

# Ecology, Natural Areas, and Education Report

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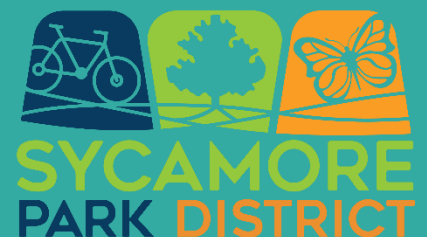


**YEAR OF 2021**

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**Sycamore Park District**

**Authored by: Nicholas McCarney**



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# Ecological Management and Educational Outreach

## Introduction

The reductions in COVID19 restrictions in 2021 allowed for increased productivity within natural areas.

Additional natural areas in the form of wetland and prairie swaths around the Riverside Soccer Complex nearly doubled average annual management acreage. New skillsets and methodologies were required to make management more productive.

***“Tell me and I forget. Teach me and I remember.  
Involve me and I learn.”***

Educational outreach increased both in form and function with the addition of new partners and events.

Volunteer work and donated equipment increased overall productivity while keeping costs low. New chemical formulations and drought conditions resulted in significantly less management required for Park Maintenance than in previous years.

The intentions of this report are to continue to facilitate the growth and preservation of Natural Areas and Educational Outreach within the Sycamore Park District by outlining both successful existing procedure and highlighting areas that require additional attention.

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# Ecology and Natural Areas

## Responsibilities and Tasks

Chemical Management of Natural + Park Areas

Mechanical Management Natural + Park Areas

Brush clearing and Restoration of Native Areas

Event Coordination/creation

Teaching of courses/classes/ events

Overseeing of Ecological Intern hiring + Work Management

Volunteer and Stewardship coordination

Flora + Fauna Surveys

Grant Funding Research

Planting and removal of ornamental flowers and shrubs

Environmental Outreach with local universities and schools.

Management of Middle School Prairie

Middle School Science Olympiad Representation

Distribution/Editing/Filming of Educational Media

Herpetological research for conservation + funding purposes

Permit acquisition/renewals

Acquisition/establishment/management of "Grow room"

Establishment/Construction of Educational Center

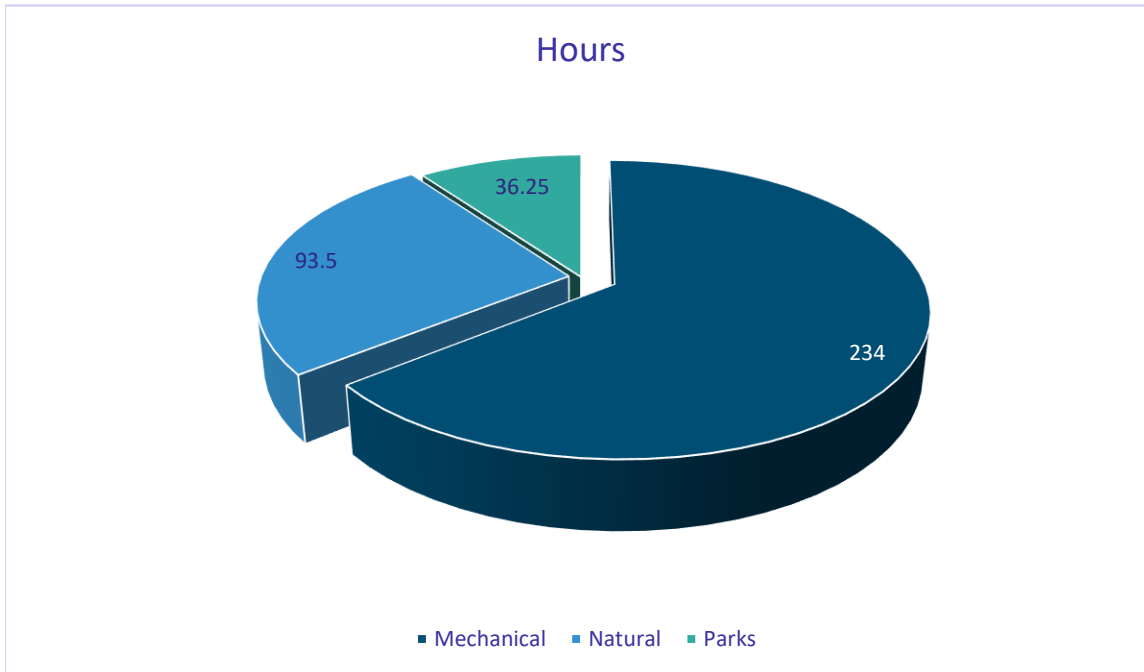
**Additional Assistance with general maintenance and chemical application for other departments.**

**Networking and Partnership with new entities throughout the Chicagoland area for increased visibility and resources.**

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# Statistics

## Breakdown of Hours and Quantities



2021 saw an increase in management of natural areas due to decreased effectiveness during the 2020 season from COVID limitations. More hours were spent in 2020 focusing on Park Maintenance due to an inability to hire volunteers/seasonal workers.

New methodology and management strategies allowed for increases in effectiveness of mechanical management and reduction in time spent applying chemicals. The addition of a seasonal employee and their hours are not accommodated within this chart. Overall management effectiveness was increased with the additional personnel.

Hours spraying herbicide were reduced from 352.75 to 229.75 (rough addition of 100 hours to accommodate for extra personnel). Additional time was used for mechanical management and for native plantings facilitated by the establishment of a grow room.

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# Herbicide Quantity and Application

**TOTAL herbicide usage in ounces 2021: 723.25 oz**

**TOTAL herbicide usage in ounces 2020: 735.95 oz**

**TOTAL herbicide usage in ounces 2019: 2477.245 oz**

Herbicide quantity overall remained the same, with a slight reduction in total volume. Application methodology and the additional personnel decreased time spent on application drastically, allowing for more focus on the growth of native plants for native biota replenishment.

## Seed collection and Grow Room

Several dozen species of seed were collected through the 2021 year. Values in seed quantity alone represent estimates of several hundred to several thousand dollars.

It is the intention to utilize the collected seeds to grow native plants not only for native replenishment, but for public sales. Sale revenue from native plants have potential to generate significant revenue in forthcoming years after the success of the grow room.

The grow room was acquired through a mutual partner of the Sycamore Park District, *Innovative Growers Equipment LLC*. Equipment values at **\$5,757.00** and was donated to the Park District without stipulation. Media representation and signage were given in exchange for the donation.

Approximately 750 native plants were successfully grown within the grow room comprising several different species and representing an estimated **9,000** dollars in native plant material and labor (Estimates based on past contracts with restoration firms and plug values of identical plant species of similar sizes).

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# Classes and Events

## Breakdown of Educational Outreach

### **Class Curricula**

Park District Plants (Adult/family)  
Turtle Research (Adult/family)  
Sycamore Safari (Adult/family)  
Amphibians (Eco-Explorers)  
Birds of Prey (Eco-Explorers)  
Crazy Colors (Eco-Explorers)  
Dead Serious Science (Eco-Explorers)  
Dino-Science (Eco-Explorers)  
Eco Friendly (Eco-Explorers)  
Extinction (Eco-Explorers)  
Habitats (Eco-Explorers)  
Insects (Eco-Explorers)  
Invasive Species (Eco-Explorers)  
Super Scientists (Eco-Explorers)  
Intro to Ecosystems Classes 1-3 (Ages 7-11 Home School)  
Intro to Ecosystems Classes 1-3 (Ages 4-6 Home School)  
Photography Basics (Middle school)  
Woodburning Class (Adult)

### **Presentations/Speaking Events**

Middle School Olympiad  
9 Class sessions at Clinton-Rosette Middle School  
2 KSRA Sessions  
2 Events with Dekalb County Forest Preserve District  
Virtual Learning Class with Batavia Middle School

### **Virtual Content**

Nature Hotline Educational Video Series on YouTube  
“Spring” Nature Documentary Educational Video on YouTube

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# Projected Expenditures

The operation of the “Ecology” division of the Park District under the umbrella of several different departments has made budget design and implementation difficult. Upon suggestion by Superintendent Jonelle Bailey, a new plan to implement an annual budget proposal will be put in place.

Research and education equipment is purchased sporadically throughout the year, with totals rarely exceeding \$200.00 dollars. Examples of past purchases include a Kestrel Weather Meter System for the purpose of research and burn condition monitoring during future prescription burns. Total: \$169.00. Another purchase made in 2021 was a portable ink gun used for mark/recapture data of turtles. Total: \$90.00.

Consumable purchases involve various small tools and supplies to aid in tasks such as putting up signage around natural areas/park repairs/maintenance/ etc. Such expenditures are minimal and generally pertain to Parks and Maintenance budget.

Additional requested expenditures are examples that are deemed necessary for effective improvement and management of existing natural areas and educational outreach.

The bulk of projected expenses would involve the acquisition of native seed mixes of different varieties for reestablishment and management of significantly human impacted areas. The result of excessive fishing, littering, and other general destruction of natural areas are unable to be re-established without the addition of native seed mixes.

Current native seed collection and diversity is not significant enough to replenish destroyed areas that must be decompacted, matted, and reseeded. Therefore, an annual seed acquisition would allow for quicker and more effective re-establishment and prevent additional degradation of existing natural areas.

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Additionally, as areas are increased in floristic quality by the addition of native seed, their overall management needs will decrease, resulting in less chemical and manual control of non-native species for their preservation.

Seed mixes vary in expense based on soil type and plant diversity. Due to the need for quick growing and hardy plant species in areas of already-established native plant populations, less expensive seed mixes are required, floristic quantity over quality. Due to the lack of significantly more expensive rare species, a total of approximately \$2,000 annually should be sufficient to vastly increase restoration capabilities.

The intention of keeping more exact expense records in 2022 to establish a firmer budget for the Ecology subdivision of the Park Maintenance division will allow for a better itemization of costs following the 2022 field season.

Offsetting additional costs by implementing new revenue streams from additional classes and grow room sales is a goal set for the 2022 season.

## **Conclusions**

Overall efficiency and effectiveness of management and educational outreach have been proven to increase with the aid of additional help in the form of interns/volunteers and new methodology and equipment acquisition.

In order to maintain the increasing natural demands while still increasing the effectiveness of education and revenue streams, consistent aid in the form of seasonal employment to some degree is required. Filling unpaid positions is inconsistent and difficult and requires significantly extra effort whereas consistent additional labor significantly reduce overall management time and improve effectiveness.

Additional delineations in budget and revenue streams will likely improve clarity and make things easier for multiple parties.



