

faculty, staff, and students and easy access to on-campus transit stations. Bikes are strongly supported on campus. In fact, there are more bike parking spaces than car parking space on campus (the university has half of the auto parking expected of a typical university). Only 17% of students who live off campus drive alone to and from campus, the rest walk, bike, carpool; or take the bus.

### 13. Lawrence Hall - Environmental Education

The main walkway in front of you terminates at Lawrence Hall. This building houses the School of Architecture and Allied Arts, home base for the Ecological Design Center, the Institute for a Sustainable Environment, Resource Innovations, and the annual Holistic Options for Planet Earth Sustainability (HOPES) conference. There are many other sustainable endeavors on campus including the Environmental Law Conference and the Sustainable Business Symposium.

### 14. Old Campus Quad - Well-adapted and Compatible Plants

If you had toured the campus ten years ago, the beautiful planting areas in the nearby boggy site and under the trees would have been ugly mud puddles or scraggy grass. Today they demonstrate how simple it is to use well-adapted and compatible plants to create a more sustainable and attractive landscape. All campus grounds are maintained using an Integrated Pest Management Program. Furthermore, the university uses a computerized irrigation system that calculates the proper amount of water required based on weather and evaporation conditions. Also, all yard waste is composted and used on campus.

### 15. Old Campus Quad Bird Corridor - Wildlife Habitat

This conifer quadrangle is well loved by students and wildlife alike. In order to increase and enhance the variety of bird and native plant species on campus, the university has implemented the Wildlife Enhancement Project. Native undergrowth that is particularly attractive to many species of birds has been intentionally planted to create a bird corridor that extends from the Millrace to the Pioneer Cemetery. Tree snags are purposefully left throughout campus to provide wildlife habitat, and small bird houses have been installed at various locations across campus.

### 16. HOPES Bench - Education and Experimentation

This bamboo shelter and cobb bench at the far north end of the quad is one of a number of experimental structures constructed by students and designed to test sustainable materials. It is the first bamboo structure constructed in Oregon that was tested and approved by the Uniform Building Code. Hands-on student experiences provide great educational value. The bench's construction was sponsored by the HOPES Conference—the only ecological design conference established and maintained by students.

### 17. McKenzie Hall Renovation/Bioswale - Reuse and Retrofit

The small bioswale (area filled with pebbles) in McKenzie Hall's lower courtyard does not look like much, but it demonstrates how simple and inexpensive sustainable alternatives can solve big drainage problems that would have required substantial excavation and new piping. This bioswale was part of a major remodeling project that included installing efficient light fixtures, occupancy sensors, and carefully zoned energy-efficient HVAC systems. Completing energy retrofits has been a common goal for decades. Despite substantial construction since 1990 (over 800,000 gsf) and an additional 3,000 students, the overall campus electrical use per student has decreased.

### 18. Large-canopy Deciduous Trees and Conifers - Tree Protection

The university went to great lengths to protect the mature trees in this area during a recent expansion project. Building designs were modified, and substantial protection during construction included an innovative temporary bridge designed to span the root zones. The Campus Tree Plan, adopted in 2001, emphasizes the important environmental role trees play on campus.

### 19. Lillis Hall - Sustainable Design

Lillis Hall, a recent ambitious sustainable project, uses about 45% less energy than state code requires and incorporates a full spectrum of sustainable measures including:

- Natural cooling and ventilation through increased thermal mass, a central atrium that acts as a chimney, and specially designed classroom floors under which air travels.
- Photovoltaic cells with a solar generating capacity of about 6% of the building's energy use embedded in the atrium's south window panels (look for the blue cells).
- Innovative climate settings based on actual comfort versus standard protocols. Classrooms need A/C only about 4 hrs/year, compared to the typical amount of hundreds of hours.
- Rooms with finely tuned daylighting so that most are lit without electric lighting throughout the year.
- Occupancy sensors on lights and certain outlets.
- A comprehensive (97%) demolition waste recycling program.

The Complex houses the Lundquist College of Business, which features the Center for Sustainable Business Practices.

### 20. 13th Avenue - Auto-free Zone

This bike-filled street used to be the main east-west auto route through town until the late 1970s when students barricaded the street in protest. Since then, this portion of 13th Avenue and most of central campus has been an auto-free zone (except for service vehicles). Instructional uses are sited to make sure students can travel by foot from one class to another during their 10-minute class breaks.

### 21. Johnson Hall Awnings/Operable Windows - Learn from the Past

Awnings such as these on Johnson Hall are making a comeback. We can learn a great deal from our historic buildings as their original designs often relied on what are now considered sustainable measures. Simple solutions to cool buildings, such as reducing the lighting output, enhancing ventilation and daylighting, and installing exterior awnings, are always the first choice on campus. The *Campus Plan*, which emphasizes sustainable design practices, requires that new buildings have operable windows, a feature always found in historic buildings.

### 22. Intersection of University Street and 13th Avenue – Heart of Campus

The Heart of Campus project (2004) created a plaza in the "heart" of campus. Previously the square was open to automobile traffic, but the design discourages automobiles and makes the square more pedestrian friendly. A large portion of the project was designed and constructed by Landscape Architecture students.

*These are just some of the university's current efforts aimed at advancing environmental stewardship while supporting the institutional mission of the University of Oregon. We hope you will join us in working towards a truly sustainable community!*



## Self-guided Tour Campus Sustainability Initiatives

*We invite you to discover some of the exciting sustainability initiatives and projects at the University of Oregon.*

Sustainability is no stranger to the university. Since the early 1970s the university's active and progressive recycling program has been the recipient of numerous national awards. Since the mid-1970s the university's transportation plan has guided the development of a system that is nationally recognized for its transportation innovation.

In 1990 the Environmental Issues Committee was created. More recently the university established policies on paper use and adopted a sustainable development plan for the physical development of its campus. The University of Oregon's long-standing commitment to environmental responsibility was reaffirmed by the adoption of the university's *Comprehensive Environmental Policy Statement* (1997) and University President Dave Frohnmayer's signing of the American College and University Presidents Climate Commitment in 2007.



# University of Oregon Sustainability Initiatives Tour

May 2008

*This self-guided tour will introduce you to a few of the University of Oregon's numerous environmentally sustainable practices. The tour should take about 1-1/2 hours to complete (the full route is about 2 miles).*

**Begin at the green recycling bins in front of the Erb Memorial Union (EMU) at the intersection of 13th Avenue and University Street (refer to #1 on the map).**

## 1. Recycling Bins - Campus Recycling Program

Sustainable efforts often begin with a recycling program. The university's nationally recognized comprehensive Campus Recycling Program was established in the early 1970s. Today it services more than 2,000 collection sites and in 2006 recycled approximately 1,744.8 tons of material (equal to 45% of the campus' total waste). A more recent food composting program has reduced waste at major campus celebrations by up to 80%. In addition, all university stationery is printed on 100% post-consumer waste paper, and all media guides and recruitment materials are printed on a combination of post-consumer waste and recycled paper. Proceed to the other side of the EMU through the outdoor lower walkway.

## 2. EMU PV Panel Student Project - Alternative Energy Sources

Look up at the "solar umbrellas" on the EMU's east balcony. Student investment in solar panels on the roof provides the EMU with green, clean electricity to supplement its energy usage, earning the student body money in energy savings. The solar panels produce 72,577 kWh/year, or a total savings of \$4,136 according to Eugene's average yearly solar radiation and current energy rates.

## 3. Living-Learning Center - Sustainable Residence Halls

The Living-Learning Center (LLC) is the newest residence hall, the first built since 1963. It integrates spaces for academic uses with dining and living. The LLC incorporates many elements of sustainable design and achieved its goal of exceeding SEED requirements and meeting a "silver" rating level in the United States Green Building Council's (USGBC) LEED rating system of design and construction. The LLC features insulated windows, solar hot water heating, sun shades on southern elevations, and hot water reclamation.

### Optional Side Trip (#4-#7):

#### 4. Student Recreation Center - Energy Conservation through Design

All recently completed major projects (\$60 million worth of work) including the Student Recreation Center (SRC) have been recognized with regional Energy Smart awards. This means that energy conservation is greater than the 20% reduction required by the energy code for state-owned buildings. Additionally, the university's Ecological Design Center (EDC) installed a 12 kW solar array on top of the SRC and a solar monitoring kiosk inside the SRC, which provides real-time energy production information.

#### 5. Knight Law Center - Law and the Environment

The School of Law features the Environmental and Natural Resources Law Program, which pioneered the first curriculum in public interest environmental law, created the first public interest environmental law clinic in the nation, and, through its students, hosts the oldest and largest public interest environmental law conference in the world.

#### 6. Museum of Natural and Cultural History Glen Starlin Courtyard - Native Plants on Campus

Visiting this courtyard is an excellent way to become familiar with many of Oregon's native plants. It demonstrates the inherent benefits of using hardy native plants in landscape design. Inside the museum visitors can learn about ecosystems, habitats, native trees and animals, and Oregon geology and archaeology. The nearby Many Nations Longhouse extends the use of native plants in the landscape and on the roof, where a "living roof" was planted in 2005. The canopy features a variety of native plants and grasses, many of which are drought tolerant and have been grouped together to represent wetlands, prairie and other land types.

#### 7. Efficient Cut-off Outdoor Lighting - New Campus Fixtures

Although the fixtures along this walkway look typical, they possess advanced features designed to increase energy efficiency and to minimize light pollution. Features include an efficient metal-halide light source that does not interfere with a plant's dormancy cycle, a special interior shield/reflector, and prismatic globe. These fixtures are the prototypes for all future exterior campus lighting.

## 8. Willamette Hall - Sustainable Building Design and Reuse

As you enter the Paul Olum atrium through the recessed entry on 13th Avenue, imagine this site as it once was—a jumble of box-like science buildings. Rather than demolishing the old buildings, the university reused them, linking the old and the new to create one of the most well-liked places on campus. The exterior face of one of the original buildings is evident inside this efficient atrium that is neither air-conditioned nor heated. Sustainable building design and the collaborative design process began on campus with Christopher Alexander's *The Oregon Experiment* in 1975. The university's *Campus Plan* (2005) contains many policies and "patterns" that recognize the importance of integrated landscape design, user-friendly buildings, and sustainable design. The university's Sustainable Development Plan (2000) strengthened sustainable design requirements and included LEED standards.

## 9. Green Chemistry Lab - Reduce Toxic Solvents/Teach Green

If you peer in through the large windows at the very north end of Klamath Hall (past the double doors), you will see the first instructional green organic chemistry lab in the country. Students learn chemistry using less toxic solvents and reagents, causing less harm to themselves and the environment. Reaction products are recycled into future experiments, and waste air is reused in the ventilation system (without jeopardizing strict environmental and safety regulations). Also, other nearby labs use innovative measures to reduce required ventilation resulting in substantial energy savings.

## 10. Urban Farm - Environmental Education

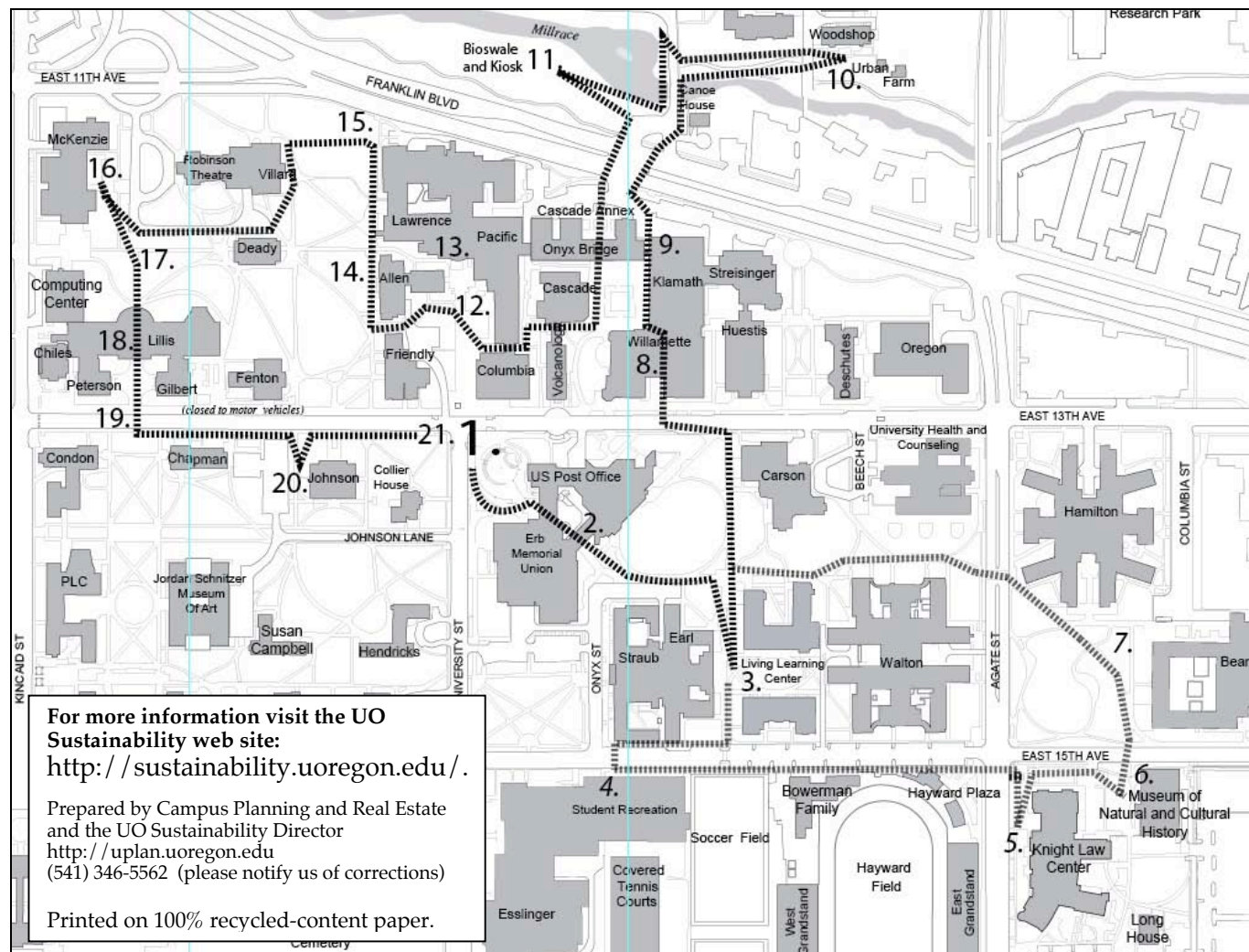
The Urban Farm, in operation since 1976, is used as an applied research facility (e.g., to study bee populations) and as an outdoor classroom to teach organic gardening. It is one of the many academic programs that address environmental issues in design, community planning, business, law, the sciences, and literature. All the food grown by the farm is either given to the students who participate in the course or donated to local food banks and shelters. Additionally, in 2005 the university installed an industrial composting "earth tub" that can efficiently process up to 200 pounds of food waste per day without odors or mess. The tub composts pre-consumer food waste from dining services and the EMU, and the resulting compost is used by the Urban Farm program.

## 11. Millrace Bioswale and Bank Stabilization - Water Quality

A series of student Landscape Architecture design-build projects provide excellent examples of on-site drainage and habitat restoration. Proceed to the overlook, which is made of recycled-content material. It is a good place to view the native species planted along the Millrace banks to decrease erosion and increase wildlife habitat. Follow the concrete sidewalk across the bridge and walk toward the small wooden kiosk in the grassy area to your right (which is constructed of downed trees from a recent storm). Here you will see a highly effective bioswale that cleanses and absorbs storm water that drains into the Millrace and the Willamette River, both of which flow through university property. Six additional bioswales spread across campus.

## 12. Bike Facilities & Free Bus Service - Alternative Modes of Transport

The university is nationally recognized for its transportation innovation. Incentives to ride the bus include free bus passes for all



For more information visit the UO Sustainability web site:  
<http://sustainability.uoregon.edu/>.

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