INVASIVE PLANT FACTSHEET
Cuban bulrush (*Oxycaryum cubense* (Poepp. & Kunth) Lye)

Problems: Forms dense surface mats of vegetation that inhibit growth of native plant species and reduce the water quality of habitat utilized by aquatic fauna. Mats can also inhibit recreational uses in waterbodies and worsen flood events.

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

Description: Cuban bulrush reproduces via vegetative dispersal and seed production. Cuban bulrush establishes as an epiphytic species on other floating vegetation or objects but after maturity can survive as a free-floating plant. Plants produce submersed and emergent stems with long narrow emergent leaves; plants form dense surface mats that trap sediment and can form large floating islands called tussocks (Figure 1).

Dispersal: Cuban bulrush is native to South America but has been found in at least 7 U.S. states (in the southeastern U.S.) and is becoming more common in MS (Figure 2; Turnage and Shoemaker 2018, Turnage et al. 2019, 2020). Plants are known to reproduce sexually and vegetatively; seed dispersal is thought to be the primary means of long distance dispersal and colonization of new sites.

Control Strategies: Physical-drawdown is not effective as seeds can survive drought and freezing temperatures. Mechanical-harvesters may reduce nuisance growth but likely cause further spread through dispersal of plant fragments. Biological-there are no known biological control agents of Cuban bulrush at this time. Chemical-the herbicides diquat, triclopyr, 2,4-D, and glyphosate have all been shown to be effective against Cuban bulrush; however, repeated applications may be necessary to attain control. Applications made prior to flower formation tend to deliver better control; little work has been done regarding chemical control of Cuban bulrush thus control recommendations are minimal (Table 1).

Acknowledgements: This project was funded by the Mississippi Aquatic Invasive Species Council through the Mississippi Department of Environmental Quality from a grant provided by the U.S. Fish and Wildlife Service.

References

Turnage, G. and C. M. Shoemaker. 2018. 2017 survey of aquatic plant species in Mississippi waterbodies. Geosystems Research Institute, Mississippi State University, Mississippi State, MS. February 2018. GRI Report # 5077. Pp. 69.

Turnage, G. 2019. A Brief Introduction to Factors Affecting Water Quality, Aquatic Weed Control, Herbicide Labels, & Mixing Calculations. Mississippi State University, Geosystems Research Institute Report #5084. Pp. 22.

Turnage, G., A Lazaro-Lobo, S. L. Sanders, and M. Thomas. 2019. 2019 survey of aquatic plant species in Mississippi waterbodies. Geosystems Research Institute, Mississippi State University, Mississippi State, MS. December 2019. GRI Report # 5085. Pp. 35.

Turnage, G., A. Sample, and C. McLeod. 2020. 2020 survey of aquatic plant species in Mississippi waterbodies. Geosystems Research Institute, Mississippi State University, Mississippi State, MS. October 2020. GRI Report #5086. Pp. 71.

Tables and Figures

Table 1. Chemical control strategies for Cuban bulrush; 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*,†	RATE	NOTES
Diquat	137 oz/ac	Add 0.1% v:v non-ionic surfactant to solution to increase foliar uptake.
	34 oz	
Triclopyr	2 gal/ac	Add 0.1% v:v non-ionic surfactant to solution to increase foliar uptake.
	0.5 gal	
2,4-D	1 gal/ac	Add 0.1% v:v non-ionic surfactant to solution to increase foliar uptake
	1 qt	
Glyphosate	3 qt/ac	Add 0.1% v:v non-ionic surfactant to solution to increase foliar uptake
	1.5 pt.	

*****Diquat rates are based on a 3.73 lb./gal formulation, triclopyr rates are based on a 3.0 lb./gal formulation, 2,4-D rates are based on a 3.8 lb./gal formulation, and glyphosate rates are based on a 5.4 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 Cuban bulrush infestation (left), foliage emerging from hyacinth rosette (center), and sediment trapped in root mat (right). Image credits: G. Turnage.

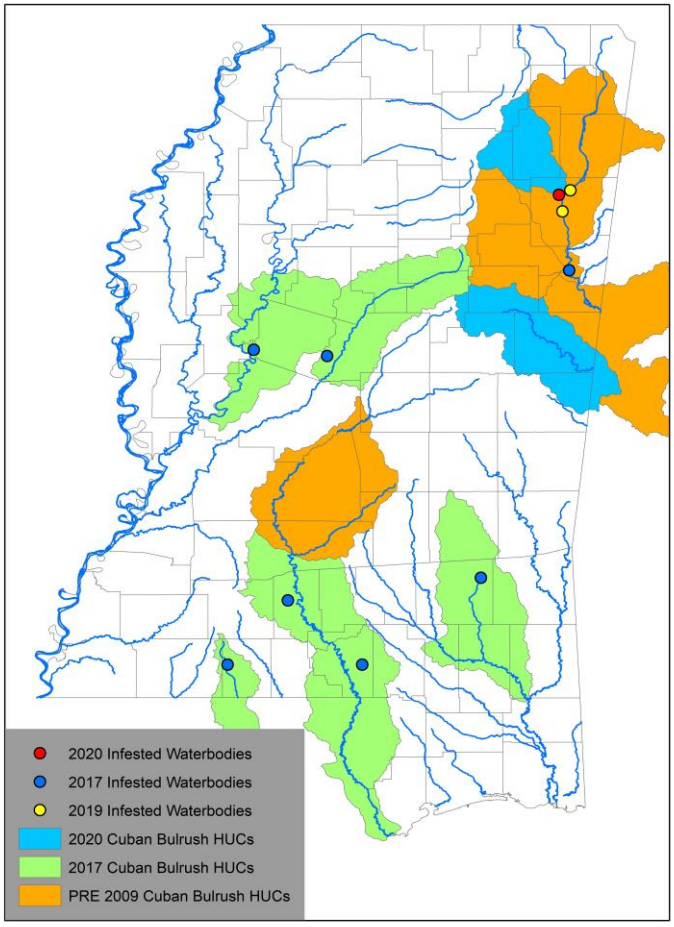

Figure 2. Mississippi Hydrologic Units and waterbodies infested by Cuban bulrush according to surveys by Turnage and Shoemaker (2018) and Turnage et al. (2019, 2020). Hydrologic units are based on HUC 8 codes.

Author Contact Information:

Gray Turnage, M.S.
Research Associate III
Mississippi State University, Geosystems Research Institute
2 Research Blvd., Starkville, MS 39759
662-325-7527, Gturnage@gri.msstate.edu
www.gri.msstate.edu