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December 9, 2009

To: Phyllis M. Wise, Provost and Executive Vice President
Douglas J. Wadden, Executive Vice Provost for Academic Affairs and Planning

From: Gerald J. Baldasty, Vice Provost and Dean
James S. Antony, Associate Dean and Associate Vice Provost for Academic Affairs

RE: 10-Year Review of the Quantitative Ecology and Resource Management Program

This memo outlines the Graduate School's recommendations on the ten-year review of the Interdisciplinary Quantitative Ecology and Resource Management (QERM) Program. More detailed comments on the program can be found in the documents referred to below. The review included the following milestones and documentation:

- QERM self-study (February 1, 2009)
- Charge meeting between review committee and administrators (March 31, 2009)
- Site visit (April 16-17, 2009)
- Review committee report (May 20, 2009)
- Graduate & Professional Student Senate (GPSS) Report (April 22, 2009)
- QERM response to the report (July 6 , 2009)
- Graduate School Council consideration of review (November 5, 2009)

The review committee consisted of:

Ka-Kit Tung, Professor, UW Department of Applied Mathematics (Committee Chair)
Christine Bae, Associate Professor, UW Department of Urban Design and Planning
Craig ZumBrunnen, Professor, UW Department of Geography
Alan Hastings, Professor, Department of Environmental Science and Policy,
University of California at Davis
Charles E. Smith, Associate Professor, Department of Statistics,
North Carolina State University

A subcommittee of the Graduate School Council presented findings and recommendations to the full Council at its meeting on November 5, 2009.

Program Strengths

QERM is a high quality interdisciplinary program. Its focus is on ". . . educating quantitative ecologists and resources managers that meet an urgent national need in both public and private sectors. There is an essentially 100% success rate in the placement of program graduates, mostly within government agencies." Both M.S. and Ph.D. program graduates have impressive publications records, accomplished while in their programs of study, and is above the average of other doctoral programs. This reflects the program faculty's effective mentoring of students.

A major strength of the QERM program is the exceptional faculty group that has been involved with it since its inception. Their dedication, enthusiasm and energy have sustained the program's viability and relevance amid dynamic changes that have occurred within the University. Programs may potentially become weak and marginalized with time as other demands draw on faculty time, but that has not occurred with QERM. The faculty has continued to maintain the rigor and unique status of the program.

Challenges and Risks

The committee noted that QERM is a unique interdisciplinary program, with no other program like it nationally. It faces several challenges in keeping its niche and distinction from other UW programs such as the Department of Statistics, and the Center for Quantitative Science while maintaining rigor of the program. If its distinction is lost by becoming too much like some other programs, justification for its existence would potentially dissipate.

A need exists nationally for ecologists and resource management scientists with strong quantitative skills which means that only students who possess these skill sets will apply to the program. While it presents a challenge, it is a strength as well since all students are employed upon completing the degree program. Another challenge is the number of students that apply to the program is less than 20, and the number that are admitted each year is low (~3)—"on the borderline of being critical mass for a healthy program. . ." The low student enrollment may potentially jeopardize the program's survival in hard economic times. The Graduate School has been the primary source of student support. Previously, the program received funding for 3 teaching assistants but, due to budget cuts, the funding has been reduced to 2 TAs.

The time to degree completion is long for both the M.S. and Ph.D. Students take 6.75 years to complete the Ph.D. degree program. The M.S. students take almost as long as is typical for Ph.D. students in other programs. Currently, it takes 3.5 years for an M.S. student to satisfy requirements for the thesis. This is due in part to the "no-time limit" for the thesis requirement and the need for students to acquire quantitative skills necessary for this degree program.

A challenge is to maintain faculty participation in QERM since its interdisciplinary administrative structure is one in which there are no faculty lines. A future challenge for QERM is to maintain the leadership and participation of faculty whose primary appointments are in other academic units. The faculty who created QERM and have sustained the program are close to retirement.

Areas of Concurrence

There is general concurrence on all issues the committee identified in the review. The QERM Director and faculty are open to exploring ideas put forth by the review committee. They have a delicate task of maintaining balance of the unique program elements while pursuing some of the committee's recommendations. QERM's relationship with the Center for Quantitative Sciences has improved. Dynamic interactions among all of the programs that contribute to quantitative sciences will continue. The QERM program is uniquely positioned to facilitate quantitative ecology and resource management education and research at the University.

The QERM faculty's healthy debate continues on how to maintain strengths of the program while not being too narrowly focused. Broad agreement exists that time to degree completion is excessive and the faculty is exploring ways to shorten it. The faculty is examining questions raised about career mentoring and career options for QERM students and to create opportunities to use alumni in student mentoring.

The Director perceives the committee's recommendation that QERM explore ways for it to interact with the College of the Environment as a mechanism to increase the ecology part of the quantitative degree. QERM is also exploring the development of a graduate certificate program.

Council Recommendations

The Graduate School Council recommends the following to augment the review committee's recommendations and comments on pages 8-10 of the committee report. The council noted that QERM has positioned itself well to address issues identified in the review.

- The council recommends that QERM continue the process they initiated aimed at increasing student applications so that program viability is maintained, to increase student funding beyond the current 3 quarters, and to examine the focus of the program.

- QERM has an influx of younger faculty that are becoming engaged in teaching and graduate student advising, which needs to be encouraged. The Council recommended that QERM provide the faculty with opportunities for leadership that will enable continuation of the unique program elements once the founding faculty begin to retire.

- The Council concurred with the recommendation for continuation of the QERM M.S. and Ph.D. degree programs and that the next review occur in 10 years (2018-2019).

We concur with the Council's comments and recommendations.

c: Loveday Conquest, Professor and Director, QERM Program
Tom Hinckley, Professor and Interim Director, School of Forest Resources
Werner Stuetzle, Divisional Dean, Natural Sciences, College of Arts and Sciences
Dennis Hartmann, Dean, College of the Environment
Vincent Gallucci, Professor, School of Aquatic and Fishery Sciences
QERM Review Committee
Graduate School Council
Jacob Faleschini, President, Graduate and Professional Student Senate
Augustine McCaffery, Senior Academic Program Specialist, The Graduate School