

DATE: November 16, 2023

MEMO TO: Nels Leutwiler, Chair
Preservation Foundation Board

FROM: Pati Vitt
Director of Natural Resources

RECOMMENDATION: Recommend approval of a \$14,677.05 grant to purchase specialty equipment and supplies to extend the Forest Preserves ecosystem monitoring and biodiversity conservation efforts.

FINANCIAL DATA: The total project cost is \$18,977.05, with \$4,300 covered by existing Lake County Forest Preserve District Funds.

As of September 20, 2023, the balance of the Annual Fund was \$322,503.16. Grants paid and due from the unrestricted fund after September 30, include:

Year	Amount
Q3 Transfer	\$ 7,850
2024	\$ 68,300
2025	\$ 31,000
	\$ 107,150

The requested funds will be paid as a single disbursement in January 2024 if awarded.

BACKGROUND: Lake County is home to some of the region's highest quality communities, such as the woodlands and forests along the Des Plaines River, the sand prairies and savannas near Lake Michigan, and unique wetland communities such as bogs and fens. To date, the Lake County Forest Preserve District (District) has acquired and manages over 31,000 acres (12,545 hectares) representing the variety of wetland, upland and wooded habitats found within Lake County. These communities, encompassing the abundant and diverse plants and animals found within them, contribute significantly to the value of the environment and help fulfill the District's mission.

In many ways, the structure and function of the plant community determines what animals may be present and thus provide a barometer for the quality of resources available to them. For example, a phenologically diverse and species-rich prairie plant community will provide the floral resources for a greater diversity of native pollinators, relative to a more depauperate grass-dominated landscape. To preserve and protect Lake County's diverse habitats and the animals that call them home, it is essential to inventory and monitor our communities, and further to document and verify species identification. The primary objective of this proposal is to enhance the District's capacity for rigorous and comprehensive data collection, which is instrumental in making informed decisions regarding habitat management and conservation efforts. The Natural Resources Department is currently seeking funding to establish a basic laboratory focused on insect, fish, and plant collection, aimed at bolstering the monitoring efforts for rare plants, wildlife, and other critical natural resources. This initiative directly aligns with the District's mission of promoting habitat management for ecosystem services and biodiversity preservation.

Significance of Documenting Species in Collections:

Documenting species through collections is a cornerstone of biodiversity conservation and is instrumental to the work of the District's natural resource managers in several key ways. For example, accurate species identification is essential to ensure our understanding ecological interactions, population dynamics, and the distribution of species with habitats and across the District. Collections provide a tangible reference, enabling precise identification and classification. Our local collection data may also be aggregated with other regional data to provide a broad understanding of our native species. Online databases, including data collected by community scientists through eBird, iNaturalist and Budburst, are being used to understand the distribution of species and to track changes in species composition over time. Long-term collections provide invaluable insights into shifts in population sizes, migration patterns, and the impacts of environmental change.

The ecologists on staff routinely collect data on species encountered across the District during monitoring of the plants and animals found in our natural areas. Providing a quality dedicated space to document difficult to identify species will enhance our capacity for effective conservation planning and policymaking. Further, this will increase our ability to identify critical areas for protection and inform strategies for habitat restoration and management. By establishing a dedicated lab, we aim to bolster our ability to document, study, and preserve the rich biodiversity of our region. The most immediate impact will be to strengthen the capacity of our ecology staff. The lab will provide essential resources for the collection, analysis, and interpretation of data related to rare plants, wildlife, and natural resources. The lab will also increase our ability to recruit and train volunteers who are interested in pollinators and other insects, as well as plants and other organisms. We expect that volunteers will be engaged in learning to better identify and document the biodiversity of Lake County. In the longer term, the data associated with these collections may be aggregated into larger studies regionally and will inform the District's evidence-based management conservation strategies, ultimately contributing to the preservation of the ecosystem services and biodiversity that contribute to the quality of life of our residents.

REVIEW BY OTHERS: Lake County Forest Preserves Executive Director, Director of Community Engagement and Partnerships, Director of Finance, Director of Administration, Chief Operations Officer, Preservation Foundation Executive Director

PRESERVATION FOUNDATION BOARD:

Date: _____ Roll Call Vote: Ayes: _____ Nays: _____
 Voice Vote Majority Ayes; Nays: _____

Exhibit A: Project Budget

	Quantity	Price Each	Total
Durable Equipment			
Insect Specimen Cabinet - Counter Height	2	\$1,450.00	\$2,900.00
Herbarium Cabinet - Counter Height	1	\$1,520.00	\$1,520.00
Enclosed Specimen Cabinet for Preserved Specimens*	2	\$1,750.00	\$3,500.00
General Storage Cabinets	12	\$750.00	\$9,000.00
Cornell Insect Storage Boxes	24	\$51.00	\$1,224.00
Stereo Microscope with Camera Interface	1	\$5,600.00	\$5,600.00
Laboratory Chairs*	4	\$200	\$800.00
Consumables/Supplies			
Unit Trays for Insect Storage			
#260 1/8th of drawer	32	\$2.75	\$88.00
#262 1/16th of drawer	32	\$2.10	\$67.20
#264 1/32 of drawer	32	\$1.50	\$48.00
#266 1/48th of drawer	48	\$1.45	\$69.60
#267 1/64th of drawer	32	\$1.35	\$43.20
#268 1/4th of drawer	46	\$4.60	\$211.60
Adjustable Spreading Board	5	\$17.25	\$86.25
Insect Pin Rack	3	\$5.00	\$15.00
Insect Pinning Block	3	\$10.50	\$31.50
Assorted Insect Pins	20	\$8.00	\$160.00
Herbarium Mounting Paper - Archival Quality	10	\$58.00	\$580.00
Archival Mounting Tape	2	\$69.75	\$139.50
Archival Mounting Glue	1	\$31.50	\$31.50
Archival Specimen Labels 300 per package	3	\$30.75	\$92.25
Preprinted Specimen Data Labels	10	\$5.35	\$53.50
Seed Envelopes (archival paper)	1	\$44.00	\$44.00
Fragment Folders (archival paper)	1	\$99.55	\$99.55
Blotting Paper 100/package (archival)	4	\$68.35	\$273.40
Corrugated Ventilators 100/package (archival)	4	\$54.75	\$219.00
			\$18,977.05

* Lake County Forest Preserve Covered Cost