

**Unit Name: College of the Environment**

- 1. Academic Units:** Please provide a 1-2 page description of how your unit will fund growth plans identified in the Annual Academic Plan workbook through current or anticipated incremental revenue to your unit. Please provide specific fund source names and projections (in dollars). If these plans assume additional Provost Reinvestment Funds (supplement), please make that clear in this section.

The decision to consolidate departments and schools under the banner of the new College was based on the premise that integration and synthesis across diverse scientific disciplines will both fuel discovery and form the basis for sustainable solutions to environmental issues. Growth over our brief history as a College is a manifestation of this vision. In the College's first three years, our student numbers have increased, the scope and size of our research portfolio has grown, and the stature of UW as a driver for interdisciplinary understanding of sustainability has increased. The Annual Academic Plan workbook models realistic scenarios for the College of the Environment based on our proven ability to deliver innovative educational programs designed to meet the demands of both students and employers, the current and projected climate for external research funding, and our capacity to work with partners to leverage resources. We will use the recently completed CoEnv Strategic Plan to provide broad guidance for future investments and encourage departments and schools to align their activities with college-wide goals. In an epoch of decreasing budgets, we will continue to utilize collaboration to identify new funding streams, and innovations that improve access of STEM and policy education to our students.

**Student Instruction and Enrollment:**

In the College of the Environment, ~80% of all student credit hours (SCH) are accrued through undergraduate classroom courses (that is, excepting independent study, independent research, senior thesis, and capstone credits). Within undergraduate classroom SCH, annual change has been positive since the inception of the College. Across all SCH (undergraduate and graduate) cyclic inter-annual fluctuations are due, in part, to every-other-year courses, which can change our total SCH by several percent. Even given these, we have experienced an average of **4% per annum growth in our undergraduate classroom SCH over the biennium**. At the same time, **growth in undergraduate majors has been strong, at 8% or higher per annum**, and this growth has come from many of our academic units. Thus, we expect to see a steady increase in SCH, as an ever-increasing number of majors take foundation, core, and elective courses within the College.

**Forces increasing majors and/or SCH: College-sponsored interdisciplinary courses (C ENV)** will continue to come on-line, primarily at the 100 or 200 level, as the College Curriculum Committee institutes its plan to strengthen environmental literacy across the campus, and SMEA faculty begin to teach undergraduate I&S courses targeting environmental themes and issues.

Steady growth in the **Quantitative Science** program (minors increasing at >10% per year; SCH increasing at ~15% per year from 2008-09 through 2011-12), predominantly in the introductory series in calculus and in statistics targeting living resources natural science students, will continue as this program accommodates CoEnv majors as well as A&S majors (predominantly in Biology).

The **Bioresource Science and Engineering** major, which has recently reached 100 actively enrolled majors will begin to offer 3 core courses now taught in ChemE, as Engineering is no longer able to sustain this out-teaching. A transition to in-College courses is expected during AY13-14 through AY15-16.

In its 5th year, the **Marine Biology** interdisciplinary minor currently has 154 undergraduates enrolled, and continues to grow at 5-10% per year. Marine Biology continues to represent a significant "asked after" major from incoming

freshmen interested in natural science, and is growing at colleges and universities on both coasts. A new major in Marine Biology, planned for launch in AY13-14, is expected to bring 200+ additional majors to the College, even given planned "bleeding" from current majors in Aquatic and Fishery Sciences and in Oceanography. Early planning for the major also indicates the addition of significant SCH to the College as new core and elective courses are delivered. In addition, a field quarter requirement will significantly increase the number of students in residence at **Friday Harbor Laboratories** during the academic year. Although instructional capacity for this major is largely present across our academic units, additional student services capacity will be needed.

**Planned new interdisciplinary minors focusing on topics/issues rather than disciplines:** Linked to a cross-college research initiative and a likely faculty hiring plan within the CoEnv, the **Arctic Studies interdisciplinary minor** will be a collaborative effort between CoEnv and A&S, spearheaded by faculty from Quaternary Research Center, Anthropology, and the Jackson School. All programs anticipate a modest increase in SCH as students avail themselves of current and newly planned core and elective courses offered in both Colleges. At full realization, Arctic Studies may have 100 students enrolled at any one time. As is the case with our current interdisciplinary minors, the addition of a fraction of student services time will be necessary to bring the minor to fruition.

An **interdisciplinary minor in Food Studies** is part of a larger effort (the Food Plan) to integrate the issues of food throughout campus life, including participation by at least 11 academic units representing 5 Colleges (CoEnv, A&S, CBE, Public Health, Engineering), our sister campuses at Tacoma and Bothell, and 2 community colleges (Sustainable Agriculture - SAgE, and Culinary Arts programs at Edmonds and Seattle Central Community Colleges). Based on current student interest, we anticipate ~150 students within 2 years of inception, and as many as 1,000 students involved in some aspect of the Food Plan within a 5 year period. The minor will require at least two new core courses, and will most likely result in the creation of several new electives housed within participating units. Administration for this minor will require new resources directed towards student services, instruction, and program/farm management. The latter two personnel elements have been secured through Housing and Food Services, and CoEnv.

**Forces stabilizing majors and/or SCH:** Several of our degree programs will likely remain stable over the next several years barring investment in additional faculty positions, as these units have experienced tremendous growth (>10% per year) over the last two years.

#### **Research Activity and ICR:**

Research funding to the College of the Environment has doubled from its creation in FY2008 to FY2012. Within the College we have modeled scenarios relative to the impacts of the possible FY2013 federal sequestration and plan for the most likely case. In all scenarios we project a conservative increase in CoENV funding of 5.5% per year in the out years (reflective of the history of the CoENV, and in line with recent overall university funding trends). **In the most likely scenario (the model entered in the budget projection sheets), we would regain FY2013 funding levels by end of FY2015.** The details of the most likely scenario for the College are as follows:

Sequestration occurs as the law is currently written with a nominal 8% reduction in funding; however, the CoENV has approximately 80% of its funding from agencies that have large fractions of their budgets in fixed costs (salaries and infrastructure), which will cause some magnification of cuts to extramural funding. Mitigating against this is that by law sequestration cuts must be implemented at the "program, project or activity (PPA)" level. Transfer of funding above the PPA level requires congressional authorization. For this scenario we model a 15% cut to agency extramural funding, and an 8% cut to NSF/NIH funding, which results in an overall cut of 13.6% reflecting weighting of the funding portfolio for the CoENV. Because of probable federal delay in implementing sequestration, we distribute the reduction over the next two fiscal years.

Given the distribution of grant-funded vs. endowment, fellowship and teaching assistant graduate student support within the CoENV, we project approximately half the percentage loss on grant income to manifest in loss of graduate tuition; e.g., a 13.6% funding decrease will result in ~7% less graduate tuition income. (This trend of a slight decrease in FY14 followed by modest growth in the out-years is also reflected in our projections for graduate SCH and professional staff FTE because of the connections of these metrics to our research profile.)

*State Agency Funding* – We are working with state agencies to secure new funding to the College to provide resources for new initiatives in translational research. This will have some impact on space needs (see Section 4).

- 2. Academic Units:** If you are recommending the creation of a new tuition category, please identify the original tuition category, the proposed category, a suggested tuition rate for FY14 and a percentage increase for FY15. If you plan to move only a subset of your programs into a new category, please identify those programs.
- 

N/A – The College of the Environment expects to continue to use the newly created College of the Environment tuition category for all of its graduate programs. We intend for the tuition rate for this category to be set at the same level as the more general Tier II graduate tuition rate.

- 3. Administrative Units:** Please provide a 1-2 page overview of your current strategic plan and include a summary of any operational risks that the UW must work to mitigate over time. Note that there are very few Provost Reinvestment Funds, so your summary should provide a clear sense of how your unit intends to minimize risk, maximize service, and if necessary, repurpose existing funds to do so.
- 

Over the course of the 2011-12 academic year, the College of the Environment developed a five-year strategic plan ([http://coenv.washington.edu/about/coe%20strategic%20plan%20pages%206-5-12\\_FINAL.pdf](http://coenv.washington.edu/about/coe%20strategic%20plan%20pages%206-5-12_FINAL.pdf)) that articulates a shared vision to guide future investments.

We are committed to playing a major role in advancing our understanding of the environment and its interaction with society, in developing innovative approaches to address environmental problems, and in training the next generation of environmental specialists in cross-cutting interdisciplinary academic programs that engage them directly in team-based problem solving.

Our key objectives over the next five years are to:

- 1) Deepen and stretch disciplinary strengths to enhance our understanding of how the world works.
- 2) Advance and incentivize interdisciplinary scholarship.
- 3) Enhance rigorous and responsive educational programs that encompass disciplinary depth and interdisciplinary breadth.
- 4) Explore, evaluate, and effect dynamic solutions and policies in response to environmental challenges.
- 5) Engage and communicate with a broad range of stakeholders

The College of the Environment is an unparalleled hub of environmental scholarship, innovation, and education. Its unique strength is the combination of outstanding faculty studying the Earth's atmosphere, land, and water systems with those studying human dimensions of the environment, the application of engineering and technological solutions to environmental problems, and the impact of policy on environmental change. No other university has brought together this breadth and depth of expertise. While we do not need dramatic growth to meet our objectives, we must protect against loss of our world class cadre of teachers, researchers and support staff if we are

to sustain our efforts. In addition to allowing us to maintain and increase our educational and research productivity, our depth and breadth positions us to be a highly sought-after resource for potential partners in the public and private sectors and both regionally and internationally.

Operational risks and the steps we are taking to mitigate these risks are described below:

**Startup Funding:** Startup funding is at risk from decline in ICR income over the next two years and inflating startup costs. A very modest CoENV hiring plan in FY2013 and FY2014 will greatly reduce demands on startup funding. Major startup packages that would be required for targeted mid-career hires will be largely supported by donors or foundations in the context of interdisciplinary initiatives.

**Retention Packages:** CoENV faculty are the object of targeted hires by other institutions. This places further pressure on startup funds. To mitigate some of the retention risk, we will initiate proactive moves to address some salary equity issues, and we will target early career faculty for enhanced resource support.

**Complex Grant Activity:** We project an accelerating shift in allocation of funds from traditional small grant programs to large, complex, interdisciplinary grant initiatives. Because of the inherently interdisciplinary nature of the CoENV, we are well positioned to compete for these grants; however, developing large grants incurs higher transactional costs and results in potentially lower IDC. To mitigate these risks, we will trade off these costs against some on-going support for various meetings, conferences and lecture series. No major grant in the CoENV will terminate over the next two years and we project that development of new large grant proposals will replace those that end beyond FY 2016.

4. **Academic and Administrative Units:** Considering your strategic plans (particularly if they assume growth) please provide a short summary (1-2 pages at most) that relates these plans to your current space assignment. In particular, you might consider the following questions when drafting your response:
- Does your current space inventory meet current programmatic requirements? Contrarily, does the type or quality of the space place any constraints on your ability to meet program requirements? If not, please provide specific quality or space type concerns (location, specific quality concern, etc.).
  - Will your unit be able to accommodate your growth plans within existing inventory of space? If additional space will be necessary, please describe the amount, type, or quality of *additional* space you may need to meet programmatic objectives and growth plans.

---

The academic and research infrastructure in the College of the Environment includes several remote field stations, three research vessels, and curated botanical specimens in addition to the standard office space, classrooms, and teaching and specialized research labs. This diversity enhances our capacity to meet our programmatic goals and requirements, but it also brings additional challenges in a climate of limited funding for infrastructure support.

In anticipation of working with OPB to complete our academic precinct plan to project our future space and facility needs in detail, we have begun a complete evaluation of our existing space and facilities.

Specific issues across our College that affect (or will affect) our capacity to deliver on our programmatic requirements include:

- Teaching lab capacity limits our ability to deliver curriculum both qualitatively as well as quantitatively.
- Given our expectation that we will be seeing more large, complex, interdisciplinary grant initiatives, we are concerned about our ability to provide integrative space for these projects.
- The condition of the infrastructure at several of our remote field sites is not adequate to meet the academic or research needs of their users. In addition, the condition and type of infrastructure available at several sites can limit our ability to generate user fees to fully cover the cost of operating the sites. *[The current work at the Friday Harbor Laboratories to invest in more energy efficient infrastructure is an excellent model that we hope to extend to other locations in the future.]*

As we look to leverage our academic and research efforts to accomplish our goals, we are especially interested in future renovations and new construction that enhance our collaboration and connection with partners. We are specifically interested in developing spaces that are designed to foster collaboration between students and faculty; between the College and the rest of the university; and between the College and the surrounding community and other stakeholders.

Examples of current partnerships we are involved in include:

- Discussions with federal partners to explore co-location of research labs and programmatic space.
- Negotiations with state agencies and other higher educational institutions in the State and region to develop the design requirements for our next local class research vessel and a collaborative use plan.
- Our support of the capital funding request by EH&S of \$100,000 to consolidate the Diving Safety Research Programs training and equipment space across the university. This will help us mitigate the projected loss of the Bryants Building where the current College dive locker is located.

- 5. Academic and Administrative Units:** Should the 2013 Legislature lift the ongoing salary freeze and allow increases, we certainly hope that state funding will be provided for GOF increases. In the event that state funding for compensation is not available, all units should have plans to cover GOF/DOF salary increases out of tuition or other fund sources. Should no tuition revenue be available to your unit, Provost Reinvestment Funds may be dispatched to provide support for increases. Please provide your units' plans to cover expenses associated with salary increases. A salary and tuition revenue model is available on the OPB website; this model is designed to give you a sense of the magnitude of the support that will be required at various percentage increases.

---

The College of the Environment has been planning for merit increases for many months and a variety of funds are or will be available to cover them. Sources to cover GOF/DOF salary increases include FY13 and FY14 ABB revenue and true-up, vacant salary lines, and additional funds available to the Dean during FY14 and FY15. We have identified sufficient resources for a 5% increase; we anticipate a 3% base increase with the additional 2% available to address retentions and salary inequities among faculty.

- 6. Academic and Administrative Units:** Your unit may have identified growth plans in the Annual Academic Plan workbook; if so, as part of question 1 your unit should have included a description of the funds necessary, including Provost Reinvestment Funds, to support such growth. For this section, however, please provide specific requests of Provost Reinvestment Funds for new initiatives. Please provide a one-page summary of these requests, articulating how much funding is requested by an initiative, whether temporary or permanent funds are requested, and how the funds would be spent (new positions, systems, etc.).
- 

The College of the Environment is poised to take advantage of the specific expertise housed within the College to deliver cutting edge disciplinary and interdisciplinary majors and minors, in addition to those we already offer. Our track record in interdisciplinary, and specifically our delivery of the Marine Biology, Quantitative Science, and Climate Science minors, gives us the experience to work across units and colleges to design and deliver new undergraduate programs that are responsive to the environmental issues and work/career challenges facing today's students, and built on a solid foundation of rigorous disciplinary offerings. Moreover, we have instituted programs and policies across the College that incentivize both disciplinary and interdisciplinary teaching and research, with the result that new programs and offerings are bottom-up initiatives flowing from the faculty and students of the College (and beyond).

The Dean's Office stands ready to make significant investments in undergraduate teaching, including but not limited to additional TA positions, teaching postdoctoral fellows, temporary instructors, and - of course - faculty lines. We are asking the Provost's Office to consider assisting with the funding of three programs:

1. Permanent fund request (\$50,000): Marine Biology major, student services and career counseling position. The College currently funds all of the costs associated with the Marine Biology minor, although academic oversight of the minor is cross-college (CoEnv, A&S). The student services staff position oversees students at ~205 students/FTE. We anticipate that the short-term additional costs of instituting a major while keeping the minor available to students throughout the UW will be an increase in student services time, the addition of career counseling to that position, and the addition of one month of compensation for a faculty lead for the program. Total estimated annual program costs: \$100,000.
2. Temporary fund request (\$50,000/year, 3 years): The Food Studies interdisciplinary minor involves faculty, staff, and students throughout the campus. Although the College of the Environment is spearheading its creation, the majority of the courses in the minor are not taught in our College. Our experience with the Marine Biology interdisciplinary minor has suggested that a strong student services position combined with a hands-on faculty steering committee led by a chair, are essential elements for minor success. This effort is part of a larger integrated Food Plan (to be unveiled in Winter quarter 2013) that also involves a new teaching position and a new staff position, both of which will be paid from funds available from the College of the Environment and from Housing and Food Services. We are asking for 3 years of a part-time student services and career counseling position to solidify this minor as part of the larger campus effort. At the end of 2 years, the minor, and the entire Food Program, will be evaluated. At that time, and assuming the minor is highly successful, a request to make the funding permanent may be made. Total estimated annual program costs: \$160,000.

3. Temporary fund request (\$50,000/year, 3 years): In spring of 2010, the undergraduate degree program in Paper Science and Engineering (PSE) had 3 pre-majors and 54 majors. Following a careful analysis of student and industry needs and an investment in new curriculum planning, this program was transitioned into the Bioresource Science and Engineering (BSE) program. By spring of 2012, this ABET-accredited program had 39 pre-majors and 71 majors, a 93% increase over 2 years. Traditionally, the Department of Chemical Engineering has been a key partner in delivering several of the core courses for the PSE/BSE majors. The dramatic and unanticipated growth rate of the program in combination with the difference in preparation between the average PSE/BSE student and the average Chemical Engineering student has led to a situation in which the Department of Chemical Engineering can no longer support the delivery of core BSE courses at the same level as in previous years. The College strongly supports the BSE program and its attention to diversity, including 13% URM students in the major. At this time the College would like to ensure that the enrolled BSE students have access to the courses they need to make adequate and timely academic progress toward graduation while taking a cautious approach to long-term infrastructure growth. These funds are expected to support high-quality lecturers to deliver several of the technical courses at the heart of the program. At the same time we will work carefully to create a financially-robust course delivery model that is appropriate for a sustainable number of students.