

Why a County Greenhouse?

Dakota County Parks - Natural Resources



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Overview

- **Native Habitat Restoration and Monitoring in Dakota County**
- **Dakota County's Native Plant Propagation and Volunteer Programs**
- **Improved Programs through Improved Facilities: Greenhouse and Maintenance Facility Tour**

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Habitat Restoration

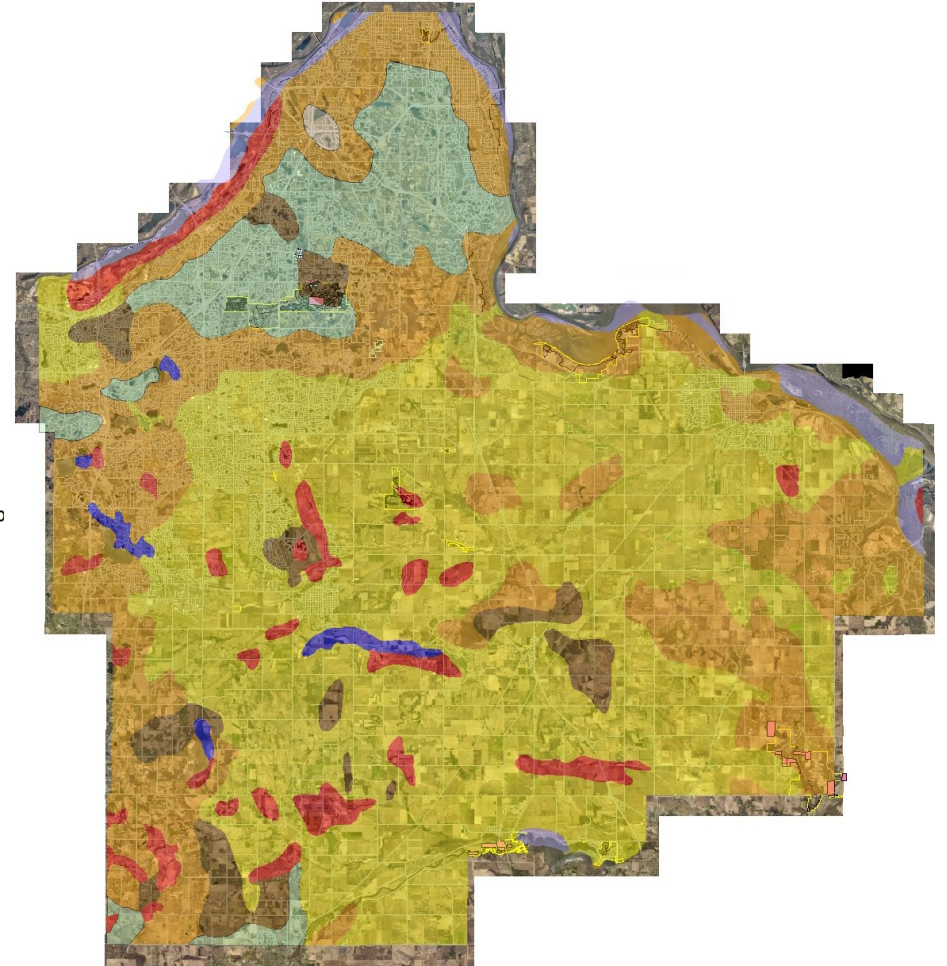
- **Maps**

- Historic conditions

Pre-settlement Land Classification

Legend

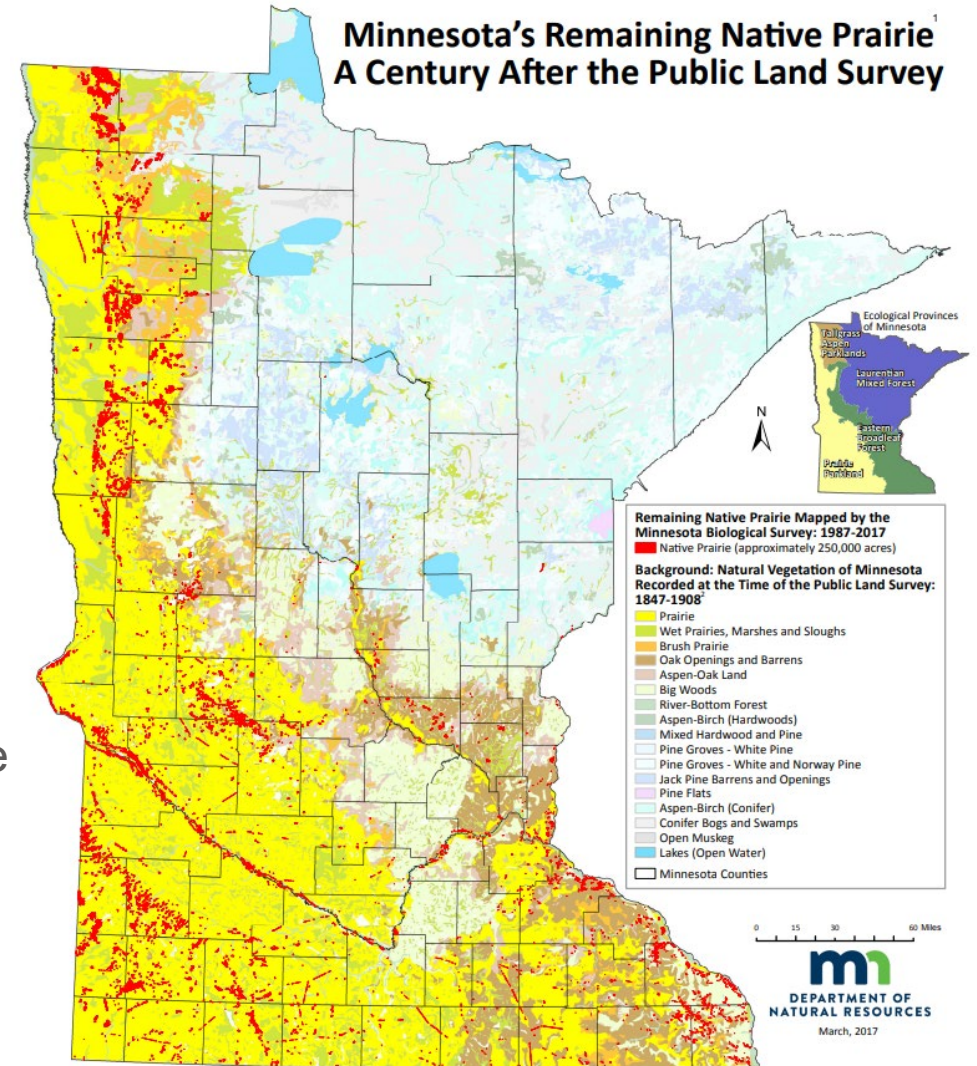
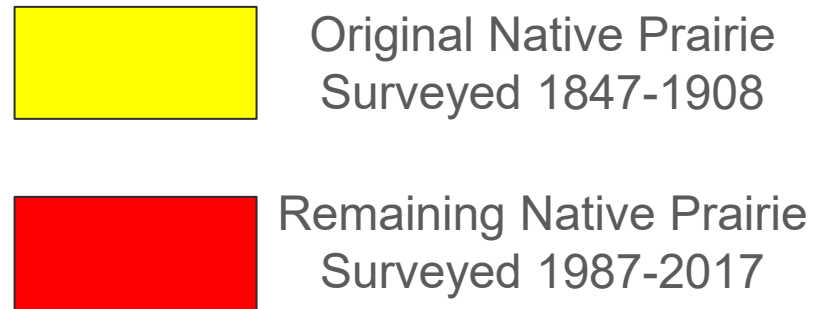
- Prairie
- Wet Prairie
- Brush Prairie
- Aspen-Oak Land
- Oak Openings and Barrens
- Big Woods - Hardwoods (Oak, Map)
- River Bottom Forest
- Lakes (Open Water)
- Private Property
- Park Boundary



Habitat Restoration

Maps

- Historic conditions
- Current conditions

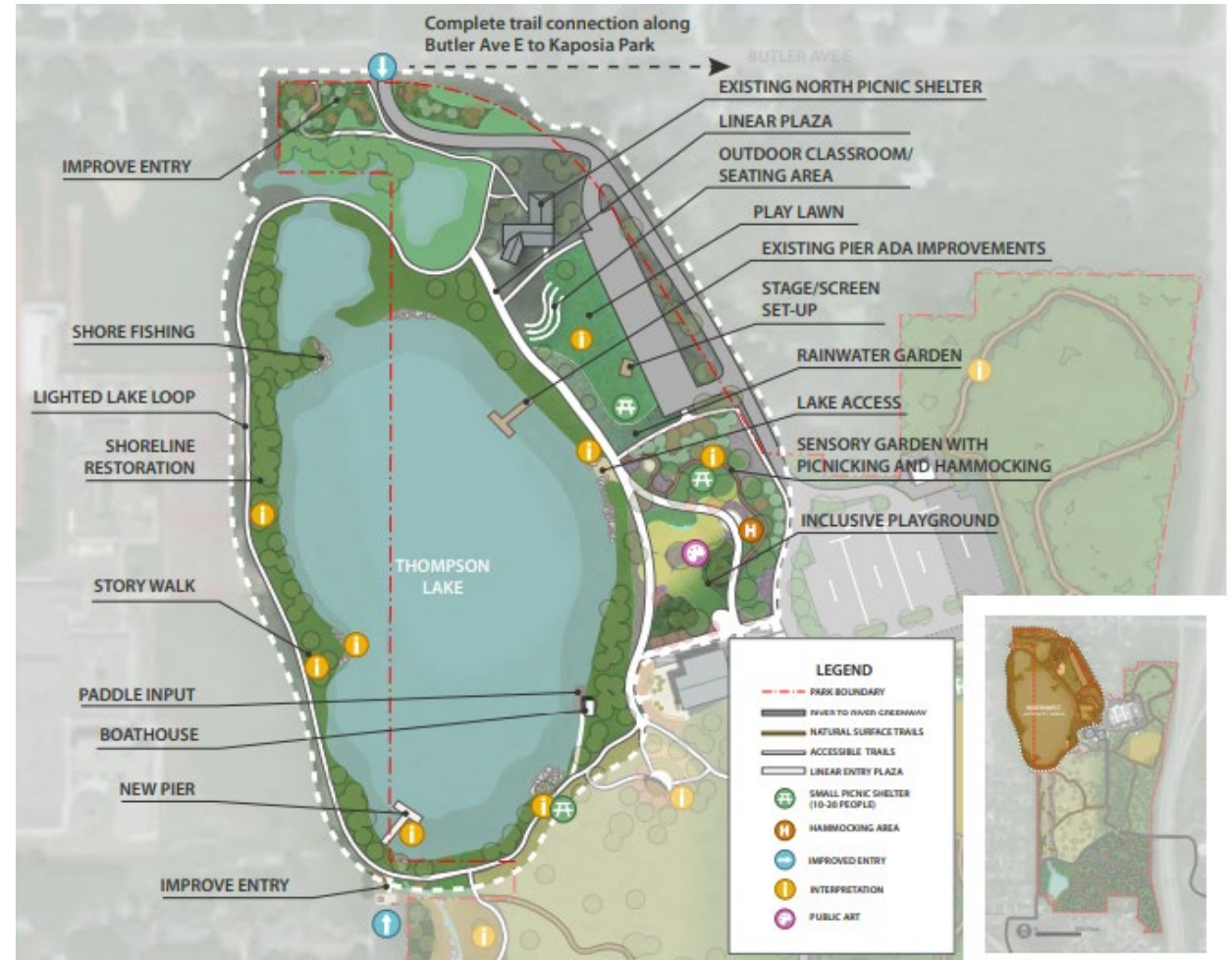


Habitat Restoration

- **Maps**

- Historic conditions
- Current conditions
- Future conditions

Thompson County Park 10-Year Improvement Plan



Habitat Restoration

- **Maps**
 - Historic conditions
 - Current conditions
 - Future conditions
- **Site Surveys**
 - Vegetation



Habitat Restoration

- **Maps**
 - Historic conditions
 - Current conditions
 - Future conditions
- **Site Surveys**
 - Vegetation
 - Wildlife



Habitat Restoration

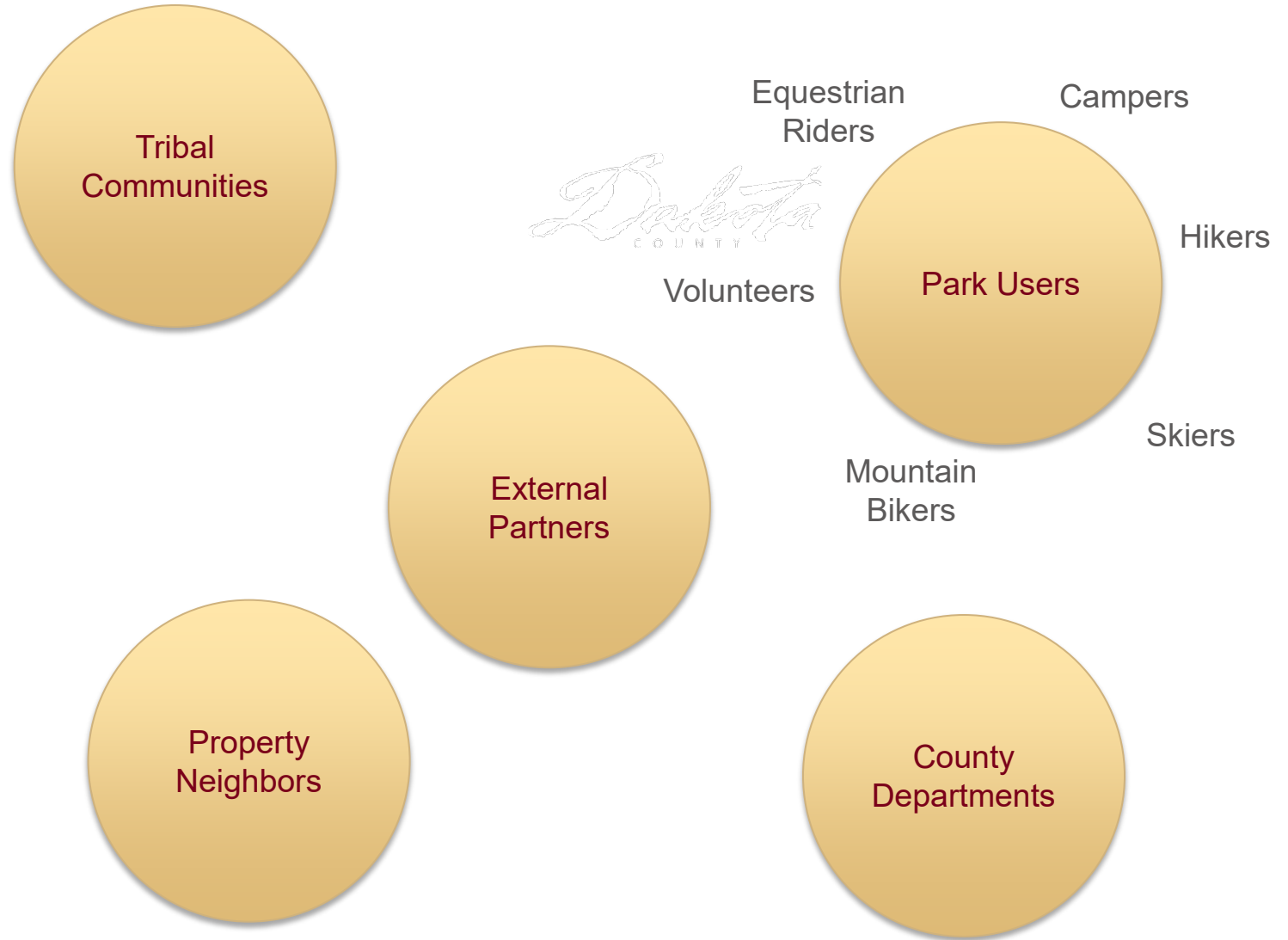
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- Historic conditions
- Current conditions
- Future conditions

- **Site Surveys**

- Vegetation
- Wildlife

- **Internal and External Input**

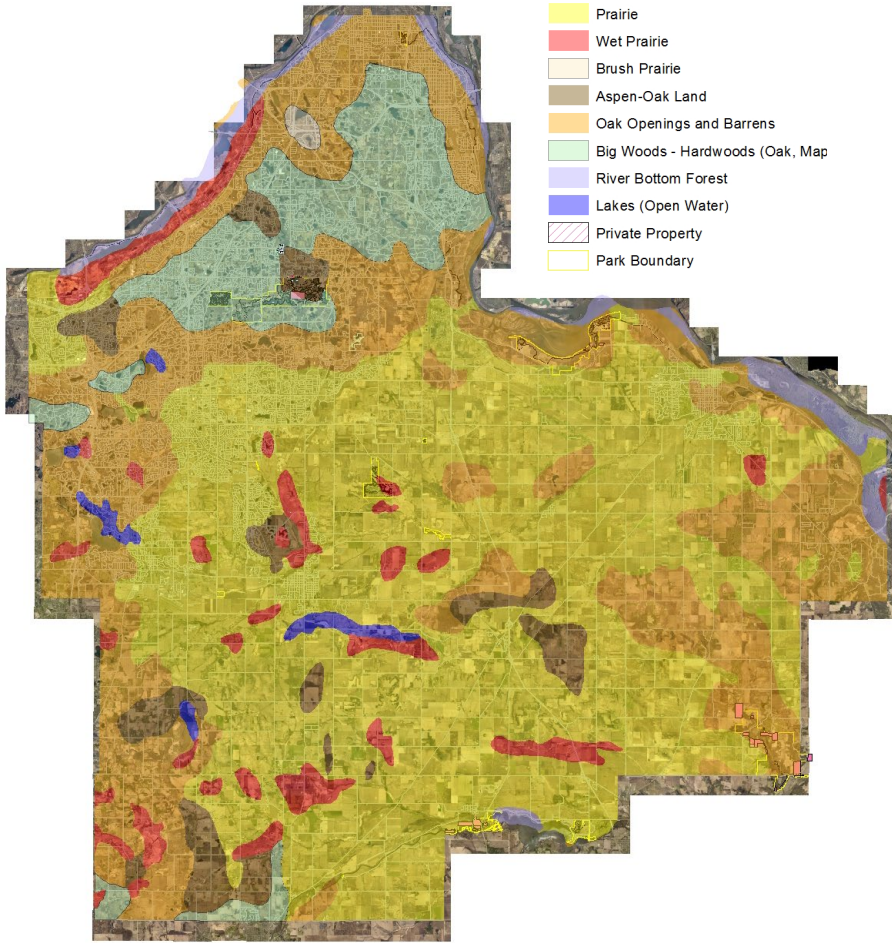


Habitat Restoration

Historic Cover Types

Legend

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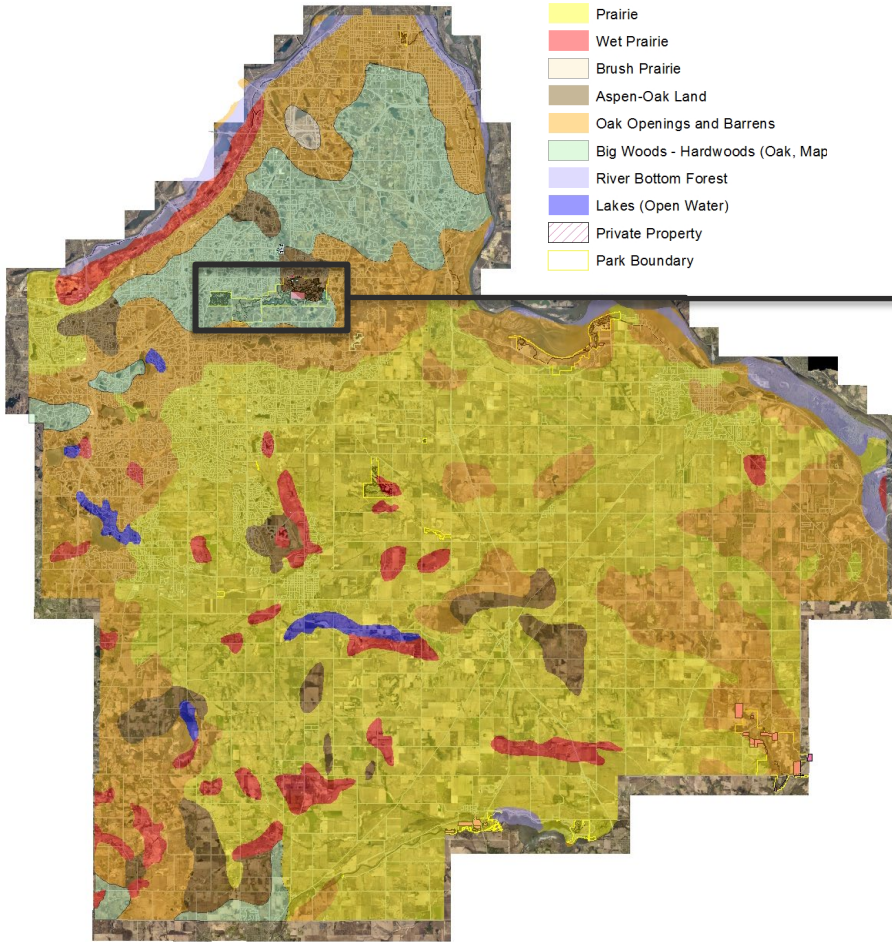
Dakota
COUNTY

Habitat Restoration

Historic Cover Types

Legend

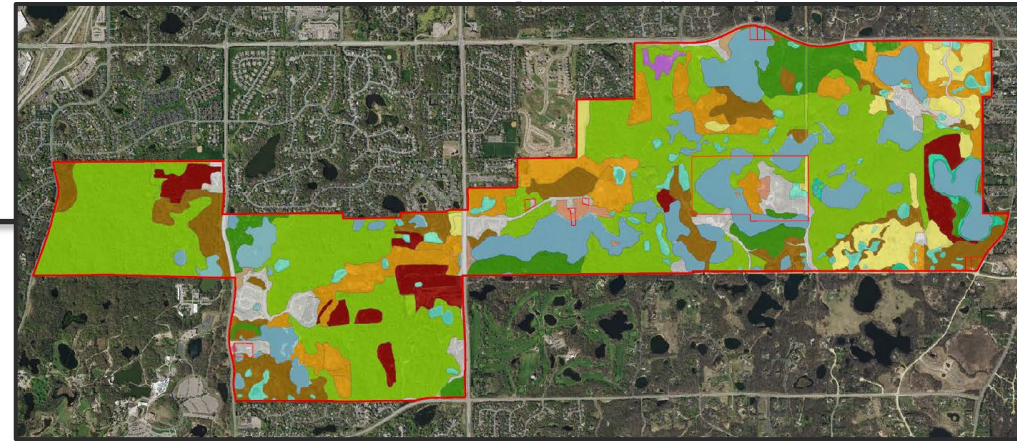
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Legend

Desired Future Cover Types

- | | | | |
|---|--|---|---|
| Aspen forest | Lowland Hardwood Forest | Open water (marsh-lake) | Mesic prairie |
| Cattail marsh | Mesic oak forest | Oak forest | Tamarack swamp |
| Cultural | Mixed emergent marsh | Oak savanna | Wet prairie |
| Dry oak forest | Mixed hardwood swamp | Oak woodland-brushland | |
| | | Mixed pine-hardwood forest | |












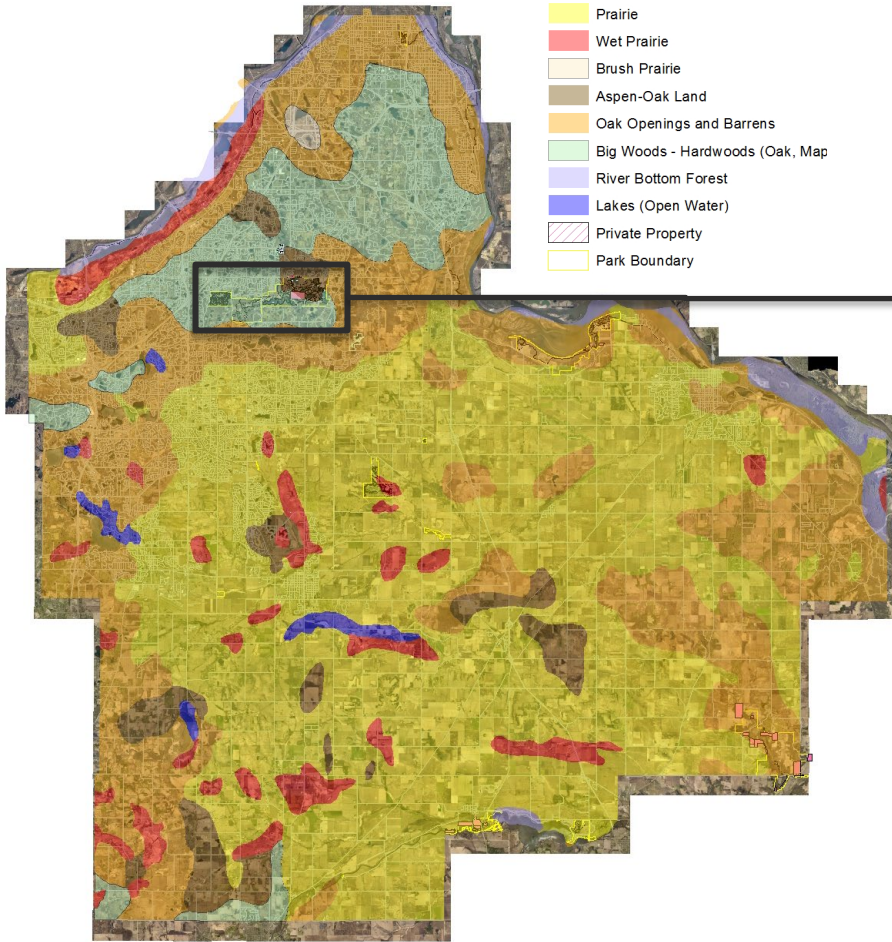
Restoration
Goals

Habitat Restoration

Historic Cover Types

Legend

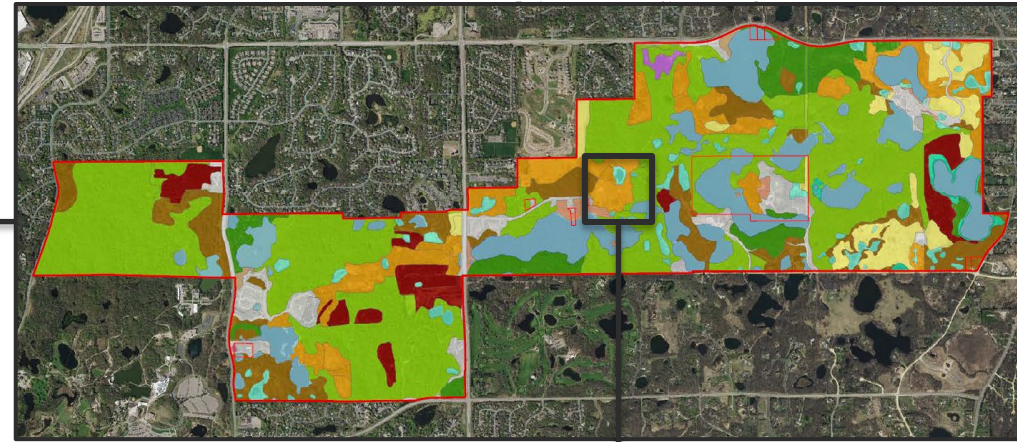
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|  Cattail marsh |  Mesic oak forest |  Oak forest |  Tamarack swamp |
|  Cultural |  Mixed emergent marsh |  Oak savanna |  Wet prairie |
|  Dry oak forest |  Mixed hardwood swamp |  Oak woodland-brushland | |



Restoration Goals



Current Condition Example

Habitat Restoration

Before Restoration



Habitat Restoration

Before Restoration



After Restoration



Dakota
COUNTY

Habitat Restoration

Before Restoration



Implementing and Monitoring



After Restoration



Habitat Restoration

Before Restoration



Implementing and Monitoring



After Restoration



Native Plant Propagation

Overview

- Native Habitat Restoration and Monitoring in Dakota County
- **Dakota County's Native Plant Propagation and Volunteer Programs**
- Improved Programs through Improved Facilities: Greenhouse and Maintenance Facility Tour

Native Plant Propagation

- Native Plant Propagation

2018



2025



Native Plant Propagation

- **Native Plant Propagation**

 - Program Goals

 - Grow a **diverse** selection of locally sourced plants for restoration efforts



Native Plant Propagation

- **Native Plant Propagation**

Program Goals

- Grow a **diverse** selection of locally sourced plants for restoration efforts
- Utilize species that are expensive or **unavailable** from vendors



Native Plant Propagation

Native Plant Propagation

Program Goals

- Grow a **diverse** selection of locally sourced plants for restoration efforts
- Utilize species that are expensive or **unavailable** from vendors
- Support special **restoration projects** (e.g., Regal Fritillary reintroduction & Lead Plant Moth habitat at SLPR Bison Range Prairie)

Regal Fritillary



Native Plant Propagation

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- Establish propagation beds as a **renewable source** of local seeds

Planting at the new propagation bed



Native Plant Propagation

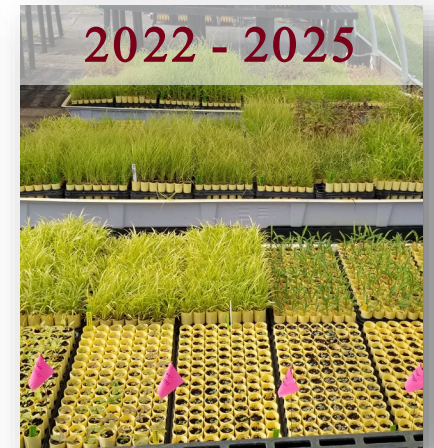
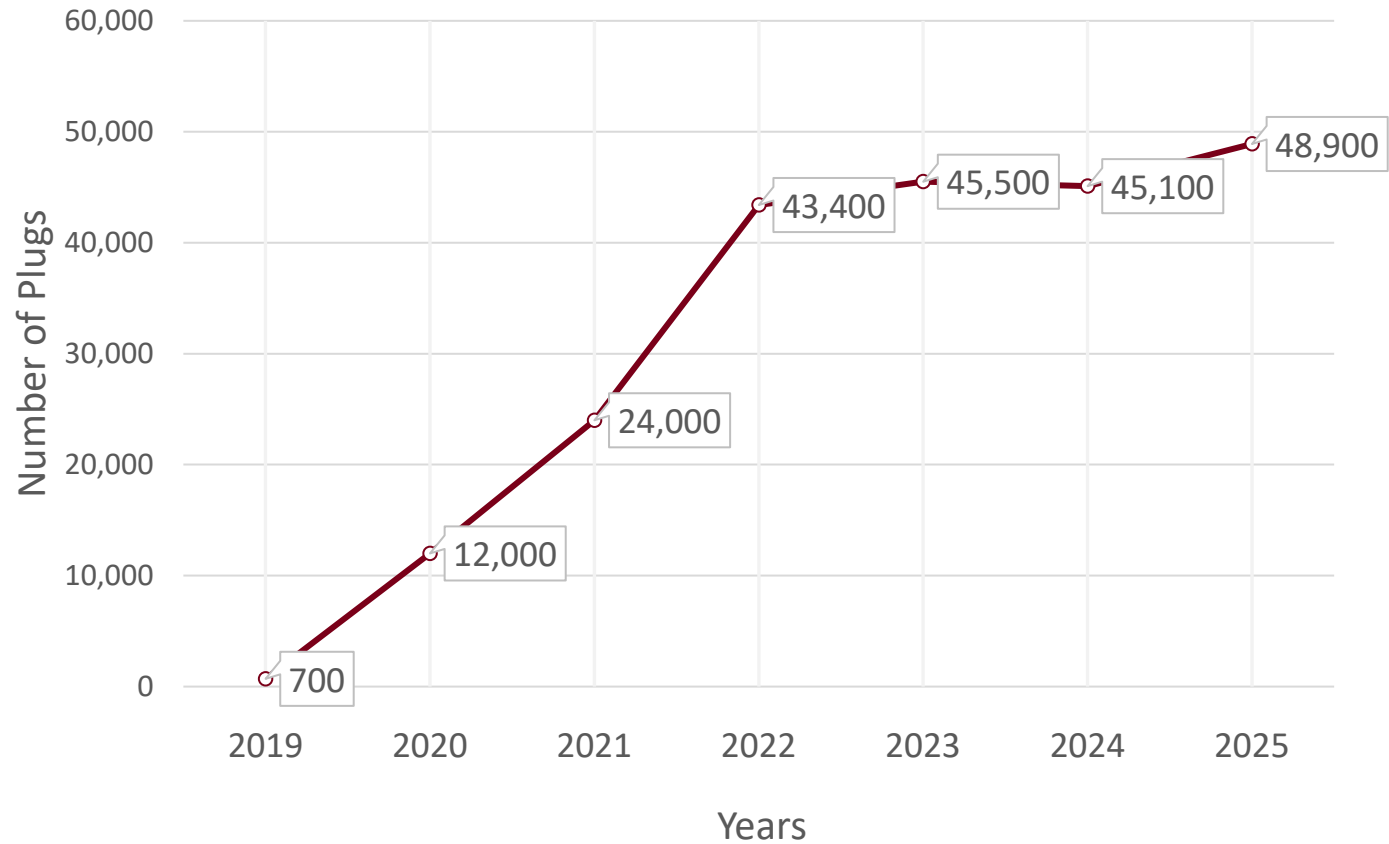
Native Plant Propagation

Program Goals

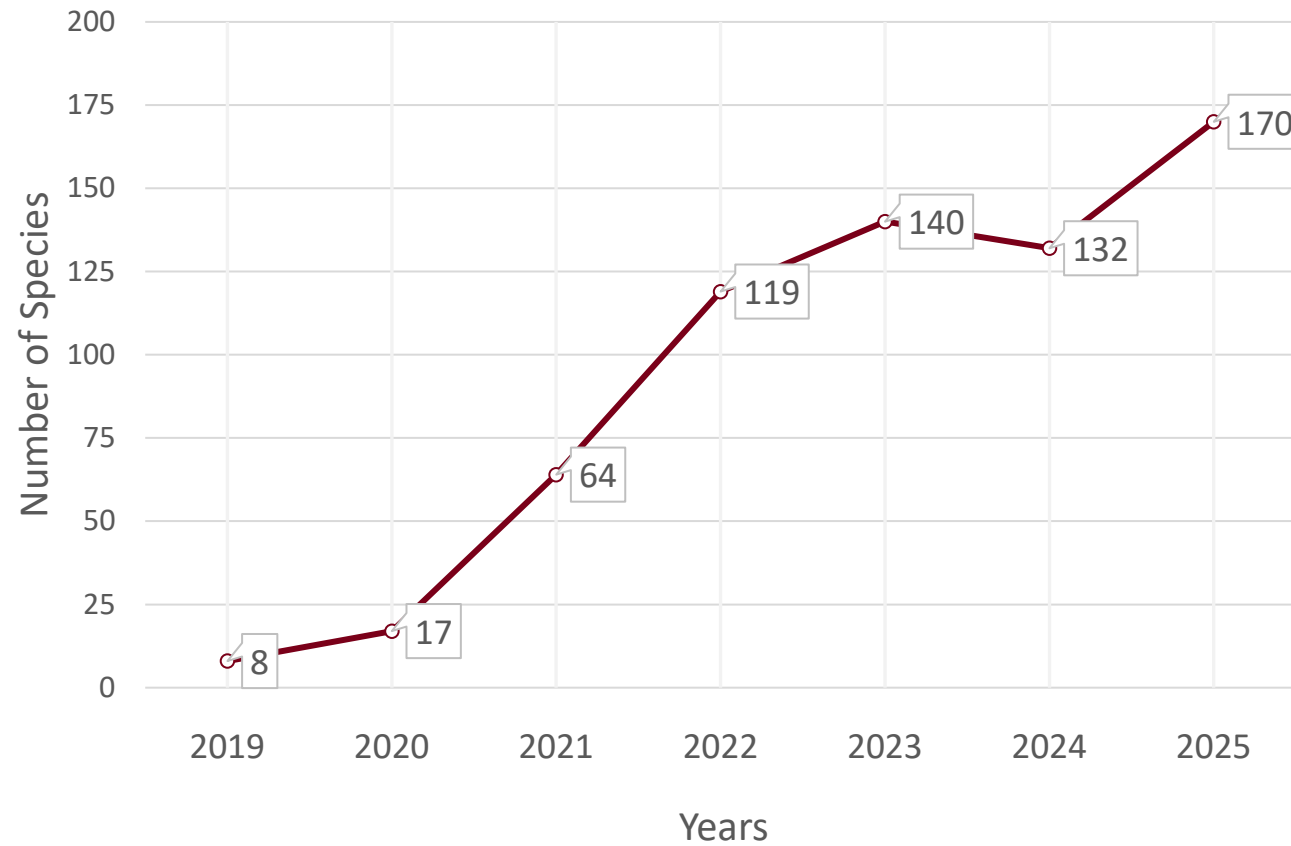
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- Engage County **volunteers** throughout the propagation process



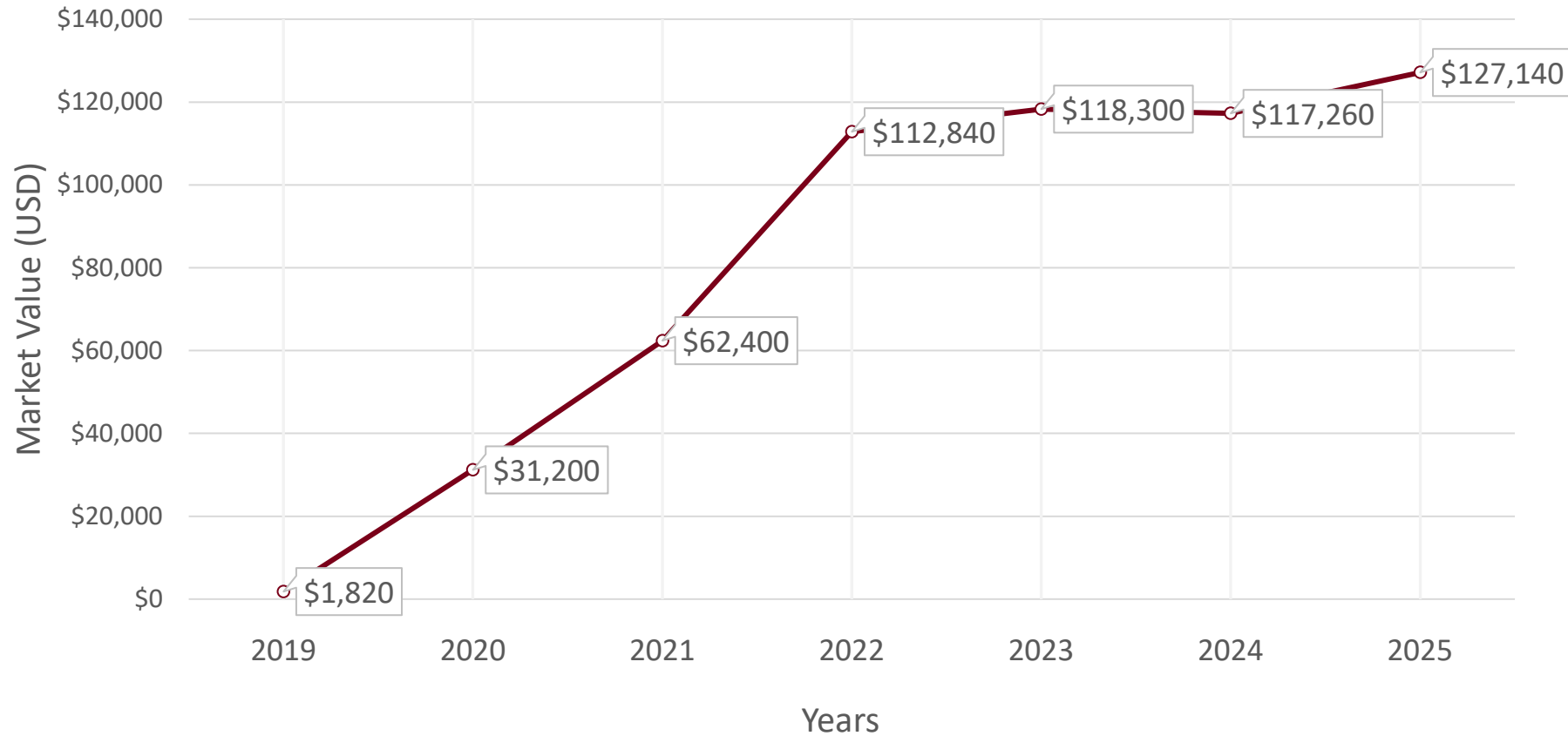
Total Plugs Produced (Per Year)



Total Species Produced (Per Year)



Market Value (\$2.60/ plug)



Native Plant Propagation - Partners

- **Master Gardeners**

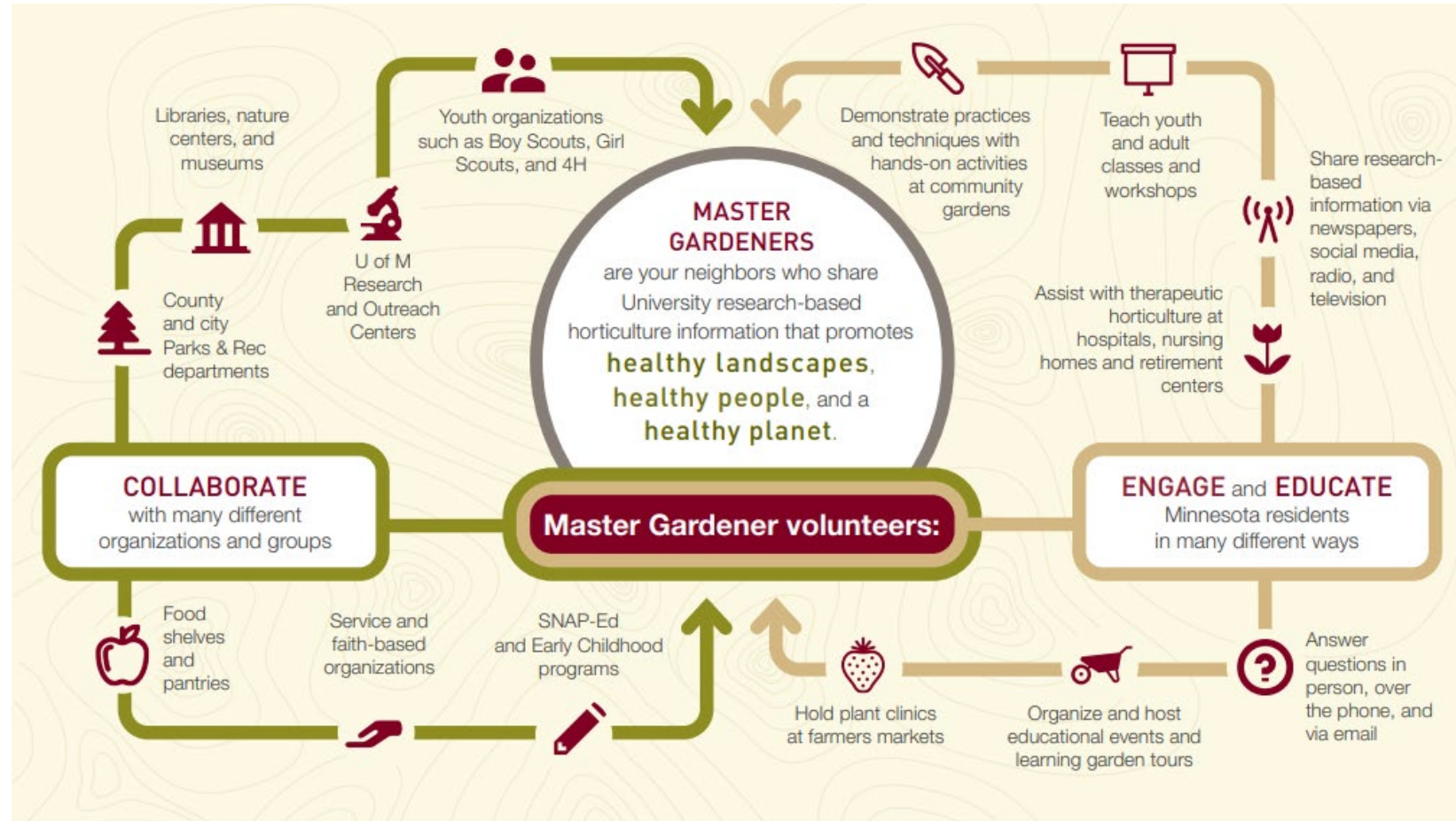
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Native Plant Propagation - Partners

- Master Gardeners



Native Plant Propagation - Partners

- **Master Gardeners**

- Master Gardeners provide volunteer service and education to Dakota Parks
- Expands our capacity and strengthens existing natural resource projects
- In return, Master Gardeners have access to Parks facilities for gatherings, classes, and events.
- They also utilize the greenhouse to grow herbs, vegetables, and native plants for their plant sale.
- All proceeds directly support Master Gardener projects



Habitat Restoration

Opportunities for Volunteer Engagement in Dakota County Parks

Before Restoration



Implementing and Monitoring



After Restoration



Overview

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Volunteer Engagement – Vegetation

- **Native Plant Propagation**
 - Seedsters
 - Transplanting Seedlings
 - Plug Planting
 - Seed Collection/Cleaning

- **Stewardship**
 - Landscape Stewards



Volunteer Engagement – Vegetation

- **Native Plant Propagation**
 - **Seedsters**

Seedsters (Dispersed Community Greenhouse)

Late-winter and Early-spring

~40 volunteers each winter grow native seedlings at home to support County restoration efforts. Staff provide all materials, training, and seeds.



Volunteer Engagement – Vegetation

- **Native Plant Propagation**
 - Transplanting Seedlings

Transplanting Native Seedlings

Spring and Summer

Volunteers transplant native seedlings from trays to containers at the greenhouse. Weekly meetups and occasional drop-in weekend events



Volunteer Engagement – Vegetation

- **Native Plant Propagation**
 - **Plug Planting**

Plug Planting

Late-spring and Fall

Volunteers plant native grasses and wildflowers in restoration areas through County parks, greenways, and propagation beds. Evening and weekend events

Planting Along a Greenway Restoration



Volunteer Engagement – Vegetation

- **Native Plant Propagation**
 - Seed Collection/Cleaning

Seed Collection/Cleaning

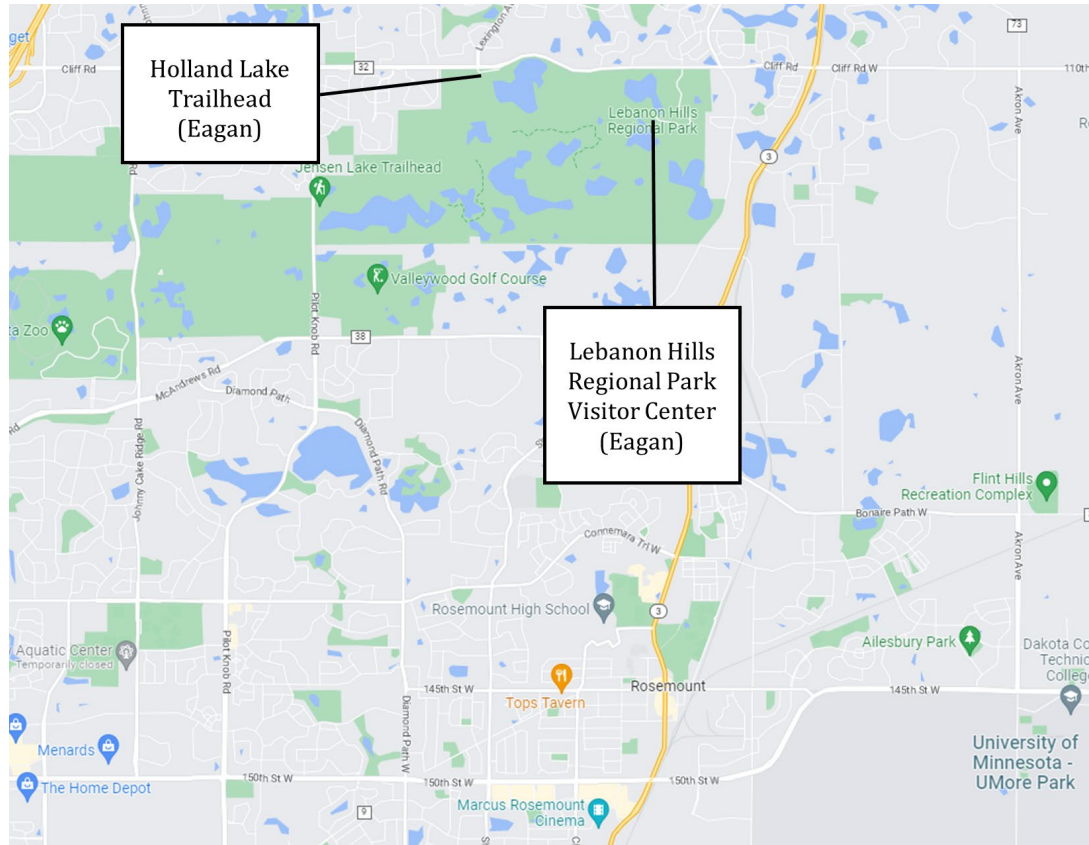
Throughout the year

As native seed ripen from spring to late fall, volunteers collect seed throughout the county. Seeds are cleaned over the winter by removing chaff and other inert material from viable seed.



Volunteer Engagement – Vegetation

- **Stewardship**
 - **Habitat Stewards**



Volunteer Engagement – Vegetation

- **Stewardship**

- **Habitat Stewards**

Habitat Stewards

Spring through Fall

Maintain high visibility native plantings in the parks and organize work events throughout the season. Volunteers develop their plant ID and land management skills.



Volunteer Engagement – Wildlife

- **Insects**
 - Dragonfly
 - Bees
- **Amphibians**
 - Frog and Toad
 - Turtle
- **Grazers**
 - Bison
- **General**
 - Trail Cameras



Volunteer Engagement – Wildlife

- **Insects**

- Dragonflies and Damselflies

Dragonfly and Damselfly Surveys

Summer and Fall

Volunteers learn to capture, handle, and identify dragonflies and damselflies. The data is then used to inform restoration efforts.

Dragonfly Surveys at Lebanon Hills Park



Identifying a Blue Dasher



Volunteer Engagement – Wildlife

- **Insects**

- Dragonflies
- Bumble Bees

Bumblebee surveys

Spring through Fall

Volunteers identify and record bumble bees at the genus and species level. Data is shared with local and regional survey efforts.

Volunteers Scouting for Bees



Bumble Bee Ready for Identification



Volunteer Engagement – Wildlife

- Amphibians
 - Turtles

Blanding's Turtle with Transmitter



Protected Nest



Dakota
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Hatchling in Early-fall



Volunteer Engagement – Wildlife

- **Amphibians**

- **Turtles**

Turtle Surveys

Spring through Summer

Volunteers are assigned a route along several wetlands to document turtle sightings.

Painted Turtles



Snapping Turtle



Blanding's Turtle



Volunteer Engagement – Wildlife

- **Amphibians**

- Turtles
- Frog and Toad Survey

Frog and Toad Surveys

Spring to Summer

Volunteers identify frog and toad species at various wetlands by call.
Training provided

American Bullfrog
Sounds like: "Rum," Deep sound



Wood Frog
Short chuckle, similar to a mallard



Volunteer Engagement – Wildlife

- **Grazers**

- **Bison**



Volunteer Engagement – Wildlife

- **Grazers**

- **Bison**

Bison Educator Volunteer

Spring and Summer

Volunteers educate park visitors on all things bison, including their role in restoring prairie habitat as a keystone species.



Volunteer Engagement – Wildlife

- **General**

- Trail Cameras

Trail Cameras

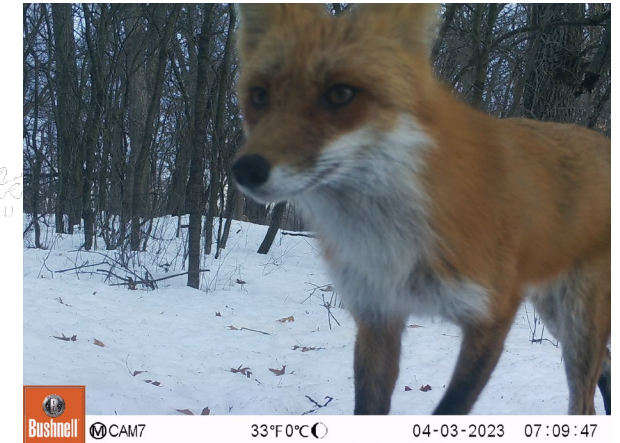
Year-round

Potential new volunteer project: Adopt-A-Camera

American Bittern



Red Fox



Fisher



Volunteer Engagement – Wildlife

- **General**

- Trail Cameras

Species Detection Highlights

- Otter
- Sandhill Crane
- Red-Headed Woodpecker
- American Bittern
- Fox
- Flying Squirrel
- Beaver
- Fisher
- Red-tailed Hawk
- Barred Owl



Volunteer Engagement – Wildlife

- **General**

- **Trail Cameras**

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Fisher with a tracking collar in Dakota County Parks



Volunteer Engagement – Wildlife

- **General**

- **Trail Cameras**

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Example of fisher data in the suburbs of Albany, NY

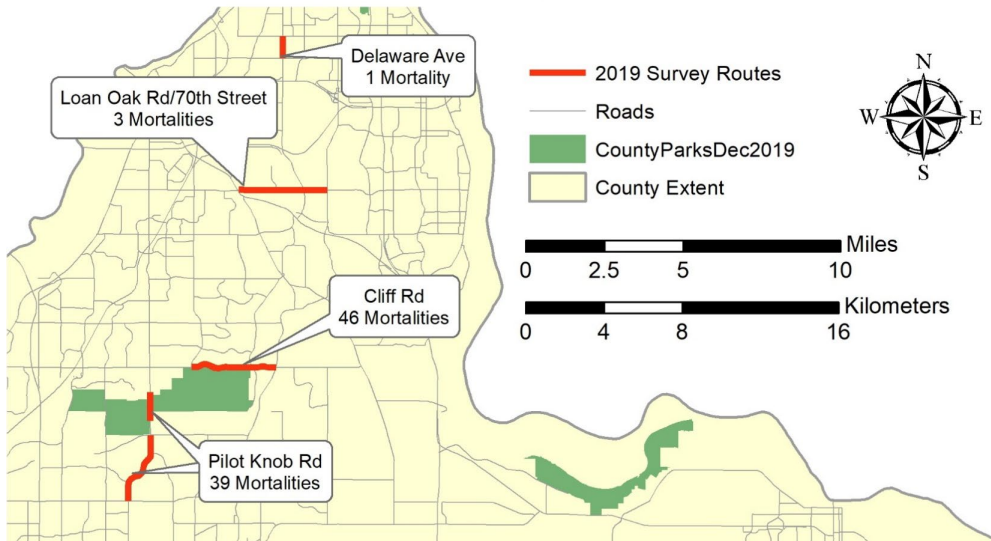


Volunteer Engagement – Wildlife

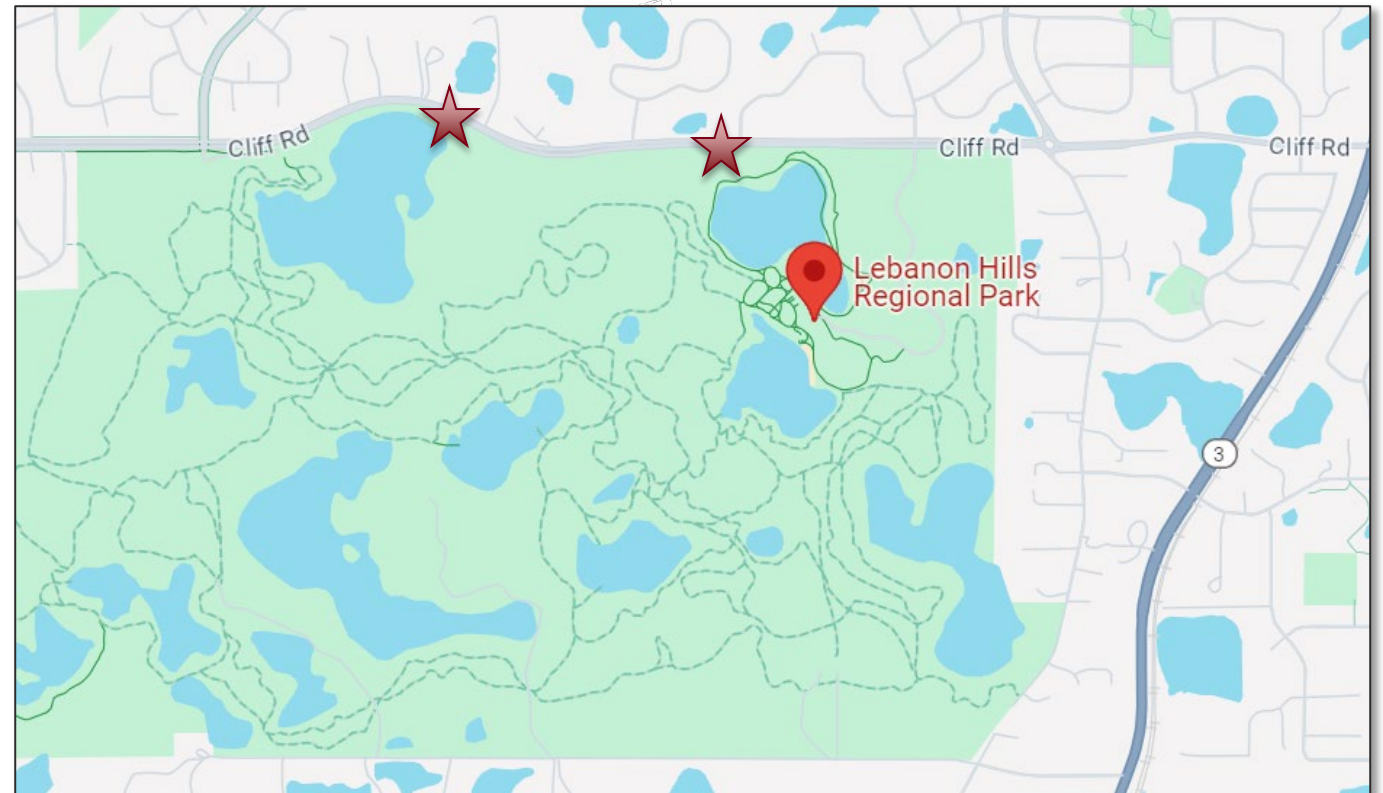
- **General**

- **Trail Cameras**

2019 Road Mortality Survey Results



Recently Installed Wildlife Tunnels Along Cliff Rd



Volunteer Engagement – Wildlife

- **General**

- **Trail Cameras**

Cliff Road Tunnel Highlights

- Snapping and Painted Turtles
- River Otter
- Mink
- Muskrat
- Opossum
- Raccoon
- Coyote
- Eastern Cottontail



Volunteer Engagement – Wildlife

- **General**

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Future Plant Propagation

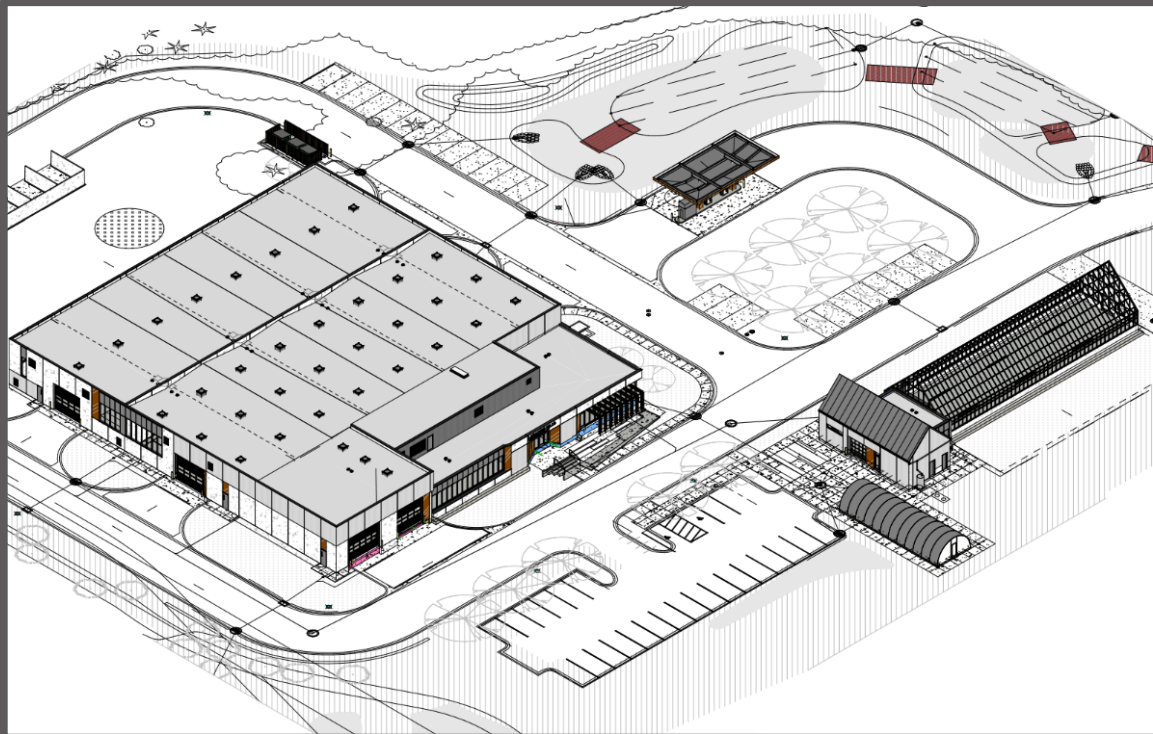
2025 Production
Capacity (plugs/year)

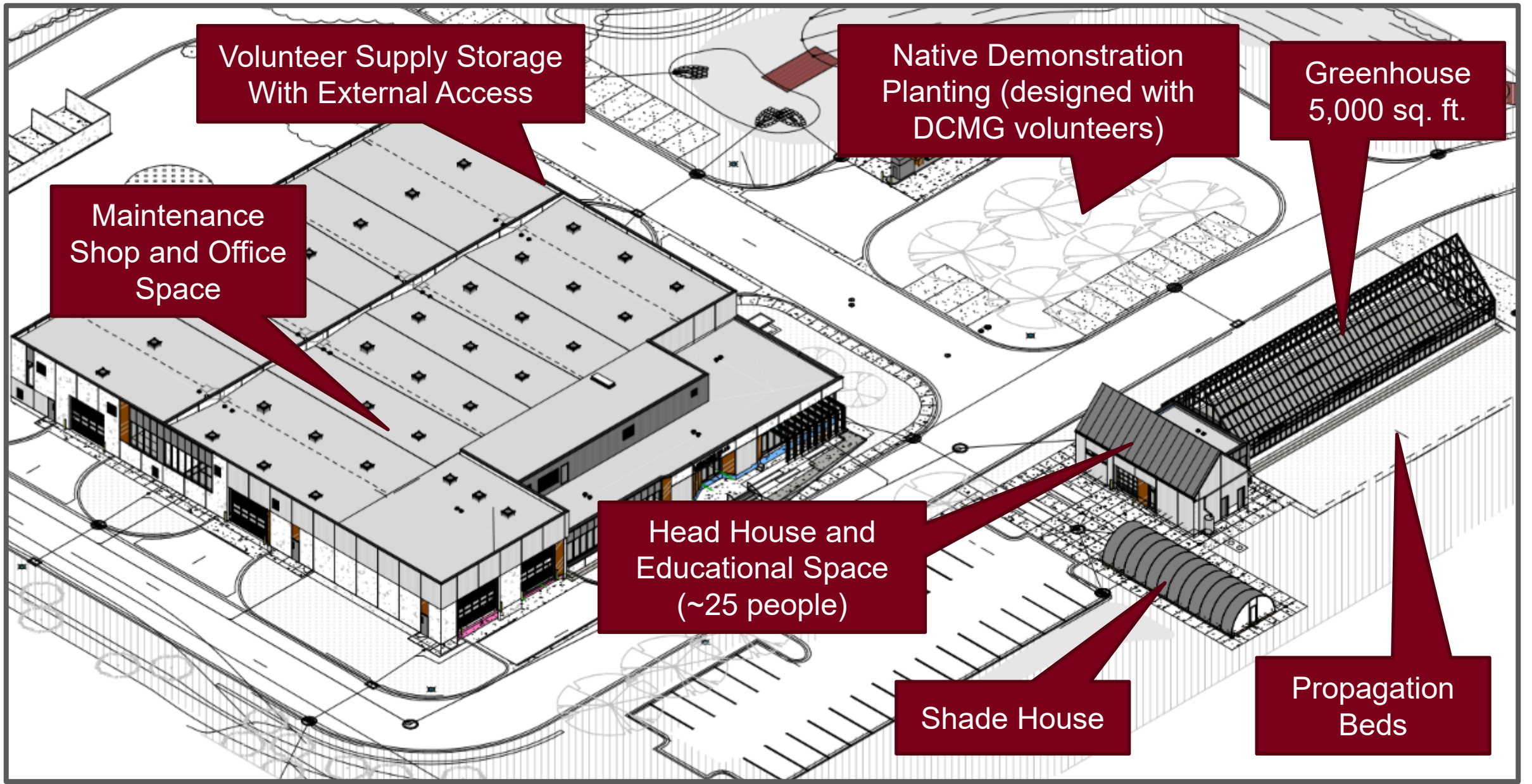
~48,000

Future Production
Capacity (plugs/year) with
the New Greenhouse

~140,000

**And Capacity for Master
Gardener Plant Propagation
and Education**





Volunteer Supply Storage
With External Access

Native Demonstration
Planting (designed with
DCMG volunteers)

Greenhouse
5,000 sq. ft.

Maintenance
Shop and Office
Space

Head House and
Educational Space
(~25 people)

Shade House

Propagation
Beds

Questions and Tour

