

Lee Gray Turnage Jr.
2 Research Blvd.
Starkville, MS 39759
(662) 325-7527
gturnage@gri.msstate.edu

EDUCATION

B.S., Biological Sciences, Mississippi State University, Dec 2008
M.S., Biological Sciences, Mississippi State University, Aug 2013

PEER REVIEWED JOURNAL ARTICLES

2017

Turnage, G., J. D. Madsen, and R. M. Wersal. *Accepted*. Phenology of curly leaf pondweed (*Potamogeton crispus*) in the Southeastern US: a two year mesocosm study. *Journal of Aquatic Plant Management*.

Turnage, G. and J. D. Madsen. 2017. Curlyleaf Pondweed (*Potamogeton crispus*) Control Using Copper-ethylenediamine Alone and in Combination with Endothall. *Journal of Aquatic Plant Management* 55: 116 – 119.

Turnage, G., R. M. Wersal, and J. D. Madsen. 2017. Evaluating the Efficacy of Granular Copper and Triclopyr Alone and in Combination for Control of Flowering Rush. *Journal of Aquatic Plant Management* 55: 120 – 122.

Samiappan, S., **G. Turnage**, L. Hathcock, L. Casagrande, P. Stinson, and R. J. Moorhead, II. 2017. Using Unmanned Aerial Vehicles for High-Resolution Remote Sensing to Map Invasive *Phragmites australis* in Coastal Wetlands. 38(8-10): 2199-2217.

Samiappan, S., **G. Turnage**, L. A. Hathcock, and R. J. Moorhead, II. 2017. Mapping of Invasive Phragmites (Common Reed) in Gulf of Mexico Coastal Wetlands Using Multispectral Imagery and Small Unmanned Aerial Systems. *International Journal of Remote Sensing*. 38(8-10): 2861-2882.

2016

Madsen, J. D., B. Sartain, **G. Turnage**, and M. Marko. 2016. Management of Flowering Rush in the Detroit Lakes, Minnesota. *Journal of Aquatic Plant Management* 54: 61-67.

Madsen, J. D., **G. Turnage**, and K. D. Getsinger. 2016. Efficacy of Combinations of Diquat or Triclopyr with Fluridone for Control of Flowering Rush. *Journal of Aquatic Plant Management* 54: 68-71.

2015

Turnage, G., J. D. Madsen, and R. M. Wersal. 2015. Comparative efficacy of chelated copper formulations and diquat on hydrilla (*Hydrilla verticillata* (L.f.) Royle) and sensitivity of American lotus (*Nelumbo lutea* Willd.). *Journal of Aquatic Plant Management* 53: 138-140.

PEER REVIEW CONFERENCE PRESENTATIONS

2017

Casagrande, L., G. M. Machado, S. Samiappan, **G. Turnage**, L. Hathcock, and R. J. Moorhead. *Accepted*. Probabilistic Neural Network and Wavelet Transform for Mapping of *Phragmites australis* using Low Altitude Remote Sensing. Presented at the SibGrapi annual conference, Niteroi, Brazil, October 17- 20, 2017.

Samiappan, S., **G. Turnage**, L. Hathcock, and R. J. Moorhead. *Accepted*. Wildfire Mapping and Damage Analysis in Grand Bay National Estuarine Research Reserve, Mississippi Using a Small Unmanned Aerial System with a

Multispectral Payload. Presented at the Wildlife Society annual conference, Albuquerque, NM, September 23 – 27, 2017.

2016

Turnage, G., S. Samiappan, L. Hathcock, and R. J. Moorhead. 2016. Mapping of *Phragmites australis* Using 5-band Imagery Collected From an Unmanned Aerial System. Presented at the Wildlife Society annual conference, Raleigh, NC, October 15 – 19, 2016.

S. Samiappan, **G. Turnage**, and R. J. Moorhead. 2016. Identifying and Mapping Chinese Tallow Using Unmanned Aerial Systems and Multispectral Imagery. Presented at the Wildlife Society annual conference, Raleigh, NC, October 15 – 19, 2016.

TECHNICAL REPORTS

2017

Getsinger, K. D., J. D. Madsen, **G. Turnage**, and J. Badger. 2017. Invasive Aquatic Plant Control for Noxon Rapids and Cabinet Gorge Reservoirs, Montana: An Adaptive Management Plan. GRI Report #5074. Mississippi State University: Geosystems Research Institute. 57.

https://www.gri.msstate.edu/publications/docs/2017/04/15199APM_Plan_Noxon_and_Cabinet_Gorge_MT_-_FINAL.pdf

Turnage, G., B. Alcott, and T. Guetter. 2017. Adaptive Management of Flowering Rush Using the Contact Herbicide Diquat in Detroit Lakes, Minnesota 2016 – Interim Report. GRI Report # 5073. Mississippi State University: Geosystems Research Institute. 55.

https://www.gri.msstate.edu/publications/docs/2017/03/15203Detroit_Lakes_2016_Interim_Report_FINAL.pdf

2016

Turnage, G., B. Alcott, and T. Guetter. 2016. The effects of diquat on mixed stands of flowering rush and hardstem bulrush in Lake Sallie, Minnesota 2016 – Interim report. GRI Report #5070. Mississippi State University: Geosystems Research Institute. 14.

https://www.gri.msstate.edu/publications/docs/2016/12/15035Hardstem_Bulrush_2016_Interim_Report_-_FINAL.pdf

Bassie, A., **G. Turnage**, S. Meachum, L. Hathcock, and R. J. Moorhead. 2016. A Comparison of Linear Scaling Techniques for Analysis of Three-Dimensional Point Clouds. GRI Report # 5555. Mississippi State University: Geosystems Research Institute. 9.

https://www.gri.msstate.edu/publications/docs/2016/11/14571A_Comparison_of_Linear_Measurement_Tools_in_Imagery_Captured_by_Unmanned_Aerial_Vehicles.pdf

Samiappan, S., **G. Turnage**, L. Hathcock, and R. J. Moorhead. 2016. Mapping of Invasive Phragmites in the Pearl River Coastal Wetlands and the Results of It's Eradication Efforts. GRI Report # 5072. Mississippi State University: Geosystems Research Institute. 12.

https://www.gri.msstate.edu/publications/docs/2016/05/15056Phragmites_Treatment_-_White_Paper_-_Short_Final.pdf

Bassie, A., S. Meachum, D. Yound, **G. Turnage**, and R. J. Moorhead. 2016. 3D Reconstruction Optimization Using Imagery Captured by Un-manned Aerial Vehicles. GRI Report #5068. Mississippi State University: Geosystems Research Institute. 9.

https://www.gri.msstate.edu/publications/docs/2016/03/143183DReconstructionUpdated_rjm.pdf

Turnage, G., B. Alcott, and T. Guetter. 2016. Management of Flowering Rush Using the Contact Herbicide Diquat

in Detroit Lakes, Minnesota 2015. GRI Report #5067. Mississippi State University: Geosystems Research Institute. 49. https://www.gri.msstate.edu/publications/docs/2016/04/15039Detroit_Lakes_2015_Report_4-21-2016.pdf

Turnage, G., B. Alcott, and T. Guetter. 2016. The Effects of the Contact Herbicide Diquat on Mixed Stands of Flowering Rush and Hardstem Bulrush in Lake Sallie, Minnesota 2015. GRI Report #5066. Mississippi State University: Geosystems Research Institute. 13. https://www.gri.msstate.edu/publications/docs/2016/04/15041Hardstem_Bulrush_Pilot_Study_FINAL.pdf

2015

Turnage, G. and J. D. Madsen. 2015. Management of Flowering Rush Using the Contact Herbicide Diquat in Detroit Lakes, Minnesota 2014. GRI Report #5065. Mississippi State University: Geosystems Research Institute. 48. https://www.gri.msstate.edu/publications/docs/2015/04/13471Detroit_Lakes_2014_Report_FINAL.pdf

Turnage, G. and J. D. Madsen. 2015. Aquatic Plant Community Assessment of the Ross Barnett Reservoir, MS in 2014. GRI Report #5064. Mississippi State University: Geosystems Research Institute. 28. https://www.gri.msstate.edu/publications/docs/2015/01/133042014_Ross_Barnett_Littoral_Survey_FINAL_REPORT.pdf

2014

Sartain, B. T., **G. Turnage**, and J. D. Madsen. 2014. Aquatic Plant Community and Invasive Plant Management Assessment of the Ross Barnett Reservoir, MS in 2013. GRI Report #5062. Mississippi State University, Mississippi State, MS: Geosystems Research Institute. 34. https://www.gri.msstate.edu/publications/docs/2014/02/12391GRI_Report_5062_2014.pdf

Turnage, G. and J. D. Madsen. 2014. Littoral Survey of Noxon and Cabinet Gorge Reservoirs, Montana, 2013. GRI Report #5061. Mississippi State University: Geosystems Research Institute. 82. https://www.gri.msstate.edu/publications/docs/2014/01/12356GRI_Report_5061_2014.pdf

Madsen, J.D., **G. Turnage**, and B. T. Sartain. 2014. Management of Flowering Rush Using the Contact Herbicide Diquat in Detroit Lakes, Minnesota 2013. Geosystems Research Institute Report #5063, Geosystems Research Institute, Mississippi State University, Mississippi State, MS. 48. https://www.gri.msstate.edu/publications/docs/2014/05/12464GRI_5063_2014-FINAL.pdf

2013

Turnage, G., C. Duncan, and J. D. Madsen. 2013. Aquatic Invasive Plant Survey for Eurasian watermilfoil and Curlyleaf pondweed in the Bighorn Reservoir. GRI Report #5060. Mississippi State University: Geosystems Research Institute. 20. https://www.gri.msstate.edu/publications/docs/2013/04/11276GRI_Report_5060_2013.pdf

Madsen, J. D., B. Sartain, **G. Turnage**, and M. Marko. 2013. Herbicide trials for management of Flowering rush in Detroit Lakes, Minnesota for 2012. GRI Report #5059. Mississippi State University: Geosystems Research Institute. 59. https://www.gri.msstate.edu/publications/docs/2013/04/11274GRI_Report_5059_2013.pdf

Turnage, G., C. Duncan, and J. D. Madsen. 2013. Survey for *Myriophyllum spicatum* and *Potamogeton crispus* in Yellowtail Reservoir, WY. GRI Report #5058. Mississippi State University: Geosystems Research Institute. 17. https://www.gri.msstate.edu/publications/docs/2013/01/11106GRI_Report_5058_2012.pdf

Turnage, L. G., C. Duncan, and J. D. Madsen. 2013. Aquatic Invasive Plant Survey of Selected Montana Waters for 2012: Addendum – Yellowstone River. GRI Report #5055A. Mississippi State University: Geosystems

Research Institute. 3.

https://www.gri.msstate.edu/publications/docs/2013/01/11105GRI_5055A_Yellowstone_River.pdf

2012

Turnage, L. G., C. Duncan, and J. D. Madsen. 2012. Aquatic Invasive Plant Survey of Selected Montana Waters for 2012. GRI Report #5055. Mississippi State University: Geosystems Research Institute. 82.

https://www.gri.msstate.edu/publications/docs/2012/12/10646GRI_Report_5055_2012_web.pdf

Madsen, J. D., Wersal, R. M., Fernandez-Watson, A., and **G. Turnage**. 2012. Lake Havasu Aquatic Plant Monitoring 2011 Interim Report. GRI Report #4008. Mississippi State University: Geosystems Research Institute. 54. https://www.gri.msstate.edu/publications/docs/2012/04/10160GRI_4008_2012_small.pdf

Turnage, G., Fernandez-Watson, A., Sartain, B., & J. D. Madsen. 2012. 2011 Mississippi Survey for Hydrilla and Giant Salvinia. GRI Report #5052. Mississippi State University: Geosystems Research Institute. 7.

https://www.gri.msstate.edu/publications/docs/2012/02/10007GRI_Report_5052.pdf

MASTERS THESIS

Turnage Jr., L. G. 2013. Changes in host use by unionid mussels following river channelization and impoundment. M.S. Thesis, 39 pages. Mississippi State University, Mississippi State, Mississippi.

<http://sun.library.msstate.edu/ETD-db/theses/available/etd-04182013-170826/unrestricted/Final.pdf>

GRANTS FUNDED

2017

Florida Fish and Wildlife Conservation Commission - \$34,843

US Army Corps of Engineers/Aquatic Ecosystem Restoration Foundation - \$2,000

MS Dept. of Environmental Quality/US Fish and Wildlife Service - \$44,832

Aquatic Ecosystem Restoration Foundation - \$21,000

Aquatic Ecosystem Restoration Foundation - \$10,000

2016

Aquatic Ecosystem Restoration Foundation - \$10,000

Pelican River Watershed District - \$27,500

2015

Aquatic Ecosystem Restoration Foundation – \$12,500

Aquatic Ecosystem Restoration Foundation – \$12,500

Pelican River Watershed District – \$25,000

2014

Pearl River Water Supply District – \$10,412

Pelican River Watershed District – \$41,844

Mississippi State University: *Miscanthus* Research – \$15,819

Aquatic Ecosystem Restoration Foundation – \$15,000

General Memorandum of Agreement: Aquatic Plant Research – \$12,000 (proprietary)

2013 (as part of Madsen Lab)

Pearl River Water Supply District – \$47,000

Pelican River Watershed District – \$50,000

Mississippi State University: *Miscanthus* Research (SRI) – \$20,400

Aquatic Ecosystem Restoration Foundation – \$30,000

Sanders County Montana Board of Commissioners – \$15,000
General Memorandum of Agreement: Aquatic Plant Research – \$30,000 (proprietary)

POPULAR ARTICLES/NEWSPAPER COLUMNS

2017

Ablaza, Kendra. 2017. When invasive plants attack, a new tech tool can nip it in the bud. June 12, 2017. <https://mississippitoday.org/2017/06/12/when-invasive-plants-attack-a-new-tech-tool-can-nip-it-in-the-bud/> - **G. Turnage** interviewed for this news story.

Sneath, Sara. 2017. MSU coastal researchers get to throw out their muddy boots in favor of drone. May 25, 2017. http://www.nola.com/environment/index.ssf/2017/05/msu_researchers_use_drone_to_m.html. – **G. Turnage** interviewed for this news story.

Godwin, Diane. 2017. While mapping Gulf coastlines, MSU team spots insidious invader. May 11, 2017. <http://www.msstate.edu/newsroom/article/2017/05/while-mapping-gulf-coastlines-msu-team-spots-insidious-invader/>. – **G. Turnage** interviewed for this news story.

Pounds, Shun. 2017. Mississippi State University High Performance Computing Collaboratory, Customizing UAS payloads and technology to identify invasive plant species in the Gulf Coast. March 16, 2017. <http://www.hpc.msstate.edu/news/story.php?d=655>. – **G. Turnage** interviewed for this news story.

2016

Yerby, J., W. Wagner, A. Perret, **G. Turnage**, and R. M. Wersal. 2016. APMS Selected Regional Chapter Updates: Mississippi Update. Aquatics Magazine. Fall/Winter 2016.

Gunderson, Dan. 2016. Minnesota Public Radio, Science brings success in fight against Minnesota aquatic invaders. October 3, 2016. <http://www.mprnews.org/story/2016/10/03/science-aids-fight-minnesota-aquatic-invasive-species>. – **G. Turnage** interviewed via phone as a background source for this news story on July 28, 2016.

PRESENTATIONS

INVITED

2016

Turnage, G. and C. Layne. 2016. Waters of the United States. Presented at the 2016 Mississippi Vegetative Management Association annual conference, Mississippi State, MS, November 16 – 17, 2016.

Turnage, G. 2016. Aquatic Weed Control. Presented at the 2016 National Roadside Vegetation Management Association annual conference, Nashville, TN, August 30 – September 1, 2016.

2015

Turnage, G. 2015. Major Aquatic Weed Problems in the MidSouth: Identification and Specific Recommendations for Management. Presented at the 2015 Mississippi Vegetative Management Association annual conference, Starkville, MS, November 4 – 5, 2015.

2012

Turnage, G. and J.D. Madsen. 2012. Major Aquatic Weed Problems in the MidSouth: Identification and Specific Recommendations for Management. Presented at the 2012 Mississippi Vegetative Management Association annual conference, Jackson, MS, 7-8 November, 2012.

CONTRIBUTED

2017

Turnage, G., R. M. Wersal, and J. D. Madsen. 2017. Granular Copper and Triclopyr for Control of Flowering Rush. Presented at the Aquatic Plant Management Society annual conference, Daytona Beach, FL, July 16 – 20, 2017.

Bassie, A., S. Meachum, D. Young, **G. Turnage**, and R. J. Moorhead. 2017. 3-D Reconstruction Optimization Using Imagery Captured by Unmanned Aerial Vehicles. Presented at the Autonomous Air and Ground Sensing Systems for Agricultural Optimization and Phenotyping 2 conference, Anaheim, CA, April 9 – 13, 2017.

<http://proceedings.spiedigitallibrary.org/proceeding.aspx?articleid=2628406>.

Turnage, G. 2017. Detection of aquatic invasive species using unmanned aerial systems. Presented at the Alabama Fisheries Association annual conference, Tuscaloosa, AL, March 1 – 2, 2017.

2016

Landry, M., D. Rogers, C. Linder, R. Moorhead, **G. Turnage**, L. Hathcock, L. Wasson, D. Young, and S. Meacham. 2016. Improving Created Wetland Function with Data from Unmanned Aerial Vehicles. *Our Coasts, Our Future, Our Choice*, Restore America's Estuaries 8th National Summit on Coastal and Estuarine Restoration and 25th Biennial Meeting of The Coastal Society, New Orleans, LA, December 10-15, 2016.

Turnage, G., S. Samiappan, L. Hathcock, and R. J. Moorhead. 2016. Mapping of *Phragmites australis* Using 5-band Imagery Collected From an Unmanned Aerial System. Presented at the Midsouth Aquatic Plant Management Society annual conference, Baton Rouge, LA, September 12 – 14, 2016.

S. Samiappan, **G. Turnage**, and R. J. Moorhead. 2016. Identifying and Mapping Chinese Tallow Using Unmanned Aerial Systems and Multispectral Imagery. Presented at the Midsouth Aquatic Plant Management Society annual conference, Baton Rouge, LA, September 12 – 14, 2016.

Zarzar, C.M., J. Dyer, P. Dash, R. Moorhead, and **G. Turnage**. 2016. Understanding Coastal Changes Using High Resolution Imagery from Unmanned Aerial Systems. Presented at the 2016 State of the Coast Conference, New Orleans, LA, May 2016.

Zarzar, C.M., J. Dyer, P. Dash, R. Moorhead, and **G. Turnage**. 2016. Defining Surface Land Cover Features Using High Resolution Unmanned Aerial System Imagery. Presented at the 14th Annual Southeast Severe Storms Symposium, Starkville, MS, April 2016.

Wersal, R. M., **G. Turnage**, P. Westcott, & H. Knight. 2015. Use of Copper EDA for Aquatic Plant Management in Reservoirs in the Southern United States. Presented at the 2016 Western Aquatic Plant Management Society annual conference, San Diego, CA, March 21-23, 2016.

Zarzar, C. M., P. Dash, J. L. Dyer, **G. Turnage**, and R. Moorhead. 2016. Defining Surface Land Cover Features Using High Resolution Imagery from Unmanned Aerial Systems. Presented at the 2016 Gulf of Mexico Oil Spill & Ecosystem Science conference, Tampa, Florida, February 1 – 4, 2016.

Samiappan, S., **G. Turnage**, L. Hathcock, and R. Moorhead. 2016. Mapping of *Phragmites australis* in Gulf of Mexico Wetlands Using Small UAS. Presented at the 2016 Gulf of Mexico Oil Spill & Ecosystem Science conference, Tampa, Florida, February 1 – 4, 2016.

Zarzar, C.M., P. Dash, J. Dyer, **G. Turnage**, and R. Moorhead, 2016: Defining Surface Land Cover Features Using High Resolution Imagery from Unmanned Aerial Systems. Presented at the 30th Conference on Hydrology, New Orleans, LA, January 2016, American Meteorological Society.

2015

Wersal, R. M., **G. Turnage**, P. Westcott, & H. Knight. 2015. Use of Copper EDA for Aquatic Plant Management in Reservoirs in the Southern United States. Presented at the 2015 Texas Aquatic Plant Management Society annual conference, Boerne, TX, October 12 – 14, 2015.

Zarzar, C., P. Dash, J. Dyer, **G. Turnage**, and R. Moorhead. 2015. Applications of Unmanned Aerial Systems (UAS) in Aquatic Plant Identification. Presented at the 2015 MidSouth Aquatic Plant Management Society annual conference, Mobile, AL, September 14 – 16, 2015.

Stinson, P., L. Casagrande, **G. Turnage**, S. Samiappan, L. Hathcock, and R. Moorhead. 2015. Mapping of Common Reed (*Phragmites australis*) Using Unmanned Aerial Vehicles, Gray Level Co-Occurrence Matrix Texture Feature Extraction, and eCognition. Presented at the 2015 MidSouth Aquatic Plant Management Society annual conference, Mobile, AL, September 14 – 16, 2015.

Turnage, G., R. M. Wersal, and H. Knight. 2015. Effects of Copper Ethylenediamine on Hydrilla in Pickwick Lake, AL. Presented at the 2015 MidSouth Aquatic Plant Management Society annual conference, Mobile, AL, September 14 – 16, 2015.

Zarzar, C. M., P. Dash, J. Dyer, L. Hathcock, R. Moorhead, **G. Turnage**, & J. V. Horn. 2015. Development of Spectral-based Classification Schemes Using Unmanned Aerial System Imagery. River Forecasting Center Post Mission Review NOAA webinar conducted from Mississippi State University, August 19, 2015.

Turnage, G., R. M. Wersal, and H. Knight. 2015. Effects of Copper Ethylenediamine on Hydrilla in Pickwick Lake, AL. Presented at the 2015 Aquatic Plant Management Society annual conference, Myrtle Beach, SC, July 12 – 16, 2015.

Turnage, G., N. Barksdale, J. D. Byrd, and J. D. Madsen. 2015. Growth and Control of *Miscanthus* spp. in Wetland Environments. Presented at the 2015 Aquatic Plant Management Society annual conference, Myrtle Beach, SC, July 12 – 16, 2015.

Ervin, G. N., C. Carter, J. D. Madsen, and **G. Turnage**. 2015. Assessing Vegetative Propagation as it Impacts Potential Spread in Flowering Rush (*Butomus umbellatus*). Presented at the 2015 Society of Wetland Scientists annual conference, Providence, RI, May 31 – June 4, 2015.

Madsen, J. D., K. D. Getsinger, and **G. Turnage**. 2015. Developing Long Term Control Techniques for Flowering Rush: Mesocosm Trials and Field Implementation. Presented at the 2015 Weed Science Society of America annual conference, Lexington, KY, February 9 – 12, 2015.

2014

Turnage, G., J. D. Madsen, and R. M. Wersal. 2014. Phenology of *Potamogeton crispus* in the Southeastern U. S. Presented at the 2014 Aquatic Plant Management Society annual conference, Savannah, GA, July 13 – 16, 2014.

Madsen, J. D., K. D. Getsinger, and **G. Turnage**. 2014. Managing Eurasian Watermilfoil in the Lower Clark Fork River System, Montana. Presented at the 2014 Aquatic Plant Management Society annual conference, Savannah, GA, July 13 – 16, 2014.

Wersal, R. M., J. D. Madsen, and **G. Turnage**. 2014. Evaluating the Sensitivity of Hydrilla and America Lotus to Different Copper Formulations Applied Alone and in Combination with Diquat. Presented at the 2014 Western Aquatic Plant Management Society annual conference, Reno, NV, March 30 – April 2, 2014.

Madsen, J. D., B. T. Sartain, and **G. Turnage**. 2014. Herbicide Trials for Management of Flowering Rush in

Minnesota. Weed Science Society of America 54th Annual Meeting. Vancouver, BC, Canada, February 3 – 6, 2014.

Wersal, R. M., J. D. Madsen, and **G. Turnage**. 2014. Evaluating the Sensitivity of Hydrilla and American Lotus to Different Copper Formulations Applied Alone and in Combination with Diquat. Presented at the 2014 Northeast Aquatic Plant Management Society annual conference, Westbrook, CT, January 21 – 23, 2014.

2013

Carter, C. J. D. Madsen, **G. Turnage**, and G. N. Ervin. 2013. Experimental assessment of *Butomus umbellatus* growth along a depth gradient. Presented at the 2013 Society of Wetland Scientists South Central Chapter annual conference, Starkville, MS, October 18-19, 2013.

Turnage, G. and J. D. Madsen. 2013. Phenology of Curlyleaf Pondweed (*Potamogeton crispus*) in the Southeastern US: a Mesocosm Study. Presented at the 2013 MidSouth Aquatic Plant Management Society annual conference, Tunica, MS, September 16-19, 2013.

Wersal, R. M., J. D. Madsen, and **G. Turnage**. 2013. Evaluating the Sensitivity of Hydrilla and America Lotus to Different Copper Formulations Applied Alone and in Combination with Diquat. Presented at the 2013 MidSouth Aquatic Plant Management Society annual conference, Tunica, MS, September 16-19, 2013.

2012

Turnage, G., A. Fernandez, B. Sartain, and J. D. Madsen. 2012. Surveys for Hydrilla and Giant Salvinia in Mississippi. Presented at the 31st annual conference of the MidSouth Aquatic Plant Management Society, Mobile, Alabama, September 17-19, 2012.

2011

Turnage, G. 2011. Changes in Mussel Reproduction in the Tennessee Tombigbee Waterway. Department of Biological Sciences, Mississippi State University, Nov 18, 2011.

2010

Roberts, M.E., D.S. Millican, M.T. Calloway, **G. Turnage**, K. Strongin, R. Altig, C.P. Brooks, W.T. Slack, and C.M. Taylor. 2010. Tombigbee River Fishes Before and After the Tennessee-Tombigbee Waterway. Paper presented at the Annual Meeting of the Southeastern Fishes Council, Athens, Georgia, November 11-13, 2010.

Turnage Jr., L.G., R. Altig, M.E. Roberts, and C.P. Brooks. 2010. The Role of Impoundment in the Patterns of Fish Infestation by Larval Unionid (Superfamily:Unionidea) Mussels in Northeastern Mississippi. Presented at the 7th annual Southeastern Ecology and Evolution Conference, Georgia Institute of Technology, Atlanta, Georgia, March 26-28, 2010.

INVITED CLASS LECTURES

2015

Turnage, G. October 2015. Classification, Use, and Control of Algae. Lecture conducted from French Camp Academy, French Camp, MS.

Turnage, G. May 2015. Detection and Control of Invasive Species. Lecture conducted from French Camp Academy, French Camp, MS.

2013

Turnage, G. November 2013. Classification, Use, and Control of Algae. Lecture conducted from French Camp Academy, French Camp, MS.

Turnage, G. and J. D. Madsen. March 2013. Overview of Invasion Ecology. Lecture conducted from Mississippi State University, Mississippi State, MS.

WORKSHOPS

2013

Madsen, J. D. and **G. Turnage**. 2013. Identification of Common Aquatic Plants and Weed Problems in the MidSouth. Aquatic Plant Management Workshop at the 2013 MidSouth Aquatic Plant Management Society annual conference, Tunica, MS, September 17, 2013.

POSTERS

2016

Turnage, G., B. Alcott, and T. Guetter. 2016. The Effects of the Contact Herbicide Diquat on Mixed Stands of Flowering Rush and Hardstem Bulrush in Lake Sallie, Minnesota 2015. Presented at the annual meeting of the Aquatic Plant Management Society in Grand Rapids, MI, July 17 – 20, 2016.

2013

Turnage, G. and J. D. Madsen. 2013. Phenology of Curlyleaf Pondweed (*Potamogeton crispus*) in the Southeastern U. S. Poster presented at the annual meeting of the Aquatic Plant Management Society in San Antonio, Texas, July 14-17, 2013.

Madsen, J. D., **G. Turnage**, and R. M. Wersal. 2013. Increasing the selectivity of contact herbicides on Hydrilla: sensitivity tests with American Lotus. Poster presented at the annual meeting of the Aquatic Plant Management Society in San Antonio, Texas, July 14-17, 2013.

2011

Roberts, M.E., D.S. Millican, M.T. Calloway, **G. Turnage**, K. Strongin, R. Altig, C.P. Brooks, W.T. Slack, C.M. Taylor. 2011. Tombigbee River Fishes Before and After the Tennessee-Tombigbee Waterway. Poster presented at the annual meeting of the Mississippi Chapter of the American Fisheries Society in Starkville, Mississippi, February 16-18, 2011.

2009

Turnage, G., M.E. Roberts, G. Ervin, R. Altig, C.P. Brooks, W.H. McAnally, and J.N. Diaz-Ramirez. 2009. Estimating Mussel Reproduction Using Historical Fish Collections in the Upper Mobile Basin Watershed. Poster presented at the 2009 Northern Gulf Institute annual conference, Mobile, Alabama, May 19-21, 2009.

FACT SHEETS

2013

Turnage, G., W. Robles, and J. D. Madsen. 2013. Brittle naiad (*Najas minor*). Mississippi State University: Geosystems Research Institute.

Turnage, G., J. Chesier, and J. D. Madsen. 2013. Common reed (*Phragmites australis*). Mississippi State University: Geosystems Research Institute.

Turnage, G. and J. D. Madsen. 2013. Common salvinia (*Salvinia minima*). Mississippi State University: Geosystems Research Institute.

Turnage, G. and J. D. Madsen. 2013. Fingernail clam (*Corbicula fluminea*). Mississippi State University: Geosystems Research Institute.

Turnage, G., C. McLaurin, and J. D. Madsen. 2013. West Indian Spongeplant (*Limnobium laevigatum*). Mississippi State University: Geosystems Research Institute.

2012

Turnage, G. and J. D. Madsen. 2012. American Pondweed (*Potamogeton nodosus*). Mississippi State University: Geosystems Research Institute.

Turnage, G. and J. D. Madsen. 2012. Fanwort (*Cabomba caroliniana*). Mississippi State University: Geosystems Research Institute.

PROPRIETARY WORK

MS Department of Environmental Quality – 2017 (1)

United Phosphorous, Inc – 2011 (1), 2012 (3), 2013 (1), 2015 (1), 2016 (1), 2017 (1)

SePRO – 2011 (1), 2012 (2)

Applied Biochemist (Lonza) – 2012 (3), 2013 (3), 2014 (1), 2017 (1)

U. S. Army Corps of Engineers – 2013 (1)

Mississippi State University – 2013 (1), 2014 (1), 2016 (4), 2017 (2)

REVIEWER

Journal of Aquatic Plant Management

2017 – 2 articles

2015 – 2 articles

CONFERENCES ATTENDED

2017 Alabama Fisheries Association Annual Meeting

2016 Mississippi Vegetative Management Association Annual Meeting

2016 National Roadside Vegetation Management Association Annual Meeting

2015 Mississippi Vegetative Management Association Annual Meeting

2015 South Carolina Aquatic Plant Management Society Annual Meeting

National Aquatic Plant Management Association Annual Meeting: 2013 - present

2013 Texas Aquatic Plant Management Association Annual Meeting

2012 Mississippi Vegetative Management Association Annual Meeting

MidSouth Aquatic Plant Management Association Annual Meeting: 2011 - present

2010 Southeastern Ecology and Evolution Annual Meeting

2010 Southeast Regional Center of Excellence for Emerging Infections and Biodefense Annual Meeting

2009 Northern Gulf Institute Annual Meeting

RESEARCH ASSOCIATE – GEOSYSTEMS RESEARCH INSTITUTE (2/2014 – present)

Responsible for management of Mississippi State University (MSU) aquatic plant management research program, facilities, and personnel

MSU Unmanned Aerial Systems (UAS) FAA Center of Excellence Team – team lead investigating wetland/aquatic ecosystems

MSU UAS Team – subject matter expert

RESEARCH ASSOCIATE - MADSEN LAB (7/2011 – 2/2014)

Responsible for management/maintenance of Madsen Lab's facilities, equipment, paperwork, and vehicles

Supervise undergraduate student workers in Madsen Lab

Assist Madsen Lab graduate students in project setup, maintenance, and data collection

Responsible for setup, maintenance, data collection, and data management of various proprietary studies in Madsen Lab facilities

Assist in data collection of field studies
Responsible for specimen handling and data management of field studies
Responsible for the management and propagation of stock plants in Madsen Lab's facilities
Assist in writing reports

TEACHING ASSISTANT - BROOKS LAB (1/2009 – 6/2011)

BIO 8093 Experimental Biology and Biostatistics – Spring 2010
BIO 2004 Human Anatomy – Summer, Fall 2010
BIO 3104 Ecology – Fall 2010
BIO 2014 Human Physiology – Spring 2011
BIO 1144 Biology II – Spring 2011
Coordinate weekly Brooks Lab meetings.
Maintain Brooks Lab paperwork and equipment.
Supervise Undergraduate students in Brooks Lab.

PH.D. COURSEWORK

Current Topics in Weed Science (PSS 8701): 2015
Herbicide Physiology and Biochemistry (PSS 8724): 2015
Dissertation (PSS 9000): 2015 – present
Soils (PSS 3303): 2016
Environmental Fate of Herbicides (PSS 8634): 2016
Seminar 2 (PSS 8821): 2016
Taxonomy of Spermatophytes (BIO 6203): 2017
Weed Biology and Ecology (PSS 6633): 2017

M.S. COURSEWORK

Aquatic Animal Health Management (CVM 6134): 2009
Conservation Biology (WF 8243): 2009
Seminar 1 (BIO 8011): 2009 – 2013
Thesis (BIO 8000): 2009 – 2013
Aquatic Botany (BIO 6224): 2009
Statistical Methods (ST 8114): 2009
Evolutionary Biology (BIO 6113): 2010
Invasion Ecology (BIO 8163): 2010
Advanced Ecology (BIO 8103): 2011
Seminar 2 (BIO 8021): 2011

EXTRACURRICULAR

Starkville Academy Science Fair – Judge (2016)
Mississippi Aquatic Invasive Species Council – Founding Member (2016-present)
Mississippi Vegetative Management Association – Member (2015 – present)
Graduate Student Presentation Contest of the Aquatic Plant Management Society – Judge (2015, 2016)
Mississippi Cooperative Weed Management Association – Board of Directors, Mississippi State University
Delegate (2015 – present)
Mississippi Cooperative Weed Management Association – Research Committee Chairman (2015 – present)
Weed Science Society of America – Member (2015 – present)
Society of Wetland Scientists – Member (2014 – present)
MidSouth Aquatic Plant Management Society – Board of Directors (2013 – 2014)
Aquatic Plant Management Society – Member (2013 – present)
Aquatic Plant Management Society – Membership Committee Member (2015 – present)

Aquatic Plant Management Society – Website Committee Member (2013 – present)
Region 5, Mississippi Science and Engineering Fair – Judge (2013)
MidSouth Aquatic Plant Management Society – Editorial Committee Member (2012 – present)
Starkville Academy Science Fair – Judge (2012)
MidSouth Aquatic Plant Management Society – Member (2011 – present)
Mississippi State Finals Science Fair – Judge (2011)
Bi-monthly Ecology and Evolutionary Biologists Discussion Group – Participant (2009 – 2011)
Interests: Family, Church, Hunting, Fishing, Camping, Hiking