

School of Marine and Environmental Affairs, University of Washington

Self-Study Report for the period 2006-2016

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Transmitted by Terrie Klinger, Director

tklinger@uw.edu

Section 0: Key Innovations, Accomplishments, and Vision

The School of Marine and Environmental Affairs promotes excellence and innovation with respect to teaching, research, and engagement within and beyond the University. As a faculty, we have demonstrated a record of accomplishment in all three domains. We share a vision for the future in which we grow in numbers of students and faculty, maintain primacy in the field of marine and environmental affairs, and continue to provide outstanding training to graduate students.

Key innovations and accomplishments since last programmatic review

- Implemented human dimensions of the environment curriculum, including new core sequence
- Added “Environment” to name, curriculum, and research
- Diversified degree tracks by adding a capstone path to degree
- Added new courses to increase salience and coherence of curriculum
- Increased admissions and enlarged student body by ca. 20%
- Recruited top new faculty in environmental governance (Dolšak), ecology and law (Kelly), humans and natural resources (Allison), resource and environmental economics (Jardine), and environmental equity and justice (Woelfle-Erskine)
- Diversified faculty
- Doubled the number of student publications in peer-reviewed journals in 2012-2016 compared with 2007-2011
- Demonstrated professional success of graduates
- Added new means of outside engagement, e.g., by strategic convening of high profile, multi-constituency meetings to infuse human dimensions into planning processes, high-visibility blogging on climate, environment, and politics, and engagement with public health and food sectors

Shared vision for coming 3-5 years

- Develop and implement environmental equity and justice theme in teaching, research, and engagement
- Implement an interdisciplinary PhD program to respond to international demand, increase research productivity among faculty, and ensure that SMEA remains at the cutting edge of research in marine and environmental affairs
- Increase the size of the faculty through increasing FTE and other (e.g., non-tenured) appointments
- Continue to lead in the creation of communities of practice that place SMEA in role of organizer and knowledge expert
- Continue to tune curriculum, e.g., expand capstone program through increased offerings, introduce new methods course(s), field course(s), and others
- Continue to attract and matriculate top quality graduate students in the Masters of Marine and Environmental Affairs program
- Continue to increase rate of student publication in peer-reviewed journals
- Continue to build diversity among students and faculty
- Continue to increase research funding

Section I: Overview of Organization

Mission & Organizational Structure

The mission of SMEA as articulated in 2008 is as follows:

The mission of the School of Marine and Environmental Affairs is to provide leadership and training to address contemporary and emerging issues in marine systems, especially those associated with the human dimensions of global change. We equip students with the professional and analytical skills necessary to solve complex, interdisciplinary problems. Through student training, applied research, and service to the broader community, SMEA faculty and students will make significant contributions to government, nongovernmental organizations, and industry.

Major Goals of SMEA are as follows:

(1) *Teaching and Curriculum.* SMEA is committed to training professionals to meet the environmental challenges of the 21st century. We train students in the theory and practice of marine and environmental affairs and human dimensions research and help them build professional skills to make them maximally competitive in their chosen professional or academic fields.

Through our teaching, we take a solutions-focused approach to emerging problems in marine and environmental affairs. Addressing contemporary challenges requires treating humans and the ecosystems of which they are a part as a single, integrated social-ecological system, consistent with our existing Human Dimensions curriculum. Moreover, we recognize that marine, terrestrial, and atmospheric systems are tightly coupled, such that most environmental issues span all three domains. Our curriculum reflects these linkages while retaining its emphasis on ocean and coastal environments and associated watersheds.

We strive to deliver the core elements of our curriculum—including statistics, economics, law, policy, marine science, and quantitative skills—internally instead of depending upon other units to do so. In-house delivery allows us to tailor course content to our particular audience, and allows us to tune the curriculum according to student need and student feedback. In-house delivery has the additional benefit of forging strong relationships between faculty and students.

At the same time, our students benefit from the liberty to take elective courses in units across the University, thereby tailoring their graduate education according to their individual needs and professional aspirations.

(2) *Research.* Research productivity among faculty has direct benefits to students. SMEA faculty are committed to producing research that is salient, timely, and impactful. The hallmarks of such work include—but are not limited to—publication in top-tier journals, ongoing financial support from grants or contracts, and high-visibility coverage in the popular press. Moreover, SMEA faculty value and engage in praxis, applying their research directly to contemporary social and ecological problems.

(3) *Service.* One of the great strengths of SMEA is its commitment to helping solve applied problems, and faculty often work at the invitation of or in collaboration with “end-user” groups; the result is an enduring commitment to socially relevant, use-inspired research. Maintaining this outward-facing posture is a priority among all SMEA faculty.

(4) *Culture.* We strive to cultivate mutual support among students and faculty. We are committed to inspiring, nurturing, and rewarding collegial support and collaboration to advance the professional growth of everyone in SMEA.

Origin and Evolution of SMEA

Establishment through 2008

SMEA was among the first units of its kind to have been established in the U.S. From the outset, SMEA was intended to take an interdisciplinary approach to problems of policy and governance in the marine environment, focusing on the intersection of the natural and social sciences with public policy in the context of the marine and coastal domain. As first conceived, the SMEA Master's degree program required that students develop proficiency in the disciplines of coastal and marine science, economics, law, and policy through coursework and thesis research.

The early evolution of SMEA mirrors closely the evolution of contemporary marine governance (Appendix A). As a field, marine affairs began in the 1960s and early 1970s with a focus on human use of ocean, including the use of new technologies for resource extraction. The focus shifted in the mid-1970s to the mid-1980s to include marine pollution management and resource protection. The 1990s brought an increased emphasis on protecting ocean health and sustainable development of coastal communities. The evolution of the field continued in the 2000s with emphasis on meeting societal needs and addressing emerging issues of environmental justice and equity. At the same time, a growing focus was placed on fostering sustainability and on recognizing important connections between marine and terrestrial environments.

The original SMEA curriculum focused on the developments in the Law of the Sea at the global level and relied heavily on a sectoral approach that paralleled developments in legislation at national, regional and state levels. Over time, some elements of the curriculum (e.g., ports and marine transportation) were de-emphasized to allow innovation and the addition of new curricular elements, for example methods courses in interviewing, coastal and marine tourism, and marine protected area management. Emerging topics were continuously incorporated into existing courses to keep them current and germane. Already in the late 1980s and early 1990s the Law of the Sea implementation and sectoral approaches were becoming obsolete and giving way to more integrated approaches to sustainability (e.g., Brundtland Commission Report 1987, Rio Declaration on Environment and Development 1992) and this was reflected in the SMEA curriculum by a de-emphasis on sector-based tracks of study and a continued emphasis on integration and multidisciplinary approaches to research and problem solving. The next decade in the U.S. brought legislative efforts as well as non-governmental interest in cross-sectoral multidisciplinary and ecosystem-based management of the oceans (e.g., U.S. Commission on Ocean Policy and Report (2004), and Pew Ocean Commission and Report (2003)). These developments led to a significant reorientation of the SMEA curriculum focused on the nexus of human dimensions and global change, titled *Human Dimensions of Global Change in the Marine Environment* (hereafter *Human Dimensions*).

In the current era, emerging challenges faced by students and practitioners include global climate change; ecosystem-based management; multiple stressors, cumulative

impacts, and tipping points; human population growth and increasing resource consumption; globalization of trade; and social and ecological vulnerability and resilience. These challenges require even greater attention to interdisciplinarity combined with the analytical skills to solve problems that span spatial, temporal, and institutional scales. Adding to this complexity are the realizations caused by cross-domain effects, non-linearity and thresholds and the need to consider both formal and informal institutions, authorities, and processes. As a means of addressing these challenges, integrative approaches to teaching using concepts such as social-ecological systems and integrated ecosystem assessments were implemented as part of the new Human Dimensions curriculum. A revised mission statement was adopted in 2008, and is reproduced at the top of this section.

2009 to Present and Transition to the College of the Environment

In 2009 SMEA elected to leave the College of Ocean and Fisheries Science, in which the School had resided since 1981, to join the newly established [College of the Environment](#) (CoENV). The mission of SMEA as articulated in 2008 aligns well with the [broader mission of the College of the Environment](#), and the move to the new college was perceived by the SMEA faculty as an opportunity to more closely balance the social and natural sciences in our teaching and research and engage in productive collaborations with colleagues across the College, which now comprises six schools and departments plus several associated programs and institutes. Joining CoENV motivated a change in the name of the School, from the School of Marine Affairs to the School of Marine and Environmental Affairs, signaling an expanded focus on environments and societies beyond the marine realm. At the request of the Dean, Klinger assumed the Directorship in September 2014, succeeding Leschine, who had served as Director for 11 years.

Transition to the CoENV has brought a climate of support in which SMEA is better integrated and more connected with the teaching and research missions of the broader college. New and continuing initiatives in the CoENV, such as the [Future of Ice Initiative](#), the creation of EarthLab at UW, and the [Program on Climate Change](#)—plus closer ties with the [Program on the Environment](#) and [Schools of Aquatic and Fishery Sciences](#), [Oceanography](#), and [Environmental and Forest Sciences](#)—offer valuable opportunities for SMEA faculty to expand their research and teaching endeavors, as do new and existing partnerships outside the CoEnv, for example with School of Environmental Health, the School of Public Health, the Department of Global Health, and Urban@UW. SMEA students benefit from the connections forged with other units inside and outside the college. We have observed particular interest among SMEA students in studying Arctic issues in association with the Future of Ice Initiative and in obtaining the Graduate Certificate in Climate Science offered through the Program on Climate Change. In addition, SMEA students have actively sought certifications from the Environmental Management Certificate Program, Business School, and others.

Students also benefit from the priorities established within the college with respect to engagement and communication. The College places a premium on outside engagement

and communication and has implemented programs that serve graduate students in this regard, for example through the *Meet, Greet, Teach* seminar series, through informal teacher trainings offered by the [Seattle MESA](#) (Mathematics Engineering Science Achievement) program, and through the *ENGAGE* communications program which is conceived and led by graduate students and focused on communication to general audiences. The College supports occasional courses and workshops in professional communication that are available to and popular with our graduate students. Moreover, the college has established new funding mechanisms to help students achieve academic and professional success. Among these are a competitive travel award program that helps students attend professional conferences to present their research, and the Graduate Research Opportunity Enhancement (GROE) award, that helps to fund highly ranked new and early career graduate students who do not have a confirmed source of external funding. SMEA students have obtained funding from both these programs.

MMA Degree Program

SMEA offers a single degree, the Master of Marine Affairs (MMA). SMEA does not offer an undergraduate degree, minor, certificate, or fee-based program. The MMA degree program is designed to allow students to graduate in two years of full-time attendance during the academic year, although some choose to extend their stay by 1-2 quarters to take additional courses or expand the scope and impact of their thesis research. A small number enroll in concurrent degree programs or certificate programs in other departments, delaying graduation. By design, enrollment grew in 2015/16 and 2016/17 (Table 1). The SMEA Degree Program is one of the two largest Master’s degree programs in the College. The demographic composition of the current student body is shown in Appendix B.

Table 1. Number of MMA Students Enrolled and Graduated by Academic Year

Academic Year	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	15/16	16/17
Students Entering	22	22	25	28	23	26	28	16	27	31	32
Total Students Enrolled	57	49	56	53	61	58	59	53	54	69	67
Students Graduating	23	15	23	21	26	20	22	27	17	29	no data

MMA Curriculum

In this reporting period, SMEA implemented a new *Human Dimensions* curriculum. A key innovation of this curriculum is the offering of a year-long core sequence, required of every student. The core sequence consists of SMEA 500, 501, and 502, respectively titled *Human Dimensions of Global Change in the Marine Environment*, *Tools for Integrated Marine Affairs Practice*, and *Decision-Making and Action-Taking*. Students

entering in Fall quarter begin the sequence with SMEA 500 and complete the sequence with SMEA 502 in the Spring quarter. The sequence is intended to 1) expose students to marine and environmental affairs through a focus on theory, application, and skills and 2) help prepare students to undertake thesis research, capstone research, and additional course work. Other courses in the curriculum are intended to build competency in discrete disciplines (e.g., law, policy, economics, marine science), specific methodological approaches (e.g., statistics), interdisciplinary approaches, topical areas (e.g., fisheries, coastal management).

Over this period, curriculum development responded to several factors, including: 1) expansion of the mission of the school to include environmental issues (beyond marine) to accommodate the nature and complexity of environmental problems and address students interest; 2) changing faculty composition and expertise; 3) student feedback; and 4) university-wide commitment to diversity and a new undergraduate requirement for courses that explicitly incorporate diversity discourse.

In addition to the new core sequence, SMEA implemented or substantially revised courses to meet student need and interest and to incorporate diversity into course content:

- SMEA/JSIS/ENVIR 103 Society and the Oceans (3) NW/I&S
- SMEA 430/530 Development and the Environment (3) I&S, **DIV**
- SMEA 485 Pacific Recreation and Tourism Issues (3) NW/I&S, **DIV**
- SMEA 539/SAFS 539 U.S. Fisheries Management and Policy (3)
- SMEA 550 Marine Biodiversity: Science, Law, and Policy (3)
- SMEA 550 Fish in the Global Food System (3)
- SMEA 550 SMEA Field Course (3)
- SMEA 581 Case Study Research: Design and Methods (3)
- SMEA 582 Statistics for Marine and Environmental Policy (3)
- SMEA 583 Research Design (3)

numbers in parentheses indicate credits; I&S indicates course meets university-wide Individuals and Society requirement; NW indicates course meets university-wide Natural World requirements; DIV indicates course meets university-wide diversity requirement.

In 2015 SMEA diversified paths to the MMA degree by expanding the professional track to include capstone research as a pathway to the MMA degree (the professional track formerly had consisted of the courses-only option) (Figure 1). The professional track now offers two options for completion, via a capstone research experience or via an intensive focus on courses only. Students self-select into a track and option depending on the stage of their career and future goals. For example, students with an existing career in a marine or environmental field often attend SMEA to learn specific new content, frameworks, and skills. These students can complete the degree requirements with the courses-only option. Students new to the field of marine and environmental affairs, who are interested in conducting applied research through teamwork, can meet the graduation requirements by completing a capstone project. Students interested in

performing research that contributes to empirical or theoretical development of the field can opt for the thesis track. A strong expectation of the thesis track is the production of a thesis of publishable quality. Thesis-track students are encouraged to submit a manuscript for publication, typically with further support from faculty, in which case the publications are jointly authored with students as the first author. Submission of a manuscript for publication is not a requirement for graduation.



Figure 1. Paths to MMA degree, including two tracks and three options.

In academic year 2016/17, students are conducting two capstone projects: Socioeconomic impacts of harmful algal blooms (with NOAA) and Assessment of climate change adaptation by WA state agencies (with the UW Climate Impacts Group). In AY 2017/18, we are planning to offer five capstone projects: (1) evaluation of policy instruments for addressing sea-level rise, (2) evaluation of local government strategies for climate change hazard mitigation, (3) analysis of the implementation of the Olympic Coast National Marine Sanctuary’s 2011 Management plan, (4) evaluation of changes in shipping patterns and risks of oil spills resulting from the 2015 decision to lift the ban on crude oil exports, and (5) traceability and sustainability of Seattle’s seafood supply chains. Each of these projects is intended to accommodate up to six students working collaboratively with one faculty advisor and one or more representatives of the outside agency or client.

SMEA is committed to offering a top-quality degree program that prepares students for success in the professional realm or for more advanced academic studies. Examples of strategies we employ to promote student success and opportunities that exist for students are given in Appendix C. A list of peer-reviewed student publications over the past decade appears in Appendix D. Recent student awards and other notable accomplishments are described in Appendix E. The success of our alumni is indicated by a sampling of jobs held by recent graduates as listed in Appendix F, and the sectors in which they are employed is given in Appendix G. Strategies to engage alumni are listed in Appendix H.

Proposed development of PhD program

SMEA recently has proposed the development of a small, interdisciplinary PhD program. The proposal is responsive to faculty interest and to persistent requests from students seeking such a program. The degree, tentatively titled *PhD Program in Environment and Society*, will train students to conduct rigorous, critical, and innovative interdisciplinary or transdisciplinary research on complex issues involving human interaction with environmental systems. Student scholarship will contribute to building and testing theory and have the potential to inform policy debates or influence societal actions related to the environment. Core training in research epistemologies and specific transdisciplinary ways of working differentiate this program from others at UW. It differs from degrees offered by other CoENV units in its core social science requirements, and from those in other social and policy sciences by the inclusion of core requirements in relevant natural science.

Academic Staffing

In AY 2015/16, the SMEA faculty consisted of 6 members appointed to full-time (9-month) positions and supported by state funds. One senior faculty member (Christie) holds a 50% appointment in SMEA and is jointly appointed in the Jackson School of International Studies. One senior faculty member is paid from sources other than state funds and classified as WOT (Without Tenure). One senior faculty member (Leschine) retired to emeritus status in June 2016 but was active throughout this 10-year reporting period so is included for reporting purposes. One junior faculty member (Jardine) joined SMEA in September 2016. A list of faculty with links to their CVs appears in Appendix I. An organizational chart is attached in Appendix J.

Over the past decade SMEA lost four senior faculty members (Hershman, Huppert, Miles, Leschine) to death or retirement and one junior faculty member (Jenkins) to a competing institution. We have made several excellent faculty hires to replace these losses. In 2010 we hired Prof. Nives Dolšak at 50% time; from 2010-2014, her appointment was split 50%-50% between SMEA and UW Bothell. With support from Dean Graumlich, in 2014 we were able to convert her position to 100% FTE, helping us cover the loss of Professor Ed Miles. In 2013 we hired Asst. Professor Ryan Kelly who holds a degree in Law and an advanced degree in Ecology. Kelly conducts research and offers courses in both marine ecology and law, replacing expertise in law that was lost upon Hershman's death. Also in 2013, we hired Professor Eddie Allison. Allison brings new expertise in the areas of marine fisheries and seafood, and more broadly in food security and human health. Asst. Professor Sunny Jardine was recruited to the SMEA faculty in September 2016 and brings strength in resource and environmental economics, replacing the loss of Dan Huppert. Each of these faculty members has made and continues to make important contributions to the SMEA curriculum, student advising, research, and service.

Even so, at the time of our prior 10-year review, seven tenured or tenure-track faculty held their primary appointment in SMEA, for a total of **6.17 FTE** assigned to the unit, plus one associate professor WOT. Currently (as of September 2016), the faculty still consists of seven members, for a total of **6.5 FTE** assigned to the unit, plus one associate professor WOT. [Note that there exists no provision for replacing the existing WOT faculty member upon retirement. Note also that one position (Leschine's) is 'parked' for two years before it can be filled, according to College policy, and the faculty size is thereby diminished, despite increasing enrollments.] Clearly, there has been no significant growth in the size of the SMEA faculty over the last decade, despite the support of Dean Graumlich and a favorable climate in the CoENV. One new Assistant Professor (Woelfle-Erskine) will join the faculty in September, 2017, and his addition to the faculty *does* represent actual growth. Woelfle-Erskine will fill a position newly created by the Dean to address issues of environmental equity and justice. We anticipate that his contributions will add substantial value to the school and college, and we are keen to welcome a new colleague and expand by one FTE the size of our faculty. At the same time, we feel that the current size of the faculty is critically small given the size of the student body.

All state-funded faculty members engage in regular teaching. A typical teaching load consists of one graduate course in each quarter (Autumn, Winter, and Spring). In addition to classroom teaching, state-funded faculty members supervise graduate students in their thesis and capstone research. The distribution of student advisees varies widely across faculty members in accordance with student interest and faculty effort; more equitable distribution of students across faculty is would benefit both students and faculty. State-funded faculty members share responsibility for service activities within the School, College, and University and outside the University.

Joint, Adjunct, and Affiliate Faculty: SMEA benefits from the participation of joint, adjunct, and affiliate faculty members (Appendix J). [Joint and adjunct faculty members maintain faculty appointments in other UW schools and departments; affiliate faculty members are employed outside UW]. Joint, adjunct, and affiliate faculty vary in their contributions to SMEA; the most active among them contribute to teaching and serve as thesis advisors or committee members for SMEA students.

Staff: SMEA staffing is lean. The core staff consists of Administrative Specialist Kaghan (1.0 FTE), Graduate Program Advisor Dion (1.0 FTE), and Assistant to the Director Chapman (0.75 FTE). Our ability to hire IT support has varied over this reporting period; it currently is provided at 25% FTE via an MOU with the School of Environmental and Forest Sciences. An undergraduate student assistant is employed through the Work Study program at 42% time.

Shared Faculty Governance and External Consultation

Because SMEA is a small unit, in matters of governance we tend to function as a committee of the whole and strive for consensus in decision-making. When required,

votes are taken in executive session in compliance with the Faculty Code. Standing committees exist to address specific needs with respect to faculty affairs, curriculum, and admissions, among others. Faculty members share responsibility for representing the School on the Elected College Council, Faculty Senate, College Diversity Committee, and College Curriculum Committee, among others.

SMEA has no formal external advisory committee. Instead, the nature of our research and teaching is coupled with a strong tradition of external engagement with decision processes, stakeholders, and constituents at national, state, and local levels, providing SMEA ready access to a diversity of external perspectives. We rely on these professional relationships to surface emerging issues and trends of relevance to our research and teaching. Recent examples of external engagement include the following: former SMEA Director **Leschine** served as chair of the National Academies' Marine Board; **Fluharty** currently serves on the Washington Coastal Marine Advisory Council, convened in the Governor's Office by the Department of Ecology, and formerly served as Chair of the NOAA Science Advisory Board and now co-chairs the Ecosystem Science and Management Working Group. He continues to serve on the North Pacific Fishery Management Council's Ecosystem Committee; **Klinger** served on the Governor's Blue Ribbon Panel on Ocean Acidification and on the West Coast Ocean Acidification and Hypoxia Panel, and for many years served as chair of NOAA's Olympic Coast National Marine Sanctuary Advisory Council. She currently serves on the Ecosystem Advisory Panel of the Pacific Fisheries Management Council and as an advisor to the Exxon Valdez Oil Spill Gulfwatch Program; Assistant Prof. **Kelly** engages with state, national and international bodies on governance of ocean acidification; Professor **Miller** helped create the International Coastal and Marine Tourism Society and serves on its International Steering Committee and also as an Editor of *Tourism in Marine Environments*; Professor **Christie** recently led a critical review of the Coral Triangle Initiative and organized an international workshop on the Human Dimensions of Large Marine Reserves; Professors **Christie** and **Fluharty** maintain significant engagement with the Tulalip Tribes; Professors **Christie** and **Allison** regularly engage with the United Nations Food and Agriculture Organization (FAO) and with NGOs and private foundations that sponsor work on issues related to the marine environment and society. **Allison** assisted with the integration of fisheries and aquaculture into food security policy presented at the UN Food and Agriculture Organization's Committee on Global Food Security meeting in Rome, served as Human Dimensions advisor on the Scientific Advisory Board of IMBER (Integrated Marine Biogeochemical Research program), a program of the International Council for Science (ICSU), and serves on the Independent Science Advisory Panel for the New Zealand Government's "Sustainable Seas Challenge"; Professor **Dolsäk** serves on the Science Panel of the Puget Sound Partnership.

SMEA's Affiliate Faculty members (Appendix J) provide additional opportunities to connect with external constituencies. Our Affiliate Faculty members occupy leadership positions in NOAA, Washington Sea Grant, Pacific Northwest National Laboratories, and

the Puget Sound Partnership, among others. Affiliate faculty members attend regular faculty meetings and participate in semi-annual faculty retreats, offering opportunities to voice perspectives from outside entities.

SMEA alumni serve as a third source of input from constituencies. SMEA alumni now exceed 650 and serve in positions of leadership in federal and state agencies, the military, NGOs, and the private sector. Some serve as Congressional staffers, and others are employed by Native American Tribes. When called for, SMEA solicits input from alumni. Recent alumni and their current employment are listed in Appendix F.

Most recently, SMEA has formalized an agreement to establish the position of liaison between the School and NOAA's West Coast Regional Office. This arrangement offers SMEA a formal link to NOAA for the primary purpose of partnering in student research.

Budget & Resources

(Please refer to the budget summary in Appendix K).

Operating Budget

SMEA's operating budget comes primarily from state funds. The majority of funds are allocated to payment of salaries for faculty and staff. Over the past decade, the operating budget has been subject to a number of mandated budget cuts. The most recent cuts occurred in FY10 (1.0% of the operating budget) and in FY11 (1.2% of the operating budget). In order to remain solvent, SMEA used carry-over funds to supplement our operating budget. At the end of biennium FY09/11, a small balance remained in the operating budget (see Appendix K, Table 1).

SMEA generated surpluses at the end of biennia 11/13 and 13/15 (see Appendix K, Table 2 and 3). These surpluses resulted from faculty salary recaptures owing to teaching buy-out for one faculty member (one quarter per year for 5 years beginning FY 12); sabbatical leave for one faculty member in AY in 2014; two teaching/fellowship buy-outs in FY 15; and one vacant assistant professor position in AY 15/16.

Carryover funds from the previous biennia were used to provide funding for auxiliary teaching, a teaching assistantship (costs shared with SAFS), IT costs, an hourly program assistant, GoMap match for graduate student support in one academic year, GROE matching support for two students each for one quarter, two Top Scholars Awards for graduate students for one academic year, and to cover merit increases for a part-time lecturer and a WOT faculty member.

Other Resources

RCR (Research Cost Recovery) Funds

Grant and contract activities generate ICR (Indirect Cost Recovery), a fraction of which is returned to the unit as RCR (Research Cost Recovery). The current distribution schedule reserves 65% of these funds for Central Campus Administration. The remaining 35% is

distributed to the College level. The College of the Environment retains 25% and distributes the remaining 75% to the affected unit. Unit distributions are based on annual indirect cost expenditures from April through March and are distributed as RCR in the following fiscal year. SMEA research funding and associated RCR has generally grown since 2010 (Table 2).

Table 2: Indirect Cost Recovery

Year	Grants & Contracts	Total ICR	Unit Share
2010	\$798,922	\$43,780	\$11,492
2011	\$878,719	\$68,858	\$18,075
2012	\$1,088,457	\$94,817	\$24,890
2013	\$2,769,300	\$76,724	\$20,140
2014	\$3,257,603	\$128,311	\$33,682
2015	\$2,850,552	\$93,609	\$24,572
2016	\$1,681,144	\$122,853	\$32,249

Endowment and Gift Funds

SMEA receives gifts from various donors and alumni (Tables 3 & 4). Most recently, two new endowments have been added (the Alverson Endowed Fund and the Staehli Family Endowed Fund) and the Ed Miles Memorial Fund was established to honor SMEA's former professor and director.

Endowment and gift funds are used to 1) provide student support in the form of scholarships, fellowships, and travel awards, 2) support competitive student recruitment, and 3) fund start-up packages for new faculty hires.

Table 3: List of Endowment Accounts

Name	Year Established	Market Value as of 10/1/16	Annual Endowment Interest as of 12/31/16
Alverson, Dayton Lee Endowed Fellowship	2014	\$306,691	\$5,828
Campbell, Sidney D. and Barbara F. Marine Studies	2003	\$143,279	\$15,444
Foss, Wedell O. Endowed Fellowship	1992	\$206,097	\$7,832
Graham, Wendy Endowed Scholarship	2000	\$68,335	\$2,596
Hershman, Marc J. endowment for Marine Affairs	2008	\$51,646	\$1,964
Hewlett Endowed Fund for Environmental Studies	1994	\$1,070,336	\$40,664
Leschine, Thomas M. and Kathleen O'Neill Endowed	2012	\$34,000	\$1,292
Maxson, Linda J. Endowment in Marine Policy	2011	\$12,730	\$1484
Staehli Family Endowed Fund	2015	\$94,870	\$3,640
Wooster, Clarissa and Warren endowed Fund	2006	\$15,444	\$588

Table 4: Awards and donations received by SMEA from 2010 - 2016

Fiscal Year	Amount
2010	\$19,353
2011	\$304,017
2012	\$26,996
2013	\$201,098
2014	\$219,004
2015	\$150,854
2016	\$70,490

Evaluation of funding and human resources decisions

The director consults with the Dean's office and with faculty and staff to assess human and fiscal resource use and ensure that meet the unit's intent with respect to strategic planning and mission.

Strategies to obtain external funding

Over the past decade, important sources of external funding in SMEA have consisted of federal agencies (e.g., NSF, NOAA), Washington Sea Grant, private foundations (e.g., Pew, Packard, and others), and NGOs (e.g., WWF/USAID), with smaller amounts coming from other federal agencies (e.g., the National Park Service), state agencies (e.g., the Puget Sound Partnership), and entities such as the North Pacific Research Board.

Faculty opportunistically respond to solicitations from NSF, NOAA, and other federal agencies. For example, in 2010 Klinger responded to an NSF solicitation for the IGERT (Integrative Graduate Education, Research and Training) Program. This \$3 million, five-year training grant brought important resources to SMEA, including partial support for two SMEA faculty members, support for an administrative specialist and graduate program advisor, and support for students. Significant matching support from the Dean's office increased the impact of this award to SMEA.

SMEA faculty members have been successful in obtaining funding from private foundations. Support from private sources rarely provides substantial operating or administrative support, but does benefit students and faculty by supporting research, student stipends, student travel, and publications. In some cases the Dean's office has provided matching funds for foundation awards, for instance by helping to fund student RA-ships, thereby increasing the reach and impact of these awards. The College's advancement team has provided critical help to SMEA faculty in obtaining these awards.

Space resources

New faculty and growing student numbers will require that SMEA obtain additional space; a shortage of space is a key issue that must be resolved. As an interdisciplinary program, SMEA has never had space to adequately support collaborative learning, individual student needs, or workshops or other convenings, nor does SMEA have adequate laboratory space to support our faculty members and students who need it. At our current size, we control no space large enough to hold all the students from even one year class. These limitations stifle creativity and reduce productivity and learning. We occupy a building built to house a food science and technology program in what is now the School of Aquatic and Fishery Sciences. Space promised to SMEA over the years has not materialized, and office space in other buildings has been lost to competing uses. Under the current West Campus concept plan, the building in which SMEA now is housed is scheduled for demolition in favor of green space, with no provision for replacement. We feel that the issue of space is one that threatens the long-term sustainability of the unit and the degree program we offer. The need to address this issue is critical.

Academic Unit Diversity

SMEA engages in and promotes diversity practices with regard to student and faculty recruitment and retention, mentoring, and awards. In doing so, SMEA is guided by the College of the Environment Diversity Plan (Appendix L) and participates in the College Diversity Committee. Importantly, diversity among SMEA students spans gender, age, ethnicity, disability, and cultural conviction.

SMEA employs the following strategies and practices with respect to increasing diversity:

Diversity Recruitment strategies:

- Review National Name Exchange list and contact those with relevant majors (approximately 50-75 per year).
- Review SACNAS attendee list and contact those with relevant majors (approximately 20-30 students per year).
- Distribute SMEA “call to apply emails” to approximately 125 contacts from the California Diversity Forum’s list provided by GO-MAP each year.
- Work with an alumnus in the Puyallup Tribe with representatives of the Northwest Indian College to encourage recruitment of tribal students.
- Reach out to URM undergraduate programs (through calls for application, mailing posters, brochures, and promotional materials).
- Offer travel funding to all admitted URM students in admission.
- Offer presentations by GO-MAP, SACNAS, and the LGBTQ+ grad group at the cross-College reception for prospective grad students in March.
- Maintain a clear diversity page/statement on the SMEA website.

Diversity retention & academic success strategies

- Offer newly implemented Q-Center training at College of the Environment’s orientation, and offer “Implicit Bias and Microaggression” session at SMEA’s orientation for new students.
- Promote by email and social media diversity-focused events such as those offered by GO-MAP, Q-Center, Rainbow Grads, Native Organization of Indigenous Scholars, UW Chapter of SACNAS and specific annual events such as UW’s Annual Culture Night, the Equity and Difference Speaker Series, and the College of the Environment’s Conversations on Defining Diversity.
- Include academic support services materials in handbook for incoming students (e.g., free writing and quantitative tutoring resources on campus, disabilities resources and department statement on how to go about obtaining academic accommodations, diversity-related resources available on campus), and visits to such campus support offices during SMEA’s orientation.

Of Note

- On May 14th, 2015 SMEA student Brian Tracey became the first awardee of the College of the Environment’s Outstanding Diversity Commitment Award. Among 42 nominees across the College including faculty, staff and students, Brian was selected for his efforts and impact not only at the department or university level, but in the Seattle community as a whole. In 2016, Brian was honored with the [Husky 100](#) award. At the core of Brian’s work in diversity is the ideal of volunteerism and service to groups facing historical obstacles to social and academic progress. Brian also has been succeeded in helping SMEA recruit students who identify as URMs.

Section II: Unit-Defined Questions

1) What is the most efficient and effective way to offer our revised MMA curriculum, taking into account 1) the size of the student body and potential for growth, 2) the size of the faculty, and 3) the two tracks offered (thesis and professional tracks)? Is there an optimal allocation of students across tracks?

SMEA is persistently challenged to offer a top-quality Master's degree experience to a relatively large number of students given the small size of the faculty. Although a number of recent faculty hires has given the impression to some that the SMEA faculty is growing, the faculty has in fact not changed in size for more than a decade while the number of students has grown by about 20%.

Growing student numbers reflect a strategic decision made several years ago by the faculty in consultation with the Dean. Activity Based Budgeting (ABB; <http://opb.washington.edu/activity-based-budgeting>) was implemented at UW in 2013. To maintain fiscal health within SMEA under ABB, we have adopted an approach of slow growth in student numbers (to some yet to be defined limit), with the consequence that student numbers in the two most recent academic years (AY 15/16 and AY 16/17) have exceeded recent years by about 20% and earlier years by more than 40%. We feel that current enrollments are sustainable given the size of the faculty, but that additional growth in the absence of new faculty hires threatens to erode the student experience and the quality of the MMA degree.

The implementation of the professional track is intended to offer the dual benefits of 1) better serving student interests and needs through diversification of degree tracks; and 2) re-allocating faculty effort with respect to advising. As currently conceived, capstone projects consisting of 3-6 students per group will increase the efficiency of faculty advising while offering students a practical, hands-on professional experience that may better meet their career goals than production of a thesis. We intend to increase the number of students in the capstone program to eventually (e.g., in five years time) exceed the number of students in the thesis track. This is dependent, however, on student choice of the capstone over the thesis experience. To help encourage students to elect the capstone option, we are expanding the number and diversity of capstone projects offered. Moreover, growth of the capstone program requires coordination (now provided by Nives Dolšak, with support from the Dean's office) and relies on the enthusiasm of faculty members to lead capstone projects. At this time, we are unable to offer incentives to faculty to lead capstones beyond 1) the potential time savings of supervising capstone students compared with an equivalent number of thesis students; and 2) the potential increase in research productivity that emerges from group work.

While SMEA faculty members perceive the capstone program as an important addition to our curriculum, we continue to place a high value on thesis research. Many of our students publish their thesis research in the peer-reviewed literature. Moreover, many of our students are best served by completing a thesis, for example, those students who intend to pursue a PhD in natural or social sciences or a law degree.

We cannot yet anticipate the optimal allocation of students across thesis versus professional tracks. However, we believe that offering diverse pathways to the MMA degree has the potential to improve educational outcomes and career benefits for students while increasing research productivity among faculty.

Potential remedies to the issue of student:faculty ratios include the creation of new FTEs, new faculty appointments other than FTEs, and more effective use of our affiliate faculty. New faculty and growing student numbers will require that SMEA obtain additional physical space; a shortage of office and laboratory space is a key issue that must be resolved.

2) How can we best use our research and outside engagement to enrich student learning? What opportunities exist to strengthen research portfolios and partnerships within and outside UW to add value to our program, for example through formal and informal arrangements with other academic units, federal agencies (e.g. NOAA), and non-governmental entities?

SMEA faculty are highly engaged across and outside the university. Such engagement both emerges from and informs individual scholarship. Outside engagement also can enrich student learning and increase job prospects for graduates.

Opportunities for engagement inside UW:

- EarthLab at UW, including the Climate Impacts Group, the Center for Creative Conservation, the M9 Natural Hazards project, and the Washington Ocean Acidification Center
- Henry M. Jackson School for International Studies
- The Future of Ice Initiative
- The Schools of Environmental Health and Public Health and the Department of Global Health
- Academic units in humanities and social, policy and management sciences including the School of American Indian Studies, Foster Business School, Human Rights Center, Evans School of Public Policy; School of Law; and Departments of Politics, Economics, Geography and Philosophy.
- Friday Harbor Laboratories

Opportunities for engagement outside UW:

- NOAA, including the NMFS, NOS, and Sea Grant
- Washington State government, including the Governor's office, the Departments of Ecology and Natural Resources, and the Puget Sound Partnership
- Coastal tribes and Alaska Natives, including existing partnerships with the Tulalip, Swinomish, Makah, Quileute, and Hoh Tribes and Quinault Nation, and proposed new partnerships with the Yakama Nation and the Karuk Tribe
- NGOs, including The Nature Conservancy and The Ocean Conservancy
- Bridging Organizations such as the Center for Ocean Solutions, the California Ocean Science Trust, and the Northwest Straits Initiative
- International partners such as the CGIAR WorldFish Center (Penang, Malaysia), Ghanaian NGO Hen Mpoano, Korea Maritime Institute, and others in Japan, the Philippines, Iceland, Norway, and Scotland

3) What emerging trends in marine and environmental affairs offer new opportunities with respect to student training and professional preparation? How can we best prepare our graduates to enter the workforce win the coming 5-10 years?

Over the past decade, important trends have emerged at national and global scales. Prominent among these are globalization and its social and ecological effects; rapid environmental change, including climate change; and socio-political changes across the globe. These trends have consequences for the training and success of our graduate students.

Moreover, the outcome of the recent U.S. elections will have consequences for SMEA. The changes that are likely to be implemented by the new administration will create rich learning opportunities for our students with respect to policy and governance. At the same time, such changes could cause a shift in research priorities and in the availability of funding for research and student support. Moreover, job opportunities with federal agencies that have traditionally been important employers of SMEA graduates could decline, with potentially negative consequences for post-graduate success and ultimately for numbers of new applicants to the program. This will present a challenge for the faculty to address over the next four years.

In the face of these changes, SMEA is committed to continuing to provide the best possible preparation for our students. This will require SMEA to be nimble and adaptive. Among the adaptations that could serve students well are the following:

- Focus more inquiry, research, and training at the U.S. state and international levels; going forward, these arenas could be the source much important policy

action and could equal or surpass the U.S. federal government in employment opportunities for students.

- Advance adaptation studies. As social and environmental change accelerates, adaptation will increase in importance.
- Advance environmental justice scholarship. As society becomes more polarized and political commitment to diversity initiatives likely wanes, it is important to reiterate the centrality of social difference (gender, class, ethnicity and race) in the analysis of environmental governance and to provide clear support to continued efforts to diversify the pool of professionals entering marine and environmental affairs professions.
- Add strength in arctic studies. The changing arctic will offer unparalleled learning opportunities *vis a vis* social and environmental change and policy response. Expertise in arctic issues is likely to open job opportunities for graduates.
- Expand research and training in the international, developing country context. Issues of biodiversity management, food security and fisheries sustainability are growing and involve foundations, NGOs, and US government agencies.
- Develop strength in emerging disciplines, for example, decision science, to foster interdisciplinary approaches to solving complex problems.
- Train students to be astute providers and consumers of information. As facts are replaced by opinion, prejudice, and innuendo in social discourse, the importance of clear, factual information has never been greater.
- Continue to innovate with respect to skills courses, to include new technologies and analytical approaches that will give students a competitive edge in the workplace.
- Continue to diversify sources of research funding. Funding from federal agencies could decline over the next 5 years, with consequences for productive scholarship and student support. Further diversifying SMEA's sources of research funding should provide a hedge against the potential loss of federal funding.

Appendix A

Important Milestones for SMEA in Context of Marine Governance

<i>SMEA Milestones</i>	<i>Marine Governance Milestones</i>
	<i>1966 National Sea Grant College Program Established</i>
	<i>1969 Stratton Commission Report National Environmental Policy Act</i>
<i>1970 UW Law School establishes Law and Marine Affairs Program</i>	<i>1970 U.S. EPA and NOAA Established</i>
<i>1972 UW Board of Regents establishes the Institute for Marine Studies (IMS)</i>	<i>1972 Important developments in US Law Coastal Zone Management Act, Marine Mammal Protection Act, Endangered Species Act, Clean Water Act Amendments, Marine Protection, Research and Sanctuaries Act.</i>
	<i>1973 Start of Law of the Sea III Negotiations</i>
<i>1974 IMS Director & Faculty Appointed</i>	
	<i>1976 Fishery Conservation and Management Act</i>
<i>1977 Master of Marine Affairs Degree Granting Authority - Thesis Track Only</i>	
<i>1981 IMS becomes part of UW College of Ocean and Fishery Sciences</i>	<i>1982 United Nations Convention on the Law of the Sea Convention signed</i>
<i>1983-1984 IMS Five Year Review</i>	
<i>1990 IMS renamed School of Marine Affairs</i>	<i>Brundtland Commission Report 1987</i>
<i>1996 10 year review</i>	<i>Rio Declaration on Environment and Development 1992</i>
<i>1998 25 year SMA Anniversary</i>	
	<i>2000 Presidential Executive Order on Marine Protected Areas</i>
	<i>2002 World Summit on Sustainable Development -Johannesburg</i>
	<i>2004 US Commission on Ocean Policy</i>
<i>2006 10 year review</i>	
<i>2007 Human Dimensions of Global Change in the Environment Curriculum implemented; Courses Only Option established</i>	
<i>2009 SMA joins the College of the Environment</i>	
<i>2011 SMA changes name to SMEA</i>	
	<i>2010 Presidential Executive Order on Ocean Policy</i>
<i>2015 Professional Track MMA Degree – Capstone Degree</i>	

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Appendix B Demographics of current students

Entered Fall 2016			
Name	Prior Education	URM?	SMEA Degree Track
Baechler, Nyssa	Duke Univ (nc) - BA - Environmental Science and Policy - 5/2011	N	Undeclared
Brown, Allison	Univ Of Wisconsin Madison - BS - - Wildlife Ecology - 12/2014	N	Undeclared
Cleland, Valerie	Tufts Univ (ma) - BS - Environmental Studies & International Relations - 5/2015	N	Undeclared
Colpo, Isabella	Gonzaga Univ (wa) - BA - Public Relations, Environmental Studies - 5/2016	Y - Hispanic American	Undeclared
Crigler, Emily	Winona St Univ (mn) - BA - Communication Studies - 5/2005	N	Undeclared
Dickerhoff, Leoni	California State University Monterey Bay - BS - Marine Science - 12/2015	N	Undeclared
Edelman, Danielle	Univ Of Calif Santa Barbara - BS - Aquatic Biology - 6/2013	N	Undeclared
Flittner, Brittany	Univ Of Rochester (ny) - BS - Environmental Science - 5/2015	N	Undeclared
Gustafson, Alexandra	Iowa St Univ - BA in Science and in Arts - Environmental Science and Political Science - 5/2014	N	Undeclared
Hanna, Ian	Us Coast Guard Acad (ct) - BS - Operations Research - 5/2007	N	Undeclared
Holloway, Kristen	United States Coast Guard Academy - BS - Marine and Environmental Science - 5/2012	N	Undeclared
Huynh, Thao	North Texas St Univ - BA - Biology - 5/2015 North Texas St Univ - BMUS - - Violin Performance - 5/2015	N	Undeclared
Keil, Katherine	Oklahoma St Univ - BS - Environmental Science - 5/2014	N	Undeclared
Koehlinger, Julie Ann	Purdue Univ (in) - BS - Biological Sciences - 5/2012 Univ Of Washington - BS - Oceanography - 6/2015	N	Undeclared
Komaki, Kanae	Ochanomizu University - BS - Physics - 3/2001 University Of Tokyo - OTHMA - Natural Environmental Studies - 3/2003 University Of Tokyo - PhD - Natural Environmental Studies - 9/2007	N	Undeclared
Lebon, Kaitlin	Oregon State Univ - BS - Biology - 6/2016	N	Undeclared

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McBride, Marissa	Western Washington Univ - BS - Environmental Science - 6/2015	N	Undeclared
McShirley, Kadie	Univ Of Michigan - BS - Environmental Science - 12/2011	N	Undeclared
Nelson, Mackenzie	Univ Of Calif Davis - BS - Biochemistry and Molecular Biology - 6/2015	N	Undeclared
Oathout, Dana	Oregon State Univ - BS - Earth Sciences- Geography - 12/2015; Western Washington Univ - BA - History - 12/1992	N	Undeclared
Pelach, Bryan	Gustavus Adolphus Coll (mn) - BA - Classics - 5/2010	N	Undeclared
Perry, Diana	Haverford Coll (pa) - BS - Chemistry - 5/2015	N	Undeclared
Peterson, Henry	Syracuse Univ (ny) - BS - Bioengineering - 5/2014	N	Undeclared
Ray, Brandon	Navy War College - Diploma - Joint Professional Military Education - 5/2014; Northwestern Univ (il) - BA - Mathematics, Geology, Geography - 6/2005; Univ Of Washington - MS - Atmospheric Science - 6/2016	N	Undeclared
Rhoades, Emily	Whitman Coll (wa) - BA - Biology - 5/2012	N	Undeclared
Roubal, James	Ohio St Univ - BS - Natural Resource Management & Administration - 5/2016	N	Undeclared
Schommer, Kayla	Univ Of Alaska-Anchrg - BS - Environment and Society - 12/2015	N	Undeclared
Sifrit, Allie	Univ Of Hawaii - BS - Marine Biology - 12/2015	N	Undeclared
Solberg, Lange	Gonzaga Univ (wa) - BA - Business Administration, International Business - 12/2009	N	Undeclared
Vasquez, Charlene	Univ Of Hawaii - BS - Marine Biology - 5/2016	Y - Hispanic American	Undeclared
Villeda, Karen	Univ Of North Carolina Chap HI - BA - Peace, War and Defense; History - 8/2013	Y - Hispanic American	Undeclared
Zhao, Lily	Univ Of Chicago (il) - BA Public Policy Studies - 6/2013; Univ Of Chicago (il) - BS - Environmental Science - 6/2013	N	Undeclared

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Entered Fall 2015				
Name	Prior Education			SMEA Degree Track
Bassett, Hannah	Univ Of Calif San Diego - BS - General Biology - 6/2008	N		Thesis
Blair, Kathryn	Univ Of Missouri Columbia - BA - Biology & Psychology - 12/2008	N		Capstone
Brodbeck, Amy	Queen's Univ - BS - Biology - 5/2011	N		Capstone
Brostrom, Sara	Johns Hopkins Univ (md) - MAT - - Secondary Education (7-12) Biology - 5/2011; Western Washington Univ - BS - Biology- Ecology; Evolution; Organismal - 6/2009	N		Capstone
Cline, Michael	Coastal Carolina University - BS - Marine Science - 5/2015	N		Capstone
Coberly, Jerilyn	Univ Of Washington - BS - Earth and Space Sciences: Geology - 6/2014	N		Capstone
Dvorak, Michelle	Seattle Univ (wa) - BS - Chemistry - 6/2014	N		Thesis
Ferrara, Grace	Univ Of Puget Sound (wa) - BS - Biology - 8/2013	N		Thesis
Freeman, Rachel	Southwestern Univ (tx) - BA - International Studies: Political Science - 5/2011	N		Thesis
Gordon, Lindsay	Univ Of Miami (fl) - BA - Marine Affairs & Policy, Economics - 5/2014	N		Thesis
Greiner, Courtney	Western Washington Univ - BS - Environmental Science - 12/2007	N		Thesis
Hart, Christopher	Univ Of Washington - BS - Biology: General - 6/2013	N		Thesis
Hernandez, Jessica	Univ Of Calif Berkeley - BA - Oceanography & Italian Studies - 8/2013	Y-	Hispanic American	Thesis
Jensen, Kaitlyn	Univ Of Miami (fl) - BA - Marine Affairs - 5/2015	N		Course Only
Kennard, Haley	Univ Of Calif Santa Barbara - BA - Global and International Studies - 6/2012	N		Thesis
Kralj, James	Univ Of Wisconsin Madison - BS - Microbiology - 5/2015	N		Thesis
Lee, Timothy	Oregon State Univ - MS - Environmental Science - 6/2012; Univ Of Calif Berkeley - BA - Environmental Sciences - 5/2010	N		Thesis
McGrew, Scott	Excelsior College - BS - Liberal Arts / MGMT Studies - 9/2014	N		Capstone
McTiernan, Kaylie	Northeastern Univ (ma) - BS - Mechanical Engineering - 5/2014	N		Thesis

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Murray, Erin	Western Washington Univ - BA - Environmental Studies - 6/2012	N	Thesis
Nixon, Marisa	Univ Of Rhode Island - BS - Resource Economics and Commerce - 5/2010	N	Thesis
Pucylowski, Teresa	Suny-Coll Of Envrn Sci - BS - Conservation Biology - 5/2013	N	Thesis
Rivera, David	Univ Of Calif Santa Cruz - BS - Marine biology - 6/2007	N	Course Only
Rosewall, Sara	Evergreen St Coll (wa) - BS - Marine Biology - 6/2011	N	Course Only
Russell, Hannah	Univ Of Calif Berkeley - BS - Conservation and Resource Studies - 12/2010	N	Thesis
Schmaus, Carrie	Wittenberg Univ (oh) - BS - Biology - 5/2015	N	Course Only
Snouffer, Brian	Univ Of Wisconsin Madison - BS - Computer Science - 5/2011	N	Thesis
Williams, Trevor	Seattle Univ (wa) - BA - Environmental Studies: Politics, Policy, Justice - 6/2015	N	Thesis
Wippel, Bryanda	Univ Of Washington - BA - Environmental Studies - 6/2014	Y - Hawaiian/Pacific Islander	Thesis
Ziff, Dani	Univ Of Calif Santa Barbara - Aquatic Biology, BS & Dance, BA - 9/2013	N	Thesis

Appendix C
Strategies for promoting student success

Assessment of student satisfaction:

- Winter quarter survey of 1st year students (initiated in 2016)
- Exit interview for recent graduates (conducted for the last 10+ years)

Opportunities for training in teaching (graduate students):

- TA/RA Conference on Teaching, Learning, and Research
- College of the Environment's Meet, Greet, Teach seminar series for grad students, postdocs, staff and faculty
- Q-Center's safer zone training (coordinated for faculty, staff and students of the College of the Environment)
- Seattle MESA's teaching/tutoring training
- ENGAGE program, a seminar series teaching emerging scientists to effectively communicate their research for a general public audience.

Ensuring academic progress:

- Students are required to update their degree progress report (SMEA requirement checklist) on a quarterly basis to track their progress; progress is reviewed by GPA and/or advisor
- Students meet with advisors regularly to discuss course selection, track selection, track planning, through to completion of capstone/thesis/coursework
- GPA reviews students' grades and progress on a quarterly basis
- GPA meets individually with students as needed throughout their time in the program and twice in their second year to review progress and identify graduation requirements remaining
- If a student receives a not-passing grade, or multiple incomplete grades, they meet with the GPA and/or GPC to create a plan for the coming quarter(s)
- Students from under-represented groups are not singled out or provided special treatment, but are reviewed on par with all students are in our program

Preparation for the next phases of academic/professional lives:

- The GPA assists the SMEA student group SEAS (Student Environmental Affairs Society) with organizing alumni networking events on campus, and alumni panel presentation/Q&A
- The GPA encourages all students to attend College of the Environment's annual Career Fair, and newly added Career Fair Prep Workshop
- The GPA provides resources on our website with 50+ relevant job links, UW Career Center's list of resources, and six post-graduate fellowships that many of our alumni have taken advantage of including:
 - Dean John A. Knauss Marine Policy Fellowship (WA Sea Grant)
 - **49 of 80** awards made since 1979 have been to SMEA students
 - **13** Knauss fellowships have been awarded to SMEA students in the past 10 years

- Marc Hershman Marine Policy Fellowship (WA Sea Grant)
 - **19 of 34** awards made since establishment of the fellowship in 2008 have been to SMEA students
- The GPA includes the following career resources in student handbook:
 - UW Career Center's list of graduate resources
 - College of the Environment's Careers & Funding Blog and Career Opportunities link
 - Tips for resume/cover letters, applying to, interviewing for, and negotiating their first job
 - Alumni statistics and listing of employment
- The GPA maintains a LinkedIn page with SMEA-relevant job postings, announcements, and networking invitations

Appendix D

List of Peer-Reviewed Student Publications since 2006; student authors in bold

(Thesis) = primary thesis research product; (Other) = other research produced while at SMEA

Citation numbers given for publications with more than 10 citations, according to Google Scholar

Note: Student publications doubled in 2012-2016 compared with 2007-2011

2016

Allen, M., Bird, S., Breslow, S., and Dolšak, N. (2016). Stronger together: strategies to protect local sovereignty, ecosystems, and place-based communities from the global fossil fuel trade. *Marine Policy*. Forthcoming. Online: <http://dx.doi.org/10.1016/j.marpol.2016.10.019>. (Thesis)

Amberson, S., Biedenweg, K., James, J., Christie, P., (2016) The Heartbeat of Our People: Identifying and Measuring How Salmon Influences Quinault Tribal Well-Being. *Society & Natural Resources* 29: 1389-1404. (Thesis)

Barber, J. S., Dexter, J. E., Grossman, S. K., **Greiner, C. M.**, & Mcardle, J. T. (2016). Low temperature brooding of Olympia oysters (*Ostrea lurida*) in northern Puget Sound. *Journal of Shellfish Research*, 35: 351-357. (Other)

Bastian, L., Gilligan, M., and **Clabots, B.** (2016). Gender and Protected Areas: Exploring National Reporting to the Ramsar Convention and the World Heritage Convention. IUCN Global Gender Office, Washington D.C. (Thesis)

Breslow, S. J., **Sojka, B.**, **Barnea, R.**, Basurto, X., Carothers, C., Charnley, S., Coulthard, S., Dolšak, N., Donatuto, J., Garcia-Quijano, C., Hicks, C. C., Levine, A., Mascia, M. B., Norman, K., Poe, M., Satterfield, T., St. Martin, K., Levin, P. S. (2016) Conceptualizing and Operationalizing Human Wellbeing for Ecosystem Assessment and Management. *Environmental Science & Policy* 66: 250–259. (Other)

Bretos, F., Azanza, J., Moncada, F., Peckham, S.H., Angulo, J.A., Diego, A., **Thompson, K.R.** (2016). Fisheries learning exchanges and sea turtle conservation: An effort between Mexico, Cuba, and the U.S. to engage Cuban coastal communities in non-consumptive alternative behaviors. *Marine Policy*: <http://dx.doi.org/10.1016/j.marpol.2016.05.022> (Other)

Cheney, J., and Allison, E.H. (in press) The "trash fish" movement: can celebrity chefs change American eating habits? *Food and Foodways*. Forthcoming. (Thesis)

Christie, P., **Pietri, D.**, Stevenson, T., Pollnac, R., Knight, M., White, A. (2016). Improving human and environmental conditions through the Coral Triangle Initiative: progress and challenges. *Current Opinion in Environmental Sustainability*, 19:169–181 (Other)

Dolšak, N., Prakash, A., and **Allen, M.** (2016). "The big fight over the Dakota Access Pipeline, explained." *Washington Post*. Monkey Cage. (Other)

Freeman M.C., Whiting, L., Kelly, R.P. (2016). Assessing potential spatial and temporal conflicts in Washington's marine waters. *Marine Policy* 70, pp. 137–144. (Thesis)

Hillier, A., Kelly, R.P., Klinger, T. (2016). Narrative Style Influences Citation Frequency in Climate Change Science. *PLoS ONE* 11(12): e0167983. (Thesis) *Note: in the first month following publication, this paper had been **viewed more than 8,000 times**.*

Jenkins, L.D., **Thompson, K.R.**, Bourillon, L. Peckham, S. H. (2016). The scope of fisheries learning exchanges for conservation. *Marine Policy* <http://dx.doi.org/10.1016/j.marpol.2016.05.025> (Other)

Kelly, R. P., O'Donnell, J. L., **Lowell, N. C.**, Shelton, A. O., Samhour, J. F., Hennessey, S. M., ... & Williams, G. D. (2016). Genetic signatures of ecological diversity along an urbanization gradient. *PeerJ*, 4, e2444. (Other)

Lowell, N. and R.P. Kelly. (2016). Evaluating Agency Use of “Best Available Science” Under the United States Endangered Species Act. *Biological Conservation* 196: 53-59. (Thesis)

Massaua, M.J., Thomas, C.W., Klinger, T. (2016). The Use of Science in Collaborative Management of Marine Environments. *Coastal Management* 44: 1-21. (Thesis)

Mossler, M.V., Bostrom, A., Kelly, R.P., Crosman, K.M., Moy, P. (2017). How Does Framing Affect Policy Support for Emissions Mitigation? Testing the Effect of Ocean Acidification and Other Frames (*in revision*, *Global Environmental Change*). (Thesis)

O'Donnell, J. L., Kelly, R. P., **Lowell, N. C.**, & Port, J. A. (2016). Indexed PCR primers induce template-specific bias in large-scale DNA sequencing studies. *PLoS one*, 11(3), e0148698. (Other)

Shelton, A. O., O'Donnell, J. L., Samhour, J. F., **Lowell, N.**, Williams, G. D., & Kelly, R. P. (2016). A framework for inferring biological communities from environmental DNA. *Ecological Applications* 26: 1645–1659. (Other)

Sissini, M.N., Navarrete-Fernández, T.M., **Murray, E.M.C.**, Freese, J.M., Gentilhomme, A.S., Huber, S.R., Mumford, T.F., Hughey, J.R. (2016) Mitochondrial and plastid genome analysis of the heteromorphic red alga *Mastocarpus papillatus* (C. Agardh) Kützing (Phylloporaceae, Rhodophyta) reveals two characteristic florideophyte organellar genomes, Mitochondrial DNA DOI:10.1080/23802359.2016.1219636 (Other)

Thompson, K.R., Heyman, W.D., Peckham, S.H., Jenkins, L.D. (2016). Key characteristics of successful fisheries learning exchanges. *Marine Policy* <http://dx.doi.org/10.1016/j.marpol.2016.03.019>. (Thesis)

Thompson, K.R., Weaver, A.H., Jenkins, L.D., Zenny, N., Pilcher, N.J., Peckham, S.H., Heyman, W.D. (2016). Guidelines for organizing a fisheries learning exchange. *Marine Policy* <http://dx.doi.org/10.1016/j.marpol.2016.06.008>. (Thesis)

Thorsell, D.E., Leschine, T.M. (2016). Oil Pollution Prevention Strategies in the Arctic: A Comparison of Canadian and U.S Approaches. *Marine Policy* 72, pp. 255-262. (Thesis)

Timpane-Padgham, B., Beechie T., and Klinger T. In Review. A review of ecological resilience metrics for incorporating climate change into restoration planning. PLOS ONE. Submitted 09/07/2016. (Thesis)

2015

Allison, E.H. and **Bassett, H.R.**, (2015). Climate change in the oceans: Human impacts and responses. *Science*, 350: 778-782. (Other)

Apgar-Kurtz, B. (2015). Factors affecting local permit ownership in Bristol Bay. *Marine Policy* 56: 71-77. (Thesis)

Deighan, L.K., and Jenkins, L.D. (2015). Fishing for recognition: Understanding the use of NGO guidelines in fishery improvement projects, *Marine Policy* 51: 476-485. (Thesis)

Kowalski, A.A., and Jenkins, L.D. (2015). The role of bridging organizations and environmental management: Examining social networks in working groups. *Ecology and Society* 20: 16 (Thesis)

Pietri, D., Stevenson, T., Christie, P., (2015). The Coral Triangle Initiative and regional exchanges: Strengthening capacity through a regional learning network. *Global Environmental Change*: 165–176. (Other)

Sawchuck, J., A. Beaudreau, D. Tonnes, D. Fluharty (2015). Using stakeholder engagement to inform endangered species management and improve conservation. *Marine Policy* 54: 98-107. (Thesis)

2014

Hoelting, K, B. Moore, R. Pollnac and P. Christie. (2014). Collaboration within the Puget Sound marine and nearshore science network. *Coastal Management* 42: 332–354 (Thesis)

2013

Hoelting, K.H., C.H.Hard, P. Christie, and R.B. Pollnac. (2013). Factors affecting support for Puget Sound marine protected areas. *Fisheries Research* 144: 48–59. (Thesis)

Kuehne, L., **Padgham, B.** and Olden, J. (2013) The soundscapes of lakes across an urbanization gradient. PLOS ONE. [Open access article](#) (Other)

Pietri, D.M., Gurney, G.G., Benitez-Vina, N., Kuklok, A., Maxwell, S.M., Vina, M.A., Whiting, L., Jenkins, L.D. (2013). Practical recommendations to help students bridge the research-implementation gap and promote conservation. *Conservation Biology*. DOI: 10.1111/cobi.12089 (Other)

Wigand, L.A., Klinger, T., & Logsdon, M. G. (2013). Patterns in groundfish abundance along the Eastern Bering Sea outer continental margin. *ICES Journal of Marine Science* 70: 1181-1197. (Thesis)

2012

Combest-Friedman, C., Christie, P., Miles, E. (2012). Climate variability and coastal household perceptions of change in the Central Philippines. *Journal of Environmental Management*. (Thesis) *Citations: 29*

Hard, C.H., Hoelting, K.R., Christie, P. and Pollnac, R.P. (2012). Collaboration, legitimacy and public awareness: A case study of Puget Sound MPAs. *Coastal Management* 40: 312-326. (Thesis)

Hoelting, K.H., Hard, C.H., Christie, P. and Pollnac R.B. (2012). Factors Affecting Support for Puget Sound Marine Protected Areas. *Fisheries Research* 144: 48-59. (Thesis) *Citations: 12*

2011

Brosnan, I.G., Leschine, T.M., and Miles, E. (2011) Cooperation or Conflict in the Arctic? *Ocean Development and International Law* 42: 173- 210. DOI: 10.1080/00908320.2011.5433032 (Thesis)

Brosnan, I.G. (2011) The Diminishing Age Gap between Polar Cruisers and Their Ships: A new reason to codify the IMO Guidelines for ships operating in Polar waters and make them mandatory? *Marine Policy* 35: 261-265. DOI: 10.1016/j.marpol.2010.09.07 (Thesis)

Christie, P. and **Ole-MoiYoi, L.K.** (2011). *Status of Marine Protected Areas and Fish Refugia in the Bay of Bengal Large Marine Ecosystem*. A study for the UN FAO Bay of Bengal Large Marine Ecosystem Programme. 162 pp. <http://www.boblme.org/documentRepository/BOBLME-2011-Ecology-10.pdf> (Thesis)

Harris, K., Gende, S., Logsdon, M., Klinger, T. Spatial pattern analysis of cruise ship-humpback whale interactions in and near Glacier Bay National Park, Alaska. *Environmental Management* 49: 44-54. (Thesis) *Citations: 11*

Zelasney, J., Huppert, D. Leschine, T. (2011). The influence of oil price on maritime routing of containerized imports from China. *Maritime Economics & Logistics* Vol. 13: 298–318. (Thesis)

Ryu, J., Leschine, T.M., Nam, J., Chang, W.K. **Dyson, K.** (2011). A resilience-based approach for comparing expert preferences across two large-scale coastal management programs. *Journal of Environmental Management* 92: 92-101. (Thesis) *Citations: 21*

2010

Dyson, K., Huppert, D.D. (2010). Regional economic impacts of razor clam beach closures due to harmful algal blooms (HABS) on the Pacific coast of Washington. *Harmful Algae* 9: 264-271. (Thesis) *Citations: 30*

Fluharty, D., **Ryu, J.** (2010). US and Canadian cases of marine protected areas network: Implications for establishing MPA networks in Korean waters and Yellow Sea. Korea Maritime Institute. (Other)

Thomas, C.W., **Soule, A.B.**, Davis, T.B. (2010). Special interest capture of regulatory agencies: A ten-year analysis of voting behavior on regional fishery management councils. *Policy Studies Journal*. 38:447-464. (Thesis) *Citations: 15*

2009

Christie, P., Pollnac, R.B., Oracion, E.G., Sabonsolin, A., Diaz, R., **Pietri, D.** (2009). Back to basics: An empirical study demonstrating the importance of local-level dynamics for the success of tropical marine ecosystem-based management. *Coastal Management* 37: 349-373. (Other) *Citations: 98*

Christie, P., Pollnac, R.B., Fluharty, D.L., Hixon, M.A., Lowry, G.K., Mahon, R., **Pietri, D.**, Tissot, B.N., White, A.T., Armada, N., Eisma-Osorio, R.L. (2009). Tropical marine EBM feasibility: A synthesis of case studies and comparative analyses. *Coastal Management* 37:374-385. (Other) *Citations: 54*

Pietri, D., P. Christie, R, Pollnac, R. Diaz, and A. Sabonsolin. (2009). Information diffusion in two marine protected area networks in the Central Visayas Region, Philippines. *Coastal Management* 37: 300-334. (Thesis) *Citations: 40*

2008

Huppert, D. D., **Dyson, K.** 2008. An assessment of regional economic impacts of razor clam beach closures due to harmful algal blooms (HABS). Report to NOAA, Northwest Fisheries Science Center. WCCOHH Publication No. 25 (Other)

Klinger T, Fluharty D, Hoffman K, **Gregg R**, Coyle J. (2008). Assessment of Coastal Water Resources and Watershed Conditions at Olympic National Park (Washington). Technical Report, National Park Service, Fort Collins, CO. 95 pp. (Other)

2007

Engie, K., and Klinger, T. (2007). Modeling Passive Dispersal through a Large Estuarine System to Evaluate Marine Reserve Network Connections. *Estuaries and Coasts* 30: 201-213. (Thesis) *Citations: 20*

Kaje, J. H., Huppert, D.D. (2007). The value of short-run climate forecasts in managing the coastal Coho salmon (*Onchorhynchus kisutch*) fishery in Washington State. *Natural Resource Modeling* 20: 321-349. (Thesis) *Citations: 13*

Klinger T, Fluharty D, **Gregg R**, Coyle J, Hoffman J. (2007) Assessment of Coastal Water Resources and Watershed Conditions at Lewis and Clark National Historical Park, (Oregon). Technical Report, National Park Service, Fort Collins, CO. 92 pp. (Other)

2006

Evans, Kirsten E. and Terrie Klinger. (2008). Obstacles to Bottom-Up Implementation of Marine Ecosystem Management. *Conservation Biology*. Vol. 22, No. 5, 1135-1143. (Thesis) *Citations: 40*

Hershman, M. J., **Russell, C.W.** (2006). Regional Ocean Governance in the United States: Concept and Reality. *Duke Environmental Law and Policy Forum*. Vol. 16: 227- 265. (Other) *Citations: 18*

Klinger T, Fluharty D, **Byron C.**, **Evans K.** (2006). Assessment of Coastal Water Resources and Watershed Conditions at Ebey's Landing National Historical Preserve (Washington). Technical Report NPS/NRWRD/NRTR-2006, National Park Service, Fort Collins, CO. 89 pp. (Other)

Klinger T, Fluharty D, **Evans, K.**, **Byron C.** (2006) Assessment of Coastal Water Resources and Watershed Conditions at San Juan Island National Historical Park (Washington). Technical Report NPS/NRWRD/NRTR-2006, National Park Service, Fort Collins, CO. 112 pp. (Other)

Springer, Emilie. (2006). Community Participation in Marine Protected Area Implementation: A Case Study of the Sitka Local Area Management Plan. *Coastal Management* 34:455-465.
Citations: 11

Van Cleve, F. Brie, Leschine, T.M., and Klinger, T. (2006). An Evaluation of the Influence of Natural Science in Regional-Scale Restoration Projects. *Environmental Management* 37: 367-379. *Citations: 20*

Appendix E

Scholarly Impact: Examples of Awards, Presentations, and Activities that have had an impact on the field

- SMEA student Hannah Russell received The Graduate School Boeing International Fellowship for international study or research for the 2016–2017 academic year to conduct her research on fisheries and food security in Ghana. She worked under the direction of a Ghanaian NGO, Hen Mpoano (“Our Coast”).
- SMEA students Lindsay Gordon and Grace Ferrara recently participated in a 3-day ‘think-tank’ in Honolulu, Hawaii where they focused on the [Human Dimensions of Large-Scale Marine Protected Areas](#). This think-tank was hosted by large-scale marine protected area network Big Ocean and SMEA professor Patrick Christie along with other contributing organizations and sponsors such as National Geographic, NOAA, Conservation International, and Pew Charitable Trusts. This conference represents a starting point in a field that is extremely relevant to Marine Affairs.
- SMEA Professor Eddie Allison and graduate student Hannah Bassett co-authored a paper titled “[Climate change in the oceans: Human impacts and responses](#)” that was recently published in Science. The paper was part of a special issue of Science dedicated to informing the upcoming [COP21](#) meeting in Paris. As an article from [UW Today](#) explains, the paper “looks at scientific understanding of changes to the world’s oceans and how people around the world are responding to those changes.
- SMEA student Maggie Allen received **First Place for Graduate Student oral presentations** at the Salish Sea Ecosystem Conference in Vancouver, BC. Her paper was selected from among 85 student presentations and posters by 140 judges. Her presentation was based on her thesis project, "Stronger Together: The Cross-Cultural Coalition to Stop Fossil Fuel Exports in the Salish Sea".
- SMEA student Hilary Polis presented her research at the Offshore Renewable Energy and the Public session of the Royal Geographical Society Annual International Conference in Exeter, UK on September 3rd. Her presentation, titled "Measuring willingness to pay for tidal energy research and development: A study of households in the Puget Sound," was **judged as the leading paper** presented by graduate student on a coastal or marine topic.
- SMEA student Jack Cheney was interviewed on KLAY Tacoma (AM 1180) for his research on "Assessing Washington Raw Oyster Consumption Patterns and Trends: the Justification and Blueprint for Data Collection in the Private Restaurant Sector".
- SMEA student Brit Sojka published a chapter in the [Arctic Yearbook 2014](#). Sojka is an [Arctic Research Fellow](#) and [Canadian Studies FLAS Fellow](#) at the UW. Her chapter, “The New Insecurities of Canadian Integrated Ocean Management”, is an “attempt to identify and address some of the emerging insecurities and tensions that exist between current federal resource management policies and their ultimate impact on both the people and environment of the Canadian Arctic.”
- SMEA student Jillian Lyles gave a public presentation at Seattle Town Hall explaining how scientists and environmental decision makers can better bridge knowledge systems (science, local knowledge, indigenous knowledge, traditional knowledge) to

promote better environmental policy outcomes.

<https://townhallseattle.org/event/elisa-bonnin-and-jillian-lyles/>

- SMEA student Sara Brostrom competed in the [University of Washington](#) Health Innovation Challenge. Her group, *Appropriate Solutions*, is working on a solution to indoor pollution caused by solid fuels by making cleaner burning biogas tech more accessible. <https://www.facebook.com/hashtag/pollution>

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Appendix F

Current status of recent SMEA graduates (entering classes 2010-2014)

Name		Current/last known position	
Students Entering Fall 2014			
Barnea	Raz	Law Student	UW School of Law
Brandon	Tess	Environmental Planner	The Watershed Company
Corcoran	Meegan	Research Vessel Operator	UW Friday Harbor Laboratories
Crecy	Stacy	Lieutenant Commander	U.S. Coast Guard
Cummings	Joshua	Data Analyst	NOAA NMFS Office of Science and Technology
Deighan	Laura	Knauss Fellow 2015	USFWS, Fish and Aquatic Conservation
Deisher	Rula	Living Marine Resources Officer	USCG District 14 Enforcement Branch
Graziano	Kathryn	2014 Marc Hershman Marine Policy Fellow	CNMI Bureau of Environmental and Coastal Quality
Hanein	Adi	2014 Marc Hershman Marine Policy Fellow; Teaching Associate	WA Dept. of Health, Office of Shellfish and Water Protection; University of Washington
Harms	Jesse	National Strike Force Program Manager	US Coast Guard
Huang	MeiHui	Senior Consultant	Deloitte, Taiwan
Kahn	Chelsea	Research and Education Specialist	Washington Sea Grant, University of Washington
Kelly	Emily	Development Manager, Lead Gift Pipeline	The Nature Conservancy
Luna	Melissa	Social and Environmental Impact Associate	Playa Viva LLC
McGrath	Jessica	Ocean Policy Specialist	National Science Foundation
Meyer	Zach	Biology Teaching Associate	University of Washington, Biology Department
Nelson	Laura	Environmental Consultant	Makah Tribe Office of Marine Affairs
Peet	Katherine	Incident Management Division Chief, Juneau	U.S. Coast Guard
Robinson	Jocelyn	Writer and Copy Editor	Freelance
Sarkar	Saiontoni	Contractor	NOAA
Seid-Green	Ya'el	Policy Program Assistant	American Meteorological Society Policy Program
Sergent	Courtney	Domestic Fisheries Enforcement Division Chief	US Coast Guard
Sojka (Myers)	Britteni (Britt)	Project Manager	Arctic Research Consortium of the United States
Timpane-Padgham	Britta	Fisheries Biologist	NOAA Northwest Fisheries Science Center
Veerhusen	Brett	Executive Director	Seafood Harvesters of America
Woodward	Natalia (Tala)	Scientist	Leon Environmental

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Students Entering Fall 2013

Amberson	Sophia	Law Student	University of Washington
Antonelis	Kyle	Vice President/Fishery Analyst	Natural Resource Consultants
Aronson	Rachel	Hershman Marine Policy Fellow; Project Associate	Washington State Department of Ecology; Triangle Associates
Blake	Kara	Project Manager	Compliance Services
Browning	Hilary	GIS and Statistical Specialist	Washington State Department of Natural Resources
Clabots	Barbara	Research consultant	International Union for the Conservation of Nature Global
Clark	David	Physical Scientist	US Army Corps of Engineers, Seattle District
Good	Molly	Ph.D. Candidate	Dept. of Fisheries and Wildlife, Michigan State University
Harguth	Haley	2013 Hershman Marine Policy Fellow; Watershed Planning and Policy Coordinator	Puget Sound Partnership; Hood Canal Coordinating Council
Hess	Alex (David)	Environmental Operations Manager	Global Diving & Salvage, Inc. NOAA's Assessment and Restoration Division
Inslee	Joseph	Policy Outreach Analyst	Department of Geography, University of Washington
Kowalski	Adam	PhD Candidate	Un-Cruise Adventures
Leahy	JD Ross	Assistant Port Captain	Archdiocese of Seattle
Montanari	Mike	Teacher	No Information
Moore	Elizabeth	No Information	The Watershed Company
Muters	Clover	Environmental Planner	Ocean & Transportation Policy Division
Parra	Trevor	Coast Guard Lieutenant	Pacific Northwest National Laboratory
Peddicord	Annie	Research Scientist	Soundview Consultants, LLC
Peterson	Railin	Environmental Scientist	Dept. of Biology, University of Hawaii at Manoa
Shishido	Caitlin	PhD Candidate	School of Aquatic and Fishery Sciences, University of Washington
Tillotson	Michael	PhD Candidate	Trout Unlimited
Young	Erik	President of North Bay Chapter	

Students Entering Fall 2012

Apgar-Kurtz	Breana	Fishery management biologist	<u>Lummi Indian Business Council</u>
Barnard	Meredith	Environmental Policy Analyst	Conservancy of Southwest Florida
Bates	Erica	Coastal Plan Chief Writer	WA Department of Ecology
Buck (Tucker)	Lisa	Senior Aquaculture Scientist	Monterey Bay Aquarium Washington Department of Ecology
Burcar	Joe	Shoreline Planner	
Cardinal	Kara	Hershman Fellow and Marine Projects Manager	The Nature Conservancy

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Copps	Stephen	Senior Program Analyst	NOAA West Coast Region
Genther	Kimberly (Kailey)	Marine Biologist	NOAA
Kent	Keeley	Fishery Management Specialist	National Marine Fisheries Service
Kilgo	Jamie	Environmental Planner	Aquatic Resource Division, WA Department of Natural Resources
Kuklok Coyne	Audrey	Marine Biotoxin Coordinator	Washington State Department of Health
Mizrahi	Mark	No Information	
Riccio	Ralph	Shellfish Biologist	Jamestown S'Klallam Tribe
Rudell	Paul	Marine Biologist	Natural Resources Consultants, Inc.
Sawchuk	Jennifer	Marine Ecologist and NMFS Liaison	NOAA West Coast Region
Sharma	Ian	Air Service Development Analysis	Port of Seattle
Sparks	Kimberly	Social Scientist	NOAA
Sullivan	Connie	Pollution Prevention Coordinator	Puget SoundKeeper Alliance
Wagner	Cherie	Reef Resilience Program Assistant, Global Marine Team	The Nature Conservancy
Whiting	Libby (Luritta)	Coastal and Marine Planner; Assistant to the Editor; 2012 Marc Hershman Marine Policy Fellow	Washington State Department of Natural Resources; Coastal Management Journal
Wigand (Johnson)	Laura	Manager, Shellfish Licensing and Certification	Department of Health, Office of Shellfish & Water Protection; DOH
Wille (Bennett)	Christina	Environmental Compliance Specialist	Trident Seafoods

Students Entering Fall 2011

Adams	Alex	Deckhand & Relief Captain; Special Duty Project/Program Manager	King County Water Taxi; King County Department of Transportation
Barnett	Aaron	Program Coordinator; Clean Vessel Act Grant program	Washington Sea Grant
Barney	Amanda	Marine Monitoring Initiative Program Manager	Ecotrust Canada
Booth (Thompson)	Sara	Commandment, Industry and Interagency Coordination	U.S. Coast Guard
Bronson	Collin	Lieutenant Commander	U.S. Coast Guard
Capps	Diana	Environmental Compliance Specialist	Trident Seafoods
Coyle	Jill	Research Oceanographer	NOAA
Emmett (Trosin)	Bridget	Coastal Policy Specialist; 2011 Marc Hershman Marine Policy Fellow	Washington Sea Grant; Ecology
Fisk	Julie	Administrative Specialist	University of Washington

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Forster	Andrew	Media Account Manager	BizXchange
Gibbs	Heather	Environmental Planner- Contract Specialist	WA State Dept. of Natural Resources
Gonzalez	Cirse	Executive Director	Federal Interagency Council on Outdoor Recreation
Gregory	Andy	Pollution Prevention Director	Puget Soundkeeper
Hanna	Luke	Marine Science and Policy Analyst / Research Associate	Pacific Northwest National Laboratory
Hard	Clara	Public Health Advisor; 2011 Marc Hershman Marine Policy Fellow	Washington State Department of Health
Hewitt (Lapin)	Heather	Environmental Project Manager	Trident Seafoods Corporation
Hoelting	Kristin	Social Scientist	NOAA
Hoy	Natalia	Unknown	Unknown
Jablonski-Diehl	Rebecca	Program Coordinator at Freestone Environmental NOS; 2012 Knauss Fellow	NOAA; Office of Congresswoman Madeleine Bordallo
Logan	Ilon	Senior Ecologist and Program Manager	Environmental Science Associates
Massaua	Meghan	Mediator and Program Manager; 2012 Knauss Fellow	Meridian Institute; US Department of Energy
Murphy	Amanda	Extension Faculty; Project and Research Specialist	Washington State University; The William D. Ruckelshaus Center
Neugebauer	Whitney	Executive Director	Whale Scout
Nguyen	Uyen	Program Manager	European Union
Reitz	Jennifer	Principal Investigator-Cambodia Marine Program	Frontier
Wehner	Nick	Project Manager	Open Channels

Students Entering Fall 2010

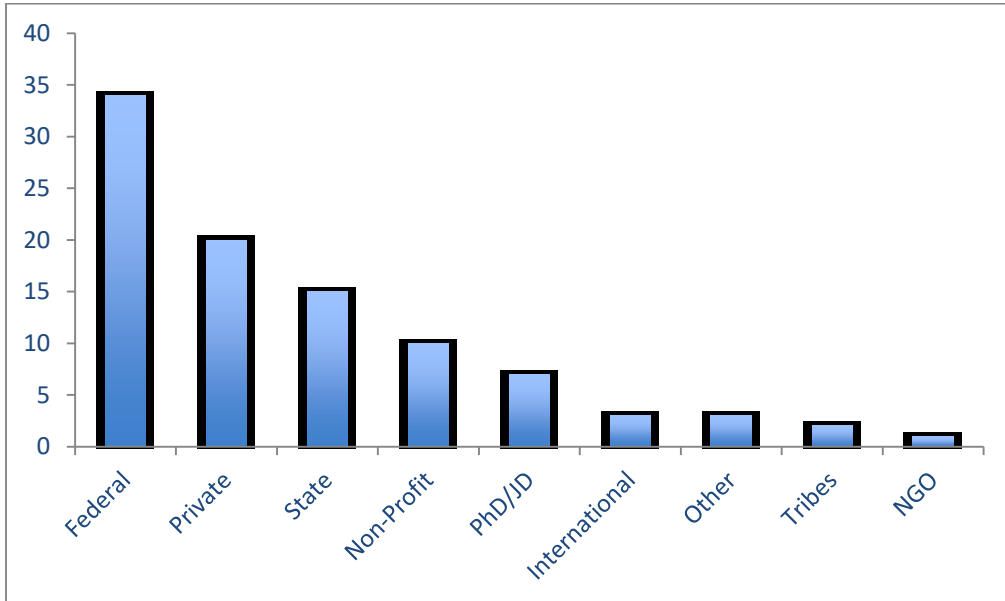
Barker	Daniel	Technical Grant Writer, DC Office of Research Advancement	University of Southern California
Bennett	Barbara	Program Coordinator, Beach Watchers	WSU Extension, Island County
Brosnan	Ian	Physcial Scientist	NASA
Churchill	Erin	Volunteer Plant Steward	Washington Native Plant Society
Combest-Friedman	Chelsea	Marine Climate Change Policy Consultant; 2011 Knauss Fellow	NOAA Climate Program Office
Erzen	Alex	Program Manager	King County Solid Waste Division
Fisher	Brandon	Coast Guard Detailee	U.S. Senate
Goodman	Scott	Fishery Biologist / Vice President	Natural Resources Consultants, Inc.
Harris (Webb)	Karin	Biologist	National Park Service
Kenne	Anthony	Natural Resources Law Enforcement Specialist	U.S. Coast Guard

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Loshbaugh	Bonnie	Volunteer Communications Advisor; Volunteer Creative Services & Marketing	Feet First; Seven Star Women's Kung Fu
Lucas	Ethan	Project Director; 2011 Knauss Fellow	FishWise; Coral Reef Watch, NOAA National Environmental Satellite, Data, and Information Service
Mooney	Jamie	Mitigation Planner; 2010 Marc Hershman Marine Policy Fellow	Michael Baker International; Washington Military Department Emergency Management Division
Ole-MoiYoi	Katrina	PhD Candidate	Stanford University
Skeele	Rebecca (Becky)	Owner, Social Scientist, Policy Analyst	SJA Consulting, Commonwealth of Northern Mariana Islands
Willett	Eric	Administrative Analyst	City and County of San Francisco

Appendix G

Current employment of recent SMEA graduates (entering classes 2010-2014), by sector



Appendix H

Examples of Alumni Engagement and Interactions

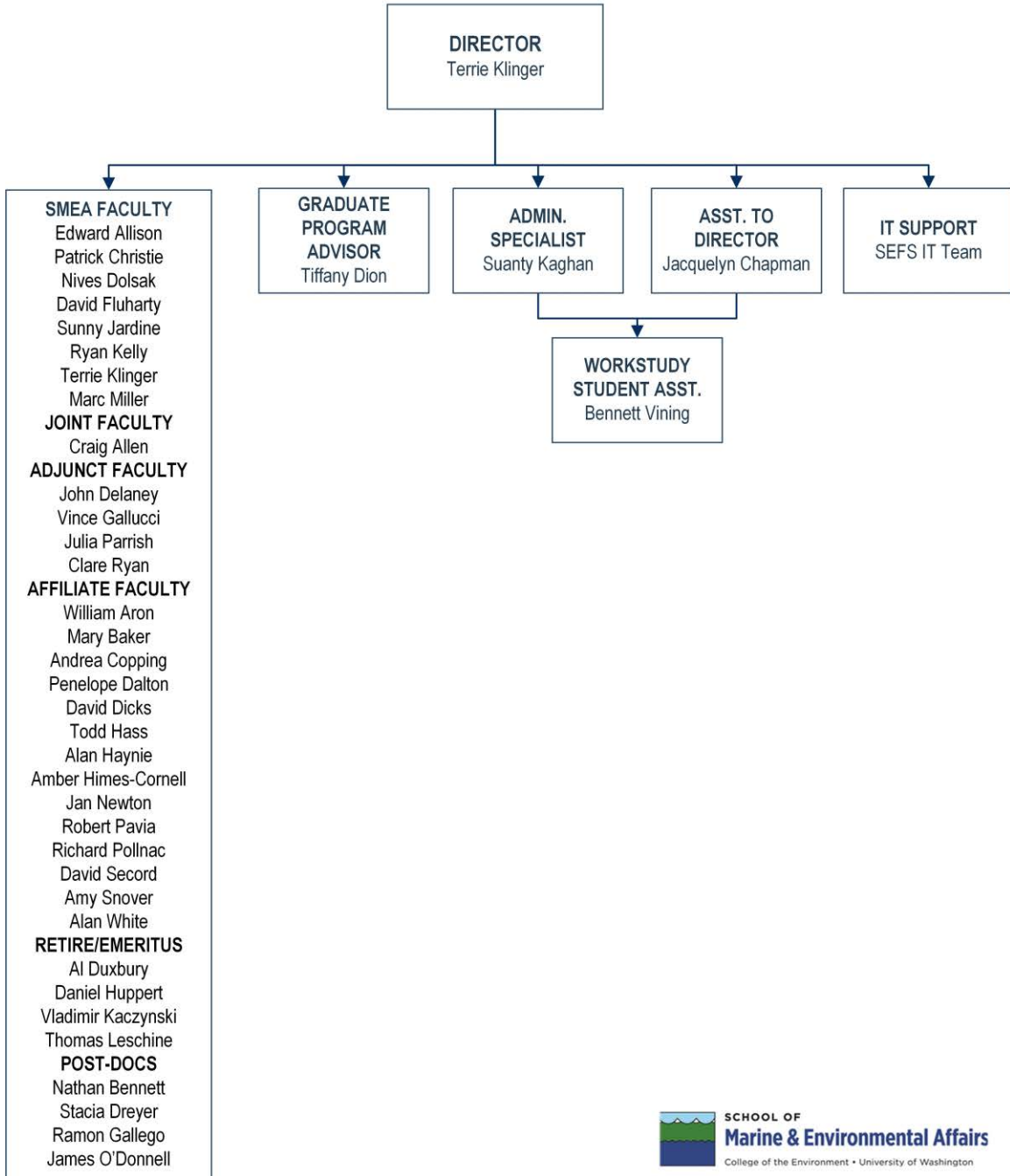
- Alumni Spring Picnic, May 2014 (85+ alumni, current students, and faculty attended)
- Washington D.C. Alumni Happy Hour Event, May 2015 (Approximately 20 in attendance)
- Interaction through SEAS (Student Environmental Affairs Society)
 - Annual alumni career panel: 4-5 alumni invited each year
 - Annual Blue Drinks events: 15-20 alumni attend each year
- Mentoring/Informational Interviews
 - Approximately 15-20 contacts per year between alumni and current or prospective SMEA students
- Alumni survey: requests for updates on location/position/organization/most useful SMEA classes, etc., Sept. 2016
- SMEA LinkedIn Group
 - 213 members (SMEA current and former students only)
 - 5 posts on average per week: main source of SMEA-relevant job postings and SMEA events/updates
- SMEA Social Media feeds
 - 500 followers on Facebook
 - 760 followers on Twitter

Appendix I
SMEA Faculty Information

Name	Title	Other Unit Affiliations	CV Link
Edward Allison	Professor		Edward Allison - CV
Patrick Christie	Professor	Joint Appointment (50:50) Jackson School International Studies	Patrick Christie - CV
Nives Dolšak	Professor		Nives Dolšak - CV
David Fluharty	Associate Professor, WOT		David Fluharty - CV
Sunny Jardine	Assistant Professor		Sunny Jardine - CV
Ryan Kelly	Assistant Professor	Adjunct Assistant Professor School of Law	Ryan Kelly - CV
Terrie Klinger	Professor & Director	Adjunct Professor School of Aquatic and Fishery Sciences	Terrie Klinger - CV
Tom Leschine	Professor (<i>retired June 30, 2016</i>)	Adjunct Professor School of Aquatic and Fishery Sciences	Tom Leschine – CV
Marc Miller	Professor	Adjunct Professor Anthropology School of Aquatic and Fishery Sciences School of Environmental and Forestry Sciences	Marc Miller – CV
Cleo Woelfle-Erskine	Assistant Professor (<i>starts Sept. 2017</i>)		Cleo Woelfle-Erskine – CV

Appendix J
SMEA Organizational Chart

SMEA ORGANIZATION CHART
As of January 2017



Appendix K
Budget Information

Appendix K: Budget Summary



Table 1: Reporting Period: Biennium 2009-2011

Acct.		Budgeted	Total	Remaining
Code	Description	Amount	Transactions	Budgeted Amt.
01	SALARIES AND WAGES	\$1,309,671.00	\$1,311,533.51	-\$1,862.51
02	CONTRACT PERS. SERVICES	\$50.00	\$0.00	\$50.00
03	OTHER CONTRACTUA L SERV	\$41,541.00	\$26,080.53	\$15,460.47
04	TRAVEL	\$2,550.00	\$2,550.00	\$0.00
05	SUPPLIES AND MATERIALS	\$50.00	\$10,103.23	-\$10,053.23
06	EQUIPMENT	\$0.00	\$2,026.74	-\$2,026.74
07	RETIREMENT & BENEFITS	\$155,833.00	\$157,651.86	-\$1,818.86
21	COST TRANSFERS		\$408.01	\$408.01
	TOTAL EXPENDITURE S	\$1,509,695.00	\$1,510,353.88	\$157.14

Appendix K: Budget Summary



Table 2: Reporting Period: Biennium 2011-2013

Acct.		Budgeted	Total	Remaining
Code	Description	Amount	Transactions	Budgeted Amt.
01	SALARIES AND WAGES CONTRACT PERS.	\$1,254,109.00	\$1,209,694.23	\$44,414.77
02	SERVICES OTHER CONTRACTUA	\$25.00	\$0.00	\$25.00
03	L SERV	\$25,908.00	\$25,981.82	-\$73.82
04	TRAVEL	\$25.00	\$249.05	-\$224.05
05	SUPPLIES AND MATERIALS	\$7,279.00	\$8,219.74	-\$940.74
07	RETIREMENT & BENEFITS	\$359,416.00	\$335,120.46	\$24,295.54
21	COST TRANSFERS		\$428.96	\$428.96
	TOTAL EXPENDITURE S	\$1,646,762.00	\$1,579,694.26	\$67,925.66

Appendix K: Budget Summary



Table 3: Reporting Period: Biennium 2013-2015

Acct		Budgeted	Total	Remaining
Code	Description	Amount	Transactions	Budgeted Amt.
01	SALARIES AND WAGES	\$1,703,418.00	\$1,604,793.95	\$98,624.05
02	CONTRACT PERS. SERVICES	\$716.00	\$0.00	\$716.00
03	OTHER CONTRACTUA L SERV	\$88,627.00	\$49,816.49	\$38,810.51
04	TRAVEL	\$121.00	\$120.87	\$0.13
05	SUPPLIES AND MATERIALS	\$49,508.00	\$48,097.16	\$1,410.84
07	RETIREMENT & BENEFITS	\$437,462.00	\$390,940.94	\$46,521.06
21	COST TRANSFERS		\$807.94	\$807.94
	TOTAL EXPENDITURE S	\$2,279,852.00	\$2,094,577.35	\$186,890.53

Appendix L
College of the Environment Diversity Plan

COLLEGE OF THE ENVIRONMENT (CoEnv) DIVERSITY PLAN NARRATIVE

This application represents **5 graduate degree-granting units with over 350 graduate students**. Our largest graduate unit, the School of Environmental and Forest Sciences (136 graduate students) is applying separately. The College of the Environment continues to apply as a largely coordinated group because centralizing our efforts has been extremely successful in recruiting highly qualified students. Over the last 3 years, the College has received **17 extremely competitive nominations** (each unit is allowed to submit 2 names annually for consideration) for the GOP Award from participating units (Table 1). We have successfully recruited our top student with a GOP award each year. We believe that additional funding would increase our recruitment rate further, as all 5 units are receiving excellent applications but each unit would – on average – only receive one GOP scholarship every 5 years. Therefore, we are **requesting 2 additional quarters of support, for a total of 5**. Together with pledge match (each unit will provide 3-4 quarters of match, with at least 2 quarters of scholarship match), this will **support 2 students for 2 academic years**.

Outreach

Building a STEM education arc from high school through graduate school: CoEnv supports and/or participates in several programs expanding the STEM pipeline and providing pre-college and early college students with the chance to build community-relevant STEM content and skills, and gain from grad student, faculty and professional mentors.

- **Programs Delivered by CoEnv** The College has focused significant grant effort on developing and expanding inclusion and access within E-STEM (environmental), with the long term goal of shifting the environmental science workforce towards increased URM inclusion, and shifting the content of environmental science as a consequence. [Seattle MESA](#) (SMESA) offers a range of activities to low income middle and high school students centered on helping students realize the relevance of E-STEM to their lives, communities and careers. In particular, the Saturday Academy program involves graduate students directly in supporting day-long experiential learning opportunities, and the tutoring program involves undergraduate students in math and science tutoring and mentoring. The **Doris Duke Conservation Scholars Program** brings highly qualified early-college students from across the country for an 8 week intensive summer session focused on the intersection of conservation, individual agency and environmental justice, as a hands-on way of igniting career development in conservation. Faculty, staff and grad students from across CoEnv and the UW participate in teaching and mentoring.
- **Participation in Partner Outreach Activities** The College supports faculty, staff and student participation in a range of programs and events geared towards increasing awareness of STEM and/or access to higher education, including but not limited to: **CAMP 'Dare to Dream' Academy:** Since 2012, the College annually hosts activities and tours highlighting environmental science, including rocket launches, Burke Museum tours, and conversations with climate scientists. **Native American Student Visit Day:** In 2015, ~150 students visited the UW campus and participated in activities hosted by CoEnv grad students and staff, including tours of the Seaglidiers lab and SAFS Fish Collection, a crow behavior lecture, and an overview of our majors. **WiSE Conference:** (since 2013) the College annually sponsors a table at the conference and attendance by faculty, advisers and undergrad to connect with prospective students and showcase the range of geoscience and engineering-oriented programs within CoEnv.

Yakama Nation Endowed Fund for Student Support: The fund supports the recruitment and retention of prospective and enrolled undergraduate and graduate Yakama Nation tribal members within the College of the Environment and seeks to deepen that connection through experiential interactive STEM activities. In 2015, the Fund supported the NASA Space Grant Consortium's participation in First Nations MESA Day, which will reach 100 Native American students and 20 teachers in eastern Washington.

Promoting and funding attendance by College "ambassadors" at national meetings: Since 2011, the College has funded a booth at the SACNAS National Conference and attendance by students, staff and faculty. In 2015, we increased support for attendance, including a staff and a faculty member, and two graduate students (Erica Escajeda and Jessica Hernandez) to bolster our recruitment efforts at the booth and to increase support of outstanding graduate students seeking professional development and networking opportunities. Our team participated as judges for poster presentations and in "Conversations with Scientists" sessions, and recruited interest from 55 prospective students.

National Name Exchange and California Diversity Forum: Since 2011, the College has focused on increasing the number of prospective students contacted through the NNE. In 2015, that number increased to 250, up from just 20 in 2011. We also started connecting with students through the California Diversity Forum, contacting an additional 26 students with disciplinary interests that align with our graduate programs.

Recruitment

A range of recruitment activities throughout the College has led to steady increases in the diversity of our graduate programs across all disciplinary units included in this application:

% of Graduate Students	URM			Minority		
	2013-14	2014-15	2015-16	2013-14	2014-15	2015-16
Geosciences ¹	5.5	6.0	7.4	10.6	12.3	12.4
Natural Resources ²	3.6	6.7	11.1	7.1	10.7	16.7
Policy ³	11.3	14.8	13.0	15.1	18.5	18.8
Total⁴	5.9	7.4	9.2	10.5	12.9	14.5

¹Earth and Space Science, Atmospheric Science, Oceanography; ²Aquatic and Fishery Sciences; ³Marine and Environmental Affairs; ⁴excludes Environmental and Forest Sciences

Student funding: All MS and PhD students are funded through a combination of scholarships, fellowships, and assistantships. Our support for females in the geosciences and URM/minority students has increased significantly:

Quarters of Support for:	2013-14	2014-15	2015-16
URM/Minority	67	107	153
Females in the geosciences	294	364	392

Coordinated funding: We continue to coordinate the application process between the GOP Award (if we receive one) and our College graduate scholarships so that our top applicants, especially those underrepresented in their field, receive news of their award with their admission offer, allowing units to make the strongest offer possible and students to incorporate the full funding package into their decision.

Connecting with prospective students: In 2015, the College hosted a reception for over 70 prospective graduate students, along with many current students, staff, and faculty to showcase the larger College community. Dean Graumlich welcomed the students, and presentations were made by GO-MAP, SACNAS, the College Student Advisory Council, and cross-College interdisciplinary programs such as JISAO and the Program on Climate Change.

All 5 of our units now host and fund prospective student visits. In 2015, 61 students received travel support from our units, including 10 URM and 32 females in our geosciences units. In addition, units have begun to reach out to disciplinary-specific programs connecting underrepresented undergraduate students within discipline to graduate programs. For example, the College matched the Dept. of Atmospheric Sciences in its partnership with [SOARS \(Significant Opportunities in Atmospheric Research & Science\)](#) to bring 5 outstanding, URM and/or low socio-economic status undergraduates for a 2-day visit to meet with faculty, graduate students and advisors.

Bridging the Gap: In 2015, the Department of Atmospheric Sciences created a 'welcome list,' an email listserv staffed by current graduate students and student services staff to help answer incoming student questions during the time between offer and arrival on campus. Feedback from the incoming class was overwhelmingly positive and the College plans to work with our other units to develop similar resources.

Student Success

Cultivating community and support: Over the last 3 years, the College has implemented several efforts to grow and support a College-wide community and to provide our students with resources and opportunities to connect with peers and mentors within and beyond their department.

- College orientation: We brought ~120 incoming students together to showcase the College community and begin to build a sense of identity and inclusion. Presenters included DRS, Hall Health, GPSS, CoEnv Student Advisory Council and the Ombud. In 2016, we plan to also include SACNAS, GO-MAP, and the Q Center.
- Graduate Recruitment, Retention & Diversity (GRRAD) Group: In Winter 2015, the College hosted a series of discussions with graduate students interested in issues of grad recruitment, retention and diversity across the College. Nearly 40 students came together to brainstorm ways the College could enhance its efforts, including increasing the visibility of existing resources and increasing outreach and mentorship opportunities (both up and down the pipeline). In response, [Graduate Student](#) and [Diversity Resource Guides](#) were created, and a list of graduate funding and postdoc opportunities were created. This list is a living document that will be updated regularly. It will be shared with students and posted to the College website in Winter 2016.
- Travel support: All 5 of our units and the College support students who attend conferences to present their scholarly work. We work with unit advisors to make sure that all students are aware of this opportunity. Between the College and the units, 5 URM students have been funded since Winter 2015. Additionally, the College has funded the travel of 5 females in the geosciences.

Faculty Engagement:

Our faculty are predominantly male, and predominantly Caucasian, although our demographics are diversifying. We reflect, in large part, the history and traditions of our disciplines. Creating a truly diversified faculty, allowing all prospective graduate students to “see themselves” in our midst, is a difficult near-term goal. As such, our goal in the College is to involve as many faculty as possible in broadening their awareness as a first step towards increasing their involvement in positive change, from subtle shifts in teaching and mentoring to more visible activities such as representing the College at SACNAS, membership on the College Diversity Committee (9 faculty out of 35 members), or working within our SMESA or Conservation Scholars Program (collectively, 9 faculty involved). We seek to create open dialogue, learning, and an environment where all faculty have the opportunity to be a positive part of change.

Best practices for mentorship and support of grad students: We are facilitating a conversation between unit GPCs to highlight best practices for retaining and supporting students, with special attention to first year and underrepresented students. We have captured these best practices in a set of guidelines that will be shared with all faculty advisors in the College and linked to the suggestions for mentorship change coming from GRRAD (see above).

Power & Privilege in the Classroom: In Winter 2015, the College hosted a discussion series on power, privilege and identity dynamics and how they affect students’ learning experiences in the classroom, lab and field. With ~50 faculty, grad students and staff in attendance, we sought to daylight some of the barriers that underrepresented groups, including URMs and women, encounter in STEM classrooms, better understand how interactions in the classroom can impact the overall campus climate and culture, and to encourage the creation, sharing and use of best practices for instructors that support a welcoming learning environment for all students.

Innovation

Quarterly [Conversations on Defining Diversity \(CoDD\)](#): Recent student-centric topics include: student parents, undocumented students, and low-income students. Although CoDD is geared towards daylighting an issue and starting conversations, several have resulted in policy changes and other actions within the College, including: creation of a lactation station in one of our buildings as part of an upcoming renovation; acceptance of the WAFSA in addition to the FAFSA allowing

undocumented students to apply for College funding; creation of a gift account dedicated to course fee relief and allowing low income students more access to experiential field-based learning.

Outstanding Diversity Commitment Award & Celebration: In 2015, the College created the award to formally recognize and support the efforts and impacts of the many individuals taking a lead on diversity, inclusion and access in the College and the University. The celebration recognized all nominees, and was attended by more than 75 students, staff, faculty and friends of the College. Of the 30 nominees, 5 were grad students, including the winner, Brian Tracey.

Associate Dean, Diversity & Access: A new Associate Dean, Diversity & Access (ADDA) position will be filled by June 2016. The ADDA will provide leadership and vision to recruit, retain and support an outstanding and diverse faculty, staff and student body within the College, fostering an environment that encourages the success of every member of the College through increased inclusion and access.