

**COUNTY OF MILWAUKEE**  
Inter-Office Communication

Date: February 18, 2022

To: Marcelia Nicholson, Chairwoman, Milwaukee County Board of Supervisors

From: Guy Smith, Executive Director, Milwaukee County Parks

Subject: Update on the development of a framework for using goats for landscaping in Milwaukee County Parks

File Type: Information Report

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**REQUEST**

In response to File 21-873, the Parks Department has prepared an informational report to share information on the potential of using goats for land management of Milwaukee County Parks property.

**POLICY**

None

Wisconsin State Statutes:	
Milwaukee County Code of General Ordinances:	
Specific Adopted Budget:	
Specific Adopted Budget Amendment:	
Specific Adopted Capital Project:	

**BACKGROUND**

Milwaukee County Parks reached out to other communities in Wisconsin to learn more about the possibility of using goats for landscape management. This is not a new activity, but it is still relatively new as an ecological restoration management tool in the Upper Midwest. The bulk of the science-based literature revolves around using goats, grazing in confined paddocks, to remove woody species (non-native and native) from grassland-based plant communities such as prairies and oak savannas.

While goats prefer to eat woody plants the majority of time (80-90%), they will not just eat invasive woody species. They will eat any shrub/tree sapling in their preferred browsing zone (1-3 feet in height) as well as strip the bark from thin barked trees regardless of whether the plant is a non-native invasive species or a native species. Goats also consume native forbs (herbaceous plants) as the number of woody plants decline within their grazing paddock.

In a research project undertaken by UW-Madison on WIDNR property, high intensity grazing over 3-years led to the significant reduction of undesirable woody vegetation, but concurrently lead to a significant increase in herbaceous invasive species because of grazing within an oak savanna restoration project. In effect, removing one set of invasive species without planning for the invasion of new invasive species will ultimately lead to ecological restoration failure.

#### Mequon – Rotary Park Pilot Project Example

The project in Mequon, Wisconsin is a pilot project for grazing within that plant community type and conducted by one of the only two potential Goat Vendors that could serve Milwaukee County. Mequon's experience provides valuable insight to possible use by Milwaukee County Parks.

The pilot program illustrates the challenges of using goats for long-term land management. The goats defoliated and suppressed the buckthorn and honeysuckle, but they did not remove the plants. Research has shown that a minimum of 3-5 years of intensive and repeated goat grazing (minimum of two grazing events per year) is necessary to kill woody plant species. Even then, not all undesirable woody plants are removed and follow-up control with herbicides is necessary to reach 100% control. The Mequon Parks Department will be reviewing the evidence from Mequon Rotary Park (two-years completed 2020-2021) and will be assessing the effectiveness of goat grazing in 2022 to see if the program should continue. One of the benefits for Mequon was that this project was entirely funded by a non-profit organization (Mequon Thiensville Rotary Club) that oversaw the management of program after the approval by Mequon City Council. This reduced the financial and oversight burden on the Parks Department.

Once the goats are on-site, they stay there until the grazing project is completed. In Mequon, it took the goats 21 days the first grazing season (spring) and another 10 days (autumn) to accomplish the project goals for year one. Goats were fenced into the project area with an electric fence powered by a marine battery and were on-site 24/7. Once the goats were on-site the goat vendor did not manage them. It is the responsibility of the property owner to monitoring the goats and water them daily. This would therefore be a responsibility and cost assume by Milwaukee County Parks at a time when there are few second shift and no third shift staff available.

Milwaukee County Parks would need to consider other aspects of launching this program. This includes:

1. **Cost:** The Mequon project cost approximately \$1,700 per acre per year. However, 40 volunteers were engaged over the summer in project activities, including installing and moving electric fences as goats needed to be moved from one section to the next, checking the condition of the goats two to three times daily, filling their water trough, and walking the fence line to check for breaks caused by falling vegetation. Every day, volunteers staffed early morning and late day shifts to assure the well-being of the goats and the integrity of the project." These volunteers donated over 175 hours assisting with the day-to-day management of the goats in 2020. The actual cost to Milwaukee County

Parks would be higher if you factored in staff time needed to manage the goats, which need to be checked twice per day, which includes weekends and holidays.

Our Natural Areas Team has a proven track record in combating invasive species in Milwaukee County Parks. Currently Natural Areas and partner organizations work on controlling 71 different invasive species within the system.

2. **Logistics:** Best practices by Goat Vendors note that goats should not be used in high quality or moderate quality natural areas. They're intended to be used in the most vegetatively degraded sites where the potential for collateral damage is minimal. The land management philosophy of the Milwaukee County Parks Natural Areas Program is to manage the natural areas with the highest ecological integrity first and then the sites with moderate ecological integrity and high ecological restoration potential second. Goats could fill that niche by targeting the most vegetatively degraded sites, however if Parks was undertaking a restoration project with the hope of long-term ecological success, then it would have staff and resources ready to take over once the goat phase of the project is complete. Those resources do not currently exist for the most vegetatively degraded sites within the park system.

3. **Site Prep:** As previously mentioned, goats prefer to graze woody plants in the 1-3 feet height range but can reach up to 6 feet if they stand on their hind legs. The majority of buckthorn in the Park System is mature and currently at a height of 10-15 feet which is too high for goats. This means potential sites would likely need to be mowed by a forestry mower or individually hand-cut and allowed to "brush-back" in order to use goats as an effective management tool. With the hand-cut method, Milwaukee County Parks would also have to remove the cut material, prior to releasing goats on a site, because mature buckthorn creates a significant amount of woody debris.

4. **Site locations:** The Goat Vendors note that the bluffs along Lake Michigan would not be appropriate for goat grazing due to the extreme slopes (30-90%), the large number of seeps (wet soils), the presence of the Parks rarest plant community (clay-bank fens), unstable bluffs, and overall lack of woody invasive species. Goats on the lake bluffs would likely be in direct conflict with the newly proposed Coastal Management Guidelines. Goats would also be a novelty that attracts public attention, and goats grazing on lake bluffs would also encourage the public to go onto the bluffs to observe and interact with the goats. This would create a safety concern that does not currently exist.

To implement this program, Milwaukee County Park recommends:

- That a chosen site has a relatively flat topography with dry to medium moisture soils.
- That the site is 10-acres or less, because that is what a typical vendor can provide goats for on an annual basis. However, the primary potential vendor for Milwaukee County has made staff aware that, at most, they could only facilitate 1-3 acres in 2022.
- Make a minimum of a 3-year goat commitment, with possible partnership with an active Friends Group for potential funding

- That a low use/vegetatively degraded site be chosen, away from heavily used parks, trails, or parkways because high public use areas greatly increase the potential for individuals to vandalize the fence or steal the goats
- That funding and resources be made available to restore and manage the grazing location after the goats have accomplished the 3-5 year grazing goals. Without continued follow-up invasive species control and the establishment of native plants, the woody invasive species or new herbaceous invasive species would rapidly take over the goat management site.

**ALIGNMENT TO STRATEGIC PLAN**

None

**TERMS**

None

**VIRTUAL MEETING INVITES**

Executive Director Guy Smith, Interim Deputy Director Jim Tarantino, Operations Manager – Land Resource Division Ramsey Radakovich, Natural Areas Supervisor Brian Russart

**PREPARED BY:**

Peter Bratt, Director of Operations and Skilled Trades

**APPROVED BY:**

Guy Smith, Parks Executive Director *Guy Smith*

**ATTACHMENTS:**

None

cc: David Crowley, County Executive  
 Mary Jo Meyers, Chief of Staff, County Executive's Office  
 Sheldon Wasserman, Parks, Energy & Environment Chair, Supervisor District 3  
 Steven Shea, Parks, Energy & Environment Committee Vice-Chair, Supervisor District 8  
 Felesia Martin, Parks, Energy & Environment Committee Member, Supervisor District 7  
 Sylvia Ortiz-Velez, Parks, Energy & Environment Committee Member, Supervisor District 12  
 Liz Sumner, Parks, Energy & Environment Committee Member, Supervisor District 1  
 Kelly Bablitch, Chief of Staff, Milwaukee County Board of Supervisors  
 Janelle M. Jensen, Legislative Services Division Manager, Office of the County Clerk  
 Aaron Hertzberg, Director, Department of Administrative Services  
 Joseph Lamers, Fiscal & Budget Director, DAS  
 Vince Masterson, Fiscal & Strategic Asset Coordinator, DAS  
 Pamela Bryant, Capital Finance Manager, Comptroller's Office  
 Justin Rodriguez, Capital Finance Analyst, Comptroller's Office  
 Kelsey Evans, Committee Coordinator, Office of the County Clerk  
 Ciara Miller, Research & Policy Analyst, Office of the Comptroller

Anthony Rux, Budget & Management Analyst, DAS-PSB