

NITROGEN LOAD REDUCTION FROM ALACHUA COUNTY'S FERTILIZER ORDINANCE AND BEHAVIOR CHANGE CAMPAIGN

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Water resources within Alachua County are impaired by too many nutrients, with landscape fertilizers being one of the major sources. To reduce such, Alachua County amended its Landscape Fertilizer Ordinance in 2019 to include a ban on fertilizers containing nitrogen from July through February. Funding was obtained from the Florida Department of Environmental Protection Department to design, implement, and evaluate a behavior change campaign for decreasing fertilizer use and to calculate the resultant nitrogen load reduction to local water bodies.

Survey data was used to identify homeowners perceived benefits and barriers to reducing fertilizer use, to segment the audience, and to market test campaign strategies. Only 53% of respondents believed that residential fertilizer use contributes to algal blooms and 57% said they would reduce fertilizer use if they felt it harmed the environment. Hence many of the campaign strategies implemented via television, social media, billboards, print media, and direct mail were designed to increase awareness regarding residential fertilizers and water quality.

The post survey showed that the number of people not fertilizing at all increased from 55% up to 65% and up to 73% for those that saw the fertilizer campaign. Additionally, 40% of respondents who use fertilizer said they decided to use less fertilizer as a result of the campaign. There was a 40% increase in the belief that residential lawns can contribute to algal blooms between the pre and post survey.

Survey, spatial, and literature data were combined with fertilizer label information to estimate a 20% reduction in annual nitrogen loading in Alachua County. The Simple Model was used for calculating the 8,000 pound reduction to surface water and the Nitrogen Source Inventory Loading Tool (NSILT) was used for estimating the 12,000 pound reduction to groundwater, at a cost of \$1.4 - \$8.3 per pound.

PRESENTER BIO: Stacie Greco is the Water Resources Program Manager with the Alachua County Environmental Protection Department. She received a B.S. from Warren Wilson College in Asheville, NC prior to her M.S. in Environmental Engineering from UF. She also has a graduate certificate in Social Marketing for applying marketing tools to influence behaviors.