© 2020 The Author. The *Bulletin of the Ecological Society of America* published by Wiley Periodicals LLC on behalf of Ecological Society of America. This is an open access article under the terms of the Creative Commons Attribution License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

LONG-TERM NUTRIENT ENRICHMENT, MOWING, AND DITCH DRAINAGE INTERACT IN THE DYNAMICS OF A WETLAND PLANT COMMUNITY

Carol Goodwillie

Study Description

In a long-term study initiated in 2003, we documented the effects of nutrient enrichment, mowing, and ditch drainage on the composition and diversity of a wetland plant community. Drainage and fertilization had similar effects in reducing species richness and limiting the abundance of wetland specialist species. Both factors also affected the rates of succession, with drained and fertilized plots transitioning more rapidly to a low diversity, tree-dominated community. Our results suggest that interactions with disturbance and hydrology must be considered in predicting the effects of nutrient enrichment on wetland plant communities.

Goodwillie, C. 2021. Long-Term Nutrient Enrichment, Mowing, and Ditch Drainage Interact in the Dynamics of a Wetland Plant Community. Bull Ecol Soc Am 102(1):e01815. https://doi.org/10.1002/bes2.1815



Photo 1: Plant community in a long-term study on the effects of fertilization, mowing, and hydrology in a coastal plain wetland (North Carolina, USA). Wetland specialist species such as *Rhexia virginica*, *Calamagrostis coarctata*, and *Juncus* spp. are present in a mowed, unfertilized, undrained plot. The unmowed plot visible in background is dominated by *Nyssa sylvatica* and other tree species. Photo credit: John W. Stiller (used with permission).



Photo 2: Plant community in a long-term study on the effects of fertilization, mowing, and hydrology in a coastal plain wetland. The community in a mowed, fertilized, drained plot shows lower diversity and is dominated by an upland species, *Rhus copallinum*. Photo credit: John W. Stiller (used with permission).

These photographs illustrate the article "Long-term nutrient enrichment, mowing, and ditch drainage interact in the dynamics of a wetland plant community" by Carol Goodwillie, Michael W. McCoy and Ariane L. Peralta published in *Ecosphere*. https://doi.org/10.1002/ecs2.3252.