

CLEVELAND POCKET PRAIRIE RESEARCH



Although many parts of our world are experiencing rapid urban growth, economic decline and the recent foreclosure crisis have resulted in population decline within several United States cities including Cleveland, OH. These conditions have transformed the landscape of affected cities to include a significant number of vacant land patches. Cleveland currently contains 20,000 vacant parcels totaling 14 km² and approximately 1,000 additional foreclosed structures are being demolished annually.



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While vacant land represents a management challenge, it may also be an opportunity. Currently we are losing biodiversity worldwide at a rapid pace. When most people think about conservation, they picture large-scale preservation of fragile habitats. Although critical, this is far from the only conservation effort that can make a difference. Currently, vacant land is often ignored in conservation planning, yet studies across the United Kingdom and continental Europe have found they can be valuable reservoirs of biodiversity. For example, over 100 species of hover fly pollinators including several rare or vulnerable species were found foraging within vacant lots throughout Coventry, UK. Another study recorded 46 rare UK beetle species within post-industrial vacant land sites, many of which are associated with rare natural habitats such as chalk grasslands, riverine sediments, and sandy heaths. In urban Sweden, vacant lots were found to support greater butterfly diversity than rural semi-natural grasslands. Thus, urban greenspaces can be a valuable habitat for beneficial biodiversity!

Establishing conservation habitats within the city also addresses a documented inequality in greenspace access. Unfortunately, the socioeconomic conditions within a city can often be correlated with its ecological conditions. Examples include watersheds in Baltimore, MD, where communities with higher levels of income and education are more likely to contain areas of greenspace compared to lower income communities. Similarly, researchers in Arizona have reported an increase in plant diversity was correlated with family income and housing age within the Phoenix, AZ metropolitan area, and described this “luxury effect” as part of urban ecosystem functional structure. This inequitable allocation of green investment is a key concern and can be addressed as cities develop conservation and management plans for vacant lands.



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Our goal is to examine the potential of vacant land to address biodiversity loss and an unequal distribution of green spaces. We are currently evaluating 8 distinct plant communities on a total of 64 vacant lots. We aim to create habitats that will be viewed as enhancing the beauty of the neighborhood while providing habitat for beneficial wildlife including insect pollinators and predators that consume pest insects. One site of each plant community can be found within one neighborhood or two adjacent neighborhoods. Look for our plots in Buckeye, Central, Detroit Shoreway/Stockyard, Fairfax, Glenville, Hough, Slavic Village, and Tremont/Clark Fulton.



THE OHIO STATE UNIVERSITY

FOR MORE INFORMATION, CHECK OUT THE AG-URBAN LANDSCAPE ECOLOGY WEBSITE!

<http://ale.cfaes.ohio-state.edu/>

CONTROL (TREATMENT 1)

Current plantings will be maintained, mowing will occur once per month from June to September.



NATIVE GRASSES (TREATMENT 5)

A seed mix of three short native prairie grasses (little bluestem, Indian grass and Canada wild rye).



REFORESTATION (TREATMENT 2)

Current plantings will be allowed to grow. There is no scheduled mowing. The only maintenance will be the removal of harmful invasive plant species. This treatment will include shrubs and trees that are currently seedlings in the site.



NATIVE GRASSES/ LOW DIVERSITY FORBS (TREATMENT 6)

A mix of three short native prairie grasses (described above) and four native forbs (sweet joe pye, great lobelia, grey-headed coneflower and golden alexanders).



No-Mow Lawn (TREATMENT 3)

This treatment is a planting that consists of a seed mix of six low growing fine fescue grasses that form a dense sod. Maintenance of these lots will be mowing that will occur once per year.



NATIVE GRASSES/MEDIUM DIVERSITY FORBS (TREATMENT 7)

A mix of three short native prairie grasses (described above) and eight native forbs (the four above plus wild bergamot, blazingstar, cup plant and New England aster.).



FEUR DE LAWN (TREATMENT 4)

A flowering lawn alternative that contains low growing fine fescue grasses and six flowering plant species (O'Connor's strawberry clover, microclover, sweet alyssum, sward yarrow, English daisy and baby blue eyes).



NATIVE GRASSES/HIGH DIVERSITY FORBS (TREATMENT 8)

A seed mix of three short native prairie grasses (described above) and sixteen native forbs (the eight above plus foxglove beardtongue, prairie doc, Ohio spiderwort, ironweed, Ridell's goldenrod, blue vervain, rattlesnake master and lanceleaf coreopsis).

