

Wesleyan University Grounds Sustainability Policy

This policy falls under the auspices of the Facilities Planning Committee and Sustainability Advisory Group for Environmental Stewardship (SAGES). The committee is responsible for developing guidelines and operating procedures necessary for the implementation of the Grounds Sustainability Policy.

Purpose

To demonstrate Wesleyan University's commitment to environmental, economic, and social sustainability, to reduce Wesleyan's carbon footprint, to provide healthy outdoor spaces for students, employees, and visitors, and to provide healthy habitat for birds, insects, and animals in an aesthetic that supports Wesleyan's mission. Wesleyan seeks to provide leadership by setting a community standard of sustainable grounds keeping. This policy is adopted in concert with the Building Sustainability Policy and is in support of university wide sustainability goals, including the University's Strategic Plan and the Sustainability Action Plan (SAP).

The term sustainability, as applied to the campus landscape, means incorporating the complexity of nature into the landscape, restoring damaged ecologies, increasing biodiversity, promoting human health, and providing secure livelihoods while also maintaining a "campus aesthetic." Importantly, this means that a campus landscape must be sustainable not only ecologically, but socially and economically as well if it is to contribute to an institution's resiliency and health in both the short and long term.

Specific applications of sustainable landscape practices range from designs that encourage walking to methods that reduce water usage, and from planting shade trees to reducing the use of harmful chemicals and fertilizers to creating "no-mow" zones. Even small-scale mowing reduction plans can help convert lawn areas to meadow or forested areas, and institutional-scale composting can provide the campus with fertilizers and mulch, saving money by reducing purchases of these inputs.

Policy

All projects, regardless of cost, should meet the following standards. Any exceptions must be approved in writing by the Chief Administrative Officer. All grounds decisions should align with site requirements established in the Building Sustainability Policy. This plan will be amended to align with other sustainability policies as they are adopted. All items below are required unless under a "recommended" heading.

I. Trees, Shrubs, Turf, and Plantings

Trees are an essential part of the campus landscape, providing shade, cooling for buildings, noise suppression, and habitat. Trees provide oxygen and remove carbon dioxide from the air we breathe, all while reducing erosion and runoff. Shrubs and other plantings serve many of the same purposes and make the campus more aesthetically pleasing. Placing plants strategically, maintaining them regularly, and watering carefully can increase the sustainability of the campus landscape. Mowing at higher heights, leaving grass clippings in place, and aerating soil promotes turf health.

A. Turf Maintenance and Plant and Tree Selection and Placement

1. Use native plants, trees, and wildflowers that are well-suited to Connecticut's climate and contribute to local wildlife. Prioritize planting of low-maintenance and drought-tolerant grasses and plants. Never plant invasive species.
2. Prioritize planting of perennial plants over annual plants.
3. Before planting, aerate compacted soil and add topsoil and compost as needed.
4. Strategically place plant material for the best water, energy, and erosion management. Group plantings with similar water needs together.
5. Use wood chip mulch to suppress emerging weeds and provide nutrients to plants and trees.
6. Develop a list of existing invasive species plantings on campus.¹

¹ The University of Connecticut Invasive Plant Working Group maintains a list of invasive plants: cipwg.uconn.edu/invasive_plant_list/.

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7. When prioritizing areas for grounds renovation, include removal of invasive species and replanting of native species meeting plant selection and placement criteria above.
8. Regularly prune back or remove vines that can cause damage to trees, shrubs, and buildings.
9. Establish mowing heights as high as possible based on time of year and weather conditions.
10. Aerate compacted lawns in high profile locations as necessary to increase water and air penetration.

Recommended

1. Purchase plants from local growers.
2. Pilot a non-athletic area with microclover in place of grass.

B. Trees

1. Maintain a campus tree inventory, which should be updated at least annually and ideally in a publically-accessible map.
2. Maintain \$30,000 in Major Maintenance funding to maintain trees and phase replacement of trees lost to disease, infestation, storm, and/or age.
3. Allocate a minimum of \$15,000 annually to prune trees regularly to maintain tree health.

Recommended

1. Reserve a one-acre area on Long Lane for growing tree saplings into trees that could be planted elsewhere on campus. Partner with Middletown High School's Regional Agriculture, Science & Technology Center and/or Wesleyan students on this project.

C. Waste Diversion

1. Divert all landscape waste from trash for composting or mulch creation.
2. Leave grass clippings to decompose on turf. When grass clippings mat together, disperse clippings from the lawn to maintain grass health.
3. Maintain a "plant dump" on Long Lane to promote composting and reuse of annual plantings.

D. Irrigation

1. Do not install new irrigation systems unless conditions demonstrate necessity for plant health. When systems are deemed necessary on turf, use sprinkler heads that account for flow, pressure, grade, plant type, size of area, and wind conditions. Prioritize drip irrigation or low-flow sprinkler heads for planting beds.
2. Program irrigation systems to run only in early morning (except in cases of turf renovation or extreme environmental conditions), when applying water is most efficient. Do not water during or immediately before/after a rainstorm. During drought or near-drought conditions, reduce irrigation on all areas.
3. Monitor irrigation systems daily, with schedules changed regularly and sprinkler heads repositioned as needed to avoid runoff.
4. Equip all irrigation systems with weather sensors to reduce runoff. Monitor systems visually to ensure proper watering and ensure that state-mandated rain sensors are working properly.

Recommended

1. Meter and track irrigation water separately from building water consumption.
2. Implement rainwater harvesting and reuse in irrigation.
3. When doing landscaping projects at locations without underground drainage, install rain barrels to reduce potable water consumption.

E. Stormwater Management

1. Capture stormwater runoff from impervious surfaces in shallow depressions; do not allow runoff to enter storm drains regularly.
2. Periodically check for loose soil on slopes. Establish and maintain mulches, loose stone, and/or ground covers to stabilize soil quickly and completely.
3. Check for and address eroded soil, standing water, and other drainage and erosion issues after storms.
4. When building rain gardens or other natural water catchment areas with storm systems, install the drain gate higher than the lowest point of the catchment basin to promote stormwater absorption.

II. Integrated Pest Management

Wesleyan University values grounds that are aesthetically pleasing and environmentally beneficial for humans and animals. Synthetic fertilizer use can cause water quality and eutrophication issues, and synthetic pesticide use can have adverse health and ecological impacts. Wesleyan is striving to transition to organic lawn and field care. Wesleyan's integrated pest management (IPM) plan focuses on building plant and soil health over time. Through this IPM plan, Wesleyan aims to reduce or eliminate threats by pests to the Wesleyan community, to prevent damages to the campus landscape from pests, and to protect the environment. Wesleyan defines a pest as any organism that competes with the health and/or aesthetic value of plants in the landscape, including insects, bacteria, viruses, fungi, animals, and other plants.

A. Integrated Pest Management Coordination

1. The Grounds Manager will serve as the Integrated Pest Management (IPM) program coordinator and will be responsible for:
 - a. Managing the program and managing staff and contractor actions to ensure the plan is followed.
 - b. Overseeing staff and contractor training on IPM concepts, methods, and practices relating to plant health, soil health, fertilizer use, and pesticide use.
 - c. Keeping records and documents related to IPM plan implementation and pest management.

B. Inspection, Identification, Monitoring, and Record Keeping

1. Regularly inspect plants and trees to identify problems and make recommendations for corrective actions needed to prevent or manage pest infestations.
2. Maintain a log of pest sightings on campus via the weekly grounds meeting, including identification, number seen, evidence, date, time, and location. Through the weekly grounds meeting, make recommendations for next steps when pest issues have been identified, with a preference for sustainable landscaping practices and making every effort to maintain existing plants while protecting the surrounding landscape and preventing proliferation.

C. Fertilizer Use

1. Minimize the use of fertilizer campus-wide.
2. Use fertilizers in sport field turf applications to maintain turf thickness and growth and to correct deficiencies that, if not used, would cause grass disease or death. Test soil each fall to monitor pH and other soil health characteristics.
3. Time fertilizer applications with weather and campus activities to minimize impact.
4. Upon application of fertilizer, examine walkways surrounding the application area and remove fertilizer residues from non-grass areas.

Recommended

1. Conduct pilot 100% organic test on athletic field to assess effectiveness of organic treatments.
2. Eliminate pesticide and fertilizer usage between Long Lane and Cady building.

D. Pesticide Use

1. Minimize the use of broad pesticides campus-wide for fungal diseases and insect outbreaks (broad application of pesticides used for weed control and grubs). Refer to Appendix A for treatment areas.
2. Before using any pesticide on grass or ground cover, identify and correct soil deficiencies, modify irrigation practices, modify fertilization practices, modify mulch use, and/or modify mowing heights.
3. Pesticides on trees or shrubs shall only be used when necessary to preserve tree health related to insect or fungal outbreaks or infestations.
4. Remove plants from the landscape when physical, biological, and cultural controls fail.
5. Never apply pesticides when unprotected individuals are in the target area. When pesticides of any kind are used, place notification flags at intersections and in front of frequently-used buildings.
6. Keep a copy in the Grounds Office of product labels and MSDS for all pesticides used; make these available upon request. Create and maintain an annual summary of products, quantities, and locations.
7. Only licensed applicators will apply products.

Recommended

1. In the next landscaping contract, negotiate reduction or elimination of neonicotinoids (e.g. Roundup).
2. Use organic pesticides because they have fewer detrimental impacts on the ecosystem and human health from the most current edition of the Organic Materials Review (OMRI) List.²
3. Before using any pesticide, use physical and/or biological controls to limit pest impact.
 - a. Physical controls include but are not limited to: use of compost tea (for disease suppression); insect controls include hand removal or by using traps, water spray, barriers, or an OMRI-approved soap. Weed controls include treatment with vinegar-based products, and/or clove oil-based products.
 - b. Biological controls include but are not limited to: fostering growth of native insect populations and/or release of insects that target pest problems (e.g. parasitic wasps).
4. Use spot pesticide treatments in lieu of broadcast treatments.

III. Hardscapes and Lighting

Campus hardscapes, including walkways, parking lots, walls, fences, and bike racks, are important to manage to keep plants and trees healthy, as well as reduce runoff, flooding, and erosion. Lighting improves safety and can be chosen carefully to minimize light pollution.

A. Pavement

1. Design hardscaping to reduce and direct runoff toward a permanent infiltration feature (on-site rain garden, rainwater cistern, or equivalent).
2. When doing large-scale paving projects, evaluate grade and adjust to reduce runoff.
3. Whenever it is proposed to construct or replace a parking lot or replace sidewalks totaling more than 100 feet in length, review these paved areas to determine paved areas should be eliminated.
4. Limit the use of ice melting materials whenever possible to reduce damage to pavement and plantings.
5. After de-icing material applications, grounds staff will remove excess salt from walkways, parking lots, stairs, and other hardscapes. Custodial staff will remove excess salt within 10' of building entrances.

Recommended

1. Research and investigate less-corrosive alternatives to traditional rock salt and pilot as appropriate.

² OMRI maintains a list at omri.org/sites/default/files/opl_pdf/CompleteCompany-NOP.pdf.

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B. Other Hardscapes

1. When adding or replacing outdoor waste stations, always pair trash and recycling bins, with preference given for Big Belly receptacles.
2. When placing or relocating bicycle racks, place as close to building entrances as possible without obstructing walkways, with preference given for Association of Pedestrian and Bicycle Professionals-preferred racks.³
3. Install only International Dark-Sky Association compliant lighting⁴ that points downward. Lighting should be no brighter than necessary for safety and should only light the necessary area. Avoid higher color temperature bulbs (“blue” light) to improve night vision.

IV. Equipment

Using low-emissions equipment reduces localized air pollution and impact on greenhouse gas emissions.

A. Fuel Use

1. When negotiating new contracts, require grounds contractors to track fuel use.

Recommended

1. When negotiating new contracts, prioritize the purchase of zero emission grounds maintenance equipment (i.e. electric).

Applicability

All Wesleyan University departments, as well as contractors, subcontractors, and in-house trades shall adhere to the Grounds Sustainability Policy. All requests for projects must use the most recent version of the [Project Request Form](#) and be consistent with the University’s Strategic Plan, which outlines priorities for academics, campus and student life, administrative, rental properties, and physical infrastructure.

Responsibility for Keeping Policy Current

Grounds Manager

Distribution and Subsequent Revisions

Wesleyan Sustainability Website, Facilities Website

Record of Revisions

Date	Summary of Changes	Prepared by:	Reviewed by:	Approved by:
6/27/18	Finalized Policy	J. Kleindienst	Facilities Staff	N. Peters

³ APBP maintains a list of preferred bike racks on p. 6-8 of apbp.org/resource/resmgr/Bicycle_Parking/EssentialsofBikeParking_FINA.pdf.

⁴ Dark Sky-Compliant Lighting is available at darksky.org/fsa/fsa-products/.

Appendix A – Wesleyan University Campus

