November 14, 2014

The Graduate School  
University of Wisconsin-Madison  
217 Bascom Hall  

Dear Graduate Faculty Executive Committee:

Having reviewed the decennial review of the Nelson Institute’s Environment and Resources (ER) graduate program, including the findings of the ten-year program review committee, the recommendations of the external committee, and the responses of the program committee to those recommendations, this cover letter serves as the final summary of the review.

In 2013-2014, the Environment and Resources Program committee performed a comprehensive ten-year self-study, which included a detailed summary of program objectives, a review of student enrollment, a summary of advising, an examination of attrition and funding issues, a survey of student responses and experiences, as well as a study of placement and alumni status. The review pointed to the ongoing success of the program, one that is notable for its interdisciplinary reach, cross-campus community, and professionalization of successful students. The review also identified several specific areas requiring attention and improvement, including: 1) clarification and simplification of the advising role across campus for E&R students; 2) numbers of students accepted to the program, especially those accepted without advisors, along with the availability of funding for E&R students; 3) professionalization of students and ongoing improvement of intellectual community and training; 4) issues of diversity and climate; 5) need for improved annual review.

This office intends to commit to annual oversight of activities related to meeting the recommendations of the review and committing staff and program committee resources to these areas of attention, as follows:

**Advising:** Satisfaction with advising requires improvement. The core issue is that with a far-flung faculty, program expectations, processes, and norms are typically different than those in faculty home departments (a fact that actually often makes E&R students attractive to PhD advisors across campus). Given that, we intend to oversee a full-bore effort to clarify and communicate doctoral degree requirements and processes in the Institute. These will be laid out in clear on-line and printed materials, to go to all advisers as soon as they agree to take on an E&R student. Additionally, Nelson resources and opportunities now are being communicated to all affiliates on a more systematic basis.
Finally, the environment and Resources program is already now piloting the use of Individual Development Plans (IDPs) - as recommended by the Graduate School - with a “trial run” starting this year. This process is already underway as part of our strategic planning initiative begun in the spring of 2014. I expect a fully improved communication strategy by the time of the admission of the fall 2015 cohort.

Admission and Funding: The rate of funding of E&R students is relatively low, owing to the unusual structure of the Institute (it holds very few TA lines, in particular). It was recommended that, owing to this fact as well as the creeping increases in enrollment in the program over recent years, more sources of funding be found and that admissions be reduced by 20%. This office has made graduate student support a core goal. We have expanded TA-ships significantly through the recent capture of resources through revenue-generating programs. We have also parlayed philanthropic resources towards a very modest increase in graduate fellowships. Additionally, I expect a reduction in the size of admitted cohorts, at least to historic levels (and to possibly as much as a 20% decrease) from highest numbers by 2017. Exact cohort size will be determined by better evaluating not only available student support but also available staffing.

Professionalization and intellectual community: The review identified a need for further professionalization resources and stronger intellectual community. This office has dedicated significant resources in the period since the implementation of the review towards professional opportunities and community-building. This includes a newly developed Kemp Station writing retreat, an annual student-sponsored retreat, and periodic summits between students and faculty/administration. Further efforts in this area will be rolled out between now and 2017. Given that more than 50% of PhD graduates from ER are currently employed in areas other than academics (as per program review), we intend to tap alumni networks to bring former ER students to campus to explore non-academic post-graduate careers. This too, was identified across the campus as a tactical commitment as part of the strategic planning effort in 2014.

Issues of diversity and climate: Climate and diversity assessment and program implementation are priorities. Past highly successful efforts including tribal outreach and linking graduate programs with the undergraduate Community Environmental Scholars Program are being reinvigorated. As part of larger current diversity initiative (again, part of our strategic planning effort in 2014), a set of assessments (as per below) and program recommendations will be forthcoming, to include such possibilities as fellowships dedicated to students graduating from our CESP program and renewed and innovated recruiting strategies.

Improved annual review. Annual reporting and program assessment in E&R is a new mandate towards which we are reorienting our efforts. The E&R program committee has now dedicated itself to an annual review of a single core program facet: Enrollment vs. Applicant Data; Numbers of Faculty, including Funded and Affiliates; Racial and Geographic Diversity of Students; Percent of Students funded, by PA, RA, and TA; Assessment of student climate by current students; Satisfaction of immediate graduates; Satisfaction of alumni, three years graduated; Satisfaction of alumni, five, ten and beyond years. The director’s office will receive a report on each annual assessment starting in 2015.
With best wishes,

Paul Robbins
Professor and Director
Nelson Institute for Environmental Studies
September 10, 2014

Paul Robbins, Director  
Nelson Institute for Environmental Studies  
122 Science Hall; 550 N. Park St

Dear Paul,

Our committee has completed the decennial review of the Nelson Institute's Environment and Resources (ER) Graduate Program.

Please find attached our final report, “Ten-Year Review of the Environment and Resources Graduate Program, Nelson Institute for Environmental Studies,” in which the committee notes program strengths and makes recommendations for program improvement.

On behalf of the committee,

[Signature]

Samuel F Dennis Jr, PhD, ASLA  
Associate Professor  
Landscape Architecture  
Family Medicine  
Nelson Institute for Environmental Studies
2014 Response to Environment and Resources Program Review

From Patrick Eagan, Professor and Program Chair and Paul Zedler, Professor and Associate Academic Program Director as well as input from Program Committee members: Professor Harvey Jacobs, Associate Professor Chris Kucharik and Professor Steve Ventura.

We would like to thank the review committee for their supportive, helpful and insightful review of the Environment and Resources Program. In the spirit of continuous program improvement we (the program committee) have carefully examined their recommendations and list our responses after a summary of the review committee’s findings.

**Review Committee Findings**

The alumni survey demonstrated strong satisfaction with program breadth and depth; graduates identified multiple strengths including the flexibility to design their program of study, the program’s commitment to inter-disciplinarity, and the expertise and support of faculty. The committee has several recommendations that we believe will improve this strong graduate program.

1.) **To increase support for students and reduce the faculty advising burden, we strongly recommend**—
   i) reducing the number of enrolled students by at least 20%,
   ii) considering for admission only those students who have already found an advisor, and
   iii) establishing a clear grievance process for student concerns with advisors or committee members.

2.) **To enhance the quality of faculty advising and participation, we strongly recommend**
   i) clearly communicating program expectations and core values to affiliate faculty,
   ii) educating faculty about student funding needs,
   iii) engaging faculty in actively building intellectual community, and
   iv) instituting a face-to-face orientation and handbook for new faculty.

3.) **To aid students in navigating program requirements, we recommend**
   i) educating affiliate faculty on requirements so that they can take a more active role in interpreting them to fit each student’s needs, and
   ii) transferring institutional memory from individual staff members and core faculty into a form that can be disseminated to students and faculty, potentially through handbooks, website, and orientations.

4.) **To enhance career readiness in students, we recommend**
   i) educating faculty about the professional needs of students, and
   ii) placing greater emphasis on building professional skills, especially through mentoring from outside professionals. As there have been no recent assessments of graduate student climate or faculty diversity in the ER program,
we also recommend that the committee implement these assessments to identify future directions for program enhancement.

We propose to take action as follows; these proposed actions are consistent with broader, more integrative ongoing tactical planning currently underway at the Nelson Institute.

1.) Develop electronic information and materials (e.g., available on line) and in hard copy to inform Nelson Affiliates and their new students about Nelson policies and procedures. These documents will stress the special needs and expectations for students pursuing an interdisciplinary course of study. The need for this kind of information arose in the Nelson tactical planning exercise and the project to address it is being led by Paul Zedler, Professor and Associate Academic Program Director and Jim Miller, Student Services Coordinator.

2.) Actively pursue funding for Nelson students by expanding teaching assistantships and program packages; one vehicle currently in development for this is through program revenue from new professional Master’s degree programs. —This is already in progress and supported and endorsed by Paul Robbins, Nelson Director.

3.) Working to balance the number of graduate students against program capacity to 1) provide financial support, and 2) deliver adequate administrative support and counseling.

4.) Implement regular (less than ten years a part and possibly annual) program reviews that will be available for review by prospective students, current students, current faculty and current staff, via the website, that will include metrics such as the following:

- Enrollment vs. Applicant Data
- Numbers of Faculty, including Funded and Affiliates
- Racial and Geographic Diversity of Students
- Percent of Students funded, by PA, RA, and TA
- Assessment of student climate by current students
- Satisfaction of immediate graduates
- Satisfaction of alumni, three years graduated
- Satisfaction of alumni, five, ten and beyond years
Ten-Year Review of the Environment and Resources Graduate Program, Nelson Institute for Environmental Studies

Submitted
September 2014

Review Committee

Samuel F. Dennis Jr., Associate Professor and Committee Chair
Department of Landscape Architecture
CALS, University of Wisconsin-Madison

Sara Hotchkiss, Associate Professor
Department of Botany
L&S, University of Wisconsin-Madison

Alfonso Morales, Associate Professor
Department of Urban and Regional Planning
L&S, University of Wisconsin-Madison

Kenneth Potter, Professor
Department of Civil and Environmental Engineering
COE, University of Wisconsin-Madison

Lisa Martin, Professor and GFEC Representative
Department of Political Science
L&S, University of Wisconsin-Madison
EXECUTIVE SUMMARY

The Environment and Resources (ER) Graduate program of the Nelson Institute for Environmental Studies at the University of Wisconsin-Madison was reviewed between January and June 2014. The Nelson Institute appointed the committee chair who recruited committee members who (1) were affiliated with the Nelson Institute, but had full appointments (100%) in their home departments, (2) provided representation from the many faculty divisions engaged in the interdisciplinary ER program, and (3) were not serving on the ER program committee. Committee members were drawn from faculty in Landscape Architecture (CALS), Botany (L&S), Urban and Regional Planning (CALS/L&S), and Civil and Environmental Engineering (COE); the Graduate Faculty Executive Committee representative was in Political Science (L&S). Committee members represented the social studies, arts and humanities, biological sciences, and physical sciences faculty divisions. The ER program submitted a self-study covering the period 2003-2012 in October 2013.

The ER program was established in 1976 and is the only Nelson Institute program offering the PhD in addition to the MS degree. The curriculum is designed to reflect the interdisciplinary nature of Environmental Studies as a field. Over 150 faculty members participate in the program, either as core faculty or as faculty affiliates, representing 8 schools/colleges and over 40 departments. The program is a nationally recognized leader in the field of Environmental Studies and is competitive with its peer institutions. The alumni survey demonstrated strong satisfaction with program breadth and depth; graduates identified multiple strengths including the flexibility to design their program of study, the program’s commitment to interdisciplinarity, and the expertise and support of faculty.

The committee has several recommendations that we believe will improve this strong graduate program. To increase support for students and reduce the faculty advising burden, we recommend i) reducing the number of enrolled students by at least 20%1, ii) considering for admission only those students who have already found an advisor, and iii) establishing a clear grievance process for student concerns with advisors or committee members. To enhance the quality of faculty advising and participation, we recommend i) clearly communicating program expectations and core values to affiliate faculty, ii) educating faculty about student funding needs, iii) engaging faculty in actively building intellectual community, and iv) instituting a face-to-face orientation and handbook for new faculty. To aid students in navigating program requirements, we recommend i) educating affiliate faculty on requirements so that they can take a more active role in interpreting them to fit each student’s needs, and ii) transferring institutional memory from individual staff members and core faculty into a form that can be disseminated to students and faculty, potentially through handbooks, website, and orientations. To enhance career readiness in students, we recommend i) educating faculty about the professional needs of students, and ii) placing greater emphasis on building professional skills, especially through mentoring from outside professionals. As there have been no recent assessments

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1 This recommendation was not unanimously supported.
of graduate student climate or faculty diversity in the ER program, we also recommend that the committee implement these assessments to identify future directions for program enhancement.

The committee identified only two serious concerns: the size of program enrollment and the student advising relationship with affiliate faculty. We urge the ER Program committee to consider reducing the number of enrolled students, which would relieve overburdened advisors while increasing the academic and financial resources that advisors can direct toward each student. In addition, affiliate faculty need to have a clear understanding of program requirements, an active commitment to the Nelson Institute’s core values of flexibility and interdisciplinarity, and a process for building intellectual community with the program and their students.
OVERVIEW

Review Process
The review committee chair was appointed by the Nelson Institute for Environmental Studies and charged with recruiting committee members from among Nelson affiliate faculty not serving on the Environment and Resources program committee and representing all faculty divisions. Committee members were drawn from the College of Agricultural and Life Sciences (CALS), the College of Engineering (COE), and the College of Letters and Sciences (L&S), including the GFEC appointed representative from L&S.

The ER program submitted a self-study in October 2013 covering the 10-year period 2003-2012. It was based on program record review, minutes from program committee meetings, discussions with current program faculty, staff and students, and an alumni survey. The review committee was appointed in December 2013 and each received a copy of the program self-study. The review committee chair and the GFEC representative met on February 7, 2014 to review GFEC concerns regarding the ER program. The review committee as a whole met on May 14, 2014. Interviews with ER graduate student representatives were conducted by 3 of the 5 review committee members on May 21, 2014. The committee chair wrote the report, with input from all committee members.

Program Background
The Environment and Resources program is one of three graduate degree-granting programs within the Nelson Institute for Environmental Studies and the only one offering the PhD in addition to the MS degree. The program has existed since 1976 and is considered the flagship program of the Nelson Institute. Its primary goal is to “prepare students with a broad understanding of environmental issues and solutions, providing a multi-disciplinary education and an inter-disciplinary research experience that cannot be accommodated within more traditional academic departments.” Since its last decennial review (2003), the ER program has awarded 198 graduate degrees (65 PhD & 133 MS).

The curriculum is designed to reflect the interdisciplinary nature of Environmental Studies as a field. Coursework must be distributed among three categories: biological/physical sciences, social sciences and humanities, and measurement/analysis. Likewise, student committee members must be drawn from both natural sciences and social sciences/humanities. Theses and dissertations are expected to incorporate interdisciplinary perspectives, as illustrated by the breadth of thesis and dissertation titles included in the self-study as well as the distribution of self-identified primary research focus among alumni—biological sciences (31%), physical sciences/engineering (18%), social sciences (45%) and humanities (6%).

Program Organization and Governance
The ER program is officially a standing program of the Graduate School, which issues committee degrees; however the Nelson Institute administers the program.
From the standpoint of instruction and administration, it is equivalent to a graduate program in an academic department. Over 150 UW Madison faculty participate in the ER graduate program, either as core faculty receiving at least some of their salary from the institute or as faculty affiliates offering courses and advising students. These faculty represent 8 schools/colleges and over 40 departments.

The program is governed by a standing committee (the ER Program Committee) that reports to the Director and Associate Director of the Nelson Institute as well as the Dean of the Graduate School. As an academic degree-granting program of the Nelson Institute the governing committee is comprised of 8-14 members, a majority of whom are Nelson Institute Governance Faculty members. Because Environment and Resources is a program of the Graduate School, the Dean of the Graduate School must also approve the appointments of the chair and committee members.

Responsibilities include:

i. General administration and overview of the program curriculum.
ii. Administering the degree’s established admissions procedure.
iii. Selection of student nominees for university and other fellowships.
iv. Recommendation of changes to degree curriculum, courses, and admissions procedures and criteria to the Nelson Institute instructional committee.
v. Preparation of budget requests, including requests for course offerings necessary to support the program.
vi. Review of student requests for variances from the published curriculum.
vii. Assisting in annual program assessment.
viii. Preparation/updating of program brochures, handbooks, and other relevant documentation.

**Current members (2013-14)**
Patrick Eagan, Chair
Samer Alatout
Harvey Jacobs
Marty Kanarek
Christopher Kucharik
Cathy Middlecamp
Warren Porter
Randy Stoecker
Adrian Treves
Stephen Ventura
Paul Zedler (ex-officio)
Lydia Zepeda

**Program Strengths**
The Environment and Resources Graduate Program is a nationally recognized leader in the interdisciplinary field of Environmental Studies. Although there are no
national rankings of graduate programs in Environmental Studies, based on application and admissions data, the ER program is competitive with its peer institutions, including Yale, Stanford, Duke, Cornell, Michigan, UC-Berkeley and UC-Santa Barbara. The program has received very high praise from alumni for preparing its graduates for rewarding careers. Consistent with ER program goals, graduates are finding success in academia, research, private consulting, environmental non-profit leadership, policy research and governmental agencies.

The ER program has a set of explicit program goals adopted in 2007, which affords a measure against which to evaluate the graduate program. These goals include providing graduate students with:

- Familiarity with methods and concepts from a range of disciplines relevant to environmental issues and outcomes (interdisciplinarity requirement);
- Broad understanding of environmental issues and solutions (breadth requirement);
- A coherent and rigorous course of study related to the thesis topic (depth requirement);
- Familiarity with quantitative and qualitative methods and methods of data analysis and presentation appropriate to the study of the environment (measure and analysis requirement);
- A capacity to integrate knowledge and to make an original contribution that improves our knowledge of the environment or that explores application of existing knowledge in original ways to solve environmental problems, or both;
- An ability to communicate research findings and environmental information generally in writing and orally to a broad audience, including stakeholders and the general public.

The alumni survey demonstrated strong satisfaction with the degree to which the ER program met its goals of breadth (diverse interdisciplinary perspectives, exposure to both quantitative and qualitative methods) and depth (detailed knowledge, skills, and competencies in a chosen area of specialization). Graduates identified several specific program strengths including the flexibility and freedom to design their own program of study, the program’s strong commitment to interdisciplinarity, and the expertise, integrity and support of faculty and staff.
RECOMMENDATIONS
Overall, the Environment and Resources Graduate Program continues to provide outstanding graduate education, as it has for about 40 years. It is well regarded by current students, alumni and faculty/staff. Recent alumni in particular describe the ER program as preparing its graduates for success in a number of academic, research, consulting and government/non-profit careers.

However, some concerns are shared among faculty, staff, current students and alumni. In addition, the program review committee has specific recommendations regarding these and other concerns.

Number of Students

As the ER program has gained further recognition, enrollment has increased significantly, and in some ways has outpaced the program’s abilities to support the growing numbers of students and affiliate faculty. While high enrollment in the Environment and Resources Graduate Program has been a concern since 2004, the numbers have continued to rise. Since Fall of 2009 there has been more than a doubling of applicants and the number admitted has risen correspondingly. Fall of 2013 had the highest enrollment yet. The number of students matriculated, particularly in Fall 2009 and 2010, has also been higher than previous years.

The high number of students accepted to the program is linked to increasing time to degree, difficulty in securing funding, and advisor resources becoming spread between too many students. The student survey found that while 67% of respondents found an advisor before admissions, a third of respondents only found an advisor after being admitted to the program. The committee recognizes that although this practice may not reflect current policy, some students are still deemed admissible without a confirmed advisor and then asked to find an advisor before official acceptance into the program.

{Recommendations:}
The high number of students admitted to the program presents a significant burden on program resources, graduate student funding, and core faculty and affiliate faculty advisors. We strongly recommend reducing the number of students by at least 20%. Based on the numbers over the past five years, 80 students is a good target for enrollment in the near future. This number is consistent with internal assessment of staff capacity. One potential mechanism would be to consider for admission only those students who have already received a confirmation from an interested advisor. If this policy is already in place, as the self-study indicates, then the committee recommends enforcing this requirement.

Funding, Attrition, and Time to Degree
Faculty, students, and alumni recognize graduate student funding as one of the most pressing issues facing the ER program. Lack of funding is potentially linked both to delayed time to degree and program attrition. For example, while we recognize that
some students choose part-time status for reasons such as family, a student may become part-time in order to work a full time job when they don’t have other financial support, making it more difficult to complete their degree requirements in a reasonable time frame. In addition, unfunded students often find financial support through teaching or research assistantships in other departments that are not directly related to the ER program. This can lead to attrition when a student leaves the program to pursue a degree in the department where their funding originates from, particularly when their major advisor is less engaged in environmental studies as an affiliate or doesn’t have a clear understanding of the ER program guidelines and interdisciplinarity.

{Recommendations:}
As noted above, reducing incoming student numbers by at least 20% will help in alleviating this funding burden. In addition, we recommend that affiliate faculty be better educated about the funding needs of ER students, vis-à-vis graduate students in their home departments.

Advising
Advising students for any interdisciplinary program is challenging. With so few core faculty members and with a large advising burden on affiliated faculty, both students and the self-study results recognized this challenge.

The student survey yielded the following results related to advising:
• 71% of student respondents were satisfied with the advising they received
• 13% were dissatisfied or strongly dissatisfied with their advising.
• 43% didn't think their advisor informed them of expectations and opportunities associated with being a grad student.
• 21% had difficulty putting together a committee
• 27% had difficulty identifying faculty from a variety of disciplines to create a multi-disciplinary committee
• 33% of respondents only found an advisor after being admitted to the program

Many students appreciated the balance between advisor guidance and support for flexibility and interdisciplinarity in the program. They got clear advice from advisors but also support for flexibility. For students who had positive relationships with their advisors, this was the most cited positive comment.

A particular concern noted by students was a lack of fit with their advisor, but the highest concern was a perceived lack of knowledge of program requirements by faculty. In addition, the committee noted a lack of a clear grievance process for student concerns with advisors and/or committee members.
**Recommendations:**

We recommend clearly and explicitly communicating program expectations to affiliated faculty so that they are cognizant of the importance of program flexibility and interdisciplinarity, and can answer students’ questions about what is expected of them in the program. A potential avenue for communicating this information could be through a faculty handbook or orientation packet given out to new affiliates. In addition, we recommend a face-to-face orientation for new affiliate faculty to align them with the core values of the Nelson Institute in methods, perspective and other relevant areas, so that they understand that graduates in the Environment and Resources Graduate Program are expected to do more than simply take different sets of courses, but that their research and intellectual environment should be interdisciplinary as well.

As noted in the Number of Students section above, the admittance of fewer students would also help to alleviate some of the advising burden on faculty members and potentially increase the quality and resources that faculty members can direct toward advising each student.

*In addition, we recommend that the ER Program committee institute a clear grievance process for student concerns, and educate faculty, staff, and incoming students about the process.*

**Job placement**

ER graduate alumni are employed in a wide variety of professional settings. In the student survey, respondents were asked if they could make one change, what would it be? Responses and comments included more career and professional development through a variety of sources, including Environment and Resources alumni, career counseling, professional networking opportunities, and better preparation for expectations in the professional world.

*Recommendations:

In order to enhance the quality of professional development and career readiness in graduate students, we recommend that a greater focus be placed on building professional skills in graduate training. The ER Program Committee should consider including some type of structured mentoring from professionals outside academia and there should be a greater awareness among faculty that many or most graduate students find positions in non-academic settings after graduation.*

**Building Intellectual Community**

The self-study and the students recognized the challenges of building intellectual community in a program without a strong cohesive cohort. The students have been successful at implementing and managing social and academic events, but there has been a lack of socializing of affiliate faculty, who typically are not present as a part of the intellectual community of the program.
{Recommendations:}
The ER Program Committee should consider ways to better engage affiliate faculty in building an intellectual community. Potential avenues could include inviting affiliate faculty to present their research during graduate student organized events such as the current 3x5 series (3 slides in 5 minutes), or otherwise encouraging a commitment to building intellectual community as a requirement of affiliation. Commitment to intellectual community should go above and beyond a list of faculty and their research interests on the Nelson Institute website. This commitment could be instituted for affiliate faculty during their orientation process so that they understand the importance of meaningful participation in this intellectual community.

Program Information
The self-study and the student survey respondents noted several positive aspects regarding access to program information. The staff, in particular Jim Miller, were cited over and over again as excellent problem solvers, supporting students’ understanding of program requirements, especially when advisors were lacking this information. In addition, all the information the students need is on the Nelson Institute website, and is accessible to both faculty and students. However, much of the institutional memory for the program is relegated to a staff member’s memory and while this provides excellent support while the staff member is here and accessible to students, it will become a detriment well that staff member is no longer available.

{Recommendations:}
We feel strongly that there needs to be more active advising for students on meeting these requirements. Because students’ projects are varied and interdisciplinary, the requirements need interpretation to fit each student’s needs. Each student will fulfill those requirements in very different ways, and the role of the advisor is to guide them in this process in the interest of both professional and academic development. We recommend that institutional memory needs to be disseminated to various avenues: onto paper or into a handbook or on the web, and into the minds of the affiliate faculty.

Diversity and Climate
An understanding of student climate and faculty diversity can point to directions for program improvement, as well as ways to discover and recognize program/faculty strengths. The committee had difficulty gaining a deeper understanding in these areas, as there have been no formal assessments of diversity and climate in the ER program.

{Recommendations:}
We recommend that the ER Program Committee implement assessments of both graduate student climate and faculty diversity in order to build on the results of the self-study and the student survey.