



UNIVERSITY OF WASHINGTON
The Graduate School
G-1 Communications
Box 353770
Seattle, Washington 98195-3770

Telephone: (206)543-5900

Fax: (206)685-3234

April 4, 2019

To: Lisa Graumlich, Dean, College of the Environment

From: Rebecca Aanerud, Interim Vice Provost and Dean
Kima Cargill, Interim Associate Dean for Academic Affairs and Planning

Handwritten signature of Rebecca Aanerud in cursive.

Handwritten signature of Kima Cargill, Ph.D. in cursive.

RE: Review of the Quantitative Ecology and Resource Management Program (2018-2019)

This memorandum outlines the Graduate School's final recommendations from the Quantitative Ecology and Resource Management (QERM) academic program review. Detailed comments on the review can be found in the documents that were part of the following formal review proceedings:

- Charge meeting between review committee and administrators (May 22, 2018)
- Self-Study (August 28, 2018)
- Site visit (October 18-19, 2018)
- Review committee report (November 26, 2018)
- QERM response to the report (December 26, 2018)
- Graduate School Council consideration of review (April 4, 2018)

The review committee consisted of:

Janneke Hille Ris Lambers, Professor, UW Department of Biology (Committee Chair)

Jon Wakefield, Professor, UW Department of Biostatistics; Department of Statistics

Jim Bence, Professor, Co-Director of Quantities Fisheries Center, Michigan State University

The Quantitative Ecology and Resource Management Program offers the following degrees: Master of Science and Doctor of Philosophy.

Members of the Graduate School Council presented findings and recommendations to the full Council at its meeting on April 4, 2019. A summary of this report, composed by Graduate School Council Members, is attached to this document.

Graduate School Council Recommendations

The Graduate School Council commends the Quantitative Ecology and Resource Management program on the strength of its programs, faculty, and students. After discussion, the Council recommended the following:

- Full academic program review in 10 years (2028-2029)

We concur with the Council's recommendations.

cc: Mark Richards, Provost and Executive Vice President
Patricia Moy, Associate Vice Provost for Academic and Student Affairs, Office of the Provost
Timothy Essington, Director, Quantitative Ecology and Resource Management Program
Becky Corriell, Director, Academic Affairs & Planning, the Graduate School
Academic unit Review Committee Members
Members of the Graduate School Council
GPSS President

Attachment

University of Washington | Graduate Council

Summary of the review of Quantitative Ecology and Resource Management (QERM) Program

The Quantitative Ecology and Resource Management (QERM) is an interdisciplinary graduate program that was originally housed within the Graduate School. In 2017, after considerable deliberation, the QERM program became part of the College of the Environment. QERM offers two graduate degrees, both of which focus on the application of statistical, mathematical, and decision sciences as applied to ecological and natural resource management issues and problems. The Masters of Science (M.S.) degree program offers students both coursework and research opportunities designed to provide them with the ability and skills to work in a broad array of industries with environmental and ecology impact issues as well as state and federal agencies. The Ph.D. program provides students with greater rigor and depth of scholarship. There is a “by-pass” capacity to allow students to transition from the M.S. to the Ph.D. program.

Both the M.S. and the Ph.D are small programs. Despite this, they have maintained their size even though they have suffered reduced student funding opportunities. It provides a unique niche that capitalizes on the advances in quantitative modeling and applies these to environmental issues. The program has sought to strengthen and modify its curriculum over the years to respond to advances in the quantitative analysis arena. As a small program spanning several disciplinary arenas, the program has struggled, generally successfully to provide its students with access to courses with the necessary content.

Strengths:

- The QERM program provides rigorous training in both quantitative skills and resource management as recognized by faculty, students and alumni.
- Although the program is small, the graduate students form extremely cohesive and collegial bonds that are maintained over time.
- QERM has succeeded in recruiting strong cadres of students that go on to professional appointments in state and federal agencies.
- Quantitative skills are increasingly emphasized by ecology and natural resources programs around the nation and QERM provides a relatively unique training to serve these needs.
- Despite its small size, QERM has a national reputation for rigor and depth of training in this developing professional and academic arena.

Challenges:

- The QERM program is on the edge of being too small.
- Transfer of program from Graduate School to College of the Environment could reduce involvement from units outside COE.
- The success of the QERM program depends disproportionately on the engagement and time commitment of the program director.
- Lacks dedicated faculty lines, so courses are offered across multiple departments. Lack of control over content and availability of courses.
- Course availability and content for QERM students fluctuate over time.
- QERM is not always as interdisciplinary as it could be.
- QERM students and faculty do not reflect the diversity of the US population.
- 1/3 of QERM students take > 3 years to complete MS and > 5 years to complete PhD
- The review committee believes that all these challenges can be addressed, some with relatively minor changes that can be addressed by QERM leadership and faculty

Recommendations:

- Increase the QERM yearly program size to at least 4, and ideally 5. This can be done by continuing a hybrid funding model recently piloted by QERM, requiring 1st year students to teach 1 quarter and /or with a greater financial commitment from COE. In the longer term, additional funding opportunities (e.g. training grants and endowment opportunities from alumni and other interested donors) could also be explored (QERM, COE).
- Involve more QERM faculty in leadership through the creation of an executive committee and / or associate director positions (QERM).
- Regularly evaluate course content and change course requirements when content no longer aligns with QERM goals, and as new opportunities arise (both those offered by QERM faculty and QERM-affiliated departments) (QERM).
- Ensure availability in the critical optimization courses (QERM, COE)
- Explore ways to ensure the involvement of many units (both within COE and across other Colleges) in QERM student training and hosting, and increase the breadth of ecology-focused graduate students involved in QERM activities (QERM)
- Make recruitment efforts of both faculty and graduate students more targeted and strategic to increase diversity (QERM, COE).
- Provide more structured mentoring and career advice to QERM students beyond their 1st year (QERM).

Areas of concurrence:

The Program and Review Committee were in broad general agreement about program strengths and challenges. There were no areas of disagreement.

Graduate School Council Recommendations:

10 year full review.