

Turfscape's efforts to create and maintain sustainable campus grounds range from everyday mowing to installing and maintaining native plant gardens.

Mowing:

When the grass is mowed on campus, the clippings are dispersed over the mowed area through the machine, rather than being collected in a catcher and thrown away. This replaces the original nutrients in the soil to keep a healthy lawn with less need to water or fertilize. The height at which the grass is mowed is chosen to reduce water evaporation, thus preventing the need to use more water to hydrate the lawn. Any run-off water on campus goes to storm sewers, which lead directly to Lake Erie. Fertilizers used on grass usually contain phosphorous, which is a leading cause of Algae-Blooms. By reducing water and fertilizer usage, less water is wasted and fewer chemicals pollute our source of fresh drinking water.

Fertilizers and Pesticide use:

When using pesticides to kill fungus, insects and weeds on campus, Turfscape chooses to spot treat the affected areas rather than using chemicals campus-wide in a pre-emptive attempt to prevent the disease. This keeps chemicals from being used excessively. A threshold is determined on *when* to use pesticides and then only the *right* amount is used to control the issue. This is known as integrated pest management (IPM). When a disease or pest threatens plant growth on site, the first solution is not to use pesticides. Turfscape looks at the biological conditions of the landscape and looks to alter the environmental conditions to make it uninhabitable for pests or disease. Pesticides are only used after determining a need, and then used as a spot treatment. This prevents future entire replacement of a group of plants or tree, which could become costly. Soil samples are taken to determine what areas of campus may or may not need fertilizer. When the product is used on an as-needed basis, it keeps phosphorous from fertilizers out of the drains.

Native plants:

Where possible, native perennial plants are left to go to seed when they have stopped their growing process for the season. Instead of immediately cutting down the plant before winter, it is left to spread its seeds for growth in the spring. This costs JCU less money to replace perennial plants and keeps energy from being wasted on planting in the spring. Turfscape uses a plant pallet to diversify plant species within a design. These pallets use Native plants which fight insects and disease, thus making chemicals unnecessary. The most recent example of this design is the pollinator garden next to the Johnson Natatorium. It contains Ohio native plants that attract bees and butterflies, which increases pollination, resulting in healthier surrounding plant life.

Recycling and Reducing:

Any yard waste collected on campus is put into a specific yard waste dumpster that uses the waste for composting. Turfscape recycles scrap metal, used oil from the mowers and vehicles, and the pallets used to transport material. The materials the company uses are bought in bulk to reduce transportation and cut down on fuel emissions. Each of the Turfscape trucks is equipped with routing software to reduce transportation and find the most direct route. In the winter season, liquid salt brine is sprayed on campus walkways to prevent snow accumulation and slippage. The liquid brine is a sustainable substitute for rock salt applications. Preserving JCU's healthy foliage is a constant task. By using hand pruners to maintain the shape of a plant instead of gas shears, the air is kept cleaner and free of fuel emissions.

Water:

The irrigation systems on campus are checked regularly for leaks. The new installations at the back of the Dolan Science Center had many new trees that use "Gator Bags." These bags are filled with

water a couple times a week and dispense the appropriate amount of water directly to the trees on its own. This eliminates the need to water the trees daily and waste time hooking up a hose and inevitably wasting water as the spigot is turned on and off.

Available Resources:

Field Manager Jon Kuss is a member of the Sustainability Committee and can provide suggestions and comments within the group. Kuss earned his degree in Sustainability from Baldwin Wallace University and is willing to share his background knowledge to improve sustainable efforts on campus. He has spoken with Jeff Your, Sustainability Chair about the tree planting on campus and the upcoming Tree Campus USA initiative.

Turfscape continues to incorporate sustainable practices in its daily work at John Carroll. The pollinator garden and fresh enhancements at Dolan Science Center extend beyond giving campus a fresh look. They serve as an example to the exterior community of Turfscape's passion for sustainable efforts and desire to improve.



Do the Right Thing



Summary:

- **Brine used to reduce rock salt**
- **Bulk materials purchased to reduce transportation costs and emissions**
- **Development of a sustainable Plant Palette**
- **Grasscycling**
- **Integrated Pest Management to reduce toxic pesticides**
- **Monitoring of irrigation and run off**
- **Proper fertilizer applications by understanding plant needs and soil chemistry**
- **Recycling oil and metal**
- **Recycling yard waste**
- **Reduced phosphorus in fertilizers**
- **Routing software**
- **Some work done by hand, rather than machine, to reduce emissions**