

# Ecosystem Task Force FY11 Report

## ACTIVITIES

Over the course of Fiscal Year 2010, members of the Ecosystem Task Force have worked with partners across the University to accomplish the following projects. Some of these projects were identified in the original charter of the Task Force and other were ongoing activities of the Sustainability Academy or other entities on campus that thematically meshed with the goals and objectives of the EcoTF.

### Initial Assessment

In its first year of operation, the EcoTF focused on organizing itself into subcommittees to focus on the various aspects of the campus ecosystem and in developing a framework to achieve the mission of its charter. The Task Force formed 5 subcommittees:

1. Development Boundaries & Smart Growth Issues
2. Natural Resources Inventory
3. Water Supply & Usage
4. Watershed/Aquifer Protection
5. Integrated Waste Management

Each of the five subcommittees was assigned a chairperson who organized meetings with other UNH community members with expertise related to the subcommittee's projects and with the research assistant working on the indicators project (see below). Each subcommittee undertook a rapid assessment of their topic and produced a report of the critical issues, key recommendations, and next steps facing the Task Force in its future work. A few highlights from each report are listed below, the full reports can be downloaded at <http://sustainableunh.unh.edu/ecosystem-task-force-reports>

### **Development Boundaries & Smart Growth Issues**

- Developed a model for projecting scenarios of long-term campus development needs.
- Collected and displayed data relating to watershed, walkways, roads, etc. in GIS format.

### **Natural Resources Inventory**

- Developed a list of resources to be described and mapped and begun the work of mapping these areas.
- Developed methods to describe and evaluate various land uses (i.e., teaching, research, recreation, etc.).

### **Water Supply & Usage**

- Identified key areas for action in the next 10 years, including the design and siting of a new water treatment plant and the connection of the Spruce Hole Well into the existing system.
- Identified a set of key issues to be considered and resolved in the short- and long-term as related to the sustainability of the water system.

### **Watershed/Aquifer Protection**

- Consolidated and summarized all previous studies of the immediate campus watershed.
- Identified the key threats to water quality, primarily chloride contamination from the application of road salt.

### **Integrated Waste Management**

- Summarized and reported previous work carried out by various groups such as ES&H, Facilities Operations, and Sustainability.
- Developed a set a recommendations for future action, including the development of a waste coordinator role.

### **Ecosystem Indicators**

The EcoTF has supported a graduate research assistant to support the process of developing a suite of indicators of campus ecosystem health that are required for informed decision-making within the Task Force and across the university. The student conducted extensive research of best practices in ecosystem assessment, and methods for adapting those practices to the scale of a college campus. Based on the initial list of more than 100 potential indicators, a series of meetings with the various subcommittees of the Task Force were conducted to select the most relevant set for our work at UNH. Now with a complete indicator tool in place, the process of collecting the relevant data and storing it in a decision-relevant context can be undertaken (see Future Actions below). Additionally, the subcommittees have already begun to generate data in the process of their other activities.

### **Drinking Water Infrastructure Development**

The EcoTF has worked with various operating units on campus to support, promote, and facilitate adoption of new drinking water hardware in building. The new apparatus called a “hydration station” allows easier and more sanitary filling of reusable water bottles than a traditional bubbler fountain. Additionally, the units are equipped with a filter and a counter to track water usage (and indicate when the filter should be replaced). Installation has been accompanied with educational materials about the benefits of tap water/municipal water systems over commercial bottled water. The goal of the program is to provide a healthy alternative to sugared beverages and to reduce the demand for bottled water (and associated costs) on campus.

## **FUTURE ACTIONS**

In addition to continuing with efforts related to ongoing projects, the Energy Task Force plans to undertake new projects beginning in the Fall.

## **GIS Database**

The next phase of the indicators project is to build a database within the campus Geographic Information System at Campus Planning that will be able to serve as the common repository for data relevant to the work of the Task Force. This database will be able to accept input from Task Force members, UNH researchers, and students who are collecting data in the environment. The information can be displayed with a Web-based interface, for user who do not have GIS access or experience. The overall goal is to be able to use geospatial data to support the decision-making process of the EcoTF as related to land use and ecosystem management policies.

## **No-sort Recycling Trial**

The Integrated Waste Management Subcommittee will be working with Facilities Operations to support their trial of single-stream/no-sort recycling during the Fall semester. The trial will take place in many UNH buildings and will replace the current separate paper, commingled recyclables (plastic, glass, metal), and cardboard system with a single disposal point for all recyclable materials. This system has been shown to significantly increase recycling rates and lower disposal and labor costs in other institutions that have adopted. The trial will determine if these benefits can also be achieved at UNH.

## **Half-Day Workshop**

A concentrated working session is planned for this fall to review the first year's initial assessment and to plan in detail the next steps for the Task Force in FY12. The Task Force will review it's initial charter and review how the current subcommittee structures are meeting the current tasks and will determine if additional resources or partnerships are need to achieve these goals.

## **Curriculum Integration**

The EcoTF is developing methods to integrate its work into the classroom learning environment so that the innovative practices of the campus can serve as a living laboratory for our students. The EcoTF is participating in the development process for the Sustainability Dual Major lead by the Sustainability Academy, and is also building partnerships with individual professors. For example, a mechanism is in development for collecting field work done by various ecology classes and storing that data in the GIS database. This could be an efficient way of maintaing information on the health of UNH ecosystems over time while incorporating undergraduate learning into the process.

## **Research Integration**

The EcoTF is participating in the development process for the Sustainability Research Colaboratory lead by the Sustainability Academy. The Colaboratory will foster the development of interdisciplinary research groups that will be organize around various topics in sustainability with the aim of developing integrated teams to respond to upcoming calls for papers.

# Appendix

## Membership List

| Name             | Title                        | Affiliation   |
|------------------|------------------------------|---|
| Alex Eicher      | Campus Structure Committee   | Student Senate  |
| Bill McDowell    | Professor                    | Natural Resources & the Environment                       |
| Brad Manning     | Director                     | Environmental Health & Safety                             |
| Brett Pasinella  | Program Coordinator          | University Office of Sustainability                       |
| David Cedarholm  | Town Engineer                | Town of Durham  |
| Denny Byrne      | Director                     | Campus Recreation   |
| Doug Bencks      | Director                     | Campus Planning   |
| Jeff Schloss     | Extension Professor          | UNH Cooperative Extension                                 |
| Jim Campbell     | Town Planner                 | Town of Durham  |
| Jim Dombrosk     | Director                     | Energy Office   |
| Jim Haney        | Professor                    | Biological Sciences                                       |
| Joel Hartter     | Associate Professor          | Geography   |
| John Hart        | Professor                    | Thompson School   |
| Lucy Parham      | Graduate Student             | Natural Resources & the Environment                       |
| Mark Ducey       | Professor                    | Natural Resources & the Environment                       |
| Michele Chapman  | Special Projects Coordinator | University Office of Sustainability                       |
| Michelle Daley   | Research Scientist           | Natural Resources & the Environment                       |
| Neil Niman       | Associate Professor          | Economics   |
| Paul Chamberlin  | Assistant Vice President     | Energy & Campus Development                               |
| Peter Pekins     | Professor                    | Natural Resources & the Environment                       |
| Richard French   | Clinical Professor           | Veterinary Diagnostic Lab/Molecular Cellular & Biomedical |
| Rob Roseen       | Research Assistant Professor | Civil & Environmental Engineering                         |
| Shane Bradt      | Geospatial Technician        | Cooperative Extension                                     |
| Steve Eisenhaure | Land Use Coordinator         | Office of Woodlands & Natural Areas                       |
| Tim Sullivan     | GIS Administrator            | Campus Planning   |
| Tom Ballestero   | Associate Professor          | Civil & Environmental Engineering                         |
| Tom Kelly        | Chief Sustainability Officer | University Office of Sustainability                       |
| Tom Lee          | Associate Professor          | Natural Resources & the Environment                       |