INVASIVE PLANT FACTSHEET
Common salvinia (*Salvinia minima* Baker)

Problems: Forms dense mats (~0.3 m thick) of vegetation that extend into open water. Portions of mats and individual plants can break away and float to new sites establishing new colonies which can inhibit growth of native plant species and reduce the water quality of habitat utilized by aquatic fauna. Mats can also inhibit recreational uses and commercial navigation in waterbodies and worsen flood events.

Regulations: No federal or MS regulations prohibiting movement of this plant.

Description: Common salvinia can be confused with giant salvinia; both of which are aquatic ferns from south America. The primary characteristic used to distinguish the two species from each other are the hairs (called trichomes) on the frond (leaf) surfaces. Giant salvinia has 'egg-beater' shaped trichomes (Figure 1) while common salvinia's don't touch in the middle and look more like a 'crow's foot'. Common salvinia produces emergent and submersed fronds (submersed looks like roots) along the stem (Figure 1). Stems intertwine, forming dense floating vegetative mats.

Dispersal: Common salvinia is native to South America but has been found in at least 13 U.S. states (mostly in the southeastern U.S.) and Puerto Rico and is becoming more common in MS (Figure 2; Turnage and Shoemaker 2018, Turnage et al. 2019, 2020). Plant fragments can be spread by aquatic fauna, water currents, wind, and boating equipment.

Control Strategies: Physical-drawdown may control common salvinia by depriving the plant of water and stranding individual plants on land, thereby exposing them to temperature extremes. Mechanical-hand removal of small patches may be effective; mechanical mowers will not provide control and may cause further spread through fragmentation. Biological-the salvinia weevil has been documented to control common salvinia (Parys and Johnson 2013) in areas south of the I-10 corridor where the insects can survive winter temperatures. Chemical-the herbicides diquat and penoxsulam have all been shown to be effective against common salvinia for short periods of time (<5 weeks); however, combinations of these herbicides may have antagonistic effects that decrease control efficacy. Chemical solutions should be mixed with water and a non-ionic surfactant or methylated-seed-oil then sprayed on foliage (Table 1).

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References

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Tables and Figures

Table 1. Chemical control strategies adapted from Madsen and Wersal (2010); the first row for each herbicide is the amount of formulated product needed for commercial applications (100-gal solution), the second row is the amount of product needed for private landowners (25-gal of solution; typical ATV sprayer size); all rates are in imperial units (see Turnage 2019 for instructions on calculating ac-ft; and to gain a greater understanding of how aquatic plant management and aquatic ecosystem processes affect each other); herbicide will move to a constant concentration in the waterbody after application.

HERBICIDE*,†	SPOT RATE	BROADCAST RATE	SURFACTANT	NOTES
Penoxsulam	2.3%	12 oz/ac	0.5% (0.5 gal)	Foliar, slow acting systemic
		3 oz	16 oz	
Diquat	4%	1 qt/ac	0.5% (0.5 gal)	Foliar, fast acting contact
		8 oz	1 pt.	

*****Penoxsulam rates are based on a 2.0 lb./gal formulation, diquat rates are based on a 3.73 lb./gal formulation; see Turnage (2019) regarding herbicide labels and formulation determination.
†This table is meant to be an aid in mixing herbicide solutions; it is not meant to be used as a replacement for herbicide label recommendations.

Figure 1. Image of common salvinia trichomes (left), giant salvinia trichomes (center), and both plants together (right). Image credits: G. Turnage.

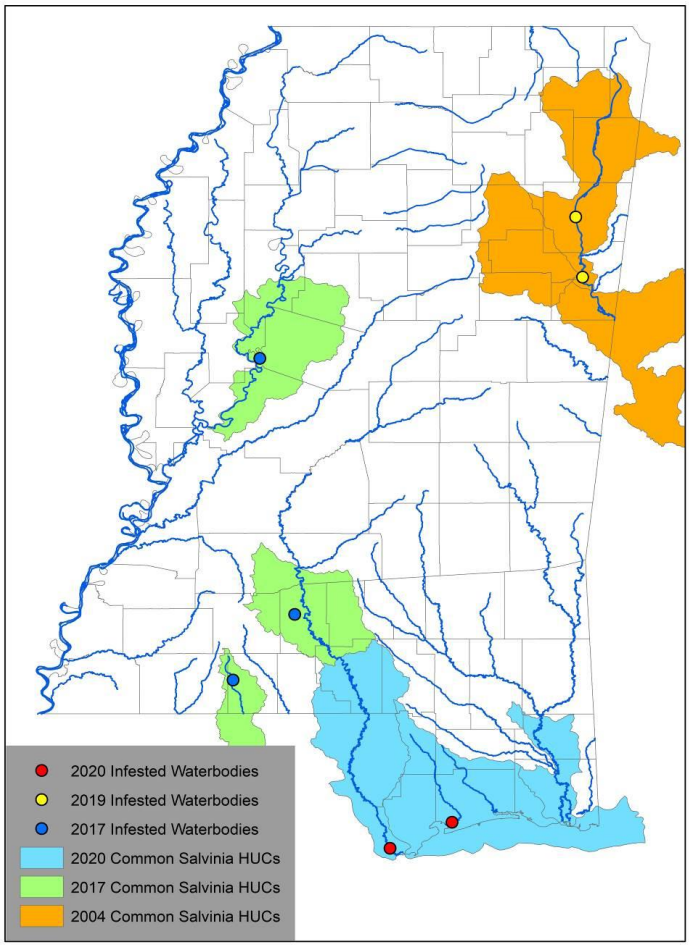

Figure 2. Mississippi Hydrologic Units and waterbodies infested by common salvinia according to surveys by Turnage and Shoemaker (2018) and Turnage et al. (2019, 2020). Hydrologic units are based on HUC 8 codes.

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