

**PROGRAM REVIEW IMPLEMENTATION PLAN
 PROGRESS REPORT
 Natural Resources and Environmental Science Program
 2016 - 2017**

RECOMMENDATIONS

1. Student recruitment into the NRES program has been an ongoing focus.

Assessment Method: We used enrollment and graduation data over the past ten years to determine enrollment trends

Table 1: NRES Enrollment and Graduation Numbers since 2007*.

	Enrolled	Graduated previous 12 months
Oct 2017	117	25
Oct 2016	110	17
Oct 2015	76	29
Oct 2014	83	21
Oct 2013	91	22
Oct 2012	98	22
Oct 2011	85	12
Oct 2010	80	14
Oct 2009	70	14
Oct 2008	68	14
Oct 2007	57	-----

*Data provided by Jackie McCuddy on September 28, 2017, for 2016-2017 Academic Year (December 2016, May 2017, and estimated August 2017 graduates)

Results: Enrollment continued to increase this year; we currently have the highest number of enrolled students in the history of the NRES/NRCM program. The number of students who graduated in the previous 12 months is the second highest number in the ten years for which we have data, as expected to continue to rise as our total enrollment has increased.

Analysis: While it is difficult to pinpoint the specific reasons for the current high enrollment, and the rapid increase in enrollment over the past year, we suspect that there are several factors at play. We hired an Academic Coordinator (AC), Geri Philpott, in 2011. The AC has been very pro-active in identifying and implementing approaches to recruitment and retention. For example, we now have a concrete plan in place for students to transfer from the Environmental Science Technology (EST) program at Bluegrass Community and Technical College (BCTC) to UK, and a commensurate increase in the number of students we recruit from BCTC. We saw a decline in enrollment in 2014 and 2015, and in response shifted the duties of the AC away from some of her teaching commitments to allow more time to focus on recruitment and retention. In addition, some changes in the Center for Student Success, with the addition of Wayne Centers and Seth Riker in fall 2015, may also be helping with

recruitment. Of course, enrollment is up in the College overall, and this may account for some of the increased enrollment in NRES. However, the trends we are noting, especially in transfers to the program, suggest that many of our students are coming to NRES from majors in the Colleges of Engineering and Arts and Sciences, in addition to coming from other majors in CAFE, including a steady stream of students from the Department of Animal and Food Sciences. There is also some evidence that the relatively new B.A. in Environmental and Sustainability Studies (ENS) in the College of Arts and Sciences has increased awareness of “environmental” programs at UK which in a few instances has attracted students to UK who, after arriving on campus, learned of and made the move to NRES. . Undergraduate Studies was a key pathway by which students found the NRES program in the past; the loss of this program may have a negative impact on NRES student enrollment in the future but we don’t see specific signs of that.

Ongoing Improvement Actions: For now, we intend to continue as we have been, as the last year has seen a 6% increase in enrollment, 31% higher than the average over the last nine years. This entails continued efforts to recruit first-year students during CAFE recruiting events, on-campus recruiting particularly in the Colleges of Engineering and Arts and Sciences to provide a “soft landing” for students looking to switch majors, as well as seeking opportunities to interact with undecided students who previously would have come through Undergraduate Studies.

2. The external program review (April 2014) recommended improvements to office space used by the NRES Academic Coordinator (AC), as well as additional staff support for the NRES program.

Assessment Method: Evaluation of the adequacy of office space and support staff.

Results: New office space for the NRES AC was provided in the Equine Suite on the second floor of the Agriculture Science North building in early summer of 2015. This space is a marked improvement over the much smaller and qualitatively inferior office space in the TP Cooper building formally occupied by the NRES AC. The new location facilitates more informal meetings with other AC’s and the Center for Student Success. The Department of Forestry also provides storage space in the TP Cooper building for NRES program items used for various field courses and events. NRES students also share a lounge with Forestry students in the basement of TP Cooper. The lounge provides a space on campus to do homework, socialize, and interact with Forestry students, who in many cases are in class with NRES students. The NRES program has not received any direct additional staff support since the periodic program review. Emily Morgan, and now Deb Ramey, in the Center for Student Success, continue to provide essential staff support (budgets and purchases), and in helping with student management and course enrollment. The program also relies on 2-3 undergraduate students who each work 5-10 hours/week researching and writing the bi-annual NRES newsletter, which we believe is the only student-produced newsletter in CAFE. The students also help with other program needs, such as (helping staff events, recruiting, or advising).

Analysis: The new NRES AC office space is a significant improvement, and is working well. In addition, though no new staff was added, support from the Center for Student Success in tracking of budgets and purchases is, for now, accomplishing our needs for staff support. We currently have sufficient budgetary capacity to pay for the 2-3 NRES Student Assistants, as well as two Part-Time Instructors, but these expenses stretch our fiscal capacity.

Ongoing Improvement Actions: Our space is working well. The additional storage space in TP Cooper is a necessary addition to NRES program needs, and very much appreciated, but also one that

periodically appears to be under increasing risk of being reallocated as space needs within the Department of Forestry expand. For now, our need for staff support is effectively fulfilled by Deb Ramey’s support of program administrative needs through the Center for Student Success.

3. **There is a need for recruitment and retention to the NRES program of faculty whose primary academic homes are a CAFE department. This currently occurs in two ways: when new faculty are hired with potential to contribute to the NRES program, making that connection explicit in the hiring process; and the recruitment and retention of faculty once they arrive on campus.**

Assessment Method: Measured by the number of faculty who are dedicated to the NRES program by serving on the NRES Steering Committee (NRES SC) and/or advising of NRES students.

Table 2: The number of NRES Steering Committee members and advisors for the past three years.

	NRES SC	Advisers
2016-2017	9 ¹	9 ³
2015-2016	9 ¹	9 ⁴
2014-2015	8 ²	9 ⁵

1. SC membership 2015-2016: Forestry, 2 faculty, 1 staff; LA, 2 faculty; PSS, 2 faculty; AgEcon, 1 faculty; Earth and Environmental Science, 1 faculty
2. SC membership 2014-2015: Forestry, 2 faculty, 1 staff; LA, 1 faculty; BAE, 1 faculty; PSS, 2 faculty; AgEcon, 1; EES, 1 faculty.
3. Advisors 2016-2017: Forestry 4; LA 2; PSS 3; AgEcon, 1
4. Advisors 2015-2016: Forestry 3; LA 2; PSS 3; AgEcon, 1
5. Advisors 2014-2015: Forestry 3; LA 1; PSS 3; AgEcon, 1; BAE, 1

Results: Membership of the NRES SC is made up of the Chair (currently Mary Arthur, Forestry), the DUS (currently David McNear, Plant and Soil Science), and a group of six additional faculty and one staff member. Most of these faculty/staff also teach one or more of the major course requirements and advise students. Additional faculty teach key courses for the NRES program, but do not serve as SC members or academic advisors for NRES students; there are also faculty who neither teach NRES courses nor serve on the NRES SC, but advise students (Mike Lacki, Forestry; Mark Coyne, Plant and Soil Sciences). The number of SC faculty has generally been in a relative steady-state: as members leave, we have been able to find new members. However, it would be very helpful to have a stronger framework for identifying potential NRES program faculty participants, with stronger linkages to the initial hiring process and better record-keeping of those faculty that were hired with College-level expectations for contribution to the NRES program.

Analysis: We face two ongoing challenges with regard to NRES program faculty involvement: bringing new faculty on board to maintain full membership on the NRES SC, and developing leadership among NRES SC faculty to take over the positions of NRES SC Chair and DUS through time. Despite our success in recruiting new faculty to the NRES SC, the need to develop new leadership remains an ongoing task. In addition, as our student numbers are now at a record high, and with a program and College desire to see enrollment increase, we need to either attract new advisors to help carry the advising load, and/or each advisor will need to take on more advisees. The latter option, taking on more advisees, is not realistic for many of our advisers who also advise for their home departments. The NRES AC provides significant support for advising, serving “super-advisor” by maintaining program information, supporting students in finding appropriate internship/research and education abroad

opportunities, and providing general advising. However, our program is committed to a faculty advising model because we believe it gives students essential contact with at least one faculty member who knows them well, often in addition to the NRES AC.

Ongoing Improvement Actions: The NRES program relies heavily on the Chairs of the affiliated departments, and the Dean of CAFE to identify new faculty hires with the potential to contribute to NRES, and whose positions are then explicitly connected to the NRES program for teaching, NRES SC service, and academic advising. From the program perspective, we need to maintain strong communication with Chairs of the affiliated departments, the Dean, and Associate Dean of Instruction when departmental hiring decisions are being made. Developing faculty leadership within the NRES program has been challenging, resulting in long terms for each of our 4-5 NRES SC Chairs over the past 24 years (past chairs have come from the Departments of Rural Sociology, Plant and Soil Sciences, Agricultural Economics, and Forestry). For example, the current NRES SC Chair has served in that role since 2009, and there is no apparent successor poised to take this role in the foreseeable future. Similarly, it can be difficult to identify a faculty member to serve as NRES DUS (past DUSs have consistently been from the Department of Plant and Soil Sciences). In addition to these two leadership positions, faculty on the NRES SC also volunteer for other roles, including providing oversight of the Internship Program and Annual Internship Forum (Jack Schieffer, Department of Agricultural Economics, has served in this role for the past few years), leading assessment efforts (David McNear serves in this role with support from the NRES AC), and oversight of the NRES Summer Camp at Robinson Forest (Chris Barton, Department of Forestry, has done this for the past 10 years or so, with support from the NRES AC since she was hired six years ago; previously this role was served by David Ditsch), as well as the NRES Costa Rica summer camp option (taught by Rob Paratley (5 yr) and Stephen Price (4 yr), both in the Department of Forestry). Recruitment into each of these roles has been organic, with faculty stepping up to various roles as they see a need they can fill. This has been workable throughout the history of the program, but has also depended upon strong support from Chairs of affiliated departments, as well as a commitment from the Dean of CAFE to hire new faculty with expectations for contributions via teaching, advising and/or service on the NRES SC. Since faculty serving NRES are doing so largely out of self-identified and self-driven interest in and commitment to the program, there is a constant need to find ways to further incentivize, nurture, and support those interests and commitments from faculty. The recent development of an MOU between the Department of Forestry and Natural Resources and the NRES program may help to provide a clear vehicle for maintaining institutional memory regarding departmental commitments to supporting this important inter-disciplinary program. We are in the process of developing similar MOUs with the Departments of Landscape Architecture, and Agricultural Economics, and hope to proceed with the Department of Plant and Soil Science after the new Chair, Dr. Rebecca McCulley, steps into that role in January 2018

- 4. We encourage NRES students to study abroad, as a semester abroad, with the NRES summer camp in Costa Rica, or other opportunities. The Costa Rica summer camp option provides a necessary alleviation of a bottleneck for students for program completion, since the Robinson Forest course structure in some years cannot support the full number of students needing to complete NRE 320. Assessment Method:** Numbers of students studying abroad.

Results: We have data on students studying abroad only for the past five years, which coincides with the initial offering of a 2-week NRES summer camp in Costa Rica that fulfills the requirement for summer camp (the other option is a 3-week experience at Robinson Forest).

Table 3: Numbers of students who have studied abroad since 2012.

	Semester Abroad	Summer Abroad (internship or academic)	Alternate summer camp abroad	NRES Costa Rica
2016-2017	1	1	2	21
2015-2016	4	0		12
2014-2015	3	1		1 (+ 4 from other majors)
2013-2014	2	1		12
2012-2013	1	2		17

Analysis: The data above illustrate that an increasing proportion of NRES students are studying abroad. Part of this is due to the creation of the Costa Rica summer program, which allows many more students to study abroad by linking it to the NRES summer camp requirement, and providing an accessible study abroad opportunity. In addition, the development of a brochure linking UK Education Abroad (EA) opportunities with the NRES program, developed by the NRES AC in collaboration with the EA office, helped to make the idea of studying abroad more accessible and encouraged more students to do it. Finally, we now have a small number of students going abroad for an alternate summer camp experience, to conduct an internship, or for summer study.

Ongoing Improvement Actions: There are several strategies we used to nurture NRES students going abroad. First, we advertise the Costa Rica summer camp option early in the year, including to students not in NRES, so that there will be sufficient numbers for the trip to be financially feasible. That said, in 2017 the course was filled beyond capacity by NRES students; we turned away 2 students from other majors. Secondly, we are challenged to help students meet the financial challenge of both the Costa Rica summer camp and the local summer camp at Robinson Forest. We currently use tuition return funds from summer camp to provide scholarships to students.

Additional related concern: With the new plan to charge tuition for all internship credits to be implemented in 2018, which will require all students conducting significant parts of their internship experience in the summer to pay tuition, we are deeply concerned about the financial impact on NRES students. The NRES curriculum already requires students to pay more for their degree than many students in other majors because of the costs associated with summer camp. Adding a tuition cost to students who conduct the work portion of their internships during the summer (the academic portion, which meets the NRES GCCR requirement is typically conducted during the fall semester) raises the cost of an NRES degree by approximately \$1,500 for in-state and \$3,500 for out-of-state students. This is in addition to summer tuition costs NRES students are already paying for the Kentucky-based field camp (~\$1500 or ~\$3500 tuition, plus room, board and other expenses), and for the Costa Rica camp (~\$500 or ~1200 in tuition for 1 Education Abroad credit, plus the cost of the trip itself).

5. **The NRES program could benefit from developing a fund-raising stream, which could be used to support student development, such as travel to a professional meeting.**

Assessment Method: Creation of an NRES Enrichment Fund, and funds raised.

Results: Since 2015 the NRES program has created an NRES Enrichment Fund and has raised \$980. This amount has not changed in the past year.

Analysis: With the Enrichment Fund in place, NRES and NRCM alumni will be able to give to the program, but we do not have the personnel to work closely with the CAFE development office.

Ongoing Improvement Actions: We have been unable to further increase awareness of this fund or donations to it, likely because NRES is a low priority for the College. Unfortunately, we have not been able to gain much traction on this issue.