Torpedo grass (*Panicum repens* L.)

Gray Turnage, M.S., Research Associate III, Mississippi State University

Problems: Forms dense mats of vegetation rooted along shorelines (Figure 1) that inhibit growth of native plant species and reduce the water quality of habitat utilized by aquatic fauna. Plants shoots can extend across the surface of the water body into open water; nodes along stems will root. Roots will trap sediment eventually forming a floating island (called a tussock) which can impede recreational uses of waterbodies, commercial navigation, hydro power generation, clog irrigation pumps, and worsen flood events.

Regulations: Noxious in MS.

Description: Torpedo grass is a rooted, perennial plant found on tussocks or on in shallow water along the margins of waterbodies. Torpedo grass can grow to approximately a meter in height and has distinctive v-shaped leaves that protrude from stems at a sharp angle (Figure 1). Rhizome tips are sharp and capable of growing through the roots of small trees and other vegetation.

Dispersal: Torpedo grass is native to South America but has been found throughout many southeastern states in the U.S. and is very common in MS (Figure 2; Turnage and Shoemaker 2018; Turnage et al. 2019). Torpedo grass primarily spreads through stem and rhizome fragments (Figure 1). Each node is capable of producing roots and should be treated as a propagule.

Control Strategies: Physical-drawdown will not work as torpedo grass can grow in terrestrial and aquatic environments. Mechanical-hand removal of small patches may be effective; mechanical mowers cause further spread through plant fragmentation. Biological-there are known bio-control agents for torpedo grass. Chemical-the herbicides glyphosate and imazapyr are very effective against torpedo grass as foliar applications (Table 1); these can be tank mixed or used individually. Plants must be above the water surface prior to application (foliar application) as neither herbicide is effective under water. Follow up applications will likely be needed to control plants that were submersed during initial application.

Acknowledgments: This project was partially funded through the Mississippi Department of Environmental Quality through 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. February 2018. GRI Report # 5085. Pp. 35.

Byrd, J.D. and V. Maddox. 2009. Torpedo grass (*Panicum repens* L.) IPAMS Factsheet. Pp. 2.

Tables and Figures

Table 1. Chemical control strategies (submersed application rates) adapted from Byrd and Maddox (2009); the first row for each herbicide is the amount of 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
Glyphosate	2.0%	2 gal/ac	0.5% (0.5 gal)	Will not work underwater
		0.5 gal	1 pt	
Imazapyr	1.0%	0.5 gal/ac	0.5% (0.5 gal)	Do not apply to irrigation sources
		1 pt	1 pt	

*****Glyphosate rates are based on a 5.4 lb/gal formulation and imazapyr rates are based on a 2.0 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 torpedo grass along a waterbody margin (left), sterile seed heads (center), and rhizome segment (right). Images courtesy of J. Byrd and V. Maddox (2009).

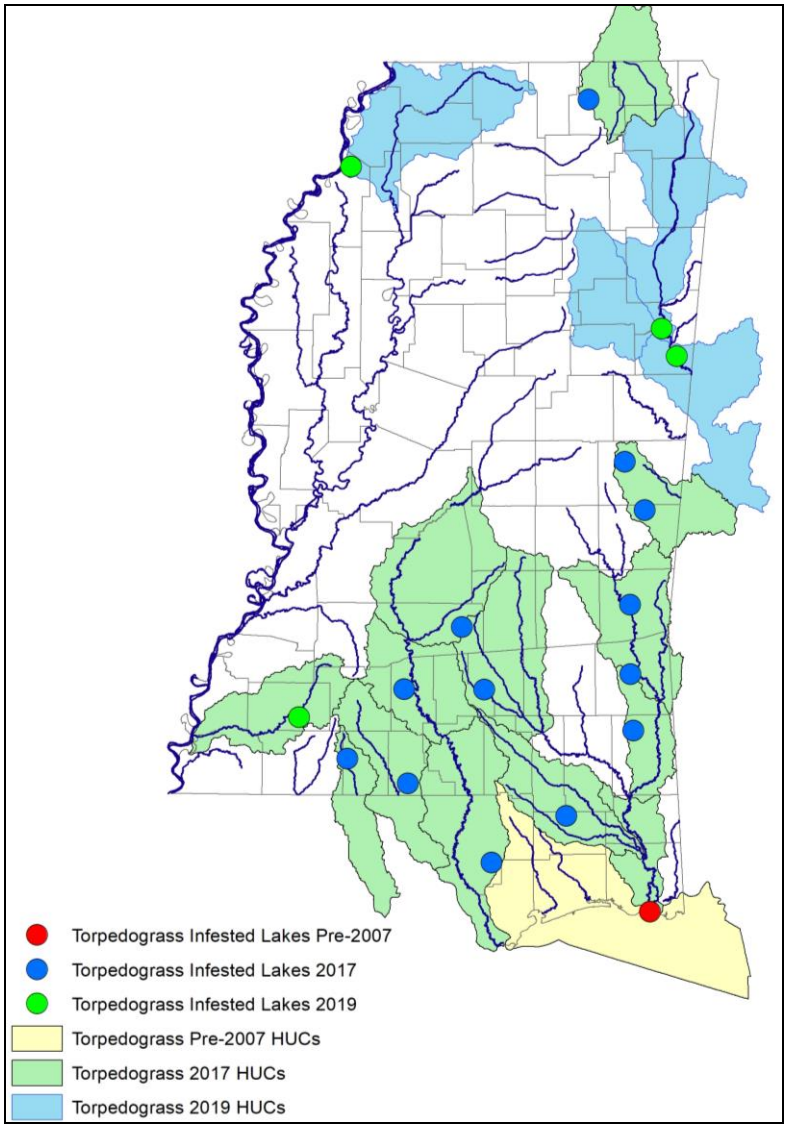

Figure 2. Mississippi Hydrologic Units and waterbodies infested by torpedo grass according to surveys by Turnage and Shoemaker (2018) and Turnage et al. (2019). Hydrologic units are based on HUC 8 codes.

Author Contact Information:

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