata</i>	floating bladderwort	Nat	-	-	-	-	1	-	-
<i>Utricularia sp.</i>	bladderwort	-	16	-	4	-	4	-	-
<i>Utricularia vulgaris</i> complex		-	-	-	-	-	-	-	1
<i>Vallisneria × pseudorosulata</i>	hybrid eelgrass	Non-nat	-	-	-	-	-	1	1
<i>Vallisneria americana</i>	American eelgrass	Nat	-	2	6	-	7	1	-
<i>Vallisneria neotropicalis</i>	southern eelgrass	Nat	-	-	-	-	-	-	2
<i>Viburnum scabrellum</i>	southern toothed viburnum	Nat	-	-	-	-	-	-	3
<i>Vitis sp.</i>	grape	-	-	-	3	-	-	4	-
<i>Vitis vulpina</i>	frost grape	Nat	-	-	3	-	-	1	-
<i>Wolffia sp.</i>	watermeal	-	-	-	-	-	1	-	-
<i>Wolffiella gladiata</i>	sword bogmat	Nat	-	-	-	-	-	-	1
<i>Woodwardia areolata</i>	netted chainfern	Nat	-	-	3	-	-	-	-
<i>Xyris difformis</i>	bog yelloweyed grass	Nat	-	-	-	-	4	-	-
<i>Zannichellia palustris</i>	horned pondweed	Nat	-	-	-	-	3	-	-
<i>Zizania aquatica</i>	southern wild rice	Nat	-	-	-	-	6	-	3
<i>Zizaniopsis miliacea</i>	giant cutgrass	Nat	7	8	8	20	20	8	6