

MAINSTREAMING SUSTAINABLE FORESTRY GRADUATE EDUCATION IN FORESTRY SCHOOLS OF THE UNITED STATES

A PROPOSAL OF THE SUSTAINABLE FORESTRY PARTNERSHIP IN COOPERATION WITH THE PINCHOT INSTITUTE FOR CONSERVATION

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ABSTRACT

The Sustainable Forestry Partnership, in cooperation with the Pinchot Institute for Conservation, is requesting support for a two-year project to develop a graduate-level program in Sustainable Forest Management, and facilitate its adoption by forestry schools throughout the United States. An advisory committee, representing public and private forest management organizations, conservation groups, universities, and professional associations, will offer information and insight into the development of a model curriculum. With guidance from the advisory committee, a series of focus groups will be held at schools around the US including, but not limited to, those participating in the Sustainable Forestry Partnership. These focus groups will address issues related to the content of the curriculum model, the feasibility of its adoption, and steps to be taken towards implementation. A national-level design team, made up of participants of these focus groups as well as forestry employers, will convene to assimilate these various ideas into a comprehensive model for consideration around the country. The overall project goal is to promote the advancement of forestry education in the US to reflect the evolution of science and social values pertaining to forests and forestry.

INTRODUCTION

Today's understanding of forestry is far more sophisticated than in decades past. Silviculture remains the foundation of forestry, but contemporary environmental and social expectations require foresters to possess other tools. These include an understanding of community values and an awareness of how international market pressures increasingly affect forest policy. Society expects foresters to be better educated, be more holistic in their thinking, and to be better able to communicate and resolve disputes among diverse stakeholders.

A recent report, *The Evolution of Forestry Education in the United States: Adapting to the Changing Demands of Professional Forestry*, (Pinchot Institute for Conservation, January 2000), critiqued the current state of forestry education at US colleges and universities. The report suggests forestry employers expect more skills in today's foresters, and a more comprehensive training regime at the institutions where they study. The report says for example, "...the marketplace demand for skills and competencies of

forestry graduates is evolving more quickly than programs for professional forestry education are responding” (Pinchot Institute, January 2000, p.1).

In response to this apparent need for change, the Sustainable Forestry Partnership proposes to facilitate dialogue among US forestry schools and stakeholders leading to the development of an integrated, graduate-level curricular package for use by forestry schools. Institutional partners of the Partnership (Penn State, Auburn, Oregon State) will work with other partners to encourage broad adoption of the package. Adoption of this curriculum will make it possible for graduate students to receive a masters or doctoral level degree with a major in sustainable forestry. The model will also address opportunities to improve extension education. This model will be presented at a national conference of forestry schools for consideration by progressive institutions. The Partnership will work individually with a small set of self-identified institutions to adopt the curriculum at the graduate level while simultaneously working to influence the ongoing national level reform work of the National Association of Professional Forestry Schools and Colleges (of which Partnership institutions are all members). Additionally, the Partnership will work with the Society of American Foresters (SAF) to continue dialogue about expanding SAF’s “certified forester program” to include a certificate in sustainable forestry. Furthermore, the Partnership will build on the recent report of the SAF Task Force on Forestry Education Accreditation (SAF, May 2000), which recommends that SAF pursue the development of specialized areas of forestry.

The Pinchot Institute for Conservation will serve as a project partner. The Institute retains many important relationships with schools and forestry employers as a consequence of their long tradition as a research body. The Institute will facilitate naming key players to the project, and will co-convene project events with SFP.

The Pinchot Institute report made several important observations providing good starting points for the design of a response. First, employers asked to rate core competencies they required most in their employees rated written and oral communication the highest. Leadership, collaborative problem solving and management planning were also highly rated (Pinchot Institute, January 2000). These kinds of courses were found to be not available within many forestry schools, and rarely required to earn a degree regardless of their availability across campus.

Graduates’ abilities to work in teams and to address public concerns were raised as areas where they are falling short. Ethics and collaborative planning principles were also cited as important features graduates were expected to have learned. Silviculture, biometrics, ecology, forest management, and base sciences continue to be critical, but simply gaining expertise in these areas will not provide the increasingly complex set of skills needed by a successful forestry practitioner. Just as the skill set required of foresters has broadened over time, so too has our science. We simply must teach a wider range of subjects in order to prepare our students. Principles of ecosystem management, sustained yield forestry, maintaining non-timber values, and involving community stakeholders are just some of the underpinnings of sustainable forestry education.

CURRICULUM DEVELOPMENT

The model sustainable forestry curriculum is envisioned as having components that affect the delivery of resident teaching, extended (and distance) education and outreach, demonstration, and, research. However, the initial focus should be on refining graduate resident education. Design principles and content suggested for the model curriculum can be integrated into non-resident teaching, demonstration, and research as time goes on. Coursework and research options should have sustainability as a focus.

There is likely no single model that is either appropriate or practical for adoption by all forestry schools; consequently, the charge for this project is to create a menu of options that make sense and incorporate the full range of sustainable forestry related topic areas and skill sets. Individual institutions will adopt various components, as they deem appropriate.

Models for training students to practice sustainable forestry exist. Oregon State for example offers a MS in sustainable forestry. Programs like this, as well as those noted in the Pinchot report, such as the natural resources program at Northern Arizona University and the University of Vermont, will be reviewed and adapted. The model curriculum likely includes coursework in:

- Forest auditing, assessment, and certification systems
- Natural resources public relations
- Ecosystem management and biodiversity conservation
- Conflict resolution
- Collaborative planning
- Forest products marketing
- Industrial management systems
- Community-based stewardship
- Forest engineering
- State and federal forest policy

In addition to content development, innovative tools that can be integrated into the delivery of resident education will be identified. These may include the use of case studies, experiential learning, field application of skills, and use of the Internet as a distance education tool. It is important to note that graduate programs inherently involve a research component. As a complement to the curriculum, a list of “topic areas” and research questions will be developed as a reference for students interested in a graduate option in sustainable forest management.

APPROACH FOR SIX MONTH PLANNING PERIOD

Partnership staff and associate directors (faculty) from partner institutions, along with staff from the Pinchot Institute, will convene on-campus focus groups bringing faculty and graduate students together to discuss what should be included in graduate sustainable

forestry education. Focus groups will be held at Penn State, Oregon State, Auburn, and Yale during summer/fall 2000. Focus groups will develop the key elements to be included in the model, as well as evaluate feasibility for implementation on the campuses of participants. All sixty-seven forestry schools in the US will be invited to hold focus groups.

Once campus efforts are complete, a national design team will convene to assimilate these various ideas into a comprehensive model for consideration around the country. An advisory committee comprised of recognized leaders from industry, government, and academia will guide the work of this group. Yale University School of Forestry and Environmental Studies has committed to participating both at the faculty level, and with representation on the advisory committee. Forestry employers, both public and private will be invited to participate on the design team.

A six-month planning period has been funded. During this period, the Partnership and the design team will produce the following:

1. A model curriculum package including key courses, suggestions for modifying existing courses, research topics, and a list of tools and approaches that foster better understanding of sustainability.
2. A feasibility analysis of adoption potential at forestry schools in the US including prospects for success at participating institutions and a strategy for pursuing adoption.

The design team, including delegates from the on-campus focus groups, will meet to develop and review a model curriculum. Partnership and Pinchot staff will coordinate and facilitate these sessions.

MARKETING THE MODEL

Following completion of this planning phase, a survey will be developed and distributed to the 67 domestic forestry schools as an evaluation tool to determine prospects for adoption of a new curriculum and offer graduate degree options. Partnership staff will develop the survey with support from the design team. Data from the Pinchot report will be used to identify schools already offering courses consistent with the model. These along with interested institutions identified in the survey will be identified as potential pilot sites for innovation in sustainable forestry graduate education.

Based on the feasibility analysis, the Partnership will seek to implement curricular change at SFP Institutional Partners and other interested schools. It is uncertain how quickly, and to what extent, new courses and graduate options may be developed and adopted. It is reasonable to expect, however, that some number of institutions will respond in a positive way, and through engaging diverse partners, the Partnership can encourage a broad set of institutions to consider the need for change.

For the project to succeed in achieving its goal of broad availability of sustainability training, four basic elements must be addressed. Funding requested in this proposal will be used to:

1. Identify faculty at forestry schools willing to develop and deliver new or modified courses that reflect contemporary issues.
2. Catalyze students, especially at the graduate level, to clearly express the demand for sustainability training from their respective institutions.
3. Engage forestry employers and provide them avenues to express to university administrators and faculty that the need is real, and provide input to new approaches.
4. Encourage university administrators to provide an environment that facilitates innovation.

Steps will be taken during the planning phase of this project to enhance prospects for success. Steps include:

1. Major forestry employers will be engaged in early discussions of curriculum design as part an informed two-way dialogue about the need for innovation.
2. Graduate student organizations will be made aware of the project and invited to participate in the design process.
3. Representatives of other ongoing curriculum reform efforts will be invited to participate to broaden the engagement of the National Association of Professional Forestry Schools and Colleges (NAPFSC).
4. SFP partners will immediately begin to explore development of new courses to provide examples for others to follow.
5. A diverse set of university faculty will be engaged in the design effort and presumably will work to initiate change at their home institutions.

ONGOING RELATED EFFORTS

The National Association of Professional Forestry Schools and Colleges maintains several working committees, which address curricula. One of particular interest here is a Coalition on Non-federal Forests which is developing a strategy for advancing forestry education in response to a recent National Research Council report. Dr. Scott Reed of the Partnership serves on this committee and is providing a liaison function. Additionally, the Society of American Foresters offers a “certified forester program” as part of its continuing professional forester education efforts. The Partnership’s national coordinator, Dr. Michael Washburn, is engaging the SAF in dialogue about establishing a specialty certification in sustainable forestry.

PROJECT RELATED EVENTS

Several events will complement the adoption of the curriculum package. Following the development of the model the Partnership and the Pinchot Institute will (to the extent possible/dependent on funding):

1. Co-convene with NAPFSC a national conference of forestry schools to serve as a public “roll-out” of the model curriculum.
2. Convene a national convention of forestry seniors and recent graduates from forestry schools to share learning related to how to succeed in today’s forestry professions. This convention would be co-convened by the Sustainable Forestry Partnership, Forest Stewards Guild, and Society of American Foresters. (SAF invited as of February 22, 2000 but no formal response.)
3. Partner with USDA Cooperative State Research, Education, and Extension Service to convene a second inter-university forum on sustainable forestry to develop research projects and teaching tools that complement the design and delivery of the integrated sustainable forestry education program. (The first forum was convened by the Partnership in 1997.) Co-funding for this event is being sought from the USDA Cooperative State Research, Education, and Extension Service’s “Innovations Funds” program.