**Overview**

Sustainability has become a major focus for the grounds within the last decade at Western Washington University. A variety of methods have been implemented to work towards the goal of a greener campus. Since 2004 Western’s gardeners have been certified in Integrated Pest Management, helping to cut down on the use of biocides on campus. Although the campus is not entirely biocide-free, the university has been moving forward with that in mind. Aside from the main “viewing corridors” on campus, the majority of plants used require little maintenance, are hearty, and many are native to the Pacific North West. Within the past four years, the grass has been changed to a higher performance blend that takes less watering. Aside from the lawns, a large portion of the landscaping has switched to a drip irrigation system, so that each plant is watered individually at night based on need, conserving energy. Furthermore, many mowers and leaf blowers have been upgraded to high efficiency, low decibel, four-stroke engines. In 2007 a Stormwater Management Program was implemented, through the use of several bioswales on campus. In this way, campus storm water is filtered before it reaches our surrounding watersheds. Looking into more grounds activities on main campus, many faculty and grounds staff have been involved in a recent pilot program incorporated four section trash receptacles in Red Square. Western has been active in integrating sustainability into the grounds maintenance on campus; however, there is the potential for even greater change.

**Vision:** To transform the Western community into a place where students and staff work together, striving to further sustainable practices on grounds, ensuring the health and vitality of future students.

**Goal 1**: Record sustainable grounds progress and use

**Objective 1.1**: Create measurement systems for tracking progress

 *It is hard to present data and prove that more funding is necessary when there is no data involved with historical grounds actions. Tracking systems would allow for us to prove the worth of specific equipment, etc.*

 Strategy 1.1.1: Incorporate data from the hired student in the Office of Sustainability who records amount of trash collected on campus daily, monthly and annually.

 Strategy 1.1.2: Have gardeners annually measure amount of plant biomass on campus using educated estimations of land-to-plant ratios.

 Strategy 1.1.3: Implement digital recorders of amounts of energy consumption in the grounds main facility along with manual recordings of gasoline/ other resource use by the gardeners.

 Strategy 1.1.4: Organize sustainability clubs to record data within student life and habits.

**Objective 1.2**: Prove to administrators the need for grounds to be even more sustainable and efficient.

 *Showing administrators and supervisors the progress and records taken thus far, illustrates the need for investment on an institutional scale in current and future sustainable practices.*

 Strategy 1.2.1: Create a portfolio of recorded data to present findings

**Goal 2**: Increase involvement and communication between the grounds staff, faculty, students and community members

 **Objective 2.1:** Increase multi-facility communication

 *Communication plays one of the largest parts in effective action on campus. By increasing articulation between different facility sections and grounds, Western could become more effective with a holistic approach to sustainable development.*

 Strategy 2.1.1: Establish semi annual, one-on-one meetings between the grounds staff and each relevant chapter stakeholders from the Sustainability Action Plan

 Strategy 2.1.2: Establish an annual meeting between all 13 chapters of the sustainability action plan to discuss past and future projects in order to combine efforts and increase efficiency

 Strategy 2.1.3: Create an outreach position with the goal of clearly communicating grounds staff activities, projects, opinions and valuable information to other groups on campus

**Objective 2.2**: Spread awareness among the student body of struggles grounds staff encounter in order to motivate student involvement.

 *Western students currently have little to no knowledge of the challenges grounds staff face. Grounds staff can bring their issues to the attention of the student body, potentially increasing voluntary assistance.*

 Strategy 2.2.1: Contact with the Western Front to publish an article interviewing gardeners about trash to expose the amount of work spent keeping campus litter-free.

 Strategy 2.2.2: Publish weekly blurb in Western Front, covering daily sustainable action methods for individual participation on campus as well as opportunities to help

Strategy 2.2.3: Compile records and information online for students to view both through the main website, the sustainability page and through local news.

Strategy 2.2.4: Collect all cigarette butts found on campus grounds for a week and create a display outside to influence individual conscious decisions on waste disposal

Strategy 2.2.5: Create exhibits on campus showing how long it takes for cigarette butts to break down outside, as well as other kinds of litter.

**Objective 2.3**: Incorporate programs that Western students can help with to address grounds issues.

 *A large barrier to students not becoming involved with grounds activity is lack of knowledge around volunteer options. By clearly incorporating programs specifically for helping with grounds, students are given the direct opportunity to learn more, support staff and create a healthier campus.*

Strategy 2.3.1: Schedule weekly volunteer work parties with groups such as LEAD, on campus to help grounds staff on projects that need the most attention such as weeding and litter collection

Strategy 2.3.2: Create student group focused on fundraising in the community for grounds projects as well as write grants for extra funds.

 Strategy 2.3.3: Organize meetings with clubs and grounds crew to increase the efficiency of activity and sense of community between grounds staff and Western students.

**Objective 2.4**: Become recognized by Tree Campus USA program

 *Tree Campus USA recognizes campuses that: “effectively manage their campus trees, develop connectivity with the community... to foster healthy, urban forests and strive to engage their student population… on forestry efforts.” By becoming recognized, Western can not only improve its methods for tree care but also improve its STAR rating as well*

 Strategy 2.4.1: Hold a meeting with all gardeners and grounds staff to discuss the program and steps it would take to not only become recognized, but to boost our campus STARS report as well.

 Strategy 2.4.2: Create position on campus or club interested in researching needs to become recognized and implementing those needs while boosting student involvement.

**Goal 3:** Reduce the overall amount of litter/waste on campus grounds

**Objective 3.1**: Reduce the amount of time gardeners spend picking up litter around campus to 0-15 minutes per day.

 *Gardeners currently spend a large portion of their day picking up litter and emptying trash cans. By reducing the amount of litter on campus and creating ways for students to help clean up their own grounds, gardeners can focus their time on more pressing issues.*

Strategy 3.1.1: Work with clubs and classes on campus to host trash cleanup events open to the public on a weekly/monthly basis.

Strategy 3.1.3: Make trash collection on campus an option for local high schoolers to gain required graduation volunteer hours.

Strategy 3.1.2: Make a campus-wide annual day focused on sustainability and campus trash cleanup, and events that the entire community can take part in.

Strategy 3.1.4: Expand the four-stream trash receptacle pilot project to encompass the entire campus grounds.

Strategy 3.1.5: Hire more gardeners to split up the amount of area covered by each, thus reducing the amount of time spent on trash pick-up per area.

**Objective 3.2:** Increase the amount of on-campus produced composting/recycling used by grounds for landscaping by 100% by the year 2025.

 *Western’s landscapes produce immense amounts of compostable waste from plant debris, fallen branches and litter. By aiming to double the amount of this material on-campus, we can reduce overall physical waste and energy spent on transportation off-site.*

Strategy 3.2.1: Post flyers around the surrounding Bellingham to gain support and hands involved with building the larger composting ground.

 Strategy 3.2.2: Create a larger worm bin to reduce the amount of compost hauled off campus

Strategy 3.2.3: Hire part-time position through grounds for composter on campus to coordinate with volunteers on the expansion of the compost yard.

Strategy 3.2.4: Expanding the compost yard behind the Physical Plant with the help of student volunteers

 Strategy 3.2.5: Write grant using the Green Energy Fee to purchase Earth Tubs for food composting on grounds. This method has already been used to purchase Earth Tubs at other universities such as Mercyhurst University.

 Strategy 3.2.6: Building an indoor composting area so food scraps from the dining hall can be composted on-site as seen at Seattle University.

**Goal 4**: Totally eliminate the use of harmful chemicals on grounds.

**Objective 4.1**: Increase the tolerance of weeds by staff, administrators and students on campus to further accept the possible elimination of the use of chemical weed killers.

 *With few gardening staff to fully eliminate every weed, chemicals have often been used as a last resort. For Western to go chemical free without increasing staffing levels would mean some weeds would have to go untreated. A first step towards becoming pesticide free starts with a greater weed acceptance by campus users.*

Strategy 4.1.1: Send educational email to students and faculty from sustainability clubs on the benefits of chemical-free grounds.

Strategy 4.1.2: Create a sample lawn area in the viewing corridor of campus with a higher weed content and survey students (or incoming freshman as a part of the campus tour) on their opinion of the aesthetics.

Strategy 4.1.3: Start a poster program to showcase how weeds can be tolerated within campus aesthetics, putting the posters around campus.

**Objective 4.2**: Increase the use of natural fertilizers and management methods

*Harmful chemical use on campus grounds has adverse effects on humans, water and the surrounding health of ecosystems as a whole. By looking at other universities like Seattle U. and University of Washington Bothell, we can learn how to become a pesticide and chemical free campus.*

 Strategy 4.2.1: Spread awareness amongst the gardeners of the benefits and value of using compost tea as a natural fertilizer using both UW Bothell and Seattle University as examples.

 Strategy 4.2.2: Keep up to date on latest natural landscaping practices used at other institutions for possible application on our own grounds mainly through the AASHE website

 Strategy 4.2.3: Increase communication between gardeners about individual natural methods used to make practices universally applied throughout campus and encourage the use of only natural, holistic approaches. Such can be done through organized meetings with all gardeners once a month.

Strategy 4.2.4: Through policy change, totally ban the use of chemical based biocides on campus grounds, even as a last resort.

**Goal 5:** Reduce campus carbon emissions by implementing more sustainable University grounds practices

**Objective 5.1**: Reduce amount of transportation done by the grounds

 *Transportation takes up a major portion of energy used by grounds staff for maintenance and various other jobs. To reduce the amount of transportation could have a positive impact on our energy use as a whole on campus and grounds.*

Strategy 5.1.1: Write grant proposal for new equipment such as a wood chipper through the WWU sustainability fees.

Strategy 5.1.2: Purchase a reliable and efficient wood chipper so that grounds does not need to purchase woodchips from off campus or transport their organic waste to off campus sites.

Strategy 5.1.3: Install an on campus greenhouse so that plants for landscaping can be grown on site rather than ordered off campus

Strategy 5.1.4: Purchasing efficient vehicles that can transport heavier loads and therefore reduce the amount of trips made

**Objective 5.2**: Reduce ground’s equipment carbon emissions by 20% by 2020.

 *Although Western has been working towards more energy efficient options, at the moment there are few workable solutions we have not already implemented. Hopefully by staying up to date on the latest equipment, we can find some that work well with Western’s grounds.*

Strategy 5.2.1: Form annual meeting between all of grounds crew and staff to discuss the state of current equipment and potential updates.

Strategy 5.2.2: staying informed on new equipment available on the market through media sources and online, specifically for trucks and equipment able to carry heavy loads.

Strategy 5.2.3: staying informed on equipment used by other universities and institutions by following along with websites and grounds staff at other schools such as Seattle University.

Strategy 5.2.4: Reach out to sustainability clubs to apply for State grants and funding to purchase new equipment outside Western’s budget.

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| Achievability | Action Steps | Related Strategies | Responsible Units | Completion Date |
| Achievable with available resources | Student survey assessing the sample chemical-free area on campus | 4.1.2 | University residents, clubs and Facility Management | Dec, 2014 |
|  | Work with Western Front to publish an article on gardeners and litter  | 2.2.1, 2.2.2 | Western Front Publishers/writes, Facility Management | Dec, 2014 |
| Achievable with additional resources | Merge grounds, student life and classroom activities | 1.1.1, 1.1.4, 2.2.1-2.2.3, 2.3.1-2.3.3, 2.4.2, 3.1.1, 3.1.2, 3.2.1, 3.2.4, 4.1.1-4.1.3, 5.2.4 | Facility Management, sustainability clubs, university residents | June, 2015 |
|  | Expand composting and worm bins behind physical plant | 3.2.2, 3.2.4- 3.2.6 | Facility Management, student volunteers/sustainability clubs | June, 2015 |
|  | Form group with students to apply for a Green Energy Fee Grant to purchase Earth Tubs | 3.2.5 | University students, Facility Management staff | Dec, 2014 |
|  | Create weed-minimal campus without the use of chemical based biocides | 4.1.1, 4.1.2, 4.2.1, 4.2.2 | Facility Management | June, 2015 |
|  | Hire more gardeners | 2.1.3, 3.2.2 | University Board | June, 2017 |
| Achievable through policy change | Ban the use of chemical based biocides | 4.2.4 | Facility Management, University students and administration | June, 2015 |
| Achievable through institutional investment | Purchase hybrid/electric maintenance tools and vehicles | 5.1.4 | University Directors, Facility Management  | June, 2025 |
|  | Build new indoor composting center | 3.2.6 | University Directors, Facility Management | June, 2030 |

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| Key Performance Indicators | Interim Target | Target Date | Reporting Units |
| Student survey of grounds | Positive responses from 70% of people surveyed regarding a biocide-free campus | Fall quarter 2014 | Gary Hodge, Facility Manager |
| Amount of fuel used by grounds facilities | Reduce by 20% | Spring of 2018 | Gary Hodge, Facility Manager |
| Amount of chemical based biocides used on grounds | Reduce to 0% | Spring 2015 | Randy Godfrey, Head Gardener |
| Time gardeners spend picking up trash | Reduce by 50% through student volunteers | Spring 2015 | Randy Godfrey, Head Gardener |
| Increased amount of on-campus produced compost used by grounds | Double the amount of on-campus compost produced and used | 2025 | Gary Hodge |