

DO INTRODUCED MOSQUITOFISH AFFECT THE FUNCTION OF CONSTRUCTED WETLANDS?

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Constructed wetlands used for wastewater treatment emulate the appearance and function of natural wetlands. Diverse assemblages of birds, amphibians, reptiles, and mammals may be attracted to these systems, but disease vectoring organisms, such as mosquitos, may also colonize. To mitigate this issue, many constructed wetlands have introduced fish as a biocontrol of mosquito populations. The most commonly introduced fish, *Gambusia* sp., is known to prey indiscriminately on macroinvertebrates and small vertebrates. Trophic cascades caused by fish predation on invertebrates have been shown to slow litter breakdown rates in streams. Slower decomposition rates in constructed wetlands may inhibit the wastewater treatment process. I designed an experiment that assessed the impact *Gambusia* predation has on macroinvertebrate communities and litter breakdown rates at a wastewater treatment wetland in Clayton County, Georgia. Results showed that *Gambusia* did not significantly affect invertebrate populations or litter breakdown rates and are likely not affecting the wastewater treatment process. Water nutrient levels and the presence of predatory macroinvertebrates appear to be more accurate predictors of invertebrate assemblages; while litter breakdown rates are likely determined by bacteria and fungi colonization.

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