

Visiting Committee for the UW School of Forest Resources

Proposed Strategic Directions for Public Engagement under ABB

July 23, 2010

Purpose

The School of Forest Resources' 100-year commitment to public engagement through continuing education and outreach is threatened under the University of Washington's (UW) newly-instituted Activity Based Budgeting (ABB) system. The School is at an important crossroads, and the members of the Visiting Committee would like to provide our observations and recommendations to the Director and the Dean of the College of the Environment on challenges the School is facing. This document is focused on the parts of the School's program and mission that are most vulnerable under ABB.

The Visiting Committee is apparently the only one such organized group of outside advisors within the College of the Environment. This commitment of time and expertise by a group of volunteers indicates its dedication to the mission and goals of the School. We have provided valuable input to the College (now School) of Forest Resources on critical issues such as curricular transformation, fundraising, and research directions that helped advance its transition to a School in the College of the Environment in a state of strong health and stature. Now, a different set of challenges confronts us¹, and we have new recommendations to address those challenges to further the critical mission of the College.

School of Forest Resources Position within the College of the Environment

The School of Forest Resources is one of the original natural resource programs in the country. Established in 1907, the School has provided science, engineering and policy-related knowledge to advance sustainable natural and managed environments, that include wilderness and parks, intensively managed planted forests and urban ecosystems. Its reputation as a world class academic institution has been achieved through recognition of the contributions to society by its faculty and graduates, and with the establishment of the College of the Environment begins a new era of leading edge natural resources education and management policy.

The School's many partnerships and outreach efforts, with stakeholders, agencies, and other educational institutions have created confidence in its research and ensured that knowledge is applied to socially-important goals. The longstanding relationship between the School of Forest Resources and Native American communities has resulted in many tribal members attending the University of Washington and contributes to their home communities through professional level employment.

Philanthropy is generally aligned with shared values, and the School's alignment to the sense of place of the region and society as a whole is reflected in its grants, gifts, scholarships and endowments. This

¹ There have been a series of articles in the Seattle Times that capture this issue well. Danny Westneat's article entitled "No Emmert? Science cuts hurt more" (April 27, 2010) (http://seattletimes.nwsourc.com/html/dannywestneat/2011718188_danny28.html) and Nick Perry's article: "UW: Hard course ahead for funding." (May 1, 2010) (http://seattletimes.nwsourc.com/html/localnews/2011757091_uw02m.html). Perhaps the most telling sentence is the last: "Jenny says the UW is looking for ways to save money and to increase revenue in every budget item, no matter how arcane." This includes revenue from both real and intellectual property.

alignment can be even stronger when the full capabilities of the College are unleashed to address critical issues. The converse to alignment can of course also occur, if connections to societal interests and the public's expectations for UW to help solve tough problems were perceived to be missing.

The forests of the northern hemisphere present a microcosm of the complex challenges and cross-boundary, cross-disciplinary partnerships that can be models for engagement throughout the world. Forests held in federal, state, tribal, industry and small holder ownerships, plus park, arboreta and urban uses provide wonderful opportunities to overlay science with differing world views, experiences and the complex interactions between people and the environment.

The School's teaching and research programs include the sustainable management of natural resources derived from forest and other biotic systems and the innovative development of their products through precision forestry and bio-resource science and engineering. The School has a strong research and instructional reputation in forest management and urban forestry, natural resources economics, bio-resources, fire science, conservation biology, ecosystem sciences, environmental horticulture, phyto-remediation and restoration ecology. The School is currently the only academic unit within the state of Washington that offers accredited programs in Forestry and Bio-resource Science and Engineering (formerly Paper Science and Engineering).

The School uses both traditional and innovative classroom, field-based and outreach practices to reach students, professionals, school children and life-long learners regarding the ecological, economic, policy and social issues surrounding land stewardship. The School is endowed with both on-campus resources (e.g., Anderson, Bloedel, Douglas, Isaacson, Merrill, NHS and Winkenwerder Halls) and off-campus facilities and lands (e.g., Wind River Canopy Crane Research Facility, Lee Forest, Olympic Natural Resources Center, Pack Forest and the plant collections of Washington Park Arboretum) to enhance its teaching, research and outreach programs. The School's student face is not large (~500 undergraduate and graduate students), but its outreach face may be two orders of magnitude greater.

Teaching and Research under ABB

Although our major concern is about the School's challenge in maintaining its outreach mission under ABB, a brief review of the teaching and research challenges under ABB is important. Factors that influence how units will receive funding include: (1) a continual and significant decrease in state funding (presently less than 10% of the UW's total budget), (2) a situation in which there is more funding from tuition than from the State, (3) increasing pressure for a transparent funding mechanism that rewards accountability and milestones.

Activity-Based Budgeting (ABB) is an effort to address these factors. Units will be rewarded for undergraduate (80% based on student credit hours generated, 20% on students graduating in that major), graduate and professional student (80% on enrollment, 20% on student credit hours) and research activities (based upon the indirect costs recovered in grants and contracts to a unit.) Other activities will be valued; however, these remain to be accepted as measures of what the UW wishes to contain in its scholarship and public profile.

The School has added 14 faculty members to its rolls in the past four years, strengthening existing capabilities in wildlife science, fire science, remote sensing and urban horticulture, and adding new capabilities in bio-resources, molecular biology, phyto-remediation, resource informatics, economics and quantitative landscape ecology.

The sustainability of global forest resources is under serious threat from land conversion, invasive species, increased fire, insect and pathogen pressures and climate change. Responding to these threats requires a broad array of tools from fundamental sciences, interdisciplinary approaches and traditional ecological knowledge. Critical land stewardship challenges, such as disparate land values, greenhouse gas-entrainment, carbon valuation, or ecosystem pricing for water, biodiversity and other services require critical thinking skills to go along with technical expertise.

Strategies for addressing ABB metrics for teaching (student credit hours, number of graduating students and number of graduate students) and research (indirect cost recovery, graduate student support) are being addressed by the School in its ongoing strategic planning process, and include high enrollment service courses, continual refinement of major and minor curriculum offerings, an emphasis on unique hands-on field courses to attract students and diversifying the research base to improve indirect cost recovery.

Additional metrics need to be identified, including number and durability of external partnerships, quality of field experiences, and job placement of graduates - all which would support increased enrollment and diversified research opportunities.

Outreach and Continuing Education – The Heart of the Challenge under ABB

Although the UW cites global engagement as a core value, outreach is not currently an explicit part of its mission or a funded activity under ABB. There are no College-level metrics for evaluating and rewarding continuing education or outreach, even though two units within the College, the School of Forest Resources and Washington Sea Grant, have major outreach programs.

School of Forest Resources researchers have been engaged with national and global peers, federal agencies, the United Nations, the World Bank and other organizations to develop valuation methods for natural resource “products” including clean water, carbon sequestration, recreational opportunities, soil productivity, and even “viewsheds.” This decades-long effort is directly analogous to the ABB issue. It is easy to count visitor-days, revenues from campsite and trailhead fees or stumpage fees paid for timber harvest. In a university setting it is relatively easy to count student contact hours, fees generated by professional education programs, revenues from research contracts and income from licensing of intellectual properties. It is much more difficult to quantify the intrinsic and often future values of facilities, outreach and collaborative academic/research investments.

Public engagement must be core at both the UW and the College level, and we need to transition value statements to quantifiable metrics. The arguments for these metrics should include both a rationale for the basic values provided by public and continuing education, and practical and innovative solutions for

funding programs in times of extreme fiscal uncertainty. With arguments and potential funding in hand, metrics to measure the value of outreach and continuing education can be developed.

Our Arguments:

Collaborative research and technical innovations are in demand. Fields such as bio-resource energy, habitat restoration, fire ecology, precision forestry and biodiversity conservation will solve natural resource challenges and local and regional land-use conflicts. Organizations and communities benefiting from such research and technical transfer include industry, Northwest tribes, small forest landowners, policy-making bodies such as local and regional governments and nonprofit organizations.

Relations with Native American communities and the state of cooperative programs are outstanding. The School collaborates with various tribal nations to address holistic approaches to contemporary forest management challenges. Traditional ecological knowledge is the trans-generational accumulation of information and observational experience within a social context that integrates spiritual and cultural values. It is based on indigenous understanding that humans and the environment are interrelated and that balance is vital to sustainability. Western science often disaggregates earth systems into constituent parts for detailed study and management. In addition to these efforts, there are currently five undergraduate and seven graduate tribal members enrolled in the School.

Resource choice economics are critical. Research into the concept of ecosystem services and assigning value to the consequences of wildlands becoming rural and rural land becoming urban are important to the sustainability of local communities. Bio-energy alternatives and greenhouse gas reduction from sustainable resource management is an on-going educational challenge for both students and public constituencies.

Cultural and perceptual differences will continue to challenge resources management strategies. The diversity of interests and values among landowning interests, environmental organizations, public agencies, tribal nations, legislative bodies, students, alumni and the general public and the School must be constantly addressed. Bridging the gaps between cultures and perceptions is critical in the culture of teaching.

The use of SFR facilities by K-12 students and families can inspire understanding of the environment, and specifically forests. Although these are typically non-revenue generating, there is value, to a 3rd grader or to an undergraduate student, of having an intensive, hands-on experience in an outdoor laboratory where book and lecture learning are translated and placed in a real-world context. Such varied methods of educational delivery must have acceptable metrics.

A rejuvenated Institute of Forest Resources would consolidate the research talents and leadership of forestry-related centers within the School. The Institute would comprise the Stand Management Cooperative, the Precision Forestry Cooperative, the Center for International Trade in Forest Products, the Olympic Natural Resources Center, the Wind River Canopy Crane Research Facility, the Center for Sustainable Forestry at Pack Forest. Additional centers with extensive public outreach programs include the UW Botanic Gardens, the Center for Quantitative Science in Forestry,

Fisheries, and Wildlife, and the Washington Cooperative Fish and Wildlife Research Unit. The Northwest Environmental Forum would provide the outreach of Institute science for public problem-solving and could be the integrator of collaborative science-policy efforts for the College.

Philanthropy and Partnerships are intertwined. Defining how the School and College can best jointly contribute to society will require commitments to place-based expertise, support of long-term partnerships and integration of problem-solving skills. Science and technology-based education enables moving beyond rhetoric to thoughtful choice-making and decisions, and when the partnerships are in place to keep the science relevant to the occasion, the recipients of the work value the University.

The College can benefit from continued interaction of outside advisors. The School of Forest Resources Visiting Committee could be replicated for all schools and departments within the College, with periodic meetings to advise on partnering and ABB issues.

Outreach and Continuing Education Metrics: some examples

Models such as those proposed by the UW's Burke Museum or by other forestry schools associated with universities using the ABB budgeting model should be considered. Metrics that provide transparent accounting, as in the metrics for research and teaching under ABB, might include:

- Native American and other non-traditional cultural representation in events and in support of School enterprises
- Grants and awards specific to outreach and continuing education (number and amounts)
- Researchers invited to provide knowledge to legislative, judicial and other deliberative bodies
- Legislative outcomes (e.g., bills introduced, passed or not passed)
- Number and relevance (by categories) of people participating in an event (e.g., lecture, Denman Series, UW Botanic Gardens Adult and Youth Education programs, Northwest Environmental Forum) or visiting a center (e.g., Center for Urban Horticulture, Washington Park Arboretum, Miller Library, Hyde Herbarium, Union Bay Natural Area, Center for Sustainable Forestry at Pack Forest, Olympic Natural Resources Center)
- Nature and interests of visitors (e.g., 5th grader in a class versus individuals and families)
- Courses and certificates offered and awarded
- Student, faculty, and staff participation in outreach and education
- Associated feedback from participants, and news, and television coverage
- Student, faculty, and staff citations such as news articles or television

Concept: Off-Campus Research Network – An opportunity hard to justify under ABB

School of Forest Resources Visiting Committee Charting July 2010

The School's off-site centers could become part of a **Research Network** that enables the College of the Environment to link with other field centers in the College. A network of off-site teaching and research facilities is beneficial, but field classes are hard to justify under ABB.

Center for Sustainable Forestry at Pack Forest, near Mt. Rainier in Pierce county, could be a campus-wide research and education forest, as well as a conference and residential research center, as envisioned in the Pack Forest strategic plan. The Center's purpose is to discover, teach, and demonstrate the concepts of sustainable forestry through research, demonstration, and technology transfer. The Center is actively engaging resource scientists, professionals, policymakers, and communities.

Olympic Natural Resources Center on the Olympic Peninsula in Forks, Washington, provides scientific information to address critical issues and solve problems concerning forestry and marine sciences in the region. The center brings together expertise from forest resources and ocean and fishery sciences to integrate research with education and outreach, on regionally-important rain forest and marine issues.

Wind River Canopy Crane Facility, near Carson, Washington on the Columbia River, provides an opportunity for world-class forest ecosystem research and provides an educational experience for students and professionals in forest science and natural resource management. Educational activities have included cooperative learning programs with high school biology courses, Earthwatch Student Challenge Awards, educational lifts into the forest canopy for professional and university classes, guided walking tours, K-12 classroom visits, interpretive displays and TV, newspaper, magazine, and book features.

University of Washington Botanic Gardens encompasses the ***Washington Park Arboretum and the Center for Urban Horticulture***, and is a major outreach and constituency-building center. An increased focus could be developed on collaboration with community groups working on land protection and planning efforts. Resources include the Union Bay Natural Area, the Miller Seed Vault, the Otis Douglas Hyde Herbarium and the Elisabeth Miller (horticultural) Library. Outreach programs include the Washington Rare Plant Care & Conservation Program (Rare Care), the Hyde Herbarium Plant Identification service, and the Miller Library Plant Answer Line and Gardening database. The Youth Education Program offers programs and tours for children pre-K through 12. Adult Education offers classes, tours and symposia to the greater Seattle community.

An ***Eastern Washington Research Center*** may be a potential opportunity for the College and the School if a business plan could justify it in terms of (a) long-term funding and (b) community value. Forest health, biomass, water conservation, and the uniqueness of dry-side ecologies would be the educational and research foci.

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Appendix: Mission and Composition of the College of the Environment

Discovery is at the heart of our vision. Spanning the forests to the seas, from the depths of the earth to the edges of the solar system, the College is an unrivaled constellation of environmental research, education and application. In partnership with industry, government and non-profits, the College is committed to creating future leaders, steeped in basic science and critical thinking, and focused on developing sustainable solutions to critical challenges.

For decades the University of Washington (UW) has been recognized as home to one of the strongest constellations of environmental and intellectual talent in the world. In fulfillment of a vision for a bold, resource-rich, enduring and effective

environmental hub, the UW designed the College of the Environment to foster existing and new collaborations between outstanding faculty, staff and students who are engaged in the study of:

- * the earth's dynamic land, water and atmosphere systems;*
- * the development and application of engineering and technological advances; and*
- * the impact of policy and human dimensions on the environment and the management of natural resources.*

The College consists of the following major academic, research and outreach units:

- * School of Forest Resources*
- * School of Aquatic and Fishery Sciences*
- * Department of Atmospheric Sciences*
- * Department of Earth and Space Sciences*
- * Joint Institute for the Study of the Atmosphere and Ocean*
- * School of Marine Affairs*
- * School of Oceanography*
- * Program on Climate Change*
- * Program on the Environment*
- * Quaternary Research Center*
- * Washington NASA Space Grant Consortium*
- * Washington Sea Grant Program (anticipated 2010)*

In addition to these units, the College is partnering with many university and external organizations in the Pacific Northwest and beyond to meet the needs of our students, faculty and society.