

**Original prospectus to develop the "roadmap" for a
graduate degree program in river restoration**

Proposal for a Graduate Certificate in River Restoration

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This proposal introduces a plan to graduate Masters-level students at the University of Washington with professional-quality, interdisciplinary training in the principles and practice of river restoration. This field of study has become increasingly important in the Pacific Northwest and around the world as human populations put ever-increasing pressure on natural resources. Despite this, no single academic department at UW has been able to fully meet the social needs for well-trained professionals in this field. The collective expertise of UW faculty, however, could be coordinated in a multi-college initiative to satisfy this growing need and to address the high level of student interest that already exists in this subject area (in particular, many of our strongest applicants this year expressed a strong interest in river restoration). This field presents an ideal opportunity for the UW to move quickly into a role of national prominence, because interest and attention in this subject is high nationwide, but we are not aware of any institution that has yet moved to establish such a program.

Although several departments could ultimately be anticipated to take lead roles in this initiative, we first envision this program to be developed and administered for students in the departments of Earth & Space Sciences and Civil & Environmental Engineering. The course of study could comprise either a two-year (with thesis) or a 12-month (non-thesis) post-baccalaureate program, the latter option as either a 5th-year MS degree for undergraduate majors in either department or as a professional MS for returning students who have already been active in the field. Students would receive an MS degree in their home department plus a certificate in river restoration, akin to existing certification programs already offered across the university. The curriculum would include traditional coursework, field-based data collection and analysis, development of writing skills, and an integrative project ideally in conjunction with agency or private firm. We anticipate a likely demand of at least 12 graduates per year, ultimately requiring 2.0 FTE of new faculty time beyond existing resources.

We recommend an interim one- or two-year phase that could begin as early as fall 2005, supported by funds to cover 6 months of faculty time per year during this interval, with the following tasks:

- develop curriculum plan for the program,
- initiate key coursework elements of the program,
- coordinate existing UW resources,
- identify public- and private-sector partners, including opportunities for extramural funding, and
- gauge and document student demand for the full program.

In particular, this 6-month interim position would ensure that a critical course for this program and the overall ESS curriculum (ESS 426, Fluvial Geomorphology) will be taught in a.y. 05-06 despite Dave Montgomery's release from teaching (as QRC Director), together with a targeted course in river restoration that does not currently exist at any of the three UW campuses. It

would also provide the means to work with ESS and CEE faculty to define alternatives to those departments' current departmental MS degree requirements to enable students wanting this certification also to receive their graduate degree in their home department.

After one or at most two years under this interim approach, this program should be ready for further evaluation with several discrete products in-hand to facilitate that review:

1. Survey of similar programs (if any) at other universities, nationwide;
2. Proposed alternative curricula, based on 1.0 and 2.0 new FTE plus existing faculty and course resources;
3. Student enrollment and evaluations for ESS 426 (Sp 06) (5 credits, "W" class, typ. enrollment 20-25 students);
4. Syllabus for river restoration course plus student evaluations from first year's class;
5. Progress report on options and faculty support for departmental degree paths through ESS and CEE for students in this program;
6. List of public- and private-sector partners with interest or commitments for future internships and (or) capstone project support;
7. Evaluation of broader faculty and student interest, coordinated by the Center for Water and Watershed Studies;
8. Evaluation of student interest as expressed by survey of current CEE and ESS seniors and review of applications for autumn 2006 graduate studies; and
9. Preliminary assessment of potential extramural funding opportunities in support of both teaching and research.

We are very optimistic that the support from students, faculty, and the greater community beyond UW will demonstrate the long-term value of this program, because of the benefits to UW and the larger society: (a) students are properly trained to conduct and evaluate river restoration projects, (b) departments can attract talented students through this certificate program, (c) employers will seek UW graduates of this program, and (d) society will benefit from more effective river restoration. The criteria for "success" of this initial phase should be based on demonstrated levels of faculty support, student interest, and commitment of external funding sources relative to other academic programs on campus. We do not anticipate that this would, or should, become a self-sustaining professional program, but we do believe in the potential for external financial support from donors and from research funding agencies. Long-term support of this program at the level we envision would require the targeted hire of two new faculty over the next several years, presumably from the recovery of slots made available by retirement or other departures.