

Date: March 9, 2020

To: Cathy Sandeen, Chancellor

From: John Stalvey, Interim Provost 

Cc: John Petraitis, Interim Dean, College of Arts and Sciences
Shannon Donovan, Associate Professor; Chair, Department of Geography and Environmental Studies
Dorn van Dommelen, Professor
Audrey Taylor, Associate Professor
Susan Kalina, Vice Provost for Academic Affairs
Claudia Lampman, Vice Provost for Student Success

Re: **AY20 Expedited Program Review Findings – Environment and Society BS**

I have reviewed the dean's findings, the program's response to the dean's findings, and the completed Expedited Program Review Template for the Environment and Society BS.

Recommendations

My recommendation is to accept the decision and recommendations of the dean and request to delete the program after admissions have been suspended and the teach out has been completed. Demand for this program is modest. Despite the program's high quality, the institution cannot sustain this program. Students interested in this field will have access to the Environmental Sciences option in UAA's BS Natural Sciences, the BS in Natural Resources and Environment at UAF, and the BS in Environmental Sciences at UAS, as well as continuing courses in Geography.

Decision

Recommend Deletion

AY20 Expedited Program Review – Optional Program Response to the Dean’s Findings Form

Date: February 28, 2020

To: John Stalvey, Interim Provost

From: Shannon Donovan, Associate Professor of Environmental Studies and Chair of the Department of Geography and Environmental Studies

Cc: John Petraitis, Dean, College of Arts and Science
Shannon Donovan, Dorn Van Dommelen, Audrey Taylor

Re: AY20 Expedited Program Review: Optional Program Response to Dean’s Recommendation

Program/s in this review: Environment & Society

Program response to dean’s findings

Ten years ago, almost to the day of Dean Petraitis’ announcement that our program is recommended for deletion, the Environment and Society major was approved by the Board of Regents. That approval came after years of planning. Initially, UAA developed an environmental studies minor, which was approved in the late 1990s. But, knowing how crucial environmental work was to the State of Alaska, a core group of interdisciplinary faculty from a number of colleges worked diligently together, supported by Dean Liszka, Provost Driscoll, and Vice Provost Quimby, to bring UAA into the 21st century to offer a bona fide degree program focused on the environment.

The program was conceived and designed to not be a traditional environmental studies or science program. Rather, we wanted to create a major that would provide maximum benefit to the State of Alaska. So, we held several focus group sessions with professionals working in the field of environmental impact assessment and mitigation and asked them how our program should be structured. We listened and created a major that trains students to be a part of the process that helps to develop Alaska’s resources responsibly. Students, all of whom are BS students, take traditional environmental science and studies courses as well as required writing, communications and civic engagement classes, focused field methods and GIS work, as well as applied professional development coursework and internships. It is important to recognize that our community-focused approach to education is illustrative of the commitment to community engagement and the Public Square commendation given by the NWCCU during UAA’s latest successful institutional accreditation.

While we have had graduates for less than a decade, and have been staffed with, at most, four full-time faculty members (currently we have three), our student outcomes have been impressive. We have consistently been praised for our innovative ways of measuring student outcomes through eportfolios, but the more important outcome has been that our graduates work in the field. We have had 91 graduates and been able to track 55 of them post-graduation. Of those, at least 67% are working in an environmental field. Part of the reason for this is that there are jobs in environmental fields. According to the Department of Labor and Workforce Development about 180 jobs are open each year in work for which our graduates are trained.

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Dean Petraitis has chosen to cut this program because “demand is modest” and it has comparatively small number of majors, but **what this reductionist view does not account for is the fact that our demanding major produces graduates who are workforce ready. We have the data to demonstrate this point.** Many of the majors retained in the college may have exceptionally large numbers of graduates, but in some cases there is no direct correlation between the major in which they are graduating and possible jobs. If the University of Alaska Anchorage is truly committed to workforce development, decisions to retain programs should be based on program track record and demand for graduates in the state, not demand by freshmen for the program. On that note, we see a significant number of students transferring into our program in their freshman or sophomore years, after they take our gateway ENVI A111 (Physical Geography) or ENVI A211 (Environmental Science) courses. You cannot be interested in what you do not know, but once students are aware that they can study Environment & Society as a major at UAA, a number of them consider it and ultimately make the decision to graduate from the program.

Furthermore, our program teaches students in other majors. We teach the gateway freshman course in the International Studies Program (GEOG/INTL A101), which was retained, and BIOL A473, but, most importantly, our program is crucial in the delivery of the Natural Sciences degree program, environmental science option, which Dean Petraitis did not appear to take into account in his narrative. This option in the major currently has 40 students enrolled and has seen 26 students graduate since 2012. In that option, students are required to take ENVI A211, ENVI A211L, ENVI A212 and a large number of them take GEOG A375, ENVI A370, ENVI A470, and ENVI A490. If it were not for these courses playing a central role in the curriculum, the Natural Sciences degree program could not be offered in its current form, as it simply would not have focused environmental courses.

And while the Environment & Society degree program supports the Natural Sciences degree program, it is important to note that their learning outcomes are very different. The Environment & Society learning outcomes are:

- Explain the fundamental role of natural/living systems in supporting life and social well-being, enabling beneficial relationships between people and the natural world, and underpinning the key human threats to the environment.
- Demonstrate the ability to employ the following liberal education skills in a disciplinary and professional setting: critical thinking, problem solving, and decision-making; conceptual engagement with ethics and civic issues; use of the scientific method; and technical writing skills.
- Apply the following skill sets to address environmental problems and develop solutions in professional, academic, and civic settings: communication and teamwork, stakeholder engagement, field research techniques, environmental assessment, survey design, data collection and analysis, mapping techniques, knowledge of key environmental laws and policies, environmental planning.

While the Natural Science degree programs outcomes are:

- Design and implement scientific investigations to explore natural phenomena using experimentation, which includes exploration and discovery, and testing ideas (gathering and interpreting data)
- Clearly and accurately communicate scientific ideas, theories, and observations in oral and written forms
- Apply scientific data, concepts, and models to craft interdisciplinary explanations of scientific ideas across two of the natural sciences

While there are clearly crossovers between these programs, they are not interchangeable and one cannot replace the other. In fact, if the Environment and Society program and its courses are deleted, the Natural

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Science environmental option is completely unsustainable as a true environmental program. The end result would be that the largest university in Alaska, in the largest and most resource rich state in the United States, would have no environmental program. (It’s also relevant to note that our students take courses in a range of subjects outside of the department: ANTH, PHIL, CEL, GEOL, BIOL, GIS, ECON, ENGL, SOC, and others - in fact, our major makes a few courses in CAS and other colleges viable in the first place, notably ECON A210, PHIL A303, ENGL A478, BIOL A473, and CEL A292.)

This is highly problematic. When we asked Dean Petraitis, during the meeting in which our program was cancelled, how he could justify the decision to cut environmental studies/science at this point in our planet’s history his response was “I’m not going to get into the weeds”. This is an unconscionable response. Our program not only prepares students to be prudent, professional, and unbiased stewards of our natural resources, we also teach about key threats to our planet. The only way that a UAA student can be introduced in a systematic and thorough way to the science behind global climate change is through our GER courses. In ENVI/GEOG A111 students are introduced to key atmospheric processes and climate principles. ENVI A211 systematically discusses the biophysical impacts of climate change and in ENVI A212 students learn about the human consequences of the greatest existential crisis humanity has faced. GEOG/INTL A101 further links climate change to global issues and problems. Is UAA really prepared to summarily cancel the only set of courses that teach about the science of global climate change?

We would also like to point out that it is a disservice to our rural and Alaska Native communities to delete a program that provides training and education for jobs that are available now in remote Alaska. Environmental testing and remediation, development of alternative energy systems, environmental health and safety, NEPA/environmental planning, wildlife/fisheries management, and climate change adaptation are all fields that students graduating from the Environment and Society program are prepared to enter. Workforce development in these fields has created stable, high paying positions that are available now in rural villages, and students from those communities should have the opportunity to receive an education within the State of Alaska that enables them to be competitive for these jobs. To do otherwise would be to disregard the rights of our rural and Indigenous population to equal education and employment opportunities.

To emphasize this point, one can look at recent ANSEP internship placements. Historically, ANSEP students have done internships in more traditional math or engineering based fields. Over the last few years, more and more ANSEP students have found internships with agencies or organizations doing environmental work in the fields listed above. A few to mention include USGS, US Fish and Wildlife Service, the Arctic Research Consortium of the U.S., BLM, the National Park Service, and the U.S. Forest Service. Many of those placements occurred outside of Anchorage or Fairbanks, indicating the availability of employment outside urban Alaska for students trained in environmental studies. Rather than cut our program, why is UAA not providing us the resources with which to further develop a pipeline for rural and Native students to come to ANSEP through the Summer Bridge program, intern with an environmental organization, graduate with a BS in Environment & Society, and then go on to get a stable, relatively high paying job in a rural community in Alaska? This would enhance the long-term viability of Alaska’s rural communities, increase retention of a trained workforce in Alaska, and provide opportunities for high school students to envision a path to success that leads directly through UAA and CAS.

Now to some more mundane matters. Dean Petraitis critiques our program demand, particularly in our ENVI courses. Again, the notion that curriculum should be driven by popularity is problematic. But, he fails to recognize that there are multiple reasons why ENVI courses are not highly enrolled compared to GEOG courses which, he points out have high enrolments. 1) We are a young program. Compared to virtually every other program in the college we are on the scene quite recently and the culture of advising

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and freshman course selection is tough to break into. But the key issue is likely that 2) we enforce prerequisites. When the ENVI course sequence was designed, we made the conscious decision to have prerequisites so that students taking these courses would be well-prepared to tackle difficult scientific issues. ENVI/GEOG A111 and GEOG/INTL A101 are open courses without prerequisites and many students continue on to the 200-level ENVI sequence, but the reality is that a 200-level course with prerequisites will not have as much enrolment as 100-level courses without will. As a consequence, incoming freshman are not as likely to take ENVI A211 as BIOL A102 or ENVI A212 as PSY 111.

However, as Dean Petraitis points out, we do win converts along the way. Students who want to complete the Environment and Society major must work hard to do so, our program is not a fluff environment program. Students are required to take calculus, biology, chemistry, in addition to our own required heavy courses. It is a testament to our lower-division teaching that our major grows as students take our courses and decide that they appreciate our curriculum. But our program is not a “last resort” program. Students are consistently held to high standards and they are required to take two professional development courses and an internship. They are also required to engage in service learning throughout our courses, and come to appreciate what it means to actually participate in civic processes.

The fact that students are taking internships, field-based classes, and professional development seminars means that our course capacities are not high in ENVI as they are in GEOG. As a consequence, faculty teaching in ENVI produce fewer student credit hours and earn less tuition to cover their instructional costs. However, this is how we were told to design our curriculum - to have several high enrolment GER courses that funnel students into progressively more challenging and professionally driven courses. It is true that ENVI raises less in tuition than it costs in terms of instructional pay, but GEOG does a remarkable job of covering these costs, because of the design of our curriculum.

According institutional research data, GEOG “earned” \$40,624 while ENVI lost \$14,105 for a net gain of \$28,519 over a one-year period. This is more than a number of courses and several programs that were retained during the Expedited Program Review process and have comparable numbers of faculty. Notably, GEOG, with one faculty member, gained more money than a range of other programs and courses and rates as the single highest producer of “Course CHR by Instructor Pay” in the entire College of Arts and Sciences. Yet, Dean Petraitis proposes that this valuable contribution be cut. This mistake is compounded by the fact that the college recently invested in Dr. Dorn Van Dommelen’s faculty development by supporting his completion of a certificate in geographic information systems. That certificate was completed well ahead of schedule, allowing Van Dommelen to already begin teaching GIS and contributing to valuable pedagogical changes to the online courses he teaches.

In addition, it is important to note that ENVI faculty member Dr. Audrey Taylor teaches BIOL A473 which consistently has enrolments over 30/year. This surplus is counted by Biological Sciences and not our program, but it is “ours”. Because both lower-division GEOG courses are cross-listed, we appear to have our number of faculty “overcounted” in ENVI - we have three teaching, not four. This likely doesn’t impact the overall numbers a great deal, but it does complicate issues of cost vs. revenue. For example, INTL seems to be running a deficit in the chart, but the course listed there is actually taught by Van Dommelen as part of his regular GEOG load - it should contribute to GEOG’s surplus.

In conclusion, it is short-sighted to cut this program for the rationale that “deleting the Environment & Society BS will likely have a relatively modest impact on the number of students who come to UAA in the future”, which is the upshot of Dean Petraitis’ argument. By his own admission our program is excellent, but, more importantly, it is critical to the responsible development of Alaska and, frankly, the planet.

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As this process was unfolding, and we had no idea that we would be cut, we begged Dean Petraitis to not simply cut programs (not just our own, but others, like Sociology), but to take a strategic approach. We could have partnered with the other sciences to reduce programs and faculty sensibly, coming up with just a few innovative programs. These ideas were brought to the attention of the dean a number of times over the last year. We believe in and practice interdisciplinary work and we value collaboration, we always have. This horrible moment could have been used to build new and creative programs. Imagine if out of the ashes of this fiscal crisis we could be developing a major on environmental and social policy in the North, or science communication, or ecotourism? Instead, we’re left with the deletion of the only completely new academic program and discipline (and perhaps the most crucial) created in CAS in the last 20 years.



Date: February 21, 2020

To: John Stalvey, Interim Provost

From: John Petraitis, Interim Dean, College of Arts and Sciences

Cc: Shannon Donovan, Associate Professor; Chair, Department of Geography and Environmental Studies
Dorn van Dommelen, Professor
Audrey Taylor, Associate Professor

Re: AY20 Expedited Program Review Findings

Program/s in this review: Environment and Society BS

Specialized accrediting agency (if applicable): None

Campuses where the program is delivered: Anchorage

Members of the program review committee:

Shannon Donovan, Associate Professor and Department Chair
Dorn van Dommelen, Professor
Audrey Taylor, Associate Professor

Centrality of Program Mission and Supporting Role

UAA's mission is to discover and disseminate knowledge through teaching, research, engagement and creative expression. UAA is committed to serving the higher education needs of the state, its communities and its diverse peoples. It is also committed to instruction at multiple academic levels, success of all students regardless of their higher education goals, and service to the diverse peoples and communities of the state. UAA's core themes are (1) Teaching and Learning, (2) Research, Scholarship and Creative Activity, (3) Student Success, (4) UAA Community, and (5) Public Square. UAA values international and intercultural education, diversity of experiences and perspectives, and the diversity of our unique location in Southcentral Alaska that comes from the Alaska Native peoples of this area.

The College of Arts and Sciences contributes to UAA's mission with a suite of programs that provide, among other things,

1. general education courses for undergraduates in CAS and other Colleges,

2. opportunities for undergraduates to pursue majors in the humanities, social sciences, natural sciences, and the arts, and
3. opportunities for faculty and students to pursue research and creative activities in CAS's academic disciplines,
4. graduate programs for advanced studies.

Given decreased enrollments across UAA and significant budget cuts to CAS, the challenge is to serve UAA's and CAS's missions with only 75% of the funds it had in 2018-2019. CAS's shrinking budget is especially challenging for programs that rely on state financial appropriations through CAS because the programs have a gap between (a) the total costs of everything the program does and needs, and (b) the tuition CAS receives to cover those costs. This describes most programs in CAS: most rely on state appropriations and CAS has 30% less than it had two years ago.

CAS's Department of Environment & Society spans two academic prefixes (ENVI and GEOG). It contributes to CAS's and UAA's mission with two options for general education in the social sciences, provides students the opportunity to major in an applied environmental discipline and become professionals in environmental planning and mitigation, and for faculty and students to do research in that area. It contributes to the BA and BS degrees in other CAS programs, like International Studies and Natural Sciences (particularly the later program's Environmental Sciences Option).

Program Demand (including service to other programs), Efficiency, and Productivity

Program demand is modest: an average of only 6.5 incoming first-year students select this program as their major (below the CAS undergraduate program mean of 17 and median of 10). With nearly 1,600 student credit hours in 2019 across ENVI and GEOG, the courses draw fewer students than 17 of 18 majors. The challenge seems to be the tale of two worlds where GEOG classes have much higher enrollments (averaging 30 students per section in 2019) whereas ENVI classes have half the enrollment (averaging 15 per section) of GEOG and well below typical numbers in CAS in the 20's and 30's. Given the comparatively small classes in ENVI, the program efficiency is a challenge because the tuition CAS receives from students for ENVI and GEOL courses does not cover the instructional costs for those courses. Then, when considering the full salaries and benefits for everything these faculty do (namely, instruction, research, and service), the Department has a sizable deficit that required state appropriations to fill. That said, the program is quite productive. Whereas only 6.5 incoming students on average select this major (a number well below the CAS average), nearly twice that number (11.9) graduate with this degree every year, and the program. This is remarkable. A small but talented group of faculty start with 2-3 incoming freshmen each but end up 20-25 each along the way.

Program Quality, Improvement and Student Success

Program faculty are innovative and flexible; the curriculum does not ossify and is responsive to contemporary topics in applied environmental studies. Where possible, classes are offered online, and faculty require students to build an electronic portfolio of their works.

Program Duplication / Distinctiveness

UAA's Environment & Society BS overlaps to some extent with UAF's BS in Natural Resources & Environment, and UAS's BS in Environmental Sciences. Merging these programs is a possibility, sharing online courses where possible and retaining local supervision of field-based practices.

Commendations and Recommendations

The faculty are commended for converting far more students into their program than initially come to UAA because of it. Faculty are also commended for the hard work on their program review report.

Decision

Deletion.

This recommendation is particularly difficult because the faculty do so many things right. Exhibit A could be that 6-7 incoming students declare Environment & Society as their major but 11-12 graduate with degrees from this department. However, budget cuts are forcing CAS to offer fewer programs to students in the future. Despite all that this program does well, deleting the Environment & Society BS will likely have relatively modest impact on the number of students who come to UAA in the future. Unfortunately, fewer future students will discover this vibrant program and its strong faculty in the future, and fewer will switch their major to Environment & Society, and fewer will fill Alaska's jobs in applied environmental work. This move will also impact the Environmental Sciences option of the Natural Sciences BS. Program deletion requires approval by BOR and NWCCU.

Submission date: February, 7, 2020

Program/s in this review: Environment and Society (BS) GES _____

Specialized accrediting agency (if applicable): _____

Campuses where the program is delivered: Anchorage _____

Members of the program review committee:

Shannon Donovan, Associate Professor & Chair, ANC

Dorn van Dommelen, Professor, ANC

Audrey Taylor, Associate Professor, ANC

1. Centrality of Program Mission and Supporting Role (700 words or less)

The Environment and Society degree program was developed, in 2008-9, in consultation with professionals working for Alaska companies and agencies such as HDR, the Alaska Railroad, and the State Department of Transportation, to name a few. The goal in developing the program was to produce graduates able to work in applied environmental fields. The program was approved by the Board of Regents in 2010.

While the program prepares students interested in pursuing graduate programs, work in policy, etc. its primary goal is to help students understand the key role of environmental professionals in planning and mitigating the impacts of development projects and then give them to skills to be those professionals. Hence, students take a suite of courses that build skills to this end.

In the United States, development projects are subject to the National Environmental Policy Act (NEPA), which requires certain steps in the development process aimed at accounting for and mitigating environmental problems. Professionals working in the NEPA environment must be able to work with local communities, understand field methods, apply technical skills like geographic information systems (GIS), in addition to having a broad knowledge of the natural environment and human/environment relations.

Coursework in our program is thoughtfully selected to move students towards competencies in this knowledge and the skill sets they need to be environmental professionals. Through two professional development courses, the program encourages student success and measures progress in these pragmatic outcomes.

Thus the program is focused on developing graduates prepared for work in a range of occupations. According to the State of Alaska, Department of Labor and Workforce Development, a number of positions open annually in fields our major prepares students to work in based on current graduate placements (see program quality). This includes the following: Conservation Scientists (17 positions/year), Environmental Scientists (58/year), Urban and Regional Planners (15), Environmental Science and Protection Technicians (45), Forest and Conservation Technicians (45).

In addition, our program provides crucial support to both the Natural Sciences and the International Studies majors. Natural Sciences majors in the Environmental Science option take ENVI A211 and ENVI A212 and often opt to use our other courses (GEOG A111, GEOG A375, ENVI A370, ENVI A470, ENVI A490) to fulfill major “selectives”. In the International Studies major, our program offers the gateway GEOG/INTL A101 course. We also teach a number of general education required courses including ENVI/GEOG A111, ENVI A211, ENVI A211L, ENVI A212, GEOG/INTL A101 and two capstone GERs - ENVI A470 and GEOG A390A. It should also be noted that our majors take a number of interdisciplinary courses that support enrolments in other programs. These include, but are not limited to, coursework in economics, English, philosophy, and community engagement. Finally, one faculty member in the department teaches a course outside our department (BIOL A473), reducing the department's FTE but making an important contribution to several majors.

Intrinsic to our program’s design and our department’s outlook is the development of community partnerships. Geography and Environmental Studies has a number of strategic partnerships with local organizations and agencies. These partnerships allow our students to fulfill the internship requirement in the major and give faculty the opportunity to engage in meaningful community-engaged research that is relevant to Anchorage, Alaska, and our students. Recent partnerships include the following: Chugach State Park, Audubon Alaska, The Alaska Center, Great Land Trust, HDR consulting, the Municipality of Anchorage, the Bureau of Land Management, the Campbell Creek Science Center, the Anchorage Museum, the Alaska Center, Alaska Department of Fish and Game, and others.

In the last ten years, the GES faculty have collectively worked on over 20 projects that included more than \$5 million in external funding. Project partners have included local, state, and federal agencies from the private, public and non-profit sectors. These projects have helped fund approximately 30 undergraduate and graduate students in environmentally-related research projects and have been used to support findings in peer-reviewed journals, white papers, community reports, and at various conferences and workshops.

2. Program Demand (including service to other programs), Efficiency, and Productivity (7 year trend; 1400 words or less)

The following comments are provided in response to each data table:

- Seven-year degree trend: As would be expected with a relatively new and small program, there has been some degree of fluctuation in degree awards. We expect an increase in the coming year, over last year’s production.
- Credits per degree: The Environment and Society major has seen an increase in semesters per degree and credits per degree. We have no knowledge why this change has taken place or whether or not it is a short-term aberration.
- Seven-year major enrolment trend: Again, we have no special knowledge as to why the number of majors has dipped in the last year. This could be a short-term aberration. Recent enrolment in our sophomore-level professional development course (ENVI A280), for example, has been strong (16 out of 15 seats, Spring 2019; 16 out of 15 seats, Spring 2020). This suggests that there will be a large increase in the number of majors over the next few years).
- Course pass rates seem remarkably consistent.

- Internal demand: Environmental Studies and Geography courses demonstrate a significant amount of external demand. We offer one social science and one natural science course both in environmental studies and geography (four courses total), in addition to two GER capstone courses. These courses are popular outside of our own major. The environmental studies courses include a basic environmental science class and lab and a social science approach to environmental studies. The geography courses include a global-issues oriented “world regional geography course” and a popular earth science survey course. All four of these courses are common in curricula at other state universities reflecting the importance of teaching basic environmental sciences and studies, earth sciences, and global issues courses to undergraduates.
- Seven year SCH production trend: SCH production has fluctuated a bit over the past seven years, consistent with a small number of faculty members. The department has only three faculty members and has, from time-to-time, relied on adjunct faculty members to deliver courses due to sabbatical and maternity leaves, and a small number of course releases. These resources have not always been available so our FTE has fluctuated somewhat, much more than one would find in a large department. However, faculty members have worked hard to keep course offerings consistent and SCH production fairly high.
- SCH/FTEF: As with SCH production, there has been some fluctuation in SCH/FTEF. The salient point is that production is high in our department. In Environmental Studies the average SCH/FTEF is 467.4 while in Geography it is 1199.0. If these numbers only reflected lower-division credits, which they do not, this represents revenue of \$104,230.20 for two tri-partite environmental studies professors and \$267,377 for one bi-partite geography professor.
- Enrollment/FTEF: Again, there is fluctuation during the seven-year period in both environmental studies and geography. However, enrollment/faculty member is high, with very small numbers of those students being accounted for by adjunct faculty. The faculty of the Department of Geography and Environmental Studies are highly productive in teaching enrolled students.
- FTES/FTEF: The efficiencies described above are clearly seen in the metric of full-time equivalent students/full-time equivalent faculty. The two environmental studies faculty average 15.6 students with only a small decline, consistent with overall enrolment declines across the university. The sole geography faculty member averages 26.1 students with almost no decline between the initial and last year, though there was a peak of students four years ago.
- Class Size: Class sizes have declined somewhat over the seven-year period, though it should be noted that during this time, our young department set standards for class size based on course level and our intensive use of written assignments and civic engagement projects. These class size adjustments were made in consultation with the dean’s office and will not change in the immediate future. Despite these changes, class sizes are still high. In environmental studies, which includes a number of lab, field-based, and professional development classes, the average over the seven-year period is 17.5. In geography, which largely has traditional lecture classes but also includes a seminar and a lab class, the average is 33.0.
- Cost/SCH: Cost/SCH has remained fairly consistent over the five years for which we have data. The average for environmental studies is 332.3. In geography that cost averages 142.6.
- Tuition revenue/SCH: Tuition revenue/SCH is, predictably, higher for environmental studies than geography as we offer significantly more upper-division courses in the former than the latter.

3. Program Quality, Improvement and Student Success (1500 words or less)

The Environment and Society Bachelor of Science has been, since its inception, a program focused on currency, professional development, and high-impact teaching practices. While our

faculty is small, it prides itself on being flexible and responsive to changing professional needs and the changing landscape of university pedagogy.

As described above, the program was developed in consultation with professionals in environmental fields. Since the program's founding we have remained closely in touch with environmental professionals as we have made incremental changes our program. We have stayed attuned with the professional field for a variety of reasons: 1) All of our students are required to take internships, keeping us in touch with student work experiences and coordinating with professional work supervisors, 2) several of our courses have strong professionally-driven objectives including our environmental planning and problem solving course and our field methods course, and 3) all students take two professional development courses which bring them and our faculty into close touch with our professional peers.

These professional development courses themselves are pedagogically innovative. They require students to develop electronic portfolios which they are then able to use in their job search. In addition, the portfolios are used to assess student learning outcomes in the major program. Other courses also employ high-impact practices. Most of our courses have a community-engagement component and many include service-learning and/or undergraduate research. This is particularly the case for our capstone environmental planning and problem solving course which is a studio and field-based course with required service-learning work.

It is important to note that the fields of geography and environmental studies have always employed field experiences and many of our courses continue to do this, even with the growth of online classes. Our department has also sponsored several short-term faculty-led study abroad initiatives.

Since the program began granting degrees, about ten years ago, we have had 91 graduates. (N.B. The Department of Geography and Environmental Studies has been staffed, fairly consistently, by only three full-time, tenure track faculty.) We have made an effort to track our students after graduation and we currently have information on about 55 out of our 91 graduates.

As with any major, not all of our students graduate to work in high demand jobs, but we have evidence of at least 37 of the 55 for which we have information working in an environment-related field. Of those students, at least 27 are working in Alaska in environment-related fields, and there are a number of others living in Alaska working outside of the field. We seem to also have a number of entrepreneurs who emerge from our program. We know of several working in real estate, several environmentally-inspired artists, a designer, and one former student who started a business in sustainable agriculture.

To our knowledge, at least six students are currently in graduate school, five of whom are pursuing their degrees outside of Alaska with the hopes of returning to work in the state.

As by design, the bulk of our students take positions in Alaska-based environmental fields and a large number go on to work in local, state, and federal agencies regulating development. It has always been our contention that Alaska needs Bachelor of Science degree programs that will teach *Alaskans* how to apply environmental principles, techniques, and regulations to problems facing our state.

A list of 10 notable positions our students have secured post-graduation are:

- Environmental Science and Engineering Officer, US Army
- Large Project Coordinator, Alaska Department of Natural Resources
- Planning & Environmental Coordinator, BLM Anchorage Field Office
- Environmental Program Specialist, Alaska Department of Environmental Conservation
- Program Coordinator, Alaska Harmful Algal Bloom Network and Alaska Sea Grant Fellow with Alaska Ocean Observing System
- Wildlife Technician, Alaska Department of Fish and Game
- Scientist, HDR
- Natural Resources Specialist, State of Alaska Division of Oil and Gas
- Education and Outreach Specialist, Anchorage Museum
- M.S. graduate student, Center for Wildlife Ecology, Simon Fraser University

4. Program Duplication / Distinctiveness (300 words or less)

The Bachelor of Science in Environment and Society at the University of Alaska bears similarity to the UAF Bachelor of Science in Natural Resources and Environment, and the UAS Bachelor of Science in Environmental Science (though less than most parallel majors). All three of these programs require similar coursework and appear to have similar student learning objectives.

We are committed to working with our colleagues in both of these programs to share and merge programs where it is reasonable and would not impact student learning. Over the past several years we have contacted faculty members at both UAF and UAS with a mind to doing this but have not received encouraging replies.

It is important to note that environmental fields do require a significant amount of fieldwork and certain classes do not lend themselves well to being taught in an online environment. Notably, field methods courses, environmental planning courses requiring field time, and GIS courses with field data collection components should be taught independently at each institution. Beyond that, there are definitely opportunities to work with our colleagues to produce a more streamlined and efficient program in our field. We await opportunities to collaborate.

As highlighted earlier, all of these programs prepare students for a large number of in-demand occupations. Given that a large number of environmental positions are located in Anchorage, having a program centered in the state's population center provides maximum opportunities for internships, student work experience, and employment after graduation.

Our department has found the coordinator of UAF's Bristol Bay Certificate in Environmental Studies, to be very receptive to collaboration. In fact, we have begun work on a partnership to give our students an opportunity to take a field methods class at the Bristol Bay Campus.

5. Summary Analysis (500 words or less)

The Environment and Society degree program was developed approximately a decade ago in consultation with agencies and organization. As such, our program has always maintained a high

degree of relevance and practicality in order to meet our mission of providing a pipeline for environmental professionals in this state.

We strive to be innovative in our pedagogical approaches in order to expose students to what their job situation will be like when they graduate from college, as part of our commitment to providing “real-world ready” students to the environmental workforce of Alaska. We maintain four separate concentrations within our major so that students can tailor their learning to their previous experiences and to the aspect of environmental science that is most interesting to them. The majority of our classes employ high impact teaching practices such as undergraduate research experiences and service learning opportunities where students are learning about issues and solutions currently being worked on in Alaska. We also require that students complete an internship, and then use our research and service connections across the Alaskan environmental community to provide internship and later job opportunities for students and recent graduates. Our department also provides several popular GER courses (GEOG A101 and A111, and ENVI A211) to the larger UAA community. We do all of this with only three full-time faculty, who produce a large number of student credit hours per FTE: an average SCH/FTEF in Environmental Studies of 467.4, and in Geography of 1199.0.

Our Program Quality statement should evidence that our degree program places students in real environmental careers, largely in Alaska. We see several opportunities for expansion of our program and for working with related environmental programs at UAS and UAF. (1) The second largest private-sector employer in Alaska is the tourism industry, with a 78% resident hire rate, yet no department within the UA system provides an opportunity for Alaskan students to study tourism as a major or work with faculty doing relevant research. This is a significant omission that could be corrected by our department, as we have suggested numerous times recently. (2) It could be efficient to combine forces across the three environmental programs within the UA system, such that students first take a singular set of lower division, online courses that meet their GER requirements and prepare them for advanced study, and then take upper division courses in a face-to-face environment at one of the three campuses where faculty focus particularly on the environmental resources and issues that most affect that area of the state. For example, in Anchorage issues of urban planning, recreation and tourism development, and environmental management at the state and federal levels are important for students to experience. In Juneau, students might focus more on work with the fishing industry and in Fairbanks, students might be trained to specifically monitor Arctic change - enabling students to choose their campus based on their interests and allowing faculty to focus on providing locally-based, high-impact experiences.