THE GRADUATE SCHOOL

UNIVERSITY of WASHINGTON

August 29, 2011

To: Lisa Graumlich, Dean
College of the Environment

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

RE: School of Oceanography 2010-2011 Review

This memo outlines the recommendations from the academic program review of the School of Oceanography. Detailed comments on the school can be found in the documents that were part of the following formal review proceedings:

- Charge meeting between review committee, school, and administrators (September 29, 2009)
- Oceanography self-study (September 22, 2010)
- Site visit (November 8-9, 2010)
- Review committee report (December 9, 2010)
- Graduate and Professional Student Senate (GPSS) report (December 10, 2010)
- Oceanography response to the review committee report (April 13, 2011)
- Graduate School Council consideration of review (May 19, 2011)

The review committee consisted of:

Daniel E. Schindler, Professor, UW School of Aquatic and Fishery Sciences
(Committee Chair)
Stephen J. Burges, Professor, UW Department of Civil and Environmental Engineering
Mark Abbott, Dean, College of Oceanic and Atmospheric Sciences,
Oregon State University
M. Susan Lozier, Professor and Chair, Division of Earth and Ocean Sciences,
Nicholas School of the Environment, Duke University

A subcommittee of the Graduate School Council presented findings and recommendations to the full Council at its meeting on May 19, 2011. The School of Oceanography offers the Bachelor of Science, Bachelor of Arts (rarely used) Minor in Marine Biology (joint with Biology, Aquatic and Fishery Sciences) and (pending) Minor in Climate Science (joint with Atmospheric Sciences and Earth and Space Sciences), Master of Science, and Doctor of Philosophy degree programs. Specific comments and recommendations regarding the School and its degree programs include the following:

<u>Program Strengths</u>

- This high profile program brings international prominence to the University of Washington and strengthens regional ties to communities and industry across the Pacific Northwest.
- Strong relationships with NOAA scientists at PMEL results not only in faculty collaborations, but in beneficial contacts with graduate students.

- A key strength of this unit is its leadership's commitment to experiential learning. It is best exemplified by the University's contractual commitment to guarantee 45 days of instructional ship time on board the global class research vessel *Thomas G. Thomson* for undergraduates. Dedicated educational cruises are deemed central to the program's required undergraduate field courses. The senior capstone course uses up to 10 days of *Thompson* time per year and over the past 5 years, taking students to work in the Galapagos, New Zealand, and Alaska, as well as local waters.
- The unit is taking a leadership role in various aspects of several state-of-the-art ocean observing systems. The systems could potentially become interesting components of the School's undergraduate pedagogy goal, and stimulate new innovation in data management. Visualization and simulation are equally relevant and valid dimensions of the emerging field of modern oceanography.
- The graduate program is one of the best indicators of the unit's strength. A large number of graduate students hold national fellowships and most publish their research. Most program graduates pursue careers in oceanography, a key indicator of the quality of the graduate program.

Challenges and Risks

- All units face financial challenges in the coming years. For this unit, the challenge will be not so much in providing salaries but in start-up costs for new faculty, which are on the order of $500k.
- About one-third of the faculty will retire in the next 10 years, so the unit's leadership needs both a plan for making the case for strategic hiring and a plan for sustaining its global leadership in oceanography with a smaller faculty complement.
- One of the key risks of budget constraint is pressure to lower the unit's commitment to experiential learning. If the University's contribution is tied to undergraduate enrollment alone, it will be difficult to sustain the expensive but valuable integration of ship research time with class learning.

Areas of Concurrence

- New faculty mentoring should evolve from support in the form of a start-up package to include mentoring in grant writing, handling a teaching load, and lab management.
- Overall this is an extremely healthy program making important contributions to both the overall mission of UW and to the science of oceanography.
- Replacing the local class research vessel *Barnes* and refitting the *Thompson* could increase the School's capacity to provide students with educational opportunities at sea. In addition, opportunities exist to expand experience based learning to include not just ship time, but time in labs and time managing the complex computational networks of ocean monitoring systems.
- The School has continuously attracted substantial external funding, provided extremely high quality graduate and undergraduate degrees, is nationally and internationally recognized for its scientific accomplishments, and continues to expand and modernize an impressive array of state-of-the-art ocean observing systems.
- An extended internal conversation is needed about the meaning and operationalization of interdisciplinarity. One self-study question concerned the actual impact of identifying its thematic strengths on its disciplinary habits. The review committee noted that the "graduate program currently suffers from a distinct lack of interdisciplinary opportunities within the school." The site visit exit meeting involved an extended discussion of how the strong focus on disciplines seemed kind of old fashioned, especially considering hot new topics for funding or of themes related for advancing science.
- The experiential learning goal of the unit is a key strength for the university to protect, and in large part that means understanding the case for refitting and replacing service vessels.
- Overall, both the School and the review committee felt the self-study and review process was valid, and that the documentation fit the narratives that were presented in committee meetings.

Graduate School Council Recommendations

- The Graduate School Council recommends continuing status for the School of Oceanography programs, with the next review in 10 years (2020-2021).
- The School of Oceanography faculty, staff, and students are commended for using the review process as an occasion for building organizational solidarity and consensus about its role in the University, the community, and the community of science.

We concur with the Council's comments and recommendations.

c: Phyllis M. Wise, Provost and Executive Vice President
Douglas J. Wadden, Executive Vice Provost for Academic Affairs and Planning
E. Virginia Armbrust, Professor and Director, School of Oceanography
Members of the School of Oceanography Review Committee
Members of the Graduate School Council
Augustine McCaffery, Senior Academic Program Specialist, The Graduate School
GPSS President