



Office of Sustainability Sustainable Madison Committee

December 16, 2024

Dr. Missy Nergard, Institutional Director of Sustainability
Dr. Nathan Jandl, Associate Director of Sustainability

Sustainability Leadership @ UW-Madison



1. Chancellor's Environmental Sustainability Goals

- Cross-Campus Collaboration & Institutional Ratings
- Sustainability Research
- Sustainability Educational Experiences
- Materials Management & Zero Waste
- Renewable Electricity & Net-Zero Emissions

2. Turning a New Leaf: Lakeshore Preserve

3. Experiential Learning: Green Fund

4. Sustainable Facilities & Infrastructure



Cross-Campus Involvement



Goal: STARS Gold rating by 2025

STARS: Sustainability Tracking Assessment and Rating System

Goal: in progress



Sustainability Tracking, Assessment & Rating System

STARS measures 63 relative indicators to return a rating representative of campus sustainability

Academics (28% of Score)

Curriculum

- Academic Courses
- Learning Outcomes
- Undergraduate Program
- Graduate Program
- Immersive Experience
- Sustainability Literacy Assessment
- Incentives for Developing Courses
- Campus as a Living Laboratory
- Research
- Research and Scholarship
- Support for Sustainability Research
- Open Access to Research

Operations (35% of Score)

Air & Climate

- Emissions Inventory & Disclosure
- Greenhouse Gas Emissions

Buildings

- Design & Construction
- Operations & Maintenance

Energy

- Building Energy Consumption
- Clean and Renewable Energy

Food & Dining

- Food & Beverage Purchasing
- Sustainable Dining

Grounds

- Landscape Management
- Biodiversity

Purchasing

- Sustainable Procurement
- Electronics Purchasing
- Cleaning & Janitorial Purchasing
- Office Paper Purchasing

Transportation

- Campus Fleet
- Commute Modal Split
- Support for Sustainable Transportation

Waste

- Waste Minimization & Diversion
- Construction & Demolition Waste Diversion
- Hazardous Waste Management

Water

- Water Use
- Rainwater Management

Engagement (20% of Score)

Campus

- Student Educators Program
- Student Orientation
- Student Life
- Outreach Materials & Publications
- Outreach Campaign
- Assessing Sustainability Culture
- Employee Educators Program
- Employee Orientation
- Staff Professional Development

Community

- Community Partnerships
- Inter-Campus Collaboration
- Continuing Education
- Community Service
- Participation in Public Policy
- Trademark Licensing

Planning & Administration (17% of Score)

Coordination & Planning

- Sustainability Coordination
- Sustainability Planning
- Inclusive & Participatory Governance
- Reporting Assurance

Diversity & Affordability

- Diversity & Equity Coordination
- Assessing Diversity & Equity
- Support for Underrepresented Groups
- Affordability & Access

Investment

- Committee on Investor Responsibility
- Sustainable Investment
- Investment Disclosure

Wellbeing & Work

- Employee Compensation
- Assessing Employee Satisfaction
- Wellness Programs
- Workplace Health & Safety

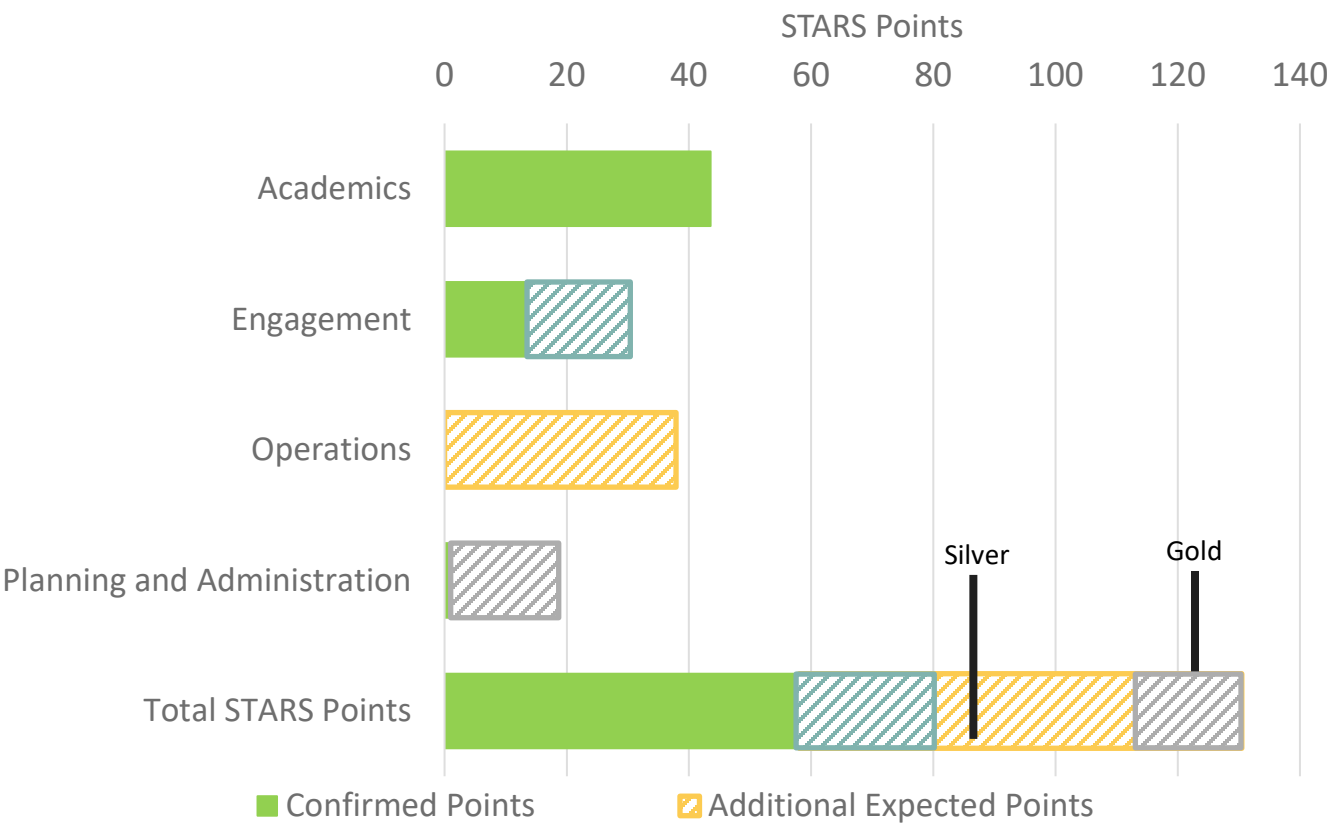


Cross-Campus Involvement – STARS Rating

Progress Summary

- On-track to achieve **STARS Gold in 2025**
 - On-target to get final score from STARS this summer and celebrate in Fall 2025
- **Academics** section is completed and is tracking **1.55 points above plan**.
 - Additional points received from identifying new sustainability-related courses and programs with sustainability-related learning outcomes.
- Next stage is to finalize **Engagement** section and data collection for **Operations** has begun
- The report goes through several review processes before credits are formally confirmed.

STARS Gold Progress





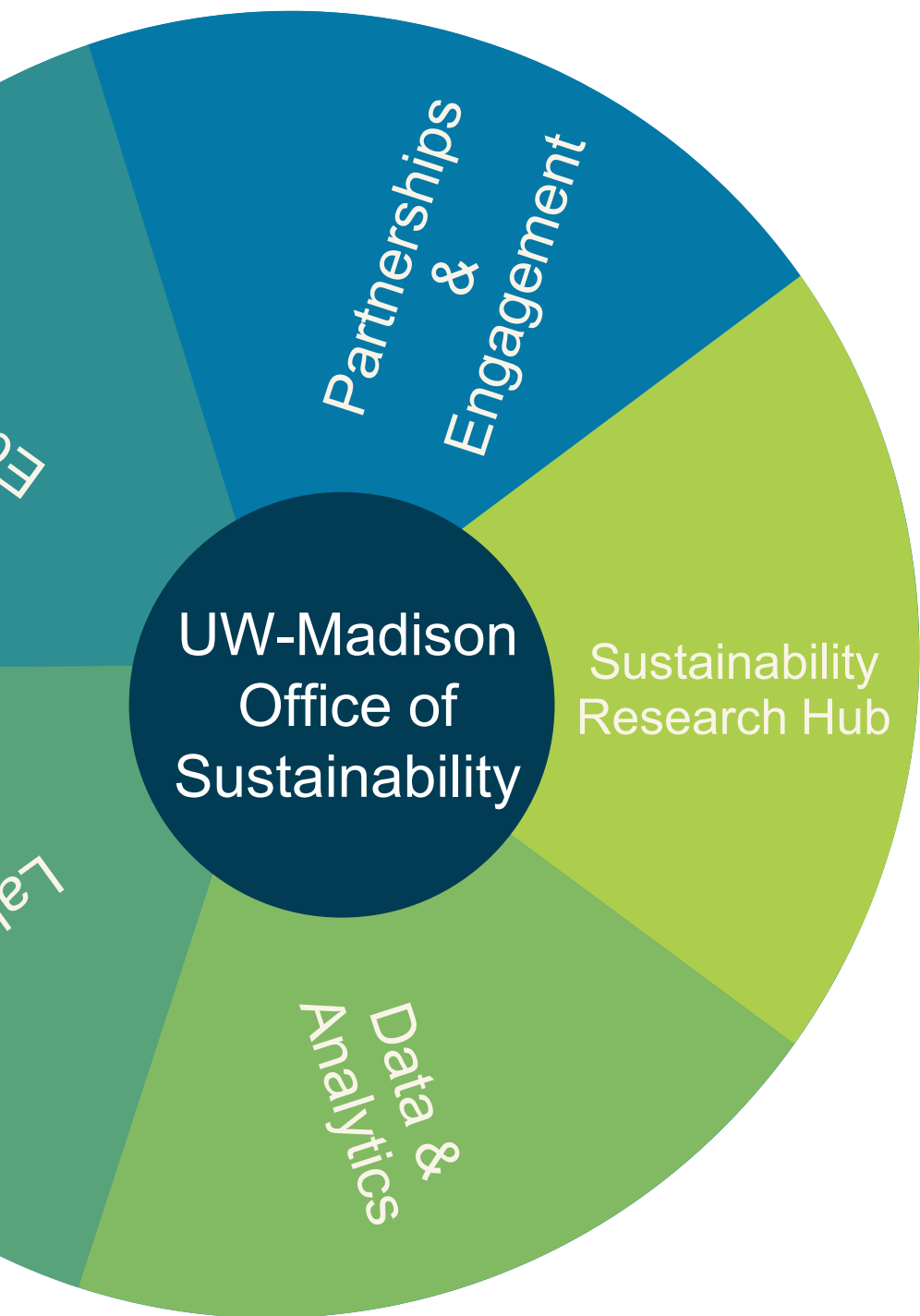
Sustainability Research Hub



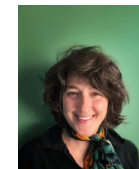
Goal: establish by spring 2024

- Mission: make UW-Madison a preeminent destination for environmental sustainability research and education by supporting innovative, large-scale, cross-cutting sustainability research on campus and beyond.
- With base funding from the Chancellor, the Hub provides its campus-wide services without charging any fees or retaining any indirects.

Goal: Achieved!



	Matchmaking & Events
	Sustainability Experts Database
	Scientific Illustration
	Grant Writing
	Project Management
	Grant Budgets & Submission
	Corporate Engagement & Partnerships



Sustainability Research Hub



Building Sustainability Research Community and Identifying Future Opportunities

- Sustainability Research Visioning Event – September 11, 2024
 - 120+ people attended representing 40+ departments from 12 Schools/Colleges (CALS, L&S, Education, Grad School, Engineering, Journalism and Mass Communication, La Follette, SMPH, Vet Med, Business, Law, and Pharmacy)
 - Other notable affiliations: Nelson Institute, Data Science Institute, Morgridge Institute, Wisconsin Energy Institute, OVCR, and OBE
 - Will soon be showcasing applicable funding opportunities on website

Collaborative Proposal Activity

- First proposal submitted 2/7/24
- Supported \$182 million of proposals/concept papers
- Worked collaboratively with CALS, Nelson, Engineering, L&S, WCER, & Extension
- Proposals submitted to NSF, DOE, EPA, USDA, NASA, USAID
- Total Funding Awarded (5 proposals): \$8.0 million

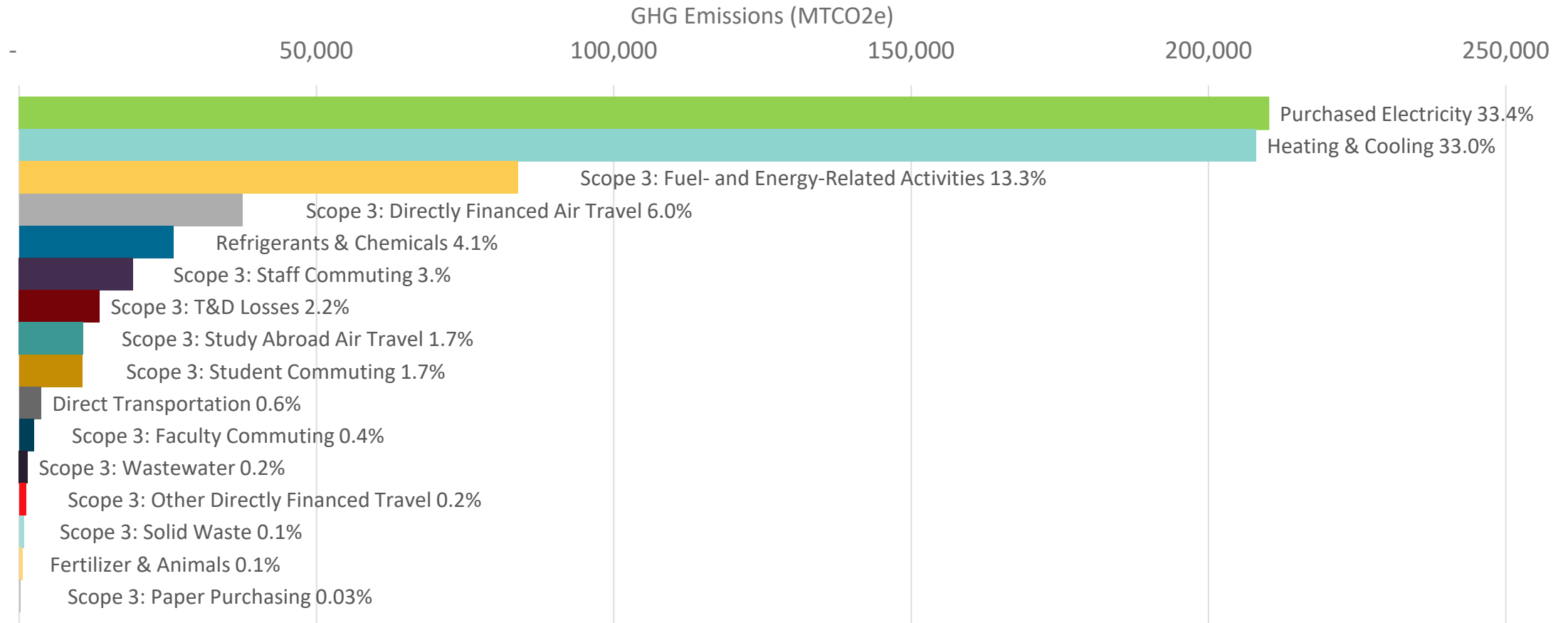
Net-Zero Emissions

- **Goals**
 - 2030: procure 100% renewable electricity
 - 2048: decarbonize campus operations



Goals: in progress

FY23 GHG Emissions Inventory



University Projects & Studies: Carbon & Renewables

- Kegonsa Solar: Agri-Voltaics, 2.25 MW
- On-Campus & Outlying Lands Renewable Potential Surveys
- Campus Decarbonization Study
- Fleet Electric Vehicle Charging Study
- Applied Research Projects (Thermal Storage and Heat Pumps)
- Carbon Sequestration in Natural Areas



Drone footage, Kegonsa Array Installation (Nov. 2024)

Sustainable Materials Management

(includes landfill diversion and supply stream deca

- **Goal:**
 - 2040: achieve a Zero Waste Campus, e.g. achieve 90% landfill diversion rate and decarbonize impacts up and down supply chain

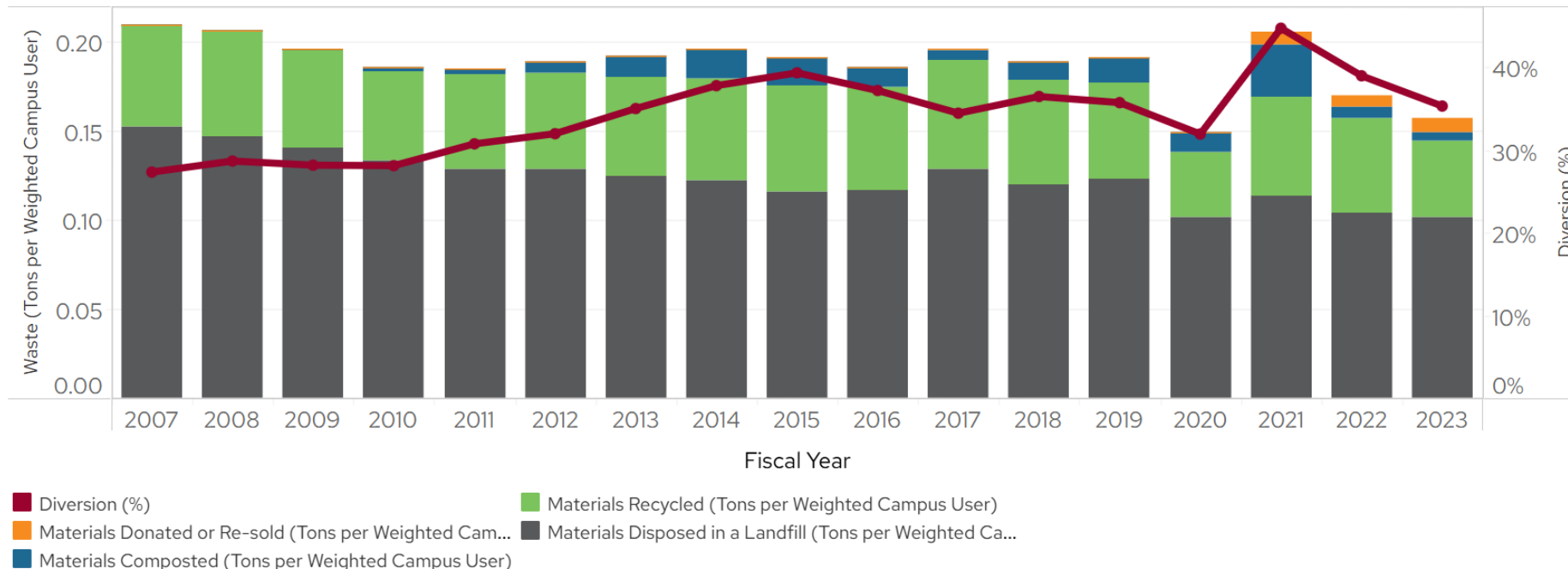


Goal: in progress

Materials Management - *Zero Waste Campus by 2040*

Target	Current
Generate less than 0.05 tons (100 lbs.) of total MSW per weighted campus user.	0.16 tons/320 lbs. (2023)
Divert 90% of MSW away from landfill and/or incinerator	35% (2023)
Limit MSW recycling contamination rates to <5% for mixed recyclables and <1% for source separated recyclables	20.6% (2024) 5% (2024)
Divert 90% of non-hazardous C&D waste away from the landfill and/or incinerator	91.7% (2024)

Waste Diversion and Total per Campus User - Summary



Oscar Sort



AI Pilot

- Dejope
- Gordon
- Union South
- Memorial Union

Launching Spring 2025

My Green Lab



My Green Lab Certification: A Commitment to Sustainable Science

Recognized by the **United Nations Race to Zero campaign** as a [key measure](#) of progress towards a zero-carbon future, My Green Lab Certification is considered the **gold standard** for laboratory sustainability best practices around the world.

2023-2024 – Thirteen labs certified: *Skop Lab, Kiley Lab, Shelef Lab, Chapman Lab, COPLOW Lab, Weeks Lab, Majumder Lab, Pierre Lab, ARDC Fluid Biomarker Lab, Bolling Research Group, DAN Lab, Koch Lab, Next Generation Sequencing Core*

Food : Composting & Recovery

Fiscal Year	Weight (tons)	# of Locations	Service Hours	Carts Serviced
2023	191.7	4	383	3984
2024	250.6	4.5	709.5	5230

Compost Locations (In-Kitchen Collection)

- DeJope
- Gordon
- Carson Gulley (started Jan. 2024)
- Union South
- Memorial Union

No commercial composting available. All food waste collected on campus is composted in windrows at the West Madison Agricultural Research Station.



Leanpath



Lakeshore Nature Preserve



Lakeshore Nature Preserve

Research, Teaching, Outreach

- More than 15 departments & 40 courses utilize the Preserve
- ~70 research permits annually
- In 2023, ~158K visitors accessed Picnic Point
- BioCore Prairie
- Community Gardens, CALS Organics, Dining Partnerships
- Ho-Chunk Nation
- Archaeological Sites
- 2023 Master Plan for Ecological Restoration & Land Management
- **NEW!** Lakeshore Nature Preserve Frautschi Center



Biodiversity Assessment

Damschen Lab

Integrative Biology

- Plants (herbaceous/shrub/tree layers)
- Lichens – Sensitive bioindicators, previous survey from 2000
- Vertebrates – Birds, Mammals, Frogs & Toads
- Butterflies and Bumblebees
- Collaborators
 - Class Involvement
 - Citizen Science (eBird, iNaturalist)
 - Hua Lab
 - UW Bat Brigade
 - Preserve Staff



2025 Bioblitz!

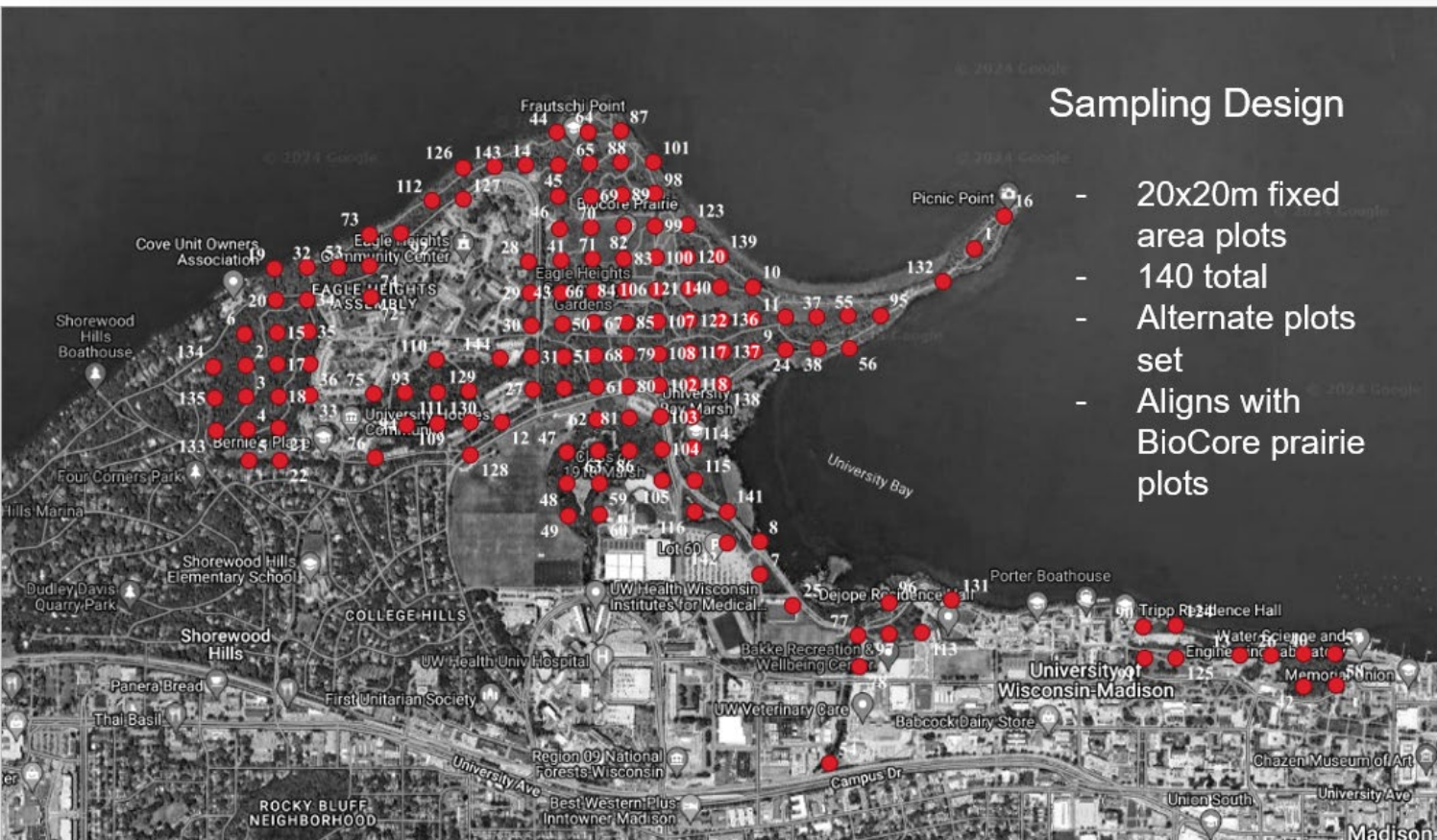


Lakeshore Nature Preserve
Outdoor Learning is Our Point!

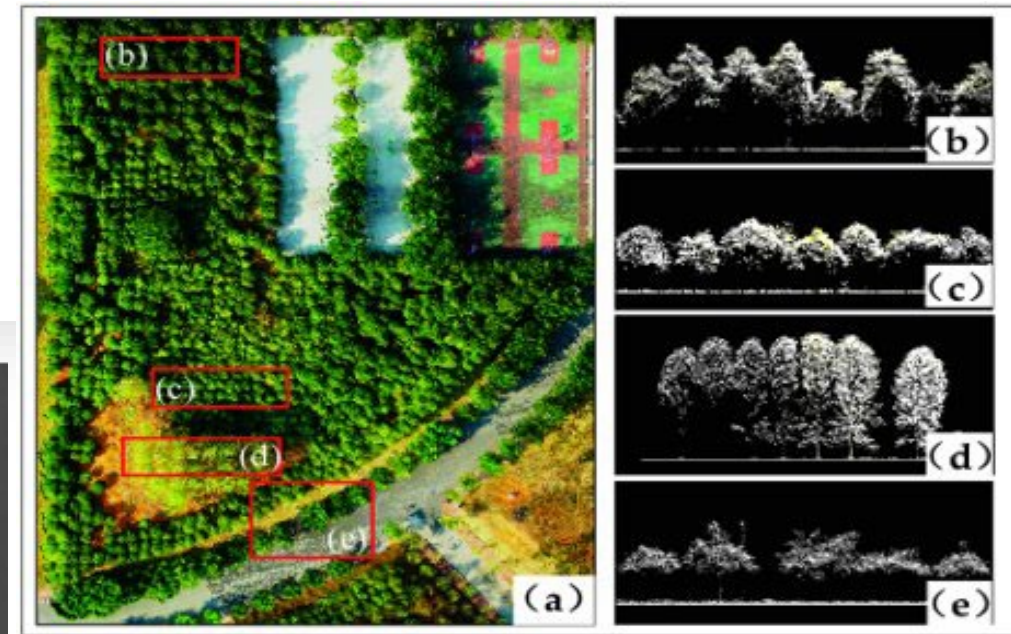
Carbon Sequestration Study

Townsend Lab

Forest & Wildlife Ecology



UAV lidar data



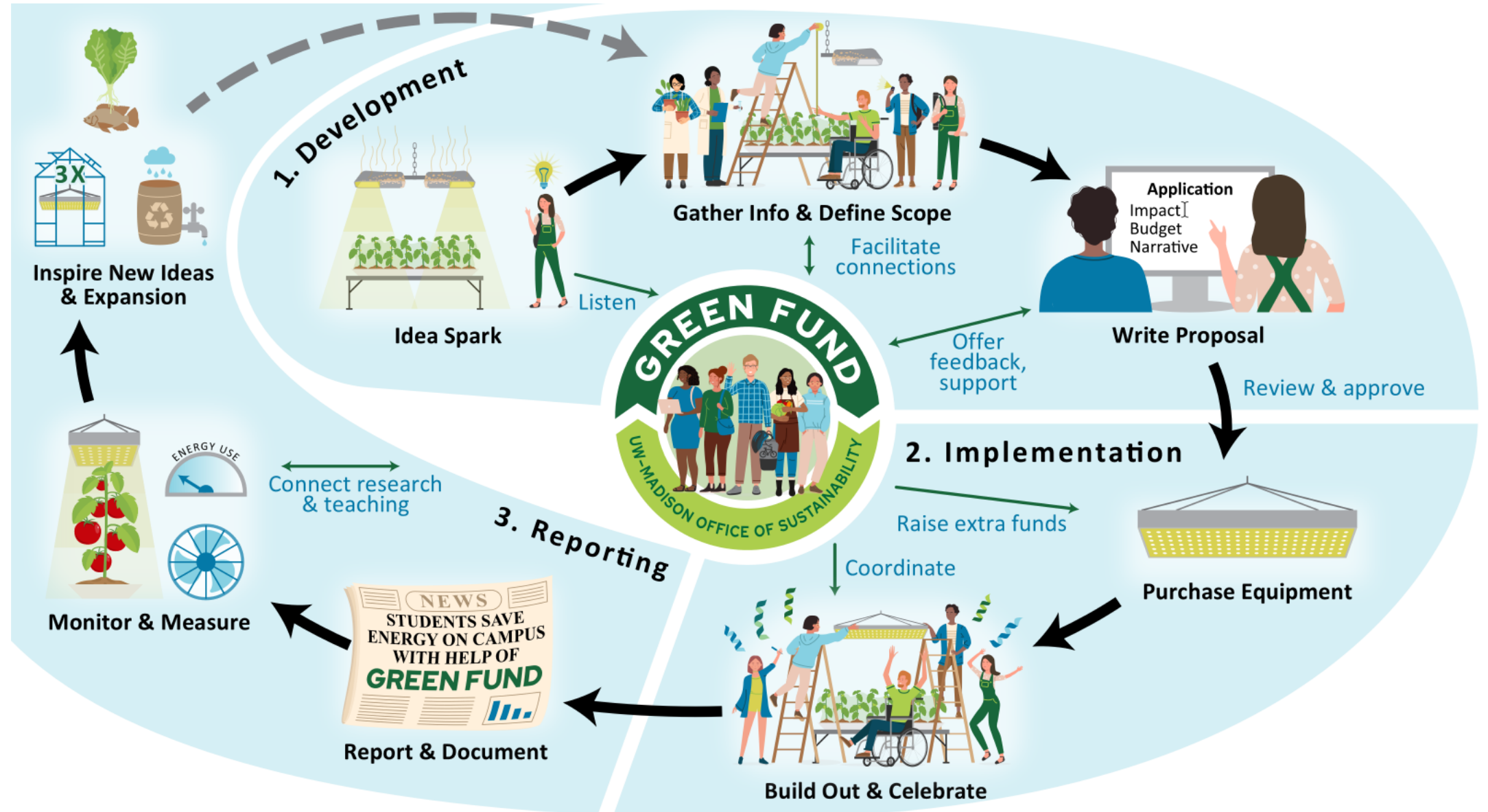
1. **Species** of canopy trees
2. **Carbon** of standing and dead trees
3. **Nutrients** in the canopy

Experiential Education - Green Fund

- UW-Madison's longest running applied sustainability research, education and engagement program



Green Fund/Campus as a Lab & Classroom

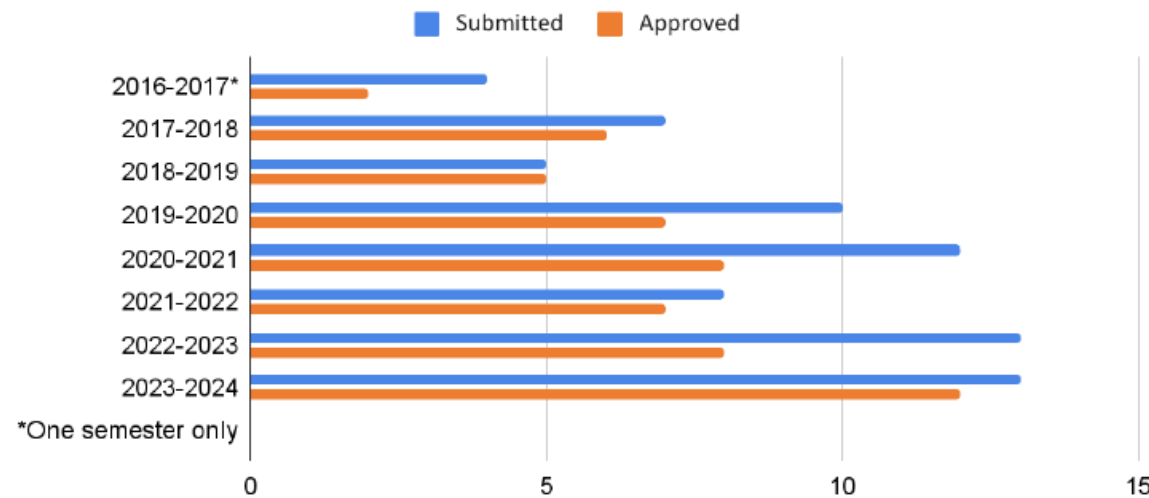


Green Fund Program Growth

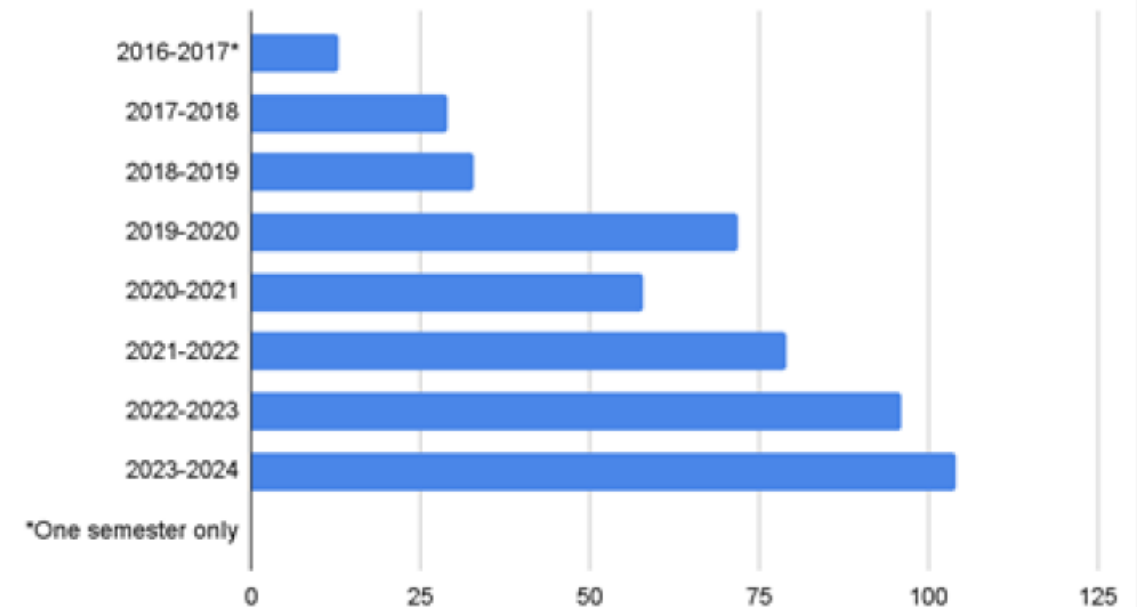
Green Fund | Total Requested Funds by Year



Green Fund | Submitted-Approved Proposals by Year



Green Fund Student Participants by Year



The Green Fund currently manages 83 projects.

- 28 are in development
- 23 are in implementation
- 32 are in reporting



Sustainable Facilities & Infrastructure



Building Design & Construction Guidelines

- Working with DOA on full implementation of most recent Sustainability Guidelines (version 6.0)
- Universities of Wisconsin recently announced an inaugural set of sustainability guidelines (12/9/2024)
- Working on additional requirements to meet the Chancellor's goals
 - What we can do immediately and what needs to be phased
- More actively involved in capital design and construction

