



Forest Preserves of Cook County

Sustainability & Climate Resiliency Plan

September 2018



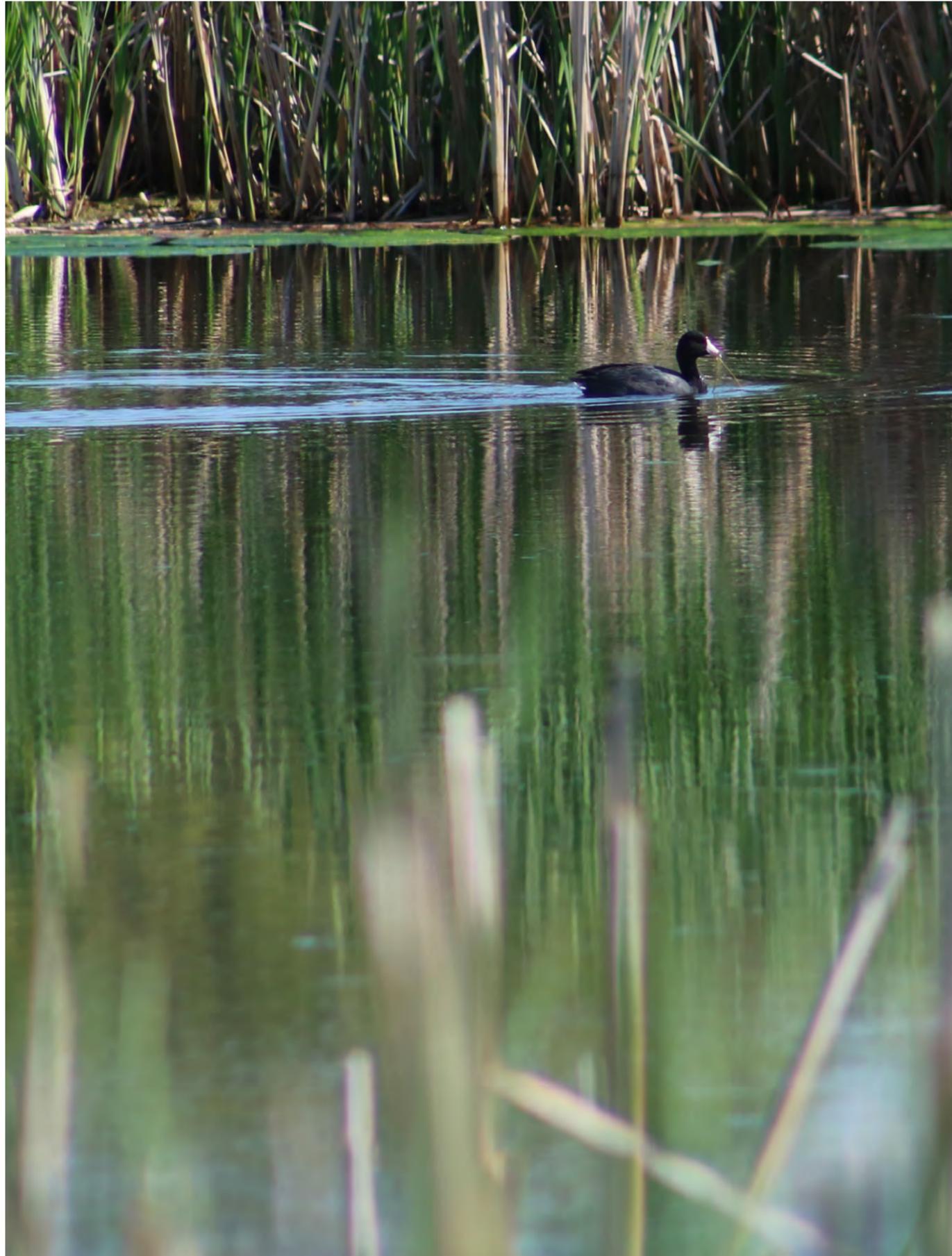
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Cover: Purple Fringed Orchid (*Platanthera Psychodes*): One of numerous plant and animal species with a northern US-Canada range, listed as an Illinois Endangered Species, is likely to disappear from Cook County due to a changing climate. The purple fringed orchid is found in shady or sunny sites. The rose-purple or lavender-pink flowers are very showy, with 20 to 125 of them clustered in a cylinder at the top of the stalk. This orchid is pollinated by butterflies by day and moths by night. Only a few of the rare orchids are found locally.



Message from the President

The mission of the Forest Preserves of Cook County is to acquire, restore and manage lands for the purpose of protecting and preserving public open space now and for future generations. Through the tireless work of countless individuals in our region over the last century, we are the benefactors of what has grown into near 70,000 acres of land, 11% of Cook County, that contain some of the most diverse plant and wildlife species in North America. However, due to a changing climate, habitat destruction, and invasive species, over a hundred of our native plant and wildlife species are being threatened or are on the precipice of becoming extinct. In order for the Forest Preserves to fulfill its mission, and to protect these threatened and endangered species, we must think big and bold about ways in which we can reduce the causes and impacts of a changing climate and other associated factors that are causing harm to native plants and wildlife.

The primary goal I am establishing for the Forest Preserves is to reduce its greenhouse gas emissions by 80% by the year 2050. Greenhouse gas emissions are a key factor in climate change, according to numerous scientific studies embraced by over 97% of the scientific community. The second goal I am setting for the Forest Preserves is to implement a roadmap that will allow the Forest Preserves to be resilient in a changing climate. This means modifications to management practices to protect ecosystem functions and provide sustainable social, cultural and recreational uses.

For the Forest Preserves to achieve the plans' ambitious goals and roadmap, we need the participation and support of county residents and visitors, partners, elected officials, other governmental entities, community and non-profit groups, corporations and many others. We have provided examples in this plan on how you, no matter who you are or represent, can support the Forest Preserves in being truly sustainable and resilient.

I want to thank the Prairie Research Institute at the University of Illinois for developing this comprehensive plan in partnership with the Forest Preserves. PRI is a leading organization with researchers from multiple disciplines who work to promote sustainability and climate resiliency. Their skills and dedication have been invaluable. We look forward to our ongoing partnership.

A handwritten signature in black ink that reads "Toni Preckwinkle". The signature is fluid and cursive.

Toni Preckwinkle
President, Forest Preserves of Cook County



Message from the General Superintendent

At the Forest Preserves, we believe that solutions to global problems begin with local action. Experts have identified specific and significant things we can each do to help reduce the effects of climate change. The time for the Forest Preserves to act is now, not just for us, but for our children and future generations.

In order to tackle these challenges we must operate with unwavering purpose, transparency, and a spirit of collaboration. And so, like our Next Century Conservation Plan, we are forging a new path. This path will ensure that the residents of Cook County continue to benefit from this unique natural endowment as we collectively address the challenges of a changing climate.

Sustainability and resiliency have always aligned with the Forest Preserves mission of protecting and preserving public open space. A sustainable Forest Preserves is a Forest Preserves that is able to perform its mission with the least carbon footprint. Reducing our carbon footprint also reduces costs. Reducing costs helps the Forest Preserves devote more time and resources into our restoration efforts which make the Forest Preserves and Cook County more resilient in a changing climate.

I have the pleasure to lead some of the most dedicated and hardworking stewards of the environment. Through their efforts we have already made progress on several areas to reduce our carbon footprint:

- We have reduced our energy usage through building upgrades and improved operational practices.
- We have committed ourselves to purchase 20% of our energy usage from renewable sources in the coming year.
- We have decreased our reliance on diesel fuel by switching to propane gas, a much cleaner energy source.

I would like to recognize all the hundreds of staff who have spent time on developing, or implementing parts of, this plan. I am proud of all that has been accomplished, and I urge everyone who reads this to take every measure possible to make the Forest Preserves the most sustainable and resilient agency it can be. This plan will guide us as we move forward together toward a more green and resilient future.

A handwritten signature in black ink that reads "Arnold Randall". The signature is fluid and cursive.

Arnold Randall
General Superintendent, Forest Preserves of Cook County

80%

Executive Summary

Illinois has experienced a 1°F increase in average annual temperature since the beginning of the 20th century. According to recent climate projections published by the National Oceanic and Atmospheric Administration (NOAA) and other authoritative scientific organizations, if global emissions of greenhouse gases continue to rise, historically unprecedented warming is anticipated in the Midwest region in the next few decades. Along with a projected rise in annual temperatures, studies also project that the region likely will experience increased events of extreme precipitation during winter and spring, and intense summer droughts.

Since its inception over a hundred years ago, the Forest Preserves of Cook County's mission has been to provide much needed natural respite from the pressures associated with living in the second most populous county in the nation and to advocate for the protection of nature. The Forest Preserves has stayed true to the core of its mission.

Our mission drives us to consider the impacts of climate change not just on our own lands, but also on the communities that we are a part of, and the planet. This Sustainability & Climate Resiliency Plan was developed to harness the various strengths within the Forest Preserves to address the pressing environmental issues of our time. Climate change, pollution, invasive species, and habitat loss and fragmentation are threatening the health of our natural spaces, as well as global ecosystems, and the Forest Preserves is dedicated to implementing responsible practices to mitigate these environmental stressors. We are committed to ensuring that our native landscapes, home to a remarkable diversity of plant and animal life, continue to thrive for generations to come.

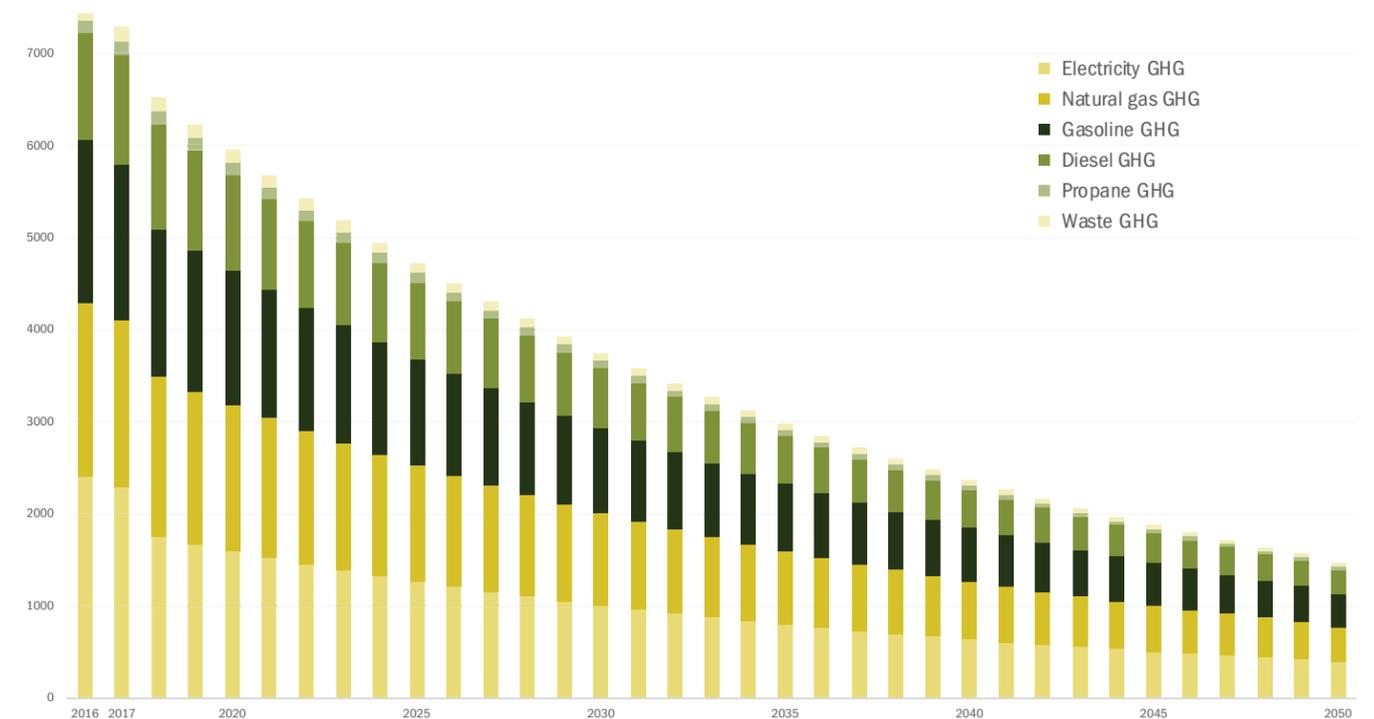
A Two-Fold Challenge

The Forest Preserves recognizes that addressing this challenge is two-fold:

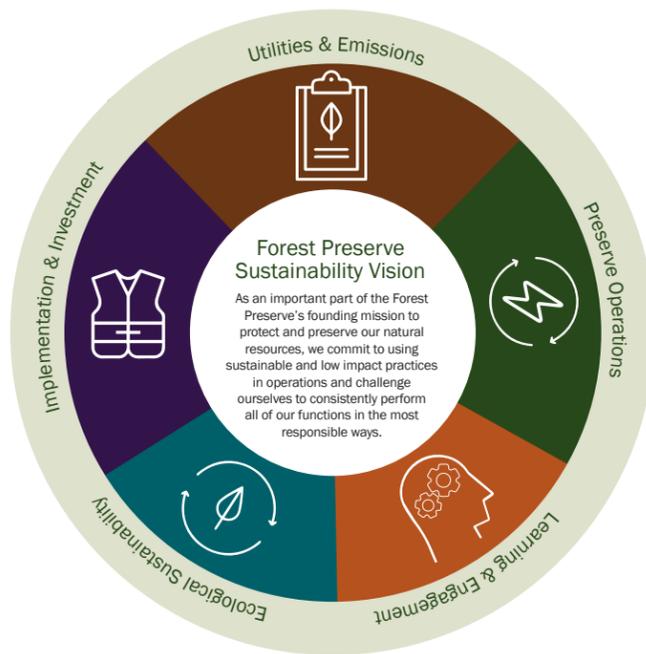
- Identifying and implementing strategies to reduce the impacts contributing to climate change.
- Preparing for the management of Forest Preserve lands as they evolve within changing climatic conditions.

To this effect, the Plan not only adopts an overall goal to reduce the Forest Preserves' greenhouse gas emissions by 80% by 2050 from a 2016 baseline, but also identifies a road-map for the Forest Preserves' lands to be resilient in a changing climate.

The process of developing this Plan, nine months in the making, included internal and external review of past sustainability efforts, focus groups and engagement sessions across the operations within the Forest Preserves and Cook County government, and numerous topic specific meetings. The priorities and their underlining strategies truly reflect the Forest Preserves' direction for a sustainable future.



These focus areas encompass all our activities and programs, putting sustainability at the forefront of our decision-making for programming and operational processes.



Sustainability Vision:

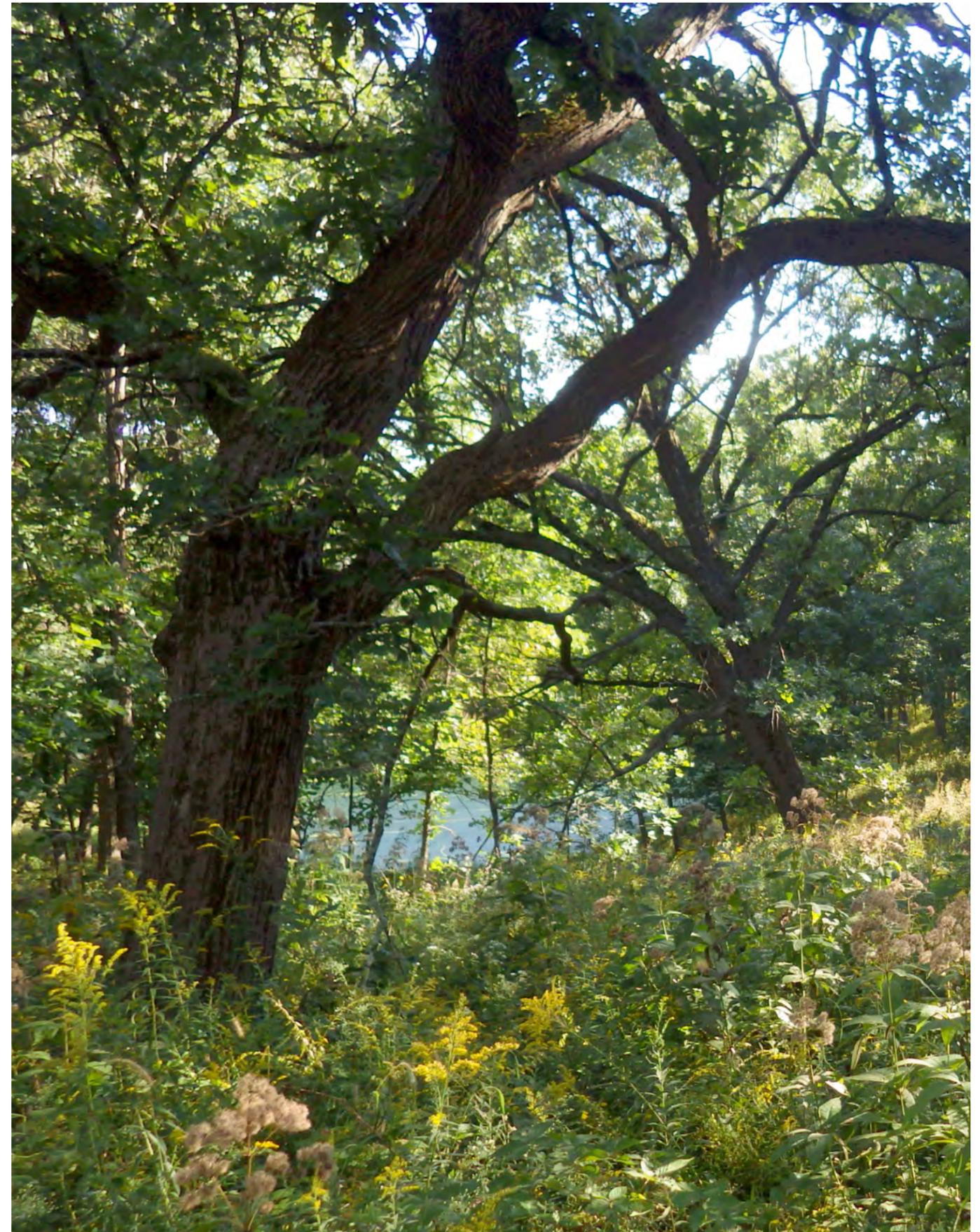
This Plan is based on the vision, described in the Forest Preserves' Next Century Conservation Plan, of being a leader in sustainable practices. As an important part of the Forest Preserves' founding mission to protect and preserve our public lands and waters, we commit to using sustainable and low impact practices in operations and challenge ourselves to consistently perform all our functions in the most environmentally responsible ways.

Structure:

The Forest Preserves' sustainability strategy is based on the premise that our entire community, with its diverse perspectives and expertise, must come together and use different individual strengths to address our complex collective challenges. To unlock this potential, the Forest Preserves has identified five focus areas:

- **Utilities & Emissions**
- **Preserve Operations**
- **Learning & Engagement**
- **Ecological Sustainability**
- **Implementation & Advancement**

The structure of the Plan is intended to enable departmental units across the Forest Preserves to participate and influence the overall sustainability goals through incremental milestones and succinct strategies that will inherently guide the organization collectively to an 80% reduction of greenhouse gas emissions by 2050. Finally, it is important to note that although this Plan is created to address the internal operations of the Forest Preserves, it also includes a vital component of outreach to explicitly invite the greater Cook County community to join us on our sustainability journey.



Bur Oak Woodland, Laura Anchor.

Milestones, objectives and pledges

Within each of these focus areas, a comprehensive list of strategies and actions have been identified to realize the vision of this Plan. These actions are organized by (47) milestones, (28) frameworks, and (4) pledges.



Measurable targets within a set time-frame to meet overall goal	Policies that facilitate implementation
A commitment to further exploration	Topic specific opportunity areas

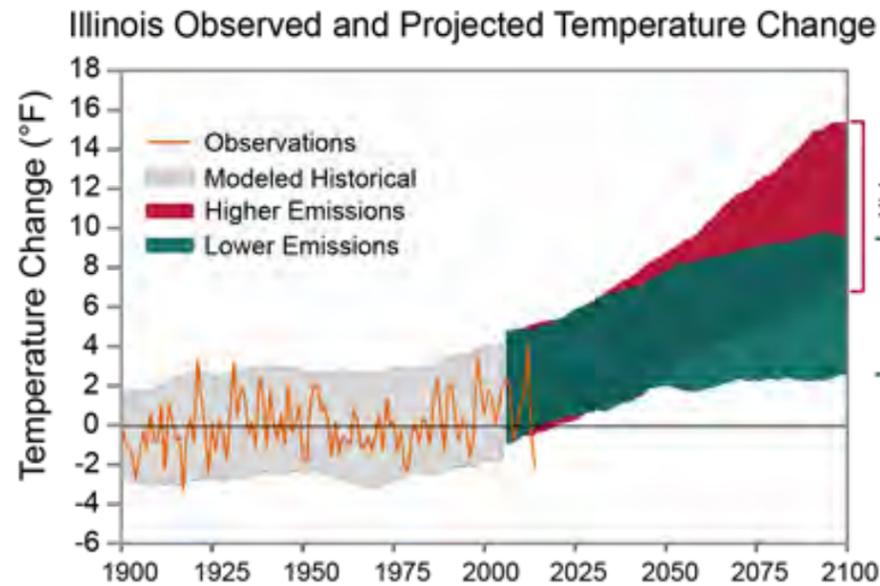


Rgt: Propane fuel station. The Forest Preserves installed 11 propane fueling stations throughout the District in its efforts to reduce its carbon footprint by using propane as an alternative fuel for both vehicles and mowers. More than 75,000 lb. of CO₂ has been averted from the atmosphere since the Forest Preserves' introduction of propane as an alternative fuel.

Introduction

The mission of the Forest Preserves includes a commitment to the preservation and resiliency of the many unique ecosystems in the Cook County region. We believe that integrating sustainable practices across all operations, going above and beyond direct environmental stewardship, is fundamental to fulfilling our mission and directly advances the work described in our Next Century Conservation Plan.

Climate change is one of the most pressing and complex environmental issues that the world is facing today. Illinois, since the beginning of the 20th century, has faced a 1°F increase in average annual temperature. Recent climate projections project further rises in annual temperatures and an increased frequency of extreme weather events. Left unaddressed, these changes will affect the daily lives of people of the region. Models suggest that as an effect of climate change the region will experience increased flooding and an exacerbated heat island effect.



Observed and projected changes (compared to the 1901–1960 average) in near-surface air temperature for Illinois. Observed data are for 1900–2014. Projected changes for 2006–2100 are from global climate models for two possible futures: one in which greenhouse gas emissions continue to increase (higher emissions) and another in which greenhouse gas emissions increase at a slower rate (lower emissions). Temperatures in Illinois (orange line) have risen about 1°F since the beginning of the 20th century. Shading indicates the range of annual temperatures from the set of models. Observed temperatures are generally within the envelope of model simulations of the historical period (gray shading). Historically unprecedented warming is projected during the 21st century. Less warming is expected under a lower emissions future (the coldest years being about as warm as the hottest year in the historical record; green shading year in the historical record; red shading). Source: CICS–NC and NOAA NCEI.

Certain gases emitted by human energy generation, transportation, and other activities, go into the atmosphere and create a barrier for heat to escape the planet; these gases cumulatively contribute directly to climate change. This is known as the greenhouse effect; and gases that cause this effect are known as greenhouse gases (GHG). Gases that contribute to this effect include carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), and chlorofluorocarbons (CFCs). It is imperative that the Forest Preserves has a strategy to address these issues and understand our own contributions, positive and negative, to climate change. We recognize that our use of fuel and other resources, the physical structures we design and manage, as well as the impacts of products we purchase and use in our operations contribute to our GHG emissions. Additionally, as active land managers, the Forest Preserves maintains trees and other ecosystems that store and sequester GHG.

The Forest Preserves strives to better manage our ecological footprint with improved energy consumption tracking and transparent GHG emissions reporting. Building on this information, it is our intention to become a leader in sustainable practices by diverting more waste, reducing energy usage, conserving water, and increasing the purchase of environmentally-preferred products. Proactively seeking out sustainable alternatives and technologies is essential, as is partnering with expert organizations to understand how our natural areas are responding to a changing climate.

Thus, for the Forest Preserves, sustainability refers to how our present actions affect the ability of our natural communities to survive and thrive, how to ensure that these natural resources will be available for future generations in an undiminished and improved state, and how we can use our resources to improve the lives of the people of Cook County.

The Forest Preserves’ sustainability strategy is rooted in a set of nine “First Principles,” which express our vision of protecting natural assets for future generations while promoting a symbiotic relationship between our citizens and their environment. These principles were first drafted at the Conference Planning Workshop in 2009. This meeting hosted local environmental organizations, government agencies, consulting firms, and other active stakeholders. After two sessions, the group generated a list of principles that were later used at the Daniel Burnham Sustainability Conference to guide the creation of goals and objectives. This conference was open to the public and offered an opportunity for the Forest Preserves to receive feedback from Cook County citizens, public officials, and collegiate organizations.

Following the initial workshop and subsequent sustainability conference, a final set of First Principles was drafted, along with clearly articulated objectives that gave the Forest Preserves’ sustainability journey a clear direction. These deliverables were presented in the form of a Sustainability Doctrine, but the Forest Preserves saw the need to expand this further. The resulting Sustainability & Climate Resiliency Plan demonstrates to all our stakeholders the ambitious goals that we are striving for and allows our progress to be baselined and monitored over time. This document also serves as our sustainability roadmap by declaring district-wide operational objectives and outlining an implementation timeline.

Angel, J. (2018). Climate Change in Illinois. Retrieved from isws.illinois.edu/statecli/climate-change/cc.htm
 Frankson, R., K. Kunkel, S. Champion, B. Stewart, D. Easterling, B. Hall, and J. R. Angel. (2017). Illinois State Climate Summary. NOAA Technical Report NESDIS 149-IL (p. 4).

Goals

Adequately responding to the threats of climate change requires the Forest Preserves to act now and set aggressive targets to reduce our GHGs. The Forest Preserves is joining the efforts of Cook County to reduce 80% of our GHGs by 2050. Originally set forth by Forest Preserves Board President Toni Preckwinkle, this emissions reduction target represents a significant commitment to climate change mitigation. In addition to reducing our emissions, the Forest Preserves will work to ensure the resiliency of our natural ecosystems by alleviating the negative impacts associated with a changing climate. Reducing our GHG emissions can contribute to limiting the increase of average annual temperatures in our region, but climate change occurs through global systems and our actions cannot wholly stop adverse impacts on our lands from occurring. Therefore, it is necessary that the Forest Preserves dedicate resources to operationalizing climate adaptation strategies, as the region has already experienced a 1°F increase in average annual temperature in the past century and this trend is likely to continue in the near future. With this approach, *the Forest Preserves will be both treating the symptoms of a changing climate within our natural spaces while also working to diminish the cause.*

The Forest Preserves will be both treating the symptoms of a changing climate within our natural spaces while also working to diminish the cause.

GOAL 1:

Reduce the Greenhouse Gas Emissions of the Forest Preserves by 80% by 2050 from a 2016 baseline.

GOAL 2:

Modify management practices to protect ecosystem functions and provide sustainable social, cultural and recreational uses in a changing climate.

To achieve these goals, this Sustainability & Climate Resiliency Plan contains strategies that have been identified as significant opportunities to reduce emissions and increase the resiliency of our Forest Preserves.

Throughout this Plan, the strategies are categorized into milestones, frameworks, and pledges within each focus area.

MILESTONES:

Measurable targets within a distinct timeframe.

FRAMEWORKS:

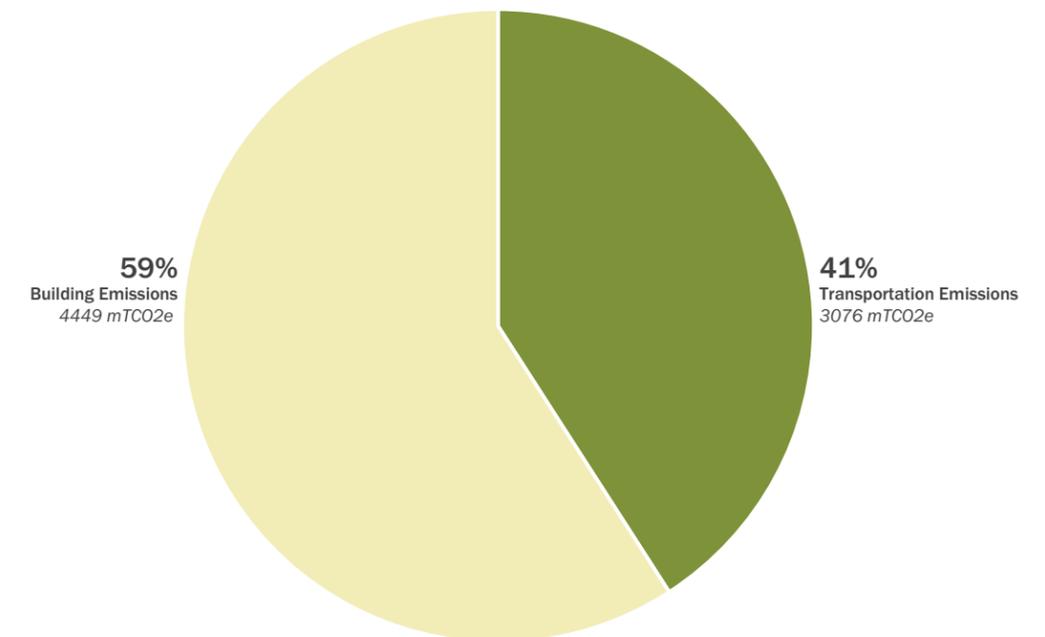
Policies, plans, or strategies aimed at influencing daily practices and facilitating implementation.

PLEDGES:

Represent long-term Forest Preserves aspirations that will, at a minimum, undergo a feasibility investigation which may lead to an implementation strategy.

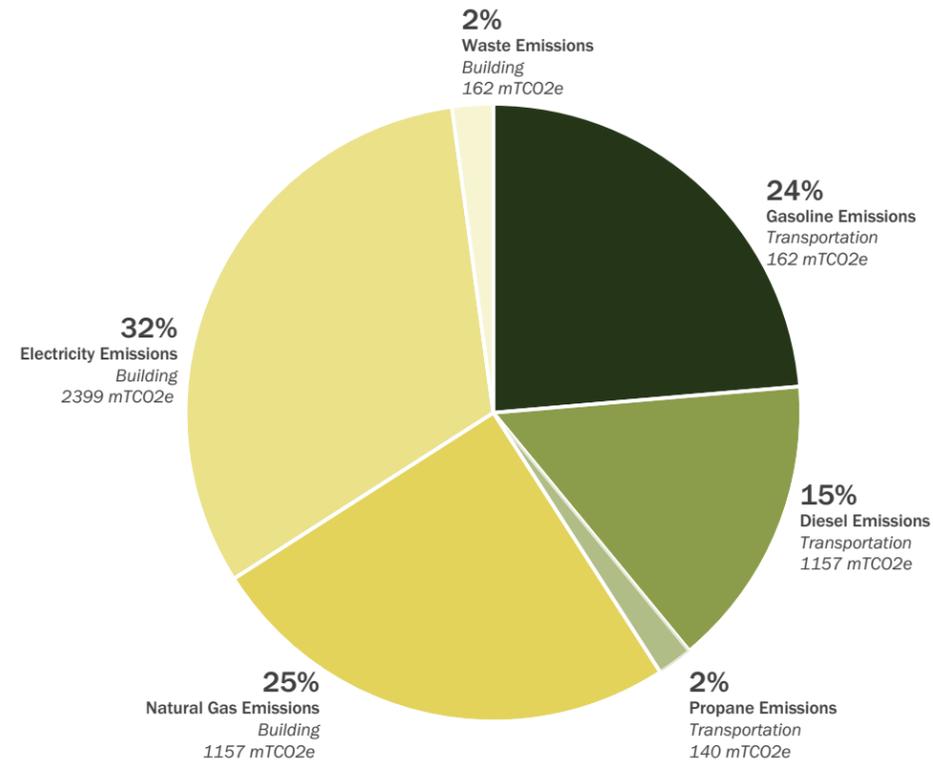
Baseline

Achieving 80% reductions of GHG emissions by 2050 necessitates a standard method for the Forest Preserves to evaluate progress and compare the impact of different strategies. The most effective solution is to convert energy units and waste generation into carbon dioxide equivalents. By doing so, the Forest Preserves can simplify annual emissions into one number and can assess sustainability projects based on their carbon footprint, especially with projects that compare different fuel and energy sources.



In 2016, the Forest Preserves' emission profile totaled 7,525 metric tons of carbon dioxide equivalents (MtCO₂e). Physical infrastructure such as electricity and natural gas consumption, fuel, along with waste generation, represent the Forest Preserves' significant sources of GHG emissions.

Building-related emissions, which include electricity, natural gas for heating and steam, and waste services, are the largest emissions, contributing 59% of emissions profile (4,449 MtCO₂e). Transportation related emissions contribute 41% of Forest Preserves' emissions profile (3,076 MtCO₂e). This segment is the aggregate of gasoline, diesel, and propane fuels that are used for fleet operations, and the equipment that is used for daily maintenance and enhancements of the Forest Preserves. Electricity contributes 32% (2,399 MtCO₂e) and is largely consumed in the staffed buildings throughout the Forest Preserves. Natural gas follows at 25% (1,888 MtCO₂e) and is also used in Forest Preserves buildings, mostly for heating applications. At 2% (625 MtCO₂e), waste is the smallest contributor of GHG within our profile and these emissions result from the transportation, processing, or decomposition of landfilled and recycled materials. Most of the waste stream is generated within the Forest Preserves, such as at pavilions or garbage cans located throughout the Forest Preserves trails, while a smaller portion comes from staff at Forest Preserves offices.



With nearly 70,000 acres of land, the Forest Preserves' ecosystems absorb 1,544,887 tons of CO₂ annually.

The associated emissions data was generated with the use of two U.S. Environmental Protection Agency (EPA) resources: The Greenhouse Gas Equivalences Calculator and the Waste Reduction Model (WARM).

It is important to note that while we are committed to drastically reducing our GHG emissions, the Forest Preserves play an essential role in climate change mitigation for the region as well. Our forests and natural habitats are carbon sinks, absorbing atmospheric carbon dioxide and storing it in the form of biomass. A 2004 study conducted by the Chicago Metropolitan Agency for Planning (CMAP) that calculated the value of green infrastructure of the region found that, *with nearly 70,000 acres of land, the Forest Preserves' ecosystems absorb 1,544,887 tons of CO₂ annually.*



In addition to absorbing more than 48 lb. of CO₂ per year, planting trees provide a plethora of ecological and social benefits.

Leadership

To support the development of this Plan, the Forest Preserves Sustainability Committee, comprised of representatives from each of the eleven Forest Preserves' departments and key external partner representatives, reorganized to create five distinct Working Groups that align with the focus areas of this Plan. Each Working Group encompasses a different focus area of the Forest Preserves' programs and activities.

- **Utilities & Emissions:** Actively incorporate sustainable practices and behaviors throughout our current and future operational footprint that decrease energy use, water consumption, utility costs, and GHG emissions.
- **Preserve Operations:** Incorporate sustainable practices and procedures through improved operational and infrastructure decision-making.
- **Learning & Engagement:** Enhance educational offerings, strengthen engagement, and expand access to empower both internal and external stakeholders to become better stewards of the land.
- **Ecological Sustainability:** Preserve, manage, restore, and expand natural conditions to ensure ecological health, biodiversity, and long-term viability of both land and water resources.
- **Implementation & Advancement:** Identify external opportunities and mobilize internal resources to bring sustainability projects to fruition.

Every member of the Sustainability Committee serves on at least one Working Group. By categorizing the Forest Preserves into five focus areas, each Working Group will have a clear and cohesive direction. The Working Groups are responsible for compiling recommendations for sustainability action items that are found in the Sustainability & Climate Resiliency Plan. Each member of a Working Group represents his/her respective department within the Forest Preserves, or other agency, and will act as a direct line of communication between the Sustainability Committee and their coworkers.

The Sustainability Committee's Steering Committee shall provide day-to-day support in the implementation of the Sustainability & Climate Resiliency Plan. The leaders of the Working Groups, along with the chair of the Sustainability Committee, comprise the Sustainability Steering Committee.

The chair of the Sustainability Committee, appointed by the General Superintendent, is responsible for overseeing and managing the implementation of the Sustainability & Climate Resiliency Plan, and for managing consultants and other vital relationships with external partners and key stakeholders. The chair also coordinates internal and external meetings and ensures that all Sustainability Committee tasks are progressing.



Top: Cook County-Department of Environment & Sustainability representative Laura Oakleaf and Forest Preserves sustainability committee member Credell Walls discuss "Smart Thermostats" at a Forest Preserves Energy Clinic. Above Lft: Resource Management Administrator Alice Brandon conducts a tour with Conservation & Policy Council members in the Palos region to discuss the restoration work done by the Conservation Corps Program. Above Rgt: Friends of the Forest Preserves Executive Director Benjamin Cox, Metropolitan Water Reclamation District (MWRD) Commissioner Debra Shore, and Forest Preserves of Cook County General Superintendent Arnold Randall participate in volunteer restoration activities for Earth Day.



Kickapoo Prairie, 2017. Photo by Alice Brandon.

Vision & Action Plans for Five Priority Areas

The Sustainability & Climate Resiliency Plan sets the foundation for a range of action plans focusing on five key priority areas:

- 1. Utilities & Emissions**
- 2. Preserve Operations**
- 3. Learning & Engagement**
- 4. Ecological Sustainability**
- 5. Implementation & Advancement**

Restoration of Kickapoo Prairie, which was rapidly declining due to invasive brush infestation, began around 2008 with volunteers clearing brush. Friends of the Forest Preserves secured multiple grants for the site starting in 2011, which included the hire of the Calumet Invasives Species Corps. The site also benefitted from Forest Preserves staff and contractor work, with emphasis on prescribed burns. There are two dedicated site stewards that lead monthly volunteer workdays. The Forest Preserves has also dedicated funds to the Chi-Cal Centennial Volunteer Program, which recruits and supports new volunteers to ensure the long-term sustainability of the site.

UTILITIES & EMISSIONS

VISION: Actively incorporate sustainable practices and behaviors throughout our current and future operational footprint that decrease energy use, water consumption, utility costs, and GHG emissions.



The LEED Platinum-certified Rolling Knolls Pavilion was designed using maximal sustainable design standards. A portion of the original clubhouse was incorporated in the design, reducing the need for new materials as well as connecting the new building to the site's history in the community. When considering the renewable energy systems, this facility will ultimately use 70% less energy than a comparable building. Photo by Matt McGrane.

Utilizing a data-driven approach, the Forest Preserves will strive to minimize our overall environmental footprint, utility costs, and GHG emissions by identifying and implementing energy and water efficiency measures across all operations. The Forest Preserves operates 555 buildings throughout Cook County, 303 of which have electrical service. Natural gas and electricity usage at these facilities account for 57% of the Forest Preserves' total GHG emissions.

With an engaged and committed workforce, the Forest Preserves will adopt sustainable policies and procedures while advancing green practices through inspired operational and infrastructure decision-making. Locally, this will further support the long-term viability of our Forest Preserves and help ensure that Cook County's legacy is preserved for future generations. Globally, these efforts will support a growing chorus of organizations and agencies seeking to reduce their GHG emissions and minimize their collective impact on the planet.

1. UTILITIES & EMISSIONS

The primary aim of this focus area is to achieve the Forest Preserves goal of reducing GHG emissions by 80%, while also cutting annual energy usage at a pace of 4.5% year-over-year.

Key Focus Areas:

- Energy Use Tracking and Efficiency
- GHG Emissions Measuring, Reporting, and Reductions
- Clean Energy Planning
- Green Infrastructure Integration
- Water Use Tracking and Efficiency

M: MILESTONE | F: FRAMEWORK | P: PLEDGE

Objectives and Target Dates

Energy Use Tracking and Efficiency:

- 1.1 Prioritize efficiency opportunities by buildings and utility consumption (M, 2018)
- 1.2 Complete energy audits of high priority sites (M, 2019)
- 1.3 Implement an ongoing energy management program based on Energy Star guidelines (M, 2019)
- 1.4 Establish utility (electricity, waste, fuel, natural gas) baseline and tracking system (M, 2018)
- 1.5 Establish water usage baseline and tracking system (M, 2019)
- 1.6 Implement an internal communications system for quarterly utility consumption reporting (M, 2018)
- 1.7 Establish an energy conservation policy (F, 2019)
- 1.8 Ensure all building sockets have LED appropriate fixtures (M, 2019)
- 1.9 Ensure all street lights have LED appropriate fixtures (M, 2019)
- 1.10 Reduce energy consumption by 4.5% annually (M, starting in 2019)

GHG Emissions Measuring, Reporting, & Reductions:

- 1.1 Reduce emissions by 80% (M, 2050)
- 1.2 Measure and publicly report progress to goal quarterly (M, 2018)

Clean Energy Planning:

- 1.1 Establish a solar energy policy (F, 2021)
- 1.2 Establish a biomass utilization policy (F, 2021)
- 1.3 Establish an energy procurement policy to supply 20% of internal energy needs (F, 2025)

Green Infrastructure Integration:

- 1.1 Incorporate energy efficient and renewable energy technologies/systems into design and construction standards and equipment specifications (M, 2019)
- 1.2 Develop green building standards for future projects (F, 2019)
- 1.3 Develop sustainable site standards for future landscape projects (F, 2019)

Water Use Tracking and Efficiency:

- 1.1 Investigate efficiency upgrades and green water treatment at pools (M, 2020)
- 1.2 Reduce water consumption by 4.5% annually (M, starting in 2019)
- 1.3 Establish a water usage policy to improve water infrastructure through sound investments (F, 2025)

PRESERVE OPERATIONS

VISION: Incorporate sustainable practices and procedures through improved operational and infrastructure decision-making.



Garbage trucks are used to collect and dispose of waste within the Forest Preserves. More than 4 tons of recycled garbage found in the Forest Preserves was redirected from landfills in 2017.

To effectively manage nearly 70,000 acres of natural space, the Forest Preserves utilizes a variety of equipment and vehicles, all of which have their own associated carbon footprint. Fleet usage resulted in consumption of over 315,000 gallons of fuel in 2016, making it the largest direct source of GHG emissions for the Forest Preserves. In addition, the daily operations of the Forest Preserves require the use of materials such as office supplies, maintenance chemicals and equipment parts. This generates significant amounts of landfill waste. The Forest Preserves is additionally responsible for the waste generated by its users, and together with its own generation, contributes to the Forest Preserves' overall GHG emissions.

The Forest Preserves will address fuel consumption by continuing to monitor and decrease fleet idling times, promoting public transportation and teleconferencing, and developing a plan to procure efficient and alternatively-fueled vehicles as existing vehicles are retired. Evaluating our internal operations and procurement processes has yielded opportunities to implement more sustainable practices that conserve electricity and fuel, reduce miles driven, and increase diversion rates for our waste. Establishing a recycling program and minimizing illegal dumping on our property will prevent more of our waste from reaching the landfill and will keep litter out of our Forest Preserves.

2. PRESERVE OPERATIONS

The primary aim of this focus area is to meet the Forest Preserves goal of reducing GHG emissions by 80% through best practice adoption and operational changes, and reducing transportation fuel usage and waste sent to a landfill at a pace of 4.5% year-over-year.

Key Focus Areas:

- Transportation
- Internal Operations
- Waste & Recycling

M: MILESTONE | F: FRAMEWORK | P: PLEDGE

Objectives and Target Dates:

Transportation:

- 2.1 Increase participation in commuter pre-tax transit benefit each year (M, Annually)
- 2.2 Increase employee commuters' use of public transportation by 5% (M, 2020)
- 2.3 Reduce fuel usage by 4.5% each year (M, 2020)
- 2.4 Establish a Green Fleet Procurement Master Plan (F, 2021)
- 2.5 Decrease idling times by 5% and create incentive program for compliance (M, 2021)
- 2.6 Install EV charging stations at previously identified locations when feasible (P, 2025)
- 2.7 Transition fleet to run exclusively on renewable fuels (P, 2030)

Internal Operations:

- 2.1 Reduce space heater usage by 20% each year (M, Annually)
- 2.2 Increase usage of salt alternative practices for icy conditions each year when appropriate (M, Annually)
- 2.3 Educate department buyers on existing opportunities to evaluate and select environmentally preferred products and services (M, Annually)
- 2.4 Establish policy and strategy to reduce usage of polystyrene foam, straws, and single-use plastics (F, 2018)
- 2.5 Establish green printing and paper reduction practices (F, 2018)
- 2.6 Update sustainability standards and targets in performance management indicator metrics (M, 2019)
- 2.7 Develop Dark-sky standards for future projects (F, 2019)

Waste & Recycling:

- 2.1 Pilot and scale up best practices for waste reduction at three key Forest Preserves sites (M, 2018)
- 2.2 Develop systematic, centralized waste-minimization guidelines including: solid, universal, hazardous, and electronic waste (F, 2019)
- 2.3 Expand recycling program to all Forest Preserves locations (F, 2019)
- 2.4 Improve policies to promote recycling, composting, and building material re-use (F, 2020)
- 2.5 Develop a strategy to address "fly dumping" (F, 2021)
- 2.6 Increase waste diversion rates to 20% (M, 2030)

LEARNING & ENGAGEMENT

VISION: Enhance educational offerings, strengthen engagement, and expand access to empower both internal and external stakeholders to become better stewards of the land.



The Forest Preserves actively engages and trains the next generation to restore and steward natural areas.

The Forest Preserves has long been an educational resource in ecology and conservation for the region. We provide programming and experiences for all ages and our Nature Centers are a conduit through which guests can discover the rich biodiversity of the region. By integrating sustainability events and workshops into our already robust education programs, visitors can learn about the challenges that our natural spaces are facing and, in parallel, learn what environmentally friendly practices they can incorporate into their daily lives.

Our education programs represent a great opportunity to engage with our citizens on sustainability issues and extend best practices beyond our borders.

At the same time, it is critical that Forest Preserves employees are informed and understand what the overall sustainability goal is, why it was developed, and how our strategies will allow us to achieve 80% reduction of GHG emissions by 2050.

3. LEARNING & ENGAGEMENT

The primary aim of this focus area is to enhance Forest Preserves educational offerings, strengthen public engagement, and expand access to empower both internal and external stakeholders to become better stewards of the Forest Preserves.

Key Focus Areas:

- Awareness & Visibility
- Community Engagement
- Employee Engagement

M: MILESTONE | F: FRAMEWORK | P: PLEDGE

Objectives and Target Dates

Visibility:

- 3.1 Update the “Leave No Waste” guide and/or related webpages (F, 2018)
- 3.2 Update the Forest Preserves Sustainability web page (F, 2018)
- 3.3 Develop waste diversion guide for picnickers (F, 2018)
- 3.4 Enhance Earth Day sustainability programming (M, 2019)
- 3.5 Hold sustainability demonstrations and presentations at Nature Centers (M, 2019)
- 3.6 Produce annual sustainability report (F, Annually, Starting in 2019)

Community Engagement:

- 3.1 Promote green practices with permit holders (F, 2018)
- 3.2 Establish a sustainability speaker series (M, 2020)
- 3.3 Increase sustainability messaging and programming in Conservation and Experiential Programming activities where appropriate (M, 2021)
- 3.4 Establish annual community energy clinics (M, Annually)
- 3.5 Expand “Tool Doctor” workshops to all applicable Forest Preserves locations (M, 2020)

Employee Engagement:

- 3.1 Integrate sustainability information and best practices into employee on-boarding and training sessions (M, 2018)
- 3.2 Expand employee-led sustainability projects and activities (M, 2018)
- 3.3 Establish mandatory green employee information session for all employees (M, 2018)
- 3.4 Establish green facility & staff recognition and/or challenge (M, 2018)
- 3.5 Institute employee requirement to complete 8 hours of habitat restoration or other sustainability related activity annually (M, 2019)
- 3.6 Incorporate sustainable practices expectations into future job descriptions (M, 2020)

ECOLOGICAL SUSTAINABILITY

VISION: To preserve, manage, restore, and expand natural conditions to ensure ecological health, biodiversity, and long-term viability of both land and water resources. Climate change poses a significant threat to our natural spaces.



Thunderstorm, Bartel Grasslands, Kris DaPra.

Climate change poses a significant threat to our natural spaces. We must be proactive in addressing this challenge by adapting to environmental impacts, deploying climate change mitigation strategies, and forming collaborations with expert organizations and regional stakeholders. To make informed decisions, the Forest Preserves will look to climate models applicable to the Cook County region prepared by National Centers for Environmental Information, the Illinois State Climatologist Office, and other expert organizations. Also, we will stay up-to-date with the current data as it becomes available. Reviewing expert projections will enable us to prepare for climatic threats before they emerge.

Significant climate change impacts of some degree should be considered inevitable and as such, the Forest Preserves will incorporate adaptation strategies to best protect our natural resources. Restoring and expanding our ecosystems will improve their resiliency and ability to withstand the various stressors that are associated with a changing climate. It is crucial that we evaluate the effectiveness of our current land management strategy and identify opportunities for improvement as new best practices emerge. The Forest Preserves must respond quickly to changing environmental conditions as they develop and will diligently monitor the health of our species to assess the efficacy of our adaptation efforts.

Emphasizing the enhancement and expansion of our natural spaces will also augment the climate change mitigation service that our native species already provide. Stantec, a consulting firm, conducted an economic valuation study of the Forest Preserves' restoration project at the Deer Grove East location. This section

of the Forest Preserves is 540 acres of natural space and was estimated to provide \$763,689 of climate regulation services per year. After restoration work was complete throughout Deer Grove East, this annual value was improved by \$112,328, a 15% increase. **By continuing to invest in habitat enhancement projects, the Forest Preserves will not only benefit the health of our unique ecosystems but yield valuable returns in the form of an increased capacity for absorbing carbon dioxide across our lands.**

By promoting the mitigation services of our ecosystems, the Forest Preserves can engage with internal and external stakeholders regarding the important role our native species have in the carbon cycle and the direct connection to climate change. The Forest Preserves will look to take an active role in promoting current scientific knowledge and become a leader in advocating for mitigation strategies in our communities. The health of our unique ecosystems is of utmost concern to the Forest Preserves and it is important that our visitors understand that actions taken today will support the protection of our natural resources for the next generations to come.

As the largest land manager in Cook County, the Forest Preserves manages 15,000 acres of floodplains directly adjacent to major streams and rivers. As the climate changes, frequency and intensity of flooding is set to increase. The Forest Preserves will continue to manage precipitation where it falls through natural floodplain management, green infrastructure adoption, and active erosion control, before it becomes stormwater runoff and contributes to flooding within the climate change context.

4. ECOLOGICAL SUSTAINABILITY

The primary aim of this focus area is to develop solutions that will address the impacts of a changing climate, and provide effective management practices that will ensure the long-term viability of Forest Preserves lands and water resources.

Key Focus Areas:

- Addressing the Impacts of Climate Change
- Natural Resources Management and Practices

M: MILESTONE | F: FRAMEWORK | P: PLEDGE

Objectives and Target Dates

Addressing the Impacts of Climate Change:

- 4.1 Include climate resiliency criteria in land acquisition process (M, 2019)
- 4.2 Establish climate change advocacy strategy (P, 2020)
- 4.3 Establish climate change mitigation and adaptation plan & policy adopted by Board of Commissioners (F, 2020)
- 4.4 Establish guidelines for water resource management (F, 2021)
- 4.5 Train Law Enforcement staff on endangered species, archaeological artifacts, and other resources that need to be protected (M, 2019)

- 4.1 Establish “Mitigating Impacts on Nature” Policy (F, 2018)
- 4.2 Establish Native Seed Policy Outreach and Advocacy Plan (M, 2018)
- 4.3 Align sustainability goals with NCRMP (Natural & Cultural Resources Master Plan) & NCCP (Next Century Conservation Plan) goals (M, 2019)
- 4.4 Determine the most effective hydrological repairs that protect natural resources and contribute to sustainable water resource management. (M, 2021)

Stantec Consulting Services Inc. (2016). Economic Valuation Study: Deer Grove East (pp. 13-20, Rep.).

Natural Resources Management and Practices:

Implementation & Advancement

VISION: Identify external opportunities and mobilize internal resources to bring sustainability projects to fruition.



A volunteer gives back to the Forest Preserves community by helping with restoration efforts at our Martin Luther King Jr. Service Day event at Dan Ryan Woods. The Forest Preserves partners with volunteers and volunteer groups to remove invasive species, giving native species the opportunity to grow and thrive.

The successful implementation of the Forest Preserves' sustainability initiatives depends largely on sufficient funding and district-wide support. To support our projects across all focus areas, a fundraising strategy will become a top priority. Identifying grants, rebates, and other external resources will allow the Forest Preserves to invest in the ambitious goals that have been set forth in this Plan.

In addition, the way we utilize our internal resources will evolve to better align with our sustainability mission. By making environmentally preferred purchases, we will increase our waste diversion rates and reduce our consumption of single-use plastic items. We will also look to engage our stakeholders by integrating sustainable practices into our concessionaires' operations and educating guests that pursue permits for the Preserves.

5. Implementation & Advancement

The primary aim of this focus area is to identify external opportunities and mobilize internal resources to bring the Sustainability & Climate Resiliency Plan goals into fruition.

Key Focus Areas

- Green Purchasing
- Green Economics
- Advancement

M: MILESTONE | F: FRAMEWORK | P: PLEDGE

Objectives and Target Dates

Green Purchasing:

- 5.1 Establish ban on foamed polystyrene and plastic straws, both internally and their usage within Forest Preserves natural spaces (F, 2019)
- 5.2 Establish Green Purchasing Policy that prioritizes durable, reusable, recyclable, compostable and environmentally-conscious goods and services (F, 2019)
- 5.3 Increase the purchase of environmentally preferred goods and services by 10% (M, 2019)

Green Economics:

- 5.1 Establish a Green Concessions Policy (F, 2018)
- 5.2 Develop Green Practices that can be implemented by permit holders (M, 2018)
- 5.3 Establish a Green Investment Policy (F, 2020)
- 5.4 Update the Reserve Funds Guidelines to include sustainability criteria (F, 2018)

Advancement:

- 5.1 Research and pursue funding opportunities that advance the Sustainability Master Plan objectives (M, 2019)
- 5.2 Increase energy rebates by 35% (M, 2020)
- 5.3 Investigate feasibility of a long-term study to determine efficacy of Forest Preserves management practices at addressing the effects of changing climate (P, 2025)
- 5.4 Partner with municipalities to improve consistent practices and leverage resources (M, Ongoing)
- 5.5 Partner with non-profit and academic institutions to improve consistent practices and leverage resources (M, Ongoing)

External Support & Collaboration

To achieve the ambitious Sustainability & Climate Resiliency Plan goals, the Forest Preserves requires the active support and collaboration of elected officials, governmental entities, partner organizations, corporations, and Cook County residents and visitors.

STAKEHOLDER TYPE	EXAMPLES
Elected Officials	Challenge staff & partners to explain how proposals might positively or negatively impact sustainability goals.
	Ensure all metrics are transparent, published in a timely manner, and accessible to the public across various platforms.
Governmental Entities	Share best practices.
	Partner and leverage resources to accomplish mutual goals.
Partners Non-Profits Community Entities Colleges/Universities Civic Groups	Collaborate on joint programs to achieve mutual goals.
Corporations	Fund Forest Preserves ecological restoration activities.
	Fund the next generation of conservation leaders doing sustainability and restoration work at the Forest Preserves.
	Help expand the Forest Preserves recycling initiatives.
County Residents & Visitors	While in the Forest Preserves, recycle your waste according to signage.
	While in the Forest Preserves, reduce your plastic (straws, balloons, etc.) and polystyrene usage.
	Help restore land to contribute to greater carbon sequestration that the Forest Preserves provides.



A volunteer collects seeds from prairie plants. Managing and restoring native areas sometimes requires collecting seeds and replanting them in damaged areas.

Roadmap to Implementation

Strategies identified in the Sustainability & Climate Resiliency Plan will be implemented largely by the respective Sustainability Committee Working Groups. The Forest Preserves has limited capacity to fully implement this Plan without additional resources and support. Many of the Plan's strategies require funding that currently does not fit in the traditional budgeting

cycle of the Forest Preserves. Thus, implementation for each individual strategy for a given year will be set by the Sustainability Committee, as approved by the General Superintendent. To operationalize a long-term plan, the Sustainability Committee has outlined a roadmap to implement the strategies and created priority frameworks for any additional strategies identified.

Personnel Strategies:

The Forest Preserves hopes to secure additional resources to fully fund implementation of the Plan and to hire a Sustainability Officer to coordinate district efforts. However, until additional resources are secured, the Forest Preserves will prioritize strategies that align with existing personnel job duties and the Next Century Conservation Plan. Additionally, the Forest Preserves will build internal sustainability capacity by providing access to continuing education and training opportunities in sustainability and climate mitigation related content.

Funding Strategies:

With limited financial resources, the Forest Preserves will prioritize strategies that have:

1. Three years or less return of capital investment.
2. Ability to leverage external funds or grants.
3. Reduction in operational expenditures.
4. Ability to extend the life of existing infrastructure.

Social Equity Strategies:

The Forest Preserves strives to ensure social equity and will embrace the Government Alliance on Race and Equity's (GARE) Racial Equity Toolkit. This toolkit attempts to achieve racial equity and advance opportunities for all.

The Racial Equity Toolkit is a set of questions that the Forest Preserves and its partners will be asking as we set out to achieve the overall goals of the Plan, including:

1. How could achieving this objective reduce inequalities?
2. Would achieving this objective worsen inequities?
3. How could we measure its impact on equity?
4. Do our strategies achieve our objectives in a way that will also reduce inequity?
5. How do we mitigate possible inequities?



Youth participants report the presence of invasive plant species through a citizen science program. Data collected by volunteers and citizen scientists helps the Forest Preserves track whether plant or animal species are expanding or declining.

PLAN AREAS	FOCUS AREA	KEY OBJECTIVES	TYPE	RANGE	TARGET YEAR
●	Addressing the Impacts of Climate Change	Establish climate change advocacy strategy	Pledge	S	2020
●	Addressing the Impacts of Climate Change	Establish climate change mitigation and adaptation plan & policy adopted by Board of Commissioners	Framework	S	2020
●	Addressing the Impacts of Climate Change	Include climate resiliency criteria in land acquisition process	Milestone	S	2019
●	Natural Resources Management & Practices	Determine the most effective hydrological repairs that protect natural resources and contribute to sustainable water resource management	Milestone	S	2021
●	Natural Resources Management & Practices	Establish "Mitigating Impacts on Nature" Policy	Framework	S	2018
●	Natural Resources Management & Practices	Establish a Native Seed Policy Outreach & Advocacy Plan	Milestone	S	2019
●	Natural Resources Management & Practices	Align sustainability goals with NCRMP & NCCP goals	Milestone	S	2019
●	Natural Resources Management & Practices	Train Law Enforcement staff on endangered species, archeological artifacts, and other resources that need to be protected	Milestone	S	2019
●	Natural Resources Management & Practices	Establish guidelines for water resource management	Framework	M	2021
●	Awareness & Visibility	Update the "Leave No Waste" guide and/or related webpages	Framework	S	2018
●	Awareness & Visibility	Hold sustainability demonstrations and presentations at Nature Centers	Milestone	S	2019
●	Awareness & Visibility	Produce annual sustainability report	Framework	S	Annually
●	Awareness & Visibility	Update the Forest Preserves Sustainability webpage	Framework	S	2018
●	Awareness & Visibility	Develop waste diversion guide for picnickers	Framework	S	2018
●	Awareness & Visibility	Enhance Earth Day sustainability programming	Milestone	S	2020
●	Community Engagement	Establish annual community energy clinics	Milestone	M	2021

Ecologic Sustainability ● Learning & Engagement ● Preserve Operations ● Implementation & Advancement ● Utilities & Emissions ●

PLAN AREAS	FOCUS AREA	KEY OBJECTIVES	TYPE	RANGE	TARGET YEAR
●	Community Engagement	Promote green practices with permit holders	Framework	S	2018
●	Community Engagement	Establish a sustainability speaker series	Milestone	S	2020
●	Community Engagement	Increase Green/Sustainability messaging and programming in CEP activities where appropriate	Milestone	M	2021
●	Community Engagement	Expand "Tool Doctor" workshops to all applicable Forest Preserves locations	Milestone	S	2020
●	Community Engagement	Establish green facility & staff recognition and/or challenge	Milestone	S	2018
●	Community Engagement	Institute employee requirement to complete 8 hours of habitat restoration or other sustainability related activity annually	Milestone	S	2019
●	Employee Engagement	Incorporate sustainable practices expectations into future job descriptions	Milestone	S	2020
●	Employee Engagement	Establish mandatory green employee information session for all employees	Milestone	S	2018
●	Employee Engagement	Expand employee-led sustainability projects and activities	Milestone	S	2018
●	Employee Engagement	Integrate sustainability information and best practices into employee on-boarding and other training sessions	Milestone	S	2018
●	Employee Engagement	Establish policy and strategy to reduce usage of polystyrene foam, straws, and single-use plastics	Framework	S	2018
●	Employee Engagement	Establish green printing and paper reduction practices	Framework	S	2018
●	Internal Operations	Update Sustainability Standards & Targets in Performance Management Indicator Metrics	Milestone	S	Annually
●	Internal Operations	Reduce space heater usage by 20% per year	Milestone	S	Annually
●	Internal Operations	Increase usage of salt alternative practices for icy conditions each year when appropriate	Milestone	S	Annually
●	Internal Operations	Evaluate and select environmentally preferred products and services and educate department buyers on approved green products.	Milestone	S	Annually
●	Internal Operations	Develop Dark-sky standards for future projects	Framework	S	2019

Ecologic Sustainability ● Learning & Engagement ● Preserve Operations ● Implementation & Advancement ● Utilities & Emissions ●

PLAN AREAS	FOCUS AREA	KEY OBJECTIVES	TYPE	RANGE	TARGET YEAR
●	Transportation	Establish a Green Fleet Procurement Master Plan	Framework	M	2021
●	Transportation	Install EV Charging Stations at previously identified locations when feasible	Pledge	L	2025
●	Transportation	Transition fleet to run exclusively in renewable energy	Pledge	L	2030
●	Transportation	Increase employee commuters' use of public transportation by 5%	Milestone	S	2020
●	Transportation	Reduce fuel usage 4.5% each year	Milestone	S	2020
●	Transportation	Decrease idling times by 5% and create incentives for compliance	Milestone	M	2021
●	Waste & Recycling	Develop a strategy to address "fly dumping"	Framework	S	2019
●	Waste & Recycling	Develop systematic, centralized waste-minimization guidelines including: solid, universal, hazardous, and electronic waste	Framework	S	2019
●	Waste & Recycling	Expand recycling program to all Forest Preserves locations	Framework	S	2019
●	Waste & Recycling	Improve policies to promote recycling, composting, and building material re-use	Framework	S	2020
●	Waste & Recycling	Pilot and scale best practices for waste reduction at three key Forest Preserves sites	Milestone	L	2030
●	Waste & Recycling	Increase Diversion Rates to 20%	Milestone	L	2030
●	Advancement	Increase Energy Rebates by 35%	Milestone	M	2020
●	Advancement	Research and pursue funding opportunities that advance the Sustainability Master Plan objectives	Milestone	S	2019
●	Advancement	Partner with municipalities to improve consistent practices and leverage resources	Milestone	S	2019
●	Advancement	Partner with non-profit and academic institutions to improve consistent practices and leverage resources	Milestone	S	Ongoing
●	Advancement	Investigate feasibility of a long-term study to determine efficacy of Forest Preserves management practices at addressing the effects of changing climate	Pledge	L	2025

Ecologic Sustainability ● Learning & Engagement ● Preserve Operations ● Implementation & Advancement ● Utilities & Emissions ●

PLAN AREAS	FOCUS AREA	KEY OBJECTIVES	TYPE	RANGE	TARGET YEAR
●	Green Economics	Establish a Green Investment Policy	Framework	S	2020
●	Green Economics	Establish a Green Concessions Policy	Framework	S	2018
●	Green Economics	Develop Green Practices that can be implemented by permit holders	Milestone	S	2018
●	Green Economics	Update the Reserve Funds Guidelines to include sustainability criteria	Framework	S	2019
●	Green Purchasing	Establish ban on foamed polystyrene and plastic straws, both internally and their usage within Forest Preserves natural spaces	Framework	S	2019
●	Green Purchasing	Establish Green Purchasing Policy that prioritizes durable, reusable, recyclable, compostable and environmentally-conscious goods and services	Framework	S	2019
●	Green Purchasing	Increase the purchase of environmentally preferable goods and services by 10%	Milestone	S	2019
●	Energy Use Tracking & Efficiency	Prioritize efficiency opportunities by buildings and utility consumption	Milestone	S	2018
●	Green Purchasing	Establish utility (electricity, waste, fuel, natural gas) baseline and tracking system	Milestone	S	2018
●	Energy Use Tracking & Efficiency	Establish water usage baseline and tracking system	Milestone	S	2019
●	Energy Use Tracking & Efficiency	Implement an internal communications system for quarterly utility consumption reporting	Milestone	S	2018
●	Energy Use Tracking & Efficiency	Complete energy audits of high priority sites	Milestone	S	2019
●	Energy Use Tracking & Efficiency	Implement an ongoing energy management program based on Energy Star guidelines	Milestone	S	2019
●	Energy Use Tracking & Efficiency	Establish an energy conservation policy	Framework	S	2019
●	Energy Use Tracking & Efficiency	Ensure all building sockets have LED appropriate fixtures	Milestone	S	2019
●	Energy Use Tracking & Efficiency	Ensure all street lights have LED appropriate fixtures	Milestone	S	2019
●	Energy Use Tracking & Efficiency	Reduce energy consumption by 4.5% annually	Milestone	S	2019

Ecologic Sustainability ● Learning & Engagement ● Preserve Operations ● Implementation & Advancement ● Utilities & Emissions ●

PLAN AREAS	FOCUS AREA	KEY OBJECTIVES	TYPE	RANGE	TARGET YEAR
●	GHG Emissions Measuring, Reporting, & Reductions	Reduce GHG emissions	Milestone	S	2020
●	GHG Emissions Measuring, Reporting, & Reductions	Measure and publicly report progress to goals quarterly	Milestone	S	2020
●	Clean Energy Planning	Establish a solar energy policy	Framework	M	2021
●	Clean Energy Planning	Establish a biomass utilization policy	Framework	M	2021
●	Clean Energy Planning	Establish an energy procurement policy to supply 20% of internal energy needs	Framework	L	2025
●	Green Infrastructure Integration	Incorporate energy efficient and renewable energy technologies/systems into design and construction standards and equipment specifications where feasible	Milestone	S	2019
●	Green Infrastructure Integration	Review and update green building standards for future projects	Framework	S	2019
●	Green Infrastructure Integration	Develop sustainable site standards for future landscape projects	Framework	F	2019
●	Water Use Tracking & Efficiency	Investigate efficiency upgrades and green water treatment at pools	Milestone	S	2020
●	Water Use Tracking & Efficiency	Reduce water consumption by 4.5% annually	Milestone	S	2020
●	Water Use Tracking & Efficiency	Establish a water usage policy to improve water infrastructure through sound investments	Framework	L	2025

Monitoring & Reporting

Monitoring progress of the Plan's goals and reporting back to the community is an important aspect of this Plan. This allows the Forest Preserves' stakeholders to track our progress, participate in the various sustainability activities, and bring recognition to the Forest Preserves' sustainability efforts.

To that end, the Forest Preserves will create an annual progress report starting in 2019 that includes:

- A sustainability report that provides a snapshot of progress by each Sustainability Committee Working Group of the Plan. It will include a list of strategies, associated target indicators and measured indicators during reporting years, approximate percent complete for each strategy, and the number of strategies completed and underway.
- A brief narrative of the proposed activities and work plan for the coming year.

As part of its internal monitoring and reporting, the Forest Preserves will collect and report the following data annually by calendar year (January to December):

- **Natural Gas Usage:** The Forest Preserves will report natural gas usage (therms) provided by the natural gas utilities that service the Forest Preserves.
- **Electricity Usage:** The Forest Preserves will report electricity usage (kwh) as provided by the electricity utility that services the Forest Preserve.
- **Fuel Usage:** The Forest Preserves will report transportation fuel usage (gal for liquid fuels and therms for gas) by type as recorded by the fuel management system managed by Facilities & Facilities Maintenance Department.
- **Waste Usage:** The Forest Preserves will report on tons of solid waste recycled and landfilled as provided by haulers serving the Forest Preserves.

Using the above data, the Forest Preserves will calculate greenhouse gas emissions using webtools provided by Integrated Climate and Landscape Evolution Analyses (ICLEA) or EPA.



A Forest Preserves employee secures the propane fuel tank on an alternative fuel riding mower. The Forest Preserves introduced propane riding mowers in 2012 while phasing out diesel riding mowers. Using propane riding mowers is one way to reduce carbon emissions and maintain air quality.

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Sunset, Saganashkee Slough, by Robert Schwaan, Willow Springs, August 2016

Glossary

Carbon Footprint - the amount of carbon dioxide and other carbon compounds emitted due to the consumption of fossil fuels by a particular person, group, etc.

Climate Change - a change in global or regional climate patterns, in particular a change apparent from the mid to late 20th century onwards and attributed largely to the increased levels of atmospheric carbon dioxide produced by the use of fossil fuels.

Climate Resiliency - the capacity of a community, business, or natural environment to prevent, withstand, respond to, and recover from a disruption.

Dark sky standard - policies aimed at reducing the prevalence of light pollution in a given area

Fly Dumping - Illegal dumping, or “fly dumping,” is the dumping of any waste material on public or private property without permission

GHG - any gaseous compound in the atmosphere that is capable of absorbing infrared radiation, thereby trapping and holding heat in the atmosphere.

Heat Island Effect - is an urban area or metropolitan area that is significantly warmer than its surrounding rural areas due to human activities.

Restoration - the practice of renewing and restoring degraded, damaged, or destroyed ecosystems and habitats in the environment by active human intervention and action

Renewable Energy - energy that is collected from renewable resources, which are naturally replenished on a human timescale, such as sunlight, wind, rain, tides, waves, and geothermal heat.

Sustainability - avoidance of the depletion of natural resources in order to maintain an ecological balance.



Cap Sauers & Teasons Woods

About the Forest Preserves of Cook County

Don't you sometimes just want to escape? Explore the natural beauty of Cook County for an hour, a day or even a night. When you're surrounded by 70,000 acres of wild and wonderful, there's no better place to feel free.

It's a place where plants and animals thrive

We protect native species and their homes. Volunteers help us conserve, preserve and restore—and no, those are not all the same. Enter this world of prairies, woodlands and wetlands, and see why we're so committed to nature.

Forest Preserves of Cook County
General Headquarters
536 N Harlem, River Forest, IL 60305

Toni Preckwinkle, *President*

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Edward M. Moody, *6th District*

Jesús G. Garcia, *7th District*

Luis Arroyo, Jr., *8th District*

Peter N. Silvestri, *9th District*

Bridget Gainer, *10th District*

John P. Daley, *11th District*

John A. Fritchey, *12th District*

Larry Suffredin, *13th District*

Gregg Goslin, *14th District*

Timothy O. Schneider, *15th District*

Jeffrey R. Tobolski, *16th District*

Sean M. Morrison, *17th District*



Dan Ryan Woods

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