

SUSTAINABLE LAND CARE STANDARD

DRAFT SUMMARY DOCUMENT

TERRITORIAL ACKNOWLEDGEMENT

The University of Waterloo acknowledges that much of our work takes place on the traditional territory of the Neutral, Anishinaabeg, and Haudenosaunee peoples. Our main campus is situated on the Haldimand Tract, the land granted to the Six Nations that includes six miles on each side of the Grand River. Our active work toward reconciliation takes place across our campuses through research, learning, teaching, and community building, and is centralized within the Office of Indigenous Relations.

LAND ACKNOWLEDGEMENT

In addition, Waterloo recognizes that the lands on which it operates and the ecosystems across campus are incredibly important parts of both Indigenous spirituality and the broader ecological and social wellbeing of the local community. The University has a responsibility to act as a steward of these lands and the vibrant webs of creatures inhabiting them, and to build a relationship of reciprocity in its ongoing management of natural spaces across campus.

To these ends, implementation of this standard is intended to make significant strides to support thriving local ecosystems. Waterloo has begun to build relationships with local Indigenous communities and to create mechanisms and processes for respectful and appropriate consultations more broadly. As those relationships develop, it will be important to connect those into the University's approach to land management. This can be in the form of consultations around land use changes, as well as deeper integration of Indigenous traditional knowledge of stewardship and reciprocal care of the natural world.

Time and effort are needed to nurture those relationships, but in review of best practice and external frameworks, there is significant action that can be taken now, as articulated in this standard.

The Standard is certainly only a first step. The continuous improvement process will make it a living document, with the intent to build connections on consultation and traditional knowledge with Indigenous communities over time, as appropriate.

INTRODUCTION

University of Waterloo owns over 1,200 acres of property of varying types. These grounds support the University's core mission, creating spaces for learning and for research, for living and for community gathering, for relaxation and recreation, for competition and collaboration.

Over time, Waterloo's physical landscape has transformed from that of an open suburban campus surrounded by farm fields, to a much denser urban form. Fields were replaced in many areas with parking lots, green spaces with buildings. Waterloo's 2009 Campus Master Plan established key directions to prioritize green spaces and protect the natural environment.

Since the creation of the Campus Master Plan, climate change, biodiversity collapse, and pollution have accelerated, as have expectations for campus action to tackle these challenges. Waterloo's Environmental Sustainability Strategy creates a framework for the campus' response, across many dimensions.

Integrating sustainability requirements into the design and management of outdoor spaces is an important part of this response. Waterloo is a steward of many parts of the local community's ecological heritage, including the 270 acre Environmental Reserve and the Laurel Creek corridor. It hosts a range of terrestrial and aquatic habitats for many species, from pollinators to fish, mammals to migratory birds. Its management practices create impacts beyond the campus borders, including groundwater pollution and air pollution. And Waterloo's students, employees, and community partners have expectations of leadership and responsibility in maintaining high-quality, sustainable spaces.

The Sustainable Land Care Standard will provide a guiding framework for how the University of Waterloo's grounds and natural areas are developed and maintained over time.

It adds more detail to the directions articulated in the Campus Master Plan and in the Environmental Sustainability Strategy, with a focus on implementation and continuous improvement. In addition, it standardizes and builds consistency around current ad-hoc or informal efforts, while drawing in best practices from other institutions and third-party standards.

The Standard is meant to be a living document, improving over time as the campus evolves and as sustainability actions mature. It is designed modularly, such that specific elements can be integrated into standard operating procedures, policies, planning processes, or projects as needed, while still providing a coordinated view of the breadth of action and approach.

The Standard includes seven focus areas, with multiple actions under each. This summary document provides a high-level snapshot of the actions within each focus area, and the full Standard is available online for those who are interested in more specific details.



1. Soil and
vegetation



2. Fertilizers
and
pesticides



3.
Biodiversity



4. Water
management



5. Snow
and ice
management



6. Equipment



7.
Stakeholder
engagement



1. SOIL AND VEGETATION

This section outlines specific actions that are meant to improve soil quality and create vibrant habitats and green spaces for a variety of uses:

1.A. FOLLOW THE SPECIES PLANTING LIST FOR ALL NEW PLANTINGS

Waterloo will create and follow a list of plants that are native and/or ecologically appropriate for the campus geography and climate to help plants survive, provide habitats for wildlife, and minimize maintenance.

1.B. MEASURE SOIL QUALITY

Good soil is the foundation of thriving ecosystems. Waterloo will create a process for taking targeted measurements of soil quality to help identify contaminants and whether other actions are improving soil health.

1.C. RE-USE LEAVES, CLIPPINGS, AND MULCH ON SITE WHEREVER POSSIBLE

Waterloo will compost or mulch yard waste through regular pruning, cutting, and maintenance, adding it back to campus grounds to recycle the nutrients back into the environment.

1.D. SUPPORT STRONG TURF DEVELOPMENT IN LAWN-CARE PRACTICES

Waterloo will set proper cutting heights and maintenance schedules to reduce impact and create healthy green spaces.

1.E. IDENTIFY PRIORITY AREAS FOR NATURALIZATION

Waterloo will continue historical efforts to naturalize or re-naturalize infrequently used lawns by locating areas to replace turf grass with wildflowers, groundcover, or woodlands in order to reduce ongoing operational needs and create new habitats.

1.F. DEVELOP CRITERIA FOR FOOD GARDEN PLOTS

Waterloo will create clearer guidelines and criteria to increase student and employee participation in hands-on gardening while maintaining safety, accountability, and operational efficiency.



2. FERTILIZERS AND PESTICIDES

This section lists specific opportunities to minimize excess nutrient runoff and chemical application in favour of more natural practices.

2.A. ELIMINATE SYNTHETIC FERTILIZERS AND PESTICIDES FOR GENERAL APPLICATION

Waterloo will continue to eliminate chemical fertilizers and pesticides except in targeted areas with specialty needs, and will follow an escalation pathway. This will help balance nutrient cycles, avoid runoff, and avoid over-reliance on fertilizer inputs.

2.B. USE ECOLOGICALLY PREFERABLE MATERIALS FOR FERTILIZERS AND PESTICIDES

Where usage of fertilizers or pesticides are necessary, Waterloo will use organic and natural materials such as topsoil, alfalfa meal/pellets, composts, vinegar/acetic acid, or pesticides from the Provincial Allowable Pesticides list.



3. BIODIVERSITY

This section outlines opportunities to better understand the diversity of species and habitats across campus, and create strategies to protect and enhance them.

3.A. IDENTIFY AND MONITOR POPULATIONS OF MAJOR PLANT SPECIES

Waterloo will establish a system to track the wide variety of plant species across campus, to understand areas that are thriving and areas that may be facing threats or risks, and will collaborate with student projects to update inventories over time.

3.B. IDENTIFY POPULATIONS OF MAJOR LAND AND AQUATIC ANIMAL SPECIES

Waterloo will establish systems to identify significant animal species across the campus. While this will need to be much more flexible than plant inventories, compiling existing data and engaging the community could help identify endangered or invasive species.

3.C. IDENTIFY AND DEVELOP REMEDIATION PLANS FOR INVASIVE SPECIES

As inventories are completed, Waterloo will develop interventions when necessary to mitigate the spread of invasive species, both plant and animal.

3.D. DESIGNATE KEY HABITATS, NATURAL AREAS, AND/OR PROTECTED AREAS

Identifying key areas with important habitats is important to integrate into planning and development efforts of the campus, ensuring they are protected over time and helping to communicate their ecological significance.

3.E. DEVELOP PROTOCOLS FOR MANAGING ENDANGERED SPECIES

Waterloo will follow a protocol for the management of Species at Risk, which can appear from time to time, following provincial guidelines where appropriate.

3.F. TREAT NUISANCE ANIMALS HUMANELY

Some animals can cause problems for the campus, and may pose risks to people or property. Waterloo will treat all animals humanely and follow an escalation process when responding.



4. WATER MANAGEMENT

This section outlines key actions that can protect watersheds and groundwater, which are important for the campus and the local community.

4.A. MEASURE NUTRIENT LEVELS AND CONTAMINANTS IN WATERSHED

Waterloo will measure and monitor possible contaminants in nearby watersheds that may be from runoff and campus activity. These can be done in partnership with the campus community and used over time to identify pollution issues.

4.B. CREATE A DESIGN STANDARD FOR PATHWAYS

Waterloo will create a standard for the use of permeable pavement, to increase water retention on site, minimize stormwater runoff, while ensuring accessibility and safety.

4.C. UTILIZE GREEN INFRASTRUCTURE IN FLOOD-PRONE AREAS

In parts of the campus where rainwater can cause flooding issues, Waterloo will explore and prioritize bioswales, rain gardens, and other green infrastructure to minimize risk and improve aesthetics.



5. SNOW AND ICE MANAGEMENT

This section outlines actions that can be taken to minimize environmental impacts of salt application while maintaining campus safety.

5.A. MEASURE SALT APPLIED TO CAMPUS GROUNDS AND PARKING LOTS

Waterloo will continue to measure salt application annually, to understand whether reduction projects are working.

5.B. IMPLEMENT TRAINING ON SALT REDUCTION

Waterloo will ensure all Grounds staff receive training on proper application techniques and equipment calibrations, and that at least one supervisor is Smart About Salt certified.

5.C. IMPLEMENT SALT USE REDUCTION WORKPLAN

Waterloo will continue to execute the Salt Use Reduction Workplan, which is required through the Regional Sourcewater Protection Plan, with an aim to reduce salt application and minimize salt runoff into local drinking water sources.



6. EQUIPMENT

6.A. PRIORITIZE ELECTRIC EQUIPMENT

Waterloo will have a stated preference for electric landscaping equipment where possible, to reduce emissions, noise, air pollution, and risk to physical operators.



7. COMMUNICATION AND ENGAGEMENT

This section outlines actions to promote the natural assets that it has on campus, communicate the efforts made within this Standard, and engage members of the campus community.

7.A. COMMUNICATE ACTIONS FROM THE LAND CARE STANDARD

Waterloo will develop a communications plan to promote its progress against the Standard, including publicly posting the Standard and progress measurement, integrating onto the campus map, signage, walking or virtual tours, digital communications, and photo contests or events.

7.B. DEVELOP A TRAINING PROGRAM AND FEEDBACK PROCESS

Waterloo will develop a program to train operations staff on the Standard, provide ongoing professional development as practices improve, and provide opportunities to understand from staff what is working and not working.

CONTINUOUS IMPROVEMENT

Actions within the Standard will be implemented over several years, and it will be important to learn from experiences as individual projects and actions are implemented. By creating an annual Plan-Do-Check-Act framework, Waterloo will:

- Create a process to build accountability on implementation
- Integrate lessons learned
- Update and renew actions and resources over time